

AGENDA
EL DORADO HILLS COUNTY WATER DISTRICT
(FIRE DEPARTMENT)
BOARD OF DIRECTORS
EIGHT HUNDRED SIXTY NINTH MEETING
Thursday, July 20, 2023
5:00 p.m. Closed Session
6:00 p.m. Open Session
(1050 Wilson Blvd., El Dorado Hills, CA)

ATTENTION

Residents planning to address the Board of Directors at this Board meeting: due to the concerns about the COVID-19 virus, we respectfully ask if you are feeling ill for any reason not to attend in person.

Zoom Webinar Video Conference link:

<https://us02web.zoom.us/j/87503176283?pwd=YmNxOWU0dGpTWk1xTWt5cStwYzZvUT09>

Webinar ID: 875 0317 6283

Passcode: 809315

Conference Dial in:

1-669-900-9128

Please submit your comments in writing to clerkoftheboard@edhfire.com and they will be entered into the public record. If you choose to attend the Zoom meeting and wish to make a comment on an item, please use the “raise a hand” button or press *9 if dialing in by phone. Public comments will be limited to 3 minutes.

Thank you for your understanding during these challenging times.

NOTE

If you need a disability-related modification or accommodation, including auxiliary aids or services, to participate in this meeting, please contact the Board Clerk at 916-933-6623; ext. 1038, at least two (2) days prior to the meeting.

- I. Call to Order
- II. Closed Session Items
 - A. Closed Session pursuant to Government Code Section 54957.6; Conference with Labor Negotiators; items under negotiation: Memorandum of Understanding with the El Dorado Hills Professional Firefighters pertaining to wages and benefits; Agency Designated Representatives: Finance Committee, Directors Giraud and White, Chief Johnson; Employee Organization: El Dorado Hills Professional Firefighters, Local 3604
 - B. Closed Session pursuant to Government Code Section 54957.6, conference with labor negotiators; items under negotiation: Contracts with unrepresented employees pertaining to wages and benefits; District negotiator is Chief Johnson
 - C. Closed Session pursuant to Government Code Section 54957(b), Personnel Matter; Grievance
 - D. Closed Session pursuant to Government Code Section 54957(b)(1); Public Employee Performance Evaluation: Fire Chief
- III. Pledge of Allegiance
- IV. Consent Calendar (All matters on the Consent Calendar are to be approved by one motion unless a Board member requests separate action on a specific item.)
 - A. Approve Minutes of the 867th Board Meeting held June 15, 2023
 - B. Approve Minutes of the 868th Special Board Meeting held June 26, 2023

- C. Approve Financial Statements and Check Register for June 2023
End Consent Calendar

- V. Oral Communications
 - A. EDH Professional Firefighters
 - B. EDH Firefighters Association
 - C. Any person wishing to address the Board on any item that is not on the Agenda may do so at this time. No action may be taken on off-agenda items unless authorized by law. Comments shall be limited to three minutes per person and twenty minutes for all comments unless otherwise authorized by the Board.

- VI. Correspondence

- VII. Attorney Items

- VIII. Committee Reports
 - A. Administrative Committee (Directors Bennett and Durante)
 - B. Finance Committee (Directors Giraudo and White)
 - C. Joint Powers Authority (Directors Giraudo and White)
 - D. Communications (Ad-Hoc) (Directors Durante and Hartley)
 - E. CRR Services (Ad-Hoc) (Directors Hartley and White)
 - F. Ambulance Deployment (Ad Hoc) (Directors Giraudo and White)

- IX. Fire Chief's Report

- X. Operations Report
 - A. Operations Report (Receive and File)

- XI. Community Risk Reduction Report
 - A. CRRD Report

- XII. Fiscal Items
 - A. Public Hearing: Review and Approve Resolution 2023-06 Adopting the Appropriation Limits for the 2023-24 Fiscal Year

- XIII. New Business
 - A. Review and Approve New Engine Purchase
 - B. Ratify Contract with Hanford ARC for Weed Abatement Services

- XIV. Old Business
 - A. Training Facility Update
 - B. EDHCSD/EDHFD 2x2 Update (Directors Bennett and Hartley)

- XV. Oral Communications
 - A. Directors
 - B. Staff

- XVI. Adjournment

Note: Action may be taken on any item posted on this agenda.

This Board meeting is normally recorded.

EL DORADO HILLS COUNTY WATER DISTRICT

EIGHT HUNDRED SIXTY SEVENTH MEETING OF THE BOARD OF DIRECTORS

Thursday, June 15, 2023, 5:00 p.m.

District Office, 1050 Wilson Boulevard, El Dorado Hills, CA 95762

I. CALL TO ORDER

President Giraud called the meeting to order at 5:00 p.m. Directors in attendance: Bennett, Durante, Giraud, Hartley, and White. Staff in attendance: Chief Johnson. Counsel Moebius was also in attendance.

II. CLOSED SESSION

- A. Closed Session pursuant to Government Code Section 54957.6; Conference with Labor Negotiators; items under negotiation: Memorandum of Understanding with the El Dorado Hills Professional Firefighters pertaining to wages and benefits; Agency Designated Representatives: Finance Committee, Directors Giraud and White, Chief Johnson; Employee Organization: El Dorado Hills Professional Firefighters, Local 3604
- B. Closed Session Pursuant to Government Code Section 54957.6, conference with labor negotiators; items under negotiation: Contracts with unrepresented employees pertaining to wages and benefits; District negotiator is Chief Johnson

The Board adjourned to closed session at 5:05 p.m.

The meeting reconvened at 6:00 p.m. No action was taken in Closed Session.

III. PLEDGE OF ALLEGIANCE

IV. CONSENT CALENDAR

- A. **Approve Minutes of the 865th Board meeting held May 18, 2023**
- B. **Approve Minutes of the 866th Special Board meeting held May 31, 2023**
- C. **Approve Financial Statements and Check Register for May 2023**

Director White made a motion to approve the Consent Calendar, seconded by Director Durante and unanimously carried.

V. ORAL COMMUNICATIONS

- A. **EDH Professional Firefighters** – None
- B. **EDH Firefighters Association** – None
- C. **Public Comment** – None

VI. CORRESPONDENCE – None

VII. ATTORNEY ITEMS – None

VIII. COMMITTEE REPORTS

- A. **Administrative Committee (Directors Durante and Bennett)** – No report.
 - B. **Finance Committee (Directors White and Giraudo)** – No report.
 - C. **Joint Powers Authority (Directors Giraudo and White)** – No report.
 - D. **Communications (Ad-Hoc) (Directors Hartley and Durante)** – Chief Johnson reported that Chief Hall and Captain MacKenzie are looking at a statewide system and will set up a meeting when they have more information.
 - E. **CRR Services (Ad-Hoc) (Directors Hartley and White)** – No report.
 - F. **Ambulance Deployment (Ad-Hoc) (Directors Giraudo and White)** – No report.
- IX. FIRE CHIEF'S REPORT** - Chief Johnson reported the following to the Board:
- The call volume is rising, and small fires are starting in the District.
- X. OPERATIONS REPORT**
- A. **Operations Report (Receive and File)** – Chief Hall presented the Operations report for the month of May.
- XI. COMMUNITY RISK REDUCTION REPORT**
- A. **CRRD Report** – Chief Fields presented a report showing the CRRD data for the month of May.
- XII. FISCAL ITEMS** – None
- XIII. NEW BUSINESS**
- A. **Evaluate Station 91 Property Location**– Chief Johnson reported that Staff have been evaluating potential new locations for Station 91. The Board gave Chief Johnson direction to continue to evaluate various options.
 - B. **Review and Approve Purchase of a Type III Engine** – Chief Hall presented Staff's request to purchase a Type III Engine from Buena Vista Rancheria.

Director White made a motion to Approve Purchase of a Type III Engine, seconded by Director Bennett, and unanimously carried.
 - C. **Review and Approve Purchase of a Command Vehicle** – Chief Hall presented Staff's request to purchase a Command Vehicle from Buena Vista Rancheria, stating this vehicle will be used as a Battalion Chief vehicle.

Director White made a motion to Approve Purchase of a Command Vehicle, seconded by Director Hartley, and unanimously carried.
- XIV. OLD BUSINESS**
- A. **Training Facility Update** – Chief Hall provided the Board with an update on the Training Facility completion status, noting that some work is remaining before use of the facility can safely begin.
 - B. **EDHCSD/EDHFD 2x2 update (Directors Bennett and Durante)** – No report.
- XV. ORAL COMMUNICATIONS**

- A. **Directors** – Directors Hartley and Durante congratulated Staff for successful management and completion of the Training Facility project and Director White reported that he was elected to the LAFCO Board.
- B. **Staff** – Chief Johnson highlighted Chief Brady’s hard work and excellence in leading the USAR team and Christina and Stephanie’s efforts on the Training Center family grand opening event.

XVI. ADJOURNMENT

The meeting adjourned at 7:18 p.m.

Approved:

John Giraud, President

Jessica Braddock, Board Secretary

This is a summary of the meeting. Board Meetings are recorded, and anyone wanting to listen to the full meeting recording should contact the main office at 916-933-6623 or inquiries@edhfire.com.

EL DORADO HILLS COUNTY WATER DISTRICT

EIGHT HUNDRED SIXTY EIGHTH MEETING OF THE BOARD OF DIRECTORS

Thursday, June 26, 2023, 5:00 p.m.

District Office, 1050 Wilson Boulevard, El Dorado Hills, CA 95762

I. CALL TO ORDER

President Girauo called the meeting to order at 5:00 p.m. Directors in attendance: Bennett, Durante, Girauo, Hartley, and White. Staff in attendance: Chief Johnson and Director of Finance Braddock. Counsel Moebius was also in attendance.

II. PLEDGE OF ALLEGIANCE

III. CLOSED SESSION

- A. Closed Session pursuant to Government Code Section 54957.6; Conference with Labor Negotiators; items under negotiation: Memorandum of Understanding with the El Dorado Hills Professional Firefighters pertaining to wages and benefits; Agency Designated Representatives: Finance Committee, Directors Girauo and White, Chief Johnson; Employee Organization: El Dorado Hills Professional Firefighters, Local 3604**
- B. Closed Session pursuant to Government Code Section 54957.6; Conference with District Labor Representatives; items under consideration: Wages and benefits of unrepresented employees; Agency Designated Representatives: Finance Committee, Directors Girauo and White, Chief Johnson**
- C. Closed Session pursuant to Government Code Section 54957(b)(1); Public Employee Performance Evaluation: Fire Chief**

The Board adjourned to closed session at 5:00 p.m.

The Board reconvened the meeting at 6:20 p.m. No action was taken in closed session.

IV. NEW BUSINESS

- A. Public Hearing: Review and approve Resolution 2023-05 adopting the 2022/23 Mid-Year Budget – Director of Finance Braddock presented the 2022/23 Mid-Year Budget and explained the significant changes from the Final Budget.**

The public hearing was opened at 6:23 p.m.

The public hearing was closed at 6:41 p.m.

Director White made a motion to approve Resolution 2023-05 adopting the 2022/23 Mid-Year Budget, seconded by Director Hartley and unanimously carried. (Roll Call: Ayes: 5; Noes: 0)

V. ADJOURNMENT

The meeting adjourned at 6:39 p.m.

Approved:

John Giraud, President

Jessica Braddock, Board Secretary

This is a summary of the meeting. Board Meetings are recorded, and anyone wanting to listen to the full meeting recording should contact the main office at 916-933-6623 or inquiries@edhfire.com.

El Dorado Hills Fire Department
Revenue and Expense Summary - ALL FUNDS
For the Period Ending June 30, 2023



	Mid Year Budget FY22/23	Actual June 2023	Actual YTD June 30, 2023	Variance YTD Actual to Full Year Budget	(Target 92%) YTD Actual % of Full Year Budget	Notes/Comments
Revenue						
3240 · Tax Revenue						
3260 · Secured Tax Revenue	22,548,795	194,102	22,206,173	(342,622)		
3270 · Unsecured Tax Revenue	432,189	1,500	429,377	(2,812)		
3280 · Homeowners Tax Revenue	153,640	23,587	157,249	3,609		
3320 · Supplemental Tax Revenue	983,571	91,197	974,768	(8,803)		Property tax revenue on target to budget. Pending final closing entries.
3330 · Sacramento County Revenue	49,218	-	49,218	-		
3335 · Latrobe Revenue						
3335.2 · Latrobe Special Tax	34,933	690	35,223	290		
3335.3 · Latrobe Base Transfer	91,000	99,219	99,219	8,219		
3340 · Property Tax Administration Fee	(371,639)	-	(371,639)	-		
Total 3240 · Tax Revenue	23,921,706	410,296	23,579,587	(342,119)	99%	
3500 · Misc. Operating Revenue						
3506 · CRRD Cost Recovery Fees	714,958	37,823	728,040	13,082	102%	Pending unearned revenue closing journal entry. May be slightly lower than budget.
3507 · Hosted Training Revenue	250,840	27,423	303,315	52,475	121%	Pending unearned revenue closing journal entry. May be slightly lower than budget.
3508 · Mechanic Cost Recovery Fees	6,108	1,313	6,108	-	100%	
3512 · JPA Revenue	1,224,459		918,344	(306,115)	75%	Pending closing journal entry. On target to budget.
3513 · Rental Income (Cell site)	54,180	4,515	54,180	-	100%	
3514.1 · Operating Grants Revenue	-	-	-	-	0%	
3514.2 · Capital Grants Revenue	-	-	-	-	0%	
3515 · OES/Mutual Aid Reimbursement	829,000	-	712,758	(116,242)	86%	Pending closing journal entry. On target to budget.
3520 · Interest Earned	269,889	7,364	192,253	(77,636)	71%	Pending closing journal entry. On target to budget.
3500 · Misc. Operating Revenue - Other	151,292	13,995	163,060	11,769	108%	
Total 3500 · Misc. Operating Revenue	3,500,725	92,432	3,078,058	(422,667)	88%	
Total Operating Revenue	\$ 27,422,432	\$ 502,728	\$ 26,657,645	\$ (764,786)	97%	
3550 · Development Fee						
3560 · Development Fee Revenue	1,197,965	92,996	1,086,121	(111,844)	91%	Pending closing journal entry. On target to budget.
3561 · Development Fee Interest	-	18,004	119,559	119,559	100%	
Total 3550 · Development Fee	1,197,965	111,000	1,205,680	7,716	101%	
3568 · Proceeds from Insurance	-	-	-	-	0%	
3570 · Proceeds from Sale of Assets	-	-	-	-	0%	
Total Revenue	\$ 28,620,396	\$ 613,728	\$ 27,863,326	\$ (757,071)	97%	

El Dorado Hills Fire Department
Revenue and Expense Summary - ALL FUNDS
For the Period Ending June 30, 2023



	Mid Year Budget FY22/23	Actual June 2023	Actual YTD June 30, 2023	Variance YTD Actual to Full Year Budget	(Target 92%) YTD Actual % of Full Year Budget	Notes/Comments
Expenditures						
6000 · Salaries & Wages						
6001 · Salaries & Wages, Fire	7,937,556	920,748	7,853,756	83,800	99%	
6011 · Education/Longevity Pay	503,575	59,607	501,067	2,508	100%	
6015 · Salaries & Wages, CRRD	764,982	87,415	760,568	4,414	99%	
6016 · Salaries & Wages, Administration	756,662	82,938	750,258	6,404	99%	
6019 · Overtime						Pending closing payroll accrual journal entry.
6019.1 · Overtime, Operational	2,098,378	240,084	2,100,771	(2,394)	100%	
6019.2 · Overtime, Outside Aid	583,952	13,590	583,952	-	100%	
Total 6019 · Overtime	2,682,330	253,673	2,684,723	(2,394)	100%	
6020 · P.E.R.S. Retirement	3,700,375	97,932	3,676,197	24,178	99%	
6030 · Workers Compensation	862,567	74,306	862,567	-	100%	
6031 · Life Insurance	5,626	-	5,626	-	100%	
6032 · P.E.R.S. Health Benefits	1,895,373	3,805	1,896,640	(1,266)	100%	
6033 · Disability Insurance	21,682	-	21,682	-	100%	
6034 · Health Cost of Retirees	1,174,532	561	1,174,862	(330)	100%	
6040 · Dental/Vision Expense	257,336	16,080	251,546	5,790	98%	
6050 · Unemployment Insurance	13,291	32	13,315	(24)	100%	
6070 · Medicare	187,552	20,641	187,393	159	100%	
Total 6000 · Salaries & Wages	20,763,438	1,617,737	20,640,200	123,237	99%	
6100 · Clothing & Personal Supplies						
6101 · Uniform Allowance	52,786	115	52,863	(77)	100%	
6102 · Other Clothing & Personal Supplies	68,477	3,043	62,086	6,391	91%	
Total 6100 · Clothing & Personal Supplies	121,263	3,159	114,948	6,314	95%	
6110 · Network/Communications						
6111 · Telecommunications	60,764	3,898	55,606	5,159	92%	
6112 · Dispatch Services	78,191	14,352	52,543	25,648	67%	Pending accrual closing journal entry.
6113 · Network/Connectivity	66,055	4,249	59,169	6,886	90%	
Total 6110 · Communications	205,010	22,498	167,318	37,693	82%	

El Dorado Hills Fire Department
Revenue and Expense Summary - ALL FUNDS
For the Period Ending June 30, 2023



	Mid Year Budget FY22/23	Actual June 2023	Actual YTD June 30, 2023	Variance YTD Actual to Full Year Budget	(Target 92%) YTD Actual % of Full Year Budget	Notes/Comments
6120 · Housekeeping	79,253	4,638	72,064	7,189	91%	Pending accrual closing journal entry.
6130 · Insurance						
6131 · General Insurance	164,435	-	164,435	-	100%	
Total 6130 · Insurance	164,435	-	164,435	-	100%	
6140 · Maintenance of Equipment						
6141 · Tires	51,129	4,510	39,725	11,404	78%	
6142 · Parts & Supplies	107,715	2,631	96,038	11,677	89%	
6143 · Outside Work	23,310	-	15,665	7,645	67%	
6144 · Equipment Maintenance	26,005	569	27,045	(1,041)	104%	
6145 · Radio Maintenance	31,630	9,893	36,252	(4,621)	115%	
Total 6140 · Maintenance of Equipment	239,788	17,603	214,725	25,063	90%	Pending accrual closing journal entry.
6150 · Facilities Maintenance	224,823	22,159	150,476	74,348	67%	
6160 · Medical Supplies						
6161 · Medical Supplies	55,198	5,871	52,074	3,124	94%	
Total 6160 · Medical Supplies	55,198	5,871	52,074	3,124	94%	
6170 · Dues and Subscriptions	16,629	210	16,475	153	99%	
6180 · Miscellaneous						
6017 · Intern/Volunteer Stipends	1,300	-	975	325	75%	
6018 · Director Pay	12,200	1,100	11,100	1,100	91%	
6181 · Miscellaneous	10,184	456	7,910	2,274	78%	
6182 · Honor Guard	2,985	-	2,785	200	93%	
6183 · Explorer Program	6,878	-	5,878	1,000	85%	
6184 · Pipes and Drums	-	-	-	-	0%	
Total 6180 · Miscellaneous	33,547	1,556	28,648	4,899	85%	
6190 · Office Supplies	42,161	2,844	39,741	2,420	94%	
6200 · Professional Services						
6201 · Audit	15,900	-	15,900	-	100%	
6202.1 · Legal Fees	151,068	9,809	135,699	15,369	90%	
6202.2 · Human Resources	93,582	525	90,107	3,475	96%	

El Dorado Hills Fire Department
Revenue and Expense Summary - ALL FUNDS
For the Period Ending June 30, 2023



	Mid Year Budget FY22/23	Actual June 2023	Actual YTD June 30, 2023	Variance YTD Actual to Full Year Budget	(Target 92%) YTD Actual % of Full Year Budget	Notes/Comments
6203 · Notices	1,110	189	1,081	29	97%	
6204 · Other Professional Services	112,147	11,230	103,377	8,770	92%	
6205 · Elections/Tax Administration	30	-	30	-	100%	
6206 · Public Relations	16,799	-	13,289	3,509	79%	
Total 6200 · Professional Services	390,636	21,752	359,484	31,152	92%	Pending accrual closing journal entry.
6210 · Information Technology						
6211 · Software Licenses/Subscriptions	203,227	5,294	192,191	11,036	95%	
6212 · IT Support/Implementation	172,722	10,100	167,722	5,000	97%	
6213 · IT Equipment	85,612	2,596	67,378	18,234	79%	
Total 6210 · Information Technology	461,562	17,990	427,292	34,270	93%	Pending accrual closing journal entry.
6220 · Rents and Leases						
6221 · Facilities/Equipment Lease	61,164	-	61,164	-	100%	
6222 · Solar Lease	-	-	-	-	0%	
Total 6220 · Rents and Leases	61,164	-	61,164	-	100%	
6230 · Small Tools and Supplies	126,596	3,071	120,978	5,617	96%	
6240 · Special Expenses						
6241 · Non-Hosted Training	123,578	1,150	115,276	8,302	93%	
6241.1 · EDC Hosted Training	196,581	16,885	147,166	49,415	75%	
6242 · Fire Prevention	74,821	771	67,079	7,742	90%	
Total 6240 · Special Expenses	394,980	18,806	329,522	65,459	83%	Pending accrual closing journal entry.
6250 · Transportation and Travel						
6251 · Fuel and Oil	127,931	11,338	128,337	(406)	100%	
6252 · Travel	33,299	327	31,336	1,963	94%	
6253 · Meals & Refreshments	28,511	25	29,758	(1,247)	104%	
Total 6250 · Transportation and Travel	189,741	11,690	189,432	310	100%	
6260 · Utilities						
6261 · Electricity	71,665	9,896	46,283	25,382	65%	
6262 · Natural Gas/Propane	56,448	575	53,523	2,925	95%	
6263 · Water/Sewer	19,732	164	15,034	4,699	76%	
Total 6260 · Utilities	147,845	10,635	114,839	33,005	78%	Pending accrual closing journal entry.
Total Operating Expenditures	\$ 23,718,069	\$ 1,782,219	\$ 23,263,816	\$ 454,253	98%	
Operating Revenue - Operating Expenditures	\$ 3,704,363	\$ (1,279,491)	\$ 3,393,829	\$ 310,534		
6570 · OPEB UAL Lump Sum Payment	451,865	-	-	451,865	0%	

El Dorado Hills Fire Department
Revenue and Expense Summary - ALL FUNDS
For the Period Ending June 30, 2023



	Mid Year Budget FY22/23	Actual June 2023	Actual YTD June 30, 2023	Variance YTD Actual to Full Year Budget	(Target 92%) YTD Actual % of Full Year Budget	Notes/Comments
6720 · Capital Outlay	11,242,624	865,148	10,476,561	766,064	93%	Pending accrual closing journal entry.
Total Expenditures	\$ 35,412,558	\$ 2,647,367	\$ 33,740,377	\$ 1,672,182	95%	
Total Revenue - Total Expense	\$ (6,792,162)	\$ (2,033,639)	\$ (5,877,051)	\$ 915,111		
<u>FUND TRANSFERS</u>						
Transfers to Development Fee Fund	\$ (1,197,965)					
Transfers from Development Fee Fund		8,492,574				
Transfers to Pension Reserve Fund	(500,000)					
Transfers from Capital Replacement Fund		2,750,051				
Transfers to Capital Replacement Fund	(2,752,497)					
Net Change in Unassigned/Non-Spendable Fund Balance	\$ 0					

El Dorado Hills Fire Department

7/17/2023 1:00 PM

Register: 1000 · Bank of America
 From 06/01/2023 through 06/30/2023
 Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
06/01/2023	EFT	Nationwide Retireme...	-split-	PR23-6-1	22,075.29	X		4,007,689.23
06/01/2023	EFT	Sterling Administrati...	-split-		225.00	X		4,007,464.23
06/01/2023	EFT	El Dorado Disposal ...	-split-		965.76	X		4,006,498.47
06/01/2023	EFT	De Lage Landen Fina...	-split-	Account # 159...	175.03	X		4,006,323.44
06/01/2023	PR23-6-1		-split-	Total Payroll T...	82,307.62	X		3,924,015.82
06/01/2023	PR23-6-1		1000 · Bank of Americ...	Direct Deposit	306,558.64	X		3,617,457.18
06/01/2023	PR23-6-1		1000 · Bank of Americ...	Payroll Checks		X		3,617,457.18
06/02/2023	EFT	Sterling Administrati...	-split-		310.00	X		3,617,147.18
06/02/2023	EFT	VSP Vision Care	6043 · Vision Insurance	June-23	947.24	X		3,616,199.94
06/03/2023	EFT	Sterling Administrati...	-split-		7.72	X		3,616,192.22
06/05/2023	EFT	P. G. & E.	-split-		228.41	X		3,615,963.81
06/06/2023		Transfer from Paypal	1010 · Paypal	Transfer from ...		X	49,715.64	3,665,679.45
06/06/2023	EFT	Sterling Administrati...	-split-		45.00	X		3,665,634.45
06/06/2023	EFT	Sterling Administrati...	-split-		126.94	X		3,665,507.51
06/06/2023	EFT	Sterling Administrati...	-split-		3,398.25	X		3,662,109.26
06/07/2023	EFT	Sterling Administrati...	-split-		206.00	X		3,661,903.26
06/08/2023	EFT	Sterling Administrati...	-split-		110.00	X		3,661,793.26
06/08/2023	EFT	Sterling Administrati...	-split-		315.00	X		3,661,478.26
06/08/2023	26321	ACC Business	6113 · Network/Conne...		1,621.03	X		3,659,857.23
06/08/2023	26322	Advanced IPM	-split-		469.00			3,659,388.23
06/08/2023	26323	AT&T	-split-	May-23	65.51	X		3,659,322.72
06/08/2023	26324	AVI-SPL LLC	-split-		4,486.59	X		3,654,836.13
06/08/2023	26325	Bauer Compressors	-split-		89,632.73	X		3,565,203.40
06/08/2023	26326	Caltronics Business ...	-split-		109.77	X		3,565,093.63
06/08/2023	26327	Datacate, Inc.	-split-	Invoice # 2047...	10,334.00	X		3,554,759.63
06/08/2023	26328	Deanna Huber	6181 · Other Miscellan...		540.00	X		3,554,219.63
06/08/2023	26329	East Bay Tire Co.	6141 · Tires		3,225.32	X		3,550,994.31
06/08/2023	26330	Emigh Ace of El Dor...	6233 · Station Tools/S...		6.42			3,550,987.89
06/08/2023	26331	El Dorado County E...	-split-	Invoice # EDC...	5,745.12	X		3,545,242.77
06/08/2023	26332	FastSpring	6211 · Software Licens...	Order ID: DIG...	3,850.00	X		3,541,392.77
06/08/2023	26333	Fit Guard	6150 · Facilities Maint...		165.05	X		3,541,227.72
06/08/2023	26334	Golden State Emerge...	6142 · Parts & Supplies		1,634.91	X		3,539,592.81
06/08/2023	26335	Howard Cooke	-split-	Invoice # 305-...	6,300.00			3,533,292.81
06/08/2023	26336	InterState Oil Compa...	6251 · Fuel and Oil		710.32	X		3,532,582.49
06/08/2023	26337	Lawson Mechanical ...	-split-		1,430.00	X		3,531,152.49
06/08/2023	26338	Mountain Democrat	6203 · Notices		117.00	X		3,531,035.49
06/08/2023	26339	National Auto Fleet ...	-split-		57,147.74	X		3,473,887.75
06/08/2023	26340	R&S Overhead Door...	-split-		5,263.16	X		3,468,624.59
06/08/2023	26341	Vector Solutions	1200 · Prepaid Expenses	Invoice # INV7...	7,063.67	X		3,461,560.92
06/08/2023	26342	Bobbi Bennett	6018 · Director Pay	May-23	100.00	X		3,461,460.92

El Dorado Hills Fire Department

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Register: 1000 · Bank of America
 From 06/01/2023 through 06/30/2023
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Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
06/08/2023	26343	Greg F. Durante (Dir...	-split-	May-23	200.00	X		3,461,260.92
06/08/2023	26344	Charles J. Hartley	-split-	May-23	200.00	X		3,461,060.92
06/08/2023	26345	John Giraudo	-split-	May-23	300.00	X		3,460,760.92
06/08/2023	26346	Timothy J. White	-split-	May-23	300.00	X		3,460,460.92
06/08/2023	26347	Chase Bank	2029 · Other Payable	May-23	500.00	X		3,459,960.92
06/08/2023	26348	Wells Fargo Bank	2026 · EDH Associate...	May-23	5,630.30	X		3,454,330.62
06/08/2023	26349	A-CHECK	6202.2 · Human Resou...	Inv # 59-07075...	25.00	X		3,454,305.62
06/08/2023	26350	Churchll's Hardware ...	6233 · Station Tools/S...	Customer Acco...	78.57	X		3,454,227.05
06/08/2023	26351	Genuine Parts Comp...	6142 · Parts & Supplies		409.38	X		3,453,817.67
06/08/2023	26352	Liebert Cassidy Whit...	1200 · Prepaid Expenses		3,220.00	X		3,450,597.67
06/08/2023	26353	Life Assist	-split-		3,204.04	X		3,447,393.63
06/08/2023	26354	Polaris Sales	6720 · Capital Outlay		313.60	X		3,447,080.03
06/08/2023	26355	Teleflex	6161 · General Medica...		1,195.25	X		3,445,884.78
06/08/2023	26356	The Permanente Med...	6204 · Other Professio...	Invoice # EDH...	2,000.00	X		3,443,884.78
06/09/2023	EFT	ADP HCM	-split-	Workforce No...	452.65	X		3,443,432.13
06/09/2023	EFT	Sterling Administrati...	-split-		148.50	X		3,443,283.63
06/09/2023	EFT	ADP	6204 · Other Professio...	Payroll Process...	2,582.15	X		3,440,701.48
06/10/2023	EFT	Sterling Administrati...	-split-		175.00	X		3,440,526.48
06/10/2023	EFT	Sterling Administrati...	6204 · Other Professio...	May-23	380.00	X		3,440,146.48
06/12/2023	EFT	P. G. & E.	-split-		185.35	X		3,439,961.13
06/13/2023	EFT	Sterling Administrati...	-split-		188.40	X		3,439,772.73
06/13/2023	EFT	Sterling Administrati...	-split-		5,453.49	X		3,434,319.24
06/14/2023			-split-	Deposit		X	21,077.16	3,455,396.40
06/14/2023	EFT	P.E.R.S. Retirement	-split-	PR23-6-2	118,144.60	X		3,337,251.80
06/14/2023	EFT	P.E.R.S. ING	-split-	PR23-6-2	2,436.23	X		3,334,815.57
06/14/2023	EFT	Verizon Wireless	-split-	May-23	6,040.10	X		3,328,775.47
06/14/2023	EFT	Sterling Administrati...	-split-		30.00	X		3,328,745.47
06/14/2023	EFT	Quadient Finance US...	-split-	Account # 790...	1,191.07	X		3,327,554.40
06/15/2023		Deposit	6145 · Radio Maintena...	VOID Lost Ch...		X	440.39	3,327,994.79
06/15/2023			6204 · Other Professio...	Service Charge	568.52	X		3,327,426.27
06/15/2023	EFT	Nationwide Retireme...	-split-	PR23-6-2	22,075.29	X		3,305,350.98
06/15/2023	EFT	De Lage Landen Fina...	-split-	Account # 152...	301.30	X		3,305,049.68
06/15/2023	EFT	Sterling Administrati...	-split-		110.00	X		3,304,939.68
06/15/2023	26357	Absolute Office Solu...	-split-		9,394.24	X		3,295,545.44
06/15/2023	26358	Aramark	-split-	Acct. # 175878...	131.28	X		3,295,414.16
06/15/2023	26359	Cal Fire	-split-		7,985.00	X		3,287,429.16
06/15/2023	26360	Caltronics Business ...	-split-		828.76	X		3,286,600.40
06/15/2023	26361	Carahsoft Technolog...	-split-		4,285.44	X		3,282,314.96
06/15/2023	26362	Emigh Ace of El Dor...	6232 · Apparatus Tool...		54.39			3,282,260.57
06/15/2023	26363	Green Valley Road S...	1200 · Prepaid Expenses		360.00	X		3,281,900.57

El Dorado Hills Fire Department

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06/15/2023	26364	The Home Depot Pro	-split-		1,503.43	X		3,280,397.14
06/15/2023	26365	InterState Oil Compa...	-split-		7,334.86	X		3,273,062.28
06/15/2023	26366	Interwest Consulting ...	6242 · Fire Prevention	Invoice # 88327	771.25	X		3,272,291.03
06/15/2023	26367	L.N. Curtis & Sons	-split-		3,060.94	X		3,269,230.09
06/15/2023	26368	Larry R. Fry	-split-		461.60	X		3,268,768.49
06/15/2023	26369	Motorola Solutions Inc	-split-	Customer Acct....	5,701.69	X		3,263,066.80
06/15/2023	26370	RadioMobile, Inc.	-split-	Invoice # 23150	440.39	X		3,262,626.41
06/15/2023	26371	Silverado Avionics	6145 · Radio Maintena...	Invoice # 2581	3,707.66	X		3,258,918.75
06/15/2023	PR23-6-2		-split-	Total Payroll T...	85,740.13	X		3,173,178.62
06/15/2023	PR23-6-2		1000 · Bank of Americ...	Direct Deposit	307,436.67	X		2,865,741.95
06/15/2023	PR23-6-2		1000 · Bank of Americ...	Payroll Checks		X		2,865,741.95
06/16/2023	EFT	Sterling Administrati...	-split-		233.00	X		2,865,508.95
06/16/2023	26372	Harrah's Northern Ca...	6720 · Capital Outlay	VOID:		X		2,865,508.95
06/16/2023	26373	Harrah's Northern Ca...	-split-		374,431.25	X		2,491,077.70
06/18/2023	EFT	Sterling Administrati...	-split-		1.11	X		2,491,076.59
06/19/2023	EFT	P. G. & E.	-split-		8,710.37	X		2,482,366.22
06/20/2023	EFT	U.S. Bank Telepay	2010 · Accounts Payable	Reference # 16...	52,218.42	X		2,430,147.80
06/20/2023	EFT	Sterling Administrati...	-split-		399.00	X		2,429,748.80
06/20/2023	EFT	Sterling Administrati...	-split-		186.54	X		2,429,562.26
06/21/2023	EFT	Sterling Administrati...	-split-		732.60	X		2,428,829.66
06/21/2023	EFT	Verizon Wireless	-split-	May-23	380.10	X		2,428,449.56
06/22/2023	EFT	Sterling Administrati...	-split-		937.78	X		2,427,511.78
06/22/2023	26374	4640 Golden Foothill...	-split-	Invoice # 21376	5,880.76	X		2,421,631.02
06/22/2023	26375	Aramark	6120 · Housekeeping	Acct. # 175878...	43.76	X		2,421,587.26
06/22/2023	26376	AT&T	-split-	May-23	108.84			2,421,478.42
06/22/2023	26377	AT&T Mobility	-split-	Invoice # 2872...	212.20			2,421,266.22
06/22/2023	26378	Big O Tires	6141 · Tires		1,284.58	X		2,419,981.64
06/22/2023	26379	Brian K Veerkamp	6034 · Health Cost of ...		329.70			2,419,651.94
06/22/2023	26380	Capital Building Mai...	-split-	Invoice # 14879	1,677.07	X		2,417,974.87
06/22/2023	26381	David Roberts	1200 · Prepaid Expenses		494.70			2,417,480.17
06/22/2023	26382	David Taussig and A...	6204 · Other Professio...	Invoice # 2305...	401.70			2,417,078.47
06/22/2023	26383	Department of Finance	-split-	Invoice # 5032/...	1,350.00			2,415,728.47
06/22/2023	26384	Devin Flannery	6241.1 · EDC Hosted ...		2,600.00	X		2,413,128.47
06/22/2023	26385	El Dorado County Fi...	1200 · Prepaid Expenses	Annual Membe...	50.00			2,413,078.47
06/22/2023	26386	Genuine Parts Comp...	-split-		603.88			2,412,474.59
06/22/2023	26387	Golden State Emerge...	-split-		273.60			2,412,200.99
06/22/2023	26388	InterState Oil Compa...	-split-		2,364.44	X		2,409,836.55
06/22/2023	26389	Liberty Bell Smart H...	-split-	Invoice # 660765	74.99	X		2,409,761.56
06/22/2023	26390	Metropolitan Life Ins...	1200 · Prepaid Expenses	Customer Num...	478.80			2,409,282.76
06/22/2023	26391	PowerGen Inc.	6150 · Facilities Maint...		3,011.91	X		2,406,270.85

El Dorado Hills Fire Department

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06/22/2023	26392	Rescue Source	-split-		1,163.82	X		2,405,107.03
06/22/2023	26393	Roebbelen Construct...	-split-	RCMS Billing:...	13,960.00	X		2,391,147.03
06/22/2023	26394	Ross Drulis Cusenbery	-split-	Invoice # 2019...	4,044.69	X		2,387,102.34
06/22/2023	26395	Rotary	-split-	June 2023 Dues	210.00			2,386,892.34
06/22/2023	26396	Sentinel Fire Equipm...	6150 · Facilities Maint...	Invoice # 93670	150.74	X		2,386,741.60
06/22/2023	26397	The Permanente Med...	6204 · Other Professio...	Invoice # EDH...	2,000.00	X		2,384,741.60
06/23/2023	EFT	Sterling Administrati...	-split-		421.20	X		2,384,320.40
06/23/2023	EFT	P. G. & E.	-split-		602.52	X		2,383,717.88
06/25/2023	EFT	Allied Administrator...	1200 · Prepaid Expenses	July 2023	6,619.23	X		2,377,098.65
06/25/2023	EFT	Sterling Administrati...	-split-		97.95	X		2,377,000.70
06/26/2023	EFT	State Compensation ...	6030 · Workers Compe...	Policy # 11048...	74,305.67	X		2,302,695.03
06/27/2023	EFT	P. G. & E.	-split-		61.09	X		2,302,633.94
06/28/2023	EFT	Sterling Administrati...	-split-		383.96	X		2,302,249.98
06/29/2023		Transfer from County	1072 · Fund Balance - ...	Transfer from ...		X	432,650.49	2,734,900.47
06/29/2023	EFT	P.E.R.S. Health	-split-	July 2023	233,916.58	X		2,500,983.89
06/29/2023	EFT	P.E.R.S. ING	-split-	PR23-6-3	2,436.23	X		2,498,547.66
06/29/2023	EFT	P.E.R.S. Retirement	-split-	PR23-6-3	122,720.70	X		2,375,826.96
06/29/2023	EFT	Nationwide Retireme...	-split-	PR23-6-3	22,075.29	X		2,353,751.67
06/29/2023	EFT	Sterling Administrati...	-split-		453.40	X		2,353,298.27
06/29/2023	EFT	Sterling Administrati...	-split-		696.00	X		2,352,602.27
06/29/2023	26398	ACC Business	-split-		2,372.35			2,350,229.92
06/29/2023	26399	Aflac	2100 · Payroll Liabilities	Inv # 238047	1,081.59			2,349,148.33
06/29/2023	26400	Air Exchange	6150 · Facilities Maint...	Invoice # 9160...	2,027.29			2,347,121.04
06/29/2023	26401	Allstar Fire Equipme...	6144 · Equipment Mai...		379.29			2,346,741.75
06/29/2023	26402	Aramark	6120 · Housekeeping	Acct. # 175878...	43.76			2,346,697.99
06/29/2023	26403	ARI Investigations Inc.	6202.2 · Human Resou...		500.00			2,346,197.99
06/29/2023	26404	AT&T	6111 · Telecommunica...	June-23	16.90			2,346,181.09
06/29/2023	26405	CA Assoc. of Profess...	-split-	July 2023	1,858.50			2,344,322.59
06/29/2023	26406	Caltronics Business ...	-split-		237.67			2,344,084.92
06/29/2023	26407	City of Grass Valley	3507 · Training Revenue		500.00			2,343,584.92
06/29/2023	26408	DG Granade	6720 · Capital Outlay	Application # 14	326,455.86			2,017,129.06
06/29/2023	26409	Dtech Communications	6204 · Other Professio...		1,495.00			2,015,634.06
06/29/2023	26410	Emigh Ace of El Dor...	-split-		134.62			2,015,499.44
06/29/2023	26411	El Dorado County E...	6112 · Dispatch Services	Invoice # EDC...	14,351.90			2,001,147.54
06/29/2023	26412	FireCom	6145 · Radio Maintena...		483.79			2,000,663.75
06/29/2023	26413	The Home Depot Pro	-split-		204.38			2,000,459.37
06/29/2023	26414	InterState Oil Compa...	6251 · Fuel and Oil		928.74			1,999,530.63
06/29/2023	26415	L.N. Curtis & Sons	-split-		1,360.15			1,998,170.48
06/29/2023	26416	Liebert Cassidy Whit...	-split-		9,808.88			1,988,361.60
06/29/2023	26417	Liberty Bell Smart H...	-split-	Invoice # 661003	175.00			1,988,186.60

El Dorado Hills Fire Department

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06/29/2023	26418	Life Assist	-split-		807.82			1,987,378.78
06/29/2023	26419	Mountain Democrat	6203 · Notices		71.50			1,987,307.28
06/29/2023	26420	Zoll Medical Corpor...	-split-		663.40			1,986,643.88
06/29/2023	PR23-6-3		-split-	Total Payroll T...	92,562.16	X		1,894,081.72
06/29/2023	PR23-6-3		1000 · Bank of Americ...	Direct Deposit	322,106.78	X		1,571,974.94
06/29/2023	PR23-6-3		1000 · Bank of Americ...	Payroll Checks		X		1,571,974.94
06/30/2023			-split-	Deposit		X	13,518.56	1,585,493.50
06/30/2023		Transfer from County	3335.3 · Latrobe Base ...	2022/23 Latrob...		X	99,219.00	1,684,712.50
06/30/2023	EFT	Sterling Administrati...	-split-		1,226.00			1,683,486.50
06/30/2023		Alexandra Ghilarducci	6181 · Other Miscellan...	Reverse of GJE...		X	75.00	1,683,561.50
06/30/2023	VerizonR...		3513 · Rental Income (...)	Verizon Month...		X	2,100.00	1,685,661.50

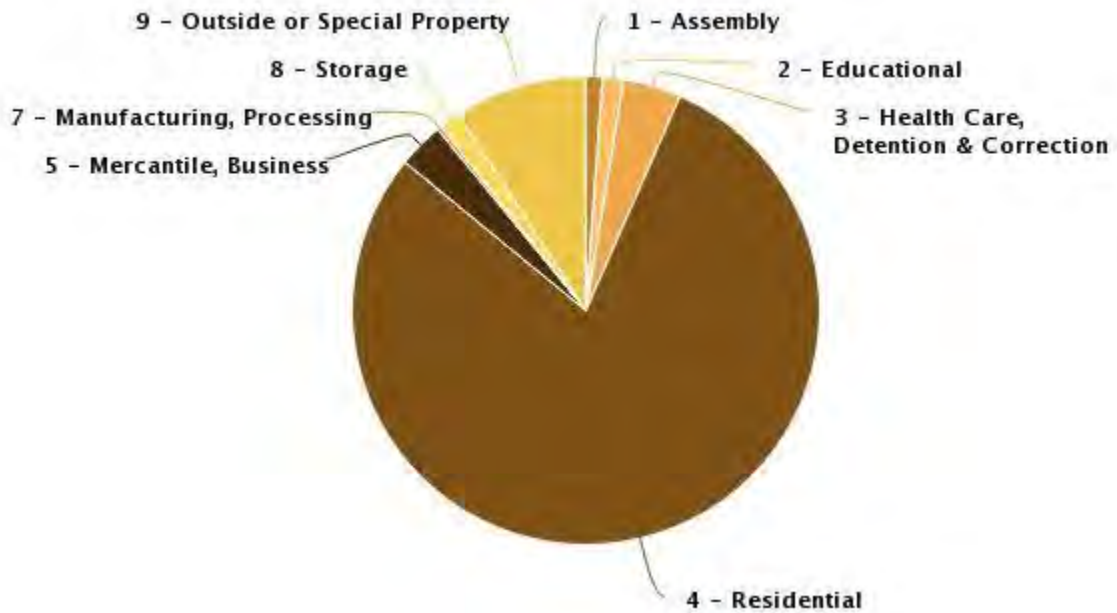
EL DORADO HILLS FIRE DEPARTMENT
“YOUR SAFETY ... OUR COMMITMENT”



MONTHLY OPERATIONS REPORT
JUNE 2023

*All times are collected using a combination of Image Trend and Crystal Reports. The times are provided with the best accuracy possible.

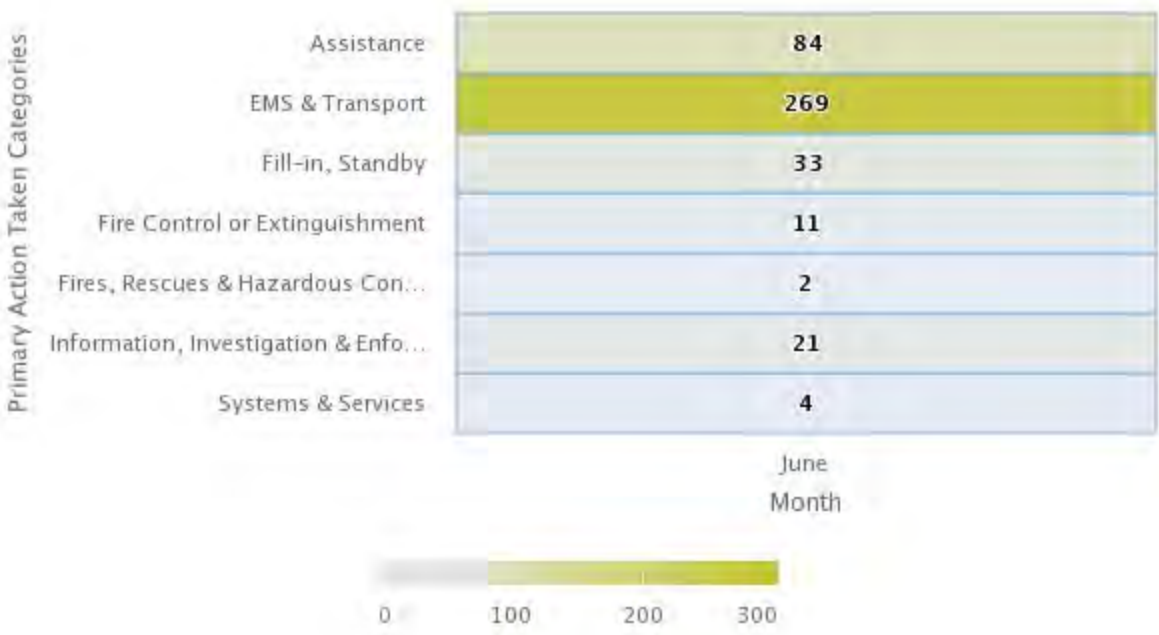
Incidents by Property use Category



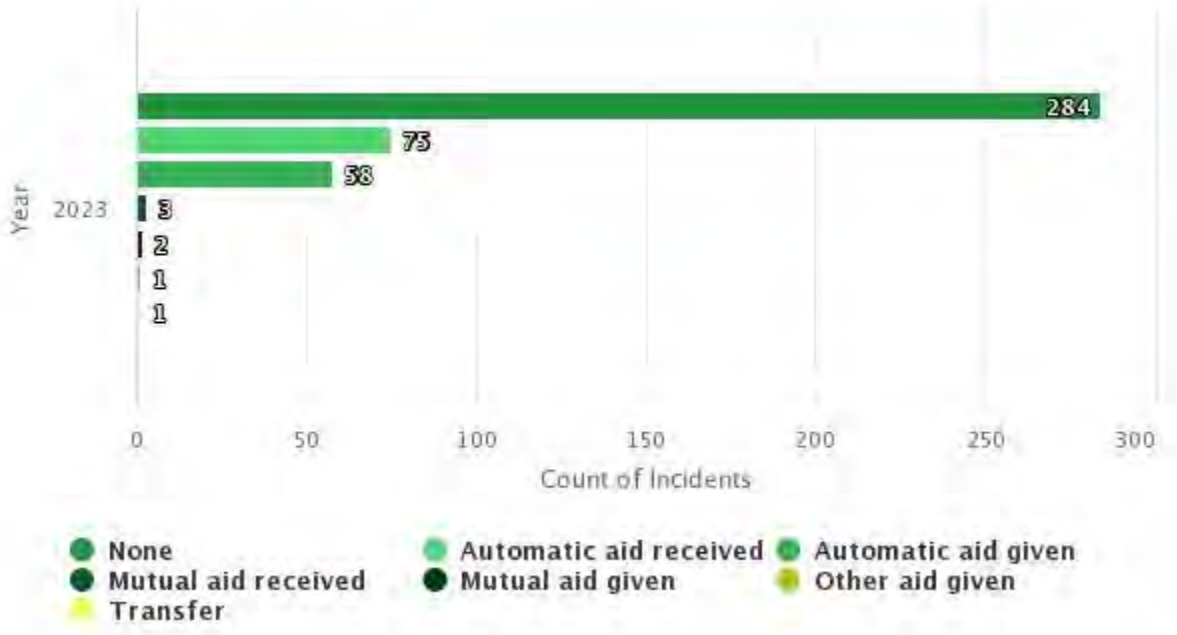
Fire Call Volume by Day



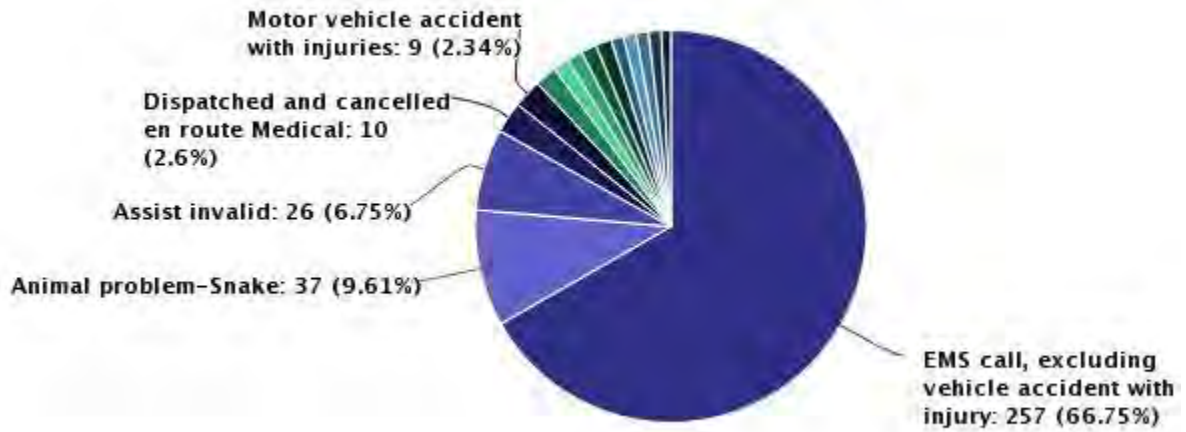
Primary Action Taken-Categories



Aid Given/Received

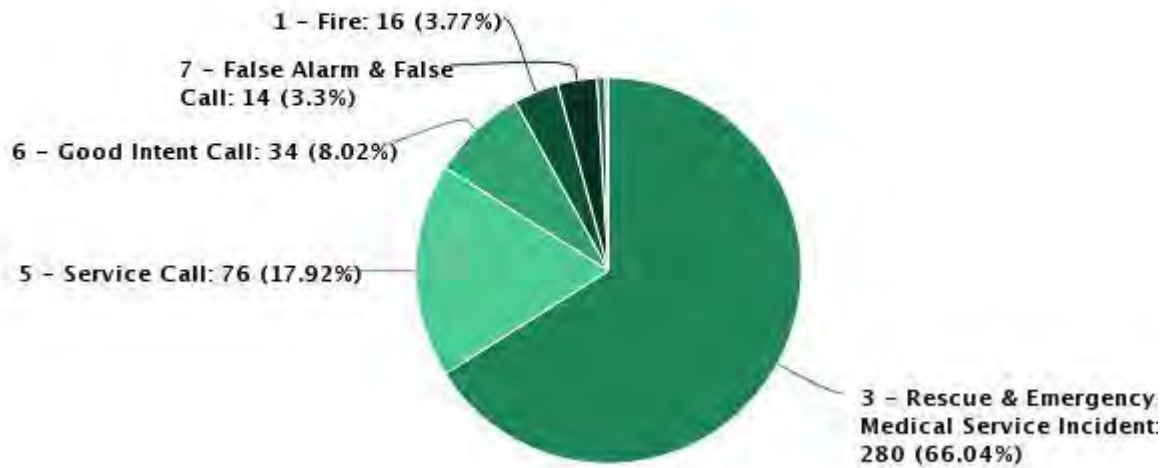


Response/Incident Types & Categories

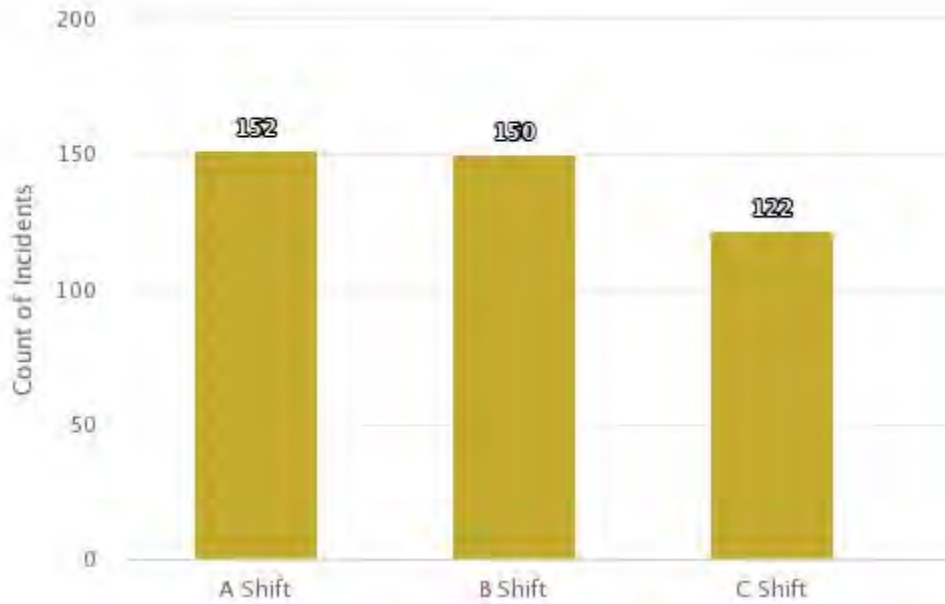


Incident Type Categories

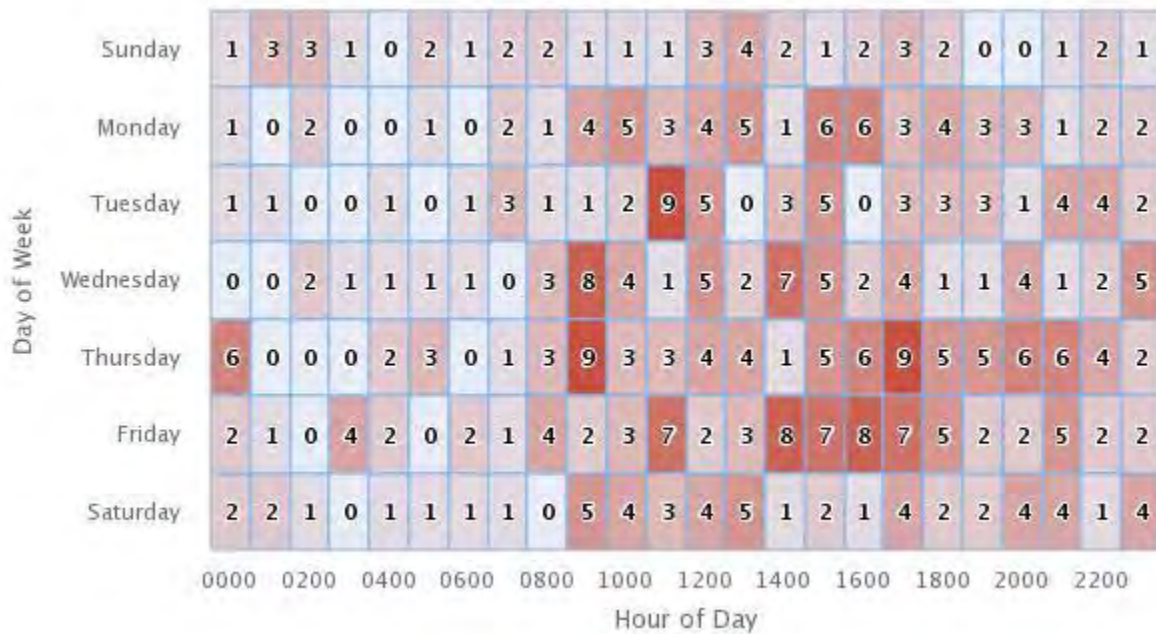
Jun 01, 2023 to Jun 30, 2023



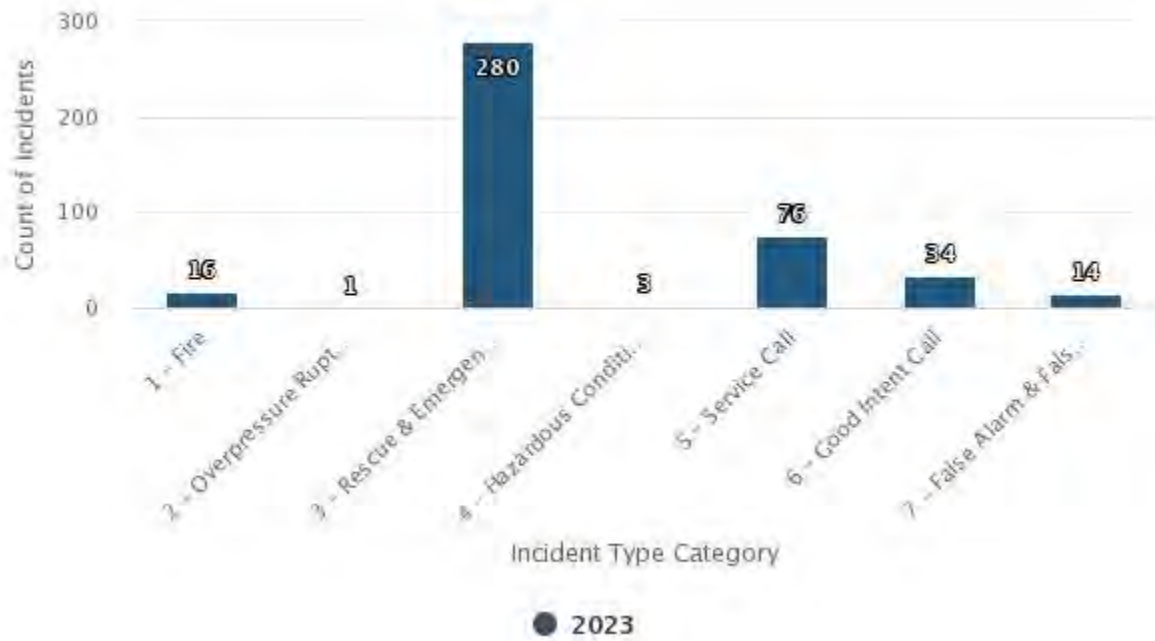
Incident Response by Shift



Incidents by Hour of the Day



Incident Category



*Emergency Response Summary –
Medic Units Response Time - El Dorado
June 2023*

URBAN RESPONSE,

11-minutes, 90% of time

Response Time Between 00:00:00 - 00:00:59	0.81%
Response Time Between 00:01:00 - 00:01:59	1.21%
Response Time Between 00:02:00 - 00:02:59	5.24%
Response Time Between 00:03:00 - 00:03:59	14.92%
Response Time Between 00:04:00 - 00:04:59	27.42%
Response Time Between 00:05:00 - 00:05:59	39.92%
Response Time Between 00:06:00 - 00:06:59	52.82%
Response Time Between 00:07:00 - 00:07:59	62.90%
Response Time Between 00:08:00 - 00:08:59	74.60%
Response Time Between 00:09:00 - 00:09:59	81.45%
Response Time Between 00:10:00 - 00:10:59	87.10%

Medic Unit Response Comparison by Month/Year

MONTH	2023	2022
January	82.43%	91.28%
February	89.68%	90.98%
March	89.33%	95.33%
April	88.49%	93.70%
May	89.44	92.04%
June	87.10%	91.24%
July		86.31%
August		91.13%
September		87.02%
October		88.26%
November		88.48%
December		86.80%

The percentages represented does not reflect reconciled percentages from exception reporting

Operations

On June 9th, the El Dorado Hills Fire Family were able to participate and celebrate in a family affair approximately 20 years in the making, the finishing of the El Dorado Hills Fire Department, Fire Training Center. Albeit, the FTC is not totally completed, on June 9th, members and their family were able to celebrate by touring the burn buildings, playing games, eating, and simply hanging out with each other. In the not so distance future, members will be pulling hose, throwing ladders, and honing their skills in this craft called firefighting.



Picture credit to BC Moreno

Training

The month of June brought Wildland Urban Interface (WUI) drills that were coordinated by the BCs, as well as wildland sim table exercises. EMS was also a topic of crews this month in which personnel trained on PATS.

With the deployment of the new SCOTT SCBA Airpaks, crews continued to train on the use of the new equipment.



Fleet Services

Fleet services has had a busy month with services, inspections, transmission repairs. The heat of the summer is upon us, as such air conditioning services on the Department's fleet have been on the rise. Fleet has also been busy inspecting and working on three new vehicles that have been added to our fleet; a used special operations/rescue vehicle, command vehicle, and a Type 3 engine. Once work is completed these three vehicles will expand the Department's capabilities and add depth to our fleet.



New Transmission



New Special Operations/Rescue



New Command Vehicle

Battalion Chief Updates

A-Shift – Chief Antonio Moreno

Incidents



Motor Vehicle Collision – Salmon Falls Rd, El Dorado Hills



Motor Vehicle Collision – Latrobe Rd, El Dorado Hills



Motor Vehicle Collision, Hit-&- Run – Latrobe Rd, El Dorado Hills

Residential Structure Fire – El Dorado Hills



Fence Fire with extension into a house and damaging a second one.



Vegetation Fire – Independence Rd., El Dorado Hills
¼ acre burned

Vegetation Fire - New Your Creek, El Dorado Hills
15'x60' spot

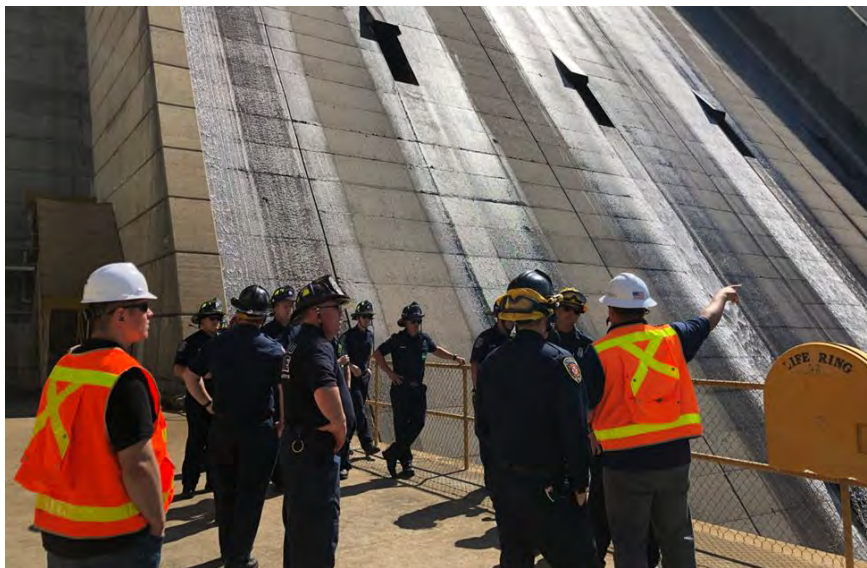


Training

Multi Company/Agency Drill with Folsom Fire



Folsom Dam Familiarization



B-Shift – Chief Dave Brady

Incidents

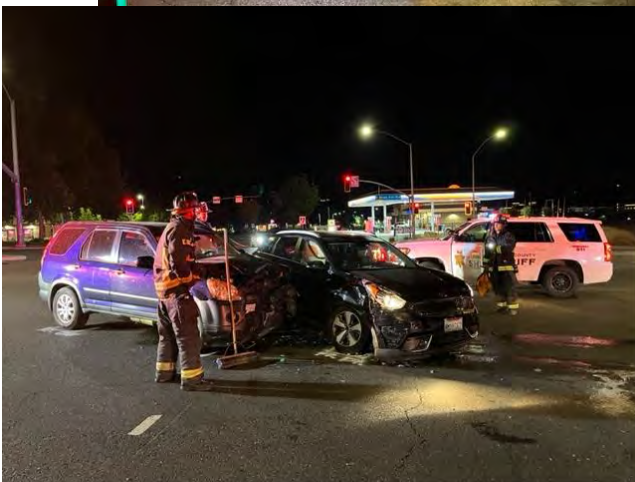
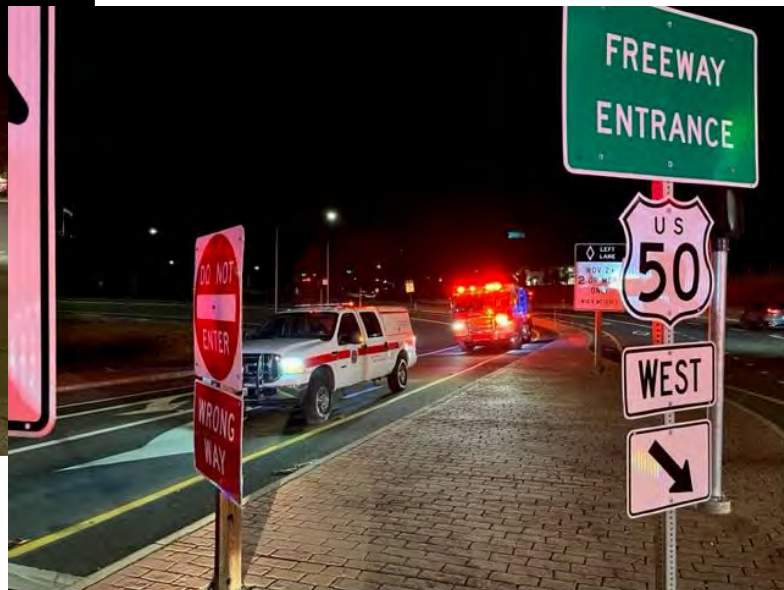
Vegetation Fire – Arroyo Vista, El Dorado Hills



Motor Vehicle Collision – EDH Blvd., El Dorado Hills

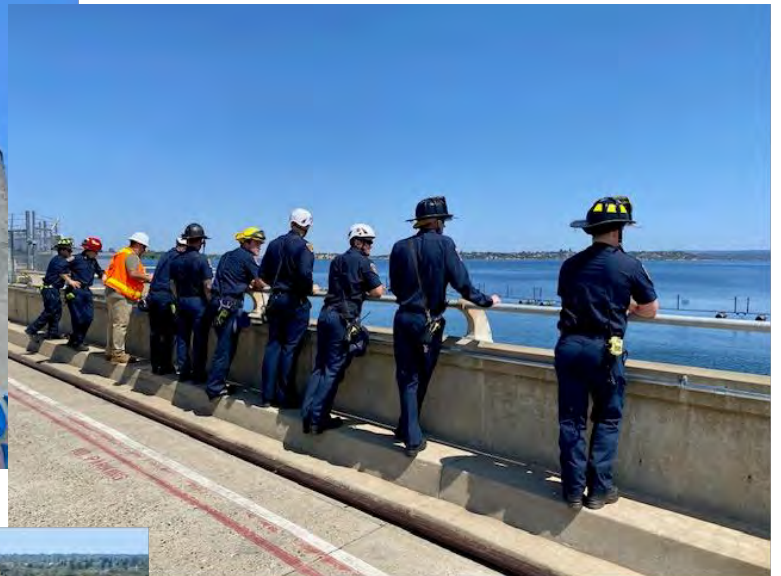


Motor Vehicle Collision – EDH Blvd, El Dorado Hills



Training

Folsom Dam



FEMA Task Force 7 – Trench Rescue Training, McClellan



C-Shift – Chief Chris Landry

Incidents

Motor Vehicle Collision – EDH Blvd, El Dorado Hills



Auto versus Pedestrian – Stephen Harris Park, El Dorado Hills

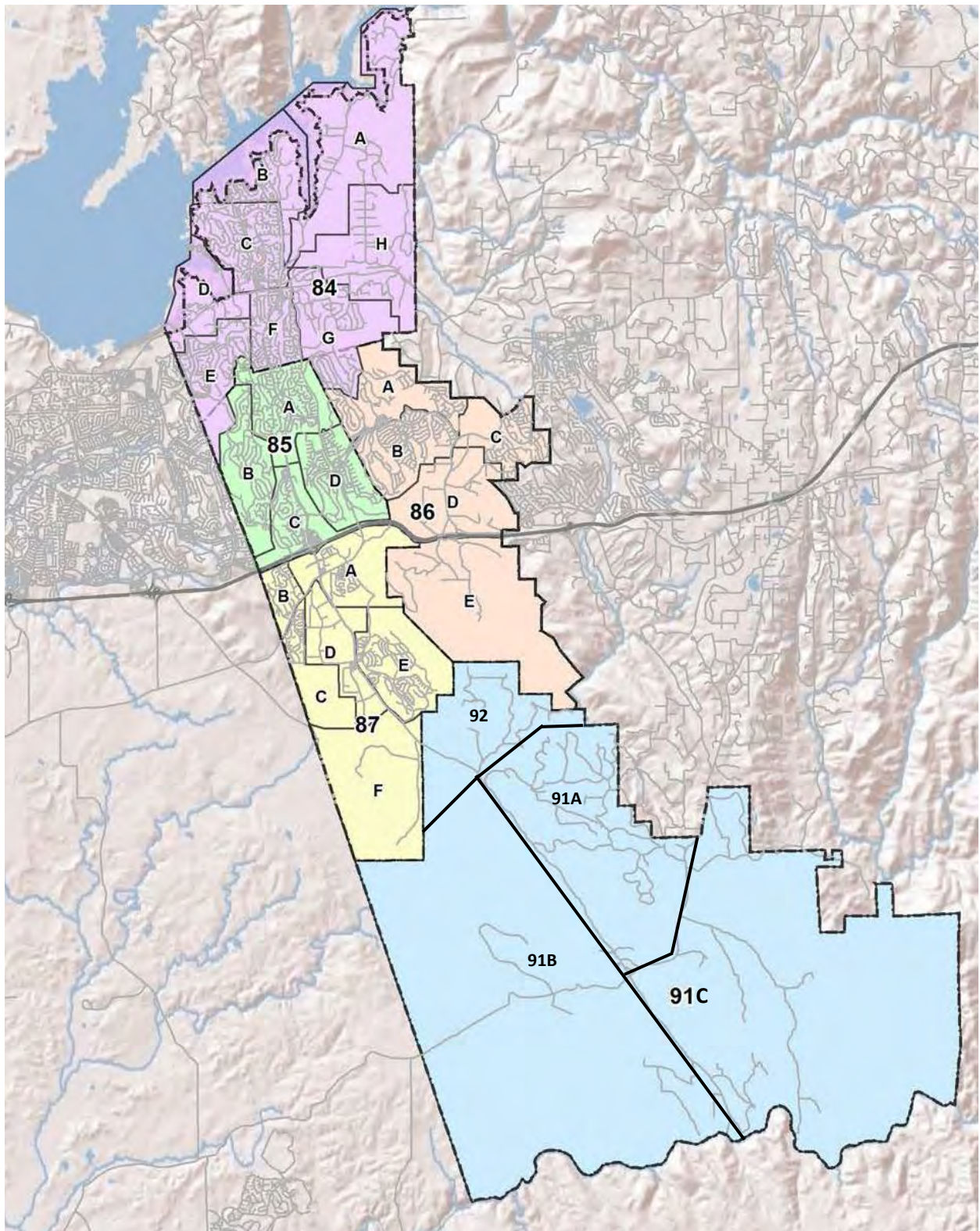


Vehicle Collision Shadowfax at Greenvalley – El Dorado Hills



Bicyclist versus animal, Salmon Falls Bridge, El Dorado Hills





EL DORADO HILLS FIRE DEPARTMENT

“YOUR SAFETY ... OUR COMMITMENT”



Community Risk Reduction Division

June 2023 Report

OVERVIEW

The El Dorado Hills Fire Department, Community Risk Reduction Division (CRRD) continues to see significant residential development and vegetation management program activity throughout the reporting period. Major construction activity continues in the Promontory, Saratoga Estates, Serrano, Carson Creek, Bell Ranch, Hawk View, and Bass Lake North areas of the District. New project proposals consisting of Latrobe Self Storage at Latrobe Rd. and Suncastr Lane, Rancho Victoria residential subdivision consisting of 8 40-acre residential parcels, Gateway of El Dorado industrial development at Golden Foothill Parkway, Town & Country Village conference and hotel facilities at Bass Lake Road, Montano 330 multi-family dwelling units at White Rock Rd. & Latrobe Rd., Quantam Care Residential Care Facility at Carson Crossing, and Costco at Silva Valley are ongoing. New commercial construction consisting of the Aloft Hotel in Town Center continues to progress.

CRRD has received a total of **123** applications for permit in the month of June 2023. New home construction permit activity was the leading permit submittal type with **81** plan applications received.

MAJOR ACCOMPLISHMENTS

CRRD staff completed the following activities during the last 30 days:

- Completed **105** reviews of plans for permit.
- Completed **148** construction inspections and **142** smoke and carbon monoxide alarm inspections.
- Completed **52** fire and life safety inspections of residential and commercial occupancies.
- Completed **491** vegetation inspections on unimproved parcels within the District.

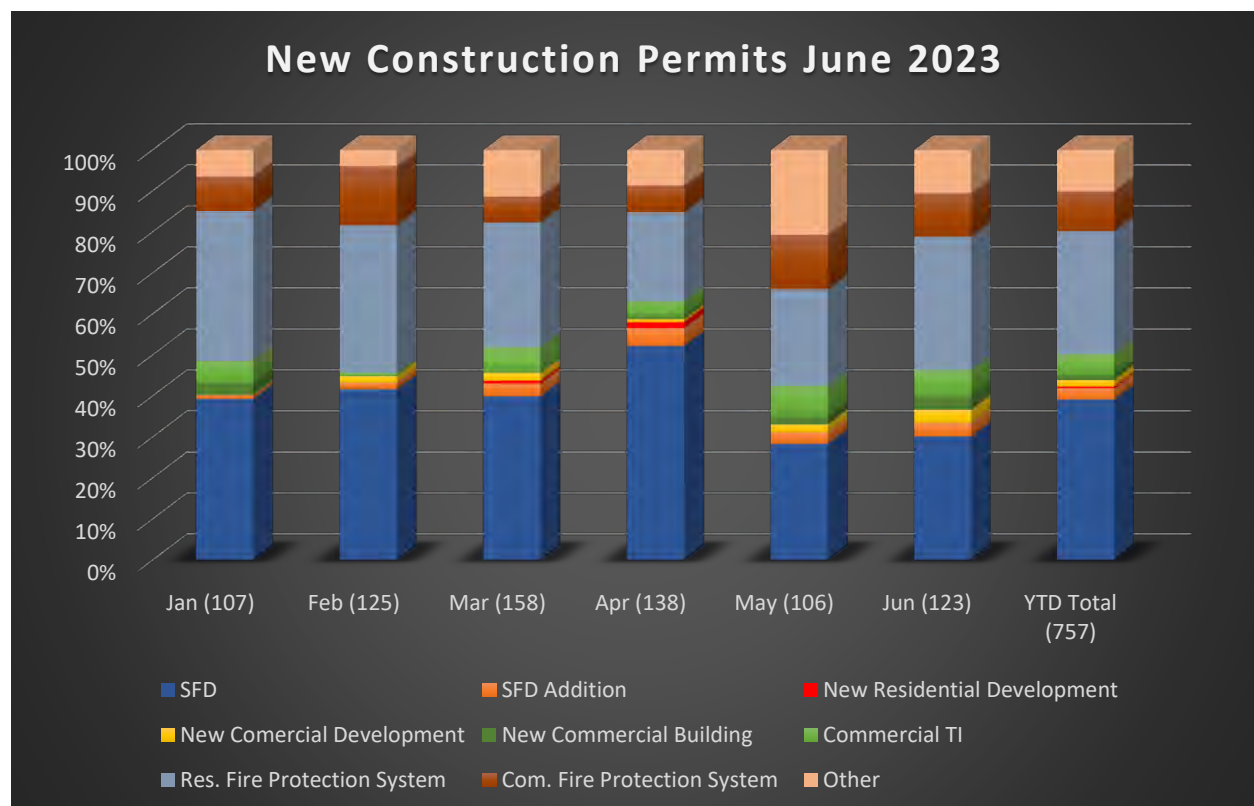


Table 1: New Construction Permits by Month Report

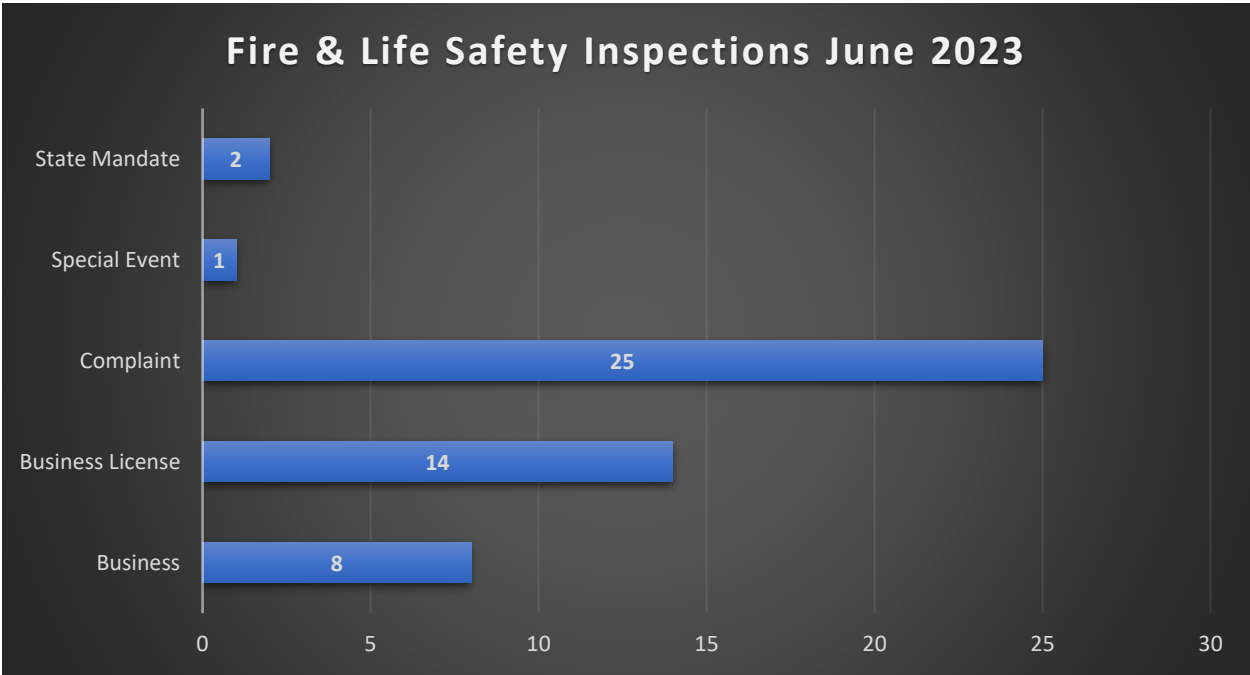


Table 2: Fire and Life Safety Inspections by Month Report

End of Report

EL DORADO HILLS COUNTY WATER DISTRICT

**RESOLUTION NO. 2023-06
RESOLUTION ADOPTING THE APPROPRIATION LIMITS FOR THE
2023-24 FISCAL YEAR**

WHEREAS, the Board of Directors conducted a hearing on the appropriation limitation for the El Dorado Hills County Water District on Thursday, July 20, 2023; and,

WHEREAS, the hearing was advertised and noticed as required by law; and,

WHEREAS, the Board received testimony and other evidence regarding the appropriation limitation to be established for the El Dorado Hills County Water District.

NOW, THEREFORE, IT IS HEREBY RESOLVED by the Board of Directors of the El Dorado Hills County Water District, that the El Dorado Hills County Water District appropriation limit for the 2023-24 fiscal year, as described in Article XIII B of the State Constitution and implemented by Chapter 1205, Statutes of 1980 is the sum of \$58,488,927 computed as follows, $\$55,580,012 \times 1.5233744 = \$58,488,927$.

The foregoing resolution was passed and adopted by the Board of Directors of the El Dorado Hills County Water District at a meeting of said Board held on the 20th day of July, 2023 by the following vote:

AYES:
NOES:
ABSENT:

ATTEST:

Jessica Braddock, Board Secretary

John Giraudo, President

El Dorado Hills Fire Department

2023-24 Appropriations Limit Calculation



Cost-of-Living Factors:

(A) Percent growth in State per Capita Personal Income: 4.44%
 (Source: California Department of Finance)

Cost-of-Living Factor A	1.0444
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(B) Percent change in Assessed Valuation due to new non-residential construction: N/A
 (Source: See Calculation Below)

Data not available - factor not used

Cost-of-Living Factor B	N/A
--------------------------------	------------

Population Factors:

(C) Percent growth in County "Unincorporated Areas": -0.38%
 (Source: El Dorado County)

Population Factor C	0.9962
----------------------------	---------------

(D) Percent growth in District Population: 0.76%
 (Source: California Department of Finance)

Population Factor D	1.0076
----------------------------	---------------

Annual Adjustment Factor Calculations:

(A x C) = 1.0444 x 0.9962 = 1.0404

(A x D) = 1.0444 x 1.0076 = 1.0523 Highest Adjustment Factor Used

(B x C) = 1.0 x 0.9962 = N/A NOT USED (No data for Factor B)

(B x D) = 1.0 x 1.0076 = N/A NOT USED (No data for Factor B)

Calculation of the Fiscal Year 2023-24 Limit:
 (using highest adjustment factor above)

Fiscal Year 2022/23 Limit \$ 55,580,012
 x Recommended Adjustment Factor 1.05233744

Fiscal Year 2023/24 Limit \$ 58,488,927



El Dorado Hills Fire Department

1050 Wilson Blvd. • El Dorado Hills, CA 95762 • Phone (916) 933-6623 • Fax (916) 933-5983

Maurice Johnson
Fire Chief

DATE: July 20, 2023
TO: Board of Directors
AGENDA ITEM: Item XIII-A
SUBJECT: New Engine Purchase

TOPIC

Staff seeks Board approval for Authorization to Purchase a new Type 1 Engine.

SUMMARY

The Apparatus Replacement Schedule identifies Engine 8576 (E-87), a 2010 Ferrara Engine, as due for replacement in 2025.

DISCUSSION

Engine 8576 will have met its service life obligation at the point it will be replaced. Staff continues to update and utilize the Apparatus Replacement Schedule to ensure the front line and reserve apparatus are well maintained and equipped with the most up-to-date safety equipment available on the market for Department personnel.

The proposed new engine will be housed and respond from Fire Station 87, removing 8576 from front line service. At the time of delivery, staff will evaluate the reserve engine fleet to determine which engine will be surplus (sold or donated) in accordance with department policy. Staff has completed a replacement assessment on this engine and determined the score to be 34 - Condition 4 "Needs Immediate Consideration". Any score of 28 or higher places the apparatus in this condition. The assessment is based on maintenance and repair costs, reliability, age, miles/hours, type of service, and overall condition.

Staff has been working with Pierce Manufacturing Inc. on the design of the engine that will be similar to the Type 1 Heavy platform the Department purchased in 2018. Pierce Manufacturing Inc. has advised staff that the estimated build time for this Engine is currently 40.5 to 43.5 months.

FISCAL IMPACT

This Engine was approved in the 2023-24 Preliminary Budget for \$1.2 million. Due to unforeseen market demands and inflation, the cost of this equipment has increased at a greater rate than expected. The updated cost of this engine from Pierce Manufacturing Inc. is \$1,232,250.67. This price includes a \$15,000 motor contingency.

A financial analysis was completed on payment options, and due to the length of the estimated build time and the expected rate of return on cash reserve balances, Staff recommends payment on delivery.

The table below outlines the estimated total cost, net of the prepayment discount, for this purchase:

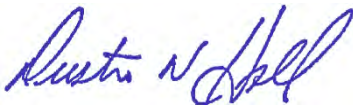
Description	Price
One (1) Pierce Manufacturing, Inc. Enforcer 1500 GPM Pumper + \$15,000 motor contingency	\$ 1,146,520.44
Subtotal	\$ 1,146,520.44
7.25% CA Sales Tax	83,122.73
California Tire Fee	10.50
100% Performance Bond	2,597.00
Changes/Mounting	20,000.00
GRAND TOTAL	\$ 1,252,250.67

RECOMMENDATION

Staff respectfully recommends the Board approve the purchase of one (1) Pierce Manufacturing Type 1 Heavy Engine through the HGAC Buy program. The total cost for this unit and associated upgrades, equipment, in-service inspections, and taxes/registration is not to exceed \$1.26 million.

Submitted by:

Approved by:



Dustin Hall
Deputy Chief – Operations

Maurice Johnson
Fire Chief



GOLDEN STATE

FIRE APPARATUS

PREPARED ESPECIALLY FOR:

EL DORADO HILLS FIRE DEPARTMENT

One (1) Pierce Manufacturing, Inc.
Enforcer 1500 GPM Pumper



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- 2** Standard Terms and Conditions (Exhibit A)
- 3** Product Specifications (Exhibit B)
 - Supporting Documents (If Applicable)
 - Electrical Analysis
 - Turning Radius Report
- 4** Product Warranties (Exhibit C)
- 5** Dealer Supplied Products and/or Services (Exhibit D)



1 PRODUCT PROPOSAL

PRODUCT PROPOSAL FOR:

El Dorado Hills Fire Department

1050 Wilson Blvd.
El Dorado Hills, CA 95762

Sales Consultant

Brad Hansen
brad@goldenstatefire.com
Mobile: (916) 869-6072

SUBMITTED DATE	EXPIRATION DATE	GSFA PROPOSAL #	MANUFACTURER BID #	MANUFACTURER	CONSORTIUM
06/21/2023	07/21/2023	10621-23B	913	Pierce Manufacturing Inc.	HGAC contract FS12-19, Product Code FS19VC07)

Golden State Fire Apparatus, Inc. (“GSFA”) is pleased to provide this proposal for the fire apparatus(es) and equipment identified below (the “Product”) to EL DORADO HILLS FIRE DEPARTMENT (“Customer”) for consideration. This proposal (this “Product Proposal”) includes the following exhibits attached hereto: the Standard Terms and Conditions attached as Exhibit A (the “Terms and Conditions”); the Product Specifications attached as Exhibit B (the “Specifications”); the Product Warranties attached as Exhibit C; and the Dealer Supplied Products and/or Services attached as Exhibit D (the “Dealer Supplied Products/Services List”) (all of the foregoing, collectively, the “Agreement”). Through its signature below or other Acceptance (as defined on page 2), Customer acknowledges having received and read, and agrees to be bound by, the Agreement. The Agreement shall be effective as of the latest date appearing in the signature blocks below (the “Executed Date”).

ITEM	PRODUCT DESCRIPTION	UNIT PRICE
A	One (1) Pierce Manufacturing Inc. Enforcer 1500 GPM Pumper	1,146,520.44
B	7.25% State Sales Tax	83,122.73
C	California Tire Fee	10.50
D	100% Performance Bond	2,597.00
E	GRAND TOTAL PURCHASE PRICE	1,232,250.67

PAYMENT TERMS – Customer shall pay the total purchase price set forth directly above (the “Grand Total Purchase Price”) (as such amount may be adjusted by Change Order in accordance with the Terms and Conditions) to GSFA at the time of GSFA’s delivery of the applicable Product to Customer’s address listed above (or Customer’s pick up of such Product at GSFA’s facilities, if approved by GSFA). GSFA shall have no obligation to deliver, or permit pick up of the Product if the Customer does not have full payment ready when the Product is complete and ready to deliver or pick up, as applicable.

MANUFACTURER – Customer acknowledges that GSFA is not an agent of the Product manufacturer identified above (“Manufacturer”) and is not capable of binding Manufacturer. Within five (5) business days of the Executed Date, GSFA shall submit an order form to the Manufacturer for the Product. GSFA’s further performance under the Agreement is contingent upon Manufacturer’s acceptance of such order form at the price and on the terms GSFA believed to be available when submitting this Product Proposal to Customer. If Manufacturer rejects such order as submitted or fails to respond to GSFA within a reasonable amount of time, GSFA shall notify Customer in writing, and unless GSFA and Customer otherwise agree in writing, the Agreement shall then terminate and have no further force or effect.

PRODUCT COMPLETION – The Product shall be ready for final inspection by Customer at the manufacturing facility within approximately **40.5 to 43.5 MONTHS** after the Executed Date. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PREDELIVERY SERVICE – If applicable, after transportation from the manufacturing facility and prior to final delivery or pick up, the Product shall receive those additional Products and/or services identified on the Dealer Supplied Products/Services List. It is estimated that such a service will add approximately **1 to 1.5 MONTH(S)** to the above Product completion estimate. The foregoing estimate is provided as a good faith approximation as of the date of submission of this Product Proposal and is subject to the Terms and Conditions.

PROPOSAL EXPIRATION – This Product Proposal supersedes any previous proposal(s) presented to Customer by GSFA and its employees and may be accepted by Customer on or before the Expiration Date identified above. Unless accepted by the Expiration Date, GSFA reserves the right to withdraw this Product Proposal or to alter its terms (including by providing updated Product pricing) prior to an order being accepted.

PURCHASE ORDER – If the Customer elects to issue a Purchase Order (PO) it shall be made out to: *Golden State Fire Apparatus, Inc. – 7400 Reese Road – Sacramento, CA 95828.*

ACCEPTANCE – ACCEPTANCE OF THIS PROPOSAL CREATES AN ENFORCEABLE BINDING AGREEMENT BETWEEN GSFA AND CUSTOMER. “**ACCEPTANCE**” MEANS THAT THE CUSTOMER DELIVERS TO GSFA: (A) A SIGNED COPY OF THIS PRODUCT PROPOSAL, OR (B) A SIGNED COPY OF A PURCHASE ORDER INCORPORATING THE AGREEMENT IN ITS ENTIRETY. ANY ADDITIONAL OR DIFFERENT TERMS, WHETHER CONTAINED IN CUSTOMER’S FORMS OR OTHERWISE PRESENTED BY CUSTOMER AT ANY TIME, ARE HEREBY REJECTED AND OF NO EFFECT UNLESS APPROVED IN WRITING SIGNED BY GSFA.

COUNTERPARTS - This Product Proposal may be executed in multiple counterparts, each of which shall be deemed an original (including copies sent to a party by electronic transmission) as against the party signing such counterpart, but which together shall constitute one and the same instrument. A signed copy of this Product Proposal delivered by facsimile, email or other means of electronic transmission will be deemed to have the same legal effect as delivery of an original signed copy of this Product Proposal. If this Product Proposal is returned to GSFA with the signature of Customer’s authorized representative but without an attestation or co-signers signature, then absent Customer’s written notice to the contrary, GSFA shall be entitled to rely on such single signature as sufficient evidence of the signatory’s authority to execute the Agreement and bind Customer thereby.

[Signature Page Follows]

INTENDING TO CREATE A BINDING AGREEMENT, Customer and GSFA have each caused this Product Proposal dated 06/21/2023, GSFA Proposal Number 10621-23B to be executed by their duly authorized representatives effective as of the Executed Date.

ACCEPTED AND AGREED TO BY CUSTOMER

AUTHORIZED CUSTOMER REPRESENTATIVE:

Signature

Print Name

Title

Date

ACCEPTED AND AGREED TO BY GSFA

AUTHORIZED GSFA REPRESENTATIVE:

Signature

Print Name

Title

Date

2 STANDARD TERMS AND CONDITIONS

Exhibit "A"



STANDARD TERMS AND CONDITIONS

1. Definitions.

- a. **“Agreement”** has the meaning given in the Product Proposal.
- b. **“Customer”** means the customer identified in the Product Proposal.
- c. **“Dealer Preparation,”** if applicable, means additional product(s) and/or services added by GSFA after Manufacturer’s completion of the Product and prior to delivery, in accordance with the Dealer Supplied Products/Services List.
- d. **“Dealer Supplied Products/Services List”** means the Dealer Supplied Products and/or Services List attached to the Product Proposal as Exhibit D, which reflects all Dealer Preparation under the Agreement absent a valid Change Order(s).
- e. **“Grand Total Purchase Price”** means the total purchase price for the Product identified in the Product Proposal (subject to any adjustments required or permitted by these Terms and Conditions, including by the execution of a valid Change Order(s)).
- f. **“GSFA”** means Golden State Fire Apparatus, Inc., a California corporation.
- g. **“Manufacturer”** means the person or persons, company, firm, corporation, partnership, or other organization identified in the Product Proposal as responsible for manufacturing the Product.
- h. **“Party”** or **“Parties”** means GSFA and/or Customer, as applicable.
- i. **“Prepayment Discount”** means a discount to the purchase price for the Product granted to Customer in connection with Customer’s advance payment of the Grand Total Purchase Price (or portion thereof, as specified in the Product Proposal).
- j. **“Product”** means the fire apparatus(es) and any associated equipment listed in the Product Proposal and further described in the Specifications.
- k. **“Product Proposal”** means the GSFA proposal executed by Customer to which these Terms and Conditions are attached.
- l. **“Product Warranties”** means the Manufacturer warranties for the Product attached to the Product Proposal as Exhibit C.
- m. **“Specifications”** means the specifications for the Product attached to the Product Proposal as Exhibit B.
- n. **“Terms and Conditions”** means these Standard Terms and Conditions, which are attached to the Product Proposal as Exhibit A.

2. Purchase and Payment.

a. Purchase. Customer agrees to purchase the Product at the Grand Total Purchase Price (as such amount may be adjusted in accordance with these Terms and Conditions), pursuant to the payment terms set forth in the Product Proposal. The Grand Total Purchase Price is payable in U.S. dollars.

b. Contingency Reserve Fund. The Grand Total Purchase Price may include an amount to be set aside for the purpose of funding any future costs or financial obligations incurred by Customer under the Product Proposal or any valid Change Order(s) (the **“Contingency Reserve Fund”**). If applicable, the amount of any required Contingency Reserve Fund will be set forth in either the Product Proposal or Exhibit D. The Contingency Reserve Fund may be withdrawn against by Customer or GSFA for the purpose of satisfying Customer’s payment obligations under the initial Product Proposal or any valid Change Order(s) (including, without limitation, a Change Order submitted by GSFA pursuant to Section 8.b). If a Contingency Reserve Fund is required under the Agreement, the amount of such fund is not intended as an estimate of the actual additional costs of contingencies, Change Orders, unforeseen items or other required work that may be incurred under the Agreement after submission of the Product Proposal to Customer, which amounts Customer acknowledges may exceed the Contingency Reserve Fund amount. The balance of any Contingency Reserve Fund will be credited against Customer’s payment obligations, or otherwise returned to Customer within thirty (30) calendar days of delivery of all Products under the Agreement (provided that Customer has paid all amounts owed under the Agreement as of such date).

c. Prepayment Discount. If GSFA has granted Customer a Prepayment Discount, Customer must provide each associated prepayment (each, a “**Prepayment**”) within the time frame specified in the Product Proposal in order to receive such discount. Customer’s failure to timely make such Prepayment may result in: (i) GSFA’s termination of the Agreement; and/or (ii) Customer’s loss of the Prepayment Discount for the portion of the Grand Total Purchase Price represented by such outstanding Prepayment and the application of a late fee as set forth in Section 6, in each case in GSFA’s sole discretion.

d. State Sales Tax. Customer shall be responsible for the cost of state sales tax associated with, or attributable to, the Product. The taxes stated in the Product Proposal are subject to adjustment for the applicable state sales tax rate in effect at the time of delivery. Therefore, the sales tax set forth on the Product Proposal is only an estimate of such taxes and will be increased or decreased at the time of delivery if a change in the applicable sales tax rate has occurred, in which case Customer shall pay GSFA (or be refunded by GSFA) the difference in the applicable sales tax.

3. Product Completion Date. Within thirty (30) calendar days of the date on which the last required signatory executes the Product Proposal (such date, the “**Executed Date**”), GSFA shall submit to Customer a tentative Product completion date (which may differ from the Product completion estimate contained in the Product Proposal). Due to global supply chain constraints, any Product completion date contained herein, or in the Product Proposal, or otherwise provided to Customer, is a good faith estimate only as of the date provided to Customer, and merely an approximation based on current information available to GSFA and Manufacturer. Customer shall not be entitled to rely on any such estimate, and GSFA shall have no liability to Customer for a failure by GSFA or Manufacturer to meet any such estimate. All Product completion estimates are subject to modification and, if applicable, GSFA will provide updates to such estimates to Customer when available.

4. Stock / Demo Units. Notwithstanding any other provision contained in the Agreement (including Section 12 hereof concerning warranties), any Products constituting stock/demo unit(s) are sold to Customer on an as-is, first-come and first served-basis and GSFA makes no further representation or warranty to any customer with respect to such unit(s). Regardless of the terms of the Product Proposal, GSFA shall only be obligated to sell such stock/demo unit(s) to the first customer to enter into a purchase agreement with GSFA identifying such unit(s), and after the execution by GSFA of such agreement any subsequent purchase agreement (including the Agreement, as applicable) shall have no further force or effect with respect to such unit(s).

5. Multiple Unit Purchase. If the Grand Total Purchase Price includes pricing for multiple Products, the Product price stated in the Product Proposal shall only be valid if the quantity of Products being proposed are purchased at the same time, pursuant to the same Agreement. GSFA shall have no obligation to offer the same price for any Product if purchased by Customer pursuant to a later purchase agreement.

6. Late Fee; Storage Fee. A late fee equal to 0.033% of the outstanding portion of the Grand Total Purchase Price will be charged per calendar day for overdue payments beginning ten (10) calendar days after the payment is due and continuing for the first thirty (30) calendar days thereafter. After such thirty (30) calendar day period, the late fee shall increase to 0.044% per calendar day until payment of the outstanding portion of the Grand Total Purchase Price is received. If Customer is unable to satisfy the delivery requirements hereunder or is unwilling to take delivery of the Product, then GSFA shall be entitled to a storage charge running from the earlier of: (i) the date of delivery agreed to between GSFA and Customer (provided GSFA is willing and able to deliver the Product on such date), or (ii) twenty-one (21) calendar days after GSFA notifies Customer that the Product is available for delivery. The storage charge is equal to: (i) \$175.00 per calendar day per apparatus stored, or (ii) the actual charges incurred by GSFA with a third party for storage of the Product, whichever is greater. Such storage charge shall continue until the actual time of delivery and Customer’s possession of the Product, and any such storage by GSFA or such third party shall be at the sole risk of Customer.

7. Delivery; Inspection and Acceptance.

a. Delivery. Subject to Section 5 hereof, the Product is scheduled to be delivered to the location and within the time period specified in the Product Proposal. Such delivery date is an estimate, and GSFA is, notwithstanding this Section 7.a, not bound to such date unless it otherwise agrees in a separate writing to complete delivery by a date certain. For the avoidance of doubt, GSFA is not responsible for delivery delays caused by or because of actions, omissions or conduct of Customer, the Manufacturer, or their respective employees, affiliates, suppliers, contractors, and carriers. Risk of loss for the Product shall pass to Customer at the point and time of delivery (which shall include an attempted delivery by GSFA which cannot be completed due to any act of Customer). However, title to the Product shall only pass to Customer upon delivery if Customer has then fully paid GSFA all amounts due hereunder (including additional amounts due under any valid Change Order). Absent GSFA's separate written agreement, which it may or may not provide in its sole and absolute discretion, delivery of the Product will not occur before Customer has fully paid all amounts due under the Agreement and provided proof of insurance reasonably satisfactory to GSFA. If GSFA permits Customer to take possession of the Product, Customer may not mount equipment, conduct training, or place the Product into service until all amounts due under the Agreement have been paid. If Customer has ordered multiple Products, GSFA reserves the right to deliver such Products in installments and to separately invoice Customer for such Products.

b. Inspection and Acceptance. Upon delivery, Customer shall have ten (10) calendar days within which to inspect the Product for substantial conformance to the Specifications, and in the event of substantial non-conformance to the Specifications to furnish GSFA with written notice sufficient to permit GSFA to evaluate such non-conformance ("**Notice of Nonconformance to Specifications**"). Contingent upon part availability and Customer's cooperation, any Product not in substantial conformance to material Specifications shall be remedied by GSFA (by repair or replacement, at GSFA's election) within thirty (30) calendar days from GSFA's receipt of the Notice of Nonconformance to Specifications. In the event GSFA does not receive a Notice of Nonconformance to Specifications within ten (10) calendar days of delivery, the Product will be deemed to be in conformance with Specifications and accepted by Customer.

8. Changes to Agreement Terms.

a. Change Orders. The Customer may request that GSFA incorporate a change to the Product or the Specifications for the Product, or GSFA may submit changes to the Agreement required or permitted to be made by GSFA (pursuant to Section 8.b or otherwise) by delivering a written Change Order to the other party hereto, which shall include a description of the proposed change sufficient to permit the receiving party to evaluate the feasibility of such change (either, a "**Change Order**"). For any Change Order submitted by Customer, GSFA will provide Customer a written response (a "**Response**") stating (i) whether GSFA will accommodate such Change Order (which GSFA may decide in its sole and absolute discretion); and (ii) the terms of the modification to the order, including any increase or decrease in the Grand Total Purchase Price resulting from such Change Order, a date on which any increase in the Grand Total Purchase Price must be paid, and an estimate of any effect on production scheduling or delivery resulting from such Change Order. Customer shall have seven (7) calendar days after receipt of the Response to notify GSFA as to whether Customer desires to make the changes GSFA has approved in the Response. In the event Customer countersigns GSFA's Response, Customer shall pay the increase (or be refunded the decrease) in the Grand Total Purchase Price by the date specified in the Response. GSFA may also send Customer a Change Order to account for any changes to the Agreement required or permitted to be made by GSFA (including those changes required pursuant to Section 8.b hereof), and such Change Order shall be effective upon delivery to Customer unless Customer elects to terminate the applicable Product order under the Agreement in accordance with Section 9.

b. Additional Changes.

i. Component Price Volatility. GSFA shall not be responsible for any unforeseen price increase or surcharge enacted by suppliers of major components of the Product (including but not limited to commercial chassis, engine, transmission, and fire pump) after Customer becomes bound by the Agreement. Customer shall be responsible for all amounts arising from any price increases for major components of the Product (including all

associated taxes and fees thereon) occurring after the execution of the Agreement which increases the cost of the Product to GSFA, and such amounts will be documented on a Change Order adjusting the Grand Total Purchase Price accordingly. Customer shall pay any such price increase prior to Product delivery.

ii. New Legal Standards. In the event the Product design, materials or specifications require an alteration arising from new regulations issued by any governmental entity or trade association, including, but not limited to, the NFPA, DOT, and EPA, and such alteration increases the cost of the Product to GSFA, Customer shall be responsible for changes to the Grand Total Purchase Price arising from such alteration. GSFA shall promptly notify Customer when it becomes aware of any potential or required change in regulations occurring prior to delivery that would impact the Product purchased.

iii. Change Orders. Customer shall execute any Change Order submitted by GSFA documenting any of the changes required or permitted by Sections 8.b.i and 8.b.ii above (which shall, to the extent practicable, itemize any increases in the Grant Total Purchase Price and specify a commercially reasonable date by which Customer must pay such increase), unless Customer instead elects to terminate the applicable Product order under the Agreement within fifteen (15) calendar days of Customer's receipt of such Change Order and in accordance with Section 9. Absent such a termination, failure to execute a Change Order does not alter Customer's obligations under this Section 8.b.

c. Changes in Commercial Specifications. Specifications for all components of the Product manufactured by companies other than the Manufacturer are subject to change without notice. Specifications for such components will be as available at the time of manufacture of the Product. GSFA shall not be liable for any deviations in such specifications arising from a substitution of components or changes in the design of any component by their original manufacturer.

9. Termination.

a. By Customer. Customer may terminate a Product order identified in the Product Proposal or a Change Order by providing written notice to GSFA in accordance with Section 16 hereof. If Customer elects to terminate a Product order, Customer shall pay GSFA a cancellation fee as follows: (a) after the Product order is accepted and entered by GSFA, 10% of the portion of the Grand Total Purchase Price applicable to such Product (including all associated taxes, fees and costs) (such amount, the "**Product Purchase Price**"); (b) after completion of the pre-construction phase of the order process, 20% of the Product Purchase Price; and (c) after the requisition of any materials or commencement of any manufacturing or assembly of the Product by either GSFA or Manufacturer but before substantial completion of such Product, 50% of the Product Purchase Price. Customer shall not be permitted to terminate a Product order after substantial completion of manufacturing and assembly of such Product (excluding any Dealer Preparation or other pre-delivery services or untypical Product customization, if applicable). Notwithstanding the foregoing, if the applicable tier of cancellation fee is not sufficient to cover all actual costs and fees incurred by GSFA with Manufacturer in connection with Customer's termination of the Product order ("**Manufacturer Termination Fees**"), then in addition to such cancellation fee Customer shall pay the balance of all Manufacturer Termination Fees. If Customer received a Prepayment Discount, such discount shall not be considered for the purpose of calculating the above cancellation fee. The tier of cancellation fee applicable to any cancellation, as well as the determination of whether a Product has reached substantial completion, shall be in the sole and absolute discretion of GSFA. Customer may request a fee waiver, and GSFA, in its sole discretion, may agree to waive and/or adjust such fee. GSFA will return the balance of the Grand Total Purchase Price or Product Purchase Price, as applicable, within thirty (30) calendar days of the effective date of the cancellation of the Product order or termination of the Agreement.

Customer may terminate the Agreement for an Event of Default by GSFA after providing GSFA with written notice in accordance with Section 16 (which notice shall describe with reasonably particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following GSFA's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as GSFA

has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable.

b. By GSFA. GSFA may terminate the Agreement for an Event of Default by Customer after providing Customer with written notice in accordance with Section 16 (which notice shall describe with reasonable particularity the Event of Default justifying such termination) if such Event of Default remains uncured (if capable of cure) thirty (30) days following Customer's receipt of such notice; provided, however, that the foregoing cure period shall continue if and for so long as Customer has commenced and is continuing to undertake commercially reasonable efforts to cure such Event of Default as promptly as reasonably practicable. Notwithstanding the foregoing, GSFA may terminate the Agreement effective immediately upon written notice to Customer for Customer's failure to pay any amount owed under the Agreement when due.

Notwithstanding any other provision of this Agreement, if Customer terminates a Product order in accordance with Section 9.a above, GSFA may elect to instead terminate the Agreement upon notice to Customer in accordance with Section 16 hereof. If GSFA terminates the Agreement in accordance with this Section 9.b, Customer shall pay the applicable tier of cancellation fee for all Products pursuant to Section 9.a above as if Customer had elected to terminate each applicable Product order.

c. Based on Discontinuation or Cancellation by Manufacturer. In the event that Manufacturer cancels a Product order (provided that such cancellation is not the result of an act by Customer in violation of the Agreement) or discontinues the manufacture of a Product prior to its completion and delivery: (i) if such Product is the only Product contemplated under the Agreement, then the Agreement shall terminate; or (ii) if additional Products are contemplated under the Agreement, then only the Product order for the applicable cancelled or discontinued Product shall be terminated. Such Agreement termination or Product termination, as applicable, shall be effective upon GSFA's written notice to Customer of such cancellation or discontinuance in accordance with Section 16 hereof. GSFA's only obligation to Customer in such event shall be the return of any Prepayment paid by Customer for the cancelled or discontinued Product. For the avoidance of doubt, the cancellation fees contemplated in Section 9.a hereof shall not apply in the event of a termination pursuant to this Section 9.c.

10. Customer's Obligations. Customer shall provide its timely and best efforts to cooperate with GSFA and Manufacturer during the Product manufacturing process. Reasonable and timely cooperation includes, without limitation, Customer's providing timely information in response to any requests from Manufacturer or GSFA and the participation of Customer's authorized representatives in traveling to Manufacturer's facility for inspections and approval of the Product, including a final approval before the Product leaves Manufacturer's facility.

11. Representations and Warranties. Customer hereby represents and warrants to GSFA as of the Executed Date that the execution of the Agreement and the purchase of the Product(s) and performance of the other obligations of Customer under the Agreement have been approved by Customer in accordance with applicable general laws and, as applicable, Customer's charter, ordinances, purchasing policies, and other governing documents, and executed by the appropriate Customer employees, officials, and/or representatives, and funding for Customer's performance of its obligations under the Agreement has been duly budgeted and appropriated by Customer.

12. Standard Warranty. All applicable Manufacturer warranties are contained in the Product Warranties. Any additional warranties must be expressly approved in a writing signed by GSFA, and Customer acknowledges and agrees that Manufacturer will not be liable for any such additional warranties.

a. Disclaimer. OTHER THAN AS EXPRESSLY SET FORTH IN THE AGREEMENT, GSFA, ITS AFFILIATES, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES, DO NOT MAKE ANY EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE PRODUCT (WHETHER RELATING TO THE CONDITION OR QUALITY OF THE PRODUCT, OR OTHERWISE) PROVIDED HEREUNDER OR OTHERWISE REGARDING THE AGREEMENT (INCLUDING, WITHOUT LIMITATION, WITH RESPECT TO ANY APPLICABLE DEALER PREPARATION), WHETHER ORAL OR WRITTEN, EXPRESS, IMPLIED OR STATUTORY. WITHOUT LIMITING THE FOREGOING, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, THE

IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY IMPLIED WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE ARE EXPRESSLY EXCLUDED AND DISCLAIMED. STATEMENTS MADE BY SALES CONSULTANTS OR IN PROMOTIONAL MATERIALS DO NOT CONSTITUTE WARRANTIES.

b. Exclusions of Incidental and Consequential Damages. In no event shall GSFA be liable for consequential, incidental, or punitive damages incurred by Customer in connection with any matter arising out of or relating to the Agreement, or the breach thereof, even if GSFA has been advised of the possibility of such damages, and regardless of whether such damages arise out of breach of warranty, the Agreement, indemnity, whether resulting from non-delivery or from GSFA's own negligence, or otherwise, except and solely to the extent such damages arise from the gross negligence or willful misconduct of GSFA.

13. Default. The occurrence of one or more of the following events (each, an "Event of Default") shall constitute a default under the Agreement: (a) Customer's failure to pay any amounts due or to perform any of its obligations under the Agreement; (b) GSFA's failure to perform any of its obligations under the Agreement; (c) either Party becoming insolvent or becoming subject to bankruptcy or insolvency proceedings; (d) any representation made by either Party under the Agreement which is false in any material respect; (e) any action by Customer to dissolve, merge, consolidate or transfer a substantial portion of its property to another entity during the term of the Agreement; (f) any other material breach of the terms of the Agreement by a Party; or (g) a default or breach by Customer under any other agreement with GSFA or its affiliates.

14. Indemnification of GSFA. Customer shall indemnify, defend, and hold harmless GSFA, its agents, servants, successors and assigns from and against all losses, damages, injuries, claims, demands and expenses, including attorneys' fees and other legal expenses, of whatever nature ("**Damages**"), to the extent Damages arise out of or in connection with: (i) Customer's breach of the Agreement, or (ii) Customer's use, storage, or operation of the Product following delivery, regardless of where, how, and by whom operated (excluding any negligent operation by GSFA). The indemnification and assumptions of liability and obligation herein provided shall continue in full force and effect notwithstanding the termination of the Agreement, whether by expiration of time, by operation of law or otherwise. This provision is not intended to and shall not constitute the exclusive remedy of the Parties under the Agreement; the Parties may seek indemnity from one another under other legal principles, whether based in equity or law, so long as they do not nullify or cancel the effects of this paragraph.

15. Force Majeure. GSFA shall not be responsible nor deemed to be in default of any provision of the Agreement on account of delays in performance due to causes which are beyond GSFA's or Manufacturer's control and which make GSFA's performance impracticable, including but not limited to wars, insurrections, strikes or labor unrest, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of federal, state or local government, failure or delays in transportation, inability to obtain necessary labor, supplies or manufacturing facilities, supply chain issues, allocation regulations or orders affecting materials, equipment, facilities or completed products, failure to obtain any required license or certificates, acts of God or the public enemy or terrorism, failure of transportation, disease, pandemics or epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their agreements or labor troubles causing cessation, slowdown, or interruption of work.

16. Notice. Any notices, requests, consents, claims, demands, waivers and other communications required or permitted to be given hereunder must be given in writing at the address of each Party set forth below, or to such other address as either Party may substitute by written notice to the other in accordance with this Section 16, by one of the following methods: hand delivery; registered, express, or certified mail, return receipt requested, postage prepaid; or nationally recognized private express courier. All such communications will be deemed to have been given: (i) when delivered by hand (with written confirmation of receipt); (ii) on the third (3rd) calendar day after the date mailed, by registered, express or certified mail; or (iii) when delivered by the addressee if sent by a nationally recognized private express courier.

GSFA:
Golden State Fire Apparatus Inc.
7400 Reese Road
Sacramento, CA 95828

CUSTOMER:
To the address listed in the Product Proposal

17. Contradictions. In the event of a conflict between the Agreement and any Change Order, or between Change Orders, the terms of the latest executed Change Order shall control.

18. Manufacturer's Statement of Origin. It is agreed that the manufacturer's statement of origin ("**MSO**") for the Product covered by the Agreement, if applicable, shall be retained and remain in the possession of GSFA per California Department of Vehicles (DMV) directives. Notwithstanding the foregoing, GSFA shall provide Customer with the original MSO if the Customer is self-registering, and Customer shall comply with all good-faith Process of Duty and other DMV requirements applicable to the Product and retain its own MSO.

19. Assignment. The relationship of the Parties established under the Agreement is that of independent contractors and neither Party is a partner, employee, agent, or joint venturer of or with the other. Neither Party may assign its rights and obligations under the Agreement unless it has obtained the prior written approval of the other Party.

20. Governing Law; Jurisdiction; Disputes. Without regard to any conflict of laws provisions, the Agreement is to be governed by and under the laws of the state of California. Prior to taking any legal action that may and/or can arise out of the Agreement, the Parties shall first attempt mediation with an agreed upon mediator. If the Parties cannot agree upon a mediator within thirty (30) calendar days of the submission of written notice of a dispute in accordance with Section 16 hereof, if any disputed matter remain unresolved within thirty (30) calendar days of the commencement of discussions, or if any party refuses to meet, then either party may submit any remaining disputes concerning and/or claim regarding the Agreement and/or the terms and conditions herein to the Superior Court, County of Sacramento (and the parties expressly consent to exclusive personal jurisdiction and venue before such court).

21. Entire Agreement; Amendments. The Agreement, including the Product Proposal, its exhibits and all valid Change Orders, is the exclusive agreement between the Parties regarding the subject matter contained herein and therein. No change in, modification of, or revision of the Agreement shall be valid unless in writing and signed by duly authorized representatives of both Parties with authority to sign such amendments to the Agreement.

END OF STANDARD TERMS AND CONDITIONS

3 **PRODUCT** **SPECIFICATIONS**

Exhibit "B"



Proposal Details Report

6/21/2023

Customer: El Dorado Hills County Water District
Representative: Hansen, Brad
Requirements Manager:
Description: EDH Type 1 PUC (Duplicate #31)
Chassis: Velocity Chassis, PUC-NG (Big Block)
Body: Pumper, PUC, Aluminum

Bid Number: 913
Job Number:
Organization: Golden State Fire Apparatus, Inc

OptionCode	Type	Option	ProposalText
0766589		Boiler Plates, PUC Pumper	<p>Golden State Fire Apparatus is pleased to submit a proposal to El Dorado Hills Fire for a Pierce® multi purpose response vehicle per your request for quotation. The following paragraphs will describe in detail the apparatus, construction methods, and equipment proposed. This proposal will indicate size, type, model and make of components parts and equipment, providing proof of compliance with each and every item (except where noted) in the departments advertised specifications.</p> <p>PIERCE MANUFACTURING was founded in 1913. Since then we have been building bodies with one philosophy, "BUILD THE FINEST". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 75 years of experience in the fire apparatus market. Pierce Manufacturing has built and put into service more than 62,500 apparatus, including more than 33,900 on Pierce custom chassis designed and built specifically for fire and emergency applications. Our Appleton, Wisconsin facility has over 870,000 total square feet of floor space situated on approximately 105 acres of land. Our Bradenton, Florida facility has 300,000 square feet of floor space situated on approximately 38 acres of land.</p> <p>Our beliefs in high ethical standards are carried through in all of our commitments and to everyone with whom we do business. Honesty, Integrity, Accountability and Citizenship are global tenets by which we all live and work. Consequently, we neither engage in, nor have we ever been convicted of price fixing, bid rigging, or collusion in any domestic or international fire apparatus market.</p> <p>Pierce has only one brand of fire apparatus "Pierce", ensuring you are receiving top of the line product that meets your specification.</p> <p>In accordance with the current edition of NFPA 1901 standards, this proposal will specify whether the fire department, manufacturer, or apparatus dealership will provide required loose equipment. Images and illustrative material in this proposal are as accurate as known at the time of publication, but are subject to change without notice. Images and illustrative material is for reference only, and may include optional equipment and accessories and may not include all standard equipment.</p> <p>GENERAL DESIGN AND CONSTRUCTION</p> <p>To control quality, ensure compatibility, and provide a single source for service and warranty, the custom cab, chassis, pump module and body will be entirely designed, assembled/welded and painted in Pierce owned manufacturing facilities. This includes, but not limited to the cab weldment, the pumphouse module assembly, the chassis assembly, the body and the electrical system.</p> <p>QUALITY AND WORKMANSHIP</p> <p>Pierce has set the pace for quality and workmanship in the fire apparatus field. Our tradition of building the highest quality units with craftsmen second to none has been the rule right from the beginning and we demonstrate that ongoing commitment by: Ensuring all steel welding follows American Welding Society D1.1-2004 recommendations for structural steel welding. All aluminum welding follows American Welding society and ANSI D1.2-2003 requirements for structural welding of aluminum. All sheet metal welding follows American welding Society B2.1-2000 requirements for structural welding of sheet metal. Our flux core arc welding uses alloy rods, type 7000 and is performed to American Welding Society standards A5.20-E70T1. Furthermore, all employees classified as welders are tested and certified to meet the American welding Society codes upon hire and every three (3) years thereafter. Pierce also employs and American Welding Society certified welding inspector in plant during working hours to monitor weld quality.</p> <p>Pierce Manufacturing operates a Quality Management System under the requirements of ISO 9001. These standards sponsored by the International Organization for Standardization (ISO) specify the quality systems that are established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance is included with this proposal.</p> <p>In addition to the Quality Management system, we also employ a Quality Achievement Supplier program to insure the vendors and suppliers that we utilize meet the high standards we demand. That is just part of our overall "Quality at the Source" program at Pierce.</p> <p>To demonstrate the quality of our products and services, a list of at least two (2) fire departments/municipalities that have purchased vehicles for a second time is provided.</p> <p>DELIVERY</p> <p>The apparatus will be delivered under its own power to insure proper break-in of all components while the apparatus is still under warranty. A qualified delivery representative shall deliver the apparatus and remain for a sufficient length of time to instruct personnel in proper operation, care and maintenance of the equipment delivered.</p> <p>MANUAL AND SERVICE INFORMATION</p> <p>At time of delivery, complete operation and maintenance manuals covering the apparatus will be provided. A permanent plate will be mounted in the driver's compartment specifying the quantity and type of fluids required including engine oil, engine coolant, transmission, pump transmission lubrication, pump primer and drive axle.</p> <p>SAFETY VIDEO</p> <p>At the time of delivery Pierce will also provide one (1) 39-minute, professionally produced apparatus safety video, in DVD format. This video will address key safety considerations for personnel to follow when they are driving, operating, and maintaining the apparatus, including the following: vehicle pre-trip inspection, chassis operation, pump operation, aerial operation, and safety during maintenance.</p> <p>PERFORMANCE TESTS</p> <p>A road test will be conducted with the apparatus fully loaded and a continuous run of no less than</p>

ten (10) miles. During that time the apparatus will show no loss of power nor will it overheat. The transmission drive shaft or shafts and the axles will run quietly and be free of abnormal vibration or noise. The apparatus when fully loaded will not have less than 25 percent nor more than 50 percent on the front axle, and not less than 50 percent nor more than 75 percent on the rear axle. The apparatus will meet NFPA 1901 acceleration and braking requirements.

SERVICE AND WARRANTY SUPPORT

Pierce dealership support will be provided by Golden State Emergency Vehicle Services by operating a Pierce authorized service center. The service center will have factory-trained mechanics on staff versed in Pierce fire apparatus. The service facility will be located within fifty (50) miles of the fire department.

In addition to the dealership, Pierce has service facilities located in both, Weyauwega, Wisconsin and Bradenton, Florida. Pierce also maintains a dedicated parts facility of over 100,000 square feet in Appleton, Wisconsin. The parts facility stocks in excess of \$5,000,000 in parts dedicated to service and replacement parts. The parts facility employs a staff dedicated solely for the distribution and shipment of service and replacement parts.

Service parts for the apparatus being proposed can be found via Pierceparts.com which, is an interactive online tool that delivers information regarding your specific apparatus as well as the opportunity to register for training classes.

As a Pierce customer you have the ability to view the complete bill of materials for your specific apparatus, including assembly drawings, piece part drawings, and beneficial parts notations. You will also have the ability to search the complete Pierce item master through a parts search function which offers all Pierce SKU's and descriptions offered on all Pierce apparatus. Published component catalogs, which include proprietary systems along with an extensive operators manual library is available for easy reference.

Pierce Manufacturing maintains a dedicated service and warranty staff of over 35 personnel, dedicated to customer support, which also maintains a 24 hour 7 day a week toll free hot line, four (4) on staff EVT's, and offers hands-on repair and maintenance training classes multiple times a year.

LIABILITY

The successful bidder will defend any and all suits and assume all liability for the use of any patented process including any device or article forming a part of the apparatus or any appliance furnished under the contract.

INSURANCE PROVIDED BY BIDDER

COMMERCIAL GENERAL LIABILITY INSURANCE

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of commercial general liability insurance:

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Personal and Advertising Injury \$1,000,000

General Aggregate \$2,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form and will include Contractual Liability coverage for bodily injury and property damage subject to the terms and conditions of the policy. The policy will include Owner as an additional insured when required by written contract.

COMMERCIAL AUTOMOBILE LIABILITY INSURANCE

The successful bidder will, during the performance of the contract, keep in force at least the following minimum limits of commercial automobile liability insurance and coverage will be written on a Commercial Automobile liability form:

Each Accident Combined Single Limit: \$1,000,000

UMBRELLA/EXCESS LIABILITY INSURANCE

The successful bidder will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Aggregate: \$3,000,000

Each Occurrence: \$3,000,000

The umbrella policy will be written on an occurrence basis and at a minimum provide excess to the bidder's General Liability and Automobile Liability policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best.

All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

Bidder agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as certificate holder.

INSURANCE PROVIDED BY MANUFACTURER

PRODUCT LIABILITY INSURANCE

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of Product Liability insurance:

Each Occurrence \$1,000,000

Products/Completed Operations Aggregate \$1,000,000

Coverage will be written on a Commercial General Liability form. The policy will be written on an occurrence form. The manufacturer's policy will include the owner as additional insured when required by written contract between the Owner and a Pierce authorized dealer.

UMBRELLA/EXCESS LIABILITY INSURANCE

The manufacturer will, during the performance of the contract and for three (3) years following acceptance of the product, keep in force at least the following minimum limits of umbrella liability insurance:

Each Occurrence: \$25,000,000

Aggregate: \$25,000,000

The umbrella policy will be written on an occurrence basis and provide excess to the manufacturer's General Liability/Products policies.

The required limits can be provided by one (1) or more policies provided all other insurance requirements are met.

Coverage will be provided by a carrier(s) rated A- or better by A.M. Best. All policies will provide a 30-day notice of cancellation to the named insured. The Certificate of Insurance will provide the following cancellation clause: Should any of the above described policies be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions. Manufacturer agrees to furnish owner with a current Certificate of Insurance with the coverages listed above along with the bid. The certificate will show the purchaser as the certificate holder.

0661794	Single Source Compliance	<p>SINGLE SOURCE MANUFACTURER Pierce Manufacturing, Inc. provides an integrated approach to the design and manufacture of our products that delivers superior apparatus and a dedicated support team. From our facilities, the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operators panel) and body will be entirely designed, tested, and hand assembled to the customer's exact specifications. The electrical system either hardwired or multiplexed, will be both designed and integrated by Pierce Manufacturing. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) will be provided by Pierce as a single source manufacturer. Pierce's single source solution adds value by providing a fully engineered product that offers durability, reliability, maintainability, performance, and a high level of quality.</p>
0584456	Manufacture Location, Appleton, Wisconsin	Your apparatus will be manufactured in Appleton, Wisconsin.
0584452	RFP Location: Appleton, Wisconsin	
0588609	Vehicle Destination, US	
0610784	Comply NFPA 1901 Changes Effective Jan 1, 2016, With Exceptions	<p>NFPA 2016 STANDARDS This unit will comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions will be set forth in the Statement of Exceptions. Certification of slip resistance of all stepping, standing and walking surfaces will be supplied with delivery of the apparatus. All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points will be identified on the customer approval print and are shown as approximate. Actual location(s) will be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack. A plate that is highly visible to the driver while seated will be provided. This plate will show the overall height, length, and gross vehicle weight rating. The manufacturer will have programs in place for training, proficiency testing and performance for any staff involved with certifications. An official of the company will designate, in writing, who is qualified to witness and certify test results.</p>
0533347	Pumper/Pumper with Aerial Device Fire Apparatus	
0588611	Vehicle Certification, Pumper	
0661778	Agency, Apparatus Certification, Pumper/Tanker, U.L.	<p>NFPA COMPLIANCY Apparatus proposed by the bidder will meet the applicable requirements of the National Fire Protection Association (NFPA) as stated in current edition at time of contract execution. Fire department's specifications that differ from NFPA specifications will be indicated in the proposal as "non-NFPA". PUMP TEST Underwriters Laboratory (UL) will test, approved, and certify the pump. The test results and the pump manufacturer's certification of hydrostatic test; the engine manufacturer's certified brake horsepower curve; and the pump manufacturer's record of pump construction details will be forwarded to the Fire Department. GENERATOR TEST If the unit has a generator, Underwriters Laboratory (UL) will test, approved, and certify the generator. The test results will be provided to the Fire Department at the time of delivery. BREATHING AIR TEST If the unit has breathing air, Pierce Manufacturing will draw an air sample from the air system and have the sample certified that the air quality meets the requirements of NFPA 1989, <i>Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection</i>.</p>

0891947	Certification, Vehicle Inspection Program, NFPA 1901	<p>VEHICLE INSPECTION PROGRAM CERTIFICATION</p> <p>To assure the vehicle is built to current NFPA 1901 standards, the apparatus, in its entirety, will be third-party, independent, audit-certified through Underwriters Laboratory (UL) that it is built and complies to all applicable standards in the current edition. The certification includes: all design, production, operational, and performance testing of not only the apparatus, but those components that are installed on the apparatus.</p> <p>A placard will be affixed in the driver's side area stating the third party agency, the date, the standard and the certificate number of the whole vehicle audit.</p>
0620362	Consortium, HGAC	
0537375	Unit of Measure, US Gallons	
0030006	Bid Bond Not Requested	<p>BID BOND NOT REQUESTED</p> <p>A bid bond will not be included. If requested, the following will apply:</p> <p>All bidders will provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond will be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond will be issued by an authorized representative of the Surety Company and will be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond will include language, which assures that the bidder/principal will give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.</p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle will apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle will not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision will prevail.</p>
0807710	Performance Bond, 100% with 25% Warranty Bond, 1 Yr, and Payment Bond	<p>PERFORMANCE BOND, 1 YEAR</p> <p>The successful bidder will furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond will be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.</p> <p>Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Basic One (1) Year Limited Warranty period included within this proposal. Owner agrees that the penal amount of this bond will be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type will not exceed one (1) year from the date of such satisfactory acceptance and delivery, or the actual Basic One (1) Year Limited Warranty period, whichever is shorter.</p> <p>Due to global supply chain constraints, any delivery date contained herein is a good faith estimate as of the date of this order/contract, and merely an approximation based on current information. Delivery updates will be made available, and a final firm delivery date will be provided as soon as possible.</p>
0000007	Approval Drawing	<p>APPROVAL DRAWING</p> <p>A drawing of the proposed apparatus will be prepared and provided to the purchaser for approval before construction begins. The Pierce sales representative will also be provided with a copy of the same drawing. The finalized and approved drawing will become part of the contract documents. This drawing will indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.</p> <p>A "revised" approval drawing of the apparatus will be prepared and submitted by Pierce to the purchaser showing any changes made to the approval drawing.</p>
0672031	Drawing, Cab, Top View, Seating and EMS Cabinets, Reference Only	<p>DRAWING, CAB TOP VIEW</p> <p>On the sales drawing a top view of the cab seating and EMS cabinets will be provided. The top view will be a reference only of the seating and EMS cabinets in the order.</p>
0002928	Electrical Diagrams	<p>ELECTRICAL WIRING DIAGRAMS</p> <p>Two (2) electrical wiring diagrams, prepared for the model of chassis and body, will be provided.</p>

0888810	Velocity Chassis, PUC-NG (Big Block)	<p>VELOCITY CHASSIS The Pierce Velocity® is the custom chassis developed exclusively for the fire service. Chassis provided will be a new, tilt-type custom fire apparatus. The chassis will be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis will be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required. The chassis will be the manufacturer's first line tilt cab.</p>
0523786	Angle of Approach	<p>ANGLE OF APPROACH The angle of approach will be 13 degrees loaded degrees. This will be effective with the truck in a loaded state.</p>
0523787	Angle of Departure	<p>ANGLE OF DEPARTURE The angle of departure will be 12 degrees loaded degrees. This will be effective with the truck in a loaded state.</p>
0000110	Wheelbase	<p>WHEELBASE The wheelbase of the vehicle will be 183.0".</p>
0000070	GVW Rating	<p>GVW RATING The gross vehicle weight rating will be 49,800 pounds.</p>
0000203	Frame Rails, 13.38 x 3.50 x .375, Qtm/AXT/Imp/Vel/DCF	<p>FRAME The chassis frame will be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails will have a 13.38" tall web over the front and mid sections of the chassis, with a continuous smooth taper to 10.75" over the rear axle. Each rail will have a section modulus of 25.992 cubic inches and a resisting bending moment (rbm) of 3,119,040 in-lb over the critical regions of the frame assembly, with a section modulus of 18.96 cubic inches with an rbm of 2,275,200 in-lb over the rear axle. The frame rails will be constructed of 120,000 psi yield strength heat-treated 0.38" thick steel with 3.50" wide flanges.</p>
0020018	Frame Liner Not Req'd	
0508849	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel	<p>FRONT NON DRIVE AXLE The Oshkosh TAK-4® front axle will be of the independent suspension design with a ground rating of 22,800 lb. Upper and lower control arms will be used on each side of the axle. Upper control arm castings will be made of 100,000-psi yield strength 8630 steel and the lower control arm casting will be made of 55,000-psi yield ductile iron. The center cross members and side plates will be constructed out of 80,000-psi yield strength steel. Each control arm will be mounted to the center section using elastomer bushings. These rubber bushings will rotate on low friction plain bearings and be lubricated for life. Each bushing will also have a flange end to absorb longitudinal impact loads, reducing noise and vibrations. There will be nine (9) grease fittings supplied, one (1) on each control arm pivot and one (1) on the steering gear extension. The upper control arm will be shorter than the lower arm so that wheel end geometry provides positive camber when deflected below rated load and negative camber above rated load. Camber at load will be 0 degrees for optimum tire life. The ball joint bearing will be of low friction design and be maintenance free. Toe links that are adjustable for alignment of the wheel to the center of the chassis will be provided. The wheel ends will have little to no bump steer when the chassis encounters a hole or obstacle. The steering linkage will provide proper steering angles for the inside and outside wheel, based on the vehicle wheelbase. The axle will have a turning angle of up to 45 degrees.</p>
0010427	Suspension, Front TAK-4, 22,800 lb, Qtm/AXT/Imp/Vel/Enf/SFR	<p>FRONT SUSPENSION Front Oshkosh TAK-4™ independent suspension will be provided with a minimum ground rating of 22,800 lb. The independent suspension system will be designed to provide maximum ride comfort. The design will allow the vehicle to travel at highway speeds over improved road surfaces and at moderate speeds over rough terrain with minimal transfer of road shock and vibration to the vehicle's crew compartment. Each wheel will have torsion bar type spring. In addition, each front wheel end will also have energy absorbing jounce bumpers to prevent bottoming of the suspension. The suspension design will be such that there is at least 10.00" of total wheel travel and a minimum of 3.75" before suspension bottoms. The torsion bar anchor lock system allows for simple lean adjustments, without the use of shims. One can adjust for a lean within 15 minutes per side. Anchor adjustment design is such that it allows for ride height adjustment on each side. The independent suspension was put through a durability test that simulated 140,000 miles of inner city driving.</p>

0087572	Shock Absorbers, KONI, TAK-4, Qtm/AXT/Imp/Vel/DCF/Enf	FRONT SHOCK ABSORBERS KONI heavy-duty telescoping shock absorbers will be provided on the front suspension.
0000322	Oil Seals, Front Axle	FRONT OIL SEALS Oil seals with viewing window will be provided on the front axle.
0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply	FRONT TIRES Front tires will be Goodyear 425/65R22.50 radials, 20 ply Armor Max MSA, rated for 22,800 lb maximum axle load and 68 mph maximum speed.
0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot	The tires will be mounted on Alcoa 22.50" x 12.25" polished aluminum disc type wheels with a ten (10)stud, 11.25" bolt circle.
0530466	Axle, Rear, Meritor RS26-185, 27,000 lb, Imp/Vel	REAR AXLE The rear axle will be a Meritor™, Model RS-26-185, with a capacity of 27,000 lb.
0544253	Top Speed of Vehicle, 68 MPH /109 KPH	TOP SPEED OF VEHICLE A rear axle ratio will be furnished to allow the vehicle to reach a top speed of 68 mph / 109 kph.
0555351	Suspen, Rear, Hendrickson FMX 272 EX, Air Ride, 27,000 lb	REAR SUSPENSION Rear suspension will be a Hendrickson FMX 272 EX, air ride with a ground rating of 27,000 lb. The suspension will have the following features: <ul style="list-style-type: none"> - Heavy-duty shock absorbers to protect air springs from overextension - Heavy-duty torque rods and bushings - Premium, heavy-duty rubber bushings require no lubrication - Integrated stabilizer design results in greater stability - Low spring rate air springs for excellent ride quality - Dual height control valves to maintain level vehicle from side to side
0000485	Oil Seals, Rear Axle	REAR OIL SEALS Oil seals will be provided on the rear axle(s).
0539392	Plug, Rear Axle Drain, Magnetic	REAR AXLE DRAIN PLUG The rear axle drain plug will be magnetic.
0782552	Tires, Rear, Goodyear, Endurance RSA, 12R22.50, LRH, Single	REAR TIRES Rear tires will be four (4) Goodyear 12R22.50 radials, load range H, Endurance RSA highway tread, rated for 27,120 lb maximum axle load and 75 mph maximum speed.
0019625	Wheels, Rear, Alcoa, 22.50" x 8.25", Aluminum, Hub Pilot, Single	The tires will be mounted on Alcoa 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.
0568081	Tire Balancing, Counteract Beads	TIRE BALANCE All tires will be balanced with Counteract balancing beads. The beads will be inserted into the tire and eliminate the need for wheel weights.
0620570	Tire Pressure Monitoring, RealWheels, AirSecure, Valve Cap, Single Axle	TIRE PRESSURE MANAGEMENT There will be a RealWheels LED AirSecure™ tire alert pressure management system provided, that will monitor each tire's pressure. A sensor will be provided on the valve stem of each tire for a total of six (6) tires. The sensor will calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor will activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi. Removing the cap from the sensor will indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED will immediately start to flash.
0801909	Lug Nut, Covers, Chrome	CHROME LUG NUT COVERS Chrome lug nut covers will be supplied on front and rear wheels.
0003245	Axle Hub Covers w/center hole, S/S, Front Axle	FRONT HUB COVERS Stainless steel hub covers will be provided on the front axle. An oil level viewing window will be provided.

0001960	Axle Hub Covers, Rear, S/S, High Hat (Pair)	REAR HUB COVERS A pair of stainless steel high hat hub covers will be provided on rear axle hubs.
0002045	Mud Flap, Front and Rear, Pierce Logo	MUD FLAPS Mud flaps with a Pierce logo will be installed behind the front and rear wheels.
0544802	Chocks, Wheel, SAC-44-E, Folding	WHEEL CHOCKS There will be one (1) pair of folding Ziamatic, Model SAC-44-E, aluminum alloy, Quick-Choc wheel blocks, with easy-grip handle provided.
0544806	Mounting Brackets, Chocks, SAC-44-E, Folding, Horizontal	Wheel Chock Brackets There will be one (1) pair of Zico, Model SQCH-44-H, horizontal mounting wheel chock brackets provided for the Ziamatic, Model SAC-44-E, folding wheel chocks. The brackets will be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets will be mounted shipped with loose equipment.
0010670	ABS Wabco Brake System, Single rear axle	ANTI-LOCK BRAKE SYSTEM The vehicle will be equipped with a Meritor WABCO 4S4M, anti-lock braking system. The ABS will provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology will control the anti-lock braking system. Each wheel will be monitored by the system. When any particular wheel begins to lockup, a signal will be sent to the control unit. This control unit then will reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system will eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.
0030185	Brakes, Knorr/Bendix 17", Disc, Front, TAK-4	BRAKES The service brake system will be full air type. The front brakes will be Knorr/Bendix disc type with a 17.00" ventilated rotor for improved stopping distance. The brake system will be certified, third party inspected, for improved stopping distance.
0509206	Brakes, Meritor, EX225, Disc Plus, Rear, Single Axle	The rear brakes will be Meritor™, Disc Plus, Model EX225, disc operated with automatic slack adjusters and a 17.00" ventilated rotor for improved stopping distance.
0020784	Air Compressor, Brake, Cummins/Wabco 18.7 CFM	BRAKE SYSTEM AIR COMPRESSOR The air compressor will be a Cummins/WABCO with 18.7 cubic feet per minute output.
0000785	Brake Reservoirs, Three	BRAKE SYSTEM The brake system will include: Bendix® dual brake treadle valve Heated automatic moisture ejector on air dryer Total air system capacity of 4,362 cubic inches Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi Spring set parking brake system Parking brake operated by a push-pull style control valve A parking "brake on" indicator light on instrument panel Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa) 1/4 turn drain valve on each air tank The air tank will be primed and painted to meet a minimum 750 hour salt spray test. To reduce the effects of corrosion, the air tank will be mounted with stainless steel brackets.
0568012	Air Dryer, Wabco System Saver 1200, Heater, 2010	BRAKE SYSTEM AIR DRYER The air dryer will be WABCO System Saver 1200 with spin-on coalescing filter cartridge and 100 watt heater.
0000790	Brake Lines, Nylon	BRAKE LINES Color-coded nylon brake lines will be provided. The lines will be wrapped in a heat protective loom in the chassis areas that are subject to excessive heat.

0813346	Inlet/Outlet, Air, w/Disconnect Fitting	<p>AIR INLET/OUTLET</p> <p>One (1) air inlet/outlet will be installed with the female coupling located in the driver side lower step well of cab. This system will tie into the "wet" tank of the brake system and include a check valve in the inlet line and an 85 psi pressure protection valve in the outlet line. The air outlet will be controlled by a needle valve.</p> <p>A mating male fitting will be provided with the loose equipment.</p> <p>The air inlet will allow a shoreline air hose to be connected to the vehicle. This will allow station air to be supplied to the brake system of the vehicle to insure constant air pressure.</p>
0000853	Compressor, Air, Kussmaul 091-9 12V Brake System	<p>AIR COMPRESSOR - BRAKE SYSTEM MAINTENANCE</p> <p>A Kussmaul, Model 091-9, air compressor will be provided. It will be electric motor driven by the 12-volt chassis electrical system and will be located in the cab behind the driver seat.</p> <p>Compressor will maintain the air pressure in the chassis air brake system while the vehicle is not in use. A pressure switch will sense when the system pressure drops and automatically start the compressor, which will then run until pressure is restored.</p> <p>There will be an auto pump timer installed between the pressure switch and the pump that will allow the pump to run for 1 hour than shut down for 1 hour.</p>
0812269	Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027, Velocity, PUC-NG	<p>ENGINE</p> <p>The chassis will be powered by an electronically controlled engine as described below:</p> <p>Make: Cummins®</p> <p>Model: X15</p> <p>Power: 605 hp at 1700 rpm</p> <p>Torque: 1850 lb-ft at 1150 rpm</p> <p>Governed Speed: 2100 rpm</p> <p>Emissions Level: EPA 2027</p> <p>Fuel: Diesel</p> <p>Cylinders: Six (6)</p> <p>Displacement: 912 cubic inches (14.9L)</p> <p>Starter: Delco 39MT+™</p> <p>Fuel Filters: Frame mounted spin-on style primary filter with water separator and water-in-fuel sensor. Engine mounted secondary spin-on style filter.</p> <p>The engine will include On-board diagnostics (OBD), which provides self diagnostic and reporting. The system will give the owner or repair technician access to state of health information for various vehicle sub systems. The system will monitor vehicle systems, engine and after treatment. The system will illuminate a malfunction indicator light on the dash console if a problem is detected.</p> <p>The engine will be filled with FA-4 10W30 oil as required by Cummins.</p>
0811409	Not Required, Engine Contingency Adjustment	
0730808	Filters, Remote Mounted, Oil, Fuel, X15, VEL/AXT/Enf	<p>REMOTE MOUNTED ENGINE FILTERS</p> <p>The engine fuel and oil filters will be remote mounted for ease of maintenance.</p>
0001244	High Idle w/Electronic Engine, Custom	<p>HIGH IDLE</p> <p>A high idle switch will be provided, inside the cab, on the instrument panel, that will automatically maintain a preset engine rpm. A switch will be installed, at the cab instrument panel, for activation/deactivation.</p> <p>The high idle will be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light will be provided, adjacent to the switch. The light will illuminate when the above conditions are met. The light will be labeled "OK to Engage High Idle."</p>
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine	<p>ENGINE BRAKE</p> <p>A Jacobs® engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver will be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake will activate when the system is on and the throttle is released.</p> <p>The high setting of the brake application will activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.</p> <p>The engine brake will be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system will automatically disengage the auxiliary braking device, when required.</p>

0552334	Clutch, Fan, Air Actuated, Horton Drive Master	<p>CLUTCH FAN A Horton® fan clutch will be provided. The fan clutch will be automatic when the pump transmission is in "Road" position, and fully engaged in "Pump" position.</p>
0123135	Air Intake, w/Ember separator, Imp/Vel	<p>ENGINE AIR INTAKE An air intake with an ember separator (to prevent road dirt, burning embers, and recirculating hot air from entering the engine) will be mounted at the front of the apparatus, on the passenger side of the engine. The ember separator will be mounted in the air intake with flame retardant, rotomolded polyethylene housing. It will be easily accessible by the hinged access panel at the front of the vehicle.</p>
0794743	Exhaust System, 5", X12/X15, MX13, Engine, Horizontal, Right Side	<p>EXHAUST SYSTEM The exhaust system will include a Single Module™ aftertreatment device to meet current EPA standards. The exhaust system will be stainless steel from the turbo to the inlet of the aftertreatment device, and will be 5.00" in diameter. An insulation wrap will be provided on all exhaust pipes between the turbo and aftertreatment device to minimize the heat loss to the aftertreatment device. The exhaust will terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser will be provided to reduce the temperature of the exhaust as it exits. Heat deflector shields will be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p>
0683310	Diffuser, Exhaust, Modified For Extraction, 5"x7"x5", Flush With Rub Rail, CARE	<p>EXHAUST MODIFICATION The exhaust pipe will be 90 degrees to the body. The diffuser will be reduced to 5.00" in the center to accommodate the fire department's air recovery system. The 5.00" extension pipe coming out of the end of the diffuser will be flush with the body rub rail. There will be a minimum of 4.00" clearance between the top of the 5.00" extension and the bottom of the body. There will be a minimum of 2.50" from the exhaust pipe to the under side of the body heat shield. The last 7.00" of the exhaust will be free of hangers and/or clamps.</p>
0787999	Radiator, Impel/Velocity	<p>RADIATOR The radiator and the complete cooling system will meet or exceed NFPA and engine manufacturer cooling system standards. For maximum corrosion resistance and cooling performance, the entire radiator core will be constructed using long life aluminum alloy. The core will be made of aluminum fins, having a serpentine design, brazed to aluminum tubes. The tubes will be brazed to aluminum headers. The radiator core will have a minimum frontal area of 1434 square inches. Supply tank made of glass-reinforced nylon and a return tank of cast aluminum alloy will be crimped on to the core assembly using header tabs and a compression gasket to complete the radiator core assembly. The radiator will be compatible with commercial antifreeze solutions. There will be a full steel frame around the entire radiator core assembly. The radiator core assembly will be isolated within the steel frame by rubber inserts to enhance cooling system durability and reliability. The radiator will be mounted in such a manner as to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven ground. The radiator assembly will be isolated from the chassis frame rails with rubber isolators. The radiator assembly will include an integral de-aeration tank permanently mounted to the top of the radiator framework, with a readily accessible remote-mounted overflow tank. For visual coolant level inspection, the radiator will have a built-in sight glass. The radiator will be equipped with a 15 psi pressure relief cap. A drain port will be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system. A heavy-duty fan will draw in fresh, cool air through the radiator. Shields or baffles will be provided to prevent recirculation of hot air to the inlet side of the radiator.</p>
0722487	Cooling Hoses, Gates Silicone and Rubber Combination, Velocity	<p>COOLANT LINES Gates® silicone or a combination of silicone and rubber hoses will be used for the radiator and cab heater hoses installed by the chassis manufacturer. The chassis manufacturer will also use Gates® brand hose on other heater and auxiliary coolant circuits. There will be some areas in which an appropriate Gates product is not available. In those instances a comparable silicone hose from another manufacturer will be used. Rubber hoses will be used for the overhead defrost/heater system only in the drain tubes of the cab. Hose clamps will be stainless steel constant torque type to prevent coolant leakage. They will react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.</p>
0804381	SP Fuel Tank, 50 Gallon, Left Side Fill, w/ Air Suspension	<p>FUEL TANK A 50 gallon fuel tank will be provided and mounted at the rear of the chassis. The tank will be constructed of 12-gauge, hot rolled steel. It will be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank will be mounted with stainless steel straps. A .75" drain plug will be located in a low point of the tank for drainage. A fill inlet will be located on the left hand side of the body and is covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only". A .50" diameter vent will be installed from tank top to just below fuel fill inlet. The fuel tank will meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.</p>

0001129	Lines, Fuel	All fuel lines will be provided as recommended by the engine manufacturer.
0662965	DEF Tank, 4.5 Gallon, DS Fill, Rear of Axle, Common Air Bottle Door	DIESEL EXHAUST FLUID TANK A 4.5 gallon diesel exhaust fluid (DEF) tank will be provided and mounted in the driver's side body rearward of the rear axle. A 0.50" drain plug will be provided in a low point of the tank for drainage. A fill inlet will be provided and marked "Diesel Exhaust Fluid Only". The fill inlet will be located adjacent to the air bottle storage behind a common door on the driver side of the vehicle. The tank will meet the engine manufacturers requirement for 10 percent expansion space in the event of tank freezing. The tank will include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.
0723716	Fuel Priming Pump, Electronic, Automatic, Cummins, No Swt Req'd	FUEL PRIMING PUMP A Cummins automatic electronic fuel priming pump will be integrated as part of the engine.
0582243	Shutoff Valves, Fuel Line @ Primary Filter, Cummins	FUEL SHUTOFF A fuel line shutoff valve will be installed on both the inlet and outlet of the primary fuel filter.
0553019	Cooler, Engine Fuel, Imp/Vel, AXT/Qtm/Sab/DCF/SFR/Enf	FUEL COOLER An air to fuel cooler will be installed in the engine fuel return line.
0686758	Label, "Ultra Low Sulfur Diesel Fuel Only", Mounted On Outside Of Door	LABEL, FUEL DOOR A metal label will be provided on the outside of the fuel fill door to read "Ultra Low Sulfur Diesel Fuel Only".
0646683	Label, "DEF Fluid Only", Mounted On Outside Of DEF Fill Door	LABEL, DEF DOOR A label, reading "DEF Fluid Only" will be provided on the outside of the fill door.
0578959	Fuel/Water Separator, Racor Inline	FUEL SEPARATOR The engine will be equipped with a Racor in-line spin-on fuel and water separator in addition to the engine fuel filters.
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	TRANSMISSION An Allison 6th generation, Model EVS 4500P, electronic, torque converting, automatic transmission will be provided. The transmission will be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display will indicate when service is due. Two (2) PTO openings will be located on left side and top of converter housing (positions 8 o'clock and 1 o'clock). A transmission temperature gauge with amber light and buzzer will be installed on the cab instrument panel.
0512762	Transmission, Shifter, 6-Spd, Push Button, 4500, Imp/Vel/Qtm/DCF/Enf	TRANSMISSION SHIFTER A six (6)-speed push button shift module will be mounted to right of driver on console. Shift position indicator will be indirectly lit for after dark operation. The transmission ratio will be: 1st - 4.70 to 1.00, 2nd - 2.21 to 1.00, 3rd - 1.53 to 1.00, 4th - 1.00 to 1.00, 5th - 0.76 to 1.00, 6th - 0.67 to 1.00, R - 5.55 to 1.00.
0517604	Transmission Programming, Park to Neutral, PUC	TRANSMISSION PROGRAMMING The transmission will be programmed to automatically shift the transmission to neutral when the parking brake is set to simplify operation and increase operational safety.
0684459	Transmission Oil Cooler, Modine, External	TRANSMISSION COOLER A Modine plate and fin transmission oil cooler will be provided using engine coolant to control the transmission oil temperature.
0804209	Engraving, Transmission Dipstick Cap, "Synthetic Trans Fluid Only" TES-668	TRANSMISSION DIPSTICK CAP The transmission dipstick cap will be engraved with "ALLISON TES-668 APPROVED SYNTHETIC TRANS FLUID ONLY".
0522824	Mode, Downshift, Aggressive downshift to 3rd, w/engine brake, 6 speed	DOWNSHIFT MODE (w/engine brake) The transmission will be provided with an aggressive downshift mode. This will provide earlier transmission downshifts to 3rd gear from 6th gear, resulting in improved engine braking performance.

0565656	Fluid, 4000/4500 Series Transmission, TranSynd synthetic, IPOS, Custom	TRANSMISSION FLUID The transmission will be provided with TranSynd heavy duty synthetic transmission fluid.
0001375	Driveline, Spicer 1810	DRIVELINE Drivelines will be a heavy-duty metal tube and be equipped with Spicer® 1810 universal joints. The shafts will be dynamically balanced before installation. A splined slip joint will be provided in each driveshaft where the driveline design requires it. The slip joint will be coated with Glidecoat® or equivalent.
0669988	Steering, Sheppard M110 w/Tilt, TAK-4, Eaton Pump, w/Cooler	STEERING Dual Sheppard, Model M110, steering gears, with integral heavy-duty power steering, will be provided. For reduced system temperatures, the power steering will incorporate an air to oil cooler and an Eaton, Model VN20, hydraulic pump with integral pressure and flow control. All power steering lines will have wire braided lines with crimped fittings. A tilt and telescopic steering column will be provided to improve fit for a broader range of driver configurations.
0001544	Not Required, Steering Assist Cylinder on Front Axle	
0509230	Steering Wheel, 4 Spoke without Controls	STEERING WHEEL The steering wheel will be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.
0690274	Logo/Emblem, on Dash	LOGO AND CUSTOMER DESIGNATION ON DASH The dash panel will have an emblem containing the Pierce logo and customer name. The emblem will have three (3) rows of text for the customer's department name. There will be a maximum of eight (8) characters in the first row, 11 characters in the second row and 11 characters in the third row. The first row of text will be: El Dorado The second row of text will be: Hills The third row of text will be: Fire
0123623	Bumper, 13" Extended, Imp/Vel	BUMPER A one (1) piece, ten (10) gauge, 304-2B type polished stainless steel bumper, minimum of 10.00" high, will be attached to a bolted modular extension frame constructed of 50,000 psi tensile steel "C" channel mounted directly behind it to provide adequate support strength. The bumper will be extended 13.00" from front face of cab. Gravel Pan A gravel pan, constructed of bright aluminum treadplate, will be furnished between the bumper and cab face. The gravel pan will be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.
0616511	Tray, Hose, Center, 13" Bumper, Outside Air Horns, Imp/Vel	CENTER HOSE TRAY A hose tray, constructed of aluminum, will be placed in the center of the bumper extension. The tray will have a capacity of 50' of 1.50" double jacket cotton-polyester hose. Aluminum grating will be provided at the bottom of the tray. Drain holes are also provided.
0630809	Cover, Aluminum Treadplate, One (1) D-Ring Latch, Hose Tray, Notched	Center Hose Tray Cover A bright aluminum treadplate cover will be provided over the center hose tray. The cover will be "notched" allowing the hose to be pre connected to hose connection. The cover will be attached with a stainless steel hinge. A D-ring latch will secure the cover in the closed position and a pneumatic stay arm will hold the cover in the open position. The arm will be IS of tray .
0510226	Lift & Tow Package, Imp/Vel, AXT, Dash CF	LIFT AND TOW MOUNTS Mounted to the frame extension will be lift and tow mounts. The lift and tow mounts will be designed and positioned to adapt to certain tow truck lift systems. The lift and tow mounts with eyes will be painted the same color as the frame.
0072306	Tow Eyes, Chrome, Extended Out Front of Bumper	TOW EYES Two (2) chrome tow eyes will be mounted through the front face of the bumper. The inner and outer edges of the tow eyes will have a .25" radius. Tow eyes will be mounted directly to the bumper frame. Cutouts will be provided in the front face of stainless steel bumper to allow tow eyes to extend out the front. The tow eyes will be designed and positioned to allow up to a 9,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow eyes will not be used for lifting of the apparatus.

CAB

The Velocity cab will be designed specifically for the fire service and will be manufactured by Pierce Manufacturing.

To provide quality at the source and single source customer support, the cab will be built by the apparatus manufacturer in a facility located on the manufacturer's premises.

For reasons of structural integrity and enhanced occupant protection, the cab will be of heavy duty design, constructed to the following minimal standards.

The cab will have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts) and rear wall areas. The A-pillar will be constructed of 0.25" heavy wall extrusions joined by a solid A356-T6 aluminum joint casting. The B-pillar and C-pillar will also be constructed from 0.25" heavy wall extrusions. The rear wall will be constructed of two (2) 4.00" x 2.00" outer aluminum extrusions and two (2) 3.00" x 2.00" inner aluminum extrusions. All main vertical structural members will run from the floor to 7.50" x 3.50" x 0.125" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.75" thick corner casting at each of the front corners of the roof assembly.

The front of the cab will be constructed of a 0.25" thick firewall, covered with a 0.125" front skin (for a total thickness of 0.38"), and reinforced with 24.50" wide x 10.00" deep x 0.50" thick supports on each side of the engine tunnel. The cross-cab support will be welded to the A-pillar, 0.25" firewall, and engine tunnel, on the left and right sides.

The cab floors will be constructed of 0.1875" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.44" of structural material at the front floor area. The front floor area will also be supported with three (3) 0.50" plates bolted together that also provides the mounting point for the cab lift. This tubing will run from the front of the cab to the 0.1875" thick engine tunnel, creating the structure to support the forces created when lifting the cab.

The cab will be a full-tilt style. A 3-point cab mount system with rubber isolators will improve ride quality by isolating chassis vibrations from the cab.

The crew cab will be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.

The forward cab section will have an overall height (from the cab roof to the ground) of approximately 102.00". The crew cab section will have a 10.00" raised roof, with an overall cab height of approximately 112.00". The raised portion will start at the most forward point of the B-pillar and continue rearward to the back of the cab. The overall height listed will be calculated based on a truck configuration with the lowest suspension weight ratings, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension will increase the overall height listed.

The cab will have an interior width of not less than 93.50". The driver and passenger seating positions will have a minimum 24.00" clear width at knee level.

To reduce injuries to occupants in the seated positions, proper head clearance will be provided. The floor-to-ceiling height inside the forward cab will be no less than 60.25". The floor-to-ceiling height inside the crew cab will be no less than 62.95" in the center position and 68.75" in the outboard positions.

The crew cab will measure a minimum of 57.50" from the rear wall to the backside of the engine tunnel (knee level) for optimal occupant legroom.

CAB PUMP ENCLOSURE

The rear of the cab will be made to house the fire pump below the forward facing crew cab seats. The cab side panels will be notched to accommodate the pump panel.

INTERIOR CAB INSULATION

The cab walls, ceiling and engine tunnel will be insulated in all strategic locations to maximize acoustic absorption and thermal insulation. The cab will be insulated with 2.00" insulation in the rear wall, 3.00" insulation in the side walls, and 1.50" insulation in the ceiling.

FENDER LINERS

Full-circular, aluminum inner fender liners in the wheel wells will be provided.

PANORAMIC WINDSHIELD

A one (1)-piece, safety glass windshield with more than 2,802 square inches of clear viewing area will be provided. The windshield will be full width and will provide the occupants with a panoramic view. The windshield will consist of three (3) layers: the outer light, the middle safety laminate, and the inner light. The 0.114" thick outer light layer will provide superior chip resistance. The middle safety laminate layer will prevent the windshield glass pieces from detaching in the event of breakage. The inner light will provide yet another chip resistant layer. The cab windshield will be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern will be applied on the outside perimeter of the windshield for a finished automotive appearance.

WINDSHIELD WIPERS

Three (3) electric windshield wipers with a washer, in conformance with FMVSS and SAE requirements, will be provided. The wiper blades will be 21.65" long and together will clear a minimum of 1,783 square inches of the windshield for maximum visibility in inclement weather. The windshield washer fluid reservoir will be located at the front of the vehicle and be accessible through the access hood for simple maintenance.

FAST SERVICE ACCESS FRONT TILT HOOD

A full-width access hood will be provided for convenient access to engine coolant, steering fluid, wiper fluid, cab lift controls, headlight power modules, and ember separator. The hood will also provide complete access to the windshield wiper motor and components. The hood will be contoured to provide a sleek, automotive appearance. The hood will be constructed of two (2) fiberglass panels bonded together and will include reinforcing ribs for structural integrity. The hood will include air cylinders to hold the hood in open and closed positions, and a heavy duty latch system that will meet FMVSS 113 (Hood Latch System). The spring-loaded hood latch will be located at the center of the hood with a double-action release lever located behind the Pierce logo. The two (2)-step release requires the lever first be pulled to the driver side until the hood releases from the first latch (primary latch) then to the passenger side to fully release the hood (secondary latch).

0724207	Engine Tunnel, X12-15, MX13, Mech Fasteners, Velocity FR	<p>ENGINE TUNNEL To provide structural strength, the engine tunnel sidewalls will be constructed of .50" aluminum plate that is welded to both the .25" firewall and .38" heavy wall extrusion under the crew cab floor. To maximize occupant space, the top edges will be tapered. The engine tunnel will be insulated for protection from heat and sound. Perforated foil faced insulation will be over a 1.00" thick closed cell foam affixed with pressure sensitive adhesive and further secured with mechanical fasteners. Thermal rating for this insulation will be -40 degrees Fahrenheit to 300 degrees Fahrenheit. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards.</p>
0677478	Rear Wall, Exterior, Cab, Aluminum Treadplate	<p>CAB REAR WALL EXTERIOR COVERING The exterior surface of the rear wall of the cab will be overlaid with bright aluminum treadplate except for areas that are not typically visible when the cab is lowered.</p>
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel	<p>CAB LIFT A hydraulic cab lift system will be provided, consisting of an electric-powered hydraulic pump, fluid reservoir, dual lift cylinders, remote cab lift controls and all necessary hoses and valves. The hydraulic pump will have a backup manual override, for use in the event of an electrical failure. The cab lift controls will be located at the driver side front of the cab, easily accessible under the full width front access hood. The controls will include a permanently mounted raise/lower switch. For enhanced visibility during cab tilt operations, a remote control tether with on/off switch will be supplied on a coiled cord that will extend from 2.00' (coiled) to 6.00' (extended). The cab will be capable of tilting 42 degrees and 80 degrees with crane assist to accommodate engine maintenance and removal. The cab pivots will be located 46.00" apart to provide stability while tilting the cab. The rear of the cab will be locked down by a two (2)-point, automatic, hydraulic, double hook mechanism that fully engages after the cab has been lowered (self-locking). The dual 2.25" diameter hydraulic cylinders will be equipped with a velocity fuse that protects the cab from accidentally descending when the cab is in the tilt position. For increased safety, a redundant mechanical stay arm will be provided that must be manually put in place on the driver side between the chassis and cab frame when cab is in the raised position. This device will be manually stowed to its original position before the cab can be lowered.</p> <p>Cab Lift Interlock The cab lift safety system will be interlocked to the parking brake. The cab tilt mechanism will be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism will be disabled.</p>
0550343	Special Circuit, Cab Tilt w/o Ignition Switch	<p>CAB TILT CIRCUIT The cab tilt mechanism will be operational with the battery switch on and with parking brake set.</p>
0123176	Grille, Bright Finished, Front of Cab, Velocity	<p>GRILLE A bright finished aluminum mesh grille screen, inserted behind a formed bright finished grille surround, will be provided on the front center of the cab, and will serve as an air intake to the radiator.</p>
0002224	Scuffplates, S/S At Cab Door Jambs, 4-Door Cab	<p>DOOR JAMB SCUFFPLATES All cab door jambs will be furnished with a 1.00" polished stainless steel scuffplate, mounted on the striker side of the jamb.</p>
0646179	Trim, S/S, Rect Headlights, VEL/IMP	<p>FRONT CAB TRIM There will be polished stainless steel rectangular garnish plates installed behind the two (2) headlight bezels for an enhanced appearance. There will be polished stainless steel corner covers provided over the painted cab corner where the cab turn signals are located.</p>
0015440	No Chrome Molding, On side of cab	
0521669	Mirrors, Retractable, West Coast Style, Htd/Rmt, w/Htd/Rmt Convex	<p>MIRRORS A Retractable, Model 613423, dual vision, motorized, west coast style mirror, with chrome finish, will be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass will be heated and adjustable with remote control within reach of the driver.</p>

0667937	Door, Full Height, Velocity FR 4-Door Cab, Raised Roof	<p>CAB DOORS</p> <p>To enhance entry and egress to the cab, the forward cab doors will be a minimum of 43.59" wide x 76.46" high. The crew cab doors will be located on the sides of the cab and will be constructed in the same manner as the forward cab doors. The crew cab doors will measure a minimum of 37.87" wide x 85.50" high.</p> <p>The forward cab and crew cab doors will be constructed of extruded aluminum with a nominal material thickness of 0.125". The exterior door skins will be constructed from 0.090" aluminum. The forward cab door windows will include a 7.50" high x 10.00" wide drop area at the front to enhance visibility.</p> <p>A customized, vertical, pull-down type door handle will be provided on the exterior of each cab door. The finish of the door handle will be chrome/black. The exterior handle will be designed specifically for the fire service to prevent accidental activation, and will provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands.</p> <p>Each door will also be provided with an interior flush, open style paddle handle that will be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles will provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.</p> <p>The cab doors will be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The keys will be Model 751. The locks will be capable of activating when the doors are open or closed. The doors will remain locked if locks are activated when the doors are opened, then closed.</p> <p>A heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf will be provided on all cab doors. There will be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.</p> <p>A chrome grab handle will be provided on the inside of each cab and crew cab door.</p> <p>A red webbed grab handle will be installed on the crew cab door stop strap. The grab handles will be securely mounted.</p> <p>The cab steps at each cab door location will be located inside the cab doors to protect the steps from weather elements.</p>
0655511	Door Panel, Brushed Stainless Steel, Impel/Velocity 4-Door Cab	<p>Door Panels</p> <p>The inner cab door panels will be constructed out of brushed stainless steel. The cab door panels will be removable.</p>
0667905	Storage Pockets w/ Elastic Cover, Recessed, Overhead, Impel/Velocity FR	<p>RECESSED POCKET WITH ELASTIC COVER</p> <p>To provide organized storage (clutter control) in the cab for miscellaneous equipment, the cab interior will be provided with recessed storage pockets. The pockets will be 5.63" wide x 2.00" high x 4.00" deep. The pockets will be provided with a perforated elastic material cover to secure the equipment in the pocket. The pockets will be installed in all available mounting locations of the overhead console.</p>
0667902	Controls, Electric Windows, All Cab Doors, Impel/Velocity FR	<p>ELECTRIC WINDOW CONTROLS</p> <p>Each cab entry door will be equipped with an electrically operated tempered glass window. A window control panel will be located on the door panel within easy reach of the respective occupant. Each switch will allow intermittent or auto down operation for ease of use. Auto down operation will be actuated by holding the window down switch for approximately 1 second. The driver control panel will contain a control switch for each cab door's window. All other door control panels will contain a single switch to operate the window within that door.</p> <p>The window switches will be connected directly to the battery power. This allows the windows to be raised and lowered when the battery switch is in the off position.</p>
0662776	Electric Door Locks, Cab Doors, Conceal Switch Feature, Imp/Vel	<p>ELECTRIC CAB DOOR LOCKS</p> <p>The front driver and passenger doors will have a door lock master switch (custom designed rotary lock knob) built into the interior door latch that will control all front and rear side exit door locks. Each rear cab door will have its own lock control. Each door will have a keyed exterior lock mechanism built into the door handle assembly.</p> <p>There will be one (1) concealed switch located TBD at Approval Visit.</p> <p>The lock system will include two (2) key FOBs that allow for keyless entry into the vehicle. The key FOB system will use code hopping technology for high security and be FCC part 15 compliant.</p>
0555485	Steps, 4-Door Full Tilt Cab, Imp/Vel	<p>CAB STEPS</p> <p>The forward cab and crew cab access steps will be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps will be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps will be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps will be a minimum 31.00" wide, and the crew cab steps will be 24.25" wide with an 8.00" minimum depth. The inside cab steps will not exceed 18.00" in height and be limited to two (2) steps.</p>
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door Cab	<p>CAB EXTERIOR HANDRAILS</p> <p>A Hansen knurled aluminum handrail will be provided adjacent to each cab and crew cab door opening to assist during cab ingress and egress. Each handrail will be provided with blue LED lights. The lights will be activated when the parking brake is applied. The LED lights may be load managed.</p>

0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	STEP LIGHTS There will be four (4) white P25 LED step lights provided. The lights will be installed at each cab and crew cab door, one (1) per step. The lights will be located in the driver side front doorstep, driver side crew cab doorstep, passenger side front doorstep and passenger side crew cab doorstep. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light. The light(s) will have a chrome housing. The lights will be activated when the adjacent door is opened.
0002140	Fenders, S/S on Cab	FENDER CROWNS Stainless steel fender crowns will be installed at the cab wheel openings.
0586968	Handrail, Interior, Crew Cab Doors, Angled	INTERIOR CREW CAB DOOR HANDRAIL A handrail will be provided on each interior crew cab door pan. The handrails will be mounted at a 45 degree angle. These are in addition to the standard crew cab door handle.
0592071	No Windows, Side of Crew Cab, Vel/Imp	
0568605	Not Required, Interior Trim, No Cab Side Windows	
0012090	Not Required, Windows, Front/Side of raised roof	
0509286	Not Required, Windows Rear of Crew Cab, Imp/Vel	
0558334	Not Required, Trim, Cab Rear Windows, No Rear Windows	
0611077	SP Cover, Aluminum, Over Compressor, Behind Driver's Seat	COVER one (1) painted cover will be located Over the aux air compressor.
0199285	Visor, Exterior, Vel/Imp	EXTERIOR VISOR The exterior sun visor will be a painted composite to match the job color. The five (5) forward facing marker lights will be mounted to the visor.
0644019	Holder, Cup, 4" Diameter x 4" High x 1" Slit on Side, Matting, Alum, Each	CUP HOLDER There will be four (4) cup holder(s) provided. Each cup holder will be 4.00" in diameter x 4.00" high. An approximate 1.00" wide recess in the cup holder will allow it to hold beverage containers with handles. Black rubber matting will be provided on the bottom of each cup holder. The cup holder(s) will be painted to match the cab interior and located TBD at Final.
0802038	SP Work Surface, 3/16" Alum, Full Engine Tunnel, Lwr Rr, Lip, Rubber Mat, Vel/Imp FR	WORK SURFACE There will be a work surface provided on the engine tunnel. The work surface will be cover the entire engine tunnel and will be constructed of .19" aluminum to allow the mounting of equipment. The work surface will be approximately 35.50" wide x 54.75" long, with a cutout for the driver side instrument panel. The work surface will start to the rear of the defroster inlet and continue horizontally to the flat portion at the rear of the engine tunnel. The work surface will drop to the lower flat portion of the engine tunnel and finish at the end of the engine tunnel. To prevent items from going under the upper portion the upper and lower portions will be secured together. The lower portion will include vertical sections to cover the engine tunnel upholstery. The flat areas of the work surface will be provided with a 2.00" lip. Black rubber matting will be provided on the flat areas of the work surface. The matting will be 0.13" thick with corrugated top ribs. The work surface will be painted to match the cab interior.

0647586	Cab Interior, Turnout Tuff, Impel/Velocitv FR	<p>CAB INTERIOR</p> <p>With safety as the primary objective, the wrap-around style cab instrument panel will be designed with unobstructed visibility to instrumentation. The dash layout will provide the driver with a quick reference to gauges that allows more time to focus on the road.</p> <p>The center console will be a high impact ABS polymer and will be easily removable.</p> <p>The passenger side dashboard will be constructed of painted aluminum for durability and low maintenance. For enhanced versatility, the passenger side dash will include a flat working surface.</p> <p>To provide optional (service friendly) control panels, switches and storage modules, a painted aluminum overhead console will also be provided.</p> <p>To complete the cab front interior design, painted aluminum modesty panels will be provided under the dash on both sides of the cab. The driver side modesty panel will provide mounting for the battery switch and diagnostic connectors, while the passenger side modesty panel provides a glove box, and ground access to the main electrical distribution panel via quick quarter turn fasteners.</p> <p>To provide a deluxe automotive interior, the engine tunnel, side walls and rear wall will be covered by Turnout Tuff fabric.</p> <p>The headliner will be installed in both forward and rear cab sections. The headliner panel will be a composition of an aluminum panel covered with a sound barrier and upholstery.</p> <p>The cab structure will include designated raceways for electrical harness routing from the front of the cab to the rear upper portion of the cab. Raceways will be extruded in the forward door frame, floor, walls and overhead in the area where the walls meet the ceiling. The raceways located in the floor will be covered by aluminum extrusion, while the vertical and overhead raceways will be covered by painted aluminum covers. The raceways will improve harness integrity by providing a continuous harness path that eliminates wire chafing and abrasion associated with exposed wiring or routing through drilled metal holes. Harnesses will be laid in place.</p> <p>CAB INTERIOR UPHOLSTERY</p> <p>The cab interior upholstery will be black. All cab interior materials will meet FMVSS 302 (flammability of interior materials).</p>
0667943	Cab Interior, Paint Color, Impel/Velocitv FR	<p>CAB INTERIOR PAINT</p> <p>The following metal surfaces will be painted black, vinyl textured paint:</p> <ul style="list-style-type: none"> Modesty panel in front of driver Vertical surface of dash in front of the officer (not applicable for recessed dash) Glove box in front of the officer (if applicable) Power distribution in front of the officer Rear heater vent panels <p>The remaining cab interior metal surfaces will be painted fire smoke gray, vinyl texture paint.</p>
0509532	Floor, Rubber Padded Cab & Crew Cab, Imp/Vel, Dash CF	<p>CAB FLOOR</p> <p>The cab and crew cab floor areas will be covered with Polydamp™ acoustical floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.</p> <p>The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p>

DEFROST/AIR CONDITIONING SYSTEM

A ceiling mounted combination heater, defroster and air conditioning system will be installed in the cab above the engine tunnel area.

Cab Defroster

A 54,000 BTU heater-defroster unit with 690 SCFM of air flow will be provided inside the cab. The heater-defrost will be installed in the forward portion of the cab ceiling. Air outlets will be strategically located in the cab header extrusion per the following:

One (1) adjustable will be directed towards the left side cab window

One (1) adjustable will be directed towards the right side cab window

Six (6) fixed outlets will be directed at the windshield

The defroster will be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system will meet or exceed SAE J382 requirements.

Cab/Crew Auxiliary Heater

There will be one (1) 31,000 BTU auxiliary heater with 560 SCFM of air flow provided in each outboard rear facing seat risers with a dual scroll blower. An aluminum plenum incorporated into the cab structure used to transfer heat to the forward positions.

Air Conditioning

A 19.10 cubic inch compressor will be installed on the engine.

A roof-mounted condenser with a 78,000 BTU output at 2,400 SCFM that meets and exceeds the performance specification will be installed on the cab roof. The condenser cover to be painted to match the cab roof.

The air conditioning system will be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit at 50 percent relative humidity within 30 minutes. The cooling performance test will be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.

The evaporator unit will be installed in the rear portion of the cab ceiling over the engine tunnel. The evaporator will include one (1) high performance heating core, one (1) high performance cooling core with (1) plenum directed to the front and one (1) plenum directed to the rear of the cab.

The evaporator unit will have a 52,000 BTU at 690 SCFM rating that meets and exceeds the performance specifications.

Adjustable air outlets will be strategically located on the forward plenum cover per the following:

Four (4) will be directed towards the seating position on the left side of the cab

Four (4) will be directed towards the seating position on the right side of the cab

Adjustable air outlets will be strategically located on the evaporator cover per the following:

Five (5) will be directed towards crew cab area

A high efficiency particulate air (HEPA) filter will be included for the system. Access to the filter cover will be secured with four (4) screws.

The air conditioner refrigerant will be R-134A and will be installed by a certified technician.

Climate Control

An automotive style controller will be provided to control the heat and air conditioning system within the cab. The controller will have three (3) functional knobs for fan speed, temperature, and air flow distribution (front to rear) control.

The system will control the temperature of the cab and crew cab automatically by pushing the center of the fan speed control knob. Rotate the center temperature control knob to set the cab and crew cab temperature.

The AC system will be manually activated by pushing the center of the temperature control knob. Pushing the center of the air flow distribution knob will engage the AC for max defrost, setting the fan speeds to 100 percent and directing all air flow to the overhead forward position.

Gravity Drain Tubes

Two (2) condensate drain tubes will be provided for the air conditioning evaporator. The drip pan will have two (2) drain tubes plumbed separately to allow for the condensate to exit the drip pan. No pumps will be provided.

The drain tubes will terminate under the cab, on the inboard side of the front wheelwells.

0639675

Sun Visor, Smoked Lexan, AXT, Imp/Vel, Saber FR/Enforcer

SUN VISORS

Two (2) smoked Lexan™ sun visors will be provided. The sun visors will be located above the windshield with one (1) mounted on each side of the cab.

There will be a polished stainless steel bracket provided to help secure each sun visor in the stowed position.

0543257

Grab Handles, Driver Door Post & Passenger Dash Panel, Imp/Vel

GRAB HANDLE

A black rubber covered grab handle will be mounted on the door post of the driver side cab door to assist in entering the cab. The grab handle will be securely mounted to the post area between the door and windshield.

A long rubber grab handle will be mounted on the dash board in front of the officer.

0002526

Light, Engine Compmt, All Custom Chassis

ENGINE COMPARTMENT LIGHT

An engine compartment light will be installed under the engine hood, of which the switch is an integral part. Light will have a .125" diameter hole in its lens to prevent moisture retention.

0122516	Fluid Check Access, Imp/Vel	<p>ACCESS TO ENGINE DIPSTICKS For access to the engine oil and transmission fluid dipsticks, there will be a door on the engine tunnel, inside the crew cab. The door will be on the rear wall of the engine tunnel, on the vertical surface. The door will be 20.00" wide x 8.25" high and be flush with the wall of the engine tunnel. The engine oil dipstick will allow for checking only. The transmission dipstick will allow for both checking and filling. An additional port will be provided for filling the engine oil. The door will have a rubber seal for thermal and acoustic insulation. One (1) flush lift and turn latch will be provided on the access door.</p>
0599959	Straps, Velcro, Map Box, Custom Chassis	<p>VELCRO STRAP(S) FOR MAP BOX There will be one (1) Velcro® strap(s) installed on the map box.</p>
0002501	Map box, 4 bin/30 Deg Slant, Custom Chassis	<p>MAP BOX A map box with four (4) bins, open from top, will be installed to be mounted at pickup. The map box will be divided into four (4) bins, each being 12.50" wide x 2.25" high x 12.00" deep. Each bin will slant 30 degrees from horizontal. The map box will be constructed of .125" aluminum and will be painted to match the cab interior.</p>
0583042	Side Roll and Frontal Impact Protection	<p>CAB SAFETY SYSTEM The cab will be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and will include the following: A supplemental restraint system (SRS) sensor will be installed on a structural cab member behind the instrument panel. The SRS sensor will perform real time diagnostics of all critical subsystems and will record sensory inputs immediately before and during a side roll or frontal impact event. A slave SRS sensor will be installed in the cab to provide capacity for eight (8) crew cab seating positions. A fault-indicating light will be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system. A driver side front air bag will be mounted in the steering wheel and will be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt. A passenger side knee bolster air bag will be mounted in the modesty panel below the dash panel and will be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt. Air curtains will be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall. Suspension seats will be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event. Seat belts will be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event.</p> <p>Frontal Impact Protection The SRS system will provide protection during a frontal or oblique impact event. The system will activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis will have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor will activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected. The SRS system will deploy the following components in the event of a frontal or oblique impact event: Driver side front air bag Passenger side knee bolster air bag Air curtains mounted in the outboard bolster of outboard seat backs Suspension seats will be retracted to the lowest travel position Seat belts will be pre-tensioned to firmly hold the occupant in place</p> <p>Side Roll Protection The SRS system will provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system will analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints. The SRS system will deploy the following components in the event of a side roll: Air curtains mounted in the outboard bolster of outboard seat backs Suspension seats will be retracted to the lowest travel position Seat belts will be pre-tensioned to firmly hold the occupant in place</p>
0622617	Seating Capacity, 6 Seats	<p>SEATING CAPACITY The seating capacity of the vehicle (including tiller cab and belted seat positions in the rescue body) will be six (6).</p>

0697005	Seat, Driver, Pierce PS6, Premium, Air Ride, High Back, Safety	DRIVER SEAT	<p>A Pierce PS6® seat will be provided in the cab for the driver. The seat design will be a cam action type with air suspension. For increased convenience, the seat will include electric controls to adjust the rake (15 degrees), height (1.75" travel) and horizontal (7.00" travel) position. Electric controls will be located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat will have a reclining back, adjustable from 20 degrees back to 45 degrees forward. Providing for maximum comfort, the seat back will be a high back style with manual lumbar adjustment lever, for lower back support, and will include minimum 7.50" deep side bolster pads for maximum support. The lumbar adjustment lever will be easily located at the lower outboard position of the seat cushion. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A suspension seat safety system will be included. When activated in the event of a side roll, this system will pretension the seat belt and retract the seat to its lowest travel position.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0696996	Seat, Officer, Pierce PS6, Premium, Air Ride, High Back, Safety	OFFICER SEAT	<p>A Pierce PS6® seat will be provided in the cab for the officer. The seat will be a cam action type, with air suspension. For increased convenience, the seat will include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control will be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple passenger configurations, the seat will have a reclining back adjustable from 20 degrees back to 0 degrees forward. The seat back will be a high back style with manual lumbar adjustment lever, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A suspension seat safety system will be included. When activated this system will pretension the seat belt and retract the seat to its lowest travel position.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0002517	Not Required, Radio Compartment		
0765826	SP	Cabinet, Rear Facing, LS, 30.5 W x 30 H x 24 D, Ext Acc Only, Imp/Vel	<p>REAR FACING LEFT SIDE CABINET</p> <p>A rear facing cabinet will be provided in the crew cab at the left side outboard position with exterior access.</p> <p>The cabinet will be 30.50" wide x 30.00" high x 24.00" deep.</p> <p>The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lipped to match the cab interior.</p> <p>The cabinet will include no louvers.</p> <p>The cabinet will provide exterior access only with one (1) reverse hinged double pan door painted to match the cab exterior with a non-locking D-ring latch. A pneumatic stay arm will be provided as a door stop. The clear door opening will 19.50" wide x 27.50" high.</p> <p>The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame.</p> <p>The cabinet will be constructed of smooth aluminum and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) white LED strip light installed on the left side of the exterior cabinet door opening and one (1) white LED strip light installed on the right side of the exterior cabinet door opening. The lighting will be controlled by an automatic door switch.</p>
0102783		Not Required, Seat, Rr Facing C/C, Center	
0737954	SP	Cabinet, Rear Facing, RS, 30.50 W x 28 H x 21.50 D, Ext Acc Only, Imp/Vel	<p>REAR FACING RIGHT SIDE CABINET</p> <p>A rear facing cabinet will be provided in the crew cab at the right side outboard position.</p> <p>The cabinet will be 30.50" wide x 28.00" high x 21.50" deep.</p> <p>The cabinet will provide access from outside the cab only with one (1) reverse hinged double pan door painted to match the cab exterior with a non-locking D-ring latch. The clear door opening will be 19.75" wide x 25.50" high. The door will be located on the side of the cab over the wheelwell and include a pneumatic stay arm as a door stop.</p> <p>The cabinet will include one (1) infinitely adjustable shelf with a 1.25" up-turned lipped to match the cab interior.</p> <p>The cabinet will include no louvers.</p> <p>The exterior access will be provided with a brushed stainless steel scuffplate on the lower door frame.</p> <p>The cabinet will be constructed of smooth aluminum, and painted to match the cab interior.</p> <p>Cabinet Light</p> <p>There will be one (1) white LED strip light installed on the left side of the exterior cabinet door opening and one (1) white LED strip light installed on the right side of the exterior cabinet door opening. The lights will be controlled by an automatic door switch.</p>

0122715	Seat, Forward Facing C/C, DS Outboard, Pierce PS6, Premium, Hi- Back, Safety	<p>FORWARD FACING DRIVER SIDE OUTBOARD SEAT</p> <p>There will be one (1) forward facing, Pierce PS6® seat provided at the driver side outboard position in the crew cab. The seat back will be a high back style with 7.5 degree fixed recline angle, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0698537	Seat, Forward Facing C/C, Center, (2) Pierce PS6, Base, SCBA, Foldup, Safety	<p>FORWARD FACING CENTER SEATS</p> <p>There will be two (2) forward facing, Pierce PS6® seats provided at the center position in the crew cab. To provide improved ride comfort, and maximize accessibility to the crew cab, the seats will be provided with 15.00" deep, foldup, foam cushions, and the seat backs will be provided with 0 degree fixed recline angle. To ensure safe operation, the seats will be equipped with seat belt sensors in the seat cushion and belt receptacle that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat backs will be an SCBA back style. The SCBA cavity will be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity will be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seats will include the following feature incorporated into the side roll protection system: A seat safety system will be included. When activated, this system will pretension the seat belts around the occupants to firmly hold them in place in the event of a side roll.</p> <p>The seats will be furnished with 3-point, shoulder type seat belts. The seat belts will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0122728	Seat, Forward Facing C/C, PS Outboard, Pierce PS6, Premium, Hi- Back, Safety	<p>FORWARD FACING PASSENGER SIDE OUTBOARD SEAT</p> <p>There will be one (1) forward facing, Pierce PS6® seat provided at the passenger side outboard position in the crew cab. The seat back will be a high back style with 7.50 degree fixed recline angle, and will include minimum 7.50" deep side bolster pads for maximum support. For optimal comfort, the seat will be provided with 17.00" deep dual density foam cushions designed with EVC (elastomeric vibration control). To ensure safe operation, the seat will be equipped with seat belt sensors in the seat cushion and belt receptacle, that will activate an alarm indicating a seat is occupied but not buckled.</p> <p>The seat will include the following features incorporated into the side roll protection system: Side air curtain will be mounted integral to the outboard bolster of the seat back. The air curtain will be covered by a decorative panel when in the stowed position.</p> <p>A seat safety system will be included. When activated, this system will pretension the seat belt around the occupant to firmly hold them in place in the event of a side roll.</p> <p>The seat will be furnished with a 3-point, shoulder type seat belt. The seat belt will be furnished with dual automatic retractors that will provide ease of operation in the normal seating position.</p>
0643212	Fan, Air Exchange, Cab Compartment, Thermostat	<p>AIR EXCHANGE FAN</p> <p>There will be one (1) air exchange fan(s) provided in the compartment(s) rear facing overhead passenger side compartment, thermostat to be located inside of the compartment so that it can be "set and forget".</p> <p>There will be an adjustable thermostat provided for each location.</p>
0676522	Matting, .13" Rubber, EMS/Cab, Shelving	<p>MATTING IN EMS COMPARTMENT</p> <p>Black rubber matting will be provided in two (2) compartments. The locations are the top of the EMS boxes in the area with the 1" lip.</p> <p>The matting will be 0.13" thick with corrugated top ribs.</p>
0752005	Lip, Top of Interior Cabinet, All Sides	<p>LIP ON CABINET</p> <p>There will be a 1.00" lip provided around the top perimeter of the cabinet. There will NOT be anything stored on the top portion without restraints</p> <p>There will be two (2) cabinets(s) provided with the lip On top of each of the rear facing EMS Compts .</p>
0772517	SP Compt, Storage, Rr Fcng, RS Overhead, 22 W x 10 H x 25 D,Louvers,Tray,Imp/Vel FR	<p>RIGHT SIDE REAR FACING OVERHEAD STORAGE COMPARTMENT</p> <p>There will be one (1) overhead rear facing storage compartment installed at the raised roof within the crew cab, on the right side of the air conditioner. The compartment will be approximately 22.00" wide x 10.00" high x 25.00" deep at the bottom.</p> <p>The compartment will have a smooth aluminum slide out tray attached to the compartment floor and painted to match the cab interior. Louvers will be located on each open side of the compartment. A removable access panel will be provided for access to the compartment.</p> <p>The compartment will be constructed of smooth aluminum and painted to match the cab interior.</p> <p>Compartment Light</p> <p>There will be one (1) white LED strip light installed horizontally above each compartment door opening. The lights will be controlled by a switch on the exterior of the compartment.</p>

0566653	Upholstery, Seats In Cab, Turnout Tuff	SEAT UPHOLSTERY All seat upholstery will be black Turnout Tuff material.
0543991	Bracket, Air Bottle, Hands-Free II, Cab Seats	AIR BOTTLE HOLDERS All SCBA type seats in the cab will have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket will include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp will constrain the SCBA bottle in the seat and will exceed the NFPA standard of 9G. There will be a quantity of three (3) SCBA brackets.
0599213	Riser, Fwd Facing C/C Seats Raised 4.00", w/Raised Roof Cab Only, PUC	FORWARD FACING SEAT RISER The forward facing seats in the crew cab will be raised up 4.00". Design and construction of a special riser will be added to the center section above the PUC pump to obtain the desired seat height.
0603867	Seat Belt, ReadyReach	SEAT BELTS All seating positions in the cab, crew cab and tiller cab (if applicable) will have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length will meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards. The 3-point shoulder type seat belts will also include the ReadyReach D-loop assembly to the shoulder belt system. The ReadyReach feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location. Any flip up seats will include a 3-point shoulder type belts only.
0604863	Seat Belt Height Adjustment, 6 Seats, Imp/Vel, Dash CF	SHOULDER HARNESS HEIGHT ADJUSTMENT All seating positions furnished with 3-point shoulder type seat belts will include a height adjustment. This adjustment will optimize the belts effectiveness and comfort for the seated firefighter. A total of six (6) seating positions will have the adjustable shoulder harness.
0602464	Helmet Storage, Provided by Fire Department, NFPA 2016	HELMET STORAGE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided. There is no helmet storage on the apparatus as manufactured. The fire department will provide a location for storage of helmets.
0647647	Lights, Dome, FRP Dual LED 4 Lts	CAB DOME LIGHTS There will be four (4) dual LED dome lights with grey bezels provided. Two (2) lights will be mounted above the inside shoulder of the driver and officer and two (2) lights will be installed and located, one (1) on each side of the crew cab. The color of the LED's will be red and white. The white LED's will be controlled by the door switches and the lens switch. The color LED's will be controlled by the lens switch. In order to ensure exceptional illumination, each white LED dome light will provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.
0896451	Enhanced Software for Cab and Crew Cab Dome Lts	ENHANCED SOFTWARE FOR CAB AND CREW CAB DOME LIGHTS The cab and crew cab dome lights will remain on for 10 seconds for improved visibility after the doors are closed. The dome lights will dim after 10 seconds or immediately if the vehicle's transmission is put into gear.
0631776	Not Required, Overhead Map Lights	
0602637	Portable Hand Light, Provided by Fire Dept, Pumper NFPA 2016 Classification	PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus. The hand lights are not on the apparatus as manufactured. The fire department will provide and mount these hand lights.
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity 2010	CAB INSTRUMENTATION The cab instrument panel will consist of gauges, an LCD display, telltale indicator lights, alarms, control switches, and a diagnostic panel. The function of instrument panel controls and switches will be identified by a label adjacent to each item. Actuation of the headlight switch will illuminate the labels in low light conditions. Telltale indicator lamps will not be illuminated unless necessary. The cab instruments and controls will be conveniently located within the forward cab section directly forward of the driver. Gauge and switch panels will be designed to be removable for ease of service and low cost of ownership. Gauges

The gauge panel will include the following ten (10) ivory gauges with chrome bezels to monitor vehicle performance:

Voltmeter gauge (Volts)

Low volts (11.8 VDC)

Amber indicator on gauge assembly with alarm

High volts (15 VDC)

Amber indicator on gauge assembly with alarm

Very low volts (11.3 VDC)

Amber indicator on gauge assembly with alarm

Very high volts (16 VDC)

Amber indicator on gauge assembly with alarm

Tachometer (RPM)

Speedometer (Primary (outside) MPH, Secondary (inside) Km/H)

Fuel level gauge (Empty - Full in fractions)

Low fuel (1/8 full)

Amber indicator on gauge assembly with alarm

Very low fuel (1/32) fuel

Amber indicator on gauge assembly with alarm

Engine oil pressure gauge (PSI)

Low oil pressure to activate engine warning lights and alarms

Red indicator on gauge assembly with alarm

Front air pressure gauge (PSI)

Low air pressure to activate warning lights and alarm

Red indicator on gauge assembly with alarm

Rear air pressure gauge (PSI)

Low air pressure to activate warning lights and alarm

Red indicator on gauge assembly with alarm

Transmission oil temperature gauge (Fahrenheit)

High transmission oil temperature activates warning lights and alarm

Amber indicator on gauge assembly with alarm

Engine coolant temperature gauge (Fahrenheit)

High engine temperature activates an engine warning light and alarm

Red indicator on gauge assembly with alarm

Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions)

Low fluid (1/8 full)

Amber indicator on gauge assembly with alarm

All gauges and gauge indicators will perform prove out at initial power-up to ensure proper performance.

Indicator Lamps

To promote safety, the following telltale indicator lamps will be integral to the gauge assembly and are located above and below the center gauges. The indicator lamps will be "dead-front" design that is only visible when active. The colored indicator lights will have descriptive text or symbols.

The following amber telltale lamps will be present:

Low coolant

Trac cntl (traction control) (where applicable)

Check engine

Check trans (check transmission)

Aux brake overheat (Auxiliary brake overheat)

Air rest (air restriction)

Caution (triangle symbol)

Water in fuel

DPF (engine diesel particulate filter regeneration)

Trailer ABS (where applicable)

Wait to start (where applicable)

HET (engine high exhaust temperature) (where applicable)

ABS (antilock brake system)

MIL (engine emissions system malfunction indicator lamp) (where applicable)

SRS (supplemental restraint system) fault (where applicable)

DEF (low diesel exhaust fluid level)

The following red telltale lamps will be present:

Warning (stop sign symbol)

Seat belt

Parking brake

Stop engine

Rack down

The following green telltale lamps will be provided:

Left turn

Right turn

Battery on

The following blue telltale lamp will be provided:

High beam

Alarms

Audible steady tone warning alarm: A steady audible tone alarm will be provided

whenever a warning message is present.

Audible pulsing tone caution alarm: A pulsing audible tone alarm (chime/chirp) will be

provided whenever a caution message is present without a warning message being

present.

Alarm silence: Any active audible alarm will be able to be silenced by holding the ignition switch at the top position for 3 to 5 seconds. For improved safety, silenced audible alarms will intermittently chirp every 30 seconds until the alarm condition no longer exists. The intermittent chirp will act as a reminder to the operator that a caution or warning condition still exists. Any new warning or caution condition will enable the steady or pulsing tones respectively.

Indicator Lamp and Alarm Prove-Out

Telltale indicators and alarms will perform prove-out at initial power-up to ensure proper performance.

Control Switches

For ease of use, the following controls will be provided immediately adjacent to the cab instrument panel within easy reach of the driver.

Emergency master switch: A molded plastic push button switch with integral indicator lamp will be provided. Pressing the switch will activate emergency response lights and siren control. A green lamp on the switch provides indication that the emergency master mode is active. Pressing the switch again disables the emergency master mode.

Headlight / Parking light switch: A three (3)-position maintained rocker switch will be provided. The first switch position will deactivate all parking lights and the headlights. The second switch position will activate the parking lights. The third switch position will activate the headlights.

Panel backlighting intensity control switch: A three (3)-position momentary rocker switch will be provided. The first switch position decreases the panel backlighting intensity to a minimum level as the switch is held. The second switch position is the default position that does not affect the backlighting intensity. The third switch position increases the panel backlighting intensity to a maximum level as the switch is held.

The following standard controls will be integral to the gauge assembly and are located below the right hand gauges. All switches have backlit labels for low light applications.

High idle engagement switch: A two (2)-position momentary rocker switch with integral indicator lamp will be provided. The first switch position is the default switch position. The second switch position will activate and deactivate the high idle function when pressed and released. The "Ok To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch will indicate when the high idle function is engaged.

"Ok To Engage High Idle" indicator lamp: A green indicator light will be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.

The following standard controls will be provided adjacent to the cab gauge assembly within easy reach of the driver. All switches will have backlit labels for low light applications.

Ignition switch: A three (3)-position maintained/momentary rocker switch will be provided. The first switch position will deactivate vehicle ignition. The second switch position will activate vehicle ignition. The third momentary position will disable the Command Zone audible alarm if held for 3 to 5 seconds. A green indicator lamp will be activated with vehicle ignition.

Engine start switch: A two (2)-position momentary rocker switch will be provided. The first switch position is the default switch position. The second switch position will activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.

4-way hazard switch: A two (2)-position maintained rocker switch will be provided. The first switch position will deactivate the 4-way hazard switch function. The second switch position will activate the 4-way hazard function. The switch actuator will be red and includes the international 4-way hazard symbol.

Heater, defroster, and air conditioning control panel.

Turn signal arm: A self-canceling turn signal with high beam headlight and windshield wiper/washer controls will be provided. The windshield wiper control will have high, low, and intermittent modes.

Parking brake control: An air actuated push/pull park brake control valve will be provided. Chassis horn control: Activation of the chassis horn control will be provided through the center of the steering wheel.

Custom Switch Panels

The design of cab instrumentation will allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There will be positions for up to four (4) switch panels in the overhead console on the driver's side, up to four (4) switch panels in the engine tunnel console facing the driver, up to four (4) switch panels in the overhead console on the officer's side and up to two (2) switch panels in the engine tunnel console facing the officer. All switches will have backlit labels for low light applications.

Diagnostic Panel

A diagnostic panel will be accessible while standing on the ground and located inside the driver's side door left of the steering column. The diagnostic panel will allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches will allow ABS systems to provide blink codes should a problem exist.

The diagnostic panel will include the following:

Engine diagnostic port

Transmission diagnostic port

ABS diagnostic port

SRS diagnostic port (where applicable)

Command Zone USB diagnostic port

ABS diagnostic switch (blink codes flashed on ABS telltale indicator)

Diesel particulate filter regeneration switch (where applicable)

Diesel particulate filter regeneration inhibit switch (where applicable)

Cab LCD Display

A digital four (4)-row by 20-character dot matrix display will be integral to the gauge panel. The display will be capable of showing simple graphical images as well as text. The display will be split into three (3) sections. Each section will have a dedicated function.

The upper left section will display the outside ambient temperature.

The upper right section will display, along with other configuration specific information:

Odometer

Trip mileage

PTO hours

Fuel consumption

Engine hours

The bottom section will display INFO, CAUTION, and WARNING messages. Text messages will automatically activate to describe the cause of an audible caution or warning alarm.

The LCD will be capable of displaying multiple text messages should more than one caution or warning condition exist.

0509511	Air Restriction Indicator, Imp/Vel, AXT, Dash CF, Enf MUX	<p>AIR RESTRICTION INDICATOR</p> <p>A high air restriction warning indicator light LCD message with amber warning indicator and audible alarm will be provided.</p>
0543751	Light, Do Not Move Apparatus	<p>"DO NOT MOVE APPARATUS" INDICATOR</p> <p>A flashing red indicator light, located in the driving compartment, will be illuminated automatically per the current NFPA requirements. The light will be labeled "Do Not Move Apparatus If Light Is On."</p> <p>The same circuit that activates the Do Not Move Apparatus indicator will activate a pulsing alarm when the parking brake is released.</p>
0509042	Messages, Open Dr/DNMT, Color Dsply,	<p>DO NOT MOVE TRUCK MESSAGES</p> <p>Messages will be displayed on the Command Zone™, color display located within sight of the driver whenever the Do Not Move Truck light is active. The messages will designate the item or items not in the stowed for vehicle travel position (parking brake disengaged).</p> <p>The following messages will be displayed (where applicable):</p> <ul style="list-style-type: none"> Do Not Move Truck DS Cab Door Open (Driver Side Cab Door Open) PS Cab Door Open (Passenger's Side Cab Door Open) DS Crew Cab Door Open (Driver Side Crew Cab Door Open) PS Crew Cab Door Open (Passenger's Side Crew Cab Door Open) DS Body Door Open (Driver Side Body Door Open) PS Body Door Open (Passenger's Side Body Door Open) Rear Body Door Open DS Ladder Rack Down (Driver Side Ladder Rack Down) PS Ladder Rack Down (Passenger Side Ladder Rack Down) Deck Gun Not Stowed Lt Tower Not Stowed (Light Tower Not Stowed) Fold Tank Not Stowed (Fold-A-Tank Not Stowed) Aerial Not Stowed (Aerial Device Not Stowed) Stabilizer Not Stowed Steps Not Stowed Handrail Not Stowed <p>Any other device that is opened, extended, or deployed that creates a hazard or is likely to cause major damage to the apparatus if the apparatus is moved will be displayed as a caution message after the parking brake is disengaged.</p>
0611681	Switching, Cab, Membrane, Impel/Velocity/Quantum, Dash CF, AXT WiFi MUX	<p>SWITCH PANELS</p> <p>The emergency light switch panel will have a master switch for ease of use plus individual switches for selective control. Each switch panel will contain eight (8) membrane-type switches each rated for one million (1,000,000) cycles. Panels containing less than eight (8) switch assignments will include non-functioning black appliques. Documentation will be provided by the manufacturer indicating the rated cycle life of the switches. The switch panel(s) will be located in the overhead position above the windshield on the driver side overhead to allow for easy access. Additional switch panel(s) will be located in the overhead position(s) above the windshield or in designated locations on the lower instrument panel layout.</p> <p>The switches will be membrane-type and also act as an integral indicator light. For quick, visual indication the entire surface of the switch will be illuminated white whenever back lighting is activated and illuminated green whenever the switch is active. An active illuminated switch will flash when interlock requirements are not met or device is actively being load managed. For ease of use, a two (2)-ply, scratch resistant laser engraved Gravoply label indicating the use of each switch will be placed in the center of the switch. The label will allow light to pass through the letters for ease of use in low light conditions.</p>
0555915	Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	<p>WIPER CONTROL</p> <p>For simple operation and easy reach, the windshield wiper control will be an integral part of the directional light lever located on the steering column. The wiper control will include high and low wiper speed settings, a one (1)-speed intermittent wiper control and windshield washer switch. The control will have a "return to park" provision, which allows the wipers to return to the stored position when the wipers are not in use.</p>
0548004	Wiring, Spare, 15 A 12V DC 1st	<p>SPARE CIRCUIT</p> <p>There will be three (3) pair of wires, including a positive and a negative, installed on the apparatus.</p> <p>The above wires will have the following features:</p> <ul style="list-style-type: none"> The positive wire will be connected directly to the battery power The negative wire will be connected to ground Wires will be protected to 15 amps at 12 volts DC Power and ground will terminate one in location 9, two recessed into the CC ems boxes, DS PS facing the engine tunnel, high, towards the rear of the EMS (rear of engine tunnel) Termination will be with 15 amp, power point plug with rubber cover Wires will be sized to 125 percent of the protection The circuit(s) may be load managed when the parking brake is set.

0548009	Wiring, Spare, 20 A 12V DC 1st	<p>SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power The negative wire will be connected to ground Wires will be protected to 20 amps at 12 volts DC Power and ground will terminate P3, bottom rear bulkhead, exit wire as low as possible, with 5' service loop Termination will be with heat shrinkable butt splicing Wires will be sized to 125% of the protection This circuit(s) may be load managed when the parking brake is set.</p>
0585913	Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025 2nd	<p>SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 20 amps at 12 volts DC. Power and ground will terminate P1 rear bulkhead, low near R1. Termination will be to a Blue Sea System, Model 5025, 6 circuit with negative bus bar. The terminal block will include a cover with circuit labels. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.</p>
0602586	Wiring, Spare, 2.0 A 12V DC, USB Termination Blue Sea 1016 2nd	<p>SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 2.0 amps at 12 volts DC. Power and ground will terminate To the left of the officer dash recess, per IP layout. Termination will be a Blue Sea Systems part number 1016 dual USB charger socket. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is applied.</p>
0610968	Wiring, Spare, 2.0 A 12V DC, USB Termination Blue Sea 1016 1st	<p>SPARE CIRCUIT There will be one (1) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 2.0 amps at 12 volts DC. Power and ground will terminate Location 9, per IP layout. Termination will be a Blue Sea Systems part number 1016 dual USB charger socket. Wires will be sized to 125 percent of the protection. This circuit(s) may be load managed when the parking brake is applied.</p>
0657222	Wiring, Spare, 20 A 12V DC, 12 Circuit Fuse Block, Blue Sea 5026 1st	<p>SPARE CIRCUIT There will be two (2) pair of wires, including a positive and a negative, installed on the apparatus. The above wires will have the following features: The positive wire will be connected directly to the battery power. The negative wire will be connected to ground. Wires will be protected to 20 amps at 12 volts DC. Power and ground will terminate (1) behind Driver seat, (1) behind Officer seat. Both to be final position at Final.. Termination will be to a Blue Sea System, Model 5026, 12 circuit with negative bus bar, straight blade fuse block. The terminal block will include a cover with circuit labels. Wires will be sized to 125% of the protection. This circuit(s) may be load managed when the parking brake is set.</p>
0708660	SP Wiring, Spare, 37.5 A 12V DC, Cust Install Radio, 30A Bat Dir, 7.5A Sw & Grnd	<p>CUSTOMER SUPPLIED RADIO WIRING There will be one (1) 12 volt combination wiring leads of which each will include one (1) direct battery, one (1) master battery switched and one (1) negative for use with radio equipment. Each lead will be 18.00" long and be provided in the rear facing overhead crew cab compartment. The leads will be clearly marked in a coil and terminate with butt splices. A breaker rated for 30 amps will be provided for circuit protection of the direct battery lead with a minimum of 10 gauge wire. A breaker rated for 7.5 amps will be provided for circuit protection of the master battery switched lead. The wires will be colored coded as follows: red for direct battery yellow for master battery switched black for ground</p>

0803875

Radio, AM/FM/WB, Jensen, Frt,Rear
Aux In/Frt,Rear USB/Bluetooth

STEREO RADIO

A Jensen, heavy duty AM/FM / Bluetooth / Weatherband stereo radio, with front and rear auxiliary input will be installed per switch panel layout. There will be 5.25" speakers installed one (1) pair of 5.25" speakers in the cab and one (1) pair of 5.25" speakers in the crew cab. The antenna will be a roof-mounted rubber antenna located in an open space, on the cab roof.

The following features will be included:

- 180 watts max power output (45W x 4)
- Bluetooth® streaming audio and controls (A2DP/AVRCP) with hands-free calling (HFP)
- Electronic AM/FM tuner (US/Euro)
- iPod®/iPhone® ready via USB
- SiriusXM-Ready®
- Seven-channel NOAA weatherband with S.A.M.E. technology
- USB 2.0 for playback of MP3 & WMA audio files
- RBDS with PTY search
- Front and rear USB input
- Front and rear AUX input

0615386

Vehicle Information Center, 7" Color
Display, Touchscreen, MUX

INFORMATION CENTER

An information center employing a 7.00" diagonal touch screen color LCD display will be encased in an ABS plastic housing.

The information center will have the following specifications:

Operate in temperatures from -40 to 185 degrees Fahrenheit

An Optical Gel will be placed between the LCD and protective lens

Five weather resistant user interface switches

Grey with black accents

Sunlight Readable

Linux operating system

Minimum of 1000nits rated display

Display can be changed to an available foreign language

A LCD display integral to the cab gauge panel will be included as outlined in the cab instrumentation area.

Programmed to read US Customary

General Screen Design

Where possible, background colors will be used to provide "At a Glance" vehicle information. If information provided on a screen is within acceptable limits, a green background will be used.

If a caution or warning situation arises the following will occur:

An amber background/text color will indicate a caution condition

A red background/text color will indicate a warning condition

The information center will utilize an "Alert Center" to display text messages for audible alarm tones. The text messages will be written to identify the item(s) causing the audible alarm to sound. If more than one (1) text message occurs, the messages will cycle every second until the problem(s) have been resolved. The background color for the "Alert Center" will change to indicate the severity of the "warning" message. If a warning and a caution condition occur simultaneously, the red background color will be shown for all alert center messages.

A label for each button will exist. The label will indicate the function for each active button for each screen. Buttons that are not utilized on specific screens will have a button label with no text or symbol.

Home/Transit Screen

This screen will display the following:

Vehicle Mitigation (if equipped)

Water Level (if the water level system includes compatible communications to the information center)

Foam Level (if the foam level system includes compatible communications to the information center)

Seat Belt Monitoring Screen

Tire Pressure Monitoring (if equipped)

Digital Speedometer

Active Alarms

On Scene Screen

This screen will display the following and will be auto activated with pump engaged (if equipped):

Battery Voltage

Fuel

Oil Pressure

Coolant Temperature

RPM

Water Level (if equipped)

Foam Level (if equipped)

Foam Concentration (if equipped)

Water Flow Rate (if equipped)

Water Used (if equipped)

Active Alarms

Virtual Buttons

There will be four (4) virtual switch panel screens that match the overhead and lower lighting and HVAC switch panels.

Page Screen

The page screen will display the following and allow the user to progress into other screens for further functionality:

Diagnostics

Faults

Listed by order of occurrence

Allows to sort by system

Interlock

Throttle Interlocks

Pump Interlocks (if equipped)

Aerial Interlocks (if equipped)

PTO Interlocks (if equipped)

Load Manager

A list of items to be load managed will be provided. The list will provide a description of the load. The lower the priority numbers the earlier the device will be shed should a low voltage condition occur.

The screen will indicate if a load has been shed (disabled) or not shed.

"At a glance" color features are utilized on this screen.

Systems

Command Zone

Module type and ID number

Module Version

Input or output number

Circuit number connected to that input or output

Status of the input or output

Power and Constant Current module diagnostic information

Foam (if equipped)

Pressure Controller (if equipped)

Generator Frequency (if equipped)

Live Data

General Truck Data

Maintenance

Engine oil and filter

Transmission oil and filter

Pump oil (if equipped)

Foam (if equipped)

Aerial (if equipped)

Setup

Clock Setup

Date & Time

12 or 24 hour format

Set time and date

Backlight

Daytime

Night time

Sensitivity

Unit Selection

Home Screen

Virtual Button Setup

On Scene Screen Setup

Configure Video Mode

Set Video Contrast

Set Video Color

Set Video Tint

Do Not Move

The screen will indicate the approximate location and type of item that is open or is not stowed for travel. The actual status of the following devices will be indicated

Driver Side Cab Door

Passenger's Side Cab Door

Driver Side Crew Cab Door

Passenger's Side Crew Cab Door

Driver Side Body Doors

Passenger's Side Body Doors

Rear Body Door(s)

Ladder Rack (if applicable)

Deck Gun (if applicable)

Light Tower (if applicable)

Hatch Door (if applicable)

Stabilizers (if applicable)

Steps (if applicable)

Notifications

View Active Alarms

Shows a list of all active alarms including date and time of the occurrence is shown with each alarm

Silence Alarms - All alarms are silenced

Timer Screen

HVAC (if equipped)

Tire Information (if equipped)

Ascendant Set Up Confirmation (if equipped)

Button functions and button labels may change with each screen.

0734857	Collision Mitigation, HAAS Alert (R2V), HA5	<p>COLLISION MITIGATION</p> <p>There will be a HAAS Alert®, Model HA5 Responder-to-Vehicle (R2V) collision avoidance system provided on the apparatus. The HA5 cellular transponder module will be installed behind the cab windshield, as high and near to the center as practical, to allow clear visibility to the sky. The module dimensions are 5.40" long x 2.70" wide x 1.30" high, and operating temperature range is -40 degree C to 85 degree C.</p> <p>The transponder will be connected to the vehicle's emergency master circuit and battery direct power and ground.</p> <p>While responding with emergency lights on, the HA5 transponder sends alert messages via cellular network to motorists in the vicinity of the responding truck that are equipped with the WAZE app.</p> <p>While on scene with emergency lights on, the HA5 transponder sends road hazard alerts to motorists in the vicinity of the truck that are equipped with the WAZE app.</p> <p>The HA5 Responder-to-Vehicle (R2V) collision avoidance system will include the transponder and a 5 year cellular plan subscription.</p> <p>Activation of the HAAS Alert system requires a representative of the customer to accept the End User License Agreement (EULA) via an on-line portal.</p>
0606249	Vehicle Data Recorder w/CZ and Overhead Display Seat Belt Monitor	<p>VEHICLE DATA RECORDER</p> <p>There will be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.</p> <p>The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.</p> <p>The vehicle data recorder will be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> Vehicle Speed - MPH Acceleration - MPH/sec Deceleration - MPH/sec Engine Speed - RPM Engine Throttle Position - % of Full Throttle ABS Event - On/Off Seat Occupied Status - Yes/No by Position Seat Belt Buckled Status - Yes/No by Position Master Optical Warning Device Switch - On/Off Time - 24 Hour Time Date - Year/Month/Day <p>Seat Belt Monitoring System</p> <p>A seat belt monitoring system (SBMS) will be provided on the Command Zone™ color display and in the center overhead of the cab instrument panel. The SBMS will be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:</p> <ul style="list-style-type: none"> Seat Occupied & Buckled = Green LED indicator illuminated Seat Occupied & Unbuckled = Red LED indicator with audible alarm No Occupant & Buckled = Red LED indicator with audible alarm No Occupant & Unbuckled = No indicator and no alarm <p>The seat belt monitoring screen will become active on the Command Zone color display when:</p> <ul style="list-style-type: none"> The home screen is active: and there is any occupant seated but not buckled or any belt buckled with an occupant. and there are no other Do Not Move Apparatus conditions present. As soon as all Do Not Move Apparatus conditions are cleared, the SBMS will be activated. <p>The SBMS will include an audible alarm that will warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p>
0662029	Intercom, Firecom 5200D Dual Radio, 4-Pos, D,O,2C	<p>INTERCOM SYSTEM</p> <p>There will be digital, dual radio interface, intercom located in location 5 per IP layout in the cab. The front panel will have master volume, and squelch controls with illuminated indicators, allowing for independent level setting of radio and auxiliary audio devices.</p> <p>There will be two (2) radio listen only / transmit controls, allowing for simulcast interoperability with select, monitor, receive, and transmit indicators. There will be two (2) auxiliary audio inputs with select, and receive indicators.</p> <p>Headset jacks will be provided for the driver, officer, and two (2) crew positions located at both forward facing seats.</p> <p>The following Firecom components will be provided:</p> <ul style="list-style-type: none"> One (1) 5200D Intercom Four (4) HM-10 Interior headset jacks All necessary power and station cabling
0657152	Cable, Radio to Intercom Interface, Firecom, 2 Radios	<p>RADIO / INTERCOM INTERFACE CABLE</p> <p>The apparatus manufacturer will supply and install two (2) radio interface cables before delivery of the vehicle.</p> <p>The radio equipment to be used by the customer will be:</p> <ul style="list-style-type: none"> Make of First Radio: Motorola High Power, Model Number: Motorola APX Series. Make of Second Radio: Kenwood, Model Number: NX.

0681384	Headset, Firecom, UH-52 Under Helmet, Intercom Only	UNDER THE HELMET HEADSET, INTERCOM ONLY There will be two (2) Firecom™, Model UH-52, under helmet, intercom only headset(s) provided driver's side outboard forward facing seat and passenger's side outboard forward facing seat. Each headset will feature: Coiled cord with rugged angled plug Noise cancelling electric microphone Flex boom for left or right dress Adjustable volume control ComLeather ear seals with 24 dB noise reduction Intercom Push To Talk button
0681389	Headset, Firecom, UH-51 Under Helmet, Radio Transmit	UNDER THE HELMET HEADSET, RADIO TRANSMIT There will be two (2) Firecom™, Model UH-51, under helmet, radio transmit headset(s) provided driver's seat and officer seat. Each headset will feature: Coiled cord with rugged angled plug Noise cancelling electric microphone Flex boom rotates for left or right dress Adjustable volume control ComLeather ear seals with 24 dB noise reduction Radio Push To Transmit button. Mic is always live for intercom communication
0681408	Hangers For Headsets, NFPA, Each	HEADSET HANGERS There will be four (4) headset hanger(s) installed driver's seat, officer's seat, driver's side outboard forward facing seat and passenger's side outboard forward facing seat. The hanger(s) will meet NFPA 1901, Section 14.1.11, requirement for equipment mounting.
0793529	SP Dash Switch, Firecom, Push-To-Talk	PUSH-TO-TALK DASH SWITCH There will be one (1) FireCom, DM-1, Push-To-Talk dash mounted switch(s) provided and located Officer side, mounted to mounting plate. Final location TBD at Final Inspection.
0736417	Install Customer Provided Two-Way Radio(s), Single Remote Head	TWO WAY RADIO INSTALLATION There will be two (2) customer supplied two way radio(s) with a single remote head sent to the apparatus manufacturers preferred radio installer to be installed Transceivers RS overhead rear facing cabinet per the shipping document. The remote radio head will be located per IP layout . No antenna mount or whip will be included in this option. Specific shipping requirements will be followed.
0699100	Install Customer Provided Key Storage, Knox Box, in Cab	KNOX-BOX® There will be one (1) Knox-Box(s) sent to the apparatus manufacturers preferred installer and installed at TBD at Approval Visit, but Officer Dash area, will be marked on IP Layout. Specific shipping requirements will be followed. A "technician's key" will be provided by the customer for each Knox Box. The box cannot be installed without a compatible technician's key.
0616382	Install Customer Provided GPS/Multimode Antenna(s)	GPS / MULTIMODE ANTENNA INSTALLATION There will be one (1) customer supplied GPS / Multimode antenna(s) with stud mount for thick roof material to be installed on the roof. The antenna coax cable(s) will be run per the packing list / instructions provided to the third party installer. Specific shipping requirements will be followed. The GPS / Multimode antenna will be sent to the apparatus manufacturers preferred installer prior to cab fabrication.
0640003	Install Customer Provided Modem	MOBILE RADIO MODEM INSTALLATION There will be one (1) customer supplied modem(s) sent to the apparatus manufacturers preferred installer to be installed Behind Officer seat. Specific shipping requirements will be followed.
0597940	Install Customer Provided Two-Way Radio Speaker(s)	TWO WAY RADIO SPEAKER INSTALLATION There will be two (2) customer supplied two way radio speakers sent to the apparatus manufacturers preferred third party installer to be installed TBD at Approval Visit. Specific shipping requirements will be followed.
0559185	Install Customer Provided Handlight Charger(s)	HANDLIGHT CHARGER INSTALLATION There will be six (6) customer supplied handlight chargers(s) sent to the apparatus manufacturers preferred installer to be installed TBD at Approval Visit, most likely match Job #35889. Specific shipping requirements will be followed.

0559503	Install Customer Provided, Portable Radio Charger(s)	<p>PORTABLE RADIO CHARGER INSTALLATION</p> <p>There will be four (4) customer supplied portable two-way radio chargers(s) sent to the apparatus manufacturers preferred radio installer to be installed TBD at Approval Visit. Most likely match #35889 (2) centered on engine tunnel mounting plate, 24" rear of the center dash area switch panel housing the Aux Pump Control. (1) mounted on top each of EMS compartment aft of Lighthawk box light, (1) each com. Specific shipping requirements will be followed.</p>
0660489	Antenna Mount, Custom Chassis, Fill in Blank Mounting and Cable Locations	<p>RADIO ANTENNA MOUNT</p> <p>There will be three (3) standard 1.125", 18 thread, NMO type antenna mounting base(s) installed on the raised roof portion on the cab roof with high efficiency, low loss, coaxial cable(s) routed within the cab / crew area to to the passenger side rear facing crew cab overhead radio compartment . A weatherproof cap will be installed on the mount.</p>
0653526	Camera, Pierce, LS Mux, R, Camera	<p>VEHICLE CAMERA SYSTEM</p> <p>There will be a color vehicle camera system provided with the following:</p> <p>One (1) camera located at the rear of the apparatus, pointing rearward, displayed automatically with the vehicle in reverse</p> <p>The camera images will be displayed on the left side vehicle information center display. Audio from the microphone on the active camera will be emitted by an amplified speaker with volume control located behind the driver seat.</p> <p>The following components will be included:</p> <p>One (1) SV-CW134639CAL, camera</p> <p>One (1) amplified speaker (if applicable)</p> <p>All necessary cables</p>
0814831	Camera, Switcher, Not Required, Camera Switcher	<p>CAMERA SWITCHER</p> <p>A camera switcher is not required.</p>
0523921	Recess, Rear Vision Camera	<p>RECESS REAR CAMERA</p> <p>A rear camera recess will be provided in the center at the rear .</p>
0896458	Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT	<p>ELECTRICAL POWER CONTROL SYSTEM</p> <p>The primary power distribution will be located forward of the officer's seating position and be easily accessible while standing on the ground for simplified maintenance and troubleshooting. Additional electrical distribution centers will be provided throughout the vehicle to house the vehicle's electrical power, circuit protection, and control components. The electrical distribution centers will be located strategically throughout the vehicle to minimize wire length. For ease of maintenance, all electrical distribution centers will be easily accessible. All distribution centers containing fuses, circuit breakers and/or relays will be easily accessible. Distribution centers located throughout the vehicle will contain battery powered studs for supplying customer installed equipment thus providing a lower cost of ownership. Circuit protection devices, which conform to SAE standards, will be utilized to protect electrical circuits. All circuit protection devices will be rated per NFPA requirements to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers will be Type-I automatic reset (continuously resetting). When required, automotive type fuses will be utilized to protect electronic equipment. Control relays and solenoid will have a direct current rating of 125 percent of the maximum current for which the circuit is protected per NFPA.</p> <p>Solid-State Control System</p> <p>A solid-state electronics based control system will be utilized to achieve advanced operation and control of the vehicle components. A fully computerized vehicle network will consist of electronic modules, electronic control modules to include black housings, a power indicator and status indicator located near their point of use to reduce harness lengths and improve reliability. The control system will comply with SAE J1939-11 recommended practices.</p> <p>The control system will operate as a master-slave system whereas the main control module instructs all other system components. The system will contain patented Mission Critical software that maintains critical vehicle operations in the unlikely event of a main controller error. The system will utilize a Real Time Operating System (RTOS) fully compliant with OSEK/VDX™ specifications providing a lower cost of ownership.</p> <p>For increased reliability and simplified use the control system modules will include the following attributes:</p> <ul style="list-style-type: none"> Green LED indicator light for module power Red LED indicator light for network communication stability status Control system self test at activation and continually throughout vehicle operation No moving parts due to transistor logic Software logic control for NFPA mandated safety interlocks and indicators Integrated electrical system load management without additional components Integrated electrical load sequencing system without additional components Customized control software to the vehicle's configuration Factory and field programmable to accommodate changes to the vehicle's operating parameters <p>To assure long life and operation in a broad range of environmental conditions, the solid-state control system modules will meet the following specifications:</p> <ul style="list-style-type: none"> Module circuit board will meet SAE J771 specifications Operating temperature from -40C to +70C Storage temperature from -40C to +70C Vibration to 50g IP67 rated enclosure (Totally protected against dust and also protected against the effect of temporary immersion between 15 centimeters and one (1) meter) Operating voltage from eight (8) volts to 32 volts DC <p>The main controller will activate status indicators and audible alarms designed to provide warning of problems before they become critical.</p>

Circuit Protection and Control Diagram

Copies of all job-specific, computer network input and output (I/O) connections will be provided with each chassis. The sheets will indicate the function of each module connection point, circuit protection information (where applicable), wire numbers, wire colors and load management information.

On-Board Electrical System Diagnostics

The on-board information center will include the following diagnostic information:

Text description of active warning or caution alarms

Simplified warning indicators

Amber caution indication with intermittent alarm

Red warning indication with steady tone alarm

Advanced diagnostic feature will be provided in this control system. From the Command Zone display or connected wireless device, these features allow the user to monitor the real-time status of every input or output on the vehicle. It also allows users logged in as an administrator to force on inputs or outputs to assist the troubleshooting process.

TCU Module with WiFi

An in cab module will provide WiFi wireless interface and data logging capability. The WiFi interface will comply with IEEE 802.11 b/g/n capabilities while communicating at 2.4 Gigahertz. The module will communicate through a white WiFi antenna allowing a line of site communication range of up to 300 feet with a roof mounted antenna.

The module will transmit a password protected web page to a WiFi enabled device (i.e. most smart phones, tablets or laptops) allowing two levels of user interaction. The firefighter level will allow vehicle monitoring of the vehicle and firefighting systems on the apparatus. The technician level will allow diagnostic access to inputs and outputs installed on the Command Zone™, control and information system.

The TCU capability will record faults from the engine, transmission, ABS and Command Zone™, control and information systems as they occur. No other data will be recorded at the time the fault occurs. The data TCU will provide up to 2 Gigabytes of data storage.

The TCU will provide a means to download the TCU information and update software in the device.

Indicator Light and Alarm Prove-Out System

A system will be provided which automatically tests basic indicator lights and alarms located on the cab instrument panel.

Voltage Monitor System

A voltage monitoring system will be provided to indicate the status of the battery system connected to the vehicle's electrical load. The system will provide visual and audible warning when the system voltage is below or above optimum levels.

The alarm will activate if the system falls below 11.8 volts DC for more than two (2) minutes.

Dedicated Radio Equipment Connection Points

There will be three (3) studs provided in the primary power distribution center located in front of the officer for two-way radio equipment. The studs will consist of the following:

12-volt 40-amp battery switched power

12-volt 60-amp ignition switched power

12-volt 60-amp direct battery power

There will also be a 12-volt 100-amp ground stud located in or adjacent to the power distribution center.

EMI/RFI Protection

To prevent erroneous signals from crosstalk contamination and interference, the electrical system will meet, at a minimum, SAE J551/2, thus reducing undesired electromagnetic and radio frequency emissions. An advanced electrical system will be used to ensure radiated and conducted electromagnetic interference (EMI) or radio frequency interference (RFI) emissions are suppressed at their source.

The apparatus will have the ability to operate in the electromagnetic environment typically found in fire ground operations to ensure clean operations. The electrical system will meet, without exceptions, electromagnetic susceptibility conforming to SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter. The vehicle OEM, upon request, will provide EMC testing reports from testing conducted on an entire apparatus and will certify that the vehicle meets SAE J551/2 and SAE J1113/25 Region 1, Class C EMR for 10KHz-1GHz to 100 Volts/Meter requirements. Component and partial (incomplete) vehicle testing is not adequate as overall vehicle design can impact test results and thus is not acceptable by itself.

EMI/RFI susceptibility will be controlled by applying appropriate circuit designs and shielding. The electrical system will be designed for full compatibility with low-level control signals and high-powered two-way radio communication systems. Harness and cable routing will be given careful attention to minimize the potential for conducting and radiated EMI/RFI susceptibility.

0896456

Prognostics, Electrical System

ELECTRICAL SYSTEM PROGNOSTICS

There will be a software based vehicle tool provided to predict remaining life of the vehicles critical fluid and events.

The system will send automatic indications to the Command Zone™ information center and/or wireless enabled devices to proactively alert of upcoming service intervals.

Prognostics will include the following:

Engine oil and filter

Transmission oil and filter

0730603	Electrical System, Velocity ESP, Cummins, Paccar	<p>ELECTRICAL</p> <p>All 12-volt electrical equipment installed by the apparatus manufacturer will conform to modern automotive practices. All wiring will be high temperature crosslink type. Wiring will be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers will be provided which conform to SAE Standards. Wiring will be color, function and number coded. Function and number codes will be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors will be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.</p> <p>Electrical wiring and equipment will be installed utilizing the following guidelines: All holes made in the roof will be caulked with silicon. Large fender washers, liberally caulked, will be used when fastening equipment to the underside of the cab roof. Any electrical component that is installed in an exposed area will be mounted in a manner that will not allow moisture to accumulate in it. Exposed area will be defined as any location outside of the cab or body. Electrical components designed to be removed for maintenance will not be fastened with nuts and bolts. Metal screws will be used in mounting these devices. Also a coil of wire will be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work. Corrosion preventative compound will be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections will require this compound in the plug to prevent corrosion and for easy separation (of the plug). All lights that have their sockets in a weather exposed area will have corrosion preventative compound added to the socket terminal area. All electrical terminals in exposed areas will have silicon applied completely over the metal portion of the terminal. All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, will be furnished. Rear identification lights will be recessed mounted for protection. Lights and wiring mounted in the rear bulkheads will be protected from damage by installing a false bulkhead inside the rear compartments. An operational test will be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order. The results of the tests will be recorded and provided to the purchaser at time of delivery.</p>
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud	<p>BATTERY SYSTEM</p> <p>There will be six (6) 12 volt Stryten/Exide®, Model 31S950X3W, batteries that include the following features will be provided: 950 CCA, cold cranking amps 190 amp reserve capacity High cycle Group 31 Rating of 5700 CCA at 0 degrees Fahrenheit 1140 minutes of reserve capacity Threaded stainless steel studs Each battery case will be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover will be manifold vented with a central venting location to allow a 45 degree tilt capacity. The inside of each battery will consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.</p>
0008621	Battery System, Single Start, All Custom Chassis	<p>BATTERY SYSTEM</p> <p>There will be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p>MASTER BATTERY SWITCH</p> <p>There will be a master battery switch provided within the cab within easy reach of the driver to activate the battery system. An indicator light will be provided on the instrument panel to notify the driver of the status of the battery system.</p>
0123174	Battery Compartment, Imp/Vel	<p>BATTERY COMPARTMENTS</p> <p>The batteries will be stored in well-ventilated compartments that are located under the cab and bolted directly to the chassis frame. The battery compartments will be constructed of 3/16" steel plate and be designed to accommodate a maximum of three (3) group 31 batteries in each compartment. The compartments will include formed fit heavy-duty roto-molded polyethylene battery tray inserts with drains on each side of the frame rails. The batteries will be mounted inside of the roto-molded trays.</p> <p>JUMPER STUDS</p> <p>One (1) set of battery jumper studs with plastic color-coded covers will be installed on the battery box on the driver's side. This will allow enough room for easy jumper cable access.</p>
0812383	Charger, Sngl Sys, Kussmaul, Chief 091-266-12-40	<p>BATTERY CHARGER</p> <p>There will be a Kussmaul™, Chief Series Smart Charger 4012, product code 091-266-12-40, 40 amp battery charger with build-in touch screen display provided. The battery charger will be wired to the AC shoreline inlet through a junction box located near the battery charger.</p>
0814869	Location, Cab, Charger, Behind Driver Seat	<p>The battery charger will be located in the cab behind the driver seat.</p>

0811943	Panel, Remote Control, Kussmaul, Chief 091-266-RCP	<p>REMOTE CONTROL PANEL - BATTERY CHARGER There will be a Kussmaul™, Chief Series Smart Charger remote control panel, product code 091-266-RCP included.</p>
0814942	Location, Cab, Ind/Remote, Driver's Seat with Bracket	The battery charger indicator will be located near the driver's seat riser with special bracketry.
0016857	Shoreline, 20A 120V, Kussmaul Auto Eject, 091-55-20-120, Super	<p>AUTO EJECT FOR SHORELINE There will be one (1) Kussmaul™, Model 091-55-20-120, 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus. The shoreline inlet(s) will include red weatherproof flip up cover(s). There will be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting. The shoreline(s) will be connected to battery charger and shoreline receptacles. There will be a mating connector body supplied with the loose equipment. There will be a label installed near the inlet(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency</p>
0026800	Shoreline Location	The shoreline receptacle will be located on the driver side exterior of cab, behind crew cab door.
0745012	SP Cover, Protection Over Battery, Brushed Stainless Steel, Hinged, Imp/Vel	<p>BATTERY BOX COVERS Hinged covers will be fabricated and installed over the battery boxes for protection. The covers will be made out of brushed stainless steel and will be attached to the chassis with a stainless steel hinge. Rubber straps will be used to secure the covers in place.</p>
0647728	Alternator, 430 amp, Delco Remy 55SI	<p>ALTERNATOR A Delco Remy®, Model 55SI, alternator will be provided. It will have a rated output current of 430 amps, as measured by SAE method J56. The alternator will feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator will be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p>

ELECTRONIC LOAD MANAGER

An electronic load management (ELM) system will be provided that monitors the vehicles 12-volt electrical system, automatically reducing the electrical load in the event of a low voltage condition, and automatically restoring the shed electrical loads when a low voltage condition expires. This ensures the integrity of the electrical system.

For improved reliability and ease of use, the load manager system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load management tasks. Load management systems which require additional components will not be allowed.

The system will include the following features:

System voltage monitoring.

A shed load will remain inactive for a minimum of five minutes to prevent the load from cycling on and off.

Sixteen available electronic load shedding levels.

Priority levels can be set for individual outputs.

High Idle to activate before any electric loads are shed and deactivate with the service brake.

If enabled:

"Load Man Hi-Idle On" will display on the information center.

Hi-Idle will not activate until 30 seconds after engine start up.

Individual switch "on" indicator to flash when the particular load has been shed.

The information center indicates system voltage.

The information center, where applicable, includes a "Load Manager" screen indicating the following:

Load managed items list, with priority levels and item condition.

Individual load managed item condition:

ON = not shed

SHED = shed

SEQUENCER

A sequencer will be provided that automatically activates and deactivates vehicle loads in a preset sequence thereby protecting the alternator from power surges. This sequencer operation will allow a gradual increase or decrease in alternator output, rather than loading or dumping the entire 12 volt load to prolong the life of the alternator.

For improved reliability and ease of use, the load sequencing system will be an integral part of the vehicle's solid state control system requiring no additional components to perform load sequencing tasks. Load sequencing systems which require additional components will not be allowed.

Emergency light sequencing will operate in conjunction with the emergency master light switch.

When the emergency master switch is activated, the emergency lights will be activated one by one at half-second intervals. Sequenced emergency light switch indicators will flash while waiting for activation.

When the emergency master switch is deactivated, the sequencer will deactivate the warning light loads in the reverse order.

Sequencing of the following items will also occur, in conjunction with the ignition switch, at half-second intervals:

Cab Heater and Air Conditioning

Crew Cab Heater (if applicable)

Crew Cab Air Conditioning (if applicable)

Exhaust Fans (if applicable)

Third Evaporator (if applicable)

0783153

Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel

HEADLIGHTS

There will be four (4) JW Speaker®, Model 8800, 4" x 6" rectangular LED lights mounted in the front quad style, chrome housing on each side of the cab grille:

the outside light on each side will contain a part number 055***1 low beam module

the inside light on each side will contain a part number 055***1 high beam module

the headlights to include chrome bezels

The low beam lights will be activated when the headlight switch is on.

The high beam and low beam lights will be activated when the headlight switch and the high beam switch is activated.

0648425

Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF

DIRECTIONAL LIGHTS

There will be two (2) Whelen 600® series, LED combination directional/marker lights provided.

The lights will be located on the outside cab corners, next to the headlights.

The color of the lenses will be clear.

0620054

Light, Directional/Marker, Intermediate, Weldon 9186-8580-29 LED 2lts

INTERMEDIATE LIGHT

There will be two (2) Weldon, Model 9186-8580-29, amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light will double as a turn signal and marker light.

0648074

Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts

CAB CLEARANCE/MARKER/ID LIGHTS

There will be seven (7) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

Three (3) amber LED identification lights will be installed in the center of the cab above the windshield.

Two (2) amber LED clearance lights will be installed, one (1) on each outboard side of the cab above the windshield.

Two (2) amber LED marker lights will be installed, one (1) on each side above the cab doors.

0535157	Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 7Lts, PUC/HDRP	<p>REAR CLEARANCE/MARKER/ID LIGHTING</p> <p>There will be three (3) Truck-Lite®, Model 33050R, LED lights used as identification lights recessed and located at the rear of the apparatus per the following: As close as practical to the vertical centerline Centers spaced not less than 6.00" or more than 12.00" apart Red in color All at the same height</p> <p>There will be two (2) Truck-Lite, Model 33050R, LED lights recessed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following: To indicate the overall width of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the rear All at the same height</p> <p>There will be two (2) Truck-Lite, Model 33050R, LED lights recessed on the side of the apparatus as marker lights as close to the rear as practical per the following: To indicate the overall length of the vehicle One (1) each side of the vertical centerline As near the top as practical Red in color To be visible from the side All at the same height</p> <p>There will be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>There will be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p>
0804514	Lights, Tail, WIn M62BTT* Red Stop/Tail & M62T* Amber Dir Arw For Hsg	<p>REAR FMVSS LIGHTING</p> <p>The rear stop/tail and directional lighting included in the rear tail light housing will include the following: Two (2) Whelen®, Model M62BTT, 4.30" high x 6.70" wide x 1.40" deep brake/tail lights with red LEDs Two (2) Whelen, Model M62T, 4.30" high x 6.70" wide x 1.40" deep directional lights with amber LEDs. The directional lights will be set to Steady On (Arrow) flash pattern. The lens color(s) to be clear.</p>
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing	<p>There will be two (2) Whelen Model M62BU, LED backup lights provided in the tail light housing.</p>
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	<p>LICENSE PLATE BRACKET</p> <p>One (1) license plate bracket constructed of stainless steel will be provided at the rear of the apparatus. One (1) white LED light with chrome housing will be provided to illuminate the license plate. A stainless steel light shield will be provided over the light that will direct illumination downward, preventing white light to the rear.</p>
0556842	Bezels, WIn, (2) M6 Chrome Pierce, For mtg (4) WIn M6 lights	<p>LIGHTING BEZEL</p> <p>There will be two (2) Whelen, Model M6FCV4P, four (4) place chromed ABS housings with Pierce logos provided for the rear M6 series stop/tail, directional, back up, scene lights or warning lights.</p>
0589905	Alarm, Back-up Warning, PRECO 1040	<p>BACK-UP ALARM</p> <p>A PRECO, Model 1040, solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse will be provided. The device will sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.</p>
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	<p>CAB PERIMETER SCENE LIGHTS</p> <p>There will be four (4) Amdor, Model AY-LB-12HW020, 350 lumens each, 20.00" white LED strip lights provided, one (1) for each cab door. These lights will be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.</p>
0769559	Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	<p>PUMP HOUSE PERIMETER LIGHTS</p> <p>There will be two (2) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" LED weatherproof strip lights with brackets provided under the pump panel running boards, centered front to rear as much as possible, one (1) each side. The lights will be activated when the battery switch is on, and controlled by the same means as the body perimeter lights.</p>

0769560	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear Step	BODY PERIMETER SCENE LIGHTS There will be two (2) Amdor, Model AY-LB-12HW012, 190 lumens each, 12.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear. The perimeter scene lights will be activated when a switch within reach of the driver is activated and the parking brake is applied.
0896454	Enhanced Software for Perimeter Lts	ENHANCED SOFTWARE FOR PERIMETER LIGHTS All perimeter lights will be deactivated when the parking brake is released unless alternate control is selected. The cab and crew cab perimeter lights will remain on for ten (10) seconds for improved visibility after the doors closed.
0556337	Lights, Step, P25 LED at Rear Tailboard, 2lts Perm Lts	STEP LIGHTS There will be two (2) white LED step lights will be provided at the rear to illuminate the tailboard/step area. In order to ensure exceptional illumination, each light will provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light. These step lights will be actuated with the perimeter scene lights. All other steps on the apparatus will be illuminated per the current edition of NFPA 1901.
0776357	Light, Visor, Wln, 12V P*H2* Pioneer, Cnt Feature, 1st	12 VOLT LIGHTING There will be one (1) Whelen® Model P*H2*, 17,750 lumens 12 volt DC light(s) with a combination of flood and spot optics provided on the front visor, centered. The housing(s) painted parts of this light assembly to be white. The light(s) will be controlled by a switch at the driver's side switch panel. These light(s) may be load managed when the parking brake is applied.
0768059	Lights, Wln, PCPSM2* Pioneer, 12 VDC, 2nd	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, on the PS of the cab, high above the EMS compartment, match job #31593. The surface mount housing(s) will be provided with a chrome cover. The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the left side pump panel. The light(s) may be load managed when the parking brake is applied.
0768061	Lights, Wln, PCPSM2* Pioneer, 12 VDC, 1st	12 VOLT DC SCENE LIGHTS There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC powered light(s) with white LEDs installed on the cab located, on the DS of the cab, high above the EMS compartment, match job #31593. The surface mount housing(s) will be provided with a chrome cover. The light(s) will be activated by a switch at the driver's side switch panel and by a switch at the left side pump panel. The light(s) may be load managed when the parking brake is applied.
0766906	Lights, Wln, PCPSM1*, Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be two (2) Whelen® Model PCPSM1*, 10,444 lumens 12 volt DC surface mount light(s) installed on the body of the apparatus located, Rear of body, (1) each side, match location on previous truck #31593 location of Bracket scene lights. The light(s) will include black housing(s) with a chrome cover. The light(s) will be controlled by a switch at the driver's side switch panel and by a switch in a stainless steel cup located on the driver's side at the rear of the apparatus no more than 72.00" from the ground. The light(s) may be load managed when the parking brake is applied.
0763608	Lights, Wln, PCPSM2*, Pioneer, 12 VDC, 2nd	12 VOLT LIGHTING There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC surface mount light (s) installed on the body of the apparatus located, on the rear of the simulated side sheet on the ladder rack forward of the M9 light, match job #31593. The light(s) will include housing(s) with a chrome cover. The light(s) will be controlled by a switch at the left side pump panel and by the same control that has been selected for the passenger's side scene light(s). The light(s) may be load managed when the parking brake is applied.
0763610	Lights, Wln, PCPSM2*, Pioneer, 12 VDC, 1st	12 VOLT LIGHTING There will be one (1) Whelen® Model PCPSM2*, 16,000 lumens 12 volt DC surface mount light (s) installed on the body of the apparatus located, on the rear of the LS hatch compartment inboard of the rear M9 light, match job #31593. The light(s) will include housing(s) with a chrome cover. The light(s) will be controlled by a switch at the left side pump panel and by the same control that has been selected for the driver's side scene light(s). The light(s) may be load managed when the parking brake is applied.

0532358	Not Required, Deck Lights, Other Hose Bed & Rear Lighting	
0893593	Lights, Hose Bed, Below Alum Cvr, Dual LED Light Strips	<p>HOSE BED LIGHTS</p> <p>There will be white 12 volt DC LED light strips provided to light the hose bed area. Hose bed lights will meet the photometric levels listed in NFPA 1901 for Hose Bed lighting requirements. Light strip(s) will be installed below lower support tube on the left side of the hose bed cover. Light strip(s) will be installed below lower support tube on the right side of the hose bed cover. The lights will be activated when the hosebed cover is raised.</p>
0645677	Lights, Not Required, Rear Work, Alt. 12 Volt Lights At Rear Body	
0892720	Lights, Walk Surf, 3-P25 LED, Cargo Area, Overall Height Restrictions	<p>WALKING SURFACE LIGHT</p> <p>There will be three (3) Model P25 12 volt DC LED lights with chrome housing provided, in lieu of the standard lights, to illuminate the entire cargo area. These LED lights will be located on the surface of the front body side sheet to illuminate the cargo area. These lights will be activated when the body step lights are on.</p> <p>NOTE: These lights are used in lieu of the standard lights, due to an overall height restriction, with the body side sheets being the highest point of the apparatus.</p>
0022068	Switch, AM/FM Radio, On/Off on Driver's Side	<p>RADIO CUT OUT SWITCH</p> <p>An on/off switch will be provided on the driver's side for the AM/FM radio. The switch will allow the driver to disable the AM/FM radio when it is necessary to hear other communications.</p>
0518282	Pumper, PUC, Aluminum	
0554271	Body Skirt Height, 20"	
0519696	Tank, Water, 500 Gallon, Poly, Rectangle, Form Fitting, PUC	<p>WATER TANK</p> <p>Booster tank will have a capacity of 500 gallons and be constructed of UV stabilized ultra high impact polypropylene plastic by a manufacturer with a minimum of 20 years experience building tanks, is ISO 9001:2000 certified in all its manufacturing facilities, and has over 50,000 tanks in service.</p> <p>The booster tank will be a form-fitting design that serves to keep the tank height as low as possible. The tank will be no wider than 39" at the base to allow for greater compartment depth and no wider than 53" at the top.</p> <p>Tank joints and seams will be nitrogen welded inside and out.</p> <p>Tank will be baffled in accordance with NFPA Bulletin 1901 requirements.</p> <p>Baffles will have vent openings at both the top and bottom to permit movement of air and water between compartments.</p> <p>Longitudinal partitions will be constructed of .38" polypropylene plastic and will extend from the bottom of the tank through the top cover to allow for positive welding.</p> <p>Transverse partitions will extend from 4.00" off the bottom of the tank to the underside of the top cover.</p> <p>All partitions will interlock and will be welded to the tank bottom and sides.</p> <p>Tank top will be constructed of .50" polypropylene. It will be recessed .38" and will be welded to the tank sides and the longitudinal partitions.</p> <p>Tank top will be sufficiently supported to keep it rigid during fast filling conditions.</p> <p>Construction will include 2.00" polypropylene dowels spaced no more than 30.00" apart and welded to the transverse partitions. Two (2) of the dowels will be drilled and tapped (.50" diameter, 13.00" deep) to accommodate lifting eyes.</p> <p>A sump that will be sized dependent on the tank to pump plumbing will be provided at the bottom of the water tank.</p> <p>Sump will include a drain plug and the tank outlet.</p> <p>Tank will be installed in a fabricated cradle assembly constructed of structural steel.</p> <p>Sufficient crossmembers will be provided to properly support bottom of tank. Crossmembers will be constructed of steel bar channel or rectangular tubing.</p> <p>Tank will "float" in cradle to avoid torsional stress caused by chassis frame flexing. Rubber cushions, .50" thick x 3.00" wide, will be placed on all horizontal surfaces that the tank rests on.</p> <p>Stops or other provision will be provided to prevent an empty tank from bouncing excessively while moving vehicle.</p> <p>Mounting system to be approved by the tank manufacturer.</p>
0003405	Overflow, 4.00" Water Tank, Poly	<p>Fill tower will be constructed of .50" polypropylene and will be a minimum of 8.00" wide x 14.00" long.</p> <p>Fill tower will be furnished with a .25" thick polypropylene screen and a hinged cover.</p> <p>An overflow pipe, constructed of 4.00" schedule 40 polypropylene, will be installed approximately halfway down the fill tower and extend through the water tank and exit to the rear of the rear axle.</p>
0028104	Foam Cell Required	

0010011		Fill Dome Special Location	The water tank fill dome will be located as far foreword as possible, fill towers to be rotated to maximize storage area.
0626953	SP	Fill Dome, Foam, Special Location	The foam fill dome will be located foreword and near the cross divider, match #31593 .
0633066		Sleeve, Through Tank	SLEEVE, PLUMBING, THROUGH TANK Two (2) sleeves will be provided in the water tank for a 3.00" pipe to the rear.
0563034		Special Cradle, Modified For Through Body Receivers	
0553729		Not Required, Restraint, Water Tank, Heavy Duty	
0003429		Not Required, Direct Tank Fill	
0003424		Not Required, Dump Valve	
0048710		Not Required, Jet Assist	
0030007		Not Required, Dump Valve Chute	
0514778		Not Required, Switch, Tank Dump Master	
0597043		Body Height, PUC/HDRP	BODY HEIGHT The height of the body will be 92.00" from the bottom of the body to the top of the body.
0199241		Hose Bed, Aluminum, Pumper, PUC	HOSE BED The hose bed will be fabricated of .125"-5052 aluminum with a nominal 38,000 psi tensile strength. Flooring of the hose bed will be removable aluminum grating with the top surface corrugated to aid in hose aeration. The grating slats will be a minimum of 0.50" x 4.50" with spacing between slats for hose ventilation.
0723340		Unpainted/Brush Finished, Hose Bed, 3G PUC/HDRP	The hose bed walls will be unpainted and with a brushed finish.
0003481		Hose Bed Capacity, Special	Hose bed will accommodate (2) single stacked 100' 1.75" bundles, side by side, (1) 100' 2.5" bundle located behind the 1.75" bundles. 500' of 3" and 700' of 5".
0689089		Divider, Hose Bed, Unpainted, w/Handhold	HOSE BED DIVIDER Two (2) hosebed dividers will be furnished for separating hose. Each divider will be constructed of a .125" brushed aluminum sheet fitted and fastened into a slotted, 1.50" diameter radiused extrusion along the top, bottom, and rear edge. An oval opening will be provided near the rear of the divider to be used as a hand hold and aid in accessing the hose bed. Divider will be fully adjustable by sliding in tracks, located at the front and rear of the hose bed. Divider will be held in place by tightening bolts, at each end. Acorn nuts will be installed on all bolts in the hose bed which have exposed threads.
0049163		Notch Front Sheet and Lower Right Side Sheet, HLR	The right side body side sheet will be lowered to clear the special height ladder rack. The front body sheet will be notched to clear the ladder rack.
0626742	SP	Gap Enclosure, Hose Bed	ENCLOSURE IN HOSE BED An enclosure will be provided for the small gap at the base of the hose bay between the hose bed divider and the compartment on the RH side of hosebed side. The enclosure will be constructed of aluminum treadplate at the rear and hosebed grating at the top..
0655075		Side Sheet, Right Side, Moved Inboard	The right side hose bed side sheet will be moved out to the inboard edge of the body compartment.

0697047	Cover, Hose Bed, Alum Treadplate, Full Length, Special Split, Four Section, PUC	HOSE BED COVER	<p>A four (4) section full length hose bed cover, constructed of .125" bright aluminum treadplate will be furnished. The cover will be split into front and rear at the cross divider with each section having a left and right side. Each section will be attached with a full length stainless steel piano hinge. The sides will be slanted down.</p> <p>If access to the water tank fill tower is blocked by the hose bed cover, then a hinged door will be provided in it so that the tank may be filled without raising cover doors.</p> <p>The cover will be reinforced so that it can support the weight of a man walking on the cover.</p> <p>The cover is designed with the left cover opening first.</p> <p>Chrome grab handles and gas filled cylinders will be provided to assist in opening and closing the cover. A handrail is to be provided at the rear, in the center of the support, to assist in opening the cover.</p> <p>The hose bed cover will be connected to the Do Not Move Truck indicator. The light will be activated if the cover is not in the stowed position and the parking brake is released.</p>
0895367	SP Flap, Rear of Alum Hose Bed Cover, Two Piece, Vinyl, w/Spring Clips	HOSEBED END FLAP	<p>A pair of black vinyl flaps will be installed on the rear, one for each of the aluminum treadplate hose bed covers. The vinyl flap will be secured to the hose bed cover with quarter turn fasteners. Each vinyl flap will have (2) nylon tie down straps with spring clip and hook fasteners to secure the flaps at their base.</p>
0611509	Running Boards, Flip Out, PUC	RUNNING BOARDS	<p>A running board will be provided on each side of the front body to allow access to the backboard/crosslay storage area. The running boards will be designed with a grip pattern punched into .125" bright aluminum treadplate material providing support, slip resistance, and drainage.</p> <p>The runningboard will have a flip out section design that allows easier access to the full width equipment area above. The flip out section will be tied to the "do not move truck indicator" with a sensor when it is flipped out. There will be a latch provided that secures the flip out section when not in use.</p>
0775088	SP Tailboard, Folding, Space Saver - SA Ext, Hinged Two Piece 12" Bumper,PUC	TAILBOARD	<p>The tailboard will be designed as a space saving work platform provided at the rear of the body. The platform will fold up to reduce overall truck length, angle of departure, and create a clean safe working platform by keeping rain, snow, and ice off the platform during transit.</p> <p>The platform will be 35.50" wide x 21.00" deep. When folded up, the platform will be the lower section of the rear compartment door. The external surface of the platform will be covered in smooth aluminum. When folded down, the platform will provide an aluminum treadplate stepping surface with a rated capacity of 500 lb.</p>
		REAR BUMPER	<p>A two (2) piece rear bumper will be provided at the rear of the apparatus.</p> <p>The bumper will be a two (2) piece design, allowing the folding platform to operate in the center of the unit.</p> <p>The bumper will be fabricated from bright aluminum treadplate and be 12.00" in depth.</p> <p>Each piece of the bumper will be hinged to allow the piece to fold up if struck from beneath in an angle of departure scenario.</p>
0690029	Wall, Rear, Body Material, PUC, PUC Tanker, PRM, HDRP	REAR WALL, BODY MATERIAL, PUC	<p>The rear wall will be smooth and the same material as the body.</p> <p>The rear wall body material will be painted. Unpainted aluminum overlays will be provided to allow for chevron application and to provide continuously smooth rear wall panels.</p> <p>The outboard edges of the rear wall will be trimmed in polished stainless steel.</p>
0003531	Tow Bar, Under Tailboard	TOW BAR	<p>A tow bar will be installed under the tailboard at center of truck.</p> <p>Tow bar will be fabricated of 1.00" CRS bar rolled into a 3.00" radius.</p> <p>Tow bar assembly will be constructed of .38" structural angle. When force is applied to the bar, it will be transmitted to the frame rail.</p> <p>Tow bar assembly will be designed and positioned to allow up to a 30-degree upward angled pull of 17,000 lb, or a 20,000 lb straight horizontal pull in line with the centerline of the vehicle.</p> <p>Tow bar design will have been fully tested and evaluated using strain gauge testing and finite element analysis techniques.</p>

COMPARTMENTATION

The apparatus body will be built of aluminum construction using a minimum of 0.125" thick, 5052-H32 aluminum.

The body panel assembly will be constructed in a fixture and consist of formed sheet metal for the front and rear bulkheads, door frames, floors, ceilings, and back walls. These parts will be welded together to ensure greatest longevity with no visible welds in compartment interior. Welded construction will consist of 1.00" x 0.38" engineered plug weld holes that control the size, location, and the amount of weld required. The bodies will be assembled and welded from engineered prints that call out the size, location, and type of weld required.

In structural areas the sheet metal components will have flanges for welding. No butt joints will be allowed. Gussets and support posts will be provided for additional strength where needed.

The fender panel will be an integral part of the complete welded body assembly. All light and compartment holes are pre punched prior to construction to provide accuracy and rounded corners to prevent stress risers in the material.

Circular fender liners will be provided. For prevention of paint chips and ease of suspension maintenance the fender liners will be formed from brush finished 304L stainless steel, be unpainted, and removable for suspension maintenance.

Side compartment flooring will be of the sweep out design with the floor minimum of 1.00" higher than the compartment door lip.

Drip protection will be provided above the doors by means of aluminum extrusion, or formed bright aluminum treadplate.

The top of the compartment will be sheet metal and covered with bright aluminum treadplate rolled over the edges on the front, and rear. These covers will have the corners welded.

The aluminum treadplate covers will not make up the ceiling of the compartment.

All screws and bolts, which are not Grade 8, will be stainless steel and where they protrude into a compartment will have acorn nuts on the ends to prevent injury.

UNDERBODY SUPPORT SYSTEM

Due to the severe loading requirements of this pumper a method of body and compartment support suitable for the intended load will be provided.

The backbone of the body support system will begin with the chassis frame rails which is the strongest component of the chassis and is designed for sustaining maximum loads. The support system will include lateral frame rail extensions that are formed from 0.375" 80k high strength steel and bolted to the chassis frame rails with 0.625" diameter Grade 8 bolts.

The vertical and horizontal members of the frame rail extensions are to be reinforced with welded gussets and extend to the outside edge of the body. The lateral frame extensions will be electro-coated for superior corrosion resistance.

The floating substructure will be separated from the lateral frame extensions with neoprene elastomer isolators. These isolators will reduce the natural flex stress of the chassis from being transmitted to the body, and absorb road shock and vibration.

The isolators will have a broad load range, proven viability in vehicular applications, be of a fail safe design and allow for all necessary movement in three (3) transitional and rotational modes.

The neoprene isolators will be installed in a modified V three (3)-point mounting pattern to reduce the natural flex of the chassis being transmitted to the body. Two (2) 3.50" diameter isolators are provided at the front of the body near the centerline of the vehicle above the chassis frame. A minimum of eight (8) - 2.55" diameter isolators will be provided, two (2) under each front compartment and two (2) under each rear side compartment. A minimum of four (4) 3.50" diameter isolators will be provided under the rear compartment.

AGGRESSIVE WALKING SURFACE

All exterior surfaces designated as stepping, standing, and walking areas will comply with the required average slip resistance of the current NFPA standards. Documentation of the material meeting the standard will be provided at time of delivery.

LOUVERS

All body compartments will have a minimum of one (1) set of automotive style, dust resistant louvers pressed into a wall. The louvers will incorporate a one (1)-way rubber valve that provides airflow out of the compartment and prevents water and dirt from gaining access to the compartment. Compartments over the wheel will not have louvers.

TESTING OF BODY DESIGN

Body structural analysis will be fully tested. Proven engineering and test techniques such as finite element analysis and strain gauging have been performed with special attention given to fatigue life and structural integrity of the body and substructure.

The body will be tested while loaded to its greatest in-service weight.

The criteria used during the testing procedure will include:

Raising opposite corners of the vehicle tires 9.00" to simulate the twisting a truck may experience when driving over a curb.

Making a 90 degree turn, while driving at 20 mph to simulate aggressive driving conditions.

Driving the vehicle on at 35 mph on a washboard road.

Driving the vehicle at 55 mph on a smooth road.

Accelerating the vehicle fully, until reaching the approximate speed of 45 mph on rough pavement.

Evidence of the actual testing techniques will be made available upon request.

FEA will have been performed on all substructure components.

0518345

LS 177" Rollup, (1) 50" Fwd, (1) 52" Rr, FH/FD Frt&Rr, PUC

LEFT SIDE COMPARTMENTATION

The left side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The pump operator's panel will be located in this compartment. The partition to the right of the pump operator's panel will be 2.50" in width. The interior dimensions of the remaining space in this compartment will be 13.25" wide x 53.63" high x 26.00" deep. The clear door opening will be a minimum of 47.25" wide x 53.63" high.

A rollup door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 60.00" wide x 22.88" high x 26.00" deep. The clear door opening will be a minimum of 57.25" wide x 22.88" high.

A full height, rollup door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 51.75" wide x 54.63" high x 26.00" deep. The clear door opening will be a minimum of 49.25" wide x 54.63" high.**

The roll up door spool will be installed in a recess above the compartment ceiling. All compartments will include a drip pan below the roll of the door. The drip pan will be installed level with the compartment ceiling. The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0518346

RS 177" Rollup, (1) 50" Fwd, (1) 52" Rr, FH/FD Frt&Rr, PUC

RIGHT SIDE COMPARTMENTATION

The right side compartmentation will consist of three rollup door compartments.

A full height, rollup door compartment ahead of the rear wheels will be provided. The interior dimensions of this compartment will be 50.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 47.00" wide x 54.50" high.

A roll-up door compartment over the rear wheels will be provided. The interior dimensions of this compartment will be 60.00" wide x 23.00" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. The depth of the compartment will be calculated with the compartment door closed. The clear door opening of this compartment will be 57.00" wide x 23.00" high.

A full height, roll-up door compartment behind the rear wheels will be provided. **The interior dimensions of this compartment will be 52.00" wide x 54.50" high x 25.88" deep. The area behind the roll up door spool will be notched for exterior storage or larger capacity water tank tee. The depth of the compartment will be calculated with the compartment door closed. The compartment interior will be fully open from the compartment ceiling to the compartment floor and designed so that no permanent dividers are required between the upper and lower sections. The clear door opening of this compartment will be 49.00" wide x 54.50" high.**

The roll up door spool will be installed in a recess above the compartment ceiling. All compartments will include a drip pan below the roll of the door. The drip pan will be installed level with the compartment ceiling. The interior height of the compartments will be measured from the compartment floor to the ceiling. The depth of the compartments will be measured from the back wall to the inside of the door frame.

Closing of the doors will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.

0594005

Doors, Rollup, Amdor, Side Compartments

SIDE COMPARTMENT ROLLUP DOOR(S)

There will be six (6) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand rollup doors.

Door(s) will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.

Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.

The doors will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.

Bottom panel flange of rollup door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.

A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.

All injection molded rollup door wear components will be constructed of Type 6 nylon.

Each rollup door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.

The header for the rollup door assembly will not exceed 4.00".

A heavy-duty magnetic switch will be used for control of open compartment door warning lights.

0515270	Compt, Rear, Rollup, 32.50" FF, w/Space Saver, PUC/HDRP	<p>REAR COMPARTMENTATION</p> <p>A roll-up door compartment above the rear tailboard will be provided. the interior dimensions of this compartment will be 37.00" wide x 36.50" high x 25.88" deep in the lower 27.00" of the compartment and 15.00" deep in the remaining upper portion. The clear door opening will be a minimum of 33.88" wide x 26.63" high.</p> <p>A removable access panel will be furnished on the back wall of the compartment.</p> <p>The rear compartment will be open into the rear side compartments. The transverse opening will be a minimum of 22.00" wide x 27.50" high.</p> <p>A drip pan will be installed below the roll of the door. A guard will be installed behind the roll of the door. The interior height of the compartment will be measured from the floor to the ceiling. The depth of the compartment will be measured from the back wall to the inside of the door frame. Closing of the door will not require releasing, unlocking, or unlatching any mechanism and will easily be accomplished with one hand.</p>
0593961	Doors, Swing Tailboard/Amdor Rollup, Rear Compt, PUC	<p>ROLL-UP REAR COMPARTMENT DOOR</p> <p>The rear compartment will have a swing down tailboard as the lower section of the door and a roll door for the upper section. The door will be, double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™ brand roll-up doors. The door will be constructed using 1.00" extruded double wall aluminum slats which will feature a flat smooth interior surface to provide maximum protection against equipment hang-up. The slats will be connected with a structural driven ball and socket hinge designed to provide maximum curtain diaphragm strength. Mounting and adjusting the curtain will be done with a clip system that connects the curtain to the balancer drum allowing for easy tension adjustment without tools. The slats will be mounted in reusable slat shoes with positive snap-lock securement.</p> <p>Each slat will incorporate weather tight recessed dual durometer seals. One (1) fin will be designed to locate the seal within the extrusion. The second will serve as a wiping seal which will also allow for compression to prevent water ingress.</p> <p>The door will be mounted in a one (1)-piece aluminum side frame with recessed side seals to minimize seal damage during equipment deployment. All seals including side frames, top gutters and bottom panel are to be manufactured utilizing non-marring materials.</p> <p>Bottom panel flange of roll-up door will be equipped with two (2) cut-outs to allow for easier access with gloved hands.</p> <p>A stainless steel lift bar to be provided for opening the door and located at the bottom of each door with latches on the outer extrusion of the door frame. A ledge to be supplied over lift bar for additional area to aid in closing the door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals.</p> <p>All injection molded roll-up door wear components will be constructed of Type 6 nylon.</p> <p>The door will have a 3.00 inch diameter balancer/tensioner drum to assist in lifting the door.</p> <p>The header for the roll-up door assembly will not exceed 4.00".</p> <p>A heavy-duty magnetic switch will be used for control of open compartment door warning lights.</p>
0659353	Lights, Compt, Amdor AY-9220 LED, Dual Lt Strip	<p>COMPARTMENT LIGHTING</p> <p>There will be nine (9) compartments with Amdor, Model AY-9220, white 12 volt DC LED compartment light strips. The lights will be mounted with mechanical fasteners.</p> <p>There will be two (2) strip lights installed vertically in each compartment opening per the latest NFPA requirements.</p> <p>The lights will be activated when the battery switch is on and the respective compartment door is opened.</p>
0659222	Lights, Hatch Compt, Amdor AY-9220 -48, LED, Light Strips, IPOS, Each	<p>COMPARTMENT LIGHTING</p> <p>There will be three (3) hatch compartments that include Amdor, Model AY-9220-48, 48.00" white 12 volt DC LED compartment light strips. The hatch compartments will be All (3) three hatch compartments. The lights will be mounted with mechanical fasteners.</p> <p>The lights will be activated when the battery switch is on and the door is opened.</p>
0681405	177" Hatch, (2) Lift-up, 21" Wide, LS Only, PUC/HDRP	<p>HATCH COMPARTMENT</p> <p>A hatch compartment with two (2) lift-up, top opening hatch doors will be provided above the left side body compartments. The hatch compartment will extend the full length of the side body compartmentation x 21.00" wide x 22.00" maximum depth. The compartments will extend the full length of the side body compartmentation except for a 20.00" recessed step area at the rear of the compartment if the access is on that side.</p> <p>Sides of the hatch compartment will be constructed of the same material as the body and painted job color on the outside panels. A 2.00" tall formed aluminum painted to match the lower body color will be provided to cover the seam between the top of the body panel and the bottom of the hatch compartment. The vertical outboard seam at the center of the compartment will have a painted smooth weld. The top of the compartment will be constructed of bright aluminum treadplate.</p> <p>The top of the compartment will be constructed of bright aluminum treadplate.</p> <p>Two (2) lift-up, bright aluminum treadplate doors will be provided on the hatch compartment. Each door will have a lever handle with a slam style latch to hold the doors in the closed position. These double pan doors will have lipped edges with a rubber seal for weather resistance. The doors will be hinged on the outboard side and will be held open with pneumatic stay arms. The compartment will have a 3/4" drain that extends to below the body.</p> <p>Black Turtle Tile mattin shall be provided to help prevent stored equipment in pooled water. will be provided on the compartment floor to stop wet equipment from sitting in water pools.</p>

0733406		Handrails, Hatch Step Area, (1) Curved & (1) Straight	Handrails will be provided at the step area to the rear of the hatch compartment. One (1) curved handrail will be mounted on the outboard side of the step area at the rear and curve over the top. One (1) straight handrail will be mounted vertically along the inboard side of the step area.
0681403		Lights, Hatch Compt, LED Strip Light, 177", One Side	HATCH COMPARTMENT LIGHTING There will be LED strip lights mounted full length on the interior, hinged side of the hatch compartment. Opening the hatch compartment door will automatically turn the hatch compartment lighting on.
0687145		Shelf Tracks, Recessed, PUC/3rd Generation	MOUNTING TRACKS There will be recessed tracks installed vertically to support the adjustable shelf(s). Tracks will not protrude into any compartment in order to provide the greatest compartment space and widest shelves possible. The tracks will be provided in each compartment except for the one that contains the pump operator's panel.
0600350		Shelves, Adj, 500 lb Capacity, Full Width/Depth, Predefined Locations	ADJUSTABLE SHELVES There will be three (3) shelves with a capacity of 500 lb provided. The shelf construction will consist of .188" aluminum painted spatter gray with 2.00" sides. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location(s) will be in RS1 in the upper third, in LS1 in the upper third to the left of the partition and in LS2 in the lower third to the left of the partition.
0781498	SP	Shelves, Adjustable, 500 lb Capacity, Full Width/Special Depth, 3G	ADJUSTABLE SHELVES There will be one (1) shelf, with a capacity of 500 lb provided. The shelf construction will consist of .188" thick aluminum painted spatter gray with 2.00" sides. Each shelf will as wide as the compartment space will allow. The tray will be (1) shelf in P3 lower to be 14" deep full width in depth. Each shelf will be infinitely adjustable by means of a threaded fastener, which slides in a track. The shelves will be held in place by .12" thick stamped plated brackets and bolts. The location will be (1) P3 lower (just above floor tray).
0782252	SP	Tray, 500 lb Slide-out, 2" Sides - Adj. Height, Full Width/Full Depth	SLIDE-OUT ADJUSTABLE HEIGHT TRAY There will be five (5) slide-out trays provided. Each tray will have 2.00" high sides and a capacity rating of up to 500 lb in the extended position. Each tray will be designed to be as wide and deep as the compartment space will allow. Each tray will be constructed of aluminum painted spatter gray. Each tray will be mounted on a pair of side mounted slides. The slide mechanisms will have ball bearings for ease of operation and years of dependable service. The slides will be mounted to shelf tracks to allow the tray to be adjustable up and down within the designated mounting location. An automatic lock will be provided for both the in and out tray positions. The lock trip mechanism will be located at the front of the tray and will be easily operated with a gloved hand. The tray(s) will be located (2) in D3 upper, (1) D1 centered to the left of the partition, (1) P1 on HLR blister, (1) P3 centered (just above special depth shelf).
0601834		Tray, 215 lb, Tilt/Slide-Out, 30 Deg, Adj, Max Width/Depth, 3G	SLIDE-OUT/TILT-DOWN TRAY There will be four (4) slide-out trays provided. The bottom of each tray will constructed of 0.188" thick aluminum while special aluminum extrusions will be utilized for the tray sides, ends, and tracks. The corners will be welded to form a rigid unit. Each tray will be as wide and as deep as the compartment space will allow. The shelf will be aluminum painted spatter gray to match compartment interior . A spring loaded lock will be provided on each side at the front of the tray. Releasing the locks will allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. The tray will be equipped with ball bearing rollers for smooth operation. Rubber padded stops will be provided for the tray in the extended positions. The capacity rating of the tray will be a minimum of 215 lb in the extended position. The vertical position of the tray within the compartment will be adjustable. The tray(s) will be located (1) D2 to the right of the partition, (1) in P1 upper area, (1) in P2 upper area, (1) in P3 upper area .

0647043		Tray, Floor Mounted, Slide-Out, Full Width/Full Depth, 500lb, 2.00" Sides, 3G	<p>SLIDE-OUT FLOOR MOUNTED TRAY</p> <p>There will be six (6) floor mounted slide-out tray(s) with 2.00" sides provided P1, P2, P3, R1, D1 left of partition, and D1 right of partition. Each tray will be rated for up to 500lb in the extended position. The tray(s) will be constructed of .19" aluminum with non-welded corners. The finish will be painted spatter gray.</p> <p>The trays will be designed for maximum compartment width and depth.</p> <p>There will be two undermount-roller bearing type slides rated at 250lb each provided. The pair of slides will have a safety factor rating of 2.</p> <p>To ensure years of dependable service, the slides will be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slides will require no more than a 50lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file will have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition.</p> <p>Proof of compliance will be provided upon request.</p> <p>Automatic locks will be provided for both the "in" and "out" positions. The trip mechanism for the locks will be located at the front of the tray for ease of use with a gloved hand.</p>
0679241		Toolboard, Alum, Adj, .188", No Holes, Added to Slide-Out Tray	<p>TOOL BOARD</p> <p>An aluminum tool board will be provided.</p> <p>It will be a minimum of .188" thick.</p> <p>A 1.00" x 1.00" aluminum tube frame will be welded to the edge of the board. A handhold will be provided.</p> <p>The board will be installed on adjustable tracks on a slide out tray. The tracks will allow side to side adjustment. The board will be as high as space permits and full length of the tray. The tray is not included in this option.</p> <p>There will be Two (2) toolboard(s) provided, spatter gray painted, and installed D3 upper slide out tray, 18" tall, D1 floor mounted slide out tray (right of partition) maximum height.</p>
0726412		Partition, Trans Rear Compt, PUC/HDRP	<p>PARTITION, TRANSVERSE REAR COMPARTMENT</p> <p>Two (2) partitions will be bolted in place to separate the left and right side rear compartments from the rear tailboard compartment. The partition will be body material painted spatter gray.</p>
0721316		Partition, Vertical Compt, Special Location	<p>VERTICAL COMPARTMENT PARTITION</p> <p>two (2) vertical partition(s) will be provided in the LS1 and LS2 compartment LS1 - full-height located 32" from front bulkhead, LS2 full height located 20" from front bulkhead.</p> <p>The partition construction will consist of body material painted spatter gray.</p>
0774780	SP	Access Door, Compartment Wall, Special	<p>ACCESS DOOR</p> <p>A vertically hinged brushed stainless steel door with a flush lift and turn latch will be provided in the RS3, LS3 compartment(s). This door will be large enough to provide access to the hitch receiver pin area and provide access to RS3, LS3. The door shall be hinged along the inboard edge.</p> <p>A total quantity of two (2) access door(s) will be provided.</p>
0780129	SP	Alum, 3/16", Side Wall Compt, w/Track	<p>ALUMINUM MOUNTING PLATE</p> <p>Two (2) horizontally installed uni-strut channels, with .19" aluminum will be installed on the side wall of two (2) compartments. The aluminum will be unpainted with a DA finish. The locations are D1 rear bulkhead (to the rear of the slide out toolboard).</p> <p>Retainers will be used to mount the aluminum to the channels.</p>
0625280		Trim, Body/Crosslay Seams, Painted Aluminum, PUC	<p>BODY TRIM PIECE</p> <p>Painted aluminum trim will be provided on the horizontal body/crosslay seams. The trim piece will be bonded to the painted surface with a high viscosity adhesive.</p>
0774825	SP	Compt, Hatch/Long Tool, Inboard, RS,177", (1) Spcl Size Rr Access Door,14"W,PUC	<p>HATCH/LONG TOOL COMPARTMENT</p> <p>A hatch/long tool compartment with one flat (1) lift-up, top opening hatch door on the forward section will be provided above the right side body compartment inboard of a center side sheet. The compartment will extend the full length of the side body compartmentation x 14.00" wide x 22.00" maximum depth.</p> <p>The sides of the compartments will be constructed of the same material as the body and painted job color on the outside panels.</p> <p>The top of the compartment will be constructed of bright aluminum treadplate.</p> <p>A vertically hinged brushed stainless steel door hinged along the outboard edge with a lift and turn latch will be provided at the rear of the compartment. The access door will be as large as possible.</p> <p>The compartment will have a 3/4" drain that extends to below the body.</p> <p>Ribbed rubber matting will be provided on the compartment floor to stop wet equipment from sitting in water pools.</p>

0006118		Matting, Dri-Deck w/Bevel, Compt Floor only	<p>MATTING, COMPARTMENT FLOOR</p> <p>Dri-Deck rubber compartment matting will be provided in two (2) compartments on the compartment floor. The locations are, D2 & D3.</p> <p>The Dri-Deck will be black and .562" thick with holes in the decking to allow air to flow. The leading edge of the matting will include the beveled edge.</p>
0028022		Matting, Dri-Deck Shelving Only	<p>MATTING, COMPARTMENT SHELVING</p> <p>Dri-Deck rubber compartment matting will be provided in 19 shelves. The locations are, all shelves and trays.</p> <p>The Dri-Deck will be black and .562" thick with holes in the decking to allow air to flow.</p>
0544203		Matting, Turtle Tile, Hatch Compt Floor, Each	<p>MATTING, FLOOR OF HATCH COMPARTMENT</p> <p>There will be Turtle Tile compartment matting provided on the floor of the designated hatch compartment(s).</p> <p>The color of Turtle Tile matting will be black.</p> <p>The Turtle Tile matting will be provided on the floor of a total of three (3) hatch compartment(s) located in all hatch compartment surface areas.</p>
0062439		Hitch, Receiver, Sides, Through Body, Pumper	<p>HITCH RECEIVER</p> <p>A hitch receiver will be installed at each side of the apparatus in front of the rear wheels through the body.</p> <p>The side hitch receivers will be constructed of heavy steel tubing and reinforced to the truck framework. The side hitch receivers will be capable of retaining a 6,000 or 9,000 pound portable winch.</p> <p>Slide-in portion will be held in place by one (1) safety pin with clip.</p> <p>A vertically hinged, single pan, painted stainless steel door with a flush lift and turn latch will be provided over each receiver opening.</p>
0696957		Hitch, Receiver, Sides, Under Body	<p>HITCH RECEIVER</p> <p>A hitch receiver will be installed at each side of the apparatus behind the rear wheels under the compartments.</p> <p>The side hitch receivers will be constructed of heavy steel tubing and reinforced to the truck framework.</p> <p>The side hitch receivers will be capable of retaining a 6,000 or 9,000 lb portable winch.</p> <p>Slide-in portion will be held in place by one (1) safety pin with clip.</p>
0785471	SP	Shelf Track, T-Slot/3G, Special Height	<p>SPECIAL HEIGHT T-SLOT TRACK</p> <p>The T-slot shelf track(s) provided P3 lower area will be 30.00" in height from the ceiling.</p>
0063064		Rub Rail, Aluminum Extruded, Side of Body, 3rd Gen Body	<p>RUB RAIL</p> <p>Bottom edge of the side compartments will be trimmed with a bright aluminum extruded rub rail. Trim will be 3.12" high with 1.50" flanges turned outward for rigidity.</p> <p>The rub rails will not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p>Rub rails will be attached with bolts and spaced from the body with isolators that will help to absorb any moderate impact without damaging the body.</p>
0515441		Fender Crowns, Rear, S/S, W/Removable Fender Liner, Pumper, 3G	<p>BODY FENDER CROWNS</p> <p>Polished stainless steel fender crowns will be provided around the rear wheel openings.</p> <p>A fender liner constructed of painted to match the lower body color will be provided to avoid paint chipping. The liners will be removable to aid in the maintenance of rear suspension components.</p> <p>A dielectric barrier will be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.</p> <p>The fender crowns will be held in place with stainless steel screws that thread directly into a composite nut and not directly into the parent body sheet metal to eliminate dissimilar metals contact and greatly reduce the chance for corrosion.</p>
0521226	SP	Hose, Hard Suction, 3.0", 10.0', Clear Corrugated, w/2.5" Couplings, PUC	<p>HARD SUCTION HOSE</p> <p>Two (2) lengths of 3.00" clear corrugated PVC hard suction hose, 10' in length, will be provided. The hose will be equipped with a 2.50" NST long handle female coupling on one (1) end and a 2.50" NST rocker lug male coupling on the other end. Couplings will be hard coated aluminum.</p>
0611451		Trough, HSH, (2), Hatch Compt, Side By Side, Door, PUC	<p>HOSE TROUGHS</p> <p>A quantity of two (2) hard suction hose troughs will be provided inside the hatch compartment, mounted side by side, located on the left side.</p> <p>Troughs will be constructed of stainless steel.</p> <p>One (1) brushed stainless steel door with a D-handle latch and a gas strut hinged on the top, will be provided at the rear of the compartment.</p> <p>an aluminum floor above the length of the hard suction hose and a vertical partition the height of the compartment is provided in relation to the hard suction hose in the hatch compartment to allow for storage of additional equipment.</p>

0611527	Handrails Located @ Front Body, Hansen Knurled Alum LED Backlit	<p>HANDRAILS Hansen handrails will be located on the front of the body in positions needed to meet NFPA requirements. The handrails will be Hansen LED backlit knurled aluminum. The handrails will be lit with a blue LED light. The handrail lighting will be activated with the application of the parking brake. Chrome plated end stanchions will support the handrail. Plastic gaskets will be used between end stanchions and any painted surfaces. Drain holes will be provided in the bottom of all vertically mounted handrails.</p>
0625971	Handrails, Rear, Hansen Tubing, Knurled Aluminum, LED Backlit, PUC/HDRP	Two (2) vertical Hansen handrails will be located at the rear, one on each side of the rear compartment. The handrail will be knurled aluminum and backlit with a blue LED light. The hand rail will be activated with the application of the parking brake.
0000941	No Rear Hose Bed Handrail Required	
0622393	Compt, Air Pack Fender Panel	<p>AIR PACK STORAGE A total of one (1) air pack compartment(s) will be provided and located RS aft of axle. The air pack compartment(s) will be tapered to match the profile of the space available in the fender. The compartment(s) will be approximately 15.50" wide at the top and 5.00" wide at the bottom for the wheel cutout. The compartment(s) will be 15.50" tall at the body side compartment and 6.00" tall at the wheel cutout. The compartment(s) will be 26.00" deep and have a drain hole. Inside the compartment, black Dura-Surf friction reducing material glued to the floor will be provided. A brushed stainless steel hinged door with a chrome plated flush lift & turn latch will be provided to contain the air pack. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal.</p>
0654143	Compt, Air Bottle, Single, Tri Door (DEF/Fuel), Fender Panel	<p>AIR BOTTLE STORAGE (Single) A quantity of one air bottle compartment, approximately 7.50" wide x 7.50" tall x 26.00" deep, will be provided on the driver side rearward of the rear wheels. The triangular door will cover the air bottle opening, the DEF tank access, and fuel fill. The compartment will be square with angled corners. A brushed stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting will be provided. AIR BOTTLE COMPARTMENT STRAP A strap will be provided in the air bottle compartment to help contain the air bottle when the vehicle is parked on an incline. The strap will wrap around the neck and attach to the wall of the compartment.</p>
0657651	Compt, Air Bottle, Double, Fender Panel	<p>AIR BOTTLE STORAGE (Double) A quantity of two (2) air bottle compartments, 15.25" wide x 7.75" tall x 26.00" deep, will be provided on the left side forward of the rear wheels and on the right side forward of the rear wheels. A brushed stainless steel door with a chrome plated flush lift & turn latch will be provided to contain the air bottle. A dielectric barrier will be provided between the door hinge, hinge fasteners and the body sheet metal. Inside the compartment, black rubber matting and strap to contain the air bottles will be provided.</p>
0650780	Storage Bin, Extinguishers, Special Size, Strap	<p>EXTINGUISHER STORAGE BIN A storage bin will be provided for storage of hand held fire extinguishers. This storage bin will be installed LS1, Actual configuration TBD at Approval Visit. The bin will contain slots for storage of two (2) extinguishers. The slots for the extinguisher(s) within bin will be CLEAR INSIDE DIMENSIONS TO BE 8" wide x 8" high x 25" deep (note actual bottle dimensions are 24" tall and 7" diameter at the base). The storage bin will be formed out of aluminum with the floor of each slot lined with Dura-surf. A strap will be provided across the front of each slot to help contain the extinguisher. The slots within the bin will be configured 1 wide by 2 high.</p>
0004220	Ladder, 35' Duo-Safety 1225-A 3-Sect	<p>EXTENSION LADDER There will be a 35' three (3) section aluminum Duo-Safety Series 1225-A extension ladder provided.</p>
0635956	Ladder, 14' Duo-Safety 775-DR Roof	<p>ROOF LADDER There will be one (1) 14' aluminum, Duo-Safety, Series 775-DR roof ladder(s) provided. The ladder(s) will have roof hooks on both ends.</p>

0519654	Rack, Ladders, Hydraulic, Right Side, Air Clamps, PUC	<p>HYDRAULIC LADDER RACK Ground ladders will be mounted above the right side of the hose body in a specially designed swing-down cradle. This cradle will be electric/hydraulic operated. The system design will have been life cycle tested for dependable service. An independent hydraulic pump powered by a 12-volt electric motor will operate the hydraulics. The ladder rack will incorporate two hydraulic rotary actuators, one each located inside the front compartment and the rear compartment. The actuators will be completely enclosed within each compartment to eliminate any pinch points while operating the ladder rack. Lifting arms will be attached outside the compartment body to the front and rear actuator. The rack can be designed in certain situations to provide lifting capabilities up to 500 lb. The maximum height of the rack from the ground in the lowered position will be no more than 62.00". The electric control panel will have a master switch on/off switch, an actuation switch, an operation indicator light and operation instructions. The electric controls will be located at the rear bulkhead in such a manner to allow the operator full view of the area into which the ladders will be lowered. Two (2) air operated safety locks will be furnished to securely maintain the ladder bracket assembly in the travel position. These air operated safety locks will be controlled from the ladder rack control panel. A polished stainless steel enclosure shall be provided over the hydraulic ladder rack locks at the front and the rear on the right side to cover the ladder rack locks (2) and provide mounting for any rear warning lights. Ladders will be secured to the brackets with two (2) locks retaining the roof ladder and the extension ladder. The locks will be such that when the roof ladder is removed, the clamps can be moved a half turn to hold the extension ladder in place. LADDER RACK INTERLOCK AND NOT STOWED INDICATOR LIGHT An interlock will be provided to prevent operation of the ladder rack unless the apparatus parking brake has been activated. A steady red indicator light will be located on the cab instrument panel and illuminated when the hydraulic ladder rack is not in the stowed position. The light will be labeled "Ladder Rack". In addition, the "Do Not Move Apparatus" light located in the cab will be activated when the hydraulic ladder rack is not in the stowed position.</p>
0756375	Lights, Hyd Lad Rack Deployed, Truck-Lite 15****	<p>HYDRAULIC LADDER RACK DEPLOYED LIGHTS There will be two (2) Truck-Lite catalog number 15****, 1.20" high x 2.49" wide x 0.94" deep lights with chrome trim, amber flashing LEDs and provided per the following: One (1) light installed on the front of the hydraulic ladder rack One (1) light installed on the rear of the hydraulic ladder rack The warning light lens colors to be the same as the LEDs The lights will be activated when the battery switch is on and the hydraulic ladder rack is not in the stowed position.</p>
0733387	Ladder, 10' Duo-Safety Folding 585A	<p>FOLDING LADDER One (1) 10.00' aluminum, Series 585-A, Duo-Safety folding ladder will be installed.</p>
0732963	Trough, Folding Ladder, Long Tool Storage Comp In Upper Body	<p>FOLDING LADDER TROUGH A stainless steel trough for the folding ladder will be provided in the long tool storage compartment on the left side.</p>
0024499	Arm, Rear, Offset, Hydraulic Rack 2000, Recess Light	<p>The rear hydraulic rack arm will have an offset to not block the rear upper zone warning lights.</p>
0786863	Compartment, Ladder Rack Controls, Rear Bulkhead	<p>LADDER RACK CONTROL COMPARTMENT The controls for the hydraulic ladder rack will be recessed into the rear bulkhead in a compartment on the same side as the ladder rack. The controls will be accessed through a vertically hinged, smooth aluminum door with a Southco C2 chrome raised trigger lever latch. The door will be hinged along the inboard edge.</p>
0636053	SP Side Sheet, Simulated, Attached to Hyd Ladder Rack, Inline w/Body Edge	<p>SIDE SHEET SIMULATED A simulated side sheet will be attached to the side of the hydraulic ladder rack. The side sheet will be made out of a smooth material and painted job color. The simulated sheet's outboard edge will line up as closely as possible with the side body compartmentation.</p>
0564381	Hydraulic Pump, Ladder Rack, Special Location	<p>HYDRAULIC LADDER RACK PUMP LOCATION The hydraulic pump for the ladder rack will be located in pump house. An access door will be provided to fill the pump.</p>
0764360	SP Scuffplate, Brushed S/S, Top Edge of Ladder Rack Side Sheet	<p>SCUFFPLATES, STAINLESS STEEL A full length, brushed stainless steel scuffplate will be provided on top and inboard edge of the ladder rack sign panel to protect painted surfaces when removing or storing ladders.</p>

0810516	SP	Trough, Backboard, Crosslay Module	BACKBOARD STORAGE One (1) storage trough for storage of backboard(s) will be provided in the crosslay module. The backboard(s) will be configured vertically and located PUC Crosslay module aft of 2.5" Crosslay with Left side access only, trough to have a door within the crosslay module. The trough(s) will be accessed from both sides. The size of the backboard(s) to be stored will be 72.00" long x 24.00" wide x 3.00" high.
0802580	SP	Stokes Basket Storage, Trough, Hose Bed	STOKES BASKET STORAGE A storage trough constructed of smooth aluminum will be provided in the hose bed on the left side of the truck, Under LS hosebed cover, in the forward outboard corner. Match #31593. The trough will be sized for a stokes basket 44.00" long x 24.00" wide x 12.00" high. The basket will be held in place by Velcro® straps.
0557255		Pike Pole, 6' Fire Hooks Unlimited, New York Roof Hook, Steel, Pry End, RH-6	6' PIKE POLE Two (2) pike poles, Fire Hooks Unlimited, Model RH6, 6' long roof hook, with a steel handle and pry end will be provided and located in the pike pole storage compartment.
0638485		Pike Pole, 12' Nupla, Fiberglass, Featherlight, YPD-12	12' PIKE POLE One (1) pike pole, 12' long with a Nupla Featherlight fiberglass handle will be provided and located in the pike pole storage compartment.
0638595		Trash Hook, 6' Fire Hooks Unlimited, Fiberglass, TRH-6, w/D Handle	6' PIKE POLE Two (2) pike poles, 6' long trash hook(s), Fire Hooks Unlimited, Model TRH-6 with D-handle will be provided and located in the pike pole storage compartment.
0594888		Pike Pole, 8' Nupla, Featherlight, YPD-8	PIKE POLES There will be one (1) 8' Nupla pike pole(s), Featherlite provided.
0549137		Not Required, Pike Pole, 6'	
0769734	SP	Compt, Long Item Storage, In Upper Body (1) LS, Common Door, PUC	LONG ITEM STORAGE COMPARTMENT One (1) compartment will be provided, recessed in the upper, inside part of body compartment on the left side for storage of long handle tools. Access to the compartment will be utilize the ladder storage compartment door extending over both the long handle tool compartment and the ladder storage compartment.
0087631		Trough for D-Handled Pike Pole	PIKE POLE STORAGE Stainless steel U-shaped trough be used for the storage of two (2) pike poles, with D-handle style grip, will be provided and installed in the pike pole storage compartment.
0004361		Tubes, Alum, Pike Pole Storage	PIKE POLE STORAGE Aluminum tubing will be used for the storage of four (4) pike poles and will be located in ladder storage compartment. If the head of a pike pole can come in contact with a painted surface, a stainless steel scuffplate will be provided.
0774858	SP	Tubes, Alum, Long Tool Storage, 2" ID	LONG TOOL STORAGE Aluminum tubing will be used for the storage of two (2) long tool(s) and will be located in the DS folding ladder storage compartment. If the head of a long tool can come in contact with a painted surface, a stainless steel scuffplate will be provided. The interior diameter of the storage tubes will be 2.00". The tube will be 58" - tool is 61" long and needs to be spaced back so it can be accessed and the door can still close in length.
0637422	SP	Cable & Pin, Pike Pole Tubes	CABLE & PIN FOR PIKE POLE STORAGE There will be a stainless steel cable and pin on each end of one (1) pike pole tubes. The pins will be provided on the pike pole tubes located 4 pike pole tubes in PS long storage compartment.
0521734		No Steps Required, Front Of Body, PUC	

0515521	Ladder, Top Access, Alum, LH Rear, PUC/HDRP	<p>LADDER, TOP ACCESS A wide easy climbing access ladder, constructed of aluminum rungs and extruded aluminum rails, will be provided on the left side at the rear of the apparatus. The inside climbing area of the ladder will be 13.75" wide. The lower section of the ladder will be retractable into the upper section to eliminate interference with the rear FMVSS lights. When lowered the bottom rung will be lower than the body, approximately 16.00" to 20.00" from the ground to allow a lower first step height. The ladder will be slanted when in use for easy access, and fold against the body for storage to reduce the overall length. Corrosion resistant, stainless steel spring-loaded locks will hold the ladder in place. There will be a "do not move truck" indicator activated in the cab if the ladder is not in the stowed position when the parking brake is disengaged.</p>
0531223	SP I Zone Bracket, Pair	<p>I-ZONE BRACKETS Two (2) I-Zone brackets will be provided and mounted at the rear of the apparatus, high, to the left and right of R1. The brackets will be designed with adequate reinforcement to eliminate flexing of the body (oil canning) and not interfere with any of the rear facing lights when carrying hose. A removable pipe will be provided that will slide into the permanently mounted base.</p>
0515692	Pump Operators Panel, 31", Control Zone, PUC	<p>PUMP CONTROL PANELS (Left Side Control) Pump controls and gauges will be located midship at the left side of the apparatus and properly identified. The main pump operator's control panel will be completely enclosed and located in the forward section of the body compartment, to protect against road debris and weather elements. The pump operator's panels will be no more than 31.00" wide, and made in four (4) sections with the center section easily removable with simple hand tools. For the safety of the pump operator, there will be no discharge outlets or pump inlets located on the main pump operators panel. Layout of the pump control panel will be ergonomically efficient and systematically organized. The upper section will contain the master gauges. This section will be angled down for easy visibility. The center section will contain the pump controls aligned in two horizontal rows. The pressure control device, engine monitoring gauges, electrical switches, and foam controls (if applicable) will be located on or adjacent to the center panel, on the side walls for easy operation and visibility. The lower section will contain the outlet drains. Manual controls will be easy moving 8" long lever style controls that operate in a vertical, up and down swing motion. These handles will have a 2.25" diameter knob and be able to lock in place to prevent valve creep under any pressure. Bright finish bezels will encompass the opening, be securely mounted to the pump operator's panel, and will incorporate the discharge gauge bezel. Bezels will be bolted to the panel for easy removal and gauge service. The left side discharges will be controlled directly at the valve. There will be no push-pull style control handles. Identification tags for the discharge controls will be recessed within the same bezel. The discharge identification tags will be color coded, with each discharge having its own unique color. All remaining identification tags will be mounted on the pump panel in chrome-plated bezels. All discharge outlets will be color coded and labeled to correspond with the discharge identification tag. The pump panels for the midship discharge and intake ports will be located ahead of the body compartments with no side discharge or intake higher than the frame rail. The pump panels will be easily removable with simple hand tools. A recessed cargo area will be provided at the front of the body, ahead of the water tank above the plumbing.</p>
0520016	Not Required, Pumphouse Structure, PUC	
0556266	SP Divider, Cargo Area PUC, Spcl	<p>one (1) divider(s) will be furnished in the cargo area forward of the hosebed. The dividers will be located near the ladder rack in the cargo area to prevent things from sliding up against the ladder rack and then falling off of the truck when the ladders come down..</p>

PUMP

Pump will be a Pierce, low profile, 1500 gpm single stage midship mounted centrifugal type, mounted below the cab. The pump will have a 15 percent reserve capacity to allow for extended time between pump rebuild. To ensure efficient pump/vehicle design the capacity to weight ratio will not be less than 1.5:1.

The pump casing will consist of three (3) discharge outlets, one (1) to each side in line with the impeller and one (1) to the rear. The pump casing will incorporate two (2) water strippers to maintain radial balance.

Pump will be the Class A type.

Pump will be certified to deliver the percentage of rated discharge from draft at pressure indicated below:

100 percent of rated capacity at 150 psi net pump pressure

70 percent of rated capacity at 200 psi net pump pressure

50 percent of rated capacity at 250 psi net pump pressure

The pump will have the capacity to deliver the percentage of rated discharge from a pressurized source as indicated below:

135 percent of rated capacity at 100 psi net pump pressure from a 5 psi source

Pump body will be fine-grained gray iron. Pump will incorporate a heater/cooling jacket integral to the pump housing.

The impeller will be high strength vacuum cast bronze alloy accurately machine balanced and splined to a 10 spline stainless steel pump shaft for precision fit, exceptional durability, and efficiency. Double replaceable reverse flow labyrinth type bronze wear ring design will help to minimize end thrust. The impeller will be a twisted vane design to create higher lift.

The pump will include o-ring gaskets throughout the pump.

Deep groove radial type oversize ball bearings will be provided. The bearings will be protected at the openings from road dirt and water with an oil seal and a water slinger.

The pump will have a flat, patterned area on the top of the pump intake wye to allow standing for plumbing maintenance. The main inlet manifold will be 6.00" in diameter and will have a low profile design to facilitate low crosslays and high flows.

For ease of service, the pump housing, intake wye, impeller, mechanical seal, and gear case will be accessible from above the chassis frame by tilting the cab. Removal of the main inlet wyes will provide access to the impeller, mechanical seal, and wear ring.

The tank to pump line and the primary discharge line will be the only piping required to be removed for overhaul.

For ease of service and overhaul there will be no piping or manifolding located directly over the pump.

PUMP MOUNTING

Pump will be mounted to the chassis frame rails directly below the crew cab, to minimize wheelbase and facilitate service, using rubber isolators in a modified V pattern that include one (1) central mounted isolators located between the frame rails, and one (1) on each side outside the frame rails. The mounting will allow chassis frame rails to flex independently without damage to the fire pump. Each isolator will be 2.55" in total outside diameter and will be rated at 490 lb. The pump will be completely accessible by tilting the cab with no piping located directly above the pump.

MECHANICAL SEALS

Silicon carbide mechanical seals will be provided. The seals will be spring loaded and self-adjusting. The seals will have a minimum thermal conductivity of 126 W/m²K to run cooler. Seals will have a minimum hardness of 2800 kg/mm² to be more resistant to wear, and have thermal expansion characteristics of no more than 4.0 X10⁶mm/mm²K to be more resistant to thermal shock.

PUMP GEAR CASE

The integrated pump transmission gear case will use a pressure-lubricated system to cool, lubricate, and filter the oil. The gear case will be constructed of lightweight aluminum, and impregnated with resin in accordance to MIL Spec MIL-I-17563. A sight glass, accessible by tilting the cab, will be provided for easy fluid level checks.

The gear case will consist of three (3) gears to drive the pump.

CLUTCH

There will be a heavy-duty hydraulic clutch mounted directly to the integrated pump transmission to engage and disengage the pump without gear clash. The clutch will be a multiple disc design for maximum torque. The clutch will be fully self-adjusting to provide automatic wear compensation, and consistent torque throughout the life of the clutch. Positive engagement and disengagement will be provided through a high efficient and dependable hydraulic system to assure superior performance.

LOW PRESSURE/HIGH TEMPERATURE LIGHTS

Lights will be provided to indicate when a high temperature or low pressure situation occurs. Lights will be provided next to the master gauges at the pump panel as well as on the control panel in the cab. A pair of lights will be provided in each location. One (1) light will be provided to indicate high temperature. The second light will be provided to indicate a low pressure. All lights will be labeled accordingly.

0721196	Pumping Mode, Pump and Roll/Stationary, Basic, MUX, PUC	<p>PUMPING MODE</p> <p>Pump will provide for both pump and roll mode and stationary pumping mode. Stationary pumping mode will be accomplished by stopping the vehicle, setting the parking brake and engaging the water pump switch on the cab switch panel. The transmission will shift to "Neutral" range automatically when the parking brake is set. The "OK to Stationary Pump" indicator will also illuminate when the parking brake is set. If the vehicle is equipped with a suitable Husky foam system or Hercules CAFS system, these systems will be engaged from the cab switch panel as well. Pump and roll mode will be accomplished by the use of the main pump and will not require the use of a secondary pump. Pump and roll mode will use the same operation sequence as stationary pumping mode with a few additional steps. After the vehicle is setup for stationary pumping, the operator will leave the cab and setup the pump panel to discharge at the desired outlet(s). Upon returning to the cab, the operator will disengage the parking brake. An "OK to Pump & Roll" indicator will illuminate on the cab switch panel. First gear on the transmission gear selector will be selected by the operator for pump and roll operations. The operator as needed will apply the foot throttle. Pump and roll mode will be maintained unless the transmission shifts out of first gear. Stopping either stationary pumping mode or pump and roll mode will be accomplished by pressing the "Water Pump" switch down to disengage the pump. A pump pressure reading will be displayed in view of the driver.</p>
0515829	Pump Shift, Sure-Shift	<p>PUMP SHIFT</p> <p>Pump will be engaged in not more than two steps, by simply setting the parking brake, which will automatically put the transmission into neutral, and activating a rocker switch in the cab. Switches in the cab will also allow for water, foam, or CAFS if equipped, and activate the appropriate system to preset parameters. The engagement will provide simple two-step operation, enhance reliability, and completely eliminate gear clash. The shift will include the indicator lights as mandated by NFPA. A direct override switch will be located behind a door in the lower pump operator's panel. The switch will automatically disengage when the door is closed. As the parking brake is applied, the pump panel throttle will be activated and deactivate the chassis foot throttle for stationary operation.</p>
0515833	Transmission Lock-up, Not Req'd, Park to Neutral, Pump, PUC	<p>TRANSMISSION LOCK UP</p> <p>Transmission lock up is not required as transmission will automatically shift to neutral as soon as the parking brake is set.</p>
0515835	Auxiliary Cooling System, PUC	<p>AUXILIARY COOLING SYSTEM</p> <p>A supplementary heat exchange cooling system will be provided to allow the use of water from the discharge side of the pump for cooling the engine water. A water-to-coolant heat exchanger will be used.</p>
0014486	Not Required, Transfer Valve, Single Stage Pump	
0746508	Valve(s), Relief Intake, Trident Air Max, Control Location	<p>INTAKE RELIEF VALVE</p> <p>One (1) Trident Air Max intake relief valve(s) will be installed on the suction side of the pump preset at 125 psig. The relief valve will have a working range of 50 PSI to 350 PSI. The outlet will terminate below the frame rails with a 2.50" National Standard hose thread adapter and will have a "do not cap" warning tag. One (1) adjustable air regulator and pressure indicating gauge will be located on a common bezel behind the right side pump panel with a stainless steel access door to control the intake valve(s).</p>

0724463	Controller, Pressure, Pierce LCD, PUC	<p>PIERCE PRESSURE CONTROLLER</p> <p>A Pierce electronic pressure controller will be provided.</p> <p>A pressure transducer will be installed in the discharge side of the water pump. The transducer continuously monitors pump pressure sending a signal to the electronic pressure controller. The pressure controller can be used in two (2) modes of operation, RPM mode and pressure modes. The controller will be programmed to turn on/default to No Mode/Default Press Setting mode.</p> <p>In the RPM mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will maintain the set engine speed, regardless of engine load (within engine operation capabilities).</p> <p>In the pressure mode, the controller can be activated after vehicle parking brake has been set. When in this mode, the controller will automatically maintain the discharge pressure set by the operator (within the discharge capabilities of the pump and water supply) regardless of flow.</p> <p>A 2.00" diameter throttle control knob with no mechanical stops, a serrated grip, and a red idle push button in the center will be a integrated/part of the pressure controller. The throttle control knob will be programmed for Clockwise rotation to increase engine speed.</p> <p>Individual LED indicators for ok to pump, throttle ready, pressure mode and rpm mode will be located on the pressure controller for easy viewing.</p> <p>A pump cavitation protection feature will also provided which will return the engine to idle should the pump cavitate. Cavitation is sensed by the combination of pump pressure below 30 psi and engine speed above 2000 rpm for more than five (5) seconds.</p> <p>Other safety features include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.</p> <p>The pressure controller LCD screen will be 4.20" in size with a minimum brightness of 750 nits. The LCD screen and LED intensity will be automatically adjust for day and nighttime operation. The LCD screen intensity can also be manually adjusted if needed.</p> <p>The following information will be provided/displayed on the LCD screen -</p> <p>Engine RPM</p> <p>Check engine and stop engine warning indicators</p> <p>Engine oil pressure</p> <p>Engine coolant temperature</p> <p>Water pump transmission temperature</p> <p>Fuel Level</p> <p>Water tank level</p> <p>Battery voltage</p> <p>Operating mode (RPM or pressure)</p> <p>Pressure or RPM setting</p> <p>On screen messaging show diagnostic and warning messages as they occur. It will show apparatus information, stored data, and program options when selected by the operator. It will monitor inputs outputs and support audible and visual warning alarms for the following conditions -</p> <p>High battery voltage</p> <p>Low battery voltage/engine off</p> <p>Low battery voltage/engine running</p> <p>High water pump temperature</p> <p>Low fuel</p> <p>Low engine oil pressure</p> <p>High engine coolant temperature</p> <p>Water tank out of water (visual alarm only)</p> <p>No engine response (visual alarm only)</p> <p>The pressure controller will store the accumulated operating hours for the pump and engine. These items are to be displayed within the pressure controller menu.</p> <p>The pressure controller will include a USB port on the back of the controller for easy software upgrades if needed.</p>
0072153	Primer, Trident, Air Prime, Air Operated	<p>PRIMING PUMP</p> <p>The priming pump will be a Trident Emergency Products compressed air powered, high efficiency, multistage venturi based AirPrime System, conforming to standards outlined in the current edition of NFPA 1901.</p> <p>All wetted metallic parts of the priming system are to be of brass and stainless steel construction. One (1) priming control will open the priming valve and start the pump primer.</p>
0044552	Line, 0.50" Recirculating w/Check Valve	<p>RECIRCULATING LINE WITH CHECK VALVE</p> <p>A 0.50" diameter recirculating line, from the pump to the water tank, will be furnished with a control installed at the pump operator's control panel. A check valve will be provided in this line to prevent the back flow of water from the tank to the pump if the valve is left in the open position.</p>
0658266	Thermal Relief Valve, w/Amber Warning Light and Alarm, PUC Pump	<p>THERMAL RELIEF VALVE</p> <p>A Pierce thermal relief valve will be included on the pump that monitors pump water temperature and opens to relieve water to cool the pump when the temperature of the pump water exceeds 120 Degrees F (49 C).</p> <p>The thermal protection system will include a amber warning light and audible alarm mounted on the pump operator panel.</p> <p>The discharge line will be 3/8 inch diameter tubing plumbed to ground.</p>
0780359	Manuals, Pump, (2) Total, Electronic Copies, Pierce PUC Pump	<p>PUMP MANUALS</p> <p>There will be a total of two (2) pump manuals provided by the pump manufacturer and furnished with the apparatus. The manuals will be provided by the pump manufacturer in the form of two (2) electronic copies. Each manual will cover pump operation, maintenance, and parts.</p>

0602496	Plumbing, Stainless Steel and Hose, Single Stage Pump, PUC	PLUMBING, STAINLESS STEEL AND HOSE
		<p>All inlet and outlet lines will be plumbed with either stainless steel pipe, flexible polypropylene tubing or synthetic rubber hose reinforced with hi-tensile polyester braid. All hose's will be equipped with brass or stainless steel couplings. All stainless steel hard plumbing will be a minimum of a schedule 10 wall thickness.</p> <p>Where vibration or chassis flexing may damage or loosen piping or where a coupling is required for servicing, the piping will be equipped with victaulic or rubber couplings.</p> <p>Plumbing manifold bodies will be ductile cast iron or stainless steel.</p> <p>All piping lines are to be drained through a master drain valve or will be equipped with individual drain valves. All drain lines will be extended with a hose to drain below the chassis frame.</p> <p>All water carrying gauge lines will be of flexible polypropylene tubing.</p> <p>All piping, hose and fittings will have a minimum of a 500 PSI hydrodynamic pressure rating.</p>
0795135	Plumbing, Stainless Steel, w/Foam System	FOAM SYSTEM PLUMBING
		<p>All piping that is in contact with the foam concentrate or foam/water solution will be stainless steel. The fittings will be stainless steel or brass. Cast iron pump manifolds will be allowed.</p>
0517852	Inlets, 6.00" - 1250-2000 GPM, Pierce PUC Pump	MAIN PUMP INLETS
		<p>A 6.00" pump manifold inlet will be provided on each side of the vehicle. The suction inlets will include removable die cast zinc screens that are designed to provide cathodic protection for the pump, thus reducing corrosion in the pump.</p> <p>Main pump inlets will not be located on the main operator's panel and will maintain a low connection height by terminating below the top of the chassis frame rail.</p>
0730368	Valve, Ball Intake, TFT, AX Series	INLET VALVES WITH INTAKE RELIEF VALVE
		<p>There will be One (1) Task Force Tips (TFT) AX Series aluminum ball intake valve(s) provided at RS pump intake .</p> <p>The inlet connection will be 1ST (5.0" Rigid Storz) with a cap with a matching cap and the outlet connection will be NX (6.0" Threaded Swivel) . There will be an eight-position adjustable 30 degree swiveling detent elbow on the inlet side of the ball intake valve.</p> <p>The ball intake valve will be controlled with a(n) Electric Control .</p> <p>If ball intake valve is to be controlled with a manual handwheel, the handwheel will be controlled with a NFPA compliant slow-close hand wheel. A position indicator will be provided to allow for a quick visualization of the status of the valve in the open, closed or transition position.</p> <p>If the ball intake valve is to be electrically controlled, the ball intake valve will be controlled by a remote panel-mounted push-button switch with LED lights for a quick visualization of the status of the valve in the open, closed or transition position. The push button switch will be mounted on the pump operator's panel.</p> <p>The ball intake valve will be equipped with a standard adjustable pressure relief valve. The relief valve will have a working range of 90 PSI to 300 PSI.</p> <p>A 3/4" TFT bleeder/drain valve will be provided on the ball intake valve to exhaust excess air or water from the valve.</p> <p>For corrosion protection the aluminum casting will have a hard coat anodized finish, with a powder coated internal and external finish. All the components facing the wet side of the valve will be constructed from stainless steel.</p>
0004646	Cap, Main Pump Inlet, Long Handle, NST, VLH	MAIN PUMP INLET CAP
		<p>The main pump inlets will have National Standard Threads with a long handle chrome cap. The cap will be the Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0084610	Valves, Akron 8000 series- All	VALVES
		<p>All ball valves will be Akron® Brass. The Akron valves will be the 8000 series heavy-duty style with a stainless steel ball and a simple two-seat design. No lubrication or regular maintenance is required on the valve.</p> <p>Valves will have a ten (10) year warranty.</p>
0520002	Valve, Inlet(s) Recessed, Side Cntrl, PUC	The location of the valve for the two (2) inlets will be recessed behind the pump panel.
0004700	Control, Inlet, at Valve	INLET CONTROL
		<p>The side auxiliary inlet(s) will incorporate a quarter-turn ball valve with the control located at the inlet valve. The valve operating mechanism will indicate the position of the valve.</p>
0004660	Inlet (1), Left Side, 2.50"	LEFT SIDE INLET
		<p>There will be one (1) auxiliary inlet with a 2.50" valve at the left side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.</p> <p>The auxiliary inlet will be provided with a strainer, chrome swivel and plug.</p>
0004680	Inlet, Right Side, 2.50"	RIGHT SIDE INLET
		<p>There will be one (1) auxiliary inlet with a 2.50" valve at the right side pump panel, terminating with a 2.50" (F) National Standard hose thread adapter.</p> <p>The auxiliary inlet will be provided with a strainer, chrome swivel and plug.</p>

0521137	Anode, Zinc, Pair, Pump Inlets, PUC	ANODE, INLET A pair of sacrificial zinc anodes will be provided in the water pump inlets to protect the pump from corrosion.
0092569	No Rear Inlet (Large Dia) Requested	
0064116	No Rear Inlet Actuation Required	
0092696	Not Required, Cap, Rear Inlet	
0009648	No Rear Intake Relief Valve Required on Rear Inlet	
0092568	No Rear Auxiliary Inlet Requested	
0723049	Valve, .75" Bleeder, Aux. Side Inlet, "T" Swing Handle	INLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each side gated inlet. The valves will be located behind the panel with a "T" swing style handle control extended to the outside of the panel. The handles will be chrome plated and provide a visual indication of valve position. The swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. The water discharged by the bleeders will be routed below the chassis frame rails.
0520277	Tank to Pump, (1) 3.00" Valve, 4.00" Plumbing, PUC	TANK TO PUMP The booster tank will be connected to the intake side of the pump with heavy duty 4.00" piping and a quarter turn 3.00" full flow line valve with the control located at the operator's panel. A rubber coupling will be included in this line to prevent damage from vibration or chassis flexing. A check valve will be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.
0595508	Outlet, Tank Fill, 1.50", PUC	TANK REFILL A 1.50" combination tank refill and pump re-circulation line will be provided, using a quarter-turn full flow ball valve controlled from the pump operator's panel.
0766941	Control, Outlets, Swing Handle, Elec Right Outlets Akron 9335 w/Press Disp, PUC	DISCHARGE OUTLET CONTROLS The right side discharges will incorporate a quarter-turn ball valve and be controlled by Akron 9335 electric valve controllers provided on the pump operators panel. The electric controls must be of a true position feedback design, requiring no clutches in the motor or current limiting. The units must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate their corresponding valve actuator. The controllers will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option. In addition to the valve controls, the electric valve controllers will include a pressure display. All other outlets will have manual swing handles that operate in a vertical up and down motion. These handles will be able to lock in place to prevent valve creep under pressure.
0516755	Outlet, Left Side, 2.50" (2), PUC	LEFT SIDE DISCHARGE OUTLETS There will be two (2) discharges with a 2.50" valves on the left side of the apparatus, terminating with a 2.50" (M) National Standard hose thread adapter. Discharges will be located below the cab, and will be no higher than the top of the chassis frame rail. Discharges will not be located on the pump operator's panel. Lever controls will be provided at the valve.
0055095	Not Required, Elbow, Left Side Outlets, 2.50"	
0092570	Not Required, Outlets, Left Side Additional	
0035094	Not Required, Elbow, Left Side Outlets, Additional	

0766761	Outlet, Right Side, 2.50", (1), Electric Akron 9335 Controller, PUC	<p>RIGHT SIDE DISCHARGE OUTLETS</p> <p>There will be One (1) discharge outlet with a 2.50" valve on the right side of the apparatus, terminating with a 2.50" MNST adapter. The discharge(s) will be located below the crew cab and will be no higher than the top of the chassis frame rail.</p> <p>There will be Akron 9335 electric valve controller(s) provided on the pump operators panel. The electric control(s) must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit(s) must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller(s) will provide position indication on a full color, backlit LCD display. They will have manual adjustment of the brightness as well as an auto dimming option.</p> <p>In addition to valve position, each controller will include a pressure display.</p>
0021134	Not Required, Elbow, Right Side Outlets	
0092571	Not Required, Outlets, Right Side Additional	
0089584	Not Required, Elbow, Right Side Outlets, Additional	
0766992	Outlet, Right Side, 4" w/4" Valve, Akron 9335 Elec Controller, PUC	<p>LARGE DIAMETER DISCHARGE OUTLET</p> <p>There will be a 4.00" discharge outlet with a 4.00" valve installed on the right side of the apparatus, terminating with 4.00" MNST threads. The discharge will be located below the crew cab and will be no higher than the top of the chassis frame rail.</p> <p>There will be an Akron 9335 electric valve controller provided on the pump operators panel. The electric control must be of a true position feedback design, requiring no clutches in the motor or current limiting. The unit must be completely sealed with momentary open, close as well and an optional one touch full open feature to operate the valve actuator. The controller will provide position indication on a full color, backlit LCD display. It will have manual adjustment of the brightness as well as an auto dimming option.</p> <p>In addition to valve position, the controller will include a pressure display.</p>
0699320	Adapter, 4.00" FNST x 5.00" Storz, w/Cap and Chain, PUC	<p>LARGE DIAMETER OUTLET ADAPTER</p> <p>one (1) 4.00" outlet will be furnished with a 4.00" (F) National Standard hose thread x 5.00" Storz adapter. A 5.00" Storz cap and chain will be provided with the adapter.</p>
0649939	Outlet, Front, 1.50" w/2" Plumbing	<p>FRONT DISCHARGE OUTLET</p> <p>There will be one (1) 1.50" discharge outlet piped to the front of the apparatus and located on the top of the right side of the front bumper.</p> <p>Plumbing will consist of 2.00" piping and flexible hose with a 2.00" ball valve with control at the pump operator's panel. A fabricated weldment made of stainless steel pipe will be used in the plumbing where appropriate. The piping will terminate with a 1.50" NST with 90 degree stainless steel swivel.</p> <p>There will be automatic drains provided at all low points of the piping.</p>
0647702	Additional Valve, Front Outlet, 2"	<p>FRONT OUTLET ADDITIONAL VALVE</p> <p>A second 2.00" full flow ball valve will be provided at the front bumper extension. The valve will have an integral chrome swing style handle.</p>
0695061	Outlet, Rear, 2.50" w/3" Plumbing and Valve (1), Thru Tank, PUC	<p>REAR DISCHARGE OUTLET</p> <p>There will be Two (2) discharge outlets piped to the rear of the hose bed, on one (1) each side, installed so proper clearance is provided for spanner wrenches or adapters. Plumbing will consist of 3.00" piping along with a 3.00" full flow ball valve with the control from the pump operator's panel. Discharge will terminate with 2.50" NST thread. Discharge piping will be schedule 10 304L welded or formed stainless steel and routed through the water tank.</p> <p>Any 3.00 inch or larger discharge valve will be a slow-operating valve in accordance with NFPA 16.7.5.3.</p>
0045091	Elbow, Rear Outlets, 45 Degree, 2.50" FNST x 2.50" MNST, VLH	<p>REAR OUTLET ELBOWS</p> <p>The 2.50" discharge outlets located at the rear of the apparatus will be furnished with a 2.50" (F) National Standard hose thread x 2.50" (M) National Standard hose thread, chrome plated, 45 degree elbow.</p> <p>The elbow will be Pierce VLH, which incorporates an exclusive thread design to automatically relieve stored pressure in the line when disconnected.</p>
0537394	Not Required, Outlet, Rear, Additional, PUC	
0537395	Not Required, Elbow, Rear Outlets, Additional	

0085076	Caps for 1.50" to 3.00" Discharge, Chain	<p>DISCHARGE CAPS Chrome plated, rocker lug, caps with chains will be furnished for all discharge outlets 1.50" thru 3.00" in size, besides the pre-connected hose outlets. The cap will incorporate a thread design to automatically relieve stored pressure in the line when disconnected (no exception).</p>
0723042	Valve, 0.75" Bleeder, Discharges, "T" Swing Handle	<p>OUTLET BLEEDER VALVE A 0.75" bleeder valve will be provided for each outlet 1.50" or larger. Automatic drain valves are acceptable with some outlets if deemed appropriate with the application. The valves will be located behind the panel with a T swing style handle control extended to the outside of the side pump panel. The handles will be chrome plated and provide a visual indication of valve position. The T swing handle will provide an ergonomic position for operating the valve without twisting the wrist and provides excellent leverage. Bleeders will be located at the bottom of the pump panel. They will be properly labeled identifying the discharge they are plumbed in to. The water discharged by the bleeders will be routed below the chassis frame rails.</p>
0035090	Reducer, 2.50" F Special X 1.50" MNST, w/Cap	<p>ADAPTERS There will be five (5) adapters with None required and cap. These adapters will be installed on on all 2.5" discharges.</p>
0516860	Outlet, 3.00" Deluge w/2.50" Valve, PUC	<p>DELUGE RISER A 3.00" deluge riser will be installed above the pump in such a manner that a monitor can be mounted and used effectively. 3.00" piping will be installed securely so no movement develops when the line is charged. A 2.50" gated valve will be installed and controlled at the pump operator's panel. The deluge outlet will flow a minimum 1000 GPM.</p>
0543604	Monitor, Akron 3431 Hi-Riser and 5" storz Inlet Grd Base	<p>MONITOR An Akron Model 3431 Apollo Hi-Riser monitor will be properly installed on the deluge riser. A fixed mounting base and a portable base with one (1) 5.00" Storz inlet will be provided. A position sensor will be provided on the monitor that will activate the "do not move apparatus" light inside the cab when the monitor is in the raised position. The monitor will be painted to match the body.</p>
0501504	Nozzle, Akron 2499, Quad Tips, 3488 and 5160 Manual Fog	<p>NOZZLE, DELUGE Akron model 5160 Akromatic manual pattern, control fog nozzle will be provided. The nozzle will be rated for 250 to 1250 gallons per minute of flow. Also included is an Akron model 2499 quad stacked pyrolite, deluge tips and an Akron 3488 pyrolite stream shaper . The tip sizes will be 1.375", 1.50", 1.75", and 2.00".</p>
0026604	Deluge Mount, Bolt Flange, Reinforced for Hi-Riser/DeckMaster	<p>The deluge riser will have a 3.00" four (4)-bolt flange for mounting the monitor.</p>
0750981	Crosslay Module, Full Width, Roll Up Doors, HLR Notch, PUC	<p>CROSSLAY MODULE The crosslay module will be full width of the rear body. The forward, upper corners of the module will have full body corners. The crosslay module will be manufactured for installation of roll up doors on each side. The right side of the crosslay module will be notched to accommodate a hydraulic ladder rack.</p>
0750897	Doors, Crosslay, Roll-up Amdor, Each End, Full Height, PUC	<p>ROLL-UP DOOR, CROSSLAY ENDS, PUC All compartment doors will be roll-up style double faced, aluminum construction, painted one (1) color to match the lower portion of the body and manufactured by AMDOR™. The crosslay enclosure will be full width of the body. The track will be the flanged track with the screws installed to the rear of the track guide. The slats will be double wall box frame extrusion. The exterior surface will be flat and the interior surface will be concave to help loose equipment fall to the ground and prevent it from jamming the door. Between each slat will be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Each door will have a 4.00" counter balance to assist in lifting. A polished stainless steel lift bar to be provided for each roll-up door. The lift bar will be located at the bottom of door with striker latches installed at the base of the side frames. Side frame mounted door strikers will include support beneath the stainless steel lift bar to prevent door curtain bounce, improve bottom seal life expectancy and to avoid false door ajar signals. The crosslays will have a drip pan below the roll of the door. A paint break is not required.</p>

0747660	Lights, Crosslay Compt, Forward LED, 2Lts	<p>CROSSLAY COMPARTMENT LIGHTING There will be two (2) 12 volt DC light strips with white LEDs and mechanical fasteners, provide behind the front door frame on the crosslay compartments per the following: One (1) strip light for the left side crosslay compartment door One (1) strip light for the right side crosslay compartment door The lights will be activated when the battery switch is on and the respective door is opened.</p>
0750916	Crosslays, (2) 1.50", W/Poly Trays, PUC	<p>CROSSLAY(S), LOWER There will be two (2) lower crosslays provided. 1.50" Crosslays There will be two (2) 1.50" crosslays plumbed with 2.00" welded or formed schedule 10 304L stainless steel pipe. The crosslays will be low mounted with the bottom of both crosslay trays no more than 11.00" above the frame rails for simple, safe reloading and deployment. There will be a 1.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that the hose may be removed from either side of apparatus. The swivel will be as far outbound as possible for ease of changing hose. Each crosslay will be gated with a 2.00" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 1.75" double jacket hose . Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0750900	Crosslay, (1) 2.50", W/Poly Trays, PUC	<p>CROSSLAY(S), UPPER There will be one (1) upper crosslay provided. 2.50" Crosslay There will be one (1) 2.50" crosslay plumbed with 2.50" welded or formed schedule 10 304L stainless steel pipe. There will be a 2.50" National Standard hose thread 90-degree swivel provided in each hose bed, so that hose may be removed from either side of apparatus. The swivel will be as far outbound as possible for ease of changing hose. Each crosslay will be gated with a 2.50" quarter turn ball valve with the controls located at the pump operator's panel. Each hose bed will be capable of carrying 200' of 2.50" double jacket hose . Crosslay Hose Trays A removable tray will be provided for each crosslay hose bed. The crosslay tray will be constructed of black poly to provide a lightweight sturdy tray. Two (2) hand holes will be in the floor and additional hand holes will be provided in the sides for easy removal and installation from the compartment. The floor of the trays will be perforated to allow for drainage and hose drying. Trays will be held in place by a mechanical spring-loaded stainless-steel latch that automatically deploys upon loading the trays to hold the trays in place during transit.</p>
0584363	Guard, Drip Pan, S/S, Roll-up Door	<p>DOOR GUARD There will be two (2) guard/drip pan(s) designed to protect the roll-up door over the crosslay area from damage when in the retracted position and contain any water spray. The guard will be fabricated from stainless steel and installed on 2 crosslay compartments.</p>

HUSKY 3 FOAM PROPORTIONER

A Pierce Husky® 3 foam proportioning system will be provided. The Husky 3 is an on demand, automatic proportioning, single point, direct injection system suitable for all types of Class A and B foam concentrates, including the high viscosity (6000 cps), alcohol resistant Class B foams. Operation will be based on direct measurement of water flow, and remain consistent within the specified flows and pressures. The system will automatically proportion foam solution at rates from 0.1 percent to 3 percent regardless of variations in water pressure and flow, up to the maximum rated capacity of the foam concentrate pump.

The design of the system will allow operation from draft, hydrant, or relay operation.

System Capacity

The system will have the ability to deliver the following minimum foam solution flow rates at accuracies that meet or exceed NFPA requirements at a pump rating of 150 psi.

100 gpm @ 3 percent

300 gpm @ 1 percent

600 gpm @ 0.5 percent

Class A foam setting in 0.1 percent increments from 0.1 percent to 1 percent. Typical settings of 1 percent, 0.5 percent and 0.3 percent (maximum capacity will be limited to the plumbing and water pump capacity).

Control System

The system will be equipped with a digital electronic control display located on the pump operators panel. Push button controls will be integrated into the panel to turn the system on/off, control the foam percentage, and to set the operation modes.

The percent of injection will have a preset. This preset can be changed at the fire department as desired. The percent of injection will be able to be easily changed at the scene to adjust to changing demands.

Three (3) 0.50" high LEDs will display the foam percentage in numeric characters. Three (3) indicator LEDs will also be included: one (1) green, one (1) red, and one (1) yellow. The LEDs will indicate various system operation or error states.

The indications will be:

Solid Green - System On

Solid Red - Valve Position Error

Solid Yellow - Priming System

Flashing Green - Injecting Foam

Flashing Red - Low Tank Level

Flashing Yellow - Refilling Tank

The control display will house a microprocessor, which receives input from the systems water flow meter while also monitoring the position of the foam concentrate pump. The microprocessor will compare the values of the water flow versus the position/rate of the foam pump, to ensure the proportion rate is accurate. One (1) check valve will be installed in the plumbing to prevent foam from contaminating the water pump.

Hydraulic Drive System

The foam concentrate pump will be powered by an electric over hydraulic drive system. The hydraulic system and motor will be integrated into one unit.

Foam Concentrate Pump

The foam concentrate pump will be of positive displacement, self-priming; linear actuated design, driven by the hydraulic system. The pump will be constructed of brass body; chrome plated stainless steel shaft, with a stainless steel piston. In order to increase longevity of the pump, no aluminum will be present in its construction.

A relief system will be provided which is designed to protect the drive system components and prevent over pressuring the foam concentrate pump.

The foam concentrate pump will have minimum capacity for 3 gpm with all types of foam concentrates with a viscosity at or below 6000 cps including protein, fluoroprotein, AFFF, FFFP, or AR-AFFF. The system will deliver only the amount of foam concentrate flow required, without recirculating foam back to the storage tank. Recirculating foam concentrate back to the storage tank can cause agitation and premature foaming of the concentrate, which can result in system failure. The foam concentrate pump will be self-priming and have the ability to draw foam concentrate from external supplies such as drums or pails.

External Foam Concentrate Connection

An external foam pick-up will be provided to enable use of a foam agent that is not stored on the vehicle. The external foam pick-up will be designed to allow continued operation after the on-board foam tank is empty, or the use of foam different than the foam in the foam tank.

Panel Mounted External Pick-Up Connection / Valve

A bronze three (3)-way valve will be provided. The unit will be mounted to the pump panel. The valve unit will function as the foam system tank to pump valve and external suction valve. The external foam pick-up will be one (1) 0.75" male connection GHT (garden hose thread) with a cap.

Pick-Up Hose

A 0.75" flexible hose with an end for insertion into foam containers will be provided. The hose will be supplied with a 0.75" female swivel GHT (garden hose thread) swivel connector. The hose will be shipped loose.

Discharges

The foam system will be plumbed to the lower rear crosslay, lower front crosslay, upper front crosslay, right side of front bumper and left rear outlet.

System Electrical Load

The maximum current draw of the electric motor and system will be no more than 55 amperes at 12 VDC.

0592527	Refill, Foam Tank, Integral, Husky 3	<p>SINGLE FOAM TANK REFILL The foam system's proportioning pump will be used to fill the foam tank. This will allow use of the auxiliary foam pick-up to pump the foam from pails or a drum on the ground into the foam tank. A foam shut-off switch will be installed in the fill dome of the tank to shut the system down when the tank is full. The fill operation will be controlled by a mode in the foam system controller. While the proportioner pump is filling the tank, the controller will display a flashing yellow LED to indicate that the tank is filling. When the tank is full, as determined by the float switch in the tank dome, the pump will stop and the controller will shut the yellow LED off. If it attempted to use tank fill and the refill valve and suction valve are in the wrong position(s), then a red LED will illuminate to indicate the improper valve position(s). When the valves are positioned properly, then filling will commence.</p>
0745930	Husky 3 Foam System Power Unit Location	<p>HUSKY 3 FOAM SYSTEM POWER UNIT LOCATION The Husky 3 foam system power unit typically gets installed in the cargo area over the pump. The new location of this power unit will be in the best location possible so that it does not interfere with the deck gun.</p>
0031896	Demonstration, Foam System, Dealer Provided	
0595941	Foam Cell, 20 Gallon, Not Reduce Water, PUC	<p>FOAM TANK The foam tank will be an integral portion of the polypropylene water tank. The cell will have a capacity of 20 gallons of foam with the intended use of Class A foam. The brand of foam stored in this tank will be fos check. The foam cell will not reduce the capacity of the water tank. The foam cell will have a screen in the fill dome and a breather in the lid.</p>
0697589	Drain, 1.00", Foam Tank #1, Husky 3 Foam System, Quarter Turn	<p>FOAM TANK DRAIN The foam tank drain will be a 1.00" quarter turn drain valve located inside the pump/plumbing compartment.</p>
0091079	Not Required, Foam Tank #2	
0091112	Not Required, Foam Tank #2 Drain	
0746445	Approval Dwg, Pump Operator's Panel, Includes Color And Label Tags	<p>The following drawing(s) will be provided for approval by the customer. The drawing(s) will be made for up One (01) Truck apparatus and/or similar Pierce job number.</p> <p>PUMP OPERATOR'S PANEL DRAWING A detailed drawing to scale of the pump operator's panel will be provided for the customer to review. The drawing will include all of the gauges, controls, switching, etc., located on the pump operator's panel. The customer will be allowed to make changes and/or mark-ups to this approval drawing. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line. The finalized and signed customer approved pump operator's panel drawing will become part of the contract documents. Due to the way drain(s), bleeder(s), operational/maintenance tag(s) and NFPA required warning tag(s) are placed on pump panel(s), these items will NOT be shown on any pump panel approval drawing(s). These item(s) will be placed on pump panel(s) at the fire apparatus manufacturer discretion.</p> <p>COLOR CODED TAGS A detailed drawing/chart of the colors used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line. The finalized and signed customer approved drawing/chart of the colors will become part of the contract documents.</p> <p>SPECIAL TEXT/VERBIAGE TAGS A detailed drawing/chart of the text/verbiage used on all of the inlet(s) and outlet(s) will be provided for the customer to review. The customer will be allowed to make changes and/or mark-ups to this approval drawing/chart. The fire apparatus manufacturer will make revisions (If needed) to the drawing per the customer changes and/or mark-ups as long as the changes are physically possible within a specific product line. The finalized and signed customer approved drawing/chart of the text/verbiage will become part of the contract documents.</p>
0032479	Pump Panel Configuration, Control Zone	<p>PUMP PANEL CONFIGURATION The pump panel configuration will be arranged and installed in an organized manner that will provide user-friendly operation.</p>

0516975	Material, Pump Panels, Operators Brushed Stainless, Sides Brushed Stainless, PUC	<p>PUMP AND GAUGE PANEL</p> <p>The pump operator's panel and gauge panels will be constructed of stainless steel with a brushed finish.</p> <p>The side control panels will be constructed of stainless steel with a brushed finish for durability and ease of maintenance.</p>
0516978	Pump and Plumbing Access, Simple Tilt Service, PUC	<p>PUMP AND PLUMBING ACCESS</p> <p>Simple access to the plumbing will be provided through the front of the body area by raising the cab for complete plumbing service and valve maintenance. Access to valves will not require removal of operator panels or pump panels. Access for rebuilding of the pump will not require removal of more than the tank to pump line and a single discharge line. This access will allow for fast, easy valve or pump rebuilding, making for reduced out of service times. Steps will be provided for access to the top of the pump.</p> <p>Access to the pump will be provided by raising the cab. The pump will be positioned such that all maintenance and overhaul work can be performed above the frame and under the tilted cab. The service and overhaul work on the pump will not require the removal of operator panels or pump panels. Complete pump casing and gear case removal will require no more than removal of the intake and discharge manifolds, driveline, coolers and a single discharge line. The pump case and gear case will be able to be removed by lifting upward without interference from piping and be removable in less than 3 hours.</p>
0693336	Light, Pump Compt, Truck-Lite 44308C LED Grommet Mt	<p>PUMP COMPARTMENT LIGHTING</p> <p>There will be one (1) Truck-Lite, Model 44308C 4.00" white LED light(s) with Model 40700 grommet provided inside the pump enclosure for pump compartment lighting.</p> <p>The light(s) will be controlled by a switch located pump compartment.</p>
0516983	Gauges, Engine, Included With Pierce Pressure Controller, PUC	<p>Engine monitoring graduated LED indicators will be incorporated with the pressure controller.</p>
0005601	Throttle, Engine, Incl'd w/Press Controller	
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure Gov/Throttle,Green	<p>THROTTLE READY GREEN INDICATOR LIGHT</p> <p>There will be a green indicator light integrated with the pressure governor and/or engine throttle installed on the pump operators panel that is activated when the pump is in throttle ready mode.</p>
0549333	Indicators, Engine, Included with Pressure Controller	
0069390	Control, Air Horn At Pmp Pnl, Red Button	<p>AIR HORN BUTTON</p> <p>An air horn control button will be provided at the pump operator's control panel. This button will be red in color and properly labeled and put within easy reach of the operator.</p>
0663913	Discharge Bezels, Color Coded	<p>COLOR CODED BEZELS</p> <p>ten (10)discharge bezels will be fully color coded with labels or inserts see pump panel layout. The discharge bezel around the gauge and/or the vertical area next to the control rod will be color coded to match.</p>
0009227	Gauges, 6.00" Master, Class 1, Special	<p>VACUUM AND PRESSURE GAUGES</p> <p>The pump vacuum and pressure gauges will be liquid filled and manufactured by Class 1 Incorporated ©.</p> <p>The gauges will be a minimum of 6.00" in diameter and will have white faces with black markings, with a pressure range of 30.00" 0-400 psi.</p> <p>The pump pressure and vacuum gauges will be installed adjacent to each other at the pump operator's control panel.</p> <p>Test port connections will be provided at the pump operator's panel. One (1) will be connected to the intake side of the pump, and the other to the discharge manifold of the pump. They will have 0.25 in. standard pipe thread connections and polished stainless steel plugs. They will be marked with a label.</p>
0511105	Gauge, 3.00" Pressure, Class 1, Special	<p>PRESSURE GAUGES</p> <p>The individual "line" pressure gauges for the discharges will be intertube filled and manufactured by Class 1©.</p> <p>The gauges will be a minimum of 3.00" in diameter and will have white faces with black markings. Gauge construction will include a Zytel nylon case with adhesive mounting gasket and threaded retaining nut.</p> <p>Gauges will have a pressure rating of 0-400 psi.</p> <p>The individual pressure gauge will be installed as close to the outlet control as practical. This gauge will include a 10 year warranty against leakage, pointer defect, and defective bourdon tube.</p>

0517009	Gauge, Water Level, Pierce, In pressure Controller, w/Mini Slave, PUC	<p>WATER LEVEL GAUGE An electric water level gauge will be incorporated in the pressure controller that registers water level by means of nine (9) LEDs. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180-degree of clear viewing. To further alert the pump operator, the gauge will have a warning flash when the tank volume is less than 25 percent. The gauge will have down chasing LEDs when the tank is almost empty. The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell.</p> <p>MINI SLAVE UNIT An electric water level gauge will be provided in the cab that registers water level by means of five (5) LEDs. They will be at 1/4 level increments with a tank empty LED. The LEDs will be a bright type that are readable in sunlight and have a full 180-degree of clear viewing. The water level gauge in the cab will be activated when the pump is in gear.</p>
0517012	Gauge, Foam Level, Pierce, PUC, PP and Mini in Cab	<p>FOAM LEVEL GAUGE A Pierce electric foam level gauge will be provided on the operator's panel, that registers foam level by means of nine (9) LEDs. There will also be a mini foam level gauge with five (5) LEDs in the cab. They will be at 1/8 level increments with a tank empty LED. The LEDs will be a bright type that is readable in sunlight, and have a full 180 degree of clear viewing. The gauge will match the water level gauge in the pressure controller. To further alert the pump operator, will have a warning flash when the tank volume is less than 25 percent, and will have Down Chasing LEDs when the tank is almost empty. The level measurement will be ascertained by sensing the head pressure of the fluid in the tank or cell. This method provides accuracy with an array of multi-viscosity foams. The foam level gauge in the cab will be activated by pump is in gear.</p>
0653081	Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab & LED OH Chr Cvr	<p>SIDE CONTROL PUMP OPERATOR'S/PUMP PANEL LIGHTING Illumination will be provided for controls, switches, essential instructions, gauges, and instruments necessary for the operation of the apparatus and the equipment provided on it. External illumination will be a minimum of five (5) foot-candles on the face of the device. Internal illumination will be a minimum of four (4) footlamberts. The pump panels will be illuminated by two (2) Truck-Lite, Model 60354C, 6.00" x 2.00" oval white LED lights with Model 60700, grommets and chrome covers installed on the back of the cab, one (1) on the driver's side and one (1) on the passenger's side. The pump operator's panel will utilize the same LED strip lighting at the forward doorframe as all other compartment lighting. There will be a small white LED pump engaged indicator light installed overhead.</p>
0508020	Air Horn, (1) Hadley, 6" Round, eTone, In Bumper	<p>AIR HORN SYSTEM One (1) Hadley round air horn with 6.00" bell will be recessed in the front bumper. The air horn system will be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve will be installed to prevent the loss of air in the brake system.</p>
0606838	Location, Air Horn, Bumper, Left Side, Outside Frame, Outboard (Pos #7)	<p>Air Horn Location The air horn will be located on the left side of the bumper, towards the outside.</p>
0757092	Control, Air Horn, Multi Select	<p>Air Horn Control The air horn(s) will be activated by the following:</p>
0743360	Control, Air Horn, Ft Sw, LS, Location Fet	Left side foot switch will be DS as far forward and outboard as possible. Match #35889..
0525667	Siren, WIn 295SLSA1, 100 or 200 Watt	<p>ELECTRONIC SIREN A Whelen®, Model 295SLSA1, electronic siren with noise canceling microphone will be provided. This siren to be active when the battery switch is on and that emergency master switch is on.</p>
0692039	Location, Electronic Siren, Center Console	Electronic siren head will be located in the center console.
0076156	Control, Elec Siren, Head Only	The electronic siren will be controlled on the siren head only. No horn button or foot switches will be provided.
0601306	Speaker, (1) WIn, SA315P, w/Pierce Polished Stainless Steel Grille, 100 watt	<p>SPEAKER There will be one (1) Whelen®, Model SA315P, black nylon composite, 100-watt, speaker with through bumper mounting brackets and polished stainless steel grille provided. The speaker will be connected to the siren amplifier.</p>
0601565	Location, Speaker, Frt Bumper, Recessed, Center (Pos 4)	The speaker(s) will be recessed in the center of the front bumper.

0895310	Siren, Federal Q2B	<p>AUXILIARY MECHANICAL SIREN</p> <p>There will be a Federal Signal Model Q2B mechanical siren furnished and installed in the front of the apparatus.</p> <p>The Q2B will be chrome finish.</p> <p>The siren will have a 2-gauge cable connected to a power solenoid that is connected by a 2-gauge cable ran battery direct to the primary chassis batteries and will be labeled Q2B+ at the battery. The power solenoid will only be enabled when the emergency master switch is on.</p> <p>The siren will have a 2-gauge ground wire connected to the chassis battery stud. The cable will be labeled Q2B- at the battery.</p>
0578974	Siren, Mechanical, Recessed In Grille, Imp/Vel	The mechanical siren will be mounted recessed in the front grille. The siren mounting will include a reinforcement plate.
0748305	Control, Mech Siren, Multi Select	<p>MECHANICAL SIREN CONTROL</p> <p>The mechanical siren will be activated by the following:</p>
0890124	Control Mech Siren, Ft Sw LS, Loc	Left side foot switch DS inside of Air Horn. Match #35889.
0740391	Sw, Siren Brake, Momentary Chrome Push Button, RS	A momentary chrome push button switch will be included in the right side dash panel to activate the siren brake.
0736158	Sw, Siren Brake, Momentary, Lower Sw Pnl	A momentary switch will be included in the lower switch panel to activate the siren brake.
0746353	Not Required, Warning Lights Intensity	
0604784	Lightbar, WIn, Freedom IV-Q, 81", RRRRWRsrROptRsrRWRRRR	<p>FRONT ZONE UPPER WARNING LIGHTS</p> <p>There will be one (1) 81.00" Whelen® Freedom IV™ lightbar mounted on the cab roof.</p> <p>The lightbar will include the following:</p> <ul style="list-style-type: none"> One (1) red flashing LED module in the driver's side end position. One (1) red flashing LED module in the driver's side front corner position. One (1) red flashing LED module in the driver's side first front position. One (1) red flashing LED module in the driver's side second front position. One (1) white flashing LED module in the driver's side third front position. One (1) red flashing LED module in the driver's side fourth front position. One (1) red steady burning LED module in the driver's side fifth front position. One (1) red flashing LED module in the driver's side sixth front position. One (1) 795 LED traffic light controller set to national standard high priority in the center positions. <ul style="list-style-type: none"> One (1) red flashing LED module in the passenger's side sixth front position. One (1) red steady burning LED module in the passenger's side fifth front position. One (1) red flashing LED module in the passenger's side fourth front position. One (1) white flashing LED module in the passenger's side third front position. One (1) red flashing LED module in the passenger's side second front position. One (1) red flashing LED module in the passenger's side first front position. One (1) red flashing LED module in the passenger's side front corner position. One (1) red flashing LED module in the passenger's side end position. <p>There will be clear lenses included on the lightbar.</p> <p>The following switches may be installed in the cab on the switch panel to control the lightbar:</p> <ul style="list-style-type: none"> a switch to control the flashing LED modules. the traffic light controller by a cab switch with emergency master control. a driver's side momentary cab switch with no emergency master control to activate the traffic light controller. <p>The white flashing LED modules and the traffic light controller will be disabled when the parking brake is applied.</p> <p>The eight (8) red flashing LED modules in the front positions may be load managed when the parking brake is applied.</p>
0898734	Light, Front Zone, WIn M6** M6** M6** M6** Q Bzl	<p>CAB FACE WARNING LIGHTS</p> <p>There will be four (4) Whelen®, Model M6**, 4.31" high x 6.75" wide x 1.37" deep flashing LED warning lights installed on the cab face, above the headlights in a housing that matches the headlights per the following:</p> <ul style="list-style-type: none"> The left side outside warning light to include red LEDs. The left side inside warning light to include red LEDs. The right side inside warning light to include red LEDs. The right side outside warning light to include red LEDs. The warning light lens color(s) to be clear. The housing to be polished and the trim shall be chrome. <p>The lights will be controlled per the following:</p> <ul style="list-style-type: none"> A switch in the cab, on the switch panel will control the lights. White LEDs will be deactivated when the parking brake is applied. Amber LEDs will be deactivated when the parking brake is released. Amber, blue, green or red LEDs in the inside positions may be load managed when the parking brake is applied.

0540679	Lights, Side Zone Lower, WIn M6*C LED, Clear Lens 2pr	SIDE ZONE LOWER LIGHTING There will be four (4) Whelen®, Model M6*C, flashing LED warning lights with chrome trim installed per the following: Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red. The lights will include a clear lenses. There will be a switch in the cab on the switch panel to control the lights.
0672937	Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In Rub Rail, 1st	SIDE WARNING LIGHTS There will be four (4) Whelen, Model WIONSMC* LED light(s) provided and located in the body rub rails Under D1, D3, P1, P3, Centered. The lights will only be mounted with the rubber gasket if clearance allows it. The color of each light will be red LED with a clear lens. Each light will be provided with a chrome plated ABS flange. The light(s) will be activated with the side warning switch.
0564655	Lights, Rear Zn Lwr, WIn M6*C LED, Clear Lens, For Tail Lt Housing	REAR ZONE LOWER LIGHTING There will be two (2) Whelen®, Model M6*C, LED flashing warning lights located at the rear of the apparatus. The driver's side rear light to be red The passenger's side rear light to be red Both lights will include a lens that is clear. There will be a switch located in the cab on the switch panel to control the lights.
0541155	Lights, Rear/Side Up Zone, WIn M9*C LED, Clear Lens 4lts	WARNING LIGHTS (Rear and Side upper zones) Four (4) Whelen, model M9*C LED flashing warning lights will be provided at the rear of the apparatus. The side rear upper light(s) on the driver's side to be red. The rear upper light(s) on the driver's side to be red. The rear upper light(s) on the passenger's side to be red. The side rear upper light(s) on the passenger's side to be red. These lights will include a lens that is clear. There will be a switch located in the cab on the switch panel to control the lights.
0006551	Not Required, Lights, Rear Upper Zone Blocking	
0590000	No Hose Bed Warn Light Brackets Req'd, Lights Mtd on Hatch/Body Compts, PUC	
0791528	Light, Traffic Directing, WIn TAL65, 36.00" Long, TACTL5	TRAFFIC DIRECTING LIGHT There will be one (1) Whelen®, Model TAL65, 36.00" long x 2.87" high x 2.25" deep, amber LED traffic directing light installed at the rear of the apparatus. The Whelen, Model TACTL5, control head will be included with this installation. The controller will be energized when the battery switch is on. The auxiliary flash to be activated when the emergency master switch is on.
0551728	Location, Traf Dir Lt, Recessed with S/S Trim	This traffic directing light will be recessed with a stainless steel trim plate at the rear of the apparatus as high as practical.
0530282	Location, Traf Dir Lt Controller, Overhead Switch Panel DS Right End	The traffic directing light control head will be located in the driver side overhead switch panel in the right panel position.
0783678	Receptacle, 15/20A 120V 3-Pr 3-Wr, NEMA 5-20R SB Dup, 1st	120 VOLT RECEPTACLE There will be two (2), 15/20 amp 120 volt AC three (3) wire straight blade duplex receptacle(s) with exterior flip up cover(s), installed P1 rear bulkhead, low near R1, next to 12v spare wiring, P3, bottom rear bulkhead, next to 12v spare wiring.. The NEMA configuration for the receptacle (s) will be 5-20R. The receptacle(s) will be powered from the shoreline inlet. There will be a label installed near the receptacle(s) that state the following: Line Voltage Current Rating (amps) Phase Frequency
0519934	Not Required, Brand, Hydraulic Tool System	
0649753	Not Required, PTO Driven Hydraulic Tool System	

0007150	Bag of Nuts and Bolts	LOOSE EQUIPMENT
		The following equipment will be furnished with the completed unit: One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit.
0602516	NFPA Required Loose Equipment, Pumper, NFPA 2016, Provided by Fire Department	<p>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 5.9.3 and 5.9.4 will be provided by the fire department.</p> <p>800 ft (60 m) of 2.50" (65 mm) or larger fire hose. 400 ft (120 m) of 1.50" (38 mm), 1.75" (45 mm), or 2.00" (52 mm) fire hose. One (1) handline nozzle, 200 gpm (750 L/min) minimum. Two (2) handline nozzles, 95 gpm (360 L/min) minimum. One (1) smoothbore of combination nozzle with 2.50" shutoff that flows a minimum of 250 gpm. One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than four (4), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer. One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s). One (1) first aid kit. Four (4) combination spanner wrenches. Two (2) hydrant wrenches. One (1) double female 2.50" (65 mm) adapter with National Hose threads. One (1) double male 2.50" (65 mm) adapter with National Hose threads. One (1) rubber mallet, for use on suction hose connections. Two (2) salvage covers each a minimum size of 12 ft x 14 ft (3.7 m x 4.3 m). One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i>, and have a five-point breakaway feature that includes two (2) at the shoulders, two (2) at the sides, and one (1) at the front. Five (5) fluorescent orange traffic cones not less than 28.00" (711 mm) in height, each equipped with a 6.00" (152 mm) retro-reflective white band no more than 4.00" (152 mm) from the top of the cone, and an additional 4.00" (102 mm) retro-reflective white band 2.00" (51 mm) below the 6.00" (152 mm) band. Five (5) illuminated warning devices such as highway flares, unless the five (5) fluorescent orange traffic cones have illuminating capabilities. One (1) automatic external defibrillator (AED). Four (4) ladder belts meeting the requirements of NFPA 1983, <i>Standard on Fire Service Life Safety Rope and System Components</i> (if equipped with an aerial device). If the supply hose carried does not use sexless couplings, an additional double female adapter and double male adapter, sized to fit the supply hose carried, will be carried mounted in brackets fastened to the apparatus. If none of the pump intakes are valved, a hose appliance that is equipped with one or more gated intakes with female swivel connection(s) compatible with the supply hose used on one side and a swivel connection with pump intake threads on the other side will be carried. Any intake connection larger than 3.00" (75 mm) will include a pressure relief device that meets the requirements of 16.6.6. If the apparatus does not have a 2.50" National Hose (NH) intake, an adapter from 2.50" NH female to a pump intake will be carried, mounted in a bracket fastened to the apparatus if not already mounted directly to the intake. If the supply hose carried has other than 2.50" National Hose (NH) threads, adapters will be carried to allow feeding the supply hose from a 2.50" NH thread male discharge and to allow the hose to connect to a 2.50" NH female intake, mounted in brackets fastened to the apparatus if not already mounted directly to the discharge or intake.</p>
0602407	Soft Suction Hose, Provided by Fire Department, Pumper NFPA 2016 Classification	<p>SOFT SUCTION HOSE PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1901, 2016 edition, section 5.8.2.1 requires a minimum of 20' of suction hose or 15' of supply hose will be carried. Hose is not on the apparatus as manufactured. The fire department will provide suction or supply hose.</p>
0602390	Strainer, Provided by Fire Department, Pumper NFPA 2016 Classification	<p>STRAINER PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1901, 2016 edition, section 5.8.2.1.1 requires a suction strainer when suction hose is provided. The strainer is not on the apparatus as manufactured. The fire department will provide the suction strainer.</p>
0602538	Extinguisher, Dry Chemical, Pumper NFPA 2016 Class, Provided by Fire Department	<p>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1901, 2016 edition, section 5.9.4 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.</p>
0602360	Extinguisher, 2.5 Gal. Pressurized Water, Pumper NFPA 2016, Provided by Fire Dept	<p>WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</p> <p>NFPA 1901, 2016 edition, section 5.9.4 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus. The extinguisher is not on the apparatus as manufactured. The fire department will provide and mount the extinguisher.</p>

0602679	Axe, Flathead, Pumper NFPA 2016 Classification, Provided by Fire Department	<p>FLATHEAD AXE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) flathead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.</p>
0602667	Axe, Pickhead, Pumper NFPA 2016 Classification, Provided by Fire Department	<p>PICKHEAD AXE PROVIDED BY FIRE DEPARTMENT NFPA 1901, 2016 edition, Section 5.9.4 requires one (1) pickhead axe mounted in a bracket fastened to the apparatus. The axe is not on the apparatus as manufactured. The fire department will provide and mount the axe.</p>
0741569	Paint Process / Environmental Requirements, Appleton	<p>PAINT PROCESS The exterior custom cab and body painting procedure will consist of a seven (7) step finishing process as follows: <u>Manual Surface Preparation</u> - All exposed metal surfaces on the custom cab and body will be thoroughly cleaned and prepared for painting. Imperfections on the exterior surfaces will be removed and sanded to a smooth finish. Exterior seams will be sealed before painting. Exterior surfaces that will not be painted include; chrome plating, polished stainless steel, anodized aluminum and bright aluminum treadplate. <u>Chemical Cleaning and Pretreatment</u> - All surfaces will be chemically cleaned to remove dirt, oil, grease, and metal oxides to ensure the subsequent coatings bond well. The aluminum surfaces will be properly cleaned and treated using a high pressure, high temperature 4 step Acid Etch process. The steel and stainless surfaces will be properly cleaned and treated using a high temperature 3 step process specifically designed for steel or stainless. The chemical treatment converts the metal surface to a passive condition to help prevent corrosion. <u>Surfacer Primer</u> - The Surfacer Primer will be applied to a chemically treated metal surface to provide a strong corrosion protective basecoat. A minimum thickness of 2 mils of Surfacer Primer is applied to surfaces that require a Critical aesthetic finish. The Surfacer Primer is a two-component high solids urethane that has excellent sanding properties and an extra smooth finish when sanded. <u>Finish Sanding</u> - The Surfacer Primer will be sanded with a fine grit abrasive to achieve an ultra-smooth finish. This sanding process is critical to produce the smooth mirror like finish in the topcoat. <u>Sealer Primer</u> - The Sealer Primer is applied prior to the Basecoat in all areas that have not been previously primed with the Surfacer Primer. The Sealer Primer is a two-component high solids urethane that goes on smooth and provides excellent gloss hold out when topcoated. <u>Basecoat Paint</u> - Two coats of a high performance, two component high solids polyurethane basecoat will be applied. The Basecoat will be applied to a thickness that will achieve the proper color match. The Basecoat will be used in conjunction with a urethane clear coat to provide protection from the environment. <u>Clear Coat</u> - Two (2) coats of Clear Coat will be applied over the Basecoat color. The Clear Coat is a two-component high solids urethane that provides superior gloss and durability to the exterior surfaces. Lap style and roll-up doors will be Clear Coated to match the body. Paint warranty for the roll-up doors will be provided by the roll-up door manufacturer. After the cab and body are painted, the color will be verified to make sure that it matches the color standard. Electronic color measuring equipment will be used to compare the color sample to the color standard entered into the computer. Color specifications will be used to determine the color match. A Delta E reading will be used to determine a good color match within each family color. All removable items such as brackets, compartment doors, door hinges, and trim will be removed and painted separately if required, to ensure paint behind all mounted items. Body assemblies that cannot be finish painted after assembly will be finish painted before assembly. The paint finish quality levels for critical areas of the apparatus (cab front and sides, body sides and doors, and boom lettering panels) are to meet or exceed Cadillac/General Motors GMW15777 global paint requirements. Orange peel levels are to meet or exceed the #6 A.C.T. standard in critical areas. The manufacture's written paint standards will be available upon request.</p> <p>Environmental Impact Contractor will meet or exceed all current state regulations concerning paint operations. Pollution control will include measures to protect the atmosphere, water and soil. Controls will include the following conditions: Topcoats and primers will be chrome and lead free. Metal treatment chemicals will be chrome free. The wastewater generated in the metal treatment process will be treated on-site to remove any other heavy metals. Particulate emission collection from sanding operations will have a 99.99 percent efficiency factor. Particulate emissions from painting operations will be collected by a dry filter or water wash process. If the dry filter is used, it will have an efficiency rating of 98 percent. Water wash systems will be 99.97 percent efficient Water from water wash booths will be reused. Solids will be removed on a continual basis to keep the water clean. Paint wastes are disposed of in an environmentally safe manner. Empty metal paint containers will be recycled to recover the metal. Solvents used in clean-up operations will be recycled on-site or sent off-site for distillation and returned for reuse. Additionally, the finished apparatus will not be manufactured with or contain products that have ozone depleting substances. Contractor will, upon demand, present evidence that the manufacturing facility meets the above conditions and that it is in compliance with his state EPA rules and regulations.</p>

0709846	Paint, Two-Tone Color, Velocity/Impel	CAB TWO-TONE PAINT The cab will be painted two-tone, with the upper section painted #252 white and the lower section painted #540 Red. There will be a standard two-tone cab paint break provided. There will be no cab shield provided.
0709845	Paint, Single Color, Body	BODY PAINT The body will be painted to match the lower section of the cab.
0646897	Paint Chassis Frame Assy, E-Coat, Standard	PAINT CHASSIS FRAME ASSEMBLY The chassis frame assembly will be finished with a single system black top coat before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc. Components treated with epoxy E-coat protection prior to paint: Two (2) C-channel frame rails Components that are included with the chassis frame assembly that will be painted not e-coated are: Cross members Axles Suspensions Steering gear Battery boxes Bumper extension weldment Frame extensions Body mounting angles Rear Body support substructure (front and rear) Pump house substructure Air tanks Steel fuel tank Castings Individual piece parts used in chassis and body assembly The E-coat process will meet the technical properties shown.
0693797	No Paint Required, Aluminum Front Wheels	
0693792	No Paint Required, Aluminum Rear Wheels	
0733739	Paint, Axle Hubs	AXLE HUB PAINT All axle hubs will be painted to match lower job color.
0092592	SP Smooth Finish, Two-Tone Cab Paint Break, No Vinyl	FINISH TWO-TONE PAINT BREAK SMOOTH, NO VINYL The two-tone paint break will be finished smooth. There will not be a vinyl stripe installed on the break.
0007230	Compartment, Painted, Spatter Gray	COMPARTMENT INTERIOR PAINT The interior of all compartments will be painted with a gray spatter finish for ease of cleaning and to make it easier to touch up scratches and nicks.
0660196	Reflective Band, 12"	REFLECTIVE BAND A 12.00" white reflective band will be provided across the front of the vehicle and along the sides of the body.
0510041	Reflective across Cab Face, Imp/Vel	The reflective band provided on the cab face will be below the headlights on the fiberglass.
0550809	Stripe, Chevron, Rear, Reflective, Pumper, PUC w/ Space Saver - Uncovered	REAR CHEVRON STRIPING There will be alternating chevron striping located on the rear-facing vertical surface of the apparatus. The rear surface, excluding the rear roll up door and swing down tailboard, will be covered. The colors will be yellow and ruby red reflective. Each stripe will be 6.00" in width. This will meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface will be covered with chevron striping.
0087342	Jog, "Z"-Shaped, In Reflective Stripe	"Z" JOG IN REFLECTIVE STRIPE There will be two (2) "Z"-shaped jog(s) provided in the reflective stripe design.
0567374	Stripe, Black Outline each Chevron Stripe @ Rear (Not Warranted)	REFLECTIVE STRIPE OUTLINE A black vinyl outline will be provided for each chevron stripe at the rear of the truck.

0093162	SP	Stripe, .125" Vinyl Outline on Reflective Band, Color	OUTLINE, REFLECTIVE STRIPE A .125" Imitation Gold outline will be applied on the top and the bottom of the reflective band. There will be two (2) set of outline stripes required.
0065687		Stripe, Reflective, Cab Doors Interior	CAB DOOR REFLECTIVE STRIPE A 6.00" x 16.00" black reflective stripe will be provided across the interior of each cab door. The stripe will be located approximately 1.00" up from the bottom, on the door panel. This stripe will meet the NFPA 1901 requirement.
0033179		Lettering Specifications, Reflective	
0686159		Lettering, Reflective, 3.00", (41-60)	LETTERING Forty-one (41) to sixty (60) reflective lettering, 3.00" high, with outline and shade will be provided.
0685993		Lettering, Reflective, 10.00", Each	LETTERING There will be reflective lettering, 10.00" high, with outline and shade provided. There will be two (2) letters provided.
0686005		Lettering, Reflective, 7.00", (21-40)	LETTERING Twenty-one (21) to forty (40) reflective lettering, 7.00" high, with outline and shade will be provided.
0686013		Lettering, Reflective, 6.00", Each	LETTERING There will be reflective lettering, 6.00" high, with outline and shade provided. There will be seven (7) letters provided.
0686018		Lettering, Reflective, 5.00", Each	LETTERING There will be reflective lettering, 5.00" high, with outline and shade provided. There will be six (6) letters provided.
0686048		Lettering, Reflective, 1.00", Each	LETTERING There will be reflective lettering, 1.00" high, with no outline or shade provided. There will be eight (8) letters provided.
0796207	SP	Lettering, Reflective 4" Script, Pair	LETTERING, SCRIPT Special 4.00", scotchlite, script lettering will be provided and installed. Color of the lettering will be white.
0607830	SP	Emblem, "Waving American Flag" Color Imaged, 16" Wide, Pr (mirror images)	"WAVING AMERICAN FLAG" EMBLEMS There will be a pair of color imaged emblems, 18.00" wide, featuring a "Waving American Flag", installed Located on the D1 & P1 roll-up doors.. The pair will be mirror images of each other.
0684185		Emblem, Maltese Cross, Reflective, 12"-14", Pair	MALTESE CROSS INSTALLATION There will be one (1) pair of Maltese crosses, comprised of reflective material, provided and installed cab doors.
0526005		Manuals, One (1), Fire Apparatus Parts, & (1) CD, Custom Chassis	FIRE APPARATUS PARTS MANUAL One (1) custom parts manuals for the complete fire apparatus will be provided in hard copy with the completed unit. One (1) compact disc (CD) will also be provided that will include all of the information from the above manual. The manual will contain the following: - Job number - Part numbers with full descriptions - Table of contents - Parts section sorted in functional groups reflecting a major system, component, or assembly - Parts section sorted in Alphabetical order - Instructions on how to locate parts The manual will be specifically written for the chassis and body model being purchased. It will not be a generic manual for a multitude of different chassis and bodies. SERVICE PARTS INTERNET SITE The service parts information included in this manual is also available on the Pierce website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.

0543577	Manuals, (1) Chassis Service & (1) CD, Custom	<p>CHASSIS SERVICE MANUALS</p> <p>One (1) chassis service manuals containing parts and service information on major components will be provided with the completed unit.</p> <p>One (1) compact disk (CD) will also be provided that will include all of the information from the above manual.</p> <p>The manuals will contain the following sections:</p> <ul style="list-style-type: none"> - Job number - Table of contents - Troubleshooting - Front Axle/Suspension - Brakes - Engine - Tires - Wheels - Cab - Electrical, DC - Air Systems - Plumbing - Appendix <p>The manual will be specifically written for the chassis model being purchased. It will not be a generic manual for a multitude of different chassis and bodies.</p>
0531638	Manual, Two (2) CD, Chassis Operation, Custom	<p>CHASSIS OPERATION CD MANUALS</p> <p>There will be two (2) CD format chassis operation manuals provided.</p>
0030008	Warranty, Basic, 1 Year, Apparatus, WA0008	<p>ONE (1) YEAR MATERIAL AND WORKMANSHIP</p> <p>A Pierce basic apparatus limited warranty certificate, WA0008, is included with this proposal.</p>
0611136	Warranty, Chassis, 3 Year, Velocity/Impel, WA0284	<p>THREE (3) YEAR MATERIAL AND WORKMANSHIP</p> <p>The Pierce custom chassis limited warranty certificate, WA0284, is included with this proposal.</p>
0696698	Warranty, Engine, Cummins, 5 Year, WA0181	<p>ENGINE WARRANTY</p> <p>A Cummins five (5) year limited engine warranty will be provided. A limited warranty certificate, WA0181, is included with this proposal.</p>
0684953	Warranty, Steering Gear, Sheppard M110, 3 Year WA0201	<p>STEERING GEAR WARRANTY</p> <p>A Sheppard three (3) year limited steering gear warranty will be provided. A copy of the warranty certificate will be submitted with the bid package.</p>
0595767	Warranty, Frame, 50 Year, Velocity/Impel, WA0038	<p>FIFTY (50) YEAR STRUCTURAL INTEGRITY</p> <p>The Pierce custom chassis frame and crossmembers limited warranty certificate, WA0038, is included with this proposal.</p>
0595698	Warranty, Axle, 3 Year, TAK-4, WA0050	<p>FRONT AXLE THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</p> <p>The Pierce TAK-4 suspension limited warranty certificate, WA0050, is included with this proposal.</p>
0733306	Warranty, Single Axle, 5 Year, Meritor, General Service, WA0384	<p>SINGLE REAR AXLE FIVE (5) YEAR MATERIAL AND WORKMANSHIP WARRANTY</p> <p>A Meritor™ Axle 5 year limited warranty will be provided.</p>
0652758	Warranty, ABS Brake System, 3 Year, Meritor Wabco, WA0232	<p>ABS BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</p> <p>A Meritor Wabco™ ABS brake system limited warranty certificate, WA0232, is included with this proposal.</p>
0019914	Warranty, Structure, 10 Year, Custom Cab, WA0012	<p>TEN (10) YEAR STRUCTURAL INTEGRITY</p> <p>The Pierce custom cab limited warranty certificate, WA0012, is included with this proposal.</p>
0744240	Warranty, Paint, 10 Year, Cab, Pro-Rate, WA0055	<p>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</p> <p>A Pierce cab limited pro-rated paint warranty certificate, WA0055, is included with this proposal.</p>
0524627	Warranty, Electronics, 5 Year, MUX, WA0014	<p>FIVE (5) YEAR MATERIAL AND WORKMANSHIP</p> <p>The Pierce Command Zone electronics limited warranty certificate, WA0014, is included with this proposal.</p>
0695416	Warranty, Pierce Camera System, WA0188	<p>CAMERA SYSTEM WARRANTY</p> <p>A Pierce fifty four (54) monthwarranty will be provided for the camera system.</p>

0708760	Warranty, Not Applicable, LED Strip Lights	COMPARTMENT LIGHT WARRANTY The compartment lights will not offer an extended warranty.
0046369	Warranty, 5-year EVS Transmission, Standard Custom, WA0187	TRANSMISSION WARRANTY The transmission will have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty will be provided by Allison Transmission. Note: The transmission cooler is not covered under any extended warranty you may be getting on your Allison Transmission. Please review your Allison Transmission warranty for coverage limitations.
0685945	Warranty, Transmission Cooler, WA0216	TRANSMISSION COOLER WARRANTY The transmission cooler will carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty will also be in effect for the first three (3) years of the warranty coverage and will not exceed \$10,000 per occurrence. A copy of the warranty certificate will be submitted with the bid package.
0688798	Warranty, Water Tank, Lifetime, UPF, Poly Tank, WA0195	WATER TANK WARRANTY A UPF poly water tank limited warranty certificate, WA0195, is included with this proposal.
0596025	Warranty, Structure, 10 Year, Body, WA0009	TEN (10) YEAR STRUCTURAL INTEGRITY The Pierce apparatus body limited warranty certificate, WA0009, is included with this proposal.
0693126	Warranty, AMDOR, Roll-up Door, 10 Year/5 Year Painted, WA0185	ROLL UP DOOR MATERIAL AND WORKMANSHIP WARRANTY An AMDOR roll-up door limited warranty will be provided. The roll-up door will be warranted against manufacturing defects for a period of ten (10) years . A five (5) year limited warranty will be provided on painted roll up doors. The limited warranty certificate, WA0185, is included with this proposal.
0516693	Warranty, Pump, Pierce, PUC, 6 Year Parts, 1 Year Labor, WA0039	SIX (6) YEAR PARTS, ONE (1) YEAR LABOR The pump and its components will be provided with a six (6) year parts and one (1) year labor limited warranty. The manufacturer's warranty will provide that the pump and its components will be free from failures caused by defects in material and workmanship that would arise under normal use and service. A copy of the warranty certificate will be submitted with the bid package.
0648675	Warranty, 10 Year S/S Pumping, WA0035	TEN (10) YEAR PUMP PLUMBING WARRANTY The Pierce apparatus plumbing limited warranty certificate, WA0035, is included with this proposal.
0657990	Warranty, Foam System, Husky 3, WA0231	FOAM SYSTEM WARRANTY The Husky 3 foam system limited warranty certificate, WA0231, is included with this proposal.
0595820	Warranty, Paint, 10 Year, Body, Pro-Rate, WA0057	TEN (10) YEAR PRO-RATED PAINT AND CORROSION A Pierce body limited pro-rated paint warranty certificate, WA0057, is included with this proposal.
0595412	Warranty, Graphics Lamination, 1 Year, Apparatus, WA0168	ONE (1) YEAR MATERIAL AND WORKMANSHIP The Pierce graphics fading and deterioration limited warranty limited warranty certificate, WA0168, is included with this proposal.
0683627	Certification, Vehicle Stability, CD0156	VEHICLE STABILITY CERTIFICATION The fire apparatus manufacturer will provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification will be provided at the time of bid.
0808577	Certification, Engine Installation, Velocity, Cummins X15, 2027	ENGINE INSTALLATION CERTIFICATION The fire apparatus manufacturer will provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification will be provided at the time of delivery.
0686786	Certification, Power Steering, CD0098	POWER STEERING CERTIFICATION The fire apparatus manufacturer will provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification will be provided at the time of bid.

0892701	Certification, Cab Integrity, Impel/Velocit FR, CD0190	<p>CAB INTEGRITY CERTIFICATION The fire apparatus manufacturer will provide a cab crash test certification with this proposal. The certification will state that a specimen representing the substantial structural configuration of the cab has been tested and certified by an independent third party test facility. Testing events will be documented with photographs, real-time and high-speed video, vehicle accelerometers, cart accelerometers, and a laser speed trap. The fire apparatus manufacturer will provide a state licensed professional engineer to witness and certify all testing events. Testing will meet or exceed the requirements below: SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. European Occupant Protection Standard ECE Regulation No.29. SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.</p> <p>Side Impact The cab will be subjected to dynamic preload where a 14,320-lbs moving barrier is slammed into the side of the cab at 5.50 mph, striking with an impact of 13,000 ft-lbs of force. This test is part of the SAE J2422 test procedure and more closely represents the forces a cab will see in a rollover incident.</p> <p>Roof Crush The same cab will be subjected to a roof crush force of 22,050 lbs. This value meets the ECE 29 criteria, and is equivalent to the front axle rating up to a maximum of ten (10) metric tons.</p> <p>Additional Roof Crush The same cab will be subjected to a roof crush force of 100,000 lbs. (Four and a half times the load criteria of ECE 29)</p> <p>Frontal Impact The same cab will withstand a frontal impact of 32,600 ft-lb of force using a moving barrier in accordance with SAE J2420.</p> <p>Additional Frontal Impact The same cab will withstand a frontal impact of 65,200 ft-lb of force using a moving barrier. (Twice the force required by SAE J2420) The same cab will withstand all tests without any measurable intrusion into the survival space of the occupant area. There will be no exception to any portion of the cab integrity certification. Nonconformance will lead to immediate rejection of bid.</p>
0548950	Certification, Cab Door Durability, Velocity/Impel, CD0001	<p>CAB DOOR DURABILITY CERTIFICATION Robust cab doors help protect occupants. Cab doors will survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder will certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.</p>
0548967	Certification, Windshield Wiper Durability, Impel/Velocit, CD0005	<p>WINDSHIELD WIPER DURABILITY CERTIFICATION Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers will survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder will certify that the wiper system design has been tested and that the wiper system has met these criteria.</p>
0667411	Certification, Electric Window Durability, Velocity/Impel FR, CD0004	<p>ELECTRIC WINDOW DURABILITY CERTIFICATION Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design will complete 30,000 complete up-down cycles and still function normally when finished. The bidder will certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p>
0549273	Certification, Seat Belt Anchors and Mounting, Imp/Vel/Vel SLT, CD0018	<p>SEAT BELT ANCHOR STRENGTH Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design will withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder will certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p> <p>SEAT MOUNTING STRENGTH Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design will be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder will certify that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p>

0735950	Certification, Cab HVAC System Perf, Vel/Imp FR, CD0166/CD0168/CD0176/CD0177	<p>PERFORMANCE CERTIFICATIONS</p> <p>Cab Air Conditioning Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system will cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder will certify that a substantially similar cab has been tested and has met these criteria.</p> <p>Cab Defroster Visibility during inclement weather is essential to safe apparatus performance. The defroster system will clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure And Performance Requirements - Trucks, Buses, And Multipurpose Vehicles. <i>The bidder will certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</i></p> <p>Cab Auxiliary Heater <i>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. An auxiliary cab heater will warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder will certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</i></p>
0545073	Amp Draw Report, NFPA Current Edition	<p>AMP DRAW REPORT The bidder will provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system. The manufacturer of the apparatus will provide the following: Documentation of the electrical system performance tests. A written load analysis, which will include the following: The nameplate rating of the alternator. The alternator rating under the conditions specified per: Applicable NFPA 1901 or 1906 (Current Edition). The minimum continuous load of each component that is specified per: Applicable NFPA 1901 or 1906 (Current Edition). Additional loads that, when added to the minimum continuous load, determine the total connected load. Each individual intermittent load. All of the above listed items will be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>
0002758	Amp Draw, NFPA/ULC Radio Allowance	
0799248	Appleton/Florida BTO	
0000048	PUMPER/TANKER, 3rd Gen	
0000012	PIERCE CHASSIS	
0004713	ENGINE, OTHER	
0046396	EVS 4000 Series TRANSMISSION	
0520324	PIERCE PUMP, PUC	
0020009	POLY TANK	
0028048	FOAM SYSTEM	
0020006	SIDE CONTROL	
0020007	AKRON VALVES	
0020015	ABS SYSTEM	
0658751	PUMPER BASE	



Electrical Analysis

6/21/2023

Bid #: 913	Job #:
Desc: EDH Type 1 PUC (Duplicate #31593)	Sales Rep: Hansen, Brad
Customer: El Dorado Hills County Water District	Organization: Golden State Fire Apparatus, Inc
Option: Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT	Type: Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0000853	Compressor, Air, Kussmaul 091-9 12V Brake System		0.00	12.00	0.00
0001244	High Idle w/Electronic Engine, Custom		0.00	1.20	0.00
0002526	Light, Engine Compt, All Custom Chassis		0.00	1.60	0.00
0010670	ABS Wabco Brake System, Single rear axle		0.00	6.00	0.00
0069390	Control, Air Horn At Pmp Pnl, Red Button		0.00	0.16	0.00
0072153	Primer, Trident, Air Prime, Air Operated		0.00	0.01	0.00
0079211	Batteries, (6) Stryten/Exide Grp 31, 950 CCA each, Threaded Stud		0.00	3.00	0.00
0122466	Cab Lift, Elec/Hyd, w/Manual Override, Imp/Vel		0.00	180.00	0.00
0517012	Gauge, Foam Level, Pierce, PUC, PP and Mini in Cab		0.00	0.00	1.23
0543751	Light, Do Not Move Apparatus		0.00	0.80	0.00
0548009	Wiring, Spare, 20 A 12V DC 1st		0.00	0.00	20.00
0549333	Indicators, Engine, Included with Pressure Controller		0.00	0.35	0.00
0559185	Install Customer Provided Handlight Charger(s)		0.00	0.00	0.24
0585913	Wiring, Spare, 20 A 12V DC, 6 Circuit Fuse Block, Blue Sea 5025		0.00	0.00	20.00
0589905	Alarm, Back-up Warning, PRECO 1040		0.00	0.50	0.00
0602586	Wiring, Spare, 2.0 A 12V DC, USB Termination Blue Sea 1016 2nd		0.00	0.00	2.50
0602637	Portable Hand Light, Provided by Fire Dept, Pumper NFPA 2016		0.00	0.50	0.00
0610968	Wiring, Spare, 2.0 A 12V DC, USB Termination Blue Sea 1016 1st		0.00	0.00	2.50
0643212	Fan, Air Exchange, Cab Compartment, Thermostat		0.00	0.25	0.00
0653526	Camera, Pierce, LS Mux, R, Camera		0.00	1.20	0.00
0657222	Wiring, Spare, 20 A 12V DC, 12 Circuit Fuse Block, Blue Sea		0.00	0.00	40.00
0662029	Intercom, Firecom 5200D Dual Radio, 4-Pos, D,O,2C		0.00	0.00	0.50
0667902	Controls, Electric Windows, All Cab Doors, Impel/Velociry FR		0.00	26.00	0.00
0672937	Lights, Side, WIn WIONSMC* LED, Chrome Flange, Mounted In		0.00	0.00	4.00
0676021	Foam Sys, Husky 3, Single Agent, PUC, Multi Select Feature		0.00	55.00	0.00
0681405	177" Hatch, (2) Lift-up, 21" Wide, LS Only, PUC/HDRP		0.00	3.25	3.25
0687994	Engine Brake, Jacobs Compression Brake, Cummins Engine		0.00	0.42	0.00
0693336	Light, Pump Compt, Truck-Lite 44308C LED Grommet Mt		0.00	0.50	0.00
0708660	Wiring, Spare, 37.5 A 12V DC, Cust Install Radio, 30A Bat Dir,		0.00	0.00	37.50
0763608	Lights, WIn, PCPSM2*, Pioneer, 12 VDC, 2nd		0.00	0.00	12.00
0763610	Lights, WIn, PCPSM2*, Pioneer, 12 VDC, 1st		0.00	0.00	12.00
0766906	Lights, WIn, PCPSM1*, Pioneer, 12 VDC, 1st		0.00	0.00	12.00
0768059	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 2nd		0.00	0.00	12.00
0768061	Lights, WIn, PCPSM2* Pioneer, 12 VDC, 1st		0.00	0.00	12.00
0772517	Compt, Storage, Rr Fcng, RS Overhead, 22 W x 10 H x 25		0.00	0.00	7.20
0776357	Light, Visor, WIn, 12V P*H2* Pioneer, Cnt Feature, 1st		0.00	0.00	13.00
0793529	Dash Switch, Firecom, Push-To-Talk		0.00	0.00	0.00
0803875	Radio, AM/FM/WB, Jensen, Frt,Rear Aux In/Frt,Rear		0.00	0.00	2.00
0806466	Lights, Backup, WIn M62BU, LED, For Tail Lt Housing		0.00	3.20	0.00
0892720	Lights, Walk Surf, 3-P25 LED, Cargo Area, Overall Height		0.00	0.00	0.00
0895310	Siren, Federal Q2B		0.00	100.00	0.00
0548004	Wiring, Spare, 15 A 12V DC 1st	Load Managed	0.00	0.00	45.00
0741239	HVAC, Impel/Velociry FR, CARE	Load Managed	0.00	0.00	136.00
0002758	Amp Draw, NFPA/ULC Radio Allowance	NFPA	5.00	0.00	0.00
0092582	Load Manager/Sequencer, MUX	NFPA	0.56	0.56	0.00
0515270	Compt, Rear, Rollup, 32.50" FF, w/Space Saver, PUC/HDRP	NFPA	0.90	0.00	0.90
0516983	Gauges, Engine, Included With Pierce Pressure Controller, PUC	NFPA	0.30	0.00	0.00

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Electrical Analysis

6/21/2023

Bid #: 913
Desc: EDH Type 1 PUC (Duplicate #31593)

Job #:
Sales Rep: Hansen, Brad

Customer: El Dorado Hills County Water District

Organization: Golden State Fire Apparatus, Inc

Option: Pierce Command Zone, Advanced Electronics & Control System, Vel WiFi CZT

Type: Multiplexed

Option	Description	Type*	Minimum Load	Intermittent Load	Total Connected
0517009	Gauge, Water Level, Pierce, In pressure Controller, w/Mini Slave,	NFPA	1.23	0.00	0.00
0518345	LS 177" Rollup, (1) 50" Fwd, (1) 52" Rr, FH/FD Frt&Rr, PUC	NFPA	6.00	0.00	6.00
0518346	RS 177" Rollup, (1) 50" Fwd, (1) 52" Rr, FH/FD Frt&Rr, PUC	NFPA	6.00	0.00	6.00
0525667	Siren, Wln 295SLSA1, 100 or 200 Watt	NFPA	1.56	14.06	0.00
0535157	Lights, Clearance/Marker/ID, Rear, Truck-Lite 33050R LED 7Lts,	NFPA	0.50	0.00	0.00
0540679	Lights, Side Zone Lower, Wln M6*C LED, Clear Lens 2pr	NFPA	3.60	5.40	0.00
0541155	Lights, Rear/Side Up Zone, Wln M9*C LED, Clear Lens 4lts	NFPA	4.80	7.20	0.00
0555915	Wiper Control, 2-Speed with Intermittent, MUX, Impel/Velocity	NFPA	2.10	8.40	0.00
0556337	Lights, Step, P25 LED at Rear Tailboard, 2lts Perm Lts	NFPA	0.50	0.00	0.00
0564655	Lights, Rear Zn Lwr, Wln M6*C LED, Clear Lens, For Tail Lt	NFPA	1.80	2.70	0.00
0568012	Air Dryer, Wabco System Saver 1200, Heater, 2010	NFPA	7.81	0.00	0.00
0568369	Cab Instruments, Ivory Gauges, Chrome Bezels, Impel/Velocity	NFPA	1.26	0.00	0.00
0604784	Lightbar, Wln, Freedom IV-Q, 81", RRRRWRsrROptRsrRWRRRR	NFPA	8.96	2.68	9.92
0615386	Vehicle Information Center, 7" Color Display, Touchscreen, MUX	NFPA	1.20	0.00	0.00
0620054	Light, Directional/Marker, Intermediate, Weldon 9186-8580-29	NFPA	0.10	0.90	0.00
0647647	Lights, Dome, FRP Dual LED 4 Lts	NFPA	0.80	0.80	0.00
0648074	Lights, Clearance/Marker/ID, Front, P25 LED 7 Lts	NFPA	0.49	0.00	0.00
0648425	Light, Directional, Wln 600 Cmb, Cab Crn, Imp/Vel/AXT/Qtm/DCF	NFPA	0.70	0.70	0.00
0653081	Light, Pump Operator & Panel, Side Ctrl, PUC, 60354C LED Cab	NFPA	2.00	0.00	0.00
0659222	Lights, Hatch Compt, Amdor AY-9220-48, LED, Light Strips, IPOS,	NFPA	0.72	0.72	0.00
0662965	DEF Tank, 4.5 Gallon, DS Fill, Rear of Axle, Common Air Bottle	NFPA	0.60	11.40	0.00
0668310	Cab, Velocity FR, 7010 Raised Roof, PUC	NFPA	6.80	10.20	0.00
0681403	Lights, Hatch Compt, LED Strip Light, 177", One Side	NFPA	1.58	1.58	0.00
0724463	Controller, Pressure, Pierce LCD, PUC	NFPA	1.70	0.00	0.00
0737954	Cabinet, Rear Facing, RS, 30.50 W x 28 H x 21.50 D, Ext Acc	NFPA	0.28	0.28	0.00
0739224	Indicator Light @ Pump Panel, Throttle Ready, Incl w/Pressure	NFPA	0.10	0.00	0.00
0747660	Lights, Crosslay Compt, Forward LED, 2Lts	NFPA	1.20	0.00	0.00
0756375	Lights, Hyd Lad Rack Deployed, Truck-Lite 15****	NFPA	0.10	0.00	0.00
0765826	Cabinet, Rear Facing, LS, 30.5 W x 30 H x 24 D, Ext Acc Only,	NFPA	0.56	0.56	0.00
0769420	Lights, Perimeter Cab, Amdor AY-LB-12HW020 LED 4Dr	NFPA	1.20	0.00	0.00
0769559	Lights, Perimeter Pump House, Amdor AY-LB-12HW012 LED 2lts	NFPA	0.36	0.00	0.00
0769560	Lights, Perimeter Body, Amdor AY-LB-12HW012 LED 2lts, Rear	NFPA	0.36	0.00	0.00
0770200	Handrail, Exterior, Hansen, Knurled, Alum, LED Backlit, 4-Door	NFPA	0.80	0.00	0.00
0783153	Headlights, Rect LED, JW Spkr Evo 2, AXT/DCF/Enf/Imp/Sab/Vel	NFPA	4.20	4.20	0.00
0791528	Light, Traffic Directing, Wln TAL65, 36.00" Long, TACTL5	NFPA	0.60	1.20	0.00
0801890	Trans, Allison 6th Gen, 4500 EVS P, w/Prognostics, Imp/Vel/Enf	NFPA	2.00	2.00	0.00
0804514	Lights, Tail, Wln M62BTT* Red Stop/Tail & M62T* Amber Dir Arw	NFPA	0.83	2.49	0.00
0812269	Engine, Cummins X15, 605 hp, 1850 lb-ft, W/OBD, EPA 2027,	NFPA	6.00	0.00	0.00
0889577	Bracket, License Plate & Light, P25 LED, Stainless Brkt	NFPA	0.07	0.00	0.00
0892637	Lights, Cab & Crw Cab Acs Stps, P25, LED w/Bezel, 1Lt Per Step	NFPA	1.00	0.00	0.00
0893593	Lights, Hose Bed, Below Alum Cvr, Dual LED Light Strips	NFPA	2.52	0.00	0.00
0898734	Light, Front Zone, Wln M6** M6** M6** M6** Q Bzl	NFPA	1.80	5.40	1.80
0647728	Alternator, 430 amp, Delco Remy 55SI	S	0.00	0.00	0.00
Load Totals:			93.55	479.37	419.54

* UDMC = User Defined Mission Critical, LM = User Defined Load Managed, S = Electrical Amperage Supply



Turning Performance Analysis

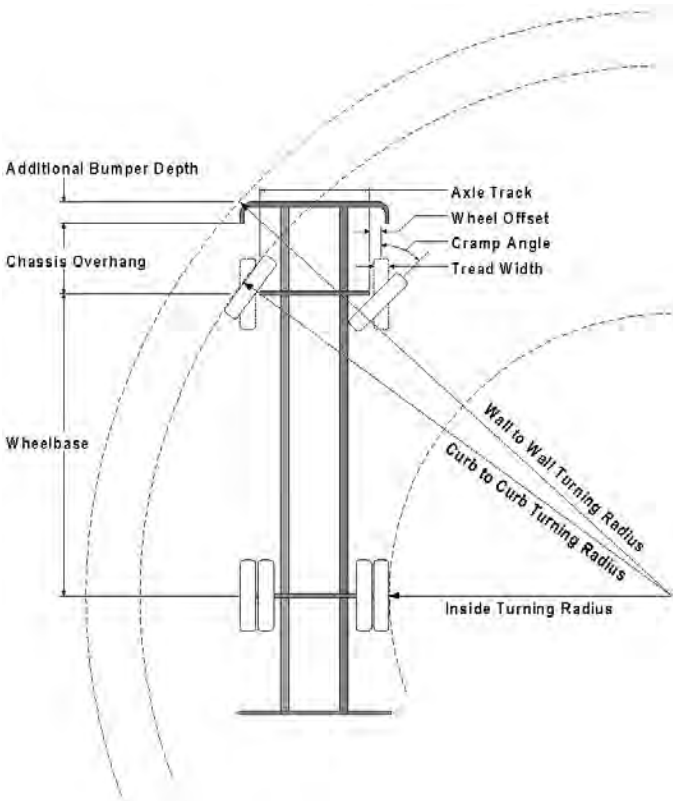
06/21/2023

Bid Number: 913

Department: El Dorado Hills County Water District

Chassis: Velocity Chassis, PUC-NG (Big Block)

Body: Pumper, PUC, Aluminum



Parameters:

*Inside Cramp Angle:	45°
Axle Track:	82.92 in.
Wheel Offset:	4.68 in.
Tread Width:	16.3 in.
Chassis Overhang:	78 in.
Additional Bumper Depth:	13 in.
Front Overhang:	91 in.
Wheelbase:	183.5 in.

Calculated Turning Radii:

Inside Turn:	14 ft. 3 in.
Curb to curb:	28 ft. 0 in.
Wall to wall:	32 ft. 8 in.

Category	Option	Description
Bumpers	0123623	Bumper, 13" Extended, Imp/Vel
Wheels, Front	0019611	Wheels, Front, Alcoa, 22.50" x 12.25", Aluminum, Hub Pilot
Axle, Front, Custom	0508849	Axle, Front, Oshkosh TAK-4, Non Drive, 22,800 lb, Imp/Vel
Tires, Front	0899438	Tires, Front, Goodyear, Armor MAX MSA, 425/65R22.50, 20 ply

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.

4 **PRODUCT** **WARRANTIES**

Exhibit "C"



Fire and Rescue Apparatus

One (1) Year Material and Workmanship

Basic Apparatus

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Twelve (12) months.
Conditions and Exclusions: See Also Paragraphs 2 thru 4	No specific exclusions apply

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Velocity and Impel Custom Chassis

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Portions of the apparatus manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	Three (3) Years, or 30,000 Miles, or 5000 Engine Hours
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies, where applicable, to Goldstar lamination, defroster heater coil and motor blower assembly (excluding the FET PWM module), heater, air conditioning condenser coil and fan/motor assembly, air conditioning evaporator coil and motor blower assembly (excluding the drain pan pump and thermostat), under seat heaters coil and motor blower assembly (excluding the FET PWM module), HVAC electronic switches, HVAC hoses and hard lines, heater water valve, Pierce PS6 seat frames and hardware, Pierce One-Eleven mirrors, Pierce hands-free scba holder, cracking or color loss of roto-molded components, Meritor rear axle, Wabco ABS system, cab door handles, Standen spring suspension components, and the gauge instrument cluster.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

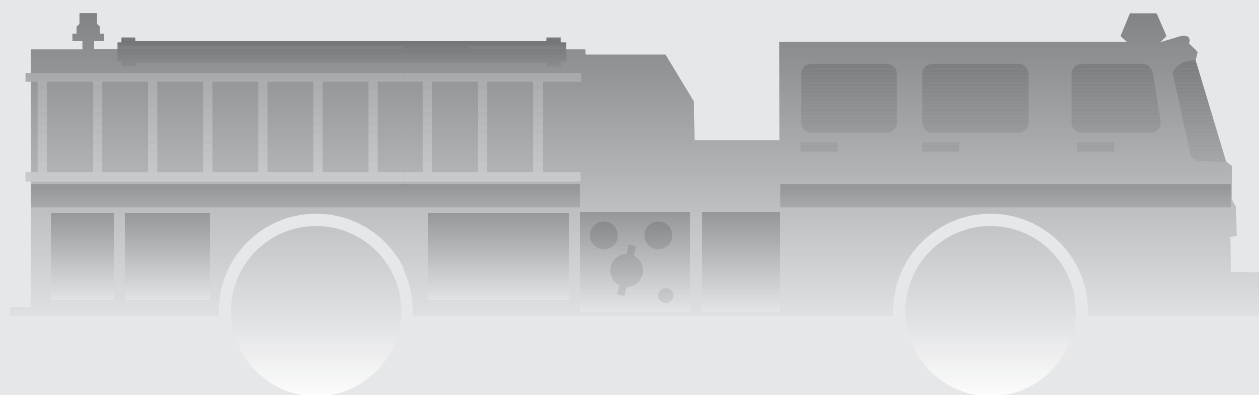
Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Cummins Warranty

Worldwide

Fire Apparatus/Crash Trucks



Coverage

Products Warranted

This Warranty applies to new diesel Engines sold by Cummins and delivered to the first user on or after April 1, 2007, that are used in fire apparatus truck and crash truck* applications Worldwide.

Base Engine Warranty

The Base Engine Warranty covers any failures of the Engine which result, under normal use and service, from a defect in material or factory workmanship (Warrantable Failure). This Coverage begins with the sale of the Engine by Cummins and ends five years or 100,000 miles (160,935 kilometers), whichever occurs first, after the date of delivery of the Engine to the first user.

Engine aftertreatment components included in the Cummins Critical Parts List (CPL) and marked with a Cummins part number are covered under Base Engine Warranty.

Additional Coverage is outlined in the Emission Warranty section.

These Warranties are made to all Owners in the chain of distribution and Coverage continues to all subsequent Owners until the end of the periods of Coverage.

Cummins Responsibilities

Cummins will pay for all parts and labor needed to repair the damage to the Engine resulting from a Warrantable Failure.

Cummins will pay for the lubricating oil, antifreeze, filter elements, belts, hoses and other maintenance items that are not reusable due to the Warrantable Failure.

Cummins will pay for reasonable labor costs for Engine removal and reinstallation when necessary to repair a Warrantable Failure.

Cummins will pay reasonable costs for towing a vehicle disabled by a Warrantable Failure to the nearest authorized repair location. In lieu of the towing expense, Cummins will pay reasonable costs for mechanics to travel to and from the location of the vehicle, including meals, mileage and lodging when the repair is performed at the site of the failure.

Owner Responsibilities

Owner is responsible for the operation and maintenance of the Engine as specified in Cummins Operation and Maintenance Manuals. Owner is also responsible for providing proof that all recommended maintenance has been performed.

Before the expiration of the applicable Warranty, Owner must notify a Cummins distributor, authorized dealer or other repair location approved by Cummins of any Warrantable Failure and make the Engine available for repair by such facility. Except for Engines disabled by a Warrantable Failure, Owner must also deliver the Engine to the repair facility.

Service locations are listed on the Cummins Worldwide Service Locator at cummins.com.

Owner is responsible for the cost of lubricating oil, antifreeze, filter elements and other maintenance items provided during Warranty repairs unless such items are not reusable due to the Warrantable Failure.

Owner is responsible for communication expenses, meals, lodging and similar costs incurred as a result of a Warrantable Failure.

Owner is responsible for non-Engine repairs and for "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs and other losses resulting from a Warrantable Failure.

Owner is responsible for a \$100 (U.S. Dollars) deductible per each service visit under this plan in the 3rd, 4th and 5th years of Base Engine Warranty. The deductible will not be charged during the first 2 years of the Base Engine Warranty.

Limitations

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel



exhaust fluid.

This Warranty does not apply to accessories supplied by Cummins which bear the name of another company. Such non-warranted accessories include, but are not limited to: alternators, starters, fans, air conditioning compressors, clutches, filters, transmissions, torque converters, vacuum pumps, power steering pumps, fan drives and air compressors. Cummins branded alternators and starters are covered for the first two years from the date of delivery of the Engine to the first user, or the expiration of the Base Engine Warranty, whichever occurs first.

Failures resulting in excessive oil consumption are not covered beyond the duration of the Coverage or 100,000 miles (160,935 kilometers) or 7,000 hours from the date of delivery of the Engine to the first user, whichever of the three occurs first. Before a claim for excessive oil consumption will be considered, Owner must submit adequate documentation to show that consumption exceeds Cummins published standards.

Failures of belts and hoses supplied by Cummins are not covered beyond the first year from the date of delivery of the Engine to the first user or the duration of the Warranty, whichever occurs first.

Parts used to repair a Warrantable Failure may be new Cummins parts, Cummins approved rebuilt parts or repaired parts. Cummins is not responsible for failures resulting from the use of parts not approved by Cummins.

A new Cummins or Cummins approved rebuilt part used to repair a Warrantable Failure assumes the identity of the part it replaced and is entitled to the remaining Coverage hereunder.

Cummins Inc. reserves the right to interrogate Electronic Control Module (ECM) data for purposes of failure analysis.

CUMMINS DOES NOT COVER WEAR OR WEAROUT OF COVERED PARTS.

CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

THIS WARRANTY AND THE EMISSION WARRANTY SET FORTH HEREINAFTER ARE THE SOLE WARRANTIES MADE BY CUMMINS IN REGARD TO THESE ENGINES. CUMMINS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OR OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Emission Warranty

Products Warranted

This Emission Warranty applies to new Engines marketed by Cummins that are used in the United States** in vehicles designed for transporting persons or property on a street or highway. This Warranty applies to Engines delivered to the first user on or after September 1, 1992.

Coverage

Cummins warrants to the first user and each subsequent purchaser that the Engine is designed, built and equipped so as to conform at the time of sale by Cummins with all U.S. federal emission regulations applicable at the time of manufacture and that it is free from defects in material or factory workmanship which would cause it not to meet these regulations within the longer of the following periods: (A) Five years or 100,000 miles (160,935 kilometers) of operation, whichever occurs first, as measured from the date of delivery of the Engine to the first user or (B) The Base Engine Warranty.

If the vehicle in which the Engine is installed is registered in the state of California, a separate California Emission Warranty also applies.

Limitations

Failures, other than those resulting from defects in material or factory workmanship, are not covered by this Warranty.

Cummins is not responsible for failures or damage resulting from what Cummins determines to be abuse or neglect, including, but not limited to: operation without adequate coolants or lubricants; overfueling; overspeeding; lack of maintenance of lubricating, cooling or intake systems; improper storage, starting, warm-up, run-in or shutdown practices; unauthorized modifications of the Engine.

Any unauthorized modifications to the aftertreatment could negatively effect emissions certification and void Warranty.

Cummins is also not responsible for failures caused by incorrect oil, fuel or diesel exhaust fluid or by water, dirt or other contaminants in the fuel, oil or diesel exhaust fluid.

Cummins is not responsible for non-Engine repairs, "downtime" expenses, cargo damage, fines, all applicable taxes, all business costs or other losses resulting from a Warrantable Failure.

**CUMMINS IS NOT RESPONSIBLE FOR INCIDENTAL
OR CONSEQUENTIAL DAMAGES.**

* Airport operated crash trucks and fire department
operated trucks employed to respond to fires,
hazardous material releases, rescue and other
emergency-type situations.

** United States includes American Samoa, the
Commonwealth of Northern Mariana Islands, Guam,
Puerto Rico and the U.S. Virgin Islands.



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Columbus, IN 47202-3005
U.S.A.

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R. H. SHEPPARD CO., INC.
101 Philadelphia St.
Hanover, PA 17331
Pierce Manufacturing Inc.
2600 American Drive
Appleton, WI 54912

LIMITED WARRANTY: The R. H. Sheppard Co. Inc., (“Sheppard”) warrants all M110PKG1 and M110SAU1 steering gears manufactured and sold to Pierce Manufacturing Inc. (“Pierce”) for application on Pierce TAK-4 equipped vehicles to be free from defects of workmanship and material under normal use and service for a period of thirty six months from the in service date of the vehicle to its original owner.

Vehicle applications where Sheppard product is used require an application approval before production build. If Pierce uses Sheppard product for any purpose or application which has not been approved by Sheppard in advance, including aftermarket devices (defined as a device added to the steering system directly or indirectly affecting the performance or operation of the Sheppard product in its approved application) not tested and approved by Sheppard this limited warranty **SHALL NOT APPLY AND SHALL BE VOID. SHEPPARD MAKES NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED. SHEPPARD EXPRESSLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.** **SHEPPARD SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES OR FOR LOSS OR DAMAGE DIRECTLY OR INDIRECTLY ARISING FROM THE USE OF A PRODUCT.** Pierce expressly acknowledges its obligation to inform all users (customers) of the above disclaimer.

CONDITIONS: Claims under this Limited Warranty may only be made by Pierce. In no event shall Sheppard be held liable for warranty charges by unauthorized persons. No allowance will be made for repairs or alterations, unless made with the written consent of Sheppard. Authorized Pierce dealers shall be the only authorized repair facility for Sheppard products applied to Pierce vehicles. Any warrantable repair made under this Limited Warranty must be made on or before 36 months of the in-service date for the Product to which the claim relates. Sheppard shall not be liable for claims made after such date. Sheppard product fitted to Pierce vehicles that are repaired at a repair facility other than an authorized Pierce dealer within the warranty period will be considered for payment under the guidelines of this agreement only by joint written consideration of Sheppard and Pierce warranty departments. It shall be the responsibility of the Pierce warranty department to notify Sheppard if and when this situation occurs. Sheppard will not be held responsible for damage to other steering components such as but not limited to pumps and reservoirs due to improper adjustment of steering gear relief plungers. Vehicle downtime and towing will not be considered under warranty.

REMEDIES: The sole and exclusive remedy of Pierce for Sheppard’s breach of the foregoing warranty is limited to the return and repair or reimbursement as follows:

R. H. SHEPPARD CO., INC. WARRANTY
Pierce Manufacturing Inc.
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Warranty Support: In support of the Pierce dealer network, Sheppard will provide a toll-free "Hotline" service to assist in the diagnosis and troubleshooting of steering problems. The R. H. Sheppard Co., Inc. Field Service Department can be reached at 1-800-274-7437 for assistance. Sheppard will require that Pierce dealers contact this toll-free "Hotline" for approval before product is removed from a vehicle in a warranty situation. When contacted regarding a warranty situation, the Sheppard representative will provide an authorization number for removal of the product. This Returned Goods Authorization (RGA) number must be included in all warranty correspondence and attached to all returned goods.

Procedure: In the event of a warranty situation, the servicing dealer shall contact the Sheppard Hotline and receive an RGA number before replacing any steering gear. For M110PKG1 and M110SAU1 steering gear models, the dealer will first obtain an RGA number from Sheppard, and then order the replacement gear from Pierce. Replacement M110PKG1 and M110SAU1 steering gears shall be shipped from Pierce once those models are in full production. A warranty claim for both parts and labor will then be generated by the dealer and sent to Pierce. After reviewing the claim, Pierce will submit it to Sheppard for reimbursement.

Parts Reimbursement: Sheppard agrees to reimburse Pierce at Pierce's purchase price plus 30% mark-up for parts found to be defective within the warranty period. Parts being returned for warranty consideration shall be sent to the R. H. Sheppard Company, 447 E. Middle St., Hanover, PA 17331 ATTN: Warranty Dept. Sheppard's determination as to whether the part is covered by the foregoing warranty is final and conclusive. Sheppard requires the return of complete steering gears only. Individual seals replaced under warranty **should not** be returned unless specifically requested by Sheppard. All parts being returned for warranty consideration must be clearly tagged with all pertinent warranty information including, but not limited to (1) Returned Goods Authorization number (RGA); (2) claim number; (3) date in service; (4) date of failure; (5) mileage; (6) part number; (7) labor hours; (8) dealer labor rate and; (9) dollar amount claimed. Claims submitted without prior authorization are subject to rejection under this agreement.

Labor: Labor to repair Sheppard product found to be defective within the warranty period will be reimbursed at not more than 10 hours per vehicle. Labor shall be reimbursed at the rate of \$85.00 USD per hour for M110PGK1 and M110SAU1 steering gears.

Freight: Pierce will collect M110PGK1 and M110SAU1 warranty material at a designated collection point. Inbound freight to the Pierce collection point will be the responsibility of Pierce. All warranty material should be returned from the Pierce collection point to R. H. Sheppard Co. Freight Collect by a Sheppard-specified common carrier based on location of the Pierce collection point. Sheppard does not require the return of failed seals. Any freight charges incurred for the return of seals will be the responsibility of Pierce. Parts returned for warranty consideration without prior authorization are subject to rejection under this agreement and may be subject to a charge back of inbound freight charges. Parts rejected under this warranty will be returned to Pierce Freight Collect or scrapped by Sheppard at Pierce's discretion.

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

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Outside Purchases: Pierce authorized dealers shall be the only outlet for repair, warranty service and parts for Sheppard products applied to Pierce vehicles. Sheppard will not be responsible for consumables such as hoses, belts, fluids, fittings or miscellaneous shop material that may be required for the repair of the product.

Warranty Documentation: Warranty credit memos will be issued monthly to the Pierce Warranty Department. Monthly credit memos will include (1) claim number; (2) part number; (3) parts reimbursement; (4) labor reimbursement; (5) any applicable Pierce reference number and; (6) reason for rejection or acceptance of the claim. Credit memos will be issued in U.S. funds. Debits for warranty claims will not be accepted under this agreement. Claim disposition will constitute the final and conclusive resolution of warranty claims.

Parts Retention: Sheppard will retain parts submitted for warranty consideration for a period of sixty (60) days for any material found to be rejected for warranty. Sheppard will notify Pierce within sixty (60) days of receipt of Sheppard's determination as to whether any such part is covered by this warranty. Warranty reimbursement will be issued within thirty days of receipt of material at Sheppard.

Good-Will Requests: Good-Will requests will be considered jointly between Sheppard and Pierce for equitable compensation.

RECALLS: Sheppard retains the right to review information regarding federal motor vehicle recall and /or product repair programs if Sheppard products fitted to Pierce vehicles are alleged to be non-compliant with federal motor vehicle safety standards. Sheppard retains the right to review any claims of product defect or non-compliance before participating in reimbursement of expenses incurred as a result of alleged non-compliance or defect of its products. Sheppard agrees to negotiate in good faith for the reimbursement of expenses incurred by Pierce for all administrative, material and labor cost and expense associated with any recall where Sheppard product is found to be defective or non-compliant with federal motor vehicle standards.

MISCELLANEOUS: This writing constitutes the full complete and final statement of Sheppard's limited warranty for M110PKG1 and M110SAU1 products sold to Pierce. All prior oral or written correspondence, test data, negotiations, representations, understandings and the like regarding products are merged in this writing and extinguished by it. This limited warranty may not be altered, amended extended or modified except by a writing signed by the President or Vice President of Sheppard. No employee, vendor, dealer, distributor or other representative of Sheppard has authority to make statements to extend, expand, alter or amend the terms of this Limited Warranty. Sheppard expressly disclaims any statements contrary to the Limited Warranty. Sheppard's failure at any time to enforce any of the terms and conditions stated herein shall not constitute a waiver of any provisions herein. This Limited Warranty shall be governed by and construed in accordance with the laws of the Commonwealth of Pennsylvania.

R. H. SHEPPARD CO., INC. WARRANTY

Pierce Manufacturing Inc.

Page 4

Any legal actions which may arise as a result of disputes, controversies or claims arising out of or related to this limited warranty shall be in such forum as Sheppard and Pierce shall agree, or, in the absence of agreement, in a court of appropriate jurisdiction other than in the county in which either party is located. This Limited Warranty shall not be assigned by Pierce.

COOPERATIVE EFFORT: Sheppard and Pierce agree to work cooperatively toward expanding this warranty coverage to a period of sixty months from the in service date. These cooperative efforts shall focus on examining the effects of increased heat generated by 2007 model engines and its impact on the entire power steering system.

AGREEMENT: This agreement is effective April 3, 2006 and may be modified by mutual agreement between Sheppard and Pierce of a signed amendment to be attached to the original Limited Warranty. There are no third party beneficiaries to this Limited Warranty. This warranty agreement applies to Pierce authorized dealers only. It does not encompass any special arrangements that Pierce may now have or that Pierce may enter into, with any other segments of the trucking industry. This warranty agreement does not apply to non-conforming product removed at Pierce assembly plants.

This Limited Warranty agreement between the R. H. Sheppard Co., Inc and Pierce Manufacturing Inc. may be terminated by either party with thirty days written notice prior to termination.

Signed at Pierce Manufacturing Inc., Appleton, WI this _____ day of _____, 2006.

R. H. SHEPPARD CO., INC.

PIERCE MANUFACTURING INC.

Authorized Signature

Authorized Signature

Title

Title



Fire and Rescue Apparatus

Lifetime Fifty (50) Year Structural Integrity Chassis Frame & Crossmembers

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Custom chassis frame rail and cross members manufactured by Pierce shall be free from defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Fifty (50) Years (Expected Life of Apparatus)
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Three (3) Year Material and Workmanship TAK-4 Independent Front Suspension

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The TAK-4 Front Independent Suspension and Steering Gears shall be free from defects in material and workmanship.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Years -or- 30,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty excludes brake pads, brake rotors, seal boots and shock absorbers.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus



SUPPLIER

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the purchaser who first puts the product in service ("Buyer"):

Coverage:	The Meritor axle shall be covered by Meritor as indicated in the attached Meritor warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor warranty description shall apply.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

MERITOR® COMMERCIAL VEHICLE SYSTEMS

WARRANTY/MODEL YEAR 2020 VEHICLES



MERITOR





WARRANTY INFORMATION CONTENTS

Effective Model Year 2020 Vehicles

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How to Read Warranty Coverage

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
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Notice:

Models or components that are approved for use by Meritor’s vocational guidelines contained in Meritor Publication TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, which are not specifically listed, are warranted for one year, unlimited miles, parts only (1/Unl/P).

Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Advantage Program

Purchasing additional coverage on select components will continue to safeguard your investment against major repair costs after the initial base coverage expires. You can find out more about the Advantage Program by visiting www.meritor.com or by contacting Meritor at 866-OnTrac1 (866-668-7221).



LINEHAUL WARRANTY INFORMATION

Linehaul Vehicles

- Bulk Hauler
- Chip Hauler (Truck)*
- Doubles
- Flatbed
- General Freight
- Grain Hauler
- Livestock Hauler
- Moving Van
- Pipe Hauler
- Refrigerated Freight
- Tanker
- Triples

* Chip Hauler vehicles require specific axle models listed below and Linehaul condition to be eligible for Linehaul warranty consideration.

Linehaul Typically Is

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction
- Greater than 30 miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/750/P&L

FD-965	FF-967	MFS-12-122B-N	MFS-12-132C-N	MFS-13-122B-N	MFS-13B-122C-N
FF-941	FG-941	MFS-12-122C-N	MFS-12E-132B-N	MFS-13-122C-N	MFS-13B-132B-N
FF-942	FG-943	MFS-12E-122A-N	MFS-12E-132C-N	MFS-13-132B-N	MFS-13B-132C-N
FF-943	MFS-10-122A	MFS-12E-122B-N	MFS-12-143A-N	MFS-13-132C-N	MFS-14-122A-N
FF-944	MFS-10-143A-N	MFS-12E-122C-N	MFS-12E-143A-N	MFS-13-143A-N	MFS-14-124A-N
FF-961	MFS-10-144A-N	MFS-12-124A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-14-143A-N
FF-966	MFS-12-122A-N	MFS-12-132B-N	MFS-13-122A-N	MFS-13B-122B-N	MFS-14-144A-N

Rear Drive Single Axles – 5/750/P&L

RS-19-144/145/A	RS-21-145	RS-23-160
MS-19-14X	RS-21-160	RS-23-161
MS-21-144	MS-23-17X	RS-23-186

Rear Drive Tandem/Tridem Axles – 5/750/P&L

RT-34-144/P/A	MA-40-165	MT-40-14XHE
RT-40-145/A	MA-40-175	MT-40-144/P
RT-40-160/P ^{1,2}	MT-34-14X/P	MT-40-943
RT-46-160/P ^{1,2}	MT-40-14T/P	MT-40-943-SP
RT-46-164EH/P ^{1,2}	MT-40-14X/P	RZ-166 ²
RT-50-160/P ^{1,2}	MT-40-14X/P	RZ-188

Drivelines

RPL	5/500/P, 1/Unl/P&L
MXL	3/350/P, 1/Unl/P&L
155N	1/Unl/P
92N	1/Unl/P

¹ These models required for Chip Hauler and Linehaul warranty consideration.
² Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



LINEHAUL WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	5/500/P, 1/100/L
Q+ Drum Brake™	5/500/P, 1/Unl/P&L
ASA	5/500/P, 1/Unl/P&L
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	5/500/P, 1/Unl/L
EX+ Air Disc Brake Extended Standard Warranty ³	5/500/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 3/500/P&L.

² Based on stamped wear diameter max.

³ Applies only to MA761 friction material code CD brake assembly i.e. EX225LXXXCDXXX

Trailer Axles

Beam and Brackets	5/500/P, 1/100/L
Wheel End Systems ¹	
Standard System ²	1/100/P&L
PreSet by Meritor ³	5/500/P&L
AxlePak5 ⁴	5P/L
AxlePak7 ⁵	7P/L

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

² When installed by Meritor.

³ Requires approved hubcap stating PreSet by Meritor on hubcap face.

⁴ When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

TAG/Pusher Axles¹

TQ, TQD, TR, TRD Beam and Brackets	5/750/P&L
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¹ For brake components and ABS Coverage, refer to appropriate product warranties.

Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/500/P, 1/100/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/P, 3/L
PinLoc Air Controls	1/100/P&L
PinLoc Actuator	3/300/P&L
MPA20 (Single Axle Parallelogram)	
Major Structural Components	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs	2/200/P, 1/100/L
Bushings	5/P, 3/L
MTA (Trailing Arm)	
Major Structural Components	5/500/P, 1/100/L
Height Control Valve	1/100/P&L
Shock Absorbers	2/200/P&L
Air Springs & Rebound Straps	2/200/P, 1/100/L
Bushings	5/500/P, 3/300/L

¹ Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor (For axle and ABS coverage, refer to appropriate product warranties.)

² “Curbing damage” is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.



GENERAL SERVICE WARRANTY INFORMATION

General Service Vehicles

- Auto Hauler
- Beverage Truck
- Chip Hauler
- Cross Country Coach
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Newspaper Delivery
- Pick-Up and Delivery
- Pipe Hauler
- Platform Auto Hauler
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Trailer
- Tour Bus
- Wrecker

General Service Typically Is

- Lower mileage operations (less than 60,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 2/Unl/P&L

FD-965	FL-943	MFS-8-163B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-16-143A-N
FF-941	MFS-6-151A-N	MFS-10-122A	MFS-12-132C-N	MFS-13B-132B-N	MFS-18-133A-N
FF-942	MFS-6-153B-N	MFS-10-143A-N	MFS-12E-132C-N	MFS-13B-132C-N	MFS-18-135A-N
FF-943	MFS-6-162B-N	MFS-10-144A-N	MFS-12-143A-N	MFS-13-143A-N	MFS-18-193A-N
FF-944	MFS-6-153C-N	MFS-12-122A-N	MFS-12-144A-N	MFS-13-144A-N	MFS-20-133A-N
FF-946	MFS-6-162C-N	MFS-12E-122A-N	MFS-12E-143A-N	MFS-14-122A-N	MFS-20-135A-N
FF-961	MFS-7-113C-N	MFS-12-122B-N	MFS-13-122A-N	MFS-14-124A-N	MFS-20-192A-N
FF-966	MFS-7-153C-N	MFS-12E-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N
FG-967	MFS-7-163C-N	MFS-12-122C-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N
FG-941	MFS-8-113B-N	MFS-12E-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N
FH-941	MFS-8-143A-N	MFS-12-124A-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N
FH-946 ¹	MFS-8-153B-N	MFS-12-132B-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N
FL-941					

¹ Can also be used with reduced steer angles in tag position in Coach Applications.

Front Drive/Non-Drive Steer Axles – 1/Unl/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Tandem/Tridem - 3/Unl/P&L

RT-40-160/P	RT-50-160/P
RT-46-160/P	RZ-166
RT-46-164EH/P	

Rear Drive Axles – 1/Unl/P&L

11170	RND-14H
523	RND-16A

Drivelines

RPL	4/400/P, 1/Unl/P&L
MXL	3/350/P, 1/Unl/P&L
155N	1/Unl/P
92N	1/Unl/P

Rear Drive Single Axles – 2/Unl/P&L

MS-17-13X	MS-21-14X	RC-23-160	RS-24-160	MS-30-616-SP
MS-17-14X	MS-21-144	RC-23-161	RC-25-160	RS-35-380
MS-19-13X	MS-23-17X	RC-23-162 ¹	RS-26-185	71162
MS-19-14X	RS-21-145/A	RC-23-165 ¹	MS-26-616	71163
RS-17-144/145/A	RS-21-160	RS-23-160	MS-26-616-SP	79163
RS-19-144/145/A	RC-22-145	RS-23-161	RS-30-185	
MS-21-13X	RC-22-145/A	RS-23-186	MS-30-616	

¹ 3/Unl/P&L if PreSet by Meritor.

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

MT-34-14X/P	MT-40-14XHE	RT-44-145/P	MT-58-616
RT-34-144/P/A	MT-40-144/P	RT-46-169	RT-58-185 ¹
MT-40-14T/P	RT-40-145/A	MT-52-616	MT-70-380
MT-40-14X/P	MT-44-14X/P	RT-52-185 ¹	RZ-188

Transmission – 1/Unl/P&L

516	FAT 30
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PTO – 1/Unl/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190

¹ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.



GENERAL SERVICE WARRANTY INFORMATION

Brake Components

Cam Q Series Trailer Brakes	3/Unl/P, 1/Unl/L
Cam P ³	2/200/P
Cam	3/Unl/P
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ ³	2/200/P&L
ASA	3/Unl/P
ASA ³	2/200/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
STEELite X30 Drum Brake™ ²	12-Years or Wearable Life/P
EX+ Air Disc Brake™	2/Unl/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.

² Based on stamped wear diameter max.

³ Applies to Tour Bus and Cross Country Coach only.

Trailer Axles

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L
AxlePak ⁴	5/P&L
AxlePak ⁵	7/P&L

¹ 9000 Series is 3/Unl/P, 1/Unl/L

² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

³ When installed by Meritor.

⁴ When specified with AxlePak5 wheel end system, coverage on MTIS thru-tee and stator is 5/Unl/P, 1/Unl/L.

⁵ When specified with AxlePak7 wheel end system, coverage on MTIS thru-tee and stator is 7/Unl/P, 1/Unl/L.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Chassis Axles (2000 Series/ChassiPak)

Beam & Brackets	6/Unl/P, 1/Unl/L
Wheel End Systems ¹	
Standard System	1/Unl/P&L
AxlePak7	7/P&L
Beam and Brackets	7/P, 1/L

¹ Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

Trailer Air Suspension Systems

MPA38/40 (Tandem Axle Parallelogram) ¹	
Major Structural Components	5/Unl/P, 1/Unl/L
Curbing Damage Warranty ²	5/500/P, 1/100/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
PinLoc Air Controls	1/Unl/P&L
PinLoc Air Actuator	3/Unl/P&L
MPA20 (Single Axle Parallelogram)	
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings	5/P, 3/L
MTA (Trailing Arm)	
Major Structural Components	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs and Rebound Straps	2/Unl/P, 1/Unl/L
Bushings ³	5/Unl/P, 3/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

¹ Fastener torque coverage is limited to 2/Unl/P&L when torqued by Meritor

² "Curbing damage" is defined as deformation (bending, buckling, or breakage), caused by sudden impact with a curb or similar fixed object. Damage to the RideSentry slider box (the suspension sliding subframe, consisting of the frame rails, crossmembers, and central A-frame assembly), caused by accidental trailer impact with a curb or similar fixed object, is eligible for warranty coverage. Damage to other components or damage resulting from collision with another vehicle, rollover or fire is not covered under this provision. Warranty is not transferrable to another trailer VIN, and coverage does not apply if the trailer is deemed to be a total loss, scrapped, or otherwise not salvageable.

³ Raw wood applications 3/Unl/P, 1/Unl/L

TAG/Pusher Axles

TQ, TQD, TR, TRD Beam and Brackets ¹	3/Unl/P, 1/Unl/L
MC14002, MC16003, FH946	2/Unl/P&L

(For brake components and ABS coverage, refer to appropriate product warranties.)

¹ 3/Unl/P&L if sold with PreSet by Meritor.

Meritor® Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Heavy Service/Specialty Vehicle

- Airport Rescue Fire Fighting (ARFF)
- Airport Shuttle*
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Mixer
- Demolition
- Drill Rig
- Dump
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Rear Loader (Refuse)
- Recycling Truck
- Residential Pick-Up (Refuse)
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus*
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Utility Truck
- Winch Truck

*Commercial chassis only

Heavy Service/Specialty Vehicle Typically Is

- Moderate mileage operation (less than 60,000 miles per year)
- On/Off road vocations (10% or more off-road)
- Moderate to frequent stops/starts (up to 10 stops per mile)

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 2/Unl/P&L

FD-965	FL-941	MFS-10-143A-N	MFS-12-143A-N	MFS-13-144A-N	MFS-18-193A-N	MX-12-120
FF-941	FL-943	MFS-10-144A-N	MFS-12-144A-N	MFS-13-155	MFS-20-133A-N	MX-12-120 EVO
FF-942	MFS-6-151A-N	MFS-12-122	MFS-12-155	MFS-14-122	MFS-20-135A-N	MX-14-120
FF-943	MFS-6-153B	MFS-12E-122	MFS-13-122	MFS-14-124A-N	MFS-20-192A-N	MX-16-120
FF-944	MFS-6-162B	MFS-12-122B-N	MFS-13-122B-N	MFS-14-143A-N	MFS-20-193A-N	MX-18-120
FF-946	MFS-6-162C	MFS-12E-122B-N	MFS-13B-122B-N	MFS-14-144A-N	MFS-22-135A-N	MX-17-140
FF-961	MFS-7-113C-N	MFS-12-122C-N	MFS-13-122C-N	MFS-16-122A-N	MFS-22H-135A-N	MX-19-140
FF-966	MFS-7-153C-N	MFS-12E-122C-N	MFS-13B-122C-N	MFS-16-133A-N	MFS-22-193A-N	MX-21-140
FF-967	MFS-7-163C-N	MFS-12-124A-N	MFS-13-132B-N	MFS-16-135A-N	MFS-22H-193A-N	MX-21-160
FG-941	MFS-8-113B-N	MFS-12-132B-N	MFS-13B-132B-N	MFS-16-143A-N	RF-16-145	MX-23-160
FG-943	MFS-8-153B-N	MFS-12E-132B-N	MFS-13-132C-N	MFS-18-133A-N	RF-21-160	MX-810
FH-941	MFS-8-163B-N	MFS-12-132C-N	MFS-13B-132C-N	MFS-18-135A-N	MX-10-120	
FH-946	MFS-10-122A	MFS-12E-132C-N	MFS-13-143A-N	MFS-18-192A-N	MX-10-120 EVO	

Front Drive/Non-Drive Steer Axles – 1/Unl/P&L

MX-08-130-FV (FSD-08A)	MX-16-130-FV (FSD-16A)	MX-21-130-SD (SDA-2100)
MX-10-130-FV (FSD-10A)	MX-18-130-FV (FSD-18A)	MX-23-130-FV (FSD-23A)
MX-12-130-FV (FSD-12A)	MX-18-130-SD (SDA-1800)	MX-23-130-SD (SDA-2300)
MX-13-130-FV (FSD-13A)	MX-20-130-FV (FSD-20A)	MX-29-130-FV (FSD-29A)
MX-14-130-FV (FSD-14A)	MX-21-130-FV (FSD-21A)	

Rear Drive Axles – 1/Unl/P&L

11170	RND-14H
523	RND-16A

Drivelines

RPL	3/Unl/P, 1/Unl/P&L
92N	1/Unl/P&L
MXL	1/Unl/P&L

Rear Drive Single Axles – 2/Unl/P&L

MS-17-14X	RS-21-160	RS-24-160	MS-35-380
RS-17-144/145/A	RC-22-145	RS-25-160	RS-38-380
MS-19-14X	RC-23-160	MS-26-616	RC-25-160
RS-19-144	RH-23-160	MS-26-616-SP	RC-26-633
MS-21-114	RS-23-160	RS-26-185/380	MT-58-616
MS-21-14X	RC-23-161	MS-30-616	MT-58-616-SP
RS-21-145	RS-23-161	MS-30-616-SP	
RS-21-145/A	RS-23-186/380	RS-30-185/380	

Transmission – 1/Unl/P&L

516
FAT 30

PTO – 1/Unl/P&L

MPT-318	MPT-526	MPT-1702
MPT-500	MPT-531	MPT-175
MPT-510	MPT-543	MPT-185
MPT-518	MPT-170	MPT-190



HEAVY SERVICE/SPECIALTY VEHICLE WARRANTY INFORMATION

Rear Drive Tandem/Tridem Axles – 2/Unl/P&L

MT-34-14X/P	RT-44-145/P	RT-52-185/380 ^{1,2}	MT-70-380
RT-34-144/P/A	RT-46-169	MT-58-616	RZ-188
MT-40-14X/P	RT-58-160	MT-58-616-SP	
RT-40-145/A	MT-52-616	RT-58-185/380 ^{1,2}	
MT-44-14X/P	MT-52-616-SP	RT-70-380	

¹ Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

² Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Brake Components

Cam P	3/Unl/P
Cam P ³	2/100/P
Cam Cast Plus™	2/100/P&L
Q+ Drum Brake™	3/Unl/P&L
Q+ Drum Brake™ ²	2/100/P&L
ASA	3/Unl/P
ASA ²	2/100/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
EX+ Air Disc Brake	2/100/P&L

¹ Based on stamped wear diameter max.

² Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

³ Warranty for all non-Meritor ASAs supplied by Meritor for all Heavy Service vocations is 1/100/P.

Rear Drive Tandem/Tridem - 3/Unl/P&L

RT-40-160/P/A ³
RT-46-160/P/A ^{1,3}
RT-46-164EH/P/A ^{2,3}
RT-50-160/P/A ³
RZ-166

¹ U.S. only. Canadian warranty = 1/Unl/P for combination vehicles only.

² Axle model designated will vary according to options and variations specified on these axles. Contact Meritor Axle Applications Engineering for details.

³ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Meritor Tire Inflation System

MTIS Components	5/Unl/P, 1/Unl/L
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Trailer Air Suspension Systems

MTA (Trailing Arm)	
Major Structural Components ¹	5/Unl/P, 1/Unl/L
Height Control Valve	1/Unl/P&L
Shock Absorbers	2/Unl/P&L
Air Springs	2/Unl/P, 1/Unl/L
Bushings ¹	5/Unl/P, 3/Unl/L

¹ Raw wood applications 3/Unl/P, 1/Unl/L

(For axle and ABS coverage, refer to appropriate product warranties.)

Trailer Axles

Beam and Brackets ¹	5/Unl/P, 1/Unl/L
Wheel End Systems ²	
Standard System ³	1/Unl/P&L

¹ 9000 Series is 3/Unl/P, 1/Unl/L.

² Includes hub, wheel seals and wheel bearings—all systems require annual inspections and proper documentation to ensure full coverage.

³ When installed by Meritor.

(For brake components and ABS coverage, refer to appropriate product warranties.)

Gearboxes – 1/Unl/P&L

MGX-240	MGX-376	MGX-448	MGX-506	MGX-528	MGX-546
MGX-279	MGX-377	MGX-456	MGX-514	MGX-533	MGX-550
MGX-279D	MGX-378	MGX-478	MGX-519	MGX-534	
MGX-280	MGX-380	MGX-480	MGX-520	MGX-536	
MGX-285	MGX-384	MGX-487	MGX-522	MGX-537	
MGX-292	MGX-402	MGX-488	MGX-524	MGX-541	
MGX-314	MGX-413	MGX-505	MGX-527	MGX-545	

Transfer Cases – 1/Unl/P

MTC-4213	MTC-3118-CV (358)	MTC-3209-GV (RTC-60/420)
MTC-4210	MTC-3120-FV (TC-143)	MTC-3209-GV (RTC-60/380)
MTC-4208	MTC-3124 (T-2119)	MTC-3209-GV (MTC-60/420)
MTC-4206-FV (TC-38)	MTC-3205-GV (MTC-25/247)	MTC-3209-GV (MTC-60/380)
MTC-3106-FV (TC-137)	MTC-3205-GV (MTC-25/350)	MTC-3212-CV (315 & 548B)
MTC-3111 (T-2111)	MTC-3205-GV (RTC-25/350)	MTC-3312-FV (TC-270)
MTC-3112-CV (529 & 548C)	MTC-3206-FV (TC-237)	MTC-3220-FC (TC-142)
MTC-3116 (T-2111)	MTC-3206-CS (544)	MTC-2212-CV (306)
MTC-3118-FV (TC-180 & TC-180-23)	MTC-3208-GV (RTC-50)	



FIRE AND EMERGENCY WARRANTY INFORMATION

Fire and Emergency Vehicles

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Command Vehicle
- Crash Fire Rescue (CFR)
- Pumper
- Rapid Intervention Vehicle (RIV)
- Tanker

Fire and Emergency Typically Is

- Lower mileage operations (less than 20,000 miles/year)
- Generally, on-road service (less than 10% off-road)
- An average of three (3) miles between starting and stopping

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Non-Drive Steer Axles – 5/Unl/P&L

FL-941	MFS-18-193A-N	MFS-22-135A-N
FL-943	MFS-20-133A-N	MFS-22H-135A-N
MFS-18-133A-N	MFS-20-135A-N	MFS-22-193A-N
MFS-18-135A-N	MFS-20-193A-N	MFS-22H-193A-N

Front Drive Steer Axles – 2/Unl/P&L

MX-19140	MX-21160	MX-23810
MX-21140	MX-23160	

Rear Drive Single Axles – 5/Unl/P&L

RC-23-160	RS-23-186	RS-26-185	RS-25-160
RS-23-160	RS-24-160	RS-30-185	
RS-23-161	RC-25-160	RS-35-380	

¹ 3/Unl/P&L if PreSet by Meritor.

Rear Drive Tandem/Tridem Axles – 5/Unl/P&L

MT-40-14X/P	RT-44-145/P	MT-52-616
MT-40-144/P	RT-46-160/P	RT-52-185 ¹
RT-40-145/A	RT-46-164EH/P	MT-58-616
RT-40-160/P	RT-46-169	RT-58-185 ¹
MT-44-14X/P	RT-50-160/P	MT-70-380

¹ Each vehicle must have a Request for Application Recommendation (RAR) approved by Meritor prior to vehicle build. All RARs must identify the chassis number or VIN. Refer to Product Information Letter #303 and #396 for further details.

Brake Components

Cam	3/Unl/P
Q+ Drum Brake™	3/Unl/P&L
ASA	3/Unl/P
Hubs/Cast Drums and Other Wheel-end Components	1/Unl/P
Hydraulic Disc Brakes	1/Unl/P
All Other Brakes	1/Unl/P
EX+ Air Disc Brake™	2/Unl/P&L

¹ Includes: bushing, seal, cam, ASA lubrication and wear coverage of 1/Unl/P.

Drivelines

RPL	4/400/P, 1/Unl/L
MXL	3/350/P, 1/Unl/L
155N	1/Unl/P
92N	1/Unl/P

Transfer Cases – 1/Unl/P

MTC-4208	MTC-3111 (T-2111)
MTC-4210	MTC-3116 (T-2111)
MTC-4213	MTC-3124 (T-2119)



TRANSIT BUS WARRANTY INFORMATION

Transit Bus Vehicles

- Airport Shuttle
- City Bus
- Commuter Coach
- Shuttle Bus
- Transit Bus
- Trolley

Transit Bus Typically Is

- Moderate mileage operation (less than 50,000 miles per year)
- Moderate to frequent stops/starts (up to 10 stops per mile)

Coverage under Meritor's warranty require that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

Front Drive/Non-Drive Steer Axles – 5/300/P&L

FH-946 MFS-12-155
 FH-941¹ MFS-13-155

¹ Commuter coach only – 2/Unl/P&L

Drivelines

RPL 3/Unl/P, 1/Unl/L
 92N 1/Unl/P&L
 MXL 1/Unl/P&L

Rear Drive Single Axles – 5/300/P&L

RS-23-160 79163 RS-21-160
 RC-23-161 RC-23-162¹
 71163 RC-23-165¹

¹ Commuter coach only – 2/Unl/P&L

Tag Axles – 2/Unl/P&L

MC-14002
 MC-16003
 FH-946

Brake Components

Cam Cast Plus™ 2/100/P&L
 Q+ Drum Brake™¹ 2/100/P&L
 ASA¹ 2/100/P
 Hubs/Cast Drums and
 Other Wheel-end
 Components 1/Unl/P
 All Other Brakes 1/Unl/P
 EX+ Air Disc Brake 2/100/P&L

¹ Applies to City Bus, Trolley, Shuttle Bus and Airport Shuttle only.

Center Non-drive Axles – 5/300/P&L

MC-26000
 71063
 79063



TERMS AND CONDITIONS

Coverage Exclusions

Product Description

All

The cost of any repairs, replacements or adjustments to a covered component (1) associated with noise; (2) resulting from the use or installation of non-genuine Meritor components or materials; (3) due to vibration associated with improper operation or misapplication of drivetrain components; and (4) damage resulting from corrosion.

For axle assemblies supplied by Meritor with suspension and interface brackets designed and/or attached by non-Meritor parties, Meritor warranty coverage does not apply to the brackets, bracket attachment methods, and field issues caused by brackets or bracket attachments to any covered component unless specified in a separate OEM agreement.

Front Axles

King Pin Bushings.

Rear Axles

Self-contained traction equalizers and oil filters. The use of NoSPIN differentials will result in the exclusion of axle shafts from warranty considerations. NoSPIN is a product of Eaton.

ASA

Boot and bushing. Bent, broken, over-torqued, missing or otherwise damaged pawl assemblies.

Cam Brake

Brake lining wear and brake shoe “rust-jacking.”

Disc Brake

Pad wear, rotor wear.

Coverage Limitations

Product Description

All

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program. Products purchased on an incomplete vehicle (glider) are limited to one year, unlimited miles parts only (1/Unl/P).

Front Axles

Tie rod and tie rod ends limited to 3-year/300,000-mile or published vocational coverage, whichever is less. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

Pinion and through shaft seals limited to 3-year/300,000-mile or published vocational coverage, whichever is less, if yoke is installed by Meritor. If yoke is not installed by Meritor, then Meritor does not warrant pinion seals. Wheel seals, gaskets and wheel bearings are covered for 1 year/unlimited miles if the wheel end equipment is supplied and assembled by Meritor.

Rear Axles

The Meritor® breather part number A-2297-C-8765 with A-3196-J-1336 hose must be used for eligibility of any potential warranty consideration relating to contamination and/or loss of lube in axles.

Cam Brake

Limited to bracket, brake spider and camshaft structural integrity.

STEELite X30

Wearable life is up to the discard diameter of the drum.

Disc Brake

Warranty coverage for boots, seals, bushings and pins is 2/200/P. Warranty coverage for pads is 1/100/P.

Warranty coverage on vehicles with 1,850 lb-ft engine torque and over may be reduced on individual drivetrain components. Contact your Meritor representative for specific details.

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

Meritor Heavy Vehicle Systems, LLC warrants to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment in vehicles licensed for on-highway use, will be free from defects in material and workmanship. This warranty coverage begins only after the expiration of the OEM's vehicle warranty for the applicable covered components. Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed elsewhere in this warranty statement.

Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Components (whether new, used or remanufactured) installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

For certain components, coverage requires the use of specific extended drain interval or synthetic lubricants. For further information about lubrication and maintenance, see Meritor publication Maintenance Manual Number 1 and the applicable Meritor maintenance manual for the product in question. Other conditions and limitations applicable to this warranty are detailed below.

(2) Designation of Vocational Use Required.

To obtain warranty coverage, each Owner must notify Meritor through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the Meritor components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with Meritor directly. Failure to notify Meritor of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date.

A second Owner and each subsequent Owner must also notify Meritor as to the intended vocational use of the vehicle. This notification can be sent directly to Meritor or through the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use.

Coverage under Meritor's warranty requires that the application of products be properly approved pursuant to OEM and Meritor approvals. Refer to TP-9441 for axles, SP-8320 for trailer axles, TP-12126 for drivelines, and/or contact Meritor regarding specific application approval questions on any product line.

(3) What is the Cost of this Warranty?

There is no charge to the Owner for this warranty.

(4) What is not Covered by this Warranty?

This warranty does not cover normal wear and tear; nor does it cover a component that fails, malfunctions or is damaged as a result of (I) improper installation, adjustment, repair or modification (including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by Meritor), (II) accident, natural disaster, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the axle and/or driveline capacity), or (III) improper or insufficient maintenance (including deviation from approved lubricants, change intervals, or lube levels). This warranty does not cover any component or part that is not branded by Meritor. For vehicles that operate full or part time outside of the United States and Canada, a one year, unlimited mileage, parts only warranty (1/Unl/P) will apply.

(5) Remedy.

The exclusive remedy under this warranty shall be the repair or replacement of the defective component at Meritor's option. Meritor reserves the right to require that all applicable failed materials are available and/or returned to Meritor for review and evaluation.

(6) Disclaimer of Warranty.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED, IMPLIED OR STATUTORY INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE.

(7) Limitation of Remedies.

In no event shall Meritor be liable for special, incidental, indirect, or consequential damages of any kind or under any legal theory, including, but not limited to, towing, downtime, lost productivity, cargo damage, taxes, or any other losses or costs resulting from a defective covered component.

(8) To Obtain Service.

If the Owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either Meritor or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM new truck and/or trailer dealer or authorized Meritor service location. The dealer will inspect the vehicle and contact Meritor for an evaluation of the claim. When authorized by Meritor, the dealer will repair or replace during the term of this warranty any defective Meritor component covered by this warranty.

(9) Entire Agreement.

This is the entire agreement between Meritor and the Owner about warranty and no Meritor employee or dealer is authorized to make any additional warranty on behalf of Meritor. This agreement allocates the responsibilities for component failure between Meritor and the Owner.

Product models, brands, names and trademarks depicted herein are the property of their respective owners and, except where otherwise indicated, are not in any way associated with Meritor Heavy Vehicle Systems, LLC, or any parent or affiliate, thereof.



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or visit meritor.com

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Fire and Rescue Apparatus

Three (3) Year Material and Workmanship Meritor Wabco ABS Brake System Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Meritor Wabco ABS brake system shall be covered by Meritor Wabco as indicated in the attached Meritor Wabco warranty coverage description
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Three (3) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	The exclusions listed in the attached Meritor Wabco warranty description shall apply.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

WARRANTY

MODEL YEAR 2021 VEHICLES



Warranty coverage is essential to protecting your investment. But understanding the full details of your coverage can be challenging. This straightforward approach allows you, our valued customer, to better understand how your specific vehicle applications will be covered in your region. Our component warranty coverage is provided according to vocation/usage categories listed below.

- Linehaul covers high mileage operation (over 60,000 miles/year) on well-maintained major highways of concrete or asphalt construction.
- General Service covers moderate mileage operations (less than 60,000 miles/year) on well-maintained public roads (less than 10 percent off-road) typically with less than three (3) stops per mile.
- Heavy Service (Vocational) covers vehicles with more than 10 percent off-road OR moderate to frequent starts/stops typically with more than three (3) stops per mile.
- Off-Highway Service covers lower mileage operations. Vehicles are not typically licensed for highway use.

How to Read Warranty Coverage (Example)

Number of Years	Mileage (in thousands) Unl=Unlimited	P=Parts Only P&L=Parts & Labor
3	300	P

- The standard aftermarket warranty for WABCO products - including WABCO Original parts, WABCO Reman Solutions, ProVia quality aftermarket parts and WABCO retrofit solutions - is one year, parts only from in-service date when purchased from ZF distributor networks or its affiliates and/or subsidiaries.

WABCO

WARRANTY - MODEL YEAR 2021 VEHICLES

LINEHAUL/GENERAL SERVICE WARRANTY INFORMATION

LINEHAUL/GENERAL SERVICE VEHICLES

- Aerial Ladder Truck
- Aerial Platform
- Ambulance
- Auto Hauler
- Beverage Truck
- Bulk Hauler
- Chip Hauler (Truck)
- Cross Country Coach
- Doubles
- Flatbed
- Front Engine Commercial Chassis
- Front Engine Integral Coach
- General Freight
- Grain Hauler
- Intercity Coach
- Intermodal Chassis
- Livestock Hauler
- Meat Packer
- Moving Van
- Municipal Truck
- Pipe Hauler
- Platform Auto Hauler
- Pumper
- Rear Engine Integral Coach
- Recreational Vehicles
- Refrigerated Freight
- School Bus
- Stake Truck
- Tanker
- Tanker Truck
- Triples
- Tour Bus
- Wrecker

LINEHAUL TYPICALLY IS

- High mileage operation (over 60,000 miles/year)
- Well maintained major highways of concrete or asphalt construction

GENERAL SERVICE TYPICALLY IS

- Moderate mileage operations (less than 60,000 miles/year)
- Well maintained public roads (less than 10% off-road)
- Less than three (3) stops per mile

WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Trailer Lift Axle Control Valve	
Trailer Control Line Filter ³	
Air Compressors (ALL) ²	2/200/P&L
Air Dryers (ALL)	3/300/P&L
Aerodynamics	
OptiFlow [®] TrailerSkirt	2/UnU/P
OptiFlow [®] Trailer Tail and AutoTail	2/UnI/P
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Electronic Braking System (EBS)	
Electronic Stability Control (ESC)	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Trailer ABS (Anti-Lock Braking System) ³	
Driveline Suspension Control	
Clutch Controls	2/200/P&L
Leveling Valves	1/100/P&L
OptiRide [®] Automated Manual Transmission (AMT)	
OptiRide [®] Electronically Controlled Air Suspension (ECAS)	3/300/P&L

WABCO Components ¹ (cont.)	
Safety	
OnGuardACTIVE [®]	3/300/P&L
OnLane [®]	
OnLaneALERT [®]	
OnSide [®]	
Trailer SafeStart [™]	
Trailer TailGUARD [™]	
Telematics	
TrailerCAST [™] Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit [™] Slack Adjuster	6/600/P
MAXXUS [™] Truck Air Disc Brake	5/500/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 17 and 19 Air Disc Brake	2/UnI/P and 1/UnI/L
Pan 22 Air Disc Brake	5/500/P and 1/L
TRISTOP [™] D Actuator w/ IBV or IRB	6/600/P
TRISTOP [™] D Actuator	3/300/P
UNISTOP [™] Actuator	2/200/P
Trailer MAXX22T [™] Air Disc Brake	5/500/P and 1/L

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

HEAVY SERVICE (VOCATIONAL) WARRANTY INFORMATION

HEAVY SERVICE VEHICLES

- Airport Rescue Fire (ARF)
- Airport Shuttle
- Asphalt Truck
- Block Truck
- Bottom Dump Trailer Combination
- Cementing Vehicle
- City Bus
- Commercial Pick-Up
- Concrete Pumper
- Construction Material Hauler
- Crash Fire Rescue (CFR)
- Mixer
- Demolition
- Drill Rig
- Dump
- Emergency Service
- Equipment Hauling
- Flatbed Trailer Hauler
- Flatbed Truck
- Fracturing Truck
- Front Loader
- Geophysical Exploration
- Hopper Trailer Combinations
- Landscaping Truck
- Liquid Waste Hauler
- Log Hauling
- Lowboy
- Michigan Special Gravel Trains
- Michigan Special Log Hauler
- Michigan Special Steel Hauler
- Michigan Special Waste Vehicle
- Municipal Dump
- Newspaper Delivery
- Package Delivery
- Pick-up and Delivery
- Rapid Intervention Vehicle (RIV)
- Rear Loader
- Recycling Truck
- Residential Pick-Up/Waste
- Rigging Truck
- Roll-Off
- Scrap Truck
- Semi-End Dump
- Sewer/Septic Vacuum
- Shuttle Bus
- Side Loader
- Snowplow/Snowblower
- Steel Hauling
- Tanker
- Tank Truck
- Tractors with Pole Trailers
- Tractor/Trailer with Jeeps
- Transfer Dump
- Transfer Vehicle
- Transit Bus
- Trolley
- Utility Truck
- Winch Truck

HEAVY SERVICE TYPICALLY IS

- On/Off road vocations (10% or more off-road) OR
- Moderate to frequent starts/stops typically more than three (3) stops per mile



WABCO Components ¹	
Air Management	
Air Brake Valves	1/100/P&L
Air Compressors (ALL) ²	
Air Dryers (ALL)	
Trailer Control Line Filter ³	
Braking Systems	
ABS (Anti-Lock Braking System) Air	3/300/P&L
ABS (Anti-Lock Braking System) Hydraulic	2/200/P&L
Electronic Braking System (EBS)	3/300/P&L
Electronic Stability Control (ESC)	
Trailer ABS Valve ³	
Roll Stability Control (RSS)	
Trailer Roll Stability Support (RSS)	
Driveline Suspension Control	
OptiRide® Electronically Controlled Air Suspension (ECAS)	2/200/P&L
Leveling Valves	1/100/P&L
Clutch Controls	2/200/P&L
Safety	
OnGuardACTIVE®	3/300/P&L
OnLane®	
OnLaneALERT®	
OnSide®	
Trailer SafeStart™	
Trailer TailGUARD™	
Telematics	
TrailerCAST™ Telematics Device	3/300/P&L
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
Trailer MAXX22T™	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ An extended warranty of 4/400/P will apply when a WABCO Trailer Control Line Filter is used in combination with a WABCO Trailer ABS valve.

WARRANTY - MODEL YEAR 2021 VEHICLES

INDUSTRIAL/OFF-HIGHWAY SERVICE WARRANTY INFORMATION

INDUSTRIAL AND OFF-HIGHWAY SERVICE TYPICALLY IS

- Low mileage operation³
- Vehicles are not typically licensed for highway use

Market	Common Application Types
Agriculture	Fertilizer Spreader, Tractor, Heavy Duty Ag Trailers, Harvester, Sprayer, Skid Loader, Silage Bagger, Slurry Wagons, Grain Cart
Airport Support	Pushback Tractor, Towing Tugs, Aircraft Tow Tractor, Refueling Trucks, Food Service Trucks, Baggage Tractors, De-Icing Equipment, Runway Clearing Equipment
Construction	All-Terrain Crane, Rough Terrain Crane, Excavator, Compactor, Wheel Loader, Road Roller, Motor Grader, Articulated Dump Truck, Rubber Tire Road Roller, Backhoe Loaders, Haul Trucks, Scraper Rough Terrain Forklifts, Trenchers, Drills
Forestry	Logging Forwarder, Kidder, Loaders, Yard Forklifts, Harvesters Fellers
Material Handling	Port Tractor, Rail Yard Spotter, Stevedoring Tractor, Trailer Spotter, Yard Jockey, Scissor Lift, Straddle Carrier, Manlift, Forklift, Boom Lift Telehandlers, Aerial Work Platforms
Mining	Specialized Mining, Excavator, Haul Truck, Underground Loader, Service Trucks, Wheel Loaders, Scrapers, Load Haul Dumps, Personnel Transports, Bolters, Scalars
Municipal	Street Sweeper, Utility Tractor, Utility Trucks, Tree Trimmers, Dump Trucks, Tow Trucks, Flat Bed Trucks, Winch Applications
Oil & Gas	Fracturing Trailer, Injector Heads, Top Drives, Jack/Lift Boats, Wireline Trucks, Load-On / Load-Off
Rail	Railcar Mover, Track Layers, Grinders, Platform Crane, Locomotive Railcars, Ballast Equipment, Winch Applications



WABCO Components ¹	
Air Management	
Air Brake Valves	2/Unl/P
Air Compressors (ALL) ²	
Air Dryers (ALL)	
Brake Actuation	
Air/Hydraulic Actuators	2/Unl/P
Master Cylinders	
Remote Actuators	
Slave and Wheel Cylinders	
Two Fluid Actuators	
Brake Locks	
Brake Locks (ALL)	2/Unl/P
Electric Brake Locks	
Lever Locks	
Braking Systems	
ABS (Anti-Lock Braking System) Air	1/100/P&L
ABS (Anti-Lock Braking System) Hydraulic	
Driveline Suspension Control	
Clutch Controls	1/100/P&L
Leveling Valves	
Electrohydraulics & Controls	
Electronic Pedals	2/Unl/P
Electrohydraulic Brake Valves (EBV)	
Pressure Switches	
Hydraulic Braking Solutions	
Accumulator Charging Valves	2/Unl/P
Hydraulic Throttle Controls and Switches	
Modulating Brake Valves	
Wheel End Solutions	
EasyFit™ Slack Adjuster	2/200/P
Caliper Disc Brakes	2/Unl/P
MAXXUS™ Air Disc Brake	1/Unl/P&L
Multiple Disc Brakes	2/Unl/P
IVTM - Wheel Module	6/P
IVTM - All Other Products	2/P
Pan 22, 19 and 17 Air Disc Brake	1/Unl/P&L
TRISTOP™ D Actuator w/ IBV	3/Unl/P
TRISTOP™ D Actuator	2/200/P
UNISTOP™ Actuator	1/100/P

¹ ZF and WABCO branded components. ² WABCO compressors installed on Cummins, Mercedes, and DDC engines are not warranted or serviced by ZF. Please contact your respective dealer/distributor of those engines for warranty and servicing. ³ Equivalent hours of service limit: 2,000 hours for all components.

TERMS AND CONDITIONS

COVERAGE EXCLUSIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

This Warranty shall not apply to the following, but not limited to: (1) damage to the product or its component parts caused by incorrect use, installation, maintenance or repair, including without limitation (a) improper fit of mating components or brackets, damaged threads, cut, broken, chafed, pinched or otherwise damaged wiring (sensors, harnesses and connectors), (b) sensors damaged during removal when seized in block, or associated with sensor adjustments/ alignments, and (c) damage resulting from the use or installation of non-genuine WABCO components or materials; (2) damage to the product, its component parts, or diminished product or component part performance due to incorrect operation, deviation from approved conditions or misapplication; (3) any unauthorized disassembly of the product or its component parts including without limitation (a) obliterated, defaced or missing WABCO or WABCO name plate, serial numbers or label identifying the device as a ZF product or WABCO component, (b) changes to sealed adjusting screws, and (c) opening or attempted repair of non-serviceable components; (4) malfunction of the component due to internal contamination of the vehicle system including without limitation (a) water and other contamination damage that is due to the use of a non-genuine air dryer cartridge or (b) valve failures due to contamination in air system, (5) complaints associated with noise, (6) damage resulting from corrosion (including oxidation of electrical devices and connections).

AIR DRYERS

Mounting brackets (see vehicle OEM). Desiccant cartridge housing only.

AIR SYSTEM COMPONENTS

Normal wear items; Gladhand seals, dash valve knobs, valve actuation handles, treadles, pedals.

ABS, ELECTRONIC STABILITY CONTROL (ESC), ROLL STABILITY CONTROL (RSC), OPTIRIDE®, ONGUARD® AND ONLANE®, COLLECTIVELY “ELECTRONICS”

Failure of electronic components due to overvoltage condition, improper grounding, electrostatic discharge (ESD), improper shielding, electromagnetic interference (EMI), or other wiring or installation issues. Malfunctions and failure codes caused by other electronic subsystem failures (data bus, engine, transmission, dashboard, etc.)

HYDRAULIC COMPONENTS

For certain components, brake fluid DOT3 or DOT4 is used as the operating medium. Use of any other fluid will void all warranties associated with that component. For hydraulic braking applications the brake fluid is considered a maintenance item. Maintenance intervals are listed in TB-1367.

COVERAGE LIMITATIONS

PRODUCT DESCRIPTION

ALL PRODUCTS

Any claim beyond 60 days from date of repair will not be accepted or honored under this warranty program.

Products purchased on an incomplete vehicle (glider) are limited to one year, 1/Unl/P.

For vehicles that operate full- or part-time outside of the United States and Canada, a 1-Year/Unlimited Miles parts only (1/Unl/P) will apply.

TOOLBOX PLUS™ DIAGNOSTIC SOFTWARE

Proper diagnostics of WABCO Electronics may require the latest version of TOOLBOX PLUS™. Additional labor due to use of an outdated version of TOOLBOX™ software and/or the time to purchase or install the latest version of TOOLBOX PLUS™ are not covered under product warranty.

WARRANTY - MODEL YEAR 2021 VEHICLES

TERMS AND CONDITIONS

(1) What is Covered by this Commercial Warranty?

ZF CV Systems North America LLC and its North American subsidiaries and affiliates (ZF) warrant to the owner ("Owner") that the components listed in this publication, which have been installed by an Original Equipment Manufacturer ("OEM") as original equipment will be free from defects in material and workmanship. This warranty coverage begins from the original in-service date to the limits provided and runs concurrently with any warranties provided by OEMs and/or any distribution agreements and/or any service contracts that cover the components listed in this publication, if any. If the components listed in this publication are covered by an OEM warranty and/or service contract, then the OEM's warranty and/or service contract shall supersede ZF's warranty and Owner shall comply with all OEM's warranty and/or service contract requirements for claims under such OEM's warranty and/or service contract until those agreements expire. Once those agreements expire and provided the ZF warranty has not expired under the terms stated above, the ZF warranty will be in effect until its expiration date.

Warranty coverage ends at the expiration of the applicable time period from the date of vehicle purchase by the first Owner, or, the applicable mileage limitation, whichever occurs first. Duration of coverage varies by component and vocation as detailed previously in this publication. Some components are warranted for parts only and the Owner must pay any labor costs associated with the repair or replacement of the component. Other components are warranted for both parts and reasonable labor to repair or replace the subject component. Additional diagnostic time due to use of an outdated version of TOOLBOX™, time to purchase or install latest version of TOOLBOX™ are the responsibility of the authorized ZF distributor networks and are not covered under product warranty. Components installed as replacements under this warranty are warranted only for the remainder of the original period of time or mileage under the original warranty.

(2) Designation of Vocational Use Required. To obtain warranty coverage, each Owner must notify ZF through the OEM new truck and/or trailer dealer of the intended vocational use of the vehicle into which the WABCO components have been incorporated prior to the vehicle in-service date. This notification may be accomplished by registering the vehicle through your OEM new truck and/or trailer dealer or with ZF directly. Failure to notify ZF of (I) the intended vocational use of the vehicle or (II) a change in vocational use from that which was originally designated, will result in the application of a one year, unlimited mileage, parts only warranty (1/Unl/P) from the initial in-service date. A second Owner and each subsequent Owner must also notify ZF as to the intended vocational use of the vehicle. This notification can be sent directly to ZF or through

the OEM new truck and/or trailer dealer. The duration and mileage coverage of this warranty cannot exceed the coverage extended to the first Owner after his or her initial designation of vocational use. Coverage under ZF's warranty requires that the application of products be properly approved pursuant to OEM and ZF, approvals.

- (3) What is the Cost of this Warranty? There is no charge to the Owner for this warranty.
- (4) What is not Covered by this Warranty? In addition to the items listed on "Coverage Exclusions," this warranty does not cover normal wear and tear, or service items; nor does it cover a component that fails, malfunctions or is damaged as a result of (a) improper handling, storage, installation, adjustment, repair or modification including the use of unauthorized attachments or changes or modification in the vehicle's configuration, usage, or vocation from that which was originally approved by ZF, (b) accident, fire or other casualty, natural disaster, road debris, negligence, misuse, abuse, or improper use (including loading beyond the specified maximum vehicle weight or altering engine power settings to exceed the brake system capacity), or (c) improper or insufficient maintenance (including deviation from maintenance intervals, approved lubricants, or lube levels). This warranty does not cover any component or part that is not sold by ZF.
- (5) To obtain service. If the owner discovers within the applicable coverage period a defect in material or workmanship, the Owner must promptly give notice to either ZF or the dealer from which the vehicle was purchased. To obtain service, the vehicle must be taken to any participating OEM dealer or ZF distributor networks' servicer. The dealer or ZF authorized servicer will inspect the vehicle and contact ZF for an evaluation of the claim. When authorized by ZF, the dealer or ZF authorized servicer will repair or replace during the term of this warranty any defective WABCO component covered by this warranty.
- (6) Disclaimer of Warranty and Limitation of remedies. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE LIMITED WARRANTY SET FORTH HEREIN IS EXCLUSIVE AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR WARRANTY FOR HIDDEN OR LATENT DEFECTS, AND IN NO EVENT WILL ZF OR ANY OF ITS AFFILIATES BE LIABLE FOR DIRECT, INDIRECT, INCIDENTAL, PROGRESSIVE, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND.

- (7) Legal action. Any legal action or claim arising from or related to this Warranty, in contract or otherwise, must be commenced within one year from the accrual of that cause of action, or be barred forever. Any dispute arising in connection with this agreement shall be governed by and construed according to the laws of the State of Michigan and be brought, heard and determined exclusively in either the Circuit Court for the County of Oakland, State of Michigan or the United States District Court for the Eastern District of Michigan. The parties stipulate that the referenced venues are convenient.
- (8) Remedy. The exclusive remedy under this warranty shall be the repair or replacement of the defective component at ZF's option. ZF reserves the right to require that all applicable covered components are available and/or returned to ZF for review and evaluation. THE MAXIMUM LIABILITY, IF ANY, OF ZF FOR ALL DAMAGES, INCLUDING WITHOUT LIMITATION CONTRACT DAMAGES, BREACH OF WARRANTY, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORT, IS LIMITED TO AN AMOUNT NOT TO EXCEED THE PURCHASE PRICE OF THE PRODUCT and where indicated in the product and application warranty information above, the inclusion of labor is limited to the standard repair time. THE PARTIES ACKNOWLEDGE AND AGREE THAT THE LIMITATION OF DAMAGES PROVISION SET FORTH IN THIS PARAGRAPH SURVIVES BETWEEN THE ORIGINAL END USER AND ZF EVEN IF THE EXCLUSIVE REMEDY SET FORTH ABOVE IS DEEMED TO FAIL OF ITS ESSENTIAL PURPOSE. ZF may change the design or make improvements to its Products without incurring any warranty obligation for previously manufactured Product .
- (9) Entire Agreement. This is the entire agreement between ZF and the Owner about warranty and no, ZF employee, or dealer is authorized to make any additional warranty on behalf of ZF unless in writing and signed by an authorized representative of ZF.





**For further product details contact your distributor or the
WABCO Customer Care Center at 855-228-3203.**

About ZF Friedrichshafen AG

ZF is a global technology company and supplies systems for passenger cars, commercial vehicles and industrial technology, enabling the next generation of mobility. ZF allows vehicles to see, think and act. In the four technology domains Vehicle Motion Control, Integrated Safety, Automated Driving, and Electric Mobility, ZF offers comprehensive solutions for established vehicle manufacturers and newly emerging transport and mobility service providers. ZF electrifies different kinds of vehicles. With its products, the company contributes to reducing emissions and protecting the climate.

ZF, which acquired WABCO Holdings Inc. on May 29, 2020, now has 160,000 employees worldwide with approximately 260 locations in 41 countries. In 2019, the two then-independent companies achieved sales of €36.5 billion (ZF) and \$3.4 billion (WABCO). For more information, visit: www.wabco-na.com



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Custom Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The Pierce Custom Cab shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the cab tubular support and mounting structures and other structural components of the cab of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Cab

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the cab painted by Pierce shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship

Command Zone Electronics

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Command Zone control modules shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Five (5) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies to all of the control modules for the Command Zone system, including the full color graphic displays. Related wire harnesses, cables and connectors are not covered under this limited warranty and are instead covered under the Pierce One Year Basic Apparatus Limited Warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

54 Months Material and Workmanship

Camera System

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	This limited warranty covers repairs to correct any defect related to materials or workmanship of the Sharpvision camera system installed on the apparatus occurring during the warranty period.
Warranty Begins:	The date of delivery.
Warranty Period Ends After:	Fifty - Four (54) months
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty does not apply to related wire harnesses, cables, and connectors, which are covered by the Pierce one (1) year basic apparatus limited warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

NEW PRODUCT WARRANTY



**PARTICIPATING OEM SALES
DISTRIBUTOR SALES**

LIMITED WARRANTY ON NEW ALLISON AUTOMATIC TRANSMISSIONS USED IN EMERGENCY VEHICLE APPLICATIONS

Allison Transmission will provide for repairs or replacement, at its option, during the warranty period of each new Allison transmission listed below that is installed in an Emergency Vehicle in accordance with the following terms, conditions, and limitations.

WHAT IS COVERED

- **WARRANTY APPLIES** — This warranty is for new Allison transmission models listed below installed in an Emergency Vehicle and is provided to the original and any subsequent owner(s) of the vehicle during the warranty period.
- **REPAIRS COVERED** — The warranty covers repairs or replacement, at Allison Transmission’s option, to correct any transmission malfunction resulting from defects in material or workmanship occurring during the warranty period. Needed repairs or replacements will be performed using the method Allison Transmission determines most appropriate under the circumstances.
- **TOWING** — Towing is covered to the nearest Allison Transmission Distributor or authorized Dealer only when necessary to prevent further damage to your transmission.
- **PAYMENT TERMS** — Warranty repairs, including parts and labor, will be covered per the schedule shown in the chart contained in section “APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE.”
- **OBTAINING REPAIRS** — To obtain warranty repairs, take the vehicle to any Allison Transmission Distributor or authorized Dealer within a reasonable amount of time and request the needed repairs. A reasonable amount of time must be allowed for the Distributor or Dealer to perform necessary repairs.
- **TRANSMISSION REMOVAL AND REINSTALLATION** — Labor costs for the removal and re-installation of the transmission, when necessary to make a warranty repair, are covered by this warranty.
- **WARRANTY PERIOD** — The warranty period for all coverages shall begin on the date the transmission is delivered to the first retail purchaser, with the following exception:

Demonstration Service - A transmission in a new truck or bus may be demonstrated to a total of 5000 miles (8000 kilometers). If the vehicle is within this limit when sold to a retail purchaser, the warranty start date is the date of purchase. Normal warranty services are applicable to the demonstrating Dealer. Should the truck or bus be sold to a retail purchaser after these limits are reached, the warranty period will begin on the date the vehicle was first placed in demonstration service and the purchaser will be entitled to the remaining warranty.

APPLICABLE MODELS, WARRANTY LIMITATIONS, AND ADJUSTMENT SCHEDULE

APPLICABLE MODELS	WARRANTY LIMITATIONS (Whichever occurs first)		ADJUSTMENT CHARGE TO BE PAID BY THE CUSTOMER	
	Months	Transmission Miles Or Kilometers	Parts	Labor
MT, MD 3000, 3200, 3500, 3700	0-24	No Limit	No Charge	No Charge
HT with Hydraulic Controls	0-24	No Limit	No Charge	No Charge
AT, 1000 Series™, 2000 Series™, 2400 Series™	0-36	No Limit	No Charge	No Charge
HT with Electronic Controls	0-60	No Limit	No Charge	No Charge
HD 1000 EVS, 2100 EVS, 2200 EVS 2350 EVS, 2500 EVS, 2550 EVS, 3000 EVS, 3500 EVS, 4000, 4000 EVS, 4500, 4500 EVS, 4700, 4700 EVS, 4800, 4800 EVS	0-60	No Limit	No Charge	No Charge

WHAT IS NOT COVERED

- **DAMAGE DUE TO ACCIDENT, MISUSE, or ALTERATION** — Defects and damage caused as the result of any of the following are not covered:
 - Flood, collision, fire, theft, freezing, vandalism, riot, explosion, or objects striking the vehicle;
 - Misuse of the vehicle;
 - Installation into unapproved applications and installations;
 - Alterations or modification of the transmission or the vehicle, and
 - Damage resulting from improper storage (refer to long-term storage procedure outlined in the applicable Allison Service Manual)
 - Anything other than defects in Allison Transmission material or workmanship

NOTE: This warranty is void on transmissions used in vehicles currently or previously titled as salvaged, scrapped, junked, or totaled.

- **CHASSIS, BODY, and COMPONENTS** — The chassis and body company (assemblers) and other component and equipment manufacturers are solely responsible for warranties on the chassis, body, component(s), and equipment they provide. Any transmission repair caused by an alteration(s) made to the Allison transmission or the vehicle which allows the transmission to be installed or operated outside of the limits defined in the appropriate Allison Installation Guideline is solely the responsibility of the entity making the alteration(s).
- **DAMAGE CAUSED by LACK of MAINTENANCE or by the USE of TRANSMISSION FLUIDS NOT RECOMMENDED in the OPERATOR'S MANUAL** — Defects and damage caused by any of the following are not covered:
 - Failure to follow the recommendations of the maintenance schedule intervals applicable to the transmission;
 - Failure to use transmission fluids or maintain transmission fluid levels recommended in the Operator's Manual.
- **MAINTENANCE** — Normal maintenance (such as replacement of filters, screens, and transmission fluid) is not covered and is the owner's responsibility.
- **REPAIRS by UNAUTHORIZED DEALERS** — Defects and damage caused by a service outlet that is not an authorized Allison Transmission Distributor or Dealer are not covered.
- **USE of OTHER THAN GENUINE ALLISON TRANSMISSION PARTS** — Defects and damage caused by the use of parts that are not genuine Allison Transmission parts are not covered.
- **EXTRA EXPENSES** — Economic loss and extra expenses are not covered. Examples include but are not limited to: loss of vehicle use; inconvenience; storage; payment for loss of time or pay; vehicle rental expense; lodging; meals; or other travel costs.
- **"DENIED PARTY" OWNERSHIP** — Warranty repair parts and labor costs are not reimbursed to any participating or non-participating OEMs, dealers or distributors who perform warranty work for, or on behalf of, end users identified by the United States as being a "denied party" or who are citizens of sanctioned or embargoed countries as defined by the U.S. Department of Treasury Office of Foreign Assets Control. Furthermore, warranty reimbursements are not guaranteed if the reimbursement would be contrary to any United States export control laws or regulations as defined by the U.S. Department of Commerce, the U.S. Department of State, or the U.S. Department of Treasury.

OTHER TERMS APPLICABLE TO CONSUMERS AS DEFINED by the MAGNUSON-MOSS WARRANTY ACT

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Allison Transmission does not authorize any person to create for it any other obligation or liability in connection with these transmissions.

ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THESE TRANSMISSIONS IS LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. PERFORMANCE OF REPAIRS AND NEEDED ADJUSTMENTS IS THE EXCLUSIVE REMEDY UNDER THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES (SUCH AS, BUT NOT LIMITED TO, LOST WAGES OR VEHICLE RENTAL EXPENSES) RESULTING FROM BREACH OF THIS WRITTEN WARRANTY OR ANY IMPLIED WARRANTY.**

** Some states do not allow limitations on how long an implied warranty will last or the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

OTHER TERMS APPLICABLE TO OTHER END-USERS

THIS WARRANTY IS THE ONLY WARRANTY APPLICABLE TO THE ALLISON TRANSMISSION MODELS LISTED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ALLISON TRANSMISSION DOES NOT AUTHORIZE ANY PERSON TO CREATE FOR IT ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH TRANSMISSIONS. ALLISON TRANSMISSION SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY.

QUESTIONS

If you have any questions regarding this warranty or the performance of warranty obligations, you may contact any Allison Transmission Distributor or Dealer or write to:

Allison Transmission, Inc.
P.O. Box 894
Indianapolis, IN 46206-0894
Attention: Warranty Administration PF-9



Fire and Rescue Apparatus

Five (5) Year Material and Workmanship - Transmission Oil Cooler Three (3) Year Collateral Damage Coverage

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The transmission cooler shall be free from component or structural failures caused by defects in material and/or workmanship. Collateral damage up to \$10,000 per occurrence is available for the first three (3) years.
Warranty Begins:	The date of delivery to the first retail purchaser.
Warranty Period Ends After:	Five (5) Years on Oil Cooler and three (3) years on collateral damage coverage
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty.</p> <p>This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.</p> <p>Towing is covered to the nearest distributor or authorized dealer only when necessary to prevent further damage to your transmission.</p> <p>Labor costs for the removal and reinstallation of goods may be covered when necessary to make repairs. Please contact your OEM for authorization.</p> <p>Replacement of cooler during the warranty period is limited to 100% of reasonable labor costs up to a maximum of \$700 to remove, replace, or repair the oil cooler.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



LIFETIME SERVICE WARRANTY

United Plastic Fabricating, Inc. (hereinafter called "UPF") warrants each POLY-TANK®, Booster/Foam Tank POLYSIDE® Wetside Tank, Integrator Tank/Body, ELLIPSE™ Elliptical Tank, Ellip-T-Tank Tank and DEFENDER™ Skid Tank to be free from defects in material and workmanship for the service life of the original vehicle (vehicle must be actively used in an emergency response for fire suppression). All UPF Tanks must be installed and operated in accordance with the UPF Installation and Operating Guidelines. Failure to do so can void the warranty.

Every UPF Tank is inspected and tested before leaving our facility. Should your UPF Tank require service, please notify UPF via email, fax, in writing or by calling UPF at 1-978-975-4520. Please provide the serial number, a description of the service request, the location along with the phone number and name of the contact person. Our goal is to have scheduled work completed within a reasonable time period.

Under a valid warranty claim, UPF will cover the cost to repair the UPF Tank including the customary and reasonable costs to make the tank accessible such as the removal and reinstallation of the tank if authorized in advance (pre-approved) by UPF. The warranty will not cover tanks that have been improperly installed, operated, misused, abused, or modified from its intended or designed use. Serial number must not have been altered, defaced or removed. Tanks that are not stored or installed properly which results in the tank suffering UV damage will not be covered by this agreement.

Should UPF determine that the service claim is valid under this warranty for a tank located outside of the United States and Canada, UPF will assume the costs for labor and material for the warranty repair as described above plus all travel costs to the U.S. port of embarkation. Costs for airline travel outside of the U.S. and Canada will not be the responsibility of UPF.

In the event the tank shall become stationed in an area of the world that is considered to be a war zone or where unsafe conditions exist for the safe passage of United States Nationals, as reported by the United States Department of State, (<http://www.state.gov>), and a request to perform service or warranty repairs, UPF reserves the right to refuse to honor such requests. It is the purchaser's responsibility to relocate the tank to an area where such repairs can be performed without undue risk to UPF employees or their designee. UPF will make every reasonable effort to support our products through alternative means.

For Ellipse™ elliptical tanks, a separate five year warranty provided by the subcontractor is applied to the sub-frames, chute linings (rubber isolation strips) and metal components. The stainless steel wrap provided by UPF shall be warranted by the subcontractor performing the wrap installation in accordance with their warranty in place at the time of the installation. UPF will not be liable for any warranty costs associated with the wrap, sub-frames, chute linings (rubber isolation strips) and metal components but will assist with all claims on behalf of its customer.

For PolySide® wetsided tanks and Integrator™ Tank/Body units, all polypropylene components related to the tank shall carry the standard UPF lifetime



UNITED PLASTIC FABRICATING, INC.

WARRANTY

FOR: POLY-TANK®, POLYSIDE®, INTEGRATOR™, ELLIPSE™, ELLIP-T-TANK™ & DEFENDER™

service warranty. Other polypropylene components, including but not limited to compartments, wheel wells, fenders and other body related components shall be warranted by UPF for a period of ten years. The warranty for the PolySide® and Integrator™ units excludes paint or hardware, which shall be covered by the manufacturer of the paint/hardware.

All UPF tanks 50 gallons or less utilized for non-fire applications and installed on specialty vehicles such as ATVs, trailers, boats, etc. are covered under a separate warranty policy available from UPF. Further, UPF Protector™ foam and water trailers are warranted under a separate warranty policy available from UPF.

This UPF warranty is transferable within the United States only with prior written approval by UPF (except an original apparatus manufacturer may assign this warranty to the first titled owner/lessee of the apparatus).

UPF will NOT reimburse any unnecessary work and/or work that has not been pre-approved. Any and all third party charges must be pre-authorized and approved in writing by UPF prior to commencing the work. Any unauthorized third party repairs, alterations, actions or modifications will not be covered and can void the warranty. UPF will be the sole determining authority as to whether a service claim will be valid and covered under this warranty.

In no event will UPF be liable for an amount in excess of the purchase price of the booster/foam tank at the time of manufacture or for any loss or damage, whether direct, indirect, incidental, consequential, or otherwise arising out of failure of its product. Loss of contents (water, foam, etc.) shall not be the responsibility of UPF. Further, UPF is not responsible for costs associated with service repairs to chassis, sub-frames, bodies, valves, dumps, hoses, pressure vacuum vents, and other components (i.e. liquid level transducers, etc.). Further, UPF will not cover the cost for travel of the vehicle to and from a repair facility.

This warranty contains the entire warranty. It is the sole warranty and price agreements or representation, whether oral or written, are either merged herein or expressly cancelled. UPF neither assumes, nor authorizes any person supposing to act on its behalf to change, nor assume for it, any warranty or liability concerning its product.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow exclusion or limitation or incidental or consequential damage, so the above limitation or exclusion may not apply to you. Since some states do not allow limitations on the length of an implied warranty, the above limitation may not apply to you.

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. THERE IS NO EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR A WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. ADDITIONALLY, THIS WARRANTY IS IN LIEU OF ALL OTHER OBLIGATION OR LIABILITIES ON THE PART OF UPF.



BULLETIN

TO: All Dealer Service Representatives
From: Kevin Hanegraaf
DATE: January 4, 2010
RE: UPF Tank Warranty Policy – Truck in Accident
Service Topic #292



To keep the UPF tank warranty valid on trucks that have been involved in a vehicular accident, it is UPF's policy that the customer must remove the tank from the truck and send it back to one of UPF's facilities for inspection. In the event that this does not take place, the warranty will be considered null and void.

The customer must remove and send the tank back to UPF for inspection in order to maintain the original warranty coverage, at which time it will be:

- Filled with water
- Visually inspected
- Ultraviolet spark tested on articulating test stand in the dark
- Recommendation for repairs if necessary provided by UPF
- Fully evaluated and repaired by UPF

If your customer chooses to leave the tank on the truck and wants a technician to inspect and/or repair the tank in the field, then **the warranty is no longer in effect.** This direction is upheld by UPF because the technician cannot inspect the entire tank when it is still installed on the truck.

Note: This memo is intended to relay the information Pierce has received on UPF's tank warranty for trucks that are in a vehicular accident. In the event of an actual claim, we direct you to consult with UPF's service Manager Maura Watts (800-638-8265 x253)



Fire and Rescue Apparatus

Ten (10) Year Structural Integrity

Apparatus Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The apparatus body shall be free from structural failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years - or - 100,000 Miles
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty applies only to the body tubular support and mounting structures and other structural components of the body of the vehicle model, as identified in the Pierce specifications for the Fire and Rescue Apparatus. This warranty does not apply to damage caused by corrosion.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



AMDOR Inc. TERMS OF BUSINESS AND GENERAL INFORMATION

Warranty:

All AMDOR Inc. roll-up door products are warranted for a period of 10 years from the date of delivery (with the exception of wet paint adhesion - please see below). AMDOR Inc. liability covers the replacement or repair of any component that fails due to defects in material and / or workmanship during the coverage period. We accept no liability for claims made for damages to any part (or parts) of a vehicle and / or machine (of any type) or injury claims by a person or persons assumed or alleged to have been brought about by the use or misuse of any product supplied by AMDOR Inc. Warranty coverage does not extend to door attachments including (but not limited to) decals, emblems, stripes and adhesives.

In order to initiate the claims process please contact your authorized representative of AMDOR Inc. Warranty claims must be accompanied by a written description providing full and reasonable details as to the nature of the defect. Upon receipt of your claim arrangements will be made to inspect the defective product (if necessary). Justified warranty claims will be repaired, exchanged, or credited to the customer's account at AMDOR Inc.'s discretion. All warranty claims must be approved in writing by the Customer Service Manager for AMDOR Inc. There are no exceptions to this clause.

Limited warranty coverage includes the labor associated with the disassembly and assembly of products deemed to be defective by AMDOR Inc. Labor allowances are based on a set time schedule as determined by AMDOR Inc. The maximum allowable hourly labor rate is \$ 50. All warranty labor claims must be approved in writing by an authorized representative of AMDOR Inc. prior to commencement of work. Allowances for removal and installation:

Curtain replacement:	3/4 hour
Balancer replacement:	1 hour
Door ajar switch	3/4 hour
Bottom Panel Assembly:	1/2 hour
Slat replacement:	3/4 hour
Door removal and replacement	1 1/2 hours

Items authorized for return must be accompanied by a Return Goods Authorization (RGA) number. We will accept collect shipments of items deemed to be defective provided that they are returned via the most economical carrier. Should items be

returned by means other than the most economical carrier the difference will be charged back to the sender.

AMDOR Inc. reserves the right to reject any claim when a product has been opened, interfered with or modified. Claims may also be rejected when damage to the product (or any sub-assembly) has been brought about by accident, misuse, abuse, vandalism, incorrect installation, temperature extremes, chemical exposure or any factor other than regular operating conditions.

Limited Wet Paint Match Adhesion Warranty

AMDOR Inc. warrants wet paint finishes applied by AMDOR utilizing our approved factory paint specification. All wet paint match colors must be approved in writing by an authorized OEM representative. AMDOR Inc. will provide a color spray out for this purpose. The time required for shipping and consideration of initial color spray outs will be considered over and above stated lead times. Warranty coverage will extend for a period of not less than 5 years from the date of delivery as determined by AMDOR Inc.'s Packing Slip. AMDOR reserves the right to determine whether individual units will be replaced and / or repaired by an AMDOR approved vendor. An allowance will be made for labor associated with the disassembly and assembly of individual units at the prescribed hourly rate of \$ 50 per hour. Compensation for labor will not exceed the maximum time allowance permitted for door removal and replacement. Written approval including specified allowance for time must be obtained from AMDOR prior to initiating work. Warranty coverage will extend to the following visible paint system defects:

- 1./ Loss of mechanical adhesion as evidenced by peeling, cracking or blistering which exposes the substrate material.
- 2./ Corrosion of the substrate due to paint system failure.
- 3./ Fading which results in a substantial departure from the primary AMDOR approved body color.

Wet paint adhesion limited warranty coverage will be excluded when damages to the system are determined by AMDOR Inc. to be a result of the following:

- 1./ Damage caused through the use of attachments including (but not limited to) decals, labels, adhesives, non factory approved coatings.
- 2./ Loss of gloss, discoloration or damage due to improper maintenance (including but not limited to) mechanical wash systems, pressure washers, steam cleaners, non approved wash or polishing agents.
- 3./ Abuse, acts of nature, excessive heat / cold, chemical exposure, vandalism and / or accidents.
- 4./ Scratches, chips, abrasions, or dents from any source.

This document supercedes all previous written and / or verbal warranties provided by AMDOR Inc. and / or it's affiliates.



Fire and Rescue Apparatus

Six (6) Year Material and Workmanship

PUC Pump

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	The PUC Pump and its components manufactured under the Pierce brand in its Fire and Rescue Apparatus vehicle shall be free from failures caused by defects in material and workmanship
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Six (6) Years - or - 3000 Pump Hours
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This limited warranty applies to the PUC Pump and all its components manufactured under the Pierce brand. Items not manufactured under the Pierce brand such as valves, relief valves or wear items such as wear rings, seals, bearings or costs of removal, transporting, storing, or reinstallation are not covered by this six-year limited warranty and are instead covered under the Pierce Basic One Year Limited Warranty.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Ten (10) Year Material and Workmanship
Stainless Steel Piping
Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Table with 2 columns: Label (Coverage, Warranty Begins, Warranty Period Ends After, Conditions and Exclusions) and Description (Stainless steel piping shall be free from structural failures... The date of the original purchase invoice... Ten (10) Years - or - 100,000 Miles... Pierce's obligation under this warranty is limited to repairing or replacing without charge... This warranty does not cover the use of fluoroprotein (FP) type foam...)

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

- (a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce...
(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions...
(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce...
(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period...

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use.



One (1) Year Material and Workmanship Foam System & Five (5) Year Material and Workmanship Control Head

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Table with 2 columns: Label (Coverage, Warranty Begins, Warranty Period Ends After, Conditions and Exclusions) and Description (Limited warranty 1 year parts and labor for the foam system and 5 years parts and labor for the control head, The date of the original purchase invoice, One (1) Year & Five (5) Year, This warranty does not cover repair due to accidents, misuse, and excessive vibration, flying debris, storage damage (freezing), negligence or modification. This warranty is void if any modification or repairs are performed without authorization. This also voids any future warranty. This warranty does not cover cost of maintenance or repairs due to lack of required maintenance services as recommended. Performance of the required maintenance and use of proper fluids are the responsibility of the owner.)

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY.

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES.

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.



Fire and Rescue Apparatus

Ten (10) Year Pro-Rated Paint and Corrosion

Custom Body

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Exterior surfaces of the body shall be free from blistering, peeling, corrosion or any other adhesion defect caused by defective manufacturing methods or paint material selection.
Warranty Begins:	The date of the original purchase invoice (issued when the product ships from the factory).
Warranty Period Ends After:	Ten (10) Years
Conditions and Exclusions: See Also Paragraphs 2 thru 4	<p>This limited warranty is applicable to the vehicle in the following percentage costs of warranty repair, if any:</p> <p>Topcoat Durability & Appearance: Gloss, Color Retention & Cracking 0-72 months 100% 73-96 months 50% 97-120 months 25%</p> <p>Integrity of Coating System: Adhesion, Blistering/Bubbling 0-36 months 100% 37-84 months 50% 85-120 months 25%</p> <p>Corrosion: Dissimilar Metal and Crevice 0-36 months 100% 37-48 months 50% 49-72 months 25% 73-120 months 10%</p> <p>Corrosion Perforation 0-120 months 100%</p> <p>This limited warranty applies only to exterior paint. Paint on the vehicle's interior is warranted only under the Pierce Basic One Year Limited Warranty.</p> <p>Items not covered by this warranty include: (a) Damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual). (b) UV paint fade. (c) Any cab not manufactured by Pierce.</p>

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.



Fire and Rescue Apparatus

One (1) Year Material and Workmanship

Graphics Fading and Deterioration

Limited Warranty

1. LIMITED WARRANTY

Subject to the limitations and exclusions set forth below, Pierce Manufacturing provides the following warranty to the Buyer:

Coverage:	Each graphic lamination shall be free from defects in material workmanship, fading, and deterioration.
Warranty Begins:	The date the apparatus is placed in service, or 60 days from the original buyer invoice date, whichever comes first.
Warranty Period Ends After:	One (1) Year
Conditions and Exclusions: See Also Paragraphs 2 thru 4	This warranty does not cover damage from lack of maintenance and cleaning (proper cleaning and maintenance procedures are detailed in the Pierce operation and maintenance manual).

This limited warranty shall apply only if the product is properly maintained in accordance with Pierce's maintenance instructions and manuals and is used in service which is normal to the particular model. Normal service means service which does not subject the product to stresses or impacts greater than normally result from careful use. If the Buyer discovers a defect or nonconformity, it must notify Pierce in writing within thirty (30) days after the date of discovery, but in any event prior to the expiration of the warranty period. THIS LIMITED WARRANTY MAY NOT BE ASSIGNED OR OTHERWISE TRANSFERRED BY THE BUYER TO ANY SUBSEQUENT USER OR PURCHASER OR TO ANY OTHER PERSON OR ENTITY.

Notwithstanding anything to the contrary herein, Pierce makes no warranty whatsoever as to:

(a) any integral parts, components, attachments or trade accessories of or to the product that are not manufactured by Pierce, including but not limited to engines, transmissions, drivelines, axles, water pumps and generators; with respect to all such parts, components, attachments and accessories, Pierce shall assign to Buyer the applicable warranties, if any, made by the respective manufacturers thereof;

(b) any vehicle, chassis, or component, part, attachment or accessory damaged by misuse, neglect, fire, exposure to severe environmental or chemical conditions, acidic environment, improper maintenance, accident, crash, or force majeure such as natural disaster, lightning, earthquake, windstorm, hail, flood, war or riot;

(c) any vehicle, chassis or component, part, attachment or accessory that has been repaired, altered or assembled in any way by any person or entity other than Pierce which, in the sole judgment of Pierce, adversely affects the performance, stability or purpose for which it was manufactured; or

(d) products or parts which may in the ordinary course wear out and have to be replaced during the warranty period, including, but not limited to, tires, fluids, gaskets and light bulbs. Pierce assumes no responsibility for the assembly of its parts or subassemblies into finishing products or vehicles unless the assembly is performed by Pierce.

The original purchaser may void this warranty in part or in its entirety if the product is repaired or replaced (a) without prior written approval of the Pierce Customer Service Department; or (b) at a facility which has not been approved by Pierce as to technical capability. Any repairs, modifications, alterations or aftermarket parts added after manufacture without the authorization of Pierce may void this warranty.

2. DISCLAIMERS OF WARRANTIES

THE WARRANTY SET FORTH IN PARAGRAPH 1 IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY PIERCE. PIERCE HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF MERCHANTABILITY, ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, AND ANY WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE.

3. BUYER'S EXCLUSIVE REMEDY

If the product fails to conform to the warranty set forth in paragraph 1 during the warranty period, and such nonconformity is not due to misuse, neglect, accident or improper maintenance, Buyer must notify Pierce within the time period specified in paragraph 1, and shall make the product available for inspection by Pierce or its designated agent. At the request of Pierce, any allegedly defective product shall be returned to Pierce by Buyer for examination and/or repair. Buyer shall be responsible for the cost of such transportation, and for risk of loss of or damage to the product during transportation. Within a reasonable time, Pierce shall repair or replace (at Pierce's option and expense) any nonconforming or defective parts. Repair or replacement shall be made only by a facility approved in advance in writing by Pierce. THIS REMEDY SHALL BE THE EXCLUSIVE AND SOLE REMEDY FOR ANY BREACH OF WARRANTY.

4. EXCLUSION OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

Notwithstanding anything to the contrary herein or in any agreement between Pierce and Buyer, IN NO EVENT SHALL PIERCE BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, INDIRECT, OR PUNITIVE DAMAGES WHATSOEVER, WHETHER ARISING OUT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR OTHER THEORY OF LAW OR EQUITY, WITH RESPECT TO VEHICLES OR OTHER PRODUCTS SOLD BY PIERCE, OR THEIR OPERATION OR FAILURE TO OPERATE, OR ANY DEFECTS THEREIN, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATED THERETO, REGARDLESS OF WHETHER PIERCE HAS BEEN INFORMED OF THE POSSIBILITY OF ANY SUCH DAMAGES. Without limiting the generality of the foregoing, Pierce specifically disclaims any liability for property or personal injury damages, penalties, damages for lost profits or revenues, loss of vehicles or products or any associated equipment, cost of substitute vehicles or products, down-time, delay damages, any other types of economic loss, or for any claims by any third party for any such damages.

Note: Any Surety Bond, if a part of the sale of the vehicle as to which this limited warranty is provided, applies only to this Pierce Basic One Year Limited Warranty for such vehicle, and not to other warranties made by Pierce in a separate document (if any) or to the warranties (if any) made by any manufacturer (other than Pierce) of any part, component, attachment or accessory that is incorporated into or attached to the vehicle.

5 DEALER SUPPLIED PRODUCTS AND /OR SERVICES

Exhibit "D"

DEALER SUPPLIED EQUIPMENT and/or SERVICES

The following items and/or services will be provided by Golden State Fire Apparatus Inc. (GSFA):

LICENSED MANUFACTURER

The State of California Vehicle Code, section 11701 requires “every manufacturer of a vehicle subject to registration shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number”. The manufacturer has a current license at time of proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

LICENSED DEALERSHIP

The State of California Vehicle Code, section 11701 requires a “dealer in vehicles of a type subject to registration, shall make application to the Department of Motor Vehicles (DMV) for a license containing a general distinguishing number”. Golden State Fire Apparatus, Inc. has a current license at time of bid as outlined above and is available upon request. Temporary licenses are not acceptable.

LICENSED SALES REPRESENTATIVE

The State of California Vehicle Code, section 11800 requires that it shall be “unlawful for any person to function as a vehicle salesperson without having first procured a license issued by the Department of Motor Vehicles (DMV)”. The representative has a current vehicle salespersons license at time of proposal and shall provide a copy upon request. Temporary licenses are not acceptable.

WEEKLY PROGRESS REPORTS

GSFA will provide weekly progress reports including photographs of the apparatus or the major components as they are being constructed. The reports will commence at the start of the manufacturing process and will continue through production by the manufacturer. The reports will show the progress of the apparatus through the course of each week. Special attention will be given to show the unique features and aspects of the apparatus as construction progresses.

VEHICLE REGISTRATION

The State of California Vehicle Code section 11739 requires that the “dealer of a new motor vehicle sale is responsible for applying for the title, securing vehicle registration, and obtaining license plates for the Customer” through the Department of Motor Vehicles (DMV). Golden State Fire Apparatus, Inc. is a factory-authorized dealer of the vehicle being sold and is authorized to register with the State of California as a new vehicle manufacturer.

GSFA will make all necessary applications and complete all transfer papers, including applying for California Exempt “E” license plates.

PRE-CONSTRUCTION, FACTORY TRIP

A pre-construction trip to the manufacturing facility will be provided for four (4) Customer representative(s). The intent of this trip is to review and finalize, in detail, the specifications prior to the start of production. The pre-construction trip will have a duration of four (4) days and three (3) nights and be scheduled at times mutually agreed upon between GSFA. and the Customer. Costs for airfare, lodging, meals, and ground transportation while at the manufacturer’s location will be the responsibility of GSFA. Air travel will be from one of the following airports: Sacramento, San Francisco, or San Jose.

Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory will be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original

ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

FINAL INSPECTION, FACTORY TRIP

A final inspection trip to the manufacturing facility will be provided for four (4) Customer representative(s). The intent of this trip is to ensure that the apparatus is built to specification and to detect any deficiencies that require correction. The final inspection trip will have a duration of four (4) days and three (3) nights and be scheduled at times mutually agreed upon between GSFA and the Customer. Costs for airfare, lodging, meals, and ground transportation while at the manufacturer's location will be the responsibility of GSFA. Air travel will be from one of the following airports: Sacramento, San Francisco, or San Jose.

Costs such as Customer ground transportation in California, Customer airport parking, Customer luggage fees and Customer incidentals while traveling to the factory will be the responsibility of the Customer. Flight reservations are non-refundable and in the event of a cancellation after booking, the Customer will be responsible for all costs associated with this cancellation, which may include not only the original ticket cost but also any change or cancellation fees imposed by the airline and/ or travel agency. Flight reservations are also non-transferable.

DELIVERY TO AUTHORIZED SERVICE FACILITY

GSFA will, at their expense, deliver the apparatus (including any applicable equipment, spare parts, and supplies) to their Northern California facility in Sacramento for a dealer preparation inspection.

To ensure proper break in of all components while still under warranty, the apparatus shall be delivered under its own power - rail or truck freight shall not be acceptable.

CONTINGENCY RESERVE FUND

A contingency reserve fund in the sum of \$15,000 is included in the quotation to cover the cost of change orders, unforeseen items or required work that may come up during the contract to be used at the discretion of the El Dorado Hills FD. This reserve fund is not an estimate of those contingencies, and the cost of change orders, unforeseen items or required work could exceed the amount reserved depending on their nature. Any unused portion of this reserve fund will be credited back on the final invoice or returned in the form of a check to the El Dorado Hills FD promptly following final invoicing.

PRE-DELIVERY SERVICE

After transportation from the factory and prior to delivery, the apparatus will receive a pre-delivery service to confirm proper operation and correction of any issues found as a result of said inspection. The Golden State Fire Apparatus, Inc. pre-delivery service consists of the following:

- Engine Compartment and Undercarriage – Check for any broken mounting brackets and inspect for correct capacities of the following (if applicable): engine oil, coolant, power steering fluid, washer reservoir fluid, transmission fluid, rear end fluid, pump transmission oil, and primer oil.
- Interior – Operate all doors, windows, and locks for proper adjustment. Check upholstery.
- Exterior – Repair reasonable paint scratches or chips. Tighten any loose hardware and inspect tires and wheels for proper pressure and lug torquing.
- Road Test – With the water tank (if applicable) full, the apparatus will be driven approximately twenty miles which allows the drive train components to get up to operating temperature. Road

test will be on both city and highway roads. A DOT compliant brake test will be conducted to ensure the system is holding air. The brake condition and wheel seals will also be inspected.

- Electrical - Operate all lights, sirens, and other electrical accessories to verify operation.
- Pump - If applicable, vacuum test the pump to hold for 15 minutes. After vacuum test, operate the relief valve, transfer valve and check pump shift. Check water tank for leaks and inspect water level gauge for calibration. With discharge caps loose, rapid test all individual gauges and main gauges for calibration. Lubricate valve rods.
- Foam System – If applicable, tighten caps and connect foam lines. Test selector, valves, metering valve and operation of foam system (including flush).
- Fuel Tank - Fuel tank will be filled at the dealership location prior to final delivery.
- DEF Tank - DEF tank will be filled at the dealership location prior to final delivery.
- Wash - The apparatus will be thoroughly washed at the dealership location prior to final delivery.

FINAL DELIVERY (CUSTOMER LOCATION)

GSFA will, at their expense, deliver the Product (including any applicable equipment, spare parts, and supplies) to the Customer specified address once completed. Prior to delivery of the Product, Customer agrees to provide proof of liability and physical damage insurance to GSFA. GSFA will not release the Product to the Customer until such proof of insurance is provided.

It is the responsibility of the Customer to have any outstanding balance due, paid in full to GSFA, prior to or at the time that the Product is complete and ready to deliver. If payment is late or delivery is delayed pending payment, a daily finance charge of \$150.00 and a daily storage fee of \$50.00 may apply until such payment is received.

Due to insurance liability, the Product will not be delivered without full acceptance and full payment (or prior written agreement between the Customer and GSFA).

END OF EXHIBIT "D"

EL DORADO HILLS FIRE DEPARTMENT
WEED ABATEMENT SERVICE AGREEMENT

This Agreement, dated as of July 10, 2023, is by and between the El Dorado Hills Water District, also known as the El Dorado Hills Fire Department (“DISTRICT”), and Hanford ARC, (“CONTRACTOR”) who are hereinafter collectively referred to as the “Parties”. The Agreement will be effective upon final execution by all parties.

RECITALS

WHEREAS, On April 25, 2023, the District Governing Board Approved Resolution 2023-02 exercising its statutory authority to abate weeds on property on which the weeds constitute a fire hazard and public nuisance; and

WHEREAS, the DISTRICT issued a Request for Proposal on June 16, 2023, for the issuance of a contract to a qualified contractor to perform weed abatement services; and

WHEREAS, CONTRACTOR has submitted the successful bid in response to the Request for Proposal and is professionally qualified to provide such services and is willing to provide them to DISTRICT on the terms and conditions set forth herein.

WHEREAS, the DISTRICT desires to obtain the services of CONTRACTOR, as more fully described below; and

NOW, THEREFORE, the parties agree as follow;

1. **HEADINGS**
Headings herein are for convenience of reference only and shall in no way affect interpretation of the Agreement.
2. **EXHIBITS**
Exhibits A and B are attached hereto and incorporated herein by reference.
3. **SCOPE OF SERVICES**
CONTRACTOR agrees to perform all weed abatement services described in Exhibit A. The services will be provided on the properties described in Exhibit B. Both of these Exhibits are incorporated as if set forth fully herein.
4. **TERM**
The term of this Agreement shall not exceed thirty (30) days from the date of final execution of the Agreement by the Parties. Terms and conditions, which relate to indemnification and other related matters, shall continue in effect for two (2) years after the expiration of this Agreement.
5. **PAYMENT**
For service performed in accordance with the Agreement, payments will be made and payment shall be made to CONTRACTOR as follows: CONTRACTOR shall provide all of the following in order to receive payment for weed abatement services from the DISTRICT:

- a. Records which consist of an accurate list of all parcels for which abatement has been completed, including parcel number, address, date of completion and photographs of the hazard to be abated and photographs taken after completion of the abatement.
- b. After all work is complete, a written, legible itemized invoice with CONTRACTOR name and address, summary of parcel numbers and associated dollar amount charged. Payment will be made to CONTRACTOR within 30 days of receipt of completed packet. The total amount charged for completion of all abatement work for removal of all hazards from all property listed in Exhibit B shall not exceed **Seven-Thousand and Eleven dollars (\$7,011.00)**.

6. **INDEPENDENT CONTRACTOR**

No relationship of employer and employee is created by this Agreement; it being understood and agreed that CONTRACTOR is at all times an independent contractor and can perform work for others. CONTRACTOR is not the agent or employee of the DISTRICT in any capacity whatsoever and DISTRICT shall not be liable in any manner for any acts or omissions by CONTRACTOR or for any obligations or liabilities incurred by CONTRACTOR, his employees, or agents.

CONTRACTOR shall have no claim under this Agreement or otherwise, for seniority, vacation time, vacation pay, sick leave, personal time off, health insurance medical care, hospital care, retirement benefits, social security, disability, workers' compensation, or unemployment insurance benefits, civil service protection, or employee benefits of any kind.

CONTRACTOR shall be solely liable for and obligated to pay directly all applicable payroll taxes (including federal and state income taxes) or contributions for unemployment insurance or old age pensions or annuities which are imposed by any governmental entity in connection with the labor used or which are measured by wages, salaries or other remuneration paid to its officers, agents or employees, and CONTRACTOR agrees to indemnify and hold DISTRICT harmless from any and all liability which DISTRICT may incur because of CONTRACTOR's failure to pay such amounts.

In carrying out the work contemplated herein, CONTRACTOR shall comply with all applicable federal and state workers' compensation and liability laws and regulations with respect to the officers, agents and/or employees conducting and participating in the work; and agrees that such officers, agents, and/or employees will be considered as independent contractors and shall not be treated or considered in any way as officers, agents and/or employees of DISTRICT.

CONTRACTOR shall perform all services required pursuant to this Agreement in the manner and according to the standards observed by a competent practitioner of the profession in which CONTRACTOR is engaged in the geographical area in which the CONTRACTOR practices its profession.

Notwithstanding the foregoing, if the DISTRICT in its discretion determines that pursuant to state and federal law CONTRACTOR is an employee for purposes of income tax withholding, DISTRICT may upon two (2) weeks' notice to CONTRACTOR, withhold from payments otherwise due to CONTRACTOR hereunder federal and state income taxes and to pay said sums to the federal and state governments.

7. **INDEMNIFICATION**

To the fullest extent permitted by law, CONTRACTOR shall release, hold harmless, defend and indemnify the DISTRICT, its Board of Directors, officers, employees and agents from and against

any and all claims, losses, damages, lawsuits, liabilities and expenses, including but not limited to attorneys' fees, to the extent arising out of or resulting from the negligent performance of services under this Agreement, including but not limited to those attributable to bodily injury, sickness, disease, death or to injury to or destruction of property, including the loss therefrom, or to any violation of federal, state or municipal law or regulation, to the extent arising out of or is any way connected with the negligent performance of this Agreement (collectively "Liabilities") except where such Liabilities are caused by the sole negligence or willful misconduct of any indemnitee. The DISTRICT may, at its option, participate in the defense of any such claim without relieving CONTRACTOR of any obligation hereunder.

8. INSURANCE

CONTRACTOR shall maintain at all times during the performance of this Agreement a commercial general liability insurance policy with a minimum occurrence coverage in the amount of \$1,000,000.00; an automobile liability insurance policy in the minimum amount of \$1,000,000.00; and shall name the DISTRICT, its directors, officers, agents, volunteers and employees (if any) as additional insureds and shall provide primary coverage with respect to the DISTRICT.

All insurance policies shall: 1) provide that the insurance carrier shall not cancel, terminate or otherwise modify the terms and conditions of said policies except upon thirty (30) days written notice to the DISTRICT; 2) be evidenced by the original Certificate of Insurance and the insurance carrier's standard form endorsement evidencing the required coverage; and 3) be approved as to form and sufficiency by the DISTRICT.

If the commercial general liability insurance referred to above is written on a Claims Made Form then, following termination of this Agreement, coverage shall survive for a period of not less than five (5) years. Coverage shall also provide for a retroactive date of placement coinciding with the effective date of this Agreement.

If CONTRACTOR employs any person, he shall carry workers' compensation and employer's liability insurance and shall provide a certificate of insurance to the DISTRICT. The workers' compensation insurance shall: 1) provide that the insurance carrier shall not cancel, terminate or otherwise modify the terms and conditions of said insurance except upon thirty (30) days written notice to the DISTRICT; and 2) provide for a waiver of any right of subrogation against the DISTRICT to the extent permitted by law.

CONTRACTOR shall promptly forward all insurance documents to the DISTRICT.

9. CONFORMITY WITH LAW AND SAFETY

In performing services under this Agreement, CONTRACTOR shall observe and comply with all applicable laws, ordinances, codes and regulations of governmental agencies, including federal, state, municipal, and local governing bodies, having jurisdiction over the scope of services provided by CONTRACTOR.

10. TAXES

Payment of all applicable federal, state and local taxes shall be the sole responsibility of the CONTRACTOR.

11. **ACCESS AND RETENTION OF RECORDS**

CONTRACTOR agrees to provide the DISTRICT and its designee's access to all of the CONTRACTOR's records related this contract and that the CONTRACTOR shall maintain its records related to this contract for a period of not less than five (5) years after the final payment to the CONTRACTOR is made by the DISTRICT.

12. **CONFLICT OF INTEREST**

CONTRACTOR covenants that he presently has no interest, and shall not obtain any interest, direct or indirect, which would conflict in any manner with the performance of services required under this Agreement, including but not limited to any provision of services to any federal, state or local regulatory or other public agency which has any interest adverse or potentially adverse to the DISTRICT, as determined in the reasonable judgment of the Board of Directors of the DISTRICT. Entering into this agreement does not preclude CONTRACTOR from working for others as long as CONTRACTOR ensures that such work does not constitute a conflict of interest.

13. **USE OF DISTRICT PROPERTY AND METHODS AND EQUIPMENT**

CONTRACTOR shall not use DISTRICT property (including equipment, instruments and supplies) or personnel for any purpose. All abatement performed under this contract shall be by disc, bulldozer, mowing, chipping or vegetation removal equipment. All equipment shall be in reliable and safe condition meeting all applicable codes (e.g. ANSI, OSHA, etc.) and suitable for producing the required quality of work. Gasoline or diesel fueled equipment used in grass or brush areas shall be equipped with an approved spark arrester. Every operator of every vehicle or piece of equipment used for the work of this DISTRICT shall be skilled and competent in the operation of said equipment. The CONTRACTOR may own or sub-contract any of the necessary equipment. The CONTRACTOR shall have provisions for immediate replacement of any equipment or operator that may become inoperable. CONTRACTOR may not sub-contract work to be done without express written authority of the DISTRICT.

14. **LICENSES**

CONTRACTOR acknowledges that they are licensed and bonded, and that CONTRACTOR maintains all licenses required by any government licensing authority to perform the work described in this agreement. Should any required license be suspended, revoked, or expire, CONTRACTOR shall immediately notify the DISTRICT in writing, and cease any further work or services under this agreement.

15. **TERMINATION**

Either party may terminate this Agreement for default upon five (5) days written notice to the other if the other party has substantially failed to fulfill any of its obligations under this Agreement in a timely manner as provided herein. The DISTRICT has and reserves the right to terminate this Agreement at its convenience and without cause upon ten (10) days written notice to CONTRACTOR. In the event that the DISTRICT should terminate this Agreement for its convenience, CONTRACTOR shall be entitled to payment for services provided hereunder, but only for such services performed prior to the effective date of said termination accrued as of the date of the termination.

16. **ASSURANCE OF PERFORMANCE**

If at any time DISTRICT believes CONTRACTOR may not be adequately performing its obligations under this Agreement or that CONTRACTOR may fail to complete the services as required by this Agreement, DISTRICT may, at its option, request from CONTRACTOR prompt

written assurances of performance and a written plan acceptable to DISTRICT, to correct the observed deficiencies in CONTRACTOR's performance. CONTRACTOR shall provide such written assurances and written plan within ten (10) calendar days of his receipt of DISTRICT request and shall thereafter diligently commence and fully perform such written plan. CONTRACTOR acknowledges and agrees that any failure to provide such written assurances and written plan within the required time shall constitute grounds for termination pursuant to Section 16 of this Agreement.

17. **CHOICE OF LAW**

CONTRACTOR agrees that if a dispute arises in the performance of this agreement the laws of the State of California will govern.

18. **ENTIRE AGREEMENT**

This Agreement, including all attachments, exhibits, and any other documents specifically incorporated into this Agreement, shall constitute the entire agreement between DISTRICT and CONTRACTOR relating to the subject matter of this Agreement. As used herein, Agreement refers to and includes any documents incorporated herein by reference and any exhibits or attachments.

This Agreement supersedes and merges all previous understandings, and all other agreements, written or oral, between the Parties and sets forth the entire understanding of the Parties regarding the subject matter thereof. The Agreement may not be modified except by a written document signed by both Parties.

19. **MODIFICATION OF AGREEMENT**

This Agreement may be supplemented, amended or modified only by the mutual agreement of the Parties. No supplement, amendment or modification of this Agreement shall be binding unless it is in writing and signed by authorized representatives of both Parties.

20. **SEVERABILITY**

If any part of this Agreement or the application thereof is declared to be invalid for any reason, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision or application, and to this end the provisions of this Agreement are deemed severable.

21. **SUCCESSORS AND ASSIGNS**

This agreement is binding upon and inures to the benefit of the successor, executors, administrators, and assigns of each party to this agreement, provided, however, that CONTRACTOR shall not assign or transfer by operation of law or otherwise any or all rights, burdens, duties, or obligations without prior written consent of the DISTRICT. Any attempted assignment without such consent shall be invalid.

22. **NOTICES**

All notices, requests, demands, or other communications under this Agreement shall be in writing. Notices shall be given for all purposes as follows:

Personal delivery: When personally delivered to the recipient, notices are effective on delivery.

First Class Mail: When mailed first class to the last address of the recipient known to the party giving notice, notice is effective three (3) mail delivery days after deposit in a United States Postal Service office or mailbox.

Certified Mail: When mailed certified mail, return receipt requested, notice is effective on receipt, if delivery is confirmed by a return receipt.

Overnight Delivery: When delivered by overnight delivery (Federal Express/Airborne/United Parcel Service/DHL Worldwide Express) with charges prepaid or charged to the sender's account, notice is effective on delivery, if delivery is confirmed by the delivery service.

Addresses for purpose of giving notice are as follows:

To: DISTRICT: EL DORADO HILLS FIRE DEPARTMENT
Chrisana Fields, Fire Marshal
1050 Wilson Blvd.
El Dorado Hills, CA 95762

To: CONTRACTOR: HANFORD ARC
755 Baywood Drive, Suite 380
Petaluma, CA 94954

Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified shall be deemed effective as of the first date that said notice was refused, unclaimed, or deemed undeliverable by the postal authorities, messenger, or overnight delivery service.

Any party may change its address or telex or facsimile number by giving the other party notice of the change in any manner permitted by this Agreement.

23. SIGNATORIES

By signing this agreement, signatories warrant and represent that they have executed this Agreement in their authorized capacity.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the day and year above written

EL DORADO HILLS COUNTY
WATER DISTRICT

By: _____
Name: MAURICE JOHNSON
Title: Fire Chief
Date:

HANFORD ARC

By: Ralph D. Vigil
Name: Ralph Vigil
Title: Project Manager/Contract Manager
Date: July 11, 2023

EXHIBIT A
Project Scope

CONTRACTOR agrees to perform weed abatement services on the properties identified in Exhibit B.

The property upon which said weed abatement and/or removal shall be done consists of private property, vacant or otherwise upon which undesirable vegetation or litter/rubbish has become a nuisance and a fire hazard when dry. The scope of services includes all work to perform weed abatement at numerous sites described on the attached, Exhibit "B". Weed Abatement Sites Listing are subject to update by the Department at any time.

The properties are one (1) acre or less in size, contain dead grasses and other vegetation, may require other abatement work as described in Section IV of this RFP, and are located within one-hundred (100) feet of nearby structures.

The following abatement provisions shall be accomplished by the CONTRACTOR as part of the services provided to the DISTRICT:

- a. All combustible vegetation that is located on the unimproved parcel shall be removed or cut to a maximum height of two (2) inches.
- b. Tree limbs within six (6) feet of the ground that permit fire spread into the tree canopy and promote ember distribution shall be removed.
- c. All downed trees, branches or woody debris smaller than eight (8) inches in diameter shall be removed.
- d. Debris piles that contain combustible material that can easily support fire ignition and spread shall be removed.
- e. All brush or woody vegetation debris shall be chipped or removed from the property.

Non-vegetative debris (i.e., trash, tires, construction) shall be removed from the property.

All abatement performed under this contract shall be by disc, bulldozer, mowing, chipping or vegetation removal equipment.

EXHIBIT B
EDHFD Weed Abatement Sites Listing, Mapping and Bid Proposal

The parcels identified as part of this project and for which CONTRACTOR will provide weed abatement services consist of the following properties:

APN	Parcel Size	Address	Cross Street	Area	Bid Proposal
117180014	0.40	0	White Rock Road	Windfield Way	\$2,245.00
117160017	0.06	0	White Rock Road	Windfield Way	\$337.00
117180015	0.68	0	White Rock Road	Windfield Way	\$3,816.00
117160023	0.11	0	Dunwood Drive		\$617.00
Total	-	-	-	-	\$ 7,011.00

Several of the parcels identified on the list above are located in private gated communities in the DISTRICT. Should the CONTRACTOR be unable to access the community that the property is located in, please contact the DISTRICT representative identified in this agreement for assistance. Further, all terms, descriptions, definitions, and requirements of Exhibit B to Request for Proposal dated June 16, 2023 are incorporated herein and constitute part of the terms of the agreement pursuant to paragraph 2 of the agreement.



Budget/Schedule Delay

Potential Budget/Schedule Delay

On Time/On Budget

MONTHLY PROGRESS REPORT No. 015

El Dorado Hills Fire Department

Project Name: EDHFTC

Period Ending: June 30, 2023



EL DORADO HILLS
FIRE DEPARTMENT
Serving the Communities of El Dorado Hills, Nevada and Las Vegas

Scope:

Surveys, grading, underground plumbing, electrical, earthwork, asphalt concrete paving, concrete paving, site concrete, chain link fences and gates, decorative metal fences and gates, irrigation system, planting, site utilities, construction of 2 new training buildings and 1 new outdoor classroom with restrooms.

Summary

Original Contract Amount: **\$11,712,034.00**

Contract Budget Status:

Original Contract Amount with Contingency and allowances;	\$11,712,034.00
Original Shared Contingency:	\$856,447.00
Original Shared Allowances:	\$150,000.00
Amount Billed to Date:	\$11,199,133.11
Retainage:	\$279,978.96
Remaining Balance Including Retainage:	\$792,879.85
Percent of Construction Complete:	95.62%
Remaining Contingency:	\$368,158.00
Remaining Allowances:	\$5,944.00

Progress This Period:

- Outstanding Punch List Items
- Change Order Work

Anticipated Progress Next Period:

- Install Building 1 Spongy Floor
- Change Order Work

Changes/Clarifications:

- CB #020R1 - Revise hardware at the Special Openings in Burn Buildings 1 & 2 as delineated in ASK-013R1.

Issues:

- No Issues.

Progress Photos:



Photo taken on 06.15.23



Photo taken on 06.15.23

Project Team:

Owner:	El Dorado Hills Fire Department
Architect:	RDC
Construction Manager:	Roebbelen
Contractor:	DG Granada