

QUOTATION

General Fire Apparatus

State Of Oregon Type 3 Bid

General Fire Apparatus-PNWEE
 3924 East Trent Avenue
 Spokane, Washington 99202
 509-242-2710

Quote No: 10302-0018
 09/29/2022

PART NO	S	DESCRIPTION	QTY
== Pumper/Tanker Bid Prep Forms - 601.022 06/01/22 ==			
ROSENBAUER APPARATUS SOLUTIONS - RAS - 02 JUNE 2022			
00-00-0110	S	Note: This design to be a Model 34 Style Apparatus	1
00-00-1100	S	Information Request Form (Factory Required) SHOP NOTE: Note: This design to be a Model 34 Style Apparatus	1
00-00-1300	S	State of Oregon Type 3 Fire Engines	1
00-00-1499		Overall Height Restriction, NONE	1
00-00-1509		Overall Length Restriction, NONE	1
00-00-1519		Overall Width Restriction, NONE	1
00-00-1529		Wheelbase Restriction, NONE	1
00-00-1539		Angle of Approach, NFPA Minimum, 8 Degrees	1
00-00-1549		Angle of Departure, NFPA Minimum, 8 Degrees	1
NFPA Equipment Allowances			
00-00-1610		NFPA Pumper Equipment Allowance 2500#	1
00-00-1799			1
00-00-3220		Contract Change Notice	1
00-12-1100		Financial Stability Response	1
01-06-0500		Calculated Center of Gravity	1
01-07-0060		-- Technical Drawings, Representative Drawings (3-View) (Left/Right/Rear)	1
01-07-1100		Change Orders	1
02-02-0100		Pre-Construction Conference At Fire Dept.	1
02-03-0500		ISO Compliance	1
02-03-0200		Single Source Response, Rosenbauer	1
02-06-0200		Company History, South Dakota Division	1
02-10-4000		Delivery (1001 to 1250 miles)	1
02-13-5020		Demonstration (Dealer Supplied)	1
02-13-5030	S	S.O.R. / Delivery to Final Destination By Dealer	1
02-13-7200		Body Mfg Service & Support Requirements	1
02-13-7400		Toll Free Service Number	1
== Pumper/Tanker Warranties - 601.022 06/01/22 ==			
01-16-0150		-- Warranty, Apparatus, Body Warranty, 1 Year	1
01-19-0250		-- Warranty, Body, Alum, 5 Years	1
01-19-2800		-- Warranty, Subframe, Lifetime Galv	1
01-20-1005		-- Warranty, Paint, AkzoNobel, 5 Years	1
01-21-0150		-- Warranty, Lettering and Striping, 1 Year	1
01-17-0750		-- Pump Warranty, Waterous, 7 Years	1
01-17-1050		-- Plmbg Warranty, Stainless Steel, 10 Years	1
01-18-0250		-- Warranty, Foam Tank, UPF	1
01-18-0450		-- Warranty, Water Tank, UPF	1

PART NO	S	DESCRIPTION	QTY
01-33-3100		-- Manuals, Body Complete, 1 Set Printed With Digital Copy	1
02-90-1500		Chassis, International 4 Dr	1
		== Use Drop Down to Add RBM Chassis - 601.022 06/01/22 ==	
		== Pumper/Tanker-DC Electrical System - 601.022 06/01/22 ==	
50-03-1000		Elecal, Base, Standard, W/O Load Mgmt	1
50-05-1510		-- Electrical Jct Box, Weather Resistant	1
50-10-2000		-- High Idle System	1
50-12-1120		Swtch Panel/Elecal Console, Btwn Cab Seats, Blk LineX Ctd	1
50-15-1100		Batteries, With Supl'd Chs	1
50-15-3100		Battery Swtch, Mstr Disconnect , Chs Sppld	1
50-15-8700		Battery Charger, Mean Well PB-600-12, 40 Amp	1
50-20-1500		-- Shore Power Inlet, KUSS Super Auto-Eject 20A	1
50-20-1120		-- Shore Power Inlet, Left Front Cab Dr	1
		SHOP NOTE:	
		Black Color Cover	
51-20-3100		-- Fldlt, Mntg Lctn, Front Edge Of Cab Roof	1
51-16-5015		-- Fldlt, Fire Tech, FT-MB-18-FT-B, 25" Light Bar Mnt, Black	1
54-15-6100		-- Scene Lt Swtch , Cab Switch Panel	1
51-20-3700		-- Fldlt, Mntg Lctn, Side of Body	1
51-16-5015		-- Fldlt, Fire Tech, FT-MB-18-FT-B, 25" Light Bar Mnt, Black	2
		SHOP NOTE:	
		Left & Right Side Top of Body Compartments	
54-15-6400		-- Scene Lt Swtch , Left Scene Lts, Cab Switch Panel	1
54-15-6500		-- Scene Lt Swtch , Right Scene Lts, Cab Switch Panel	1
52-01-1200		Back Up Alarm	1
52-02-4100		Back Up Camera, FRC Rear Camera System, True Sight BCA111-A00	1
52-08-1009		-- Hand Lights, NFPA Compliance - Spl'd/Instl'd by DEPT	1
52-15-1200		Radio Antenna Base, Supply and Install, Ea	2
53-01-1200		Marker Lts, LED, DOT Requirements	1
53-02-1300		License Plate Brkt, Stainless, No Lt, Rr	2
		SHOP NOTE:	
		Two (2) Brackets shall be provided. Please do not mount until the final inspection for location purposes. Note: there's no wiring and these are not a lighted bracket.	
53-03-0065		Whelen Rr DOT LED Ltng Pkg M6	1
53-03-2750		-- Tail/Brake Lts, Whelen, LED, M62BTT (Pair)	1
53-04-2750		-- Turn Signals, Whelen, LED w/ Arrow, M62T (Pair)	1
53-06-3550		-- Backup Lts, Whelen, LED, M62BU (Pair)	1
53-07-1210		-- Tail Lt Bezel, 4 Lts, Whln M6 (Pair), ABS Chrome	1
53-05-1802		Turn Signals, Mid Bdy, LED Marker Lt TechNiq S17-AA2G0-1 (Pair)	1
54-02-1620		-- Ground Lts, Cab, 4 Door, LED, TecNiq (Four)	1
54-02-2320		-- Step Lts, Cab, (2) Pair LED Four	1
54-03-1280		-- Ground Lts, Pump Panel , LED, TecNiq Pair	1
54-03-1680		-- Ground Lts, Rear Step , LED, TecNiq Pair	1
54-04-1999		-- Lt Swtch , Ground Lts w/ Park Brake	1
54-10-1450		Step Lt, Rr Tailboard, LED, Ea	2
54-11-2100		Lt Swtch , Step/Wikwy Lts Wired Park Brake Swtch	1
55-11-2400		Dr Open/Hazard Wrn Lt, Flashing, Whelen 3SR00FRR LED Round w/Alarm	1
56-01-1360		Siren, Elect, F-S PA-300 w/Priority #690002	1
56-02-1600		-- Spkr, F-S Dynamax, ES100C 100 Watt	1
56-02-1650		-- Spkr Grille, Stnls Stl, "R"	1

PART NO	S	DESCRIPTION	QTY
56-03-1800		-- Spkr Lctn, To Be Determined by Body Mfg	1
57-02-2000		-- Lt Bar Whelen JE0NFPA NFPA Justice Series Super LED 62" Long	1
57-10-0600		-- Lightbar Cntrl, with Master Warning Switch	1
58-71-1850		-- Wrn Lts, Whelen, Upper Rr (2) S-LED Rota-Beam R416*F	1
57-20-8310		-- Wrn Lt, Drvr, Whelen, R416 Rota Beam LED Rotator Red Clear Lens, Ea	1
57-20-8315		-- Wrn Lt, Offcr, Whelen, R416 Rota Beam LED Rotator Blue Clear Lens, Ea	1
58-74-5200		-- Mtg, Rr Wrn Lt, Bdy Compt	1
CAB WARNING LTS			
58-03-2000		-- Wrn Lts, Whelen, Low Frnt, (2) M6 LED	1
57-20-1210		-- Wrn Lt, Drvr, Whelen, M6, Red LED, Clear Lens, Ea	1
57-20-1213		-- Wrn Lt, Offcr, Whelen, M6, Blue LED, Clear Lens, Ea	1
58-01-2141		-- Flange, Black, Wrn Lt, Whln, M6, Ea	2
58-09-2000		-- Wrn Lts, Whelen, Intrsct (2) M6 LED	1
57-20-1210		-- Wrn Lt, Drvr, Whelen, M6, Red LED, Clear Lens, Ea	1
57-20-1211		-- Wrn Lt, Offcr, Whelen, M6, Red LED, Clear Lens, Ea	1
58-26-2400		-- Wrn Lts, Whelen, Low Mid Bdy (2) M2 LED, in Rub Rail	1
SHOP NOTE:			
Will only fit in EXT rub rail WITHOUT bezel			
57-20-1012		-- Wrn Lt, Drvr, Whelen, M2, Blue LED, Clear Lens, Ea	1
57-20-1011		-- Wrn Lt, Offcr, Whelen, M2, Red LED, Clear Lens, Ea	1
58-36-2400		-- Wrn Lts, Whelen, Low Rr Side (2) M2 LED, in Rub Rail	1
SHOP NOTE:			
Will only fit in EXT rub rail WITHOUT bezel			
57-20-1010		-- Wrn Lt, Drvr, Whelen, M2, Red LED, Clear Lens, Ea	1
57-20-1011		-- Wrn Lt, Offcr, Whelen, M2, Red LED, Clear Lens, Ea	1
58-81-2000		-- Wrn Lts, Whelen, Low Rr (2) M6 LED	1
57-20-1210		-- Wrn Lt, Drvr, Whelen, M6, Red LED, Clear Lens, Ea	1
57-20-1213		-- Wrn Lt, Offcr, Whelen, M6, Blue LED, Clear Lens, Ea	1
58-96-3999		=== No Body Side Traffic Lights - Pick to Select ===	1
== Pumper/Tanker-Chassis Modifications - 601.022 06/01/22 ==			
10-02-1100		-- Label, Data, Fluid Levels	1
10-02-1200		-- Label, Data, Height x Length, Weight	1
10-02-1300		-- Label, Data, "No Ride" Rr Step	1
10-02-2100		-- Label, Indicating Number of Seats	1
10-02-2500		-- Label, "Caution: Do Not Wear Helmet While Seated"	1
10-03-6000		-- Tow Plates (2), Rr Frame Rail, Under Step	1
80-43-2400		-- Painting, Tow Plates, Blk	1
10-04-0002		-- Bumper, Existing Comm Bumper	1
10-04-2130		-- Bumper Ext, 12", By Bdy Bldr	1
10-04-2320		-- Bumper Gravelshield, 12", By Bdy Bldr	1
10-04-2720		-- Bumper Compt, Center, Hosewell Compt	1
10-04-3125		-- Bumper Compt, Frnt Bmpr, Velcro Straps, Pair	1
10-06-1600		-- Tire Pressure Indicator, Sngl Axle, Commercial, RWTG1235	1
10-07-0100		-- Exhaust, Horizontal Supplied With Chassis	1
10-08-2100		-- Mud Flaps, Rr Whls, Blk, w/ Bdy	1
10-10-0800		-- Cab Step Overlay, 4 Dr LH Side w/Compt	1
10-10-0900		-- Cab Step Overlay, 4 Dr RH Side w/Compt	1
10-13-2600		-- Cabinet, Center Fwd Facing, Full Ht, Cargo Net 40" W x 18" D x Full Ht	1
10-13-3540		-- Exterior Finish, Cabinet, To Match Cab Interior	1

PART NO	S	DESCRIPTION	QTY
10-13-3550		-- Interior Finish, Cabinet, Natural	1
10-13-3600		-- Shelf, Adjust, Crew Cab Cabinet	1
10-19-4000		-- Air Inlet, Mnl, Cab Exterior, Left Step	1
== Midship Pumper/Tanker Pump & Plumbing - 601.022 06/01/22 ==			
20-00-1600		-- Auxiliary Pumps - Engine-Driven	1
20-21-1300	S	-- Pump, Waterous, Aux, E511-C, Diesel	1
21-00-0050		-- Indicator Light, Aux Pump Engine Running, Chassis Cab	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
20-32-4400		-- Fuel System, Plumbed to Chs System, Aux Pump	1
20-32-5100		-- Battery, From Chs System, Aux Pump	1
20-32-6100		-- Plmbg, Aux Pump Piped to Main Fire Pump	1
20-32-6200		-- Dschg Vlv, Btwn Aux Pump & Main Pump	1
22-50-1500		-- Tank-To-Pump, Water Tank, 3", Aux Pump	1
23-01-1200		-- Tank Fill/Cooling Line, Water Tank, 1", Aux Pump	1
20-25-1600		-- Pump, Waterous, CXVK, PTO, 1 Stage	1
20-25-1510		-- Pump Flow Rtnng, Waterous, CXK, 1000 GPM	1
22-03-1500		-- Intk, Ungated, 5", LH Side	1
22-41-5600		-- Cap, 5", Chrome Long Hndl	1
22-03-2500		-- Intk, Ungated, 5", RH Side	1
22-41-5600		-- Cap, 5", Chrome Long Hndl	1
20-26-2200		-- Pump Seal, Mech, Waterous	1
20-26-2300		-- Pump Impeller, Waterous, Standard Hubs	1
20-26-3400		-- Pump Shift, Waterous, PTO, Pump and Roll	1
SHOP NOTE:			
Add Pump Pressure Switch Tied to PTO to drop out the PTO engagement for additional safety, verify parameters at the pre-con meeting with the customer.			
20-31-7100	S	--	1
27-03-1800	S	--	1
20-29-1200		-- Primer, Trident Air Primer, Automatic	1
20-29-1250		-- Primer Control - Main Pump Rocker Switch	1
27-10-3110		-- Pressure Gvrnr, FRC, Pump Boss Max PBA500-A10 Series, w/Bdy Single Sensor	1
STAINLESS STEEL PUMP PLUMBING *			
21-00-2004		-- Screens/Anodes, Pump, 5"	1
21-00-3300		-- Piping, Stnls Stl - 1250 GPM & Up	1
21-01-0200		-- Pump Drain, Master, Manifold, Push Pull Type	1
21-01-5500		-- Intk Manifold, Stnls Stl	1
21-01-6500		-- Dschg Manifold, Stnls Stl	1
21-01-7100		-- Painting, Pump & Piping, Silver	1
21-01-8100		-- Threads, National Hose (NST)	1
22-51-5110		-- Tank-To-Pump, Water Tank, 3" Vlv/4" Piping, PTO/Crossmnt	1
22-50-0100		-- Single Tank to Pump Control - Pump Operator's Panel	1
24-62-1300		-- Vlv Mfger, AKR, 8000, (3")	1
22-55-4012		-- Intk Vlv Cntrl, Pull Rod, 1/4 Turn, AKR - IC	1
23-02-1300		-- Tank Fill/Cooling Line, Water Tank, 2"	1
24-62-1200		-- Vlv Mfger, AKR, 8000, (2")	1
22-55-4012		-- Intk Vlv Cntrl, Pull Rod, 1/4 Turn, AKR - IC	1
20-30-3200		-- Pump Instln, Midship PTO, By Bdy Bldr	1
20-31-3600		Dump-Relief Vlv, Suction Side, TFT A18	1
20-31-4100		Pump Cooler, Bypass-To-Tank, 3/8"	1
20-31-4600		Pump Cooler, Waterous, Thermal , Overheat Mgr	1
20-31-5100		Heat Exchanger, Engine, Hook-Up Only	1

PART NO	S	DESCRIPTION	QTY
20-31-1000		-- Fire Pump Testing - Pumpers/Tankers	1
20-31-1100		-- Pump Test, Pumper, UL	1
20-31-1500		-- Pump Test, Label	1
22-12-1100		Intk, Aux, Gtd, 2-1/2", NST, Left Side	1
21-01-2102		-- Drain/Bleeder, Mnl 1/4 Turn (std) - Spec Only	1
22-41-1100		-- Plug, 2-1/2", Chrome Rocker Lug, w/Chain	1
24-62-1250		-- Vlv Mfger, AKR, 8000, (2-1/2")	1
22-55-4050		-- Intk Vlv Cntrl, AKR, Mnl Swing Type-Adjacent	1
23-05-2100		-- Dschg, 1-1/2", Front LH Bumper, Swivel, NST - Chrome Swivel	1
21-01-2200		-- Drain/Bleeder, Class 1, Automatic	1
23-05-9200		-- Hose Connection, Abv Frnt Bmpr, Swivel	1
24-61-1150		-- Vlv Mfger, AKR, 8000, (1-1/2")	1
24-53-0020		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
23-05-2300		-- Dschg, 1-1/2", Front RH Bumper, Swivel, NST Chrome Swivel	1
21-01-2200		-- Drain/Bleeder, Class 1, Automatic	1
23-05-9200		-- Hose Connection, Abv Frnt Bmpr, Swivel	1
24-61-1150		-- Vlv Mfger, AKR, 8000, (1-1/2")	1
24-53-0020		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
23-05-1300	S	S.O.R. / Discharge 1", Front Bumper Ground Sweeps - Timberwolf Style	1
		SHOP NOTE: Copied from 23-14-1610; Same design and engineering as a RMN Timberwolf. Only 2-ground sweeps required.	Only
23-06-2200		-- Crosslay Dschgs, (2) 1-1/2", Over Pump Panel, NST 200 ft x1-3/4-in ea w/divider	1
21-01-2502		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn - Spec Only	2
24-61-1200		-- Vlv Mfger, AKR, 8000, (2")	2
24-53-0020		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge	2
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	2
23-08-3900		-- Crosslay Cvr, Alum, Cargo Web End Flaps	1
23-08-4130		-- Crosslay Trim, Alum Angles, Both Sides	1
23-08-5025		-- Crosslay Dschgs, Over Pump Panel, Sngl Stck	1
23-09-1100		Dschg, 1", Left Side, Grass Line	1
		SHOP NOTE: The connection shall terminate in a 3/4" GHT Thread fitting	
23-09-1200		-- Plumbed to Normal Pressure, Dschg, 1", LH, Grass Line	1
24-03-1100		-- Cap, 1", Chrome, Rocker Lug, w/Chain	1
24-61-1100		-- Vlv Mfger, AKR, 8000, (1")	1
24-53-0800		-- Dschg Vlv Cntrl, AKR, Mnl Swing Type-Adjacent, Lckg	1
23-09-4100		Dschg, 2-1/2", Left Side, Pump Panel, NST	1
21-01-2502		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn - Spec Only	1
24-02-1200		-- Elbow, 2-1/2"F x 2-1/2" NST M, Chrome	1
24-03-1400		-- Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain	1
24-61-1250		-- Vlv Mfger, AKR, 8000, (2-1/2")	1
24-53-0800		-- Dschg Vlv Cntrl, AKR, Mnl Swing Type-Adjacent, Lckg	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
23-10-4100		Dschg, 2-1/2", Right Side, Pump Panel, NST	1
21-01-2502		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn - Spec Only	1
24-02-1200		-- Elbow, 2-1/2"F x 2-1/2" NST M, Chrome	1
24-03-1400		-- Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain	1

PART NO	S	DESCRIPTION	QTY
24-61-1250		-- Vlv Mfger, AKR, 8000, (2-1/2")	1
24-53-0800		-- Dschg Vlv Cntrl, AKR, Mnl Swing Type-Adjacent, Lckg	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
23-13-3100		Dschg, 2-1/2", Left Rr, NST	1
21-01-2502		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn - Spec Only	1
24-02-1200		-- Elbow, 2-1/2"F x 2-1/2" NST M, Chrome	1
24-03-1400		-- Cap, 2-1/2", NST Chrome, Rocker Lug, w/Chain	1
24-61-1250		-- Vlv Mfger, AKR, 8000, (2-1/2")	1
24-53-0020		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
24-11-3200		Monitor Dschg, 3", Over Midship Pump Enclsr, NPT	1
		SHOP NOTE:	
		Per Buzz, may have to be external	
21-01-2500		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn	1
24-61-1300		-- Vlv Mfger, AKR, 8000, (3")	1
24-53-0300		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR Slow Close - IC w/Gauge	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
24-13-4000		-- Mntr, AKR, GP Manual #3430	1
24-18-4100		-- Stacked Tips, P/N 2499, AKR, w/sream Shaper, P/N 3488, 2-1/2" NST	1
24-30-3100		-- Hose Reel, HAN, Elec, Mt Abv Pump, Stl Pntd	1
24-31-2100		-- Hose Reel, Rwnd Cntrl, Weatherproof Push Button	1
24-32-1200		-- Dschg, Hose Reel, 1"	1
21-01-2500		-- Drain/Bleeder, IC Lift-Up, Mnl 1/4 Turn	1
24-32-1700		-- Dschg, Hose Reel, Plmbd to Normal Pressure	1
24-61-1100		-- Vlv Mfger, AKR, 8000, (1")	1
24-53-0020		-- Dschg Vlv Cntrl, Pull Rod, 1/4 Turn, SM, AKR - IC w/Gauge	1
27-02-1500		-- Gauge, Dschg, IC, 2-1/2" (0-400 PSI), WF	1
24-33-1400		-- Hose, Water, 800#, 3/4-in x 200-ft, Two (2) 100-ft Lengths	1
24-33-9200		-- Roller, Hose Reel, RH Side	1
80-43-1600		-- Painting, Hose Reel, Silver Grey	1
25-06-1100		-- Foam Sys, F/PRO 1600, Cls A, 1.7G, 12V, 2"NPT	1
25-20-1200		-- Foam Plmbg, Sngl Class A Tank, 1" Mnl Vlv	1
25-21-1300		-- Foam Tank, Intgrl Poly, 20 Gal, Class A	1
25-22-9300		-- Foam Tank, UPF	1
25-23-1000		-- Foam Tank Drain, 1" Gate Vlv, Under Tank	1
25-19-9000		-- Foam System, NFPA #1901, Install Standards	1
		== Pumper/Tanker-Side Mount Pump Compt - 601.022 06/01/22 ==	
26-02-2100		Pump Enc, Side Mt, Extrd Alum, 24-39"W, Crslys	1
26-30-1100		Rng Brd, LH Pump Panel, Alum T/P, SM	1
26-30-1150		Rng Brd, RH Pump Panel, Alum T/P, SM	1
26-35-3200		Pump Panel, Stnls Stl, LH/RH, SM	1
26-35-1100		-- Pump Panel, Bltd, LH	1
26-35-1400		-- Pump Panel, Hngd, RH	1
26-55-1100		Labels, Test Data and Safety Placards	1
26-55-2400		Labels, Innovative Controls Color Coded	1
26-56-1125		Pump Panel LED Lts, (3) Tecniq E10-W0001-1, Midship LH w/ Sw on Pmp Oprtr's Pnl	1
26-56-1225		Pump Panel LED Lts (2), Midship RH, Tecniq E10-W0001-1	1
26-56-2100		Pump Engage Lt (1), Grn Lt Pump Panel, Actuated w/Pmp Engmnt	1
		SHOP NOTE:	
		M2 Green Light Above Pump Panel Hood	

PART NO	S	DESCRIPTION	QTY
27-01-2620		-- Mstr Gauges BEZEL Assy w/Test Taps, IC, 4" PSI(400) #3001496-40401-40401	1
27-35-4024		Water/Foam Gge, IC, 10-LED Wtr/Fm Dual Dsply , Pmp Pnl (Strght) 3030359-04	1
27-35-6124		-- Water Tank Gauge, Whelen PS TANK2 LED, Level Lts, (3 Lts), IC SHOP NOTE: Lights to illuminate when the pump is engaged and/or when the park brake is engaged.	1
27-35-4200		-- Water Level Display, IC, 5-LED, Mini, In-Cab == HLHD/HRHD Single Axle Pumper/Tanker - 601.022 06/01/22 ==	1
25-26-1300		-- Water Tank, 500 Gal, Pmpr/Tnkr , Poly	1
25-25-0060		-- Water Tank, "T" Tank	1
25-44-1200		-- Water Tank, Fill Tower, 10" x 10", <500 Gals	1
25-42-1100		-- Water Tank, Base Specs, Poly	1
25-42-1200		-- Water Tank, Manufacturer, UPF, Poly	1
25-50-2500		Direct Tank Fill, 2-1/2" Right Rr	1
24-62-1250		-- Vlv Mfgr, AKR, 8000, (2-1/2")	1
22-55-4050		-- Intk Vlv Cntrl, AKR, Mnl Swing Type-Adjacent	1
25-50-2670		-- NH 2-1/2" Swivel, Plug & Screen	1
29-10-1000		Hosebed, Grating, Extrd Alum, <180" Long	1
29-10-5100		-- Hosebed, Strge Cpcty, 55 Cubic Feet, Minimum	1
29-10-8100		Hosebed, Divider, 1/4" Alum	5
29-20-3500		Hosebed Cvr, Alum T/P, <180" L, 49-74" W, Ctr Open (Non-NFPA Walking Surface) SHOP NOTE: Hosebed Cover each side shall meet in the middle to the ladder compartment	1
29-10-8160	S	--	1
29-20-6650		-- Mnl Operation, Hosebed Cvr, Alum T/P	1
29-20-7800		-- Rr Vinyl Flaps for Alum Cvr	1
29-20-5602		-- Vinyl Color, BLACK	1
29-20-7200	S	S.O.R. / Hosebed Lts, Recess In Sides, Cab Switch-Four (4)	1
30-00-0299		Raw Material Surcharge - Single Axle	1
30-01-1700		Bdy Const - Rosenbauer FL - 12 Ga. Glv - Sngl Axl Pmpr/Tnkr	1
30-01-2250		-- Electrolysis Corrosion Cntrl	1
30-10-1200		-- Sub Frame, Steel	1
31-02-1100	S	-- Bdy, Frmd Galv, Pmpr/Tnkr , Up to 144"	1
44-06-2300		-- Whl Well Panel, Galv Pntd, Sngl Axle - FL	1
44-06-4100	S	-- Fenderette, Black Rubber	1
31-01-2130		96" OAW, 13-23" Half Dpth Both Sides, SA HL/HR	1
29-00-1200		-- Hosebed, Pmpr, <180" L, 68" Wide	1
32-03-0066		-- Cmpt Height, 66" High Left	1
32-03-1066		-- Cmpt Height, 66" High Right	1
32-04-1130		Hng Drs, HL/HR	1
30-02-1100	S	-- Drs, Hngd Specs SHOP NOTE: Please use 1/4" Heavy Duty Hinges	1
30-02-1105		-- Dr Handle, Maltese Cross D-Ring, Hngd Drs	5
32-05-1310		-- Upr Hgh Sde - Sgle Comp't - Hnge Lift Up	1
44-40-1100		-- Vents, Compts, Louvers, Includes Filters (Ea)	1
45-01-1050		-- Shelving Tracks, (2) Unistrut, Alum	1
45-02-1200		-- Shelf, Adjust, Alum 1/8"	2

PART NO	S	DESCRIPTION	QTY
45-30-1300		-- Turtle Tile, Shelves/Trays, (each)	2
45-30-1400		-- Turtle Tile, Compartment Floor	1
55-01-1150		-- Cmpt Lt, Wall, ROM, V3 LED Track Lt, (1) Ea Cmpt	1
55-06-1400		-- Cmpt Lt, Dr Swtch, Magnetic, Ea	1
32-05-1705		-- Bhnd Rr Whls - Full Ht Comp't - Hnge Sgle Dr	1
44-40-1100		-- Vents, Compts, Louvers, Includes Filters (Ea)	1
45-01-1050		-- Shelving Tracks, (2) Unistrut, Alum	2
45-02-1200		-- Shelf, Adjust, Alum 1/8"	2
45-30-1300		-- Turtle Tile, Shelves/Trays, (each)	2
45-30-1400		-- Turtle Tile, Compartment Floor	1
55-01-1150		-- Cmpt Lt, Wall, ROM, V3 LED Track Lt, (1) Ea Cmpt	1
55-06-1400		-- Cmpt Lt, Dr Swtch, Magnetic, Ea	1
32-06-1410		-- Upr Hgh Sde - Sngl Comp't - Hng Lift Up Dr	1
44-40-1100		-- Vents, Compts, Louvers, Includes Filters (Ea)	1
45-30-1400		-- Turtle Tile, Compartment Floor	1
55-01-1150		-- Cmpt Lt, Wall, ROM, V3 LED Track Lt, (1) Ea Cmpt	1
55-06-1400		-- Cmpt Lt, Dr Swtch, Magnetic, Ea	1
32-06-1705		-- Bhnd Rr Whls - Full Ht Comp't - Hnge Sgle Dr	1
44-40-1100		-- Vents, Compts, Louvers, Includes Filters (Ea)	1
45-01-1050		-- Shelving Tracks, (2) Unistrut, Alum	1
45-02-1200		-- Shelf, Adjust, Alum 1/8"	2
45-30-1300		-- Turtle Tile, Shelves/Trays, (each)	2
45-30-1400		-- Turtle Tile, Compartment Floor	1
55-01-1150		-- Cmpt Lt, Wall, ROM, V3 LED Track Lt, (1) Ea Cmpt	1
55-06-1400		-- Cmpt Lt, Dr Swtch, Magnetic, Ea	1
33-60-1100		Rr Bdy, Flat Back	1
32-08-0150		-- Rr Cntr Comp't - Low Hnge Dble/Trans	1
32-08-0900		-- Rr Center Cmpt Door - Smooth Alum	1
44-40-1100		-- Vents, Compts, Louvers, Includes Filters (Ea)	1
45-02-1200		-- Shelf, Adjust, Alum 1/8"	1
45-30-1300		-- Turtle Tile, Shelves/Trays, (each)	1
45-30-1400		-- Turtle Tile, Compartment Floor	1
55-01-1150		-- Cmpt Lt, Wall, ROM, V3 LED Track Lt, (1) Ea Cmpt	1
55-06-1400		-- Cmpt Lt, Dr Swtch, Magnetic, Ea	1
33-61-1100		-- Rr Step, Pmpr-Tnkr Bdy, Bolt-On, 8"	1
90-21-1200		-- SCBA Mntg Brkt, Zico, 45 Minute, Non Riding HZ-KD-UH-6-SF	4
90-02-4300		Ladder Strge, In Hosebed, With Safety Strap, Individual Slides	1
SHOP NOTE:			
2 Fly, 16' Duo, Size only			
90-03-0220		-- Ladders, Ground, Provd'd By Manufacturer, MN	1
90-02-5310		Ladder Mtg, Fldg Attic, Internal	1
90-16-5100		Pike Pole Mtg Tube, Extrnl, Ea	1
SHOP NOTE:			
The tubes shall have a notch at the end to allow the pike pole end to fit into.			
90-16-6300		Pike Pole Provd'd By, Purchaser/Fire Department	1
90-16-2399		-- Non-Bdy Bldr Supl'd Pike Pole, 6' Fbrgls, Round Hndl	1
90-16-2899		-- Non-Bdy Bldr Supl'd Pike Pole, 10' Fbrgls, Round Hndl	1
90-25-7100		Suction Hose Tray, Left Side Over Cmpts (Ea)	1
90-25-7200		Suction Hose Tray, Right Side Over Cmpts (Ea)	1
90-25-9115		Suction Hose Provd'd By, Bdy Bldr, SD	1
== Pumper/Tanker-Common Body Parts - 601.022 06/01/22 ==			

PART NO	S	DESCRIPTION	QTY
33-66-2140		-- Steps, Fldg, Frnt, Right Hand (3), Integral LED Lts	1
44-01-1450		-- Bdy Trim, Frnt Cmpt, Ht of Side Cmpts, Alum T/P	1
44-01-6000		-- Catwalks Top of Side Cmpts, Alum Treadplate	1
Rr BODY DESIGN - PUMPER/TANKER			
44-01-4000		-- Bdy Trim, Entire Rr Bdy, Smooth for Chevron Stripe	1
33-62-4140		-- Steps, Fldg, Rear, Left Hand (3), Integral LED Lts	1
33-70-1300		-- Handrails, Rr Step, Vert, 48", Pair	1
33-70-2100		-- Handrails, Pmpr, Below Hosebed, Horz, 48"	1
44-02-1100		-- Rub Rails, Lwr Bdy, Extrd Alum	1
44-02-2000		-- Rub Rails, Spacers, Nylon	1
44-11-5100		Whl Well Prvsns, Ahd of Whls Left Side	1
44-10-1100		-- Whl Well Cmpt, Sngl SCBA Tube, Alum Dr, Push Button (lever) Latch	1
SHOP NOTE:			
8" round x 26" deep SCBA Bottles			
44-10-6000		-- Whl Well Cmpt, SCBA Cmpt Straps	1
44-11-5300		Whl Well Prvsns, Bhnd Whls Left Side	1
44-10-1100		-- Whl Well Cmpt, Sngl SCBA Tube, Alum Dr, Push Button (lever) Latch	1
SHOP NOTE:			
8" round x 26" deep SCBA Bottles			
44-10-6000		-- Whl Well Cmpt, SCBA Cmpt Straps	1
44-11-5500		Whl Well Prvsns, Ahd of Whls Right Side	1
44-10-1100		-- Whl Well Cmpt, Sngl SCBA Tube, Alum Dr, Push Button (lever) Latch	1
SHOP NOTE:			
8" round x 26" deep SCBA Bottles			
44-10-6000		-- Whl Well Cmpt, SCBA Cmpt Straps	1
44-11-5700		Whl Well Prvsns, Bhnd Whls Right Side	1
44-10-1100		-- Whl Well Cmpt, Sngl SCBA Tube, Alum Dr, Push Button (lever) Latch	1
SHOP NOTE:			
8" round x 26" deep SCBA Bottles			
44-10-6000		-- Whl Well Cmpt, SCBA Cmpt Straps	1
== Pumper/Tanker-AC Electrical System - 601.022 06/01/22 ==			
60-25-9610		Shore Power Strip, 120V, 15 Amp, 4-Plug Strip Rcptcl	2
== Pumper/Tanker-Equipment Systems - 601.022 06/01/22 ==			
77-11-0500		Trailer Hitch, Rr, 12,000# w/Receiver, 2 5/16" ball, 5/8" hitch & Safety Pin	1
77-10-7699		-- NO 12V Winch Power Receptacle	1
77-11-0900		-- Trailer Hitch Pwr Plug, 12V, 7 Pin w/ Trailer Brake Controller	1
== Pumper/Tanker - Single Axle - Pnt/Ltr/St - 601.022 06/01/22 ==			
80-22-1504		Bdy Paint, Sngl Axle, Pmpr/Tnkr - Sngl Color	1
80-06-1100		-- Apparatus Color	1
SHOP NOTE:			
The apparatus shall be ____ in color.			
80-30-1100		Compt Finish, Spatter Coat, Up to 6 Cmpts	1
80-40-1200		Whls, Paint, By Chassis Manufacturer	1
80-42-1500		Bdy Paint, Touch Up, 2 oz. Bttl, One Color	1
80-43-2996		-- Blacked Out Items- Line-X/Paint	1
80-44-1400		Undercoating, Bdy, Sngl Axle	1
80-50-1200		Lettering Supl'd by Purchaser	1
80-70-1300		Stripe, Sngl Reflective, 4", Straight Design	1

PART NO	S	DESCRIPTION	QTY
80-73-1100		-- Reflective Pin Stripe Black	1
80-75-1500		-- Reflective Stripe Material, Red	1
80-72-1100		Stripe, Reflective 3M, Chevron Pattern Entire Rr Red/Yellow	1
80-72-1799		=== NO Rear Roll-Up Door Chevron Striping - Pick to Select ===	1
80-79-1000		NFPA Standing / Walking Surfaces Yellow Safety Tape (NFPA 15.7.1.6)	1
		== Pumper/Tanker - Loose Equipment - 601.022 06/01/22 ==	
90-03-1100		-- Ladder, Roof, Alco-Lite, 8' Alum PRL-08	1
90-06-1200		-- Ladder, Ext, Alco-Lite, 14' Alum, 2 Sect PEL-14	1
90-08-1500		-- Ladder, Attic, Alco-Lite, 10' Alum, Fldg FL-10	1
90-25-2500		Suction Hose, Flex, PVC, 4"x10'	2
90-25-6100		-- Suction Hose Cplgs, Alum, LH FM x RLM	2
90-35-2300	S	S.O.R. / I-Zone Brackets; Pair Rear Of Apparatus	1
		SHOP NOTE:	
		90-42-100 Copied from Master QW	

One (1)
00-00-1539

ANGLE OF APPROACH

The angle of approach for the apparatus shall not be less than eight (8) degrees as specified by the current edition of the NFPA 1901 Guideline.

One (1)
00-00-1549

ANGLE OF DEPARTURE

The angle of departure for the apparatus shall not be less than eight (8) degrees as specified by the current edition of the NFPA 1901 Guideline.

One (1)
00-00-1610

NFPA PUMPER EQUIPMENT ALLOWANCE

In compliance with the current NFPA 1901 guidelines, the apparatus shall be engineered to provide an allow of 2500 pounds of fire department provided loose equipment.

One (1)
00-00-3220

CONTRACT CHANGE NOTICE

The quoted delivery time is based upon our receipt of the specified materials required to produce the apparatus in a timely manner. "Delivery" means the date company is prepared to make physical possession of vehicle available to the customer.

The Company shall not be responsible nor deemed to be in default on account of delays in performance due to causes which are beyond the Company's control which make the Company's performance impracticable, including but not limited to civil wars, insurrections, strikes, riots, fires, storms, floods, other acts of nature, explosions, earthquakes, accidents, any act of government, delays in transportation, inability to obtain necessary labor supplies or manufacturing facilities, 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, pandemics, epidemics, quarantine restrictions, failure of vendors (due to causes similar to those within the scope of this clause) to perform their contracts or labor troubles causing cessation, slowdown, or interruption of work.

After execution and acceptance of this Purchase Process, the Buyer may request that the Company incorporate a change to the Products or the Specifications for the Products by delivering a Change Order to the Company; provided, however, that any such Change Order must be in writing and include a description of the proposed change sufficient to permit the Company to evaluate the feasibility of such Change Order. Within seven (7) working days of receipt of a Change Order, the Company will inform the Buyer in writing of the feasibility of the Change Order, the earliest possible implementation date for the Change Order, of any increase or decrease in the Purchase Price resulting from such Change Order, and of any effect on

production scheduling or delivery resulting from such Change Order. The Company shall not be liable to the Buyer for any delay in performance or delivery arising from any such Change Order. Purchase Price may be modified only by mutual written agreement of the Parties because of changes to the Apparatus required or requested by the Buyer during the construction process pursuant to Appendix C, Change Order Policy. Any changes in the Purchase Price resulting from changes to the Apparatus required or requested by the Buyer during the construction process shall be stated in the Change Order signed by both parties. Additional Changes: If various state or federal regulatory agencies (e.g., NFPA, DOT, EPA) require changes to the specification and/or the product that result in a cost increase to comply therewith this cost will be added to the Purchase Price to be paid by the customer.

One (1)
00-12-1100

FINANCIAL STABILITY SPECIFICATIONS

With high-profile instances of fire apparatus manufacturers encountering financial difficulties, it is imperative that fire departments be diligent in evaluating the financial position of the companies they solicit to build on their emergency response vehicles. A contract entered into with a company on shaky ground is a dangerous prospect, since conducting business with a manufacturer in such condition could open the department to monumental problems.

Take, for instance, the growing theme of manufacturers *requiring* as opposed to *offering* pre-payment and progressive payment options with a corresponding discount off the price of a vehicle. Such offers are made with an ulterior motive in mind, as it can be generally inferred that manufacturers requiring pre-payments and progressive payments do so because they need your cash *today* to fund production of other vehicles already in the backlog.

Should problems arise, as has been the case in situations too numerous to mention, your department risks losing any down payments already made or even the entire cost of a piece of equipment should certain pre-pay discount situations go awry.

While pre-payment discounts may be enticing, it is important to know just how stable the manufacturer seeking your funds is before you make that commitment. If you enter into one of these agreements and the manufacturer hits a rough patch, it is you that will be hurting, because your funds may not be recoverable. However, if you enter into a contract with a financially sound manufacturer, you will reap all of the benefits of a well-built truck at a lower cost. You may equally, by taking advantage of the time-value of money, be able to afford more truck than initially thought, because funds saved by leveraging pre-payment options could allow you get some added features that you might not necessarily have been able to afford.

With this in mind, it must be noted that Rosenbauer is a company with rock-solid financial stability. This is a statement not made lightly, as we can prove it to you. We can provide language that you can insert into your bid specifications that stipulates that in order for bids to be accepted by a fire department, the company bidding must meet several fiscal criteria.

The first criteria call for the successful bidder to meet a debt-to-equity ratio not exceeding a 2.0 rating. Rosenbauer presently stands at a 1.51 rating, which is well-below the accepted rating.

This low number results from Rosenbauer owning more assets with a marginal debt service. This means we are not using lenders to fund our operations, nor our growth.

The second requirement is that the debt coverage ratio of the successful body builder exceeds a 100 rating. The higher the number, the better able a company is to meet its payment obligations with banks and creditors. Rosenbauer's number is at 279.6, which is nearly three times the required amount. The higher the debt coverage ratio, the easily and more fluidly a company is positioned to pay its monthly obligations and operating costs.

The third criteria require that the equity ratio of the successful bidder must exceed .30 rating. A higher equity ratio indicates that the body builder has increased flexibility to meet its financial obligations which translates into greater financial stability. Rosenbauer currently has an equity ratio of .387 which is well above the accepted rating and an excellent indicator of financial strength.

When exploring and evaluating various manufacturers to consider for building your apparatus, there is little doubt you will find one that stands on as firmly a financial ground as Rosenbauer. While others are experiencing stressful issues that raise doubts as to the company's long-term viability, Rosenbauer continues to demonstrate a strengthening of its financial position in the apparatus manufacturing industry. Because Rosenbauer meets and exceeds all the above-stated financial bid requirements, we are best positioned to ensure customers of a strong relationship with the company, which cannot be claimed by most of our competitors in this volatile market.

The Rosenbauer America Dun and Bradstreet number is 02-447-3584. To acquire a Dun and Bradstreet report, telephone them at 1-800-234-3867 (in Canada 800-463-6362) or visit their web site address at www.dnb.com. Dun and Bradstreet is nationally recognized, independent financial analysis company.

One (1)
01-06-0500

CENTER OF GRAVITY

The apparatus, prior to acceptance, will be required to meet the vehicle stability of the applicable NFPA Automotive Fire Apparatus Standard.

A calculated center of gravity shall be provided. The calculated or measured center of gravity (CG) shall be no higher than 80-percent of the rear axle track width. If so, a tilt table test at the apparatus body builder's facility or Electronic Stability Control (ESC) must be provided on the chassis meeting the requirement of the NFPA 1901 Guideline.

One (1)
01-07-0060

ENGINEERING BLUEPRINTS

ROSENBAUER has submitted "proposal" blueprints which are "representative" of the vehicle being proposed and these have been generated on computer-aided-design (CAD) equipment.

The blueprints are provided as follows:

Sheet No. 1: Left side exterior view
 Right side exterior view
 Rear exterior view

ROSENBAUER shall provide construction drawings for approval prior to actual construction of the vehicle.

The design of the equipment is in accordance with the best engineering practices. The equipment design and accessory installation shall permit accessibility for use, maintenance and service. All components and assemblies shall be free of hazardous protrusions, sharp edges, cracks or other elements, which might cause injury to personnel or equipment.

All oil, hydraulic, and air tubing lines and electrical wiring shall be located in protective positions properly attached to the frame or body structure and shall have protective loom or grommets at each point where they pass through structural members, except where a through-frame connector is necessary.

Parts and components will be located or positioned for rapid and simple inspection and recognition of excessive wear or potential failure. Whenever functional layout of operating components determines that physical or visual interference between items cannot be avoided, the item predicted to require the most maintenance shall be located for best accessibility.

One (1)
01-07-1100

CHANGE ORDERS

To ensure the proper engineering and construction of the purchaser's custom fire apparatus in a timely manner, the contractor shall consider the order final and complete after any changes made during the pre-construction conference are mutually approved. Change orders requested after the pre-construction conference are discouraged. It shall be understood and agreed that any changes, if approved, after the order has been released to Engineering, shall constitute a valid cause for production delay and without penalty to the contractor.

One (1)
02-02-0100

PRE-CONSTRUCTION CONFERENCE (AT FIRE DEPARTMENT)

A pre-construction conference shall be conducted at the Fire Department Headquarters, at which time all final designs and equipment mounting locations will be approved, prior to any sheet metal being cut. A factory-trained dealer shall be present during the pre-construction conference to answer any design questions relating to the layout of the apparatus. All expenses for travel, meals, and lodging shall be included. BIDDER SHALL INDICATE INTENTION TO PROVIDE THE REQUIRED PRE-CONSTRUCTION CONFERENCE IN THE PROPOSAL PACKET.

One (1)
02-03-0500

ISO COMPLIANCE

The manufacturer shall operate 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 shall be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.

One (1)
02-03-0200

SINGLE SOURCE MANUFACTURER

Rosenbauer is a "Single Source" manufacturer meeting the requirements specified by your bid specifications. Rosenbauer maintains an integrated approach to all aspects of manufacturing including, but not limited to, the chassis and cab, engineered assemblies, apparatus body, pump module, fabricated components, aerial devices, and all related appurtenants. Rosenbauer and our subsidiaries take sole responsibility of each apparatus we manufacture, guaranteeing parts and service availability within your specified time frames.

Final assembly of our proposed apparatus takes place on our premises. The chassis and aerial device are engineered and manufactured within wholly or partially owned Rosenbauer facilities eliminating split warranty responsibility.

ONE CALL SERVICE RESPONSE

Rosenbauer assumes the total responsibility for warranty services for each apparatus we build. These services include, but are not limited to, all components used in the manufacture of the apparatus, the specified chassis, cab, and body. A designated factory staff is employed to maintain "One Call" warranty and repair service coverage. Many members of our nationwide dealer network also provide and maintain service facilities and on-site service response capabilities. Additionally, contracted service centers are strategically placed across the nation to provide immediate response to any issue or situation that may arise with any of our apparatus.

In addition, (purchaser's name) may elect to perform warranty services and repairs in (purchaser's name) own service facility while this vehicle is within a warranty coverage period, Rosenbauer will provide all necessary support and consideration. We stock a full line of support parts at our factory, which can be expedited to your location if necessary.

One (1)
02-06-0200

ROSENBAUER SOUTH DAKOTA COMPANY OVERVIEW

Please allow us to share with you a brief summary of the history and condition of Rosenbauer South Dakota, LLC formally known as Central States Fire Apparatus, LLC, Rosenbauer America Companies.

Rosenbauer South Dakota, LLC is located in Lyons, S.D., where it manufactures a complete line of fire apparatus including pumpers, tankers, rescue units, etc. The company operates in modern facilities consisting of 155,000 sq.ft., which features computer controlled fabricating equipment,

down-draft paint booths and CAD system. Production currently averages over fifty (50) units per month.

Rosenbauer South Dakota began manufacturing fire apparatus in 1979 and incorporated under the laws of South Dakota in 1982. The company specializes in extruded aluminum construction that has been field proven for over twenty-eight years.

In view of the changes that our industry has gone through in the past few years, we felt it was important to take advantage of economies of scale, yet be aligned with an organization that is 100% committed to the fire service. Thus, on 5-1-98 Rosenbauer South Dakota merged with Rosenbauer, International of Leonding, Austria and (Rosenbauer Minnesota (General Safety)) of Wyoming, Minnesota. Rosenbauer South Dakota looks forward to the opportunity of expanded growth in the domestic and international markets.

Rosenbauer South Dakota is a profitable, financially secure company, and is listed and rated by Dun & Bradstreet. For your convenience, Rosenbauer South Dakota's Duns number is 10-229-2117. Rosenbauer South Dakota's Bank is the Home Federal Savings Bank in Crooks, SD. The contact person at the bank is Mr. Randy Snyders. Rosenbauer South Dakota's Federal ID# is 46-0448012.

Thank you for considering a Rosenbauer unit. We are sure that you will be more than pleased with a quality apparatus from Rosenbauer.

Feel free to contact us with any questions or concerns you may have regarding our proposal for fire apparatus.

One (1)
02-10-4000

DELIVERY

Final delivery of the completed apparatus shall be made F.O.B. Fire Department Headquarters.

One (1)
02-13-5020

DEMONSTRATION

Fire Department personnel shall be properly instructed as to the proper use of the entire apparatus including, but not limited to, chassis, fire pump system, the apparatus and all equipment. The demonstration shall be made by a factory trained Specialist who shall be responsible for complete instruction as to operation and maintenance of the chassis, and the completed vehicle.

The demonstration specialist shall remain at the Fire Department for a sufficient amount of time to provide thorough instructions to all personnel, or as instructed by Chief of the Department. All meals, motel and travel costs shall be the responsibility of the successful bidder.

One (1)
02-13-5030

DELIVERY

The apparatus shall be delivered complete and ready for operation. The apparatus, to insure proper break-in of all components, shall be delivered under its own power - rail or truck freight is not acceptable.

One (1)
02-13-7200

BODY MANUFACTURER SERVICE AND SUPPORT REQUIREMENTS

To ensure the purchaser a source of service and parts over the anticipated life of the apparatus, the manufacturer shall provide supporting information establishing their permanency in the industry and include in the proposal a description of our service abilities and facilities.

The manufacturer shall stock a complete line of fire fighting equipment and parts for this apparatus. Location of the manufacturing plant and nearest service facility must be outlined in the bid submission, including a complete history of the manufacturer. The manufacturer shall include in the bid a description of the service abilities and facilities.

The manufacturer's facilities shall provide, as a minimum, the following:

- Full body shop
- Paint spray booths for entire apparatus
- Sheet metal shears and brake press
- Fabrication and sheet metal department
- Plumbing facilities and UL testing area at service center
- Service and parts store for walk-in sales
- Engineering and office support personnel
- Adequate indoor storage of vehicle while service is being performed

Prior to the award of the contract the manufacturer shall make available the service center for an inspection tour at the convenience of the fire officials and or their designates (manufacturer is not responsible for travel costs associated with this visit). Although local service is available, the manufacturer shall be solely responsible for coordination and processing of all warranty claims.

One (1)
02-13-7400

TOLL FREE SERVICE NUMBER

Due to the nature of emergency fire and rescue services being subject to respond at any time of the day or night, the municipality requires that this also applies to the selling Dealer and the manufacturer.

On a typical day to day basis the request for service is expected to be requested from the selling Dealer. However, if the Dealer's service center is not readily available the municipality needs assurance that the OEM (Original Equipment Manufacturer) can be reached for assistance.

With that said, each bidder shall supply a toll-free telephone number that provides OEM emergency service assistance. This number, when called, shall be directed to a call center, then to an OEM service technician, 24 hours a day, 365 days a year.

There shall be a minimum of ten (10) OEM service technicians at any time in the queue to answer an incoming emergency service call. One of which shall be the OEM's National Service Manager.

In the interest of providing the minimum level of acceptable service for the new apparatus this shall be considered a requirement of the successful bidder/proposal.

One (1)
01-16-0150

BODY WARRANTY

We warrant each new motorized fire apparatus manufactured by ROSENBAUER AMERICA, LLC for a period of ONE YEAR from the date of delivery, except for chassis and other components noted herein.

Under this warranty we agree to furnish any parts to replace those that have failed due to defective material or workmanship where there is no indication of abuse, neglect, unusual or other than normal service providing that such parts are, at the option of ROSENBAUER AMERICA, LLC, made available for our inspection at our request, returned to our factory or other location designated by us with transportation prepaid within thirty days after the date of failure or within one year from the date of delivery of the apparatus to the original purchaser, whichever occurs first, and inspection indicates the failure was attributed to defective material or workmanship.

The warranty on the chassis and chassis supplied components, storage batteries, generators, electrical lamps and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for the same are to be made directly with the manufacturer by the customer.

This warranty will not apply to any fire apparatus that has been repaired or altered outside our factory in any way, which in our opinion might affect its stability or reliability.

This warranty shall not apply to those items that are usually considered normal maintenance and upkeep services: including, but not limited to, normal lubrication or proper adjustment of minor auxiliary pumps or reels.

This warranty is in lieu of all other warranties, expressed or implied, and all other obligations or liabilities on our part. We neither assume nor authorize any person to assume for us any liability in connection with the sales of our apparatus unless made in writing by ROSENBAUER AMERICA, LLC.

One (1)
01-19-0250

ALUMINUM BODY WARRANTY - FIVE YEAR

Rosenbauer America, LLC warrants to the original purchaser only, that the all-aluminum body, fabricated by Rosenbauer America, LLC, under normal use and with reasonable maintenance, be structurally sound and will remain free from corrosion perforation for a period of FIVE (5) years.

This warranty does not apply to the following items that are covered by a separate warranty: paint finish, hardware, moldings, and other accessories attached to this body. In addition, this warranty does not apply to any part or accessory manufactured by others and attached to this body.

ROSENBAUER AMERICA, LLC MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, WITH RESPECT TO THE ALUMINUM BODY AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND HEREBY DISCLAIMED.

Rosenbauer America, LLC will replace without charge, repair or make a fair allowance for any defect in material or workmanship demonstrated to its satisfaction to have existed at the time of delivery or not due to misuse, negligence, or accident. If Rosenbauer America, LLC elects to repair this body, the extent of such repair shall be determined solely by Rosenbauer America, LLC, and shall be performed solely at the Rosenbauer America, LLC factory, or at an approved facility. The expense of any transportation to or from such repair facility shall be borne by the purchaser and is not an item covered under this warranty.

Rosenbauer America, LLC will not be liable for damages and under no circumstances will its liability exceed the price for a defective body. The remedies set forth herein are exclusive and in substitution for all other remedies to which the purchaser would otherwise be entitled.

Rosenbauer America, LLC will be given a reasonable opportunity to investigate all claims. The purchaser must commence any action arising out of, based upon or relating to agreement or the breach hereof, within twelve months from the date the cause of the action occurred.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)
01-19-2800

GALVANIZED SUBFRAME WARRANTY

Subject to the provisions, limitations and conditions set forth in this warranty, Rosenbauer America, LLC (hereby referred to as "seller"), hereby warrants to each original purchaser only that each new hot dip galvanized body subframe (exclusive of paint finish and hardware) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity for the duration of ownership by the original purchaser. This warranty terminates upon transfer of possession or ownership by the original purchaser.

This warranty is conditioned upon normal use and reasonable maintenance of such subframe; prompt written notice of all defects to seller or one of the seller's then authorized dealers in the area; no repair or additions there to except by seller or authorized by it; said defect not resulting

from misuse, negligence, accident, remount, overloading beyond applicable weight rating by customer or third parties. If any such conditions are not complied with, this warranty shall become void and unenforceable.

Should repairs become necessary under the terms or the warranty, the extent of that repair shall be determined solely by the seller and shall be performed solely at Rosenbauer America, LLC or a repair facility designated by the seller. The expense of any transportation to or from such repair facility shall be that of the purchaser and is not an item covered by this warranty.

Seller reserves the unrestricted right at any time from time to time to make changes in the design of and/or improvements on its products without thereby imposing any obligation on itself to make corresponding changes or improvements in or on its products theretofore manufactured.

EXCLUSIONS AND LIMITATIONS: THIS MANUFACTURER'S WARRANTY IS PROVIDED IN PLACE OF ANY AND ALL OTHER REPRESENTATIONS OR IMPLIED WARRANTIES. NO PERSON IS AUTHORIZED TO MAKE ANY REPRESENTATIONS OR WARRANTY ON BEHALF OF ROSENBAUER AMERICA, LLC OR ANY OF ITS DISTRIBUTORS OTHER THAN SET FORTH IN THIS MANUFACTURER'S WARRANTY. YOUR RIGHT TO SERVICE AND REPLACEMENT OF PARTS ON THE TERMS EXPRESSLY SET FORTH HERIN ARE YOUR EXCLUSIVE REMEDIES AND NEITHER THE MANUFACTURER NOR ANY OF ITS DISTRIBUTORS SHALL BE LIABLE FOR DAMAGES, WHETHER ORDINARY, INCIDENTAL OR CONSEQUENTIAL.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)
01-20-1005

PAINT WARRANTY - FIVE YEAR

The AkzoNobel paint performance guarantee will cover the areas of the vehicle finished with the specified product for a period of FIVE (5) year beginning the day the vehicle is delivered to the purchaser.

The full apparatus body, manufactured and painted by Rosenbauer America, LLC, shall be covered for the following paint failures as outlined on the guarantee certificate:

- Peeling or delaminating of the topcoat and/or other layers of paint.
- Cracking or checking.
- Loss of gloss caused by cracking, checking, or hazing.
- Any paint failure caused by defective AkzoNobel finishes, which are covered by this guarantee.

All guarantee exclusions, limitations, and methods of claims are covered in the full certificate provided to the original purchaser.

Note: Surety bond, if required, will cover standard one year warranty period only and will not cover any extended warranties allowed by seller or other component manufacturers.

One (1)
01-21-0150

LETTERING WARRANTY

Rosenbauer America, LLC warrants to the original purchaser only, that the lettering and striping, installed by Rosenbauer America, LLC, will remain free from defects for a period of one (1) year under normal use.

Rosenbauer America, LLC will replace without charge, repair or make a fair allowance for any defect in material or workmanship demonstrated to its satisfaction to have existed at the time of delivery or not due to misuse, negligence, or accident. If Rosenbauer America, LLC elects to repair this item, the extent of such repair shall be determined solely by Rosenbauer America, LLC, and shall be performed solely at the Rosenbauer America, LLC factory, or at an approved facility. The expense of any transportation to or from such repair facility shall be borne by the purchaser and is not an item covered under this warranty.

One (1)
01-17-0750

PUMP WARRANTY

Waterous warrants, to the original buyer only, that products and parts manufactured by Waterous will be free from defects in material and workmanship under normal use and service for a period of seven (7) years from the date the product is first placed in service, or seven and one half 7-1/2 years from the date of shipment by Waterous, whichever period will be the first to expire; provided the buyer notifies Waterous in writing, of the defect in said product within the warranty period, and said product is found by Waterous to be conforming with the aforesaid warranty.

When required in writing by Waterous, defective products must be promptly returned by the buyer to the Waterous Company at Waterous' plant at South St. Paul, Minnesota, or at such other place as may be specified by Waterous with transportation and other charges prepaid. A returned materials authorization (RMA) is required for all products and parts and may be requested by phone, fax or mail. The previously mentioned warranty excludes any responsibility or liability of Waterous for:

- A. Damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes or improper maintenance, or attributable to written specifications or instructions furnished by buyer.
- B. Defects in products manufactured by others and furnished by Waterous hereunder, it being understood and agreed by the parties that the only warranty provided for such products shall be the warranty provided by the manufacturer thereof which, if assignable, Waterous will assign to the buyer, if requested by buyer.
- C. Any product or part, altered, modified, serviced or repaired other than by Waterous, without its prior written consent.
- D. The cost of dismantling, removing, transporting, storing, or insuring the defective product or part and the cost of reinstallation.
- E. Normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, etc.)

This warranty is subject to Waterous' conditions of sale (Waterous Company form number F-2190 as currently in effect all of which are herein incorporated and by this reference made a part hereof.

All other warranties are excluded, whether expressed or implied by operation of law or otherwise, including all implied warranties of merchantability or fitness for purpose. Waterous shall not be liable for consequential or incidental damages directly or indirectly arising or resulting from breach of any of the terms of this limited warranty or from the sale, handling, or use of any other product or part. Waterous' liability hereunder, either for breach of warranty or for negligence, is expressly limited at Waterous' option:

A. To the replacement at the agreed point of delivery of any product or part, which upon inspection by Waterous or its duly authorized representative, is found not to conform to the limited warranty set forth above, or

B. To the repair of such product or part, or

C. To the refund or crediting to buyer of the net sales price of the defective product or part.

Buyer's remedies contained herein are exclusive of any other remedy otherwise available to the buyer.

One (1)
01-17-1050

STAINLESS STEEL PLUMBING WARRANTY

The manufacturer shall provide a ten (10) year warranty on the stainless steel plumbing components and installation. The manufacturer shall supply details of their warranty information with their bid submission.

One (1)
01-18-0250

FOAM TANK WARRANTY

UNITED PLASTIC FABRICATION INC. Warrants each UPF POLY-TANK IIE Booster/Foam tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle (vehicle must be actively used in fire suppression). The UPF POLY-TANK IIE must be installed in accordance with the United Plastic Fabricating installation manual. Every UPF POLY-TANK IIE is thoroughly inspected and tested for leaks before leaving our facility. Should any problems develop with your UPF POLY-TANK IIE booster/foam tank and will not meet performance criteria during the service life of the vehicle, notify UPF in writing or call our TOLL-FREE SERVICE HOT LINE 1-800-USA-POLY. Provide UPF with the serial number and a description of the problem. If the tank problem would render the truck out of service, UPF will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. (This time period is for North America only). If the vehicle can remain in service, UPF will dispatch a service technician within a mutually agreed upon time period.

We will repair, or at our option, replace the tank with a new UPF POLY-Tank IIE. UPF will cover customary and reasonable costs to remove and install the UPF POLY-TANK IIE. This warranty will not cover tanks that have been improperly installed, misused or abused, and the

serial number must not have, been altered, defaced or removed. UPF will not cover any unauthorized third-party repairs or alterations. Any of these actions may void the warranty.

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 OBLIGATIONS OR LIABILITIES ON THE PART OF UNITED PLASTIC FABRICATION, INC.

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. UNITED PLASTIC FABRICATION, INC. 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.

IN NO EVENT WILL UNITED PLASTIC FABRICATION, INC BE LIABLE FOR AN AMOUNT IN EXCESS OF THE PRESENT RETAIL, PURCHASE PRICE PLUS INSTALLATION AND REMOVAL COST OF THE BOOSTER TANK, FOR ANY LOSS OR DAMAGE, WHETHER DIRECT OR INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHERWISE ARISING OUT OF FAILURE OF ITS PRODUCT.

This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. Some states do not allow exclusion or limitation of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

One (1)
01-18-0450

WATER TANK WARRANTY

UNITED PLASTIC FABRICATION INC. Warrants each UPF POLY-TANK IIE Booster/Foam tank to be free from manufacturing defects in material and workmanship for the service life of the vehicle (vehicle must be actively used in fire suppression). The UPF POLY-TANK IIE must be installed in accordance with the United Plastic Fabricating installation manual. Every UPF POLY-TANK IIE is thoroughly inspected and tested for leaks before leaving our facility. Should any problems develop with your UPF POLY-TANK IIE booster/foam tank and will not meet performance criteria during the service life of the vehicle, notify UPF in writing or call our TOLL-FREE SERVICE HOT LINE 1-800-USA-POLY. Provide UPF with the serial number and a description of the problem. If the tank problem would render the truck out of service, UPF will dispatch a service technician WITHIN 48 HOURS (2 DAYS) to repair the tank. (This time period is for North America only). If the vehicle can remain in service, UPF will dispatch a service technician within a mutually agreed upon time period.

We will repair, or at our option, replace the tank with a new UPF POLY-Tank IIE. UPF will cover customary and reasonable costs to remove and install the UPF POLY-TANK IIE. This warranty will not cover tanks that have been improperly installed, misused or abused, and the

serial number must not have, been altered, defaced or removed. UPF will not cover any unauthorized third-party repairs or alterations. Any of these actions may void the warranty.

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 OBLIGATIONS OR LIABILITIES ON THE PART OF UNITED PLASTIC FABRICATION, INC.

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. UNITED PLASTIC FABRICATION, INC. 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.

IN NO EVENT WILL UNITED PLASTIC FABRICATION, INC BE LIABLE FOR AN AMOUNT IN EXCESS OF THE PRESENT RETAIL, PURCHASE PRICE PLUS INSTALLATION AND REMOVAL COST OF THE BOOSTER TANK, FOR ANY LOSS OR DAMAGE, WHETHER DIRECT OR INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR OTHERWISE ARISING OUT OF FAILURE OF ITS PRODUCT.

This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. Some states do not allow exclusion or limitation of incidental or consequential damage, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

One (1)
01-33-3100

BODY MANUAL - PRINTED WITH DIGITAL COPY

Rosenbauer shall provide with the vehicle upon delivery, one (1) complete delivery manual. This manual shall be in a notebook type binder, with reference tabs for each section of the vehicle. In addition to the printed material, a digital copy shall be provided.

Within each section shall be:

- Individual component manufacturer instruction and parts manuals
- Warranty forms for the body
- Warranty forms for all major components
- Warranty instructions and format to be used in compliance with warranty obligations
- Wiring diagrams
- Installation instruction and drawings for major parts
- Visual graphics and electronic photos for the installation of major parts
- Necessary normal routine service forms, publications and components of the body portion of the apparatus
- Technical publications for training and instruction on major body components
- Warning and safety related notices for personnel protection

- Cab and chassis manuals on parts, service and maintenance shall be provided

One (1)
02-90-1500

INTERNATIONAL CHASSIS

An International 4-door chassis per the attached specifications shall be furnished:

One (1)
50-03-1000

LOW VOLTAGE ELECTRICAL SYSTEM SPECIFICATIONS

The electrical system shall include all panels, electrical components, switches and relays, wiring harnesses and other electrical components. The electrical equipment installed by the apparatus manufacturer shall conform to current automotive electrical system standards, the latest Federal DOT standards, and the requirements of the applicable NFPA standards.

All wiring shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 percent of the maximum current for the protected circuit. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The wiring and wiring harness and insulation shall be in conformance to applicable SAE and NFPA standards. The wiring harness shall conform to SAE J-1128 with GXL temperature properties. All exposed wiring shall be protected in a loom with a minimum 289 degree Fahrenheit rating. All wiring looms shall be properly supported and attached to body members. The electrical conductors shall be constructed in accordance with applicable SAE standards, except when good engineering practice requires special construction.

The wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection and shall be installed in accordance with the device manufacturer's instructions. Electrical connections shall be with mechanical type fasteners and large rubber grommets where wiring passes through metal panels.

The wiring between the cab and body shall be joined using Deutsche type connectors or an enclosed in a terminal junction panel area. This system will permit body removal with minimal impact on the apparatus electrical system. All connections shall be crimp-type with insulated shanks to resist moisture and foreign debris such as grease and road grime. Weather-resistant connectors shall be provided throughout to ensure the integrity of the electrical system.

Any electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required.

There shall be no exposed electrical cabling, harnesses, or terminal connections located in compartments, unless they are enclosed in a junction box or covered with a removable electrical panel. The wiring shall be secured in place and protected against heat, liquid contaminants and damage. Wiring shall be uniquely identified every three-inches (3") by color coding or permanent marking with a circuit function code and identified on a reference chart or electrical wiring schematic per requirements of applicable NFPA #1901 standards.

The electrical circuits shall be provided with low voltage overcurrent protective devices. Such devices shall be accessible and located in required terminal connection locations or weather resistant enclosures. The overcurrent protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

The electrical system shall include the following:

- Electrical terminals in weather exposed areas shall have a non-conductive grease or spray applied. A corrosion preventative compound shall be applicable to all terminal plugs located outside of the cab or body.
- The electrical wiring shall be harnessed or be placed in a protective loom.
- Holes made in the roof shall be caulked with silicone. Large fender washers shall be used when fastening equipment to the underside of the cab roof.
- Any electrical component that is installed in an exposed area shall be mounted in a manner that will not allow moisture to accumulate in it.
- A coil of wire must be provided behind an electrical appliance to allow them to be pulled away from mounting area for inspection and service work.
- All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area.

The warning lights shall be switched in the chassis cab with labeled switches in an accessible location. Individual rocker switches shall be provided only for warning lights provided over the minimum level of warning lights in either the stationary or moving modes. All electrical equipment switches shall be mounted on a switch panel mounted in the cab convenient to the operator. The warning light switches shall be of the rocker type. For easy nighttime operation, an integral indicator light shall be provided to indicate when the circuit is energized. All switches shall be appropriately identified as to their function.

A single warning light switch shall activate all required warning lights. This switch will allow the vehicle to respond to an emergency and "call for the right of way". When the parking brake is applied, a "blocking right of way" system shall automatically activate per requirements of the applicable NFPA standards. All "clear" warning lights shall be automatically turned off upon application of the parking brake.

NFPA REQUIRED TESTING OF ELECTRICAL SYSTEM

The apparatus shall be electrically tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of the applicable NFPA standards. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a failed test.

2. Alternator performance test at idle:

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system is permitted during this test. However, if an alarm sounds due to excessive battery discharge, as detected by the system requirements in the NFPA standards, or a system voltage of less than 11.7 volts dc for more than 120 seconds is present, the test has failed.

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts dc for a 12 volt system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

NFPA REQUIRED DOCUMENTATION

The following documentation shall be provided on delivery of the apparatus:

- a. Documentation of the electrical system performance tests required above.
- b. A written load analysis, including:
 1. The nameplate rating of the alternator.
 2. The alternator rating under the conditions.
 3. Each specified component load.

4. Individual intermittent loads.

One (1)
50-05-1510

WEATHER RESISTANT ELECTRICAL JUNCTION BOX

The electrical junction or terminal boxes shall be weather resistant and located away from water spray conditions. In addition, the main body junction panel shall house the automatic reset breakers and relays where required. The main body junction panel shall be located in the pump compartment.

One (1)
50-10-2000

HIGH IDLE SYSTEM

There shall be a high idle system furnished and installed on the apparatus. The high idle system shall have an on/off switch located in the chassis on the switch console. The system shall have an interlock that will disable the solenoid if the parking brake is not completely set.

One (1)
50-12-1120

ELECTRICAL CONSOLE WITH EMERGENCY LIGHT SWITCH PANEL – THERMAL COATED

An electrical console shall be constructed of .125" black LineX coated smooth aluminum material, and mounted in the cab of the truck chassis. Console shall be designed and installed between the driver and passenger seats. The top face of the console shall be designed as the switch panel for all emergency light switches. The switch panel shall be hinged for easy access to the switch connections.

All emergency light switches shall be lighted, rocker style. Switches shall be internally lit when the switch circuit is in the on position. A plug-in identification label is to be provided and installed adjacent to each rocker switch with backlighting provided behind the label.

SWITCHES

A rocker style internally lighted switch shall be provided and wired through a heavy-duty relay to activate power to the emergency lights. The emergency lights shall be activated by a single "MASTER SWITCH" on the electrical console.

One (1)
50-15-1100

BATTERY SYSTEM

The battery system shall be supplied with the chassis.

One (1)

50-15-3100

MASTER ELECTRIC SWITCH

One (1) battery disconnect switch shall be located conveniently to the driver of the apparatus. The switch shall disconnect the 12 volt power supply from the battery system.

One (1)
50-15-8700

BATTERY CHARGER

A Mean Well PB-600-12, 40 amp, 90-264VAC battery charger will be supplied with the apparatus. The battery charger is capable of 2/3/8 stage charging. The battery charger shall be set to the 3 stage battery conditioning procedure. The charger is capable of charging batteries and functioning as a continuous 40 amp 12VDC power supply.

The charger features an extruded aluminum anodized housing, fully insulated heavy duty output terminals, three color indicator and a variable speed fan.

One (1)
50-20-1500

AUTO-EJECT

A Kussmaul "Super Auto-Eject" 20-amp automatic disconnect device shall be provided and installed on the 110 volt shoreline connection complete with weatherproof cover and matching plug. The Auto-Eject shall be activated by the chassis starter switch to disconnect the plug. The Super Auto-Eject shall be completely sealed to prevent contamination of the mechanism by inclement weather and road conditions. The Super Auto-Eject shall have an internal switch to open and close the AC circuit after the mating connector is inserted and before the connector is removed.

One (1)
50-20-1120

SHORE POWER PLUG

The shore power plug shall be located at the left front cab door.

SHOP NOTE

Black Color Cover

One (1)
51-20-3100

LIGHT MOUNTING LOCATION

The mounting location for the specified light shall be on the front edge of the chassis cab roof.

One (1)
51-16-5015

LED SCENE LIGHT

A Fire Tech FT-MB-18-FT-B brow light shall be provided and intalled below the light bar. The light shall produce 7,920 lumens and be powder coated black.

One (1)
54-15-6100

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control all scene light(s). The switch shall be labeled "SCENE LIGHTS".

One (1)
51-20-3700

LIGHT MOUNTING LOCATION

The mounting location for the specified light shall be on the side of the apparatus body.

Two (2)
51-16-5015

LED SCENE LIGHT

A Fire Tech FT-MB-18-FT-B brow light shall be provided and intalled below the light bar. The light shall produce 7,920 lumens and be powder coated black.

SHOP NOTE

Left & Right Side Top of Body Compartments

One (1)
54-15-6400

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control the left side scene light(s). The switch shall be labeled "LEFT SCENE".

One (1)
54-15-6500

SCENE LIGHT SWITCHING

One (1) scene light switch with indicator shall be installed on the cab main switch panel to control the right side scene light(s). The switch shall be labeled "RIGHT SCENE".

One (1)
52-01-1200

BACK-UP ALARM

One (1) automatic electric back-up alarm shall be wired to the back-up light circuit, and mounted under the rear of the apparatus body.

One (1)

52-02-4100

130° CAMERA WITH 18 INFRARED ILLUMINATORS & 7” DIGITAL MONITOR

A Fire Research inView™ TrueSight™ model BCA111-A00 kit shall include: (1) one 130° camera with 18 infrared illuminators and (1) one 7” digital monitor.

The 130° Camera shall include the following features: 1/3” SONY® Color CCD Sensor, 250,000 pixels for Picture Elements and Gamma Correction with R=0.45 to 1.0. Camera shall have Mirror Image capability. (1) One 66 ft. Extension Cable shall be included for the camera. (1) One Screw Kit shall be provided for camera installation. The camera shall have a built-in high gain microphone. The Image Sensor shall provide 600 TV Lines PAL: 500(H) *582(V), NTSC: 510(H) *492(V). The 2.1MM Lens shall have a 130° Viewing Angle. The Waterproof rating shall be IP69K. The 130° Camera shall include an Internal Synchronization Sync System. Infrared Distance shall be 50 Ft. (18 Infrared IR). The Usable Illumination shall be 0 Lux (with IR ON). The Power Source shall be DC 12V (+/-10%). Signal-to-Noise ratio (S/N Ratio) shall be rated for higher than 48DB. The Electronic Iris rating shall be 1/50, 1/60-1/100,000 seconds. Video Output rating shall be 1VP.P 75 Ω. The IR Switch Control shall have a CDS Automatic Control. Vibration and Impact Rating shall be 20G/100G. The Operating and Storage Temperature ratings both shall be -40°F ~ +176°F / RH 95% Max.

The model BCA111-A00 kit shall also include (1) one **7” TFT LCD Digital Color Monitor**. The specifications shall be as follows for the monitor:

- Dot Resolution: 800 x 3 (RGB) x 480
- Display Format/Contrast: 16:9 / 500:1
- Display Brightness: 400 CD/m²
- Viewing Angle: U:50° D:60° L/R:70°
- 3 Channel Video Input
- 1 VP-P, 75Ω
- Power Supply – DC 12V-24V (+/-10%)
- Power Consumption – 5W
- Operating Temperature: -22°F ~ +176°F
- Video System: Auto NTSC/PAL
- Overall Dimensions: 7” (L) x 5” (H) x 1” (D)
- Weight: 400G
- Vibration Rating: 5G
- Dot Pitch: 0.192 (H) x 0.1805 (V)
- Internal Sync System

One (1)
52-08-1009

HAND LIGHTS

All NFPA required portable hand lights supplied by the Customer must be installed before the apparatus is placed into service.

Two (2)
52-15-1200

RADIO ANTENNA BASE

Two (2) radio antenna base shall be supplied and installed on the apparatus, the antenna coax terminating in the cab. The location shall be determined by the customer.

One (1)
53-01-1200

MARKER LIGHTS

LED marker lights shall be installed on the vehicle in conformance to the Department of Transportation requirements.

Two (2)
53-02-1300

LICENSE PLATE BRACKET

Two (2) stainless steel license plate bracket shall be provided at the rear of the apparatus.

SHOP NOTE

Two (2) Brackets shall be provided. Please do not mount until the final inspection for location purposes. Note: there's no wiring and these are not a lighted bracket.

One (1)
53-03-2750

TAIL LIGHTS

One (1) pair of Whelen M62BTT LED tail/brake lights shall be provided. The rectangular 4"x6" lights shall be red.

One (1)
53-04-2750

TURN SIGNALS

One (1) pair of Whelen M62T LED turn signals with populated sequential chevron arrow shall be provided.

One (1)
53-06-3550

BACKUP LIGHTS

One (1) pair of Whelen Series M62BU LED backup lights shall be installed on the rear of the apparatus body. The dimensions shall be 4" x 6" and the lens color shall be clear.

One (1)
53-07-1210

FOUR LIGHT HOUSING

One (1) pair of chrome plated tail light housings shall be supplied. Each housing shall be designed to hold four (4) Whelen M6 rear lights located at the lower rear corners of the body.

One (1)
53-05-1802

MID BODY LED TURN SIGNALS

One (1) pair of TechNiq S17 amber mid body LED marker / turn signals shall be provided. The location of the turn lights shall be at mid-body near the rear wheel axle.

One (1)
54-02-1620

CAB GROUND LIGHTS

Four (4) TecNiq E10 LED ground lights shall be installed on the chassis cab, one under each cab door.

One (1)
54-02-2320

CAB STEP LIGHTS

There shall be LED cab step lights supplied below the chassis cab doors. The lights shall be mounted below the cab doors and illuminate the chassis cab steps. There shall be two (2) LED lights located on each side of the chassis cab.

One (1)
54-03-1280

PUMP PANEL GROUND LIGHTS

Two (2) TecNiq LED #LED E10 ground lights shall be installed under the pump panel running boards. One (1) light shall be located on the driver's side and one (1) light located on the officer's side of the apparatus.

One (1)
54-03-1680

REAR STEP GROUND LIGHTS

Two (2) TecNiq LED #LED E10 ground lights shall be installed under the rear step. One (1) light shall be located on the driver's side and one (1) light located on the officer's side of the apparatus.

One (1)
54-04-1999

The ground lights shall automatically activate when the parking brake is applied.

Two (2)
54-10-1450

REAR TAILBOARD LIGHTS

Two (2) LED step lights with clear lens shall be installed to illuminate the step surfaces at the rear of the apparatus body.

One (1)
54-11-2100

The step/walkway light switch shall be installed and wired to the parking brake.

One (1)
55-11-2400

DO NOT MOVE APPARATUS LIGHT

The front headliner of the cab shall include a flashing red Whelen round LED light, 3SR00FRR, with a red lens clearly labeled "Do Not Move Apparatus". In addition to the flashing red light, an audible alarm shall be included which shall sound while the light is activated.

The flashing red light shall be 3.00 inches in diameter and shall be located centered left to right for greatest visibility.

The light and alarm shall be interlocked for activation when either a cab door is not firmly closed or an apparatus compartment door is not closed, and the parking brake is released.

One (1)
56-01-1360

ELECTRONIC SIREN

One (1) Federal Signal PA-300, model 690002, 100 watt full function electronic siren shall be mounted in the cab. The siren shall have the following features: electronic air horn, wail, yelp, priority, P.A., and shall have a hard wired microphone. The optional TAP II feature allows the driver to change the siren tone via the vehicle's horn ring. The siren shall be capable of driving (1) 100-watt speaker. The system shall automatically be protected from short circuits.

One (1)
56-02-1600

SPEAKER

One (1) Federal Signal DynaMax 100-watt speaker, Model #ES100C, shall be installed. The speaker shall feature a Neodymium driver and a high strength composite housing that is chemical resistant and maintains rigidity at high temperatures.

One (1)
56-02-1650

SPEAKER

One (1) stainless steel grille shall be installed on the speaker.

One (1)
56-03-1800

SPEAKER LOCATION

The siren speaker shall be installed on the apparatus bumper extension, as determined by the body manufacturer.

One (1)
57-02-2000

LIGHTBAR

One (1) Whelen Justice series light bar shall be included with the apparatus cab. The light bar shall be a model JE0NFPA and shall be mounted on the roof of the cab, towards the front, above the windshield.

The light bar shall feature:

- A 62" light bar designed for high performance
- Four (4) red Linear Super LED corner modules
- Four (4) red CON3 LED hinged modules
- Two (2) white CON3 LED hinged modules with exterior clear optic lenses
- Clear hard coated lenses to provide extended life/luster protection against UV & chemical stresses
- Designed in accordance with NFPA Zone A requirements

One (1)
57-10-0600

LIGHTBAR ACTIVATION

The front upper light bar shall be activated through the master warning switch.

One (1)
58-71-1850

UPPER REAR WARNING LIGHTS

One (1) pair of Whelen Super LED Rota-Beam rotating beacons shall be installed, one each side on the upper rear of the apparatus body. The unit shall have approximate dimensions of 5" high x 6-7/16" deep.

One (1)
57-20-8310

The driver side warning light shall be a Whelen Rota-Beam red LED rotator, model R4165F with a clear lens.

One (1)
57-20-8315

The officer side warning light shall be a Whelen Rota Beam blue LED rotator, model R4162F with a clear lens.

One (1)

58-74-5200

REAR WARNING LIGHT MOUNTING

The upper rear lights shall be mounted on the upper corners of the apparatus body, one on each side.

One (1)
58-03-2000

LOWER FRONT WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side one the front of the chassis cab. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1)
57-20-1210

The driver side warning light shall be a Whelen Model M6RC red Super-LED™ with clear lens.

One (1)
57-20-1213

The officer side warning light shall be a Whelen Model M6BC blue Super-LED™ with clear lens.

Two (2)
58-01-2141

Each light shall be mounted with a Whelen Model M6FB black flange.

One (1)
58-09-2000

INTERSECTION WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed one each side of the chassis cab. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1)
57-20-1210

The driver side warning light shall be a Whelen Model M6RC red Super-LED™ with clear lens.

One (1)
57-20-1211

The officer side warning light shall be a Whelen Model M6RC red Super-LED™ with clear lens.

One (1)
58-26-2400

LOWER MID-BODY WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights, model M2WR, shall be installed , one each side of the apparatus, mid-body in the rub rail. The dimensions of the lights shall be 4-1/4" x 2-11/16".

SHOP NOTE

Will only fit in EXT rub rail WITHOUT bezel

One (1)
57-20-1012

The driver side warning light shall be a Whelen Model M2WBC wide-angle blue Super-LED™ with clear lens.

One (1)
57-20-1011

The officer side warning light shall be a Whelen Model M2WRC wide-angle red Super-LED™ with clear lens.

One (1)
58-36-2400

LOWER REAR SIDE WARNING LIGHTS

One (1) pair of Whelen model M2 LED warning lights shall be installed , one each side of the apparatus, towards the rear of the body, in the rub rail. The dimensions of the lights shall be 4-1/4" x 2-11/16".

SHOP NOTE

Will only fit in EXT rub rail WITHOUT bezel

One (1)
57-20-1010

The driver side warning light shall be a Whelen Model M2WRC wide-angle red Super-LED™ with clear lens.

One (1)
57-20-1011

The officer side warning light shall be a Whelen Model M2WRC wide-angle red Super-LED™ with clear lens.

One (1)
58-81-2000

LOWER REAR WARNING LIGHTS

One (1) pair of Whelen model M6 LED warning lights shall be installed, one each side on the lower rear of the apparatus body. The dimensions of the lights shall be 4-5/16" x 6-3/4".

One (1)
57-20-1210

The driver side warning light shall be a Whelen Model M6RC red Super-LED™ with clear lens.

One (1)
57-20-1213

The officer side warning light shall be a Whelen Model M6BC blue Super-LED™ with clear lens.

One (1)
58-96-3999

=== No Body Side Traffic Lights - Pick to Select ===

One (1)

== Pumper/Tanker-Chassis Modifications - 601.022 06/01/22 ==

One (1)
10-02-1100

FLUID DATA PLAQUE

One (1) fluid data plaque containing required information shall be provided based on the applicable components for this apparatus, compliant with NFPA Standards:

- Engine oil
- Engine coolant
- Chassis transmission fluid
- Drive axle lubricant
- Power steering fluid
- Pump transmission lubrication fluid
- Other NFPA applicable fluid levels or data as required

Location shall be in the driver's compartment or on driver's door.

One (1)
10-02-1200

DATA & WARNING LABELS

HEIGHT LENGTH & WEIGHT

A highly visible label indicating the overall height, length, and weight of the vehicle shall be installed in the cab dash area.

One (1)
10-02-1300

NO RIDE LABEL

One (1) "NO RIDERS" label shall be applied on the vehicle at the rear step area or other applicable areas. The label shall warn personnel that riding in or on these areas, while the vehicle is in motion is prohibited.

One (1)

10-02-2100

CAB SEATING POSITION LIMITS

One (1) label shall be installed in the cab to indicate seating positions for firefighters. A weight allowance of 250 pounds for each shall be factored into the gross vehicle weight rating of the chassis.

One (1)

10-02-2500

HELMET WARNING TAG

One (1) label shall be installed in the cab, visible from each seating position. The label shall read "CAUTION: DO NOT WEAR HELMET WHILE SEATED." Helmets must be properly stowed while the vehicle is in motion according to the current edition of NFPA 1901.

One (1)

10-03-6000

REAR TOWING PROVISIONS

There shall be two tow eyes furnished under the rear of the body and attached directly to the chassis frame rails. There shall be a reinforcement spreader bar connecting the two tow eyes. Tow eyes are to be constructed of 3/8" plate steel with a 4" I.D. hole, large enough for passing through a tow chain end hook.

One (1)

80-43-2400

The tow plates shall be painted black.

One (1)

10-04-0002

Bumper, Existing Comm Bumper

One (1)

10-04-2130

BUMPER EXTENSION

The chassis frame shall be extended 12" with reinforced steel angle and structural channel by the body builder. The extension shall be designed to support the bumper and other equipment to be installed.

One (1)

10-04-2320

FRONT BUMPER GRAVELSHIELD

A 12" front to rear filler panel constructed from NFPA compliant, slip resistant aluminum tread plate shall be provided on the front chassis frame extension. The extension shall be covered on the top and sides, up to the level of front bumper and shall be reinforced to support one (1) firefighter (approximately 250 pounds) and the equipment specified to be installed.

One (1)

10-04-2720

FRONT BUMPER COMPARTMENT

One (1) recessed fire hose compartment constructed from smooth aluminum shall be installed in the center of the front bumper extension. Water drain holes shall be drilled in the bottom.

One (1)
10-04-3125

HOSE WELL SECUREMENT

One (1) pair of Velcro straps shall be provided for the securement of the hose in the front bumper hose well.

One (1)
10-06-1600

TIRE PRESSURE INDICATOR

There shall be a tire pressure indicator, p/n RWTG1235, at each tire's valve stem on the vehicle that shall indicate if there is insufficient pressure in the specific tire.

One (1)
10-08-2100

REAR MUD FLAPS

One (1) pair of black mud flaps shall be installed behind the rear wheels.

One (1)
10-10-0800

CAB ENTRANCE STEPS

The four (4) door chassis shall be equipped with a modular step/fuel tank enclosure constructed from slip resistant aluminum tread plate to conform with applicable NFPA standards. The step/enclosure is to completely cover the fuel tank, and is to include a radius cut-out allowing access to the fuel tank fill. The entire step/enclosure is to be of a one piece design, bolted in place for ease of removal.

Heavy channel steel underbody supports shall be provided to support the right and left side cab entrance steps. Supports shall be attached directly to the chassis frame rails, and shall provide adequate support to the steps to minimize flex and distortion.

The overlay shall be provided with a storage compartment. A hinged door with latch shall be provided on the storage compartment.

One (1)
10-10-0900

CAB ENTRANCE STEPS

The four (4) door chassis shall be equipped with a modular step enclosure constructed from slip resistant aluminum tread plate to conform with applicable NFPA standards. The entire

step/enclosure is to be of a one piece design, bolted in place for ease of removal.

Heavy channel steel underbody supports shall be provided to support the right and left side cab entrance steps. Supports shall be attached directly to the chassis frame rails, and shall provide adequate support to the steps to minimize flex and distortion.

The overlay shall be provided with a storage compartment. A hinged door with latch shall be provided on the storage compartment.

One (1)
10-13-2600

INTERIOR CABINET

There shall be one (1) forward facing cabinet installed on the rear wall of the cab. The cabinet shall be constructed of smooth aluminum plate with minimum interior dimensions of 40" Wide x 18" Deep and as tall as the application allows.

A cargo net designed to restrain the contents shall be installed on the cabinet.

One (1)
10-13-3540

The cabinet's exterior finish shall match the interior finish of the chassis cab.

One (1)
10-13-3550

The cabinet's interior shall have a natural finish.

One (1)
10-13-3600

One (1) adjustable shelf shall be installed in the interior cab compartment. The shelf shall be constructed from aluminum.

One (1)
10-19-4000

AIR SHORELINE CONNECTION

One (1) compressed air inlet fitting shall be provided for connection to an external air source to maintain the air brake pressure. The air inlet shall have a check valve installed to prevent air from escaping from the air storage tanks on the chassis.

The air inlet fitting shall be located in the driver's side step or door area.

One (1)

== Midship Pumper/Tanker Pump & Plumbing - 601.022 06/01/22 ==

One (1)
20-21-1300

AUXILIARY FIRE PUMP

One (1) Waterous Model E511-C fire pump shall be furnished and mounted on the apparatus to meet the following performance criteria:

50 GPM @ 400 PSI
110 GPM @ 100 PSI
275 GPM @ 50 PSI

The pump shall include the following components:

- Spring loaded mechanical pump seal.
- 1. Bronze alloy impeller double hubbed to balance hydraulic thrust, mechanically balanced to eliminate vibration.
- 2. Renewable double-labyrinth type, solid bronze impeller seal ring.
- 3. Precision-ground stainless steel pump shaft.
- 4. Deep groove radial-type ball bearings for pump shaft.
- 5. High-strength aluminum alloy pump casing anodized for superior corrosion resistance.
- 6. Pressure lubrication with replaceable oil filter, high oil fill with dipstick.
- 7. A 24.8 hp Kubota D902-E3-KEA-2, in-line 3-cylinder water cooled diesel fueled engine
- 8. Pressure feed oil lubrication system with spin-on oil filter.
- 9. Adjustable mechanical type governor and throttle control lever.
- 11. 12-volt electric start.

The Waterous fire pump shall have start/stop capability from the pump panel and the chassis cab center console.

One (1)
21-00-0050

AUXILIARY PUMP ENGINE ENGAGED LIGHT

One (1) indicator light shall be illuminated in the chassis cab when the auxiliary fire pump engine is running. The light shall be labeled, "Pump Engine Running".

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
20-32-4400

FUEL SYSTEM

The fuel system for the auxiliary fire pump shall be plumbed to the chassis fuel system. There shall be a separate fuel pickup tube mounted in the chassis fuel tank specifically for a separate engine driven pump assembly.

There shall be an electric fuel pump and fuel hose furnished between the chassis fuel tank and

the auxiliary pump.

One (1)
20-32-5100

ELECTRIC START SYSTEM FOR AUXILIARY FIRE PUMP

The electric start system for the auxiliary fire pump shall be connected to the chassis electrical system. There shall be an on/off switch and push to start switch located near the pump operator's position.

One (1)
20-32-6100

AUXILIARY AND MAIN FIRE PUMP PLUMBING

The auxiliary fire pump shall be plumbed to the main pump discharge manifold. There shall be a one-way check valve installed in the discharge lines from fire pump discharge manifold.

One (1)
20-32-6200

GATE VALVE BETWEEN AUXILIARY FIRE PUMP AND MAIN FIRE PUMP

There shall be a 2" quarter turn gate valve furnished between the auxiliary fire pump and the main fire pump. The gate valve shall have control handle with label located near pump operator's area. The gate valve shall be furnished in addition to the one-way check valves.

One (1)
22-50-1500

WATER TANK TO PUMP LINE

One (1) 3" water tank to fire pump line shall be provided with a full flow quarter turn ball valve, 3" piping, flex hose and stainless steel hose clamps. The valve control shall be accessible from the pump operation area and equipped with a nameplate on the handle.

One (1)
23-01-1200

FIRE PUMP TO WATER TANK FILL LINE

One (1) 1" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 1" piping and flex hose to tank. The valve control handle shall have a nameplate located near the valve control.

One (1)
20-25-1600

WATEROUS CXVK SINGLE STAGE PUMP

A Waterous model CXVK fire pump shall be midship mounted, single-stage centrifugal type and shall meet the requirements of the NFPA 1901 standard. The pump must be tested by the pump manufacturer for 10 minutes hydrostatically at a pressure of 350 psig. Certification by the pump manufacturer must be provided.

IMPELLER

The bronze impeller shall be specifically designed for the fire service. The impeller shall be accurately balanced, both mechanically and hydraulically, for vibration free operation. The impeller shaft shall be stainless steel heat-treated and precisely ground to size and supported on both ends by oil or grease lubricated ball bearings.

The wear rings shall be replaceable, bronze, reverse-flow, labyrinth-type. The fire pump shall have deep groove ball bearings located outside the pump to give rugged support and proper alignment to the impeller shaft. Bearings shall be oil or grease lubricated. All pump bearings shall be completely separated from the water being pumped.

PUMP MOUNTING

The pump shall be bolted to steel angles in pump module, using grade 8 bolts.

The midship mounted fire pump shall be mounted with steel angles and channel from the frame using grade 8 bolts, to both the frame and pump to permit removal of the pump for service. The pump shall be equipped with bolt flanges or Victaulic couplings on the suction and discharge side of the pump to provide for removal of fire pump without disturbing piping.

DRIVE LINE

Fire pump shall be driven by a heavy duty 10 bolt PTO capable of enough torque to operate the fire pump at rated capacity for continuous duty. The PTO shall be of a "Hot Shift" style.

Hollow-tube drivelines and universals shall be properly matched to the engine and transmission output torque ratings.

One (1)
20-25-1510

1000 GPM FIRE PUMP SPECIFICATIONS

The centrifugal type fire pump shall be a Waterous model CXK with a rated capacity of 1000 GPM. The pump shall meet NFPA 1901 requirements.

The pump shall be certified to meet the following deliveries:

1000 GPM @ 150 PSI
1000 GPM @ 165 PSI
700 GPM @ 200 PSI
500 GPM @ 250 PSI

One (1)
22-03-1500

LEFT SIDE -- 5" UNGATED INTAKE

One (1) 5" un gated suction intake shall be installed on the left side pump panel to supply the fire pump from an external water supply. The threads shall be 5" NST male. The intake shall be

provided with a removable screen.

One (1)
22-41-5600

One (1) 5" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1)
22-03-2500

RIGHT SIDE -- 5" UNGATED INTAKE

One (1) 5" ungated suction intake shall be installed on the right side pump panel to supply the fire pump from an external water supply. The intake shall be provided with a removable screen.

One (1)
22-41-5600

One (1) 5" chrome plated cap shall be provided. The threads shall be NST and the cap shall be equipped long handles.

One (1)
20-26-2200

FIRE PUMP MECHANICAL SHAFT SEAL

The Waterous fire pump shall be equipped with self-adjusting, maintenance free, 'mechanical shaft seal' which is designed to be functional in the unlikely event of a seal failure.

One (1)
20-26-2300

IMPELLER HUBS

The Waterous fire pump impeller hubs shall be standard bronze type.

One (1)
20-26-3400

PTO PUMP SHIFT SPECIFICATIONS -- PUMP AND ROLL

An electric powered PTO pump shift shall be installed in the cab driver's area where not subject to accidental engagement.

An rocker switch for PTO pump engagement shall be installed in the cab driver's area. The pump shift system shall permit "pump and roll" operations, as well as stationary pumping operations.

The following indicator lights shall be included with pump shift.

1. A green indicator light, labeled "PUMP ENGAGED" shall indicate pump PTO has successfully been engaged.

2. A green indicator light, labeled "OK TO PUMP" shall indicate the PTO is engaged and parking brake is activated. Pump control is through the pressure governor.
3. A red flashing indicator light, labeled "PUMP & ROLL" shall indicate the PTO is engaged and parking brake is released. Pump control is through the driver's throttle pedal.
4. Pump shift and interlocks shall comply with applicable sections of the NFPA standards.
5. An instruction label and nameplate shall be provided to indicate proper pump engagement instructions.

SHOP NOTE

Add Pump Pressure Switch Tied to PTO to drop out the PTO engagement for additional safety, verify parameters at the pre-con meeting with the customer.

One (1)
20-31-7100

One (1)
27-03-1800

One (1)
20-29-1200

TRIDENT PRIMER – AUTOMATIC

An automatic fire pump priming system shall be provided and installed. The system shall be oil-less type and environmentally safe. Once engaged, the system shall be fully automatic and not require any action from the pump operator/engineer when pump draft is lost. This feature provides an additional safety margin by maintaining pump flow from the available water source automatically during drafting operations. When air is introduced during a drafting operation from conditions such as whirlpools or turbulence from porta-tank refill operations, the priming system shall automatically engage to remove the air and stabilize water flow and pump pressure. For additional safety, the entire system shall operate at less than 70dBA of ambient noise.

The priming system shall engage automatically whenever the pump discharge falls below five (5) psi and shall remain engaged until a pump prime has been achieved. The priming system shall automatically disengage when a positive pump discharge pressure has been established. The electrical current draw from the chassis batteries shall not exceed four (4) amps at any given time of operation and allow for unlimited run time without causing an overheat condition for of any of the system components.

A single engagement switch shall be provided on the pump control panel that will allow the operator to engage the automatic pump priming system. There shall be a light provided on the pump control panel to indicate when the system is engaged. The pump shall be capable of taking suction and discharging water with a lift of 10 feet in not more than 30 seconds with the pump

dry, through 20 feet of suction hose of appropriate size. The priming system shall comply with applicable sections of NFPA standards.

One (1)
20-29-1250

PRIMER CONTROL

A rocker switch control shall be provided on the pump operator's panel, for the main pump primer control.

One (1)
27-10-3110

PRESSURE GOVERNOR AND MONITORING DISPLAY

One (1) Fire Research PumpBoss Max series PBA500-A10 pressure governor and control module kit shall be installed. The kit shall include a control module, discharge pressure sensor, and cables. The control module housing shall be waterproof and have dimensions not to exceed 7 1/2" high by 3 5/8" wide. The control knob shall be 2" in diameter with no mechanical stops, have a serrated grip, and a red idle push button in the center. It shall not extend more than 2" from the front of the control module. The control LCD shall be 3.5" in size with a minimum brightness of 1000 nits and optically bonded to 3mm Borofloat Glass. Inputs for monitored engine information shall be from a J1939 data bus or independent sensors. Outputs for engine control shall be on the J1939 data bus or engine specific signal wiring. Inputs from the pump discharge pressure sensor shall be electrical.

The following continuous displays shall be provided:

10. Engine RPM; shown on LCD screen
 - Check engine and stop engine warning; shown on LCD screen
 - Engine oil pressure; shown on LCD screen
 - Engine coolant temperature; shown on LCD screen
 - Transmission Temperature; shown on LCD screen
 - Battery voltage; shown on LCD screen
 - Pressure and RPM operating mode LEDs
 - Pressure / RPM setting; shown on LCD screen
 - Throttle ready / Ok to Pump LEDs.

On screen (LCD) message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. LCD Screen and LED's intensity shall be automatically adjusted for day and nighttime operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:

- High Battery Voltage
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)

- High Transmission Temperature
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of Water (visual alarm only)
- No Engine Response (visual alarm only).

The program features shall be accessed via push buttons located on the front of the control module. There shall be a USB port located at the rear of the control module to upload future firmware enhancements.

The pressure governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready and Ok to Pump LED shall light when the interlock signal is recognized. The pressure governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the pressure governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The pressure governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of low water and no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor control module shall be programmed at installation for a specific engine.

One (1)
21-00-2004

PUMP ANODES

There shall be sacrificial, zinc anodes in the pump steamer ports which shall protect the pump and piping from electrolysis. These anodes shall also act as screens.

One (1)
21-00-3300

PUMP PLUMBING SYSTEM

The fire pump plumbing system shall be of rigid stainless steel pipe or flexible piping with stainless steel fittings. Mechanical grooved couplings shall be installed to permit flexing of the plumbing system and allow for quick removal of piping or valves for service. Flexible hose couplings shall be threaded stainless steel or mechanical grooved coupling connections.

The fire pump and plumbing shall be hydrostatically tested in compliance to applicable sections of NFPA standards. The test results shall be included in the delivery documentation.

One (1)
21-01-0200

FIRE PUMP MASTER DRAIN

The fire pump plumbing system and fire pump shall be piped to a single push-pull type master pump drain assembly.

ADDITIONAL LOW POINT DRAINS

The plumbing system shall be equipped with additional low point manually operated drain valves to allow total draining of the fire pump plumbing system. These valves shall be accessible from the side of the vehicle and labeled.

One (1)
21-01-5500

STAINLESS STEEL INTAKE MANIFOLD

The suction manifold assembly shall be fabricated with Schedule #10 type 304 stainless steel. All threaded fittings shall be a minimum of Schedule 10 stainless steel. The suction manifold assembly shall have radiused sweep elbows to minimize water turbulence into the suction volute. The suction manifold shall be welded and pressure tested prior to installation. The stainless steel manifold assembly shall be attached to the pump intake volute with a heavy-duty, flexible Victaulic coupling.

The stainless steel manifold assembly shall have a ten (10) year warranty.

One (1)
21-01-6500

STAINLESS STEEL DISCHARGE MANIFOLD

The discharge manifold assembly shall be fabricated with minimum of Schedule #10 Type 304 stainless steel. All threaded fittings shall be a minimum of Schedule #40 stainless steel. The discharge manifold assembly shall have radiused sweep elbows to minimize water turbulence. The manifold shall be welded and pressure tested prior to installation. The stainless steel manifold inlet shall be attached to the pump discharge and have additional brackets as required to support the discharge manifold, valves and related components.

The stainless steel manifold assembly shall have a ten (10) year warranty.

One (1)
21-01-7100

FIRE PUMP & PLUMBING SYSTEM PAINTING

The fire pump and plumbing system shall be painted by the fire apparatus manufacturer. The fire pump and the plumbing shall be painted metallic silver.

One (1)
21-01-8100

HOSE THREADS

The hose threads shall be National Standard Thread (NST) on all base threads on the apparatus intakes and discharges.

One (1)
22-51-5110

WATER TANK TO PUMP LINE

One (1) 3" water tank to fire pump line shall be provided with a full flow quarter turn ball valve, 4" piping, and with flex hose and stainless steel hose clamps. The tank to pump line shall be equipped with a check valve to prevent pressurization of the water tank.

The line shall be flow tested during the fire pump testing and shall meet applicable requirements of NFPA standards.

One (1)
22-50-0100

The tank to pump valve shall be controlled at the pump operator's panel.

One (1)
24-62-1300

The valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1)
22-55-4012

One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature shall be provided on the intake. The handle shall be equipped with a color-coded name plate.

One (1)
23-02-1300

FIRE PUMP TO WATER TANK FILL LINE

One (1) 2" fire pump to water tank refill and pump bypass cooler line shall be provided. The valve shall be a full flow quarter turn ball valve with 2" piping and flex hose to tank. The valve control handle shall have a nameplate located near the valve control.

One (1)
24-62-1200

The valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

One (1)
22-55-4012

One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature shall be provided on the intake. The handle shall be equipped with a color-coded name plate.

One (1)
20-30-3200

MIDSHIP FIRE PUMP DRIVESHAFTS AND INSTALLATION

The midship PTO fire pump shall be installed and shall include installation of the fire pump, modification and/or fabrication of new drivelines and all pump-mounting brackets. The PTO drive shaft(s) shall be spin balanced prior to final installation.

One (1)

20-31-3600

INTAKE RELIEF/DUMP VALVE

One (1) TFT A18 series, 2-1/2" intake relief/dump valve preset at 125 psi shall be permanently installed on the suction side of the fire pump. The valve shall have an adjustment range of 75 psi to 250 psi, and shall be designed to automatically self-restore to a non-relieving position when excessive pressure is no longer present.

Discharge side of the intake relief valve shall be plumbed away from the pump operator.

One (1)
20-31-4100

FIRE PUMP COOLING

The fire pump shall be equipped with 3/8" cooling line from the pump to the water tank. This re-circulation line shall be controlled by a pump panel control valve with nameplate label noting it as the "fire pump bypass cooler". There shall be a check valve installed in the pump cooler line to prevent tank water from back flowing into the pump when it is not in use.

One (1)
20-31-4600

OVERHEAT PROTECTION MANAGER

The Waterous fire pump shall be equipped with an overheat protection manager which monitors the temperature of the water inside the pump and relieves water when the temperature inside the pump exceeds 140 degrees Fahrenheit.

The Waterous Model #OPM shall also have an warning light on the pump panel to provide additional protection in the event the temperature inside the pump continues to rise with the overheat protection valve open. The warning light and test button shall be mounted to a heavy polished casting that is mounted to the pump operator's panel.

One (1)
20-31-5100

CHASSIS ENGINE HEAT EXCHANGER COOLING SYSTEM

The apparatus shall be equipped with a heat exchanger for supplementary chassis engine cooling during fire pump operations. A manually opened valve, mounted at the operator's panel, shall direct water from the fire pump to the heat exchanger that is mounted in the engine radiator cooling hose. The system shall provide cooling water from the fire pump to circulate around the engine radiator coolant without mixing or coming in direct contact with the engine coolant.

A nameplate label shall be installed on the pump panel noting "engine cooling system" with "on-off" opening directions noted.

One (1)
20-31-1100

UNDERWRITERS LABORATORIES FIRE PUMP TEST

The pump shall undergo an Underwriters Laboratories Incorporated test per applicable sections of NFPA standards, prior to delivery of the completed apparatus.

The UL acceptance certificate shall be furnished with the apparatus on delivery.

One (1)
20-31-1500

FIRE PUMP TEST LABEL

A fire pump performance and rating label shall be installed on the fire apparatus pump panel. The label shall denote levels of pump performance and testing completed at factory. These shall include GPM at net pump pressure, RPM at such level, and other pertinent data as required by applicable NFPA standards. In addition, the pressure control device, tank to pump flow tests, and other required testing shall be completed.

In addition, the entire pump, suction and discharge passages shall be hydrostatically tested to a pressure as required by applicable NFPA standards. The pump shall be fully tested at the pump manufacturer's factory to the performance specifications as outlined by applicable NFPA standards. Pump shall be free from objectionable pulsation and vibration.

If applicable, the fire pump shall be tested and rated as follows:

- 100% of rated capacity at 150 pounds net pressure.
- 70% of rated capacity at 200 pounds net pressure.
- 50% of rated capacity at 250 pounds net pressure.
- 100% or rated capacity at 165 pounds net pressure.

One (1)
22-12-1100

LEFT SIDE -- 2-1/2" GATED INTAKE

One (1) 2-1/2" gated suction intake shall be installed on left side pump panel to supply the fire pump from an external water supply. The control valve shall be a quarter turn ball valve and shall have 2-1/2" NST female thread of chrome plated brass.

The intake shall be equipped with a 3/4" drain and bleeder valve. A nameplate label and removable screen shall be installed.

One (1)
21-01-2102

A 3/4" quarter turn bleeder valve shall be installed.

One (1)
22-41-1100

One (1) 2-1/2" chrome plated plug shall be provided. The threads shall be NST and the plug shall be equipped rocker lugs and chain or cable securement.

One (1)
24-62-1250

The valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)
22-55-4050

The valve shall be equipped with one (1) manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1)
23-05-2100

1-1/2" DISCHARGE -- FRONT LEFT SIDE BUMPER, Chrome

One (1) 1-1/2" discharge shall be installed at left side front bumper area with chrome swivel outlet with 1-1/2" NST male threads. The valve control shall be on pump panel and a nameplate label provided at valve control area.

The plumbing shall be flexible hose with abrasion resistant support mountings.

One (1)
21-01-2200

A Class 1 automatic type 3/4" bleeder valve shall be installed.

One (1)
23-05-9200

The hose connection for the front discharge shall be swivel type located above the front bumper deck level.

One (1)
24-61-1150

The specified valve shall be an Akron 8000 Series one and one half-inch (1-1/2") valve with a stainless ball.

One (1)
24-53-0020

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
23-05-2300

1-1/2" DISCHARGE FRONT RIGHT SIDE BUMPER, Chrome

One (1) 1-1/2" discharge shall be installed at front right side bumper area with chrome swivel outlet with 1-1/2" NST male threads. The valve control shall be on pump panel and a nameplate label provided at valve control area.

The plumbing shall be flexible hose with abrasion resistant support mountings

One (1)
21-01-2200

A Class 1 automatic type 3/4" bleeder valve shall be installed.

One (1)
23-05-9200

The hose connection for the front discharge shall be swivel type located above the front bumper deck level.

One (1)
24-61-1150

The specified valve shall be an Akron 8000 Series one and one half-inch (1-1/2") valve with a stainless ball.

One (1)
24-53-0020

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
23-05-1300

FRONT 1" GROUND SWEEP DISCHARGES

Two (2) ground sweep nozzles shall be provided and located one (1) each side ahead of the front bumper. Ground sweep nozzles shall be supplied with one inch (1") internal diameter, wire reinforced high pressure hose. Ground sweep nozzle discharge shall be controlled using a one

inch (1") stainless steel ball valve. The valve shall be operated utilizing powered actuators with open/close controls located in the chassis cab accessible from both the driver and officer seating positions.

SHOP NOTE

Copied from 23-14-1610; Same design and engineering as a RMN Timberwolf. Only 2-ground sweeps required.

One (1)
23-06-2200

TWO (2) 1-1/2" CROSSLAY DISCHARGES

Two (2) pre-connect 1-3/4" hose crosslays shall be installed over pump enclosure, with quarter turn 2" diameter ball valves. The outlets shall be a 2" NPT female swivel x 1-1/2" male NST hose threads.

The crosslay hosebeds shall have smooth aluminum sides. The hosebed decking shall be constructed with slots integrated into the hosebed floor.

Each hosebed shall provide for a minimum capacity of 200 feet of 1-3/4" diameter double jacket hose with nozzle, for hose provided by the fire department. A divider shall be installed to separate the crosslay beds.

Two (2)
21-01-2502

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

Two (2)
24-61-1200

The specified valve shall be an Akron 8000 Series two-inch (2") valve with a stainless ball.

Two (2)
24-53-0020

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

Two (2)
27-02-1500

Two (2) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
23-08-3900

CROSSLAY COVER

A diamond plate hinged forward cover shall be provided for the crosslay compartment with a hold open device. A net shall be provided to secure the crosslays on each side.

Black cargo webbing shall terminate in the bottom of each crosslay hosebed, covering the ends of the hosebed. The webbing shall be permanently attached on the forward side and have velcro and a grab handle at the rear. A velcro retaining strap on both ends shall be provided. It shall be permanently attached on the cab side at the top of the crosslays with a footman's loop.

One (1)
23-08-4130

CROSSLAY HOSE BED TRIM

The crosslay hosebed shall be equipped anodized aluminum angle overlays, one on each end of the hosebed.

One (1)
23-08-5025

CROSSLAY HOSEBEDS

Crosslay discharges shall be "SINGLE STACK" above the lower pump panel. The nozzle shall be stored outside of the crosslay hosebed.

One (1)
23-09-1100

LEFT SIDE GRASS LINE -- 1" DISCHARGE

One (1) 1" grass line discharge shall be provided at the left side pump panel area. The discharge shall be controlled by a quarter turn ball valve on the pump panel. An engraved nameplate label shall be provided adjacent the control handle.

SHOP NOTE

The connection shall terminate in a 3/4" GHT Thread fitting

One (1)
23-09-1200

The 1" grass line discharge shall be piped from the normal pressure side of the fire pump.

One (1)
24-03-1100

One (1) 1" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)
24-61-1100

One (1) Akron 8000 Series one-inch (1") valve with a stainless ball shall be supplied.

One (1)
24-53-0800

One (1) manually operated swing type valve with control located adjacent the valve, shall be supplied on the specified discharge. The control handle shall be equipped with quarter-turn locking feature. The valve shall be equipped color-coded name plate.

One (1)
23-09-4100

LEFT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the left side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color coded nameplate label shall be provided adjacent the control handle.

One (1)
21-01-2502

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)
24-02-1200

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1)
24-03-1400

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)
24-61-1250

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)
24-53-0800

One (1) manually operated swing type valve with control located adjacent the valve, shall be supplied on the specified discharge. The control handle shall be equipped with quarter-turn locking feature. The valve shall be equipped color-coded name plate.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
23-10-4100

RIGHT SIDE PUMP PANEL -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the right side pump panel area and shall be controlled by a quarter turn ball valve. The discharge shall have 2-1/2" NST male hose threads. A color coded nameplate label shall be provided adjacent the control handle.

One (1)
21-01-2502

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)
24-02-1200

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1)
24-03-1400

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)
24-61-1250

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)
24-53-0800

One (1) manually operated swing type valve with control located adjacent the valve, shall be supplied on the specified discharge. The control handle shall be equipped with quarter-turn locking feature. The valve shall be equipped color-coded name plate.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
23-13-3100

REAR LEFT SIDE -- 2-1/2" DISCHARGE

One (1) 2-1/2" discharge shall be installed on the left side rear panel of the apparatus body and shall be controlled by a quarter turn ball valve on the pump panel. The discharge shall have 2-1/2" NPT x 2-1/2" NST male hose threads. The outlet shall be equipped with an engraved nameplate label shall be installed adjacent the valve control handle.

One (1)
21-01-2502

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift to open and push down to close.

One (1)
24-02-1200

One (1) chrome plated elbow with rocker lugs shall be provided with 2-1/2" NST swivel female x 2-1/2" NST male hose threads.

One (1)
24-03-1400

One (1) 2-1/2" NST rocker lug chrome plated vented cap and cable or chain securement shall be provided.

One (1)
24-61-1250

The specified valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)
24-53-0020

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
24-11-3200

3" MONITOR DISCHARGE

One (1) 3" discharge shall be piped to the area over the pump enclosure with 3" NPT male threads

provided. The pipe shall be equipped with Victaulic couplings (if necessary) and shall be properly secured to prevent movement when a monitor or deck gun is attached. The quarter turn ball valve shall be controlled on pump panel.

A color coded nameplate label shall be provided adjacent the valve control handle.

SHOP NOTE

Per Buzz, may have to be external

One (1)
21-01-2500

An Innovative Controls ¾" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.

One (1)
24-61-1300

The specified valve shall be an Akron 8000 Series three-inch (3") valve with a stainless ball.

One (1)
24-53-0300

One (1) Akron valve equipped with a manually operated pull rod, with quarter-turn locking feature and a manual slow-close device shall be provided on the specified discharge. The handle shall be equipped with color-coded name plate.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
24-13-4000

MONITOR

One (1) Akron #3430 GP Manual monitor and direct truck mount adapter shall be installed. The monitor shall be capable of 360-degree rotation and be capable of flowing 1000 GPM when installed on the direct truck mount.

The GP Manual monitor shall be equipped with a built in pressure gauge. The "T" handle manual control provides precise and easy positioning and control.

One (1)
24-18-4100

MASTER STREAM STACKED TIPS

One (1) Akron 3488 stream shaper with model #2499 quad stacked handline tips shall be provided. The set shall consist of four (4) tips with the base tip having a 2-1/2" female NH

swivel inlet and 2" outlet. The other tip sizes shall be 1-3/4", 1-1/2" and 1-3/8". Each tip shall be laser engraved with a flow/pressure chart, orifice size, and thread size.

One (1)
24-30-3100

ELECTRIC REWIND HOSE REEL

One (1) Hannay painted steel hose reel with leak proof ball bearing swing joint, adjustable friction brake, electric rewind shall be installed. The reel shall be plumbed with wire reinforced, high-pressure hose coupled. The reel shall be bolted to a mounting system for easy service or removal.

The hose reel is to be mounted in the area above the pump.

One (1)
24-31-2100

A push button hose reel rewind switch shall be installed to control the electric rewind hose reel. The exact location shall be determined at construction.

One (1)
24-32-1200

One (1) 1" discharge shall be provided and piped from the fire pump to the hose reel with flexible high pressure hose. The quarter turn ball valve shall be controlled on pump panel. A color-coded nameplate label shall be provided near the valve control handle.

One (1)
21-01-2500

An Innovative Controls 3/4" cast bronze quarter-turn drain/bleeder valve shall be installed. The valve shall be complete with a chrome plated bronze ball, reinforced teflon seals, and blow-out proof stem rated to 600 PSI. A chrome plated zinc handle shall be provided on each drain valve complete with a recessed ID label provision. The handle shall lift, to open and push down, to close.

One (1)
24-32-1700

The specified hose reel shall be piped to the normal pressure side of the fire pump.

One (1)
24-61-1100

One (1) Akron 8000 Series one-inch (1") valve with a stainless ball shall be supplied.

One (1)
24-53-0020

For valve actuation, the specified discharge shall be equipped with a side mount valve control. The ergonomically designed 1/4 turn push-pull T-handle shall be chrome plated zinc with recessed labels for color coding and signage. The gear-control rod, double laminated locking clips, and rod housing shall be stainless steel and provide true positive lock that will eliminate valve drift. Bronze and Teflon impregnated stainless steel bushings in both ends of rod housing shall eliminate rod deflection, never need lubrication and ensure consistent long-term operation.

The control assembly shall include a decorative chrome-plated zinc panel mounted bezel with recessed color-coded label.

One (1)
27-02-1500

One (1) 2-1/2" IC discharge pressure gauges (0-400 PSI) shall be provided. The face of the gauge shall be a WHITE dial with black letters. The gauges will be located on the pump instrument panel.

One (1)
24-33-1400

Two (2) 100' foot lengths of 3/4" water hose (200') with pin lug couplings and 800 PSI working pressure shall be provided and mounted on the specified hose reel.

One (1)
24-33-9200

One (1) stainless steel roller assembly shall be provided on the right side hose reel.

One (1)
80-43-1600

HOSE REEL PAINTING

The hose reel(s) shall be painted silver grey.

One (1)
25-06-1100

FOAM PRO FOAM SYSTEM

One (1) FoamPro part number S107-1600/2.0 electronic foam system shall be provided. The system shall be designed for use with Class A foam concentrate. The foam proportioning operation shall be designed for direct measurement of water flows and shall remain consistent within the specified flows and pressures. The system shall be capable of accurately delivering foam solution as required by applicable sections of the NFPA standards.

The system shall be equipped with a control module suitable for installation on the pump panel. There shall be a microprocessor incorporated within the motor driver that shall receive input from the system's flowmeter, while also monitoring the foam concentrate pump output. The microprocessor shall compare the values to ensure that the desired amount of foam concentrate is injected onto the discharge side of the fire pump. A "foam capable" paddlewheel-type flowmeter shall be installed in the discharge side of the piping system.

The control module shall enable the pump operator to:

- Activate the foam proportioning system
- Select the proportioning rates from 0.1% to 1.0%
- See a "low concentrate" warning light flash when the foam tank level becomes low and in two (2) minutes, if the foam concentrate has not been added to the tank, the foam concentrate pump shall be capable of shutting down.

A 12-volt electric motor driven positive displacement plunger pump shall be provided. The pump capacity range shall be 0.1 to 1.7 GPM (6.4L/min) at 200 PSI (1400 kPa) with a maximum operating pressure up to 400 PSI (2750 kPa). The system shall draw a maximum of 30 amps at 12 volts. The motor shall be controlled by the microprocessor which shall be mounted to the base of the pump. It shall receive signals from the control module and power the 1/3 horsepower (.25 Kw) electric motor in a variable speed duty cycle to ensure that the correct proportion of concentrate is injected into the water stream.

A full flow check valve shall be provided in the discharge piping to prevent foam contamination of the fire pump and water tank. A 5 PSI (35 kPa) opening pressure check valve shall be provided in concentrate line.

Components of the complete proportioning system as described above shall include:

- Operator control module
- Paddlewheel flowmeter
- Pump and electric motor/motor driver
- Wiring harnesses
- Low level tank switch
- Foam tank
- Foam injection check valve
- Main waterway check valve
- Flowmeter and tee with 2" male NPT threads.

The foam system shall be installed and calibrated to manufacturer's requirements. In addition the system shall be tested and certified by the apparatus manufacturer to meet applicable NFPA standards.

The foam system design shall be tested and pass environmental testing in accordance to SAE standards. The system shall be third party tested to certify compliance with RFI/EMI emissions per MIL-STD-416E.

An installation and operation manual shall be provided for the unit. The system shall have a one (1) year limited warranty by the foam system manufacturer.

CONTROL CONNECTION CABLE -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a twelve (12) foot control cable from the controller to the foam pump assembly.

PUMP PANEL CONTROL -- FOAM SYSTEM

The FoamPro 1600 Series foam system shall be provided with a standard pump panel mounted FoamPro control head.

FLOWMETER AND TEE -- FOAM SYSTEM

A FoamPro brass flowmeter shall be provided. The flowmeter shall be installed in the "foam capable" discharge line. The flowmeter shall have maximum accuracy between the flow range of 10 GPM and 320 GPM and be capable of operation between 3 GPM to 380 GPM. The tee shall have 1-1/2" NPT and 2" Victaulic inlet and outlets connections.

LOW-LEVEL TANK SENSOR FOAM TANK

A FoamPro low-level foam tank sensor shall be provided. The sensor shall be capable of mounting side of foam tank that shall interface with the microprocessor. The unit shall have a 1/8" NPT thread size.

MAIN WATERWAY CHECK VALVE -- FOAM SYSTEM

A FoamPro full-flow check valve shall be provided. The valve shall prevent foam contamination of the fire pump and water tank or water contamination of the foam tank. The unit shall have a nickel-electro plated body with stainless steel components. The valve shall have 2" NPT threads with an injection and drain port size of 1/2" NPT.

FOAM SYSTEM -- INJECTOR FITTING

A Foam Pro injector fitting shall be provided with the foam system.

INSTRUCTION AND RATING LABEL -- FOAM SYSTEM

A FoamPro part number 6032-0018 instruction and system rating label shall be provided. The label shall display information for a FoamPro 1600 Series foam system and shall meet applicable sections of the NFPA standards.

SCHEMATIC LABEL -- FOAM SYSTEM

A FoamPro part number 6032-0015 foam system schematic label shall be provided shall be installed on the pump panel near foam controls. The label shall be a diagram of a single tank foam system layout and shall meet applicable sections of the NFPA standards.

One (1)
25-20-1200

1" FOAM TANK CONTROL -- CLASS A

One (1) Class A foam tank shall be plumbed with 1" valve and corrosion resistant hose from the foam tank to the foam inlet of the foam system. The manually opened valve shall be provided behind the pump panel with a label.

One (1)
25-21-1300

INTEGRAL CLASS A FOAM TANK -- 20 GALLON

One (1) twenty (20) gallon Class A foam tank shall be installed within the water tank. The non-corrosive foam tank shall meet applicable sections of NFPA standards. The foam concentrate tank

shall be provided with sufficient wash partitions so that the maximum dimension perpendicular to the plane of any partition shall not exceed 36 inches. The swash partition(s) shall extend from wall to wall and cover at least 75 percent of the area of the plane of the partition.

The foam concentrate tank shall be provided with a fill tower or expansion compartment having a minimum area of 12 square inches and having a volume of not less than 2 percent of the total tank volume. The fill tower opening shall be protected by a completely sealed air-tight cover. The cover shall be attached to the fill tower by mechanical means. The fill opening shall be designed to incorporate a 1/4 inch removable screen and shall be located so that foam concentrate from a five (5) gallon container can be dumped directly to the bottom of the tank to minimize aeration without the use of funnels or other special devices.

The foam tank fill tower shall be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum when filling or withdrawing foam concentrate from the tank. The pressure/vacuum vent shall not allow atmospheric air to enter the foam tank except during operation or to compensate for thermal fluctuations. The vent shall be protected to prevent foam concentrate from escaping or directly contacting the vent at any time. The vent shall be of sufficient size to prevent tank damage during filling or foam withdrawal.

A color coded label or visible permanent marking that reads "FOAM TANK FILL" shall be placed at or near any foam concentrate tank fills opening. A label shall be placed at or near any foam concentrate tank fill opening that specifies the type of foam concentrate the system is designed to use. Any restrictions on the types of foam concentrate that can be used with the system shall also be stated, and a warning message that reads "WARNING: DO NOT MIX BRANDS AND TYPES OF FOAM."

The foam concentrate tank outlet connection shall be designed and located to prevent aeration of the foam concentrate and shall allow withdrawal of 80 percent of the foam concentrate tank storage capacity under all operating conditions with the vehicle level.

One (1)
25-22-9300

The foam tank(s) shall be fabricated by United Plastic Fabricating.

One (1)
25-23-1000

FOAM TANK DRAIN -- UNDER TANK

The foam tank shall have one (1) 1" gate valve drain provision installed.

One (1)
25-19-9000

FOAM SYSTEM DESIGN AND PERFORMANCE REQUIREMENTS

The proportioning system shall be capable of proportioning foam concentrate in accordance with the foam concentrate manufacturer's recommendations for the type of foam concentrate used in the system over the system's design range of flow and pressures. The foam proportioning system water flow characteristics and the range of proportioning ratio shall be specified as noted herein. The latest foam system shall be in compliance with applicable NFPA standards as it relates to this specified system

Plumbing and Strainer

The foam concentrate supply line shall be non-collapsible. A means shall be provided to prevent water back flow into the foam proportioning system and the foam concentrate storage tank.

A strainer or filter shall be provided on the foam concentrate supply side of the foam proportioner to prevent any debris that might affect the operation of the foam proportioning system from entering the system. The strainer assembly shall consist of a removable straining element, housing, and retainer. The strainer assembly shall allow full flow capacity of the foam supply line.

Foam System Controls

The foam proportioning system operating controls shall be located at or near the pump operator's position and shall be clearly identified. Foam proportioning system shall be provided with accessible controls to completely flush the system with water according to the manufacturer's instructions.

Labels and Instructions

An instruction plate shall be provided for the foam proportioning system that include, at a minimum, piping schematic of the system and basic operating instructions. Labels that are marked clearly with the identification and function shall be provided for each control, gauge, and indicator related to the foam proportioning system.

A label shall be provided on the pump operator's panel that identifies the type of foam concentrate that the foam proportioning system is designed to use. It shall also state the minimum/maximum foam proportioning rate at the minimum/maximum foam proportioning rated system flow and pressure.

Two (2) copies of an operations and maintenance manual shall be provided. They shall include a complete diagram of the system together with operating instructions and details outlining all recommended maintenance procedures.

Foam System Testing

The accuracy of the foam proportioning system shall be certified by the foam equipment manufacturer and also tested by the installer prior to delivery of the apparatus in compliance to NFPA standards.

26-02-2100

SIDE MOUNT PUMP ENCLOSURE

The side mount pump enclosure shall be removable and supported from the chassis frame rails. This enclosure will allow independent flexing of the pump enclosure from the body and allow for quick removal. The support structure shall be constructed of extruded aluminum tubing and angle.

All pump suction and discharge controls are to be mounted on the driver side pump operator's panel so as to permit operation of the pump from a central location. The fire pump, valves and controls shall be accessible for service and maintenance as required by applicable sections of NFPA standards.

The "master" gauges shall be suitably enclosed and mounted on a full pump compartment width "hinged" gauge panel constructed of the same material as the pump operators control panel, allowing access to the backside of all gauges and gauge lines. The individual gauges shall be mounted inline with the control handle or adjacent to the control handle. Panel is to include a stainless steel piano hinge, flush mounted chrome plated trigger latch, and stainless steel cable end stops. Electrical wiring and all gauge lines shall be properly tie wrapped to prevent kinking or cutting of the lines when the panel is opened.

The following controls and equipment as specified in the specifications, shall be provided on the pump panel or within the pump enclosure:

- Primer.
- Pump and plumbing area service lights.
- Pressure control device and throttle control.
- Fire pump and engine instruments.
- Pump intakes and discharge controls.
- Master intake and discharge gauges.
- Tank fill control.
- Tank suction control.
- Water tank level gauge.
- Pump panel lights.

Crosslay Installation

The area atop the pump enclosure shall be notched for the installation of a crosslay hose bed. The hosebed shall have smooth sides and a perforated floor to allow for drainage. Provisions shall be provided to secure hose and equipment per requirements of applicable NFPA standards.

One (1)
26-30-1100

LEFT SIDE RUNNING BOARD -- SIDE MOUNT PANEL

The left side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)
26-30-1150

RIGHT SIDE RUNNING BOARD -- SIDE MOUNT PANEL

The right side mount pump panel shall be equipped with side running board. The running board will extend along the width of the pump enclosure from the forward end of the body module to behind the chassis cab.

The running board shall be constructed of aluminum tread plate, bolted in place with stainless steel fasteners. The step surfaces shall be in compliance with applicable sections of NFPA requirements.

One (1)
26-35-3200

PUMP PANELS -- SIDE MOUNT

The pump operator's panel, along with the lower left hand and right hand pump panels shall be constructed of 14 gauge #304 brushed stainless steel and be fastened to the pump enclosure with 1/4" stainless steel bolts.

The instrument area shall have a stainless steel continuous hinge that shall swing for easy access to gauges.

One (1)
26-35-1100

LEFT SIDE PUMP PANEL -- BOLTED

The pump panel installed on the left hand side of the pump enclosure shall be fastened to the pump enclosure with 1/4" stainless steel bolts.

One (1)
26-35-1400

HINGED PUMP PANEL -- RIGHT SIDE

The pump panel installed on the on the right hand side of the pump enclosure shall be hinged with push-button latches.

One (1)
26-55-1100

LABELS

Safety, information, data, and instruction labels for apparatus shall be provided and installed at the operator's instrument panel.

The labels shall include rated capacities, pressure ratings, and engine speeds as determined by the certification tests. The no-load governed speed of the engine, as stated by the engine manufacturer, shall also be included.

The labels shall be provided with all information and be attached to the apparatus prior to delivery.

One (1)
26-55-2400

COLOR CODED PUMP PANEL LABELING AND NAMEPLATES

Discharge and intake valve controls shall be color coded in compliance to guidelines of applicable sections of NFPA standards.

Innovative Controls permanent type nameplates and instruction panels shall be installed on the pump panel for safe operation of the pumping equipment and controls.

One (1)
26-56-1125

MIDSHIP PUMP PANEL LIGHTS -- LEFT SIDE

Three (3) Techiq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the left side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1)
26-56-1225

MIDSHIP PUMP PANEL LIGHTS -- RIGHT SIDE

Two (2) Tecniq E10-W0001-1 or equal LED lights with clear lenses shall be installed under an instrument panel light hood on the right side pump panel. The lights shall be controlled by a switch located on the operator's instrument panel.

One (1)
26-56-2100

PUMP ENGAGED LIGHT

One (1) green pump panel indicator light shall be illuminated in the switch panel at the time the fire pump is engaged into operation.

SHOP NOTE

M2 Green Light Above Pump Panel Hood

One (1)
27-01-2620

MASTER DISCHARGE AND INTAKE GAUGE BEZEL

Two (2) 4" diameter IC discharge pressure and intake gauges (30"-0-400 PSI) shall be provided. The gauges and test ports shall be mounted in an IC bezel assembly, P/N 3001496. The gauges will be located on the pump instrument panel.

The master gauges shall have clear scratch resistant molded crystals with captive O-ring seals shall be used to ensure distortion free viewing and to seal the gauge. The gauges shall be filled with a synthetic mixture to dampen shock and vibration, lubricate the internal mechanisms, prevent lens condensation and ensure proper operation from –40°F to +160°F. Each gauge shall exceed ANSI B40.1 Grade A requirements with an accuracy of +/- 1.5% full scale and include a size appropriate phosphorous bronze bourdon tube with a reinforced lap joint and large tube base to increase the tube life and gauge accuracy. A polished chrome-plated brass bezel shall be provided to prevent corrosion and protect the lens and gauge case.

One (1)
27-35-4024

WATER/FOAM TANK LEVEL GAUGE - PUMP PANEL

The apparatus shall be equipped with an Innovative Controls SL Series Tank Level Monitor System shall be installed. The display model # shall be 3030359-04. The system shall include an electronic dual water/foam display module, two (2) pressure transducer-based sender units, and two (2) 15' connection cables. The display module shall show the volume of water/foam in the tanks using 10 super bright easy-to-see LEDs arrangement. The 10-LED arrangement shall form a straight vertical pattern to easily distinguish the tank level at a glance. Tank level indication is enhanced by the use of green LEDs at the full and near-full levels, amber LEDs between $\frac{3}{4}$ and $\frac{1}{4}$ tank levels, and red LEDs at the near-empty and empty levels. The electronic dual water/foam display module shall be waterproof and shock resistant being encapsulated in a urethane-based potting compound. The potted dual water/foam display module shall be mounted to a chrome plated panel-mount bezel with a durable easy-to-read polycarbonate insert featuring blue graphics and a water icon for water and red graphics and a foam icon for foam.

All programming functions shall be accessed and performed from the front of the display module. The programming includes self-diagnostics, manual or self-calibration, and networking capabilities to connect remote slave displays. Low tank level warnings shall include flashing red LEDs starting below the $\frac{1}{4}$ level and an output for an audible alarm.

The display module shall receive an input signal from a pressure transducer. This stainless steel sender unit shall be installed on the outside of the water tank near the bottom. All wiring, cables and connectors shall be waterproof without the need for sealing grease.

Location of the water/foam tank level display shall be at the pump panel.

One (1)
27-35-6124

WATER TANK LEVEL LIGHTS

Three (3) Whelen PS-TANK2 vertically mounted LED lights shall be installed one each side of the apparatus and one (1) on the rear to allow for monitoring the water tank level from a distance.

They shall be configured as follows:

- GREEN - Position 1 indicates FULL
- BLUE - Position 2 indicates 3/4
- AMBER - Position 3 indicates 1/2
- RED - Position 4 indicates 1/4

Each light shall remain illuminated until the water level drops below full 3/4, 1/2, or 1/4 levels. When the level drops below 1/4 the RED light will flash to indicate an empty tank. The Whelen PS-TANK water tank level lights shall be controlled with an Innovative Controls remote driver.

SHOP NOTE

Lights to illuminate when the pump is engaged and/or when the park brake is engaged.

One (1)
27-35-4200

WATER LEVEL DISPLAY

The apparatus shall be equipped with one (1) Innovative Controls 5-LED Mini Slave Water Level display. The display shall be installed in the chassis cab. Five colored LEDs shall be provided on the indicator module in a vertical line to easily distinguish the water tank level at a glance.

One (1)
25-26-1300

WATER TANK - 500 GALLON

The apparatus shall be equipped with a five-hundred (500) gallon polypropylene water tank. The tank shall be equipped with a four-inch (4") overflow pipe.

One (1)
25-25-0060

WATER TANK

The apparatus shall be equipped with a "T" shaped tank.

One (1)
25-44-1200

WATER TANK FILL TOWER

A fill tower measuring approximately 10" x 10" square shall be provided on the water tank up to and including 500 gallons total capacity.

One (1)
25-42-1100

The apparatus shall be equipped with a polypropylene water tank. The tank body and end bulkheads shall be constructed of .75" thick, polypropylene, nitrogen-welded and tested inside and out. Tank construction shall conform to applicable NFPA standards. The tank shall carry a lifetime warranty.

The transverse and longitudinal .375" thick swash partitions shall be interlocked and welded to each other as well as to the walls of the tank. The partitions shall be designed and equipped with vent holes to permit air and liquid movement between compartments.

The .5" thick cover shall be recessed .375" from the top of the side walls. Hold down dowels shall extend through and be welded to both the covers and the transverse partitions, providing rigidity during fast fill operations. Drilled and tapped holes for lifting eyes shall be provided in the top area of the booster tank.

A combination vent/water fill tower shall be provided at front of the tank. The 0.5" thick polypropylene fill and overflow tower shall be equipped with a hinged lid and a removable polypropylene screen. The overflow tube shall be installed in fill tower and piped with a minimum schedule 40 PVC pipe through the tank.

The water tank sump shall be located in the forward area of the tank. There will be a schedule 40 polypropylene tank suction pipe from the front of the tank to the tank sump. The tank drain and clean out shall be located in the bottom of the tank sump. The sump shall have a minimum 3" threaded outlet on the bottom to be used for a combination clean out and drain.

The pump to tank refill connection shall be sized to mate with tank fill discharge line. A deflector shield inside the tank will also be provided.

The tank shall rest on the body cross members in conjunction with such additional cross members, spaced at a distance that would not allow for more than 530 square inches of unsupported area under the tank floor. In cases where overall height of the tank exceeds 40 inches, cross member spacing must be decreased to allow for not more than 400 square inches of unsupported area.

The tank must be isolated from the cross members through the use of hard rubber strips with a minimum thickness and width dimension of 1/4" x 1" and a hardness of approximately 60 durometer. The rubber must be installed so it will not become dislodged during normal operation of the vehicle. Additionally, the tank must be supported around the entire bottom outside perimeter and captured both in the front and rear as well as side to side to prevent tank from shifting during vehicle operation.

A picture frame type cradle mount with a minimum of 2" x 2" x 1/4" mild steel, stainless steel, or aluminum angle shall be provided or the use of corner angles having a minimum dimension of 4" x 4" x 1/4" by 6" high are permitted for the purpose of capturing the tank.

Although the tank is designed on a free floating suspension principle, it is required that the tank have adequate vertical hold down restraints to minimize movement during vehicle operation. If proper retention has not been incorporated into the apparatus hose floor structure, an optional mounting restraint system shall be located on top of the tank, half way between the front and the

rear on each side of the tank. These stops can be constructed of steel, stainless steel or aluminum angle having minimum dimensions of 3" x 3" x 1/4" and shall be approximately 6" to 12" long. These brackets must incorporate rubber isolating pads with a minimum thickness of 1/4" inch and a hardness of 60 durometer affixed on the underside of the angle. The angle should then be bolted to the body side walls of the vehicle while extending down to rest on the top outside edge of the upper side wall of the tank.

Hose beds floors must be so designed that the floor slat supports extend full width from side wall to side wall and are not permitted to drop off the edge of the tank or in any way come in contact with the individual covers where a puncture could occur. Tank top must be capable of supporting loads up to 200 lbs per sq. foot when evenly distributed. Other equipment such as generators, portable pumps, etc. must not be mounted directly to the tank top unless provisions have been designed into the tank for that purpose. The tank shall be completely removable without disturbing or dismantling the apparatus structure.

One (1)
25-42-1200

The tank construction shall include PolyProSeal™ technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method shall provide a liquid barrier, offering leak protection in the event of a weld compromise.

The tank shall be equipped with Polychromatic fill towers. The water fill tower shall be blue in color. The foam tank fill towers, if applicable, shall be yellow for foam A and green for foam B and black for any additional foam fill towers.

The water tank shall be certified for the capacity of the water tank prior to delivery of the apparatus. This capacity shall be recorded on the manufacturer's record of construction and the certification shall be provided to the purchaser when the apparatus is delivered.

The tank shall be manufactured by United Plastic Fabricating (UPF).

One (1)
25-50-2500

DIRECT TANK FILL

One (1) 2-1/2" diameter direct tank fill inlet shall be provided, including a 2-1/2" female NH swivel, plug and screen.

The valve shall be located and controlled on the right side rear of body.

One (1)
24-62-1250

The valve shall be an Akron 8000 Series two and one half-inch (2-1/2") valve with a stainless ball.

One (1)
22-55-4050

The valve shall be equipped with one (1) manually operated, swing-type manual control located adjacent the intake. The valve shall be equipped with a color-coded name plate.

One (1)
25-50-2670

The direct tank fill inlet shall include a 2-1/2" female NH swivel, plug and screen.

One (1)
29-10-1000

HOSEBED SINGLE AXLE

The hose bed compartment deck shall be constructed entirely from maintenance-free, extruded aluminum slats. The slats shall have an anodized, radiused ribbed top surface. The slats shall be of widths approximately 3/4" high x 6" wide and shall be welded into a one-piece grid system to prevent the accumulation of water and allow ventilation to assist in drying hose.

The apparatus hose body shall be properly reinforced without the use of angles or structural shapes and free from all projections that might injure the fire hose.

The main apparatus hose body shall run the full length of the apparatus body from behind the pump panel area to the rear face of the body.

The upper rear interior of the hose body on the right and left sides shall be overlaid with brushed stainless steel to protect the painted surface from damage by hose couplings.

One (1)
29-10-5100

HOSE BED STORAGE CAPACITY

The hose bed shall be designed to have a storage capacity for a minimum of 55 cubic feet of fire department supplied fire hose.

Five (5)
29-10-8100

ALUMINUM HOSEBED DIVIDER

Five (5) adjustable hosebed divider constructed of .250" aluminum shall be installed on the apparatus.

One (1)
29-20-3500

ALUMINUM HOSEBED COVER

The hosebed shall be equipped with a reinforced hinged .125" aluminum diamond plate cover. The covers shall be of the sloped design for proper water runoff. Positive hold-open devices shall be provided to hold the door in the open position.

The cover, approximately 49" to 74" wide with a center opening, shall be installed the full length of the hose bed.

The hosebed cover shall be labeled, "Not a Standing or Walking Surface", per NFPA.

SHOP NOTE

Hosebed Cover each side shall meet in the middle to the ladder compartment

One (1)
29-20-6650

MANUALLY OPERATED ALUMINUM HOSEBED COVER

The polished aluminum treadplate hosebed covers extending the full-length and width of the main hosebed shall have lift up handles installed on each hose cover to manually open the hosebed covers.

One (1)
29-20-7800

REAR VINYL FLAPS FOR ALUMINUM COVER

There shall be a vinyl flaps attached to each aluminum hosebed cover. The vinyl flaps shall cover the area on the rear of the hosebed from top to bottom. The flaps shall be independent of each other but attachable with velcro in the center. The bottom edge of the flap shall be secured utilizing a hook and loop fastening system.

One (1)
29-20-5602

The vinyl cover shall be black in color.

One (1)
29-20-7200

HOSEBED LIGHTS

Four (4) LED lights shall be recessed into the side panel of the hosebed to provide illumination for repacking of fire hose. The 12 volt LED lights shall be controlled by a switch located inside the chassis cab center console.

One (1)
30-01-1700

GALVANNEAL STEEL BODY

The apparatus body compartments shall be fabricated of twelve gauge A-60 Galvanneal steel.

The side compartments shall be an integral assembly with the rear fenders.

Circular fender liners shall be provided for prevention of rust pockets and ease of maintenance.

Compartment floors shall be of the sweep out design with the floor higher than the compartment door lip.

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

The top of the compartment shall be covered with bright aluminum treadplate formed over the

edges on the front, rear and outward side. The corners of the aluminum covers shall be "TIG" welded.

All screws and bolts that protrude into a compartment shall have acorn nuts installed to prevent injury and snagging.

FASTENERS

All aluminum and stainless steel components shall be attached using stainless steel fasteners.

Compartment door hinges, handrails and running boards shall be attached using minimum 1/4" diameter machine bolt fasteners.

3/16" diameter fasteners shall only be used in nonstructural areas such as; door handles, trim moldings, gauge mounting, etc.

One (1)
30-01-2250

ELECTROLYSIS CORROSION CONTROL

The apparatus shall be assembled using ECK or electrolysis corrosion control, on all high corrosion potential areas, such as door latches, door hinges, trim plates, fenderettes, etc. This coating is a high zinc compound that shall act as a sacrificial barrier to prevent electrolysis and corrosion between dissimilar metals. This shall be in addition to any other barrier material that may be used.

All 1/4" diameter and smaller screws and bolts shall be stainless steel.

Due to the expected life of the vehicle, proposals will only be acceptable from manufacturers that include these corrosion features.

One (1)
30-10-1200

STEEL SUB-FRAME

The apparatus body subframe shall be constructed entirely of heavy steel structural channel material.

Two full frame lengths, three-inch (3") 3.4 pound per foot longitudinal steel channels shall form the sides of the body subframe and sides of the water tank cradle. Subframe crossmembers shall be fabricated with three inch (3") 3.4 pound per foot heavy steel channel cross members welded to the longitudinal body subframe sides and the full length frame pads.

Two full frame length 1/2" x 3" flat steel frame pads shall be attached to the body subframe and rest on top of the chassis frame rails for proper frame weight distribution.

The steel frame pads, longitudinal steel channels and subframe crossmembers shall be attached to the chassis frame rails using heavy "U" bolt fasteners to allow removal of the subframe and

body assembly from the chassis. There shall be a barrier provided between the subframe and body to prevent electrolysis.

A minimum of two rear platform support channels shall be provided and constructed of 3.4 lb. per foot heavy steel material. Each support channel shall have welded in gusset where the support meets the rear subframe rails.

One (1)
31-02-1100

BODY CONFIGURATION

The formed galvaneal apparatus body shall be up to 144" long, reference the drawing for actual body length.

One (1)
44-06-2300

SINGLE AXLE WHEEL AREA

For ease of accessibility and maintenance, wheel well panels shall be double break formed painted smooth plate that is welded in place.

To fully protect the wheel well area from road debris and to aid in cleaning, a full depth (minimum of 25") radius wheel well liner shall be provided. Wheel well liner shall be smooth galvaneal steel to prevent corrosion.

One (1)
44-06-4100

FENDERETTES

The rear wheel wells shall be radius cut for a streamlined appearance. A black rubber fenderette shall be furnished at each rear wheel well opening, held in place with concealed stainless steel fasteners.

One (1)
31-01-2130

BODY WIDTH

The overall width of the pumper body shall not exceed 96".

COMPARTMENT DEPTH

The side compartments on the pumper body shall have the following dimensions:

Lower portion depth of 23"
Upper portion depth of 13"

One (1)
29-00-1200

HOSEBED WIDTH

The width of the pumper body hosebed shall be 68".

One (1)
32-03-0066

COMPARTMENT HEIGHT

The left side body compartments shall be 66" high.

One (1)
32-03-1066

COMPARTMENT HEIGHT

The right side body compartments shall be 66" high.

One (1)
30-02-1100

HINGED COMPARTMENT FLUSH DOOR CONSTRUCTION

All hinged compartment doors shall be of the flush style so that the entire door fits flush against the apparatus body sides. Doors shall be designed, in the closed position, to have the painted edges protected from damage on the tops by forming the tread plate compartment tops into an extended drip edge and on the bottom by the rub rail.

Doors shall be a minimum 2" thick, fabricated of a minimum of 1/8" smooth aluminum. Full panel inner compartment door liners shall be provided and constructed from smooth aluminum. The compartment doors shall have a foam panel glued in place between the exterior and interior door skin. Exterior door panels shall be smooth with no welds visible on the exterior skin. Double door compartments shall be equipped with a secondary latch to hold the secondary door in position.

All compartment door hinges shall be full-length piano type constructed of a minimum 16-gauge type 304, stainless steel with 1/4" stainless steel hinge pin with dual directional bolt holes for ease of adjustment.

When horizontally hinged lift-up doors are specified, they shall be equipped with heavy-duty gas filled dampeners to hold the doors in the open position. All other hinged doors shall be equipped with spring loaded hold open devices specifically designed for use on vertically hinged doors. Door holders shall be bolted in position. The door ajar switches shall be fully enclosed within structural members and shall not extend into the clear door opening.

All compartment doors shall be provided with hollow core weather stripping to provide a weather tight seal at the door opening and to prevent road spray and debris from entering the compartment.

A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

SHOP NOTE

Please use 1/4" Heavy Duty Hinges

Five (5)
30-02-1105

EXTERIOR DOOR HANDLES

All compartment doors shall be furnished with a large solid STAINLESS STEEL spring loaded Maltese Cross D-handle with slam type latches. D-handles shall have the large style "bent" D-ring for ease of grabbing the handle even when wearing mitts or gloves. Chrome plated standard steel D-handles are not acceptable.

Door handles shall be held in place with four stainless steel stud fasteners secured on the interior of the door skin to eliminate bolt heads on the exterior latch ring. To prevent possible interaction between dissimilar metals, the studs shall not break any painted surface. A non-moisture absorbing gasket shall be installed between the door latch and the door skin panel.

Handles which are held in place with visible fasteners, two sided tape or glue do not meet the intent of this requirement.

One (1)
32-05-1310

LEFT OVERWHEEL COMPARTMENT

There shall be one (1) compartment above the lower front compartment. The compartment shall be equipped with a single hinged lift up door.

The compartment shall be equipped with the following:

One (1)
44-40-1100

One (1) louver with filter shall be installed in the compartment.

One (1)
45-01-1050

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

Two (2)
45-02-1200

ADJUSTABLE SHELF

Two (2) adjustable shelf shall be constructed of .125" smooth aluminum plate with 1.5" formed vertical lip front & back. Shelf supports on each side to be constructed of .188" aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8" bolts and spring-loaded cam locks. If shelf is longer than 40" a reinforcement by aluminum gusset is to be placed full-length on bottom of shelf.

Two (2)
45-30-1300

The shelf/tray shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 1/2" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
45-30-1400

The floor area of the compartment shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 9/16" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
55-01-1150

COMPARTMENT LIGHT

One (1) ROM vertically mounted roll-up compartment LED V3 door light shall be installed on one side of the door opening. The compartment light shall be integrated into the roll-up door track with the light actuation with the door opening.

The light shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1)
55-06-1400

The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1)
32-05-1705

LEFT REAR COMPARTMENT

There shall be one (1) full height compartment located behind the rear wheels. The compartment shall be equipped with a single full height hinged door.

The compartment shall be equipped with the following:

One (1)
44-40-1100

One (1) louver with filter shall be installed in the compartment.

Two (2)
45-01-1050

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

Two (2)
45-02-1200

ADJUSTABLE SHELF

Two (2) adjustable shelf shall be constructed of .125” smooth aluminum plate with 1.5” formed vertical lip front & back. Shelf supports on each side to be constructed of .188” aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8” bolts and spring-loaded cam locks. If shelf is longer than 40” a reinforcement by aluminum gusset is to be placed full-length on bottom of shelf.

Two (2)
45-30-1300

The shelf/tray shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 1/2" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
45-30-1400

The floor area of the compartment shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 9/16" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
55-01-1150

COMPARTMENT LIGHT

One (1) ROM vertically mounted roll-up compartment LED V3 door light shall be installed on one side of the door opening. The compartment light shall be integrated into the roll-up door track with the light actuation with the door opening.

The light shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1)
55-06-1400

The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1)
32-06-1410

RIGHT OVERWHEEL COMPARTMENT

There shall be one (1) compartment above the lower front compartment. The compartment shall be equipped with a single hinged lift up door.

The compartment shall be equipped with the following:

One (1)
44-40-1100

One (1) louver with filter shall be installed in the compartment.

One (1)

45-30-1400

The floor area of the compartment shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 9/16" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
55-01-1150

COMPARTMENT LIGHT

One (1) ROM vertically mounted roll-up compartment LED V3 door light shall be installed on one side of the door opening. The compartment light shall be integrated into the roll-up door track with the light actuation with the door opening.

The light shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1)
55-06-1400

The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1)
32-06-1705

RIGHT REAR COMPARTMENT

There shall be one (1) full height compartment located behind the rear wheels. The compartment shall be equipped with a single full height hinged door.

The compartment shall be equipped with the following:

One (1)
44-40-1100

One (1) louver with filter shall be installed in the compartment.

One (1)
45-01-1050

ADJUSTABLE SHELVING TRACKS

The compartments shall be equipped with two (2) aluminum adjustable tracks, vertically mounted, that are bolted in place for adjustable shelving and equipment mounting.

Two (2)
45-02-1200

ADJUSTABLE SHELF

Two (2) adjustable shelf shall be constructed of .125" smooth aluminum plate with 1.5" formed vertical lip front & back. Shelf supports on each side to be constructed of .188" aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8" bolts and spring-loaded cam locks. If shelf is longer than 40" a reinforcement by aluminum gusset is to be placed full-length

on bottom of shelf.

Two (2)
45-30-1300

The shelf/tray shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 1/2" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
45-30-1400

The floor area of the compartment shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 9/16" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
55-01-1150

COMPARTMENT LIGHT

One (1) ROM vertically mounted roll-up compartment LED V3 door light shall be installed on one side of the door opening. The compartment light shall be integrated into the roll-up door track with the light actuation with the door opening.

The light shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1)
55-06-1400

The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1)
33-60-1100

REAR BODY CONFIGURATION

The rear of the apparatus body shall be of the flat back design.

One (1)
32-08-0150

REAR CENTER COMPARTMENT

There shall be one (1) low compartment located at the rear of the apparatus. The compartment shall be open to the rear side compartments, providing a transverse compartment at the rear of the truck.

The compartment shall be equipped with low hinged double doors.

One (1)
32-08-0900

The compartment door shall be constructed from smooth aluminum to allow for the application of chevron stripe.

The compartment shall be equipped with the following:

One (1)
44-40-1100

One (1) louver with filter shall be installed in the compartment.

One (1)
45-02-1200

ADJUSTABLE SHELF

One (1) adjustable shelf shall be constructed of .125" smooth aluminum plate with 1.5" formed vertical lip front & back. Shelf supports on each side to be constructed of .188" aluminum and bolted to an aluminum extrusion (mounted vertically) by use of 3/8" bolts and spring-loaded cam locks. If shelf is longer than 40" a reinforcement by aluminum gusset is to be placed full-length on bottom of shelf.

One (1)
45-30-1300

The shelf/tray shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 1/2" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
45-30-1400

The floor area of the compartment shall be fitted with removable vinyl Turtle Tile matting. The matting shall be interlocking modules approximately 12" square by 9/16" thick. This material shall be resistant to heat, cold, ultra-violet radiation, mechanical impacts, chemical actions and is corrosion resistant.

One (1)
55-01-1150

COMPARTMENT LIGHT

One (1) ROM vertically mounted roll-up compartment LED V3 door light shall be installed on one side of the door opening. The compartment light shall be integrated into the roll-up door track with the light actuation with the door opening.

The light shall have a polycarbonate lens to eliminate breakage from impact and eliminate heat buildup.

One (1)
55-06-1400

The compartment light will be controlled by a magnetic "On-Off" switch located on each compartment door.

One (1)
33-61-1100

REAR STEP - 8" BOLT-ON

An 8" deep step surface shall be provided at the rear of the apparatus body, bolted in place and easily removable for replacement or repair. The tailboard shall be constructed of .188" aluminum diamond plate or equal non-slip surface in compliance with NFPA #1901 standards.

A label shall be provided warning personnel that riding on the rear step while the apparatus is in motion is prohibited.

Four (4)
90-21-1200

SCBA MOUNTING BRACKET

Four (4) Zico 45 minute SCBA air pack mounting with spring tension bracket included.

One (1)
90-02-4300

SLIDE OUT LADDER MOUNTINGS IN HOSEBED

The ladders shall be stored in the hosebed in a full width enclosed compartment. The area shall house three (3) sets of dual ladder slide in tracks to store specified ladders in a horizontal position. The mounting system shall be equipped with fiberglass angles and stop at front of ladders.

A safety strap shall be provided to secure the ladders within the compartment.

SHOP NOTE

2 Fly, 16' Duo, Size only

One (1)
90-03-0220

LADDER SOURCE

New-ground ladders shall be provided by the manufacturer.

One (1)
90-02-5310

INTERNAL FOLDING ATTIC LADDER MOUNTING

An internal mounting shall be provided for the specified folding attic ladder.

One (1)
90-16-5100

PIKE POLE MOUNTING BRACKET

One (1) tube shall be provided for pike pole mounting. The tube shall have a 2" interior diameter and shall be mounted on the outside of the apparatus body.

SHOP NOTE

The tubes shall have a notch at the end to allow the pike pole end to fit into.

One (1)

90-16-6300

PIKE POLE SOURCE

All pike poles shall be provided by the purchaser.

One (1)
90-16-2399

PIKE POLE

One (1) 6' pike pole with round handle shall be provided by the Dealer/Purchaser/Fire Department. The pike pole shall be of fiberglass construction.

One (1)
90-16-2899

PIKE POLE

One (1) 10' pike pole with round handle shall be provided by the Dealer/Purchaser/Fire Department. The pike pole shall be of fiberglass construction.

One (1)
90-25-7100

HARD SUCTION MOUNTING

One (1) horizontally mounted aluminum hard suction hose tray with velcro straps shall be provided above the left side body compartments.

One (1)
90-25-7200

HARD SUCTION MOUNTING

One (1) horizontally mounted aluminum hard suction hose tray with velcro straps shall be provided above the right side body compartments.

One (1)
90-25-9115

SUCTION HOSE SOURCE

New suction hose shall be provided by the body builder.

One (1)
33-66-2140

FOLDING STEPS RIGHT SIDE FRONT

Three (3) folding steps of die cast high-strength zinc/aluminum alloy, plated with a superior automotive grade chrome finish shall be provided. The greater than 42 sq. in. serrated non-skid step traction area also offers an oversized non-slip grasp hand-hold. A heavy duty stainless steel spring design firmly holds the step in the open or closed positions. A rubber stop prevents any transit noise and rattles in the closed position. Step lighting shall be from a LED light mounted above the step.

The step has been third part tested to assure conformation of NFPA 1901 and FHA, 49CFR specifications for stepping surfaces and handhold.

The step shall be installed on the right side front compartment face.

One (1)
44-01-1450

FRONT BODY PROTECTION PANELS

Aluminum tread plate overlays and panels shall be installed on the front of the body compartment from the lower edge to the top of the compartment doors.

One (1)
44-01-6000

CATWALKS

Aluminum tread plate catwalks shall be installed on the top of the compartments.

One (1)
44-01-4000

REAR BODY PROTECTION PANELS

The rear body panels of the body shall be a smooth material, to allow for the proper application and installation of a "Chevron" stripe on the rear.

One (1)
33-62-4140

FOLDING STEPS LEFT SIDE REAR

Three (3) folding steps of die cast high-strength zinc/aluminum alloy, plated with a superior automotive grade chrome finish shall be provided. The greater than 42 sq. in. serrated non-skid step traction area also offers an oversized non-slip grasp hand-hold. A heavy duty stainless steel spring design firmly holds the step in the open or closed positions. A rubber stop prevents any transit noise and rattles in the closed position. Step lighting shall be from a LED light mounted above the step.

The step has been third part tested to assure conformation of NFPA 1901 and FHA, 49CFR specifications for stepping surfaces and handhold.

The steps shall be installed on the rear left side of the body.

One (1)
33-70-1300

HANDRAIL REAR STEP

Two (2) extruded aluminum non-slip handrails, approximately 48" in length, shall be provided and vertically mounted on the rear of the apparatus, one (1) on each side of the body.

One (1)
33-70-2100

HANDRAIL BELOW HOSEBED

One (1) extruded aluminum non-slip handrail, approximately 48” in length, shall be provided and horizontally mounted below the hosebed on the rear of the apparatus.

One (1)
44-02-1100

EXTRUDED ALUMINUM RUB RAILS

Full body length polished aluminum rub rails shall be bolted in place on the lower right and left body sides. The side rub rails shall be a heavy extruded aluminum "C" channel.

One (1)
44-02-2000

NYLON SPACERS FOR RUB RAILS

There shall be nylon spacers provided between the rub rail and the body. This shall allow wash out and replacement in the event of damage.

One (1)
44-11-5100

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the left side of the apparatus, ahead of the rear wheels.

One (1)
44-10-1100

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of aluminum. The door assemblies shall be bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed aluminum door with push button trigger latch shall be provided.

SHOP NOTE

8" round x 26" deep SCBA Bottles

One (1)
44-10-6000

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)
44-11-5300

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the left side of the apparatus, behind of the rear wheels.

One (1)
44-10-1100

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of aluminum. The door assemblies shall be bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed aluminum door with push button trigger latch shall be provided.

SHOP NOTE

8" round x 26" deep SCBA Bottles

One (1)
44-10-6000

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)
44-11-5500

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the right side of the apparatus, ahead of the rear wheels.

One (1)
44-10-1100

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of aluminum. The door assemblies shall be bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed aluminum door with push button trigger latch shall be provided.

SHOP NOTE

8" round x 26" deep SCBA Bottles

One (1)
44-10-6000

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

One (1)
44-11-5700

WHEEL WELL PROVISION LOCATION

The wheel well provisions shall be located on the right side of the apparatus, behind of the rear wheels.

One (1)
44-10-1100

One (1) breathing air cylinder storage compartment shall be provided and located in the rear wheel well of the apparatus body.

The cylinder storage compartment shall be constructed entirely of aluminum. The door assemblies shall be bolted in-place and removable for repair or replacement.

Compartment shall be provided with SCBA cylinder scuff protection. A brushed aluminum door with push button trigger latch shall be provided.

SHOP NOTE

8" round x 26" deep SCBA Bottles

One (1)
44-10-6000

One (1) one-inch (1") wide loop of black webbing shall be installed in each SCBA compartment to prevent the bottle from sliding out of the compartment in case of door failure. The loop shall be mounted, centered in the compartment and shall hang within one-inch (1") of the compartment floor to allow the bottle to pass by the strap when the bottle is placed in the compartment. The strap shall loop over the valve.

Two (2)
60-25-9610

POWER DISTRIBUTION STRIP

Two (2) 15 amp power distribution strip with four (4) receptacles shall be provided. The strip shall be powered by the chassis shore line power.

One (1)
77-11-0500

REAR TRAILER HITCH

One (1) trailer hitch rated at approximately 12,000 pounds shall be installed at the rear of the apparatus and be attached to the body sub-frame assembly. The hitch shall include a removable receiver insert slide-in ball mount with a 2-5/16" ball and a 5/8" hitch and safety pin.

One (1)
77-11-0900

TRAILER BRAKE AND POWER PLUG

Trailer wiring shall be provided at the rear of the apparatus. One (1) 12 volt seven (7) pin electrical connector shall be wired to the chassis stop, running, turn lights and trailer brake connection. A 12-volt trailer brake controller shall be provided and installed.

One (1)
80-22-1504

BODY PAINT PROCESS

Facility Certification

The paint facility shall be in current compliance with 40 CFR (code of federal regulations) part 63 subpart HHHHHH national emission standards for hazardous air pollutants: Paint stripping and miscellaneous surface coating operations at area sources (6H-NESHAP). Spray guns shall also be compliant certified by paint gun manufacturer.

Cab / Module Prep

Prior to assembly, all joints and seams are to be mechanically etched. All welds shall be ground smooth prior to priming. The bare substrate of the module is first cleaned with a strong surface cleaner to remove fabrication and pneumatic tool oils. *The reason? Cleaning the surface prior to sanding prevents oils and contaminants from being imbedded into the substrate.* After sanding process, a mild surface cleaner removes any sanding dust residue along with pneumatic tool oil. A waterborne surface cleaner is available in case substrate was touched with bare hands or skin.

The following steps must be followed in sequence to properly apply paint to the Fire truck cab, chassis or module.

SURFACE PREP

- Clean entire modular body with Sikkens OTO using the two-cloth method, wipe on wet, wipe dry. *Reason: Wiping our surface cleaners on wet, contaminants loosen and float to the top. Those floating contaminants then get wiped off with an absorbent towel.*
- Using an orbital sander, (where polyester filler will be applied) 80-grit is used to provide a mechanical tooth for optimal adhesion. 180-grit is then used surrounding the 80-grit area. Sikkens M600 surface cleaner is then used to remove sanding dust and pneumatic tool oil. If bare hands or skin accidentally touched the surface, Sikkens Autoprep waterborne cleaner is used to remove natural oils. *Again: All surface cleaners are applied wet with one towel and wiped dry with another.*
- Rosenbauer approved polyester body filler is then applied over the 80-grit ground areas to cover the imperfections from welds. When body filler dries, it's first sanded with 80-grit then finish

sanded with 180-grit to remove all 80-grit sand scratches. Blow off surface dust using approved air wand.

- After body work has been completed, the rest of the aluminum substrate on module gets sanded with 80-grit sandpaper until the surface is bright and sand scratches are consistent. Module gets blown off again to remove all sanding dust.
- Step 1 is essential in achieving proper adhesion.

EPOXY PRIMER and HIGH BUILD primer surfacer APPLICATION PROCESS:

- First, if sanded aluminum substrate has not been primed within 8 hours, aluminum substrate gets re-abraded to remove oxidation that may have begun on aluminum surface. Aluminum substrate gets cleaned with Sikkens M600 surface cleaner using the 2-towel method. Surface cleaners do not get applied over body filler due to polyester filler being absorbent.
- One (1) coat of AkzoNobel LV262 Epoxy primer is applied. This epoxy primer slows down corrosion from happening if in case the unit (once out in the field) has stone chips or scratches down to aluminum. This product is a 2-component epoxy primer meaning it mixes with a hardener. Paint technicians are trained to properly apply this product to achieve a minimum of 1 mil DFT (Dry film thickness) required by AkzoNobel. A blank module schematic showing specific areas to measure dry film thickness is completed on each module /unit.
- Allow LV262 25 minutes minimum dry time prior to applying AkzoNobel LV650 primer surfacer. Apply two to three wet coats of AkzoNobel LV650 two component low VOC high build primer surfacer. A dry film thickness of up to 8 mils can be achieved prior to sanding. Minimum flash between coats is 30 seconds to 5 minutes. LV650 surfacer dries 3 different ways. 8 hour dry without accelerator, bake for 1 hour at 140-degrees or accelerate which allows technicians to sand in 45 minutes @70-degrees.

SANDING:

- Block sand entire module with 320-grit sandpaper minimizing any accidental cut throughs on edges. Blow off body with air gun and move module into paint booth.

PRE TOPCOAT PREPARATION

- Clean areas where Rosenbauer approved seam sealer is applied with Sikkens M600 surface cleaner. If by accident, bare hands or skin touched surface on cab or module, Autoprep waterborne cleaner is used on these areas prior to using M600 cleaner. Both cleaners are used with the 2-towel method.
- Seam seal with Rosenbauer approved non-shrinking moisture cured urethane seam sealer. Technicians follow seam sealer technical data sheets pertaining to application and dry times prior to applying AkzoNobel BT650 basecoat or 650 Topcoat single stage paint.
- Clean module with M600 surface cleaner. If by accident, bare hands or skin touched surface on module, Autoprep waterborne cleaner is used on these areas prior to using M600 cleaner. Both cleaners are used with the 2-towel method.
- If there are any visible cut throughs, paint techs first use a pre-treatment Alodine wipe followed by one coat of reduced LV262 epoxy primer over these areas and give a 20-minute flash prior to applying BT650 basecoat or Topcoat.
- Tack rag unit to remove any lint or dust that could have landed on surface.

TOPCOAT PROCEDURE

- Mix BT650 basecoat or Topcoat (single stage) polyurethane paint.

- Fluid and spray pattern checks are done prior to applying BT650 base, Topcoat and Clear coat.
- Apply BT650 basecoat until complete coverage is achieved. If Topcoat is applied, a minimum of 1.8 mils is recommended after cut and buff procedure. Note: Topcoat doesn't get clear coated.
- Allow solid color BT650 basecoat to flash 20 minutes prior to applying 3 coats Sikkens LV651 Glamour Clear coat.
- If a metallic color, allow BT650 basecoat to flash 45 minutes prior to applying 3 coats LV651 Glamour Clear coat. Bake body for 45 minutes once surface temp has reached 140-degrees.
- The mil thicknesses are as follows:

• Autocoat BT LV262 Epoxy Primer	1.0 to 1.5 mils
• Autocoat BT LV650 2K Primer Surfacer	1.0 to 3.0 mils
• Autocoat BT LV650 Basecoat color	1.0 to 1.8 mils
• Autocoat LV651 Clearcoat	<u>2.0 to 3.0 mils</u>
• Combined total:	5.0 to 9.3 mils

One (1)
80-06-1100

APPARATUS COLOR

SHOP NOTE

The apparatus shall be ____ in color.

One (1)
80-30-1100

INTERIOR COMPARTMENT FINISH

Six (6) apparatus side compartment interiors are to be painted with a spatter finish material. The compartments shall be cleaned with a grease remover, and then the surface sanded and prepared for painting. The compartment shall be provided with two (2) coats of white epoxy. The compartments are then coated with a splatter paint top coat.

One (1)
80-42-1500

TOUCH-UP PAINT

One (1) two (2) ounce bottle of touch-up paint shall be furnished with the completed truck at final delivery.

One (1)
80-43-2996

BLACKED OUT ITEMS - LINE-X / PAINT

The following items shall be either blacked out with Line-X or flat black paint.

One (1)
80-44-1400

UNDERCOATING

The entire underside of the single axle apparatus body is to be cleaned and properly prepared for application of a sprayed on automotive type undercoating for added corrosion resistance. Undercoating is to be a solvent based, rubberized coating, black in color.

One (1)
80-50-1200

LETTERING

The purchaser shall supply the apparatus lettering.

One (1)
80-70-1300

CAB AND BODY STRIPE

A straight Scotchlite reflective stripe, 4" minimum in width, shall be applied horizontally around the cab and body in compliance with applicable NFPA 1901 standards. The purchaser shall specify the color and location of the stripe.

One (1)
80-73-1100

PIN STRIPE TRIM

A single layer tape stripe shall be applied above and below the reflective striping material. The color of the stripe shall be black.

One (1)
80-75-1500

COLOR OF STRIPING MATERIAL

The color of the 3M brand striping material shall be red.

One (1)
80-72-1100

CHEVRON STRIPING

The entire rear portion of the body shall have 3M reflective red and yellow striping installed. The chevron style striping shall be applied at a 45-degree upward angle pointing towards the center upper portion of the rear panel.

One (1)
80-79-1000

YELLOW SAFETY TAPE - STANDING & WALKING SURFACES

The apparatus shall be NFPA standard 15.7.1.6 designating any horizontal standing or walking surface higher than 48-in (1220 mm) from the ground and not guarded by railing or structure at least 12-in (300 mm) high shall have at least a 1-in (25 mm) wide safety yellow line delineation that contrasts with the background to mark the outside perimeter of the designated standing or walking surface area, excluding steps and ladders.

One (1)
90-03-1100

ROOF LADDER

One (1) Alco-Lite Model PRL-08, 8 foot aluminum roof ladder with folding steel roof hooks on one end and rubber safety shoes on the other end shall be provided on the apparatus. The ladder shall meet or exceed all latest NFPA Standards.

One (1)
90-06-1200

EXTENSION LADDER

One (1) Alco-Lite Model PEL-14, 14 foot two (2) section aluminum extension ladder shall be provided on the apparatus. The ladder shall meet or exceed latest NFPA standards.

One (1)
90-08-1500

FOLDING ATTIC LADDER

One (1) Alco-Lite Model FL-10, 10 foot folding aluminum attic ladder shall be provided. The ladder shall meet or exceed all the latest NFPA Standards.

Two (2)
90-25-2500

SUCTION HOSE

Two (2) 4.0" x 10 foot length of PVC flexible suction hose shall be supplied. The suction hose shall have light weight couplings provided.

Two (2)
90-25-6100

HOSE COUPLINGS

Light weight aluminum couplings shall be provided on the suction hose. A long handle female swivel shall be provided on one end and a rocker lug male shall be provided for the other end.

One (1)
90-35-2300

I-ZONE BRACKETS

There shall be two (2) easily removable stainless steel I-Zone brackets designed into the rear upper access steps, one on each side. Exact design and location to be discussed at the pre-construction conference.

SHOP NOTE

90-42-100 Copied from Master QW

Rosenbauer- South Dakota

DEPARTMENT: OREGON TYPE 3

Wheel Base	192
C A	73
Cab to Pump Compartment	3
Pump Compartment	38
Tank Length Lower	74
Tank Length Upper	74
Body Length	102
Total Tank Capacity	520
Aerial Size	0



Percent of Weight to Front Axle		
Water (& Foam) Lower	Body	Pump
-4.17%	-10.42%	26.56%
Water (& Foam) Upper	Aerial	Hose
-4.17%	NA	-9.90%

	TOTAL WT	FRONT WT	REAR WT
Water (& Foam) Lower	1,478	-62	1,540
Water (& Foam) Upper	3,254	-136	3,390
Body	2,856	-298	3,154
Pump	1,850	491	1,359
Aerial	NA	0	0
SUB TOTAL	9,438	-3	9,441
Chassis	15,646	9,656	5,990
SUB TOTAL	25,084	9,653	15,432
Miscellaneous Equipment	1,650	854	796
NFPA 1901 Equipment Allowance	2,500	-505	3,005
NFPA Personnel Load (Included in Chassis if 0)	1,000	583	417
Hose Load	1,265	-125	1,390
Ground Ladders	48	-5	53
	0	0	0
TOTAL	31,547	10,454	21,093
		33.14%	66.86%

NOTE: Weights shown are approximate

<i>Proposed chassis information:</i>	Brand:	IH	Crew Doors:	4	GVWR
		4X4			
Axle Capacities:	Front:	12,000	Rear:	23,000	35,000
Estimated Chassis Weight: (includes +5% variance)	Front:	9656	Rear:	5990	

NOTE: Chassis weights MUST BE VERIFIED by the DEALER. Dealer will be responsible for confirming the axles are adequate for the proposed apparatus. 1000# extra capacity per axle is recommended.

Approximate Center of Gravity Calculated

City Name: OREGON TYPE 3

Chassis Vertical Center of Gravity From Ground		
Tilt Table		From Manufacture
Chassis Track Width-	0.00	45
Degree to Tip Over-	1.00	
Chassis CG (inches)-	0.00	

Ground to Top of Frame-	45
Rear Axle Track Width-	72

	Overall Height of Load	Top of Frame Rails to Bottom of Load	CG Above Frame	Weight	Vertical Moment (Inch Lbs)
Tank & Water (& Foam)- Lower	12	1.5	7.5	1478	11084.86364
Tank & Water (& Foam)- Upper	21.75	13.5	24.375	3254	79316.69318
Hose	22.00	37.00	48	1265	60720
Pump	18	10	19	1850	35150
Body	76	-17	21	2856	59976
Ground Ladders	28	13.5	27.5	48	1320
Chassis	See Above		0.00	15646.1	0
Personnel <small>(If 0 included in Chassis Weight)</small>	56	4	32	1000	32000
Equipment	66	-16.5	16.5	4150	68475
Aerial Device	See Drawing			0	0
		Total	11.03	31547.1	348042.5568

CG Above Ground 56.03

Verticle Center Of Gravity
Height Compared To Track
Width 77.82%
(To Be Less Than 80%)

Horizontal Center of Gravity
(From Rear Axle) 63.63

Prepared For:
HV507 2023 4-DR - State of Oregon - Rev. 10-4
RANDY BRUMMEL
P.O BOX 57
Lyons, SD 57041-
(606)543 - 5591
Reference ID: Type III

Presented By:
Cumberland International Trucks
Sally Wilson
2110 S. Division Ave.
Orlando FL 32810 -
(407)849-6440

Thank you for the opportunity to provide you with the following quotation on a new International truck. I am sure the following detailed specification will meet your operational requirements, and I look forward to serving your business needs.

Model Profile
2024 HV507 SFA (HV507)

AXLE CONFIG:	4X4
APPLICATION:	Fire/Pumper
MISSION:	Requested GVWR: 35000. Calc. GVWR: 35000. Calc. GCWR: 80000 Calc. Start / Grade Ability: 30.93% / 4.35% @ 55 MPH Calc. Geared Speed: 73.3 MPH
DIMENSION:	Wheelbase: 199.00, CA: 80.10, Axle to Frame: 79.00
ENGINE, DIESEL:	{Cummins L9 360} EPA 2021, 360HP @ 2200 RPM, 1150 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 359 Peak HP (Max)
TRANSMISSION, AUTOMATIC:	{Allison 3000 EVS} 6th Generation Controls, Close Ratio, 5-Speed with Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, Max, GVW N/A
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT DRIVING:	{Meritor MX-12-120 EVO} Single Reduction, 12,000-lb Capacity, with Hub Piloted Wheel Mounting
AXLE, REAR, SINGLE:	{Meritor RS-23-160} Single Reduction, 23,000-lb Capacity, 200 Wheel Ends Gear Ratio: 4.89
CAB:	Conventional 6-Man Crew Cab
TIRE, FRONT:	(2) 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
TIRE, REAR:	(4) 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive
SUSPENSION, REAR, SINGLE:	23,500-lb Capacity, Vari-Rate Springs, with 4500-lb Capacity Auxiliary Rubber Springs
PAINT:	Cab schematic 100WK Location 1: 9445, Kilimanjaro White (Custom) Chassis schematic 932WK Wheel: 9445, Kilimanjaro White (Custom)

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
HV50700	Base Chassis, Model HV507 SFA with 199.00 Wheelbase, 80.10 CA, and 79.00 Axle to Frame.	5783/3857	9640
1570	TOW HOOK, FRONT (2) Frame Mounted	8/0	8
1ANB	AXLE CONFIGURATION {Navistar} 4x4	47/-148	-101
	<u>Notes</u> : Pricing may change if axle configuration is changed.		
1CAJ	FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.866" x 3.622" x 0.437" (276.0mm x 92.0mm x 11.1mm); 456.0" (11582mm) Maximum OAL	158/465	623
1MDP	BUMPER, FRONT Contoured, Stainless Steel, Polished	-25/3	-22
1MEJ	FRAME, SPECIAL EFFECTS Dimple on Left and Right Top Flange of Frame Rail to Reference Rear Axle Centerline	0/0	0
1WGG	WHEELBASE RANGE 181" (460cm) Through and Including 205" (520cm)	183/-183	0
2GAB	AXLE, FRONT DRIVING {Meritor MX-12-120 EVO} Single Reduction, 12,000-lb Capacity, with Hub Piloted Wheel Mounting	737/0	737
	<u>Notes</u> : Axle Lead Time is 90 Days		
2WLC	AXLE, FRONT DRIVING, LUBE {EmGard FE-75W-90} Synthetic Oil; 1 thru 29.99 Pints	0/0	0
3ADC	SUSPENSION, FRONT, SPRING Parabolic Taper Leaf, Shackle Type, 12,000-lb Capacity, with Shock Absorbers	0/0	0
4091	BRAKE SYSTEM, AIR Dual System for Straight Truck Applications	0/0	0
	<u>Includes</u> : BRAKE LINES Color and Size Coded Nylon : DRAIN VALVE Twist-Type : GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster : PARKING BRAKE CONTROL Yellow Knob, Located on Instrument Panel : PARKING BRAKE VALVE For Truck : QUICK RELEASE VALVE On Rear Axle for Spring Brake Release: 1 for 4x2, 2 for 6x4 : SPRING BRAKE MODULATOR VALVE R-7 for 4x2, SR-7 with relay valve for 6x4/8x6		
4722	DRAIN VALVE {Bendix DV-2} Automatic, with Heater, for Air Tank	2/0	2
4AZA	AIR BRAKE ABS {Bendix AntiLock Brake System} 4-Channel (4 Sensor/4 Modulator) Full Vehicle Wheel Control System	0/0	0
4EBT	AIR DRYER {Bendix AD-IP} with Heater	13/14	27
4ETD	BRAKE CHAMBERS, FRONT AXLE {MGM} 20 SqIn	-1/0	-1
4EXU	BRAKE CHAMBERS, REAR AXLE {Bendix EverSure} 30/30 SqIn Spring Brake	0/7	7
4GBM	BRAKE, PARKING Manual Push-Pull Pneumatic Parking Brake	0/0	0
4LAA	SLACK ADJUSTERS, FRONT {Haldex} Automatic	14/0	14
4LGG	SLACK ADJUSTERS, REAR {Gunite} Automatic	0/14	14
4SPA	AIR COMPRESSOR {Cummins} 18.7 CFM	0/0	0

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
4VDU	AIR TANK LOCATION (2) Mounted Left Side BOC Under Battery Box	-9/19	10
4VGG	AIR DRYER LOCATION Mounted Inside Left Rail, Behind Transfer Case Mounting	5/5	10
4WBX	DUST SHIELDS, FRONT BRAKE for Air Cam Brakes	10/0	10
4WDM	DUST SHIELDS, REAR BRAKE for Air Cam Brakes	0/10	10
4XDP	BRAKES, FRONT {Meritor 16.5X5 Q-PLUS CAST} Air S-Cam Type, Cast Spider, Fabricated Shoe, Double Anchor Pin, Size 16.5" X 5", 14,700-lb Capacity	-23/0	-23
4XDR	BRAKES, REAR {Meritor 16.5X7 Q-PLUS CAST} Air S-Cam Type, Cast Spider, Fabricated Shoe, Double Anchor Pin, Size 16.5" X 7", 23,000-lb Capacity per Axle	0/52	52
5710	STEERING COLUMN Tilting and Telescoping	17/2	19
5CAW	STEERING WHEEL 4-Spoke; 18" Dia., Black	0/0	0
5PSL	STEERING GEAR {Sheppard M110} Power	43/-2	41
6DHK	DRIVELINE SYSTEM {Dana Spicer} SPL170 Main Driveline, 1710 Driveline to Transfer Case, SPL140 Driveline to Front Axle, for 4x4	7/31	38
7BEV	AFTERTREATMENT COVER Steel, Black	11/2	13
7BMH	EXHAUST SYSTEM Horizontal Aftertreatment System, Frame Mounted Right Side Under Cab, for Single Short Horizontal Tail Pipe, Frame Mounted Right Side Back of Cab, for All-Wheel Drive	57/-1	56
7SCP	ENGINE EXHAUST BRAKE for Cummins ISB/B6.7/ISL/L9 Engine with Variable Vane Turbo Charger	0/0	0
7WCW	TAIL PIPE (1) Horizontal, Short, Exits Right Side, 90 Degree Turnout	14/9	23
7WZX	SWITCH, FOR EXHAUST 3 Position, Momentary, Lighted Momentary, ON/CANCEL, Center Stable, INHIBIT REGEN, Mounted in IP Inhibits Diesel Particulate Filter Regeneration When Switch is Moved to ON While Engine is Running, Resets When Ignition is Turned OFF	2/0	2
8000	ELECTRICAL SYSTEM 12-Volt, Standard Equipment	0/0	0
	<u>Includes</u>		
	: DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab		
	: HAZARD SWITCH Push On/Push Off, Located on Instrument Panel to Right of Steering Wheel		
	: HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever		
	: PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light		
	: STARTER SWITCH Electric, Key Operated		
	: STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector		
	: TURN SIGNAL SWITCH Self-Cancelling for Trucks, Manual Cancelling for Tractors, with Lane Change Feature		
	: WINDSHIELD WIPER SWITCH 2-Speed with Wash and Intermittent Feature (5 Pre-Set Delays), Integral with Turn Signal Lever		
	: WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted		
	: WIRING, CHASSIS Color Coded and Continuously Numbered		
8518	CIGAR LIGHTER Includes Ash Cup	1/0	1
8541	HORN, ELECTRIC (2) Disc Style	1/0	1
8718	POWER SOURCE Cigar Type Receptacle without Plug and Cord	1/0	1
8GXX	ALTERNATOR {Leece-Neveille BLP4006HN} Brushless, 12 Volt, 325 Amp Capacity, Pad Mount, with Remote Sense	17/0	17

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
8HAA	BODY BUILDER WIRING To Rear of Frame, with Stop, Tail, Turn, and Marker Lights Circuits, Ignition Controlled Auxiliary Feed and Ground, Less Trailer Socket	2/0	2
8MSG	BATTERY SYSTEM {Fleetrite} Maintenance-Free, (3) 12-Volt 1980CCA Total, Top Threaded Stud	27/26	53
8RMS	SPEAKERS Omit	0/0	0
8RMX	RADIO Omit, Includes Wiring and Antenna	0/0	0
8RPR	ANTENNA for Increased Roof Clearance Applications	1/0	1
8TPA	DATA RECORDER Includes Display Mounted in Overhead Console	2/0	2
8WDB	BATTERY BOX Steel, with Plastic Cover, 30" Wide, 2-4 Battery Capacity, Mounted Left Side Back of Fuel Tank	-20/20	0
8WPH	CLEARANCE/MARKER LIGHTS (5) {Truck Lite} Amber LED Lights, Flush Mounted on Cab or Sunshade	0/0	0
8WPZ	TEST EXTERIOR LIGHTS Pre-Trip Inspection will Cycle all Exterior Lamps Except Back-up Lights	0/0	0
8WTK	STARTING MOTOR {Delco Remy 38MT Type 300} 12 Volt, Less Thermal Over-Crank Protection	8/1	9
8WTR	COURTESY LIGHT (4) Mounted In Front & Rear Map Pocket Left and Right Side	2/0	2
8WWJ	INDICATOR, LOW COOLANT LEVEL with Audible Alarm	0/0	0
8WZP	INDICATOR, BATTERY WARNING Green BATTERY ON Indicator, Mounted on Left Side of Instrument Panel, To be Used with Factory Installed or Customer Mounted Battery Disconnect Switch	1/0	1
8XAH	CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III with Trip Indicators, Replaces All Fuses	0/0	0
8XGT	TURN SIGNALS, FRONT Includes LED Side Turn Lights Mounted on Fender	0/0	0
8XHN	HORN, AIR Single Trumpet, Black, with Lanyard Pull Cord	3/0	3
8XHR	POWER SOURCE, ADDITIONAL Auxiliary Power Outlet (APO) with USB Port, Located in the Instrument Panel	1/0	1
8XHV	BATTERY DISCONNECT SWITCH for Cab Power Disconnect Switch, Disconnects Power to Power Distribution Center (PDC) and Body Builder Through Solenoid, Does Not Disconnect Charging Circuits, Locks with Padlock, Cab Mounted	0/0	0
8XKM	SWITCH, AIR HORN, PASSENGER Fire Truck Application; Momentary Switch Located in Instrument Panel Close to Passenger, Driver Also To Activate Switch with Lanyard	0/0	0
8XNZ	HEADLIGHTS Halogen, with Daytime Running Lights	0/0	0
9585	FENDER EXTENSIONS Rubber	6/0	6
9AAB	LOGOS EXTERIOR Model Badges	0/0	0
9AAE	LOGOS EXTERIOR, ENGINE Badges	0/0	0
9HAN	INSULATION, UNDER HOOD for Sound Abatement	10/0	10
9HBM	GRILLE Stationary, Chrome	0/0	0
9HBN	INSULATION, SPLASH PANELS for Sound Abatement	2/0	2

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
9WBC	FRONT END Tilting, Fiberglass, with Three Piece Construction, for WorkStar/HV	0/0	0
9WBT	GRILLE EMBER SCREEN Mounted to Grille and Cowl Tray to Keep Hot Embers out of Engine and HVAC Air Intake System	3/0	3
10060	PAINT SCHEMATIC, PT-1 Single Color, Design 100 <u>Includes</u> : PAINT SCHEMATIC ID LETTERS "WK"	0/0	0
10632	PAINT IDENTITY, PT-2 Single Color, Instruction No. 932. Wheels	0/0	0
10761	PAINT TYPE Base Coat/Clear Coat, 1-2 Tone	0/0	0
10771	PAINT CLASS Single Custom Color	0/0	0
10AGB	COMMUNICATIONS MODULE Telematics Device with Over the Air Programming; Includes Five Year Data Plan and International 360	1/0	1
10SLV	PROMOTIONAL PACKAGE Government Silver Package	0/0	0
10WCY	SAFETY TRIANGLES	6/0	6
10WKJ	KEYS - ALL ALIKE, ID I-1003 Compatible with Z-001	0/0	0
10XAN	FIRE EXTINGUISHER 5 lb Class A B C	8/2	10
10XAP	FIRE EXTINGUISHER BRACKET Mounted Left Side Driver Seat	1/0	1
11001	CLUTCH Omit Item (Clutch & Control)	0/0	0
12703	ANTI-FREEZE Red, Extended Life Coolant; To -40 Degrees F/ -40 Degrees C, Freeze Protection	0/0	0
12849	BLOCK HEATER, ENGINE 120V/1000W, for Cummins ISB/B6.7/ISL/L9 Engines <u>Includes</u> : BLOCK HEATER SOCKET Receptacle Type; Mounted below Drivers Door	3/0	3
12ESP	ENGINE, DIESEL {Cummins L9 360} EPA 2021, 360HP @ 2200 RPM, 1150 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, 359 Peak HP (Max)	560/4	564
12THT	FAN DRIVE {Horton Drivemaster} Two-Speed Type, Direct Drive, with Residual Torque Device for Disengaged Fan Speed <u>Includes</u> : FAN Nylon	0/0	0
12UWZ	RADIATOR Aluminum, Cross Flow, Front to Back System, 1228 SqIn, with 1167 SqIn Charge Air Cooler, Includes In-Tank Oil Cooler <u>Includes</u> : DEAERATION SYSTEM with Surge Tank : HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose Clamps : RADIATOR HOSES Premium, Rubber	23/-5	18
12VBC	AIR CLEANER Single Element	0/0	0
12VJC	EMISSION, CALENDAR YEAR {Cummins L9} EPA, OBD and GHG Certified for Calendar Year 2022	0/0	0
12VXT	THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on Steering Wheel	0/0	0

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
12WBR	FAN OVERRIDE Manual; with Electric Switch on Instrument Panel, (Fan On with Switch On)	0/0	0
12WYK	ENGINE WATER COOLER {Sen-Dure} Auxiliary, For Use with Fire Trucks	0/0	0
12WZE	CARB IDLE COMPLIANCE Federal, Does Not Comply with California Clean Air Idle Regulations	0/0	0
12XBM	ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls and Starter Lockout, with Ignition Switch Control, for Cummins B6.7 and L9 Engines	0/0	0
12XCS	CARB EMISSION WARR COMPLIANCE Federal, Does Not Comply with CARB Emission Warranty	0/0	0
13905	PROVISION FOR PTO Top Mount; with Allison 3000 Transmission	0/0	0
13BCT	TRANSMISSION, AUTOMATIC {Allison 3000 EVS} 6th Generation Controls, Close Ratio, 5-Speed with Overdrive, with PTO Provision, Less Retarder, Includes Oil Level Sensor, Max, GVW N/A	0/0	0
13TKA	TRANSFER CASE {Meritor MTC-4210} 2-Speed, 10,000 lb-ft Torque Rating, with PTO Provision, Electric Over Air Control, with Lube Pump	381/407	788
13WAW	OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil Type	25/0	25
13WDB	TRANSFER CASE LUBE {EmGard 50W} Synthetic; 1 thru 14.99 Pints	0/0	0
13WET	TRANSMISSION SHIFT CONTROL Column Mounted Stalk Shifter, Not for Use with Allison 1000 & 2000 Series Transmission	1/0	1
13WGC	OIL COOLER, TRANSFER CASE with Oil Coolant Lines Routed to Oil Cooler	6/1	7
13WLP	TRANSMISSION OIL Synthetic; 29 thru 42 Pints	0/0	0
13WUZ	ALLISON SPARE INPUT/OUTPUT for Emergency Vehicle Series (EVS), Fire/Pumper, Tank, Aerial/Ladder, Package Number 198, Includes J1939 Based Auto Neutral	0/0	0
13WVW	NEUTRAL AT STOP OMIT	0/0	0
13WYU	SHIFT CONTROL PARAMETERS {Allison} 3000 or 4000 Series Transmissions, Performance Programming	0/0	0
13XAL	PTO LOCATION Customer Intends to Install PTO at Left Side of Transmission	0/0	0
14051	AXLE, REAR, SINGLE {Meritor RS-23-160} Single Reduction, 23,000-lb Capacity, 200 Wheel Ends . Gear Ratio: 4.89	0/205	205
14VAH	SUSPENSION, REAR, SINGLE 23,500-lb Capacity, Vari-Rate Springs, with 4500-lb Capacity Auxiliary Rubber Springs	0/62	62
14WVG	AXLE, REAR, LUBE {EmGard FE-75W-90} Synthetic Oil; 30 thru 39.99 Pints	0/0	0
15LNR	FUEL/WATER SEPARATOR {Racor 400 Series} with Primer Pump, Includes Water-in-Fuel Sensor, Mounted on Engine	0/0	0
15SRE	FUEL TANK Top Draw, Non-Polished Aluminum, D-Style, 19" Tank Depth, 50 US Gal (189L), Mounted Left Side, Under Cab	25/4	29
15WCS	FUEL COOLER Less Thermostat; Mounted in Front of Cooling Module	14/0	14
15WDG	DEF TANK 7 US Gal (26L) Capacity, Frame Mounted Outside Left Rail, Under Cab	0/0	0
16196	CAB Conventional 6-Man Crew Cab	344/306	650

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
16BAM	AIR CONDITIONER with Integral Heater and Defroster	54/2	56
16GED	GAUGE CLUSTER Base Level; English with English Electronic Speedometer	0/0	0
	<u>Includes</u> : GAUGE CLUSTER DISPLAY: Base Level (3" Monochromatic Display), Premium Level (5" LCD Color Display); Odometer, Voltmeter, Diagnostic Messages, Gear Indicator, Trip Odometer, Total Engine Hours, Trip Hours, MPG, Distance to Empty/ Refill for : GAUGE CLUSTER Speedometer, Tachometer, Engine Coolant Temp, Fuel Gauge, DEF Gauge, Oil Pressure Gauge, Primary and Secondary Air Pressure : WARNING SYSTEM Low Fuel, Low DEF, Low Oil Pressure, High Engine Coolant Temp, Low Battery Voltage (Visual and Audible), Low Air Pressure (Primary and Secondary)		
16GHV	GRAB HANDLE, CAB INTERIOR (4) Safety Yellow, Crew Cab	0/0	0
16HCL	SEATBELT WARNING PREWIRE Includes Seat Belt Switches and Seat Sensors for all Belted Positions in the Cab and a Harness Routed to the Center of the Dash for the Aftermarket Installation of the Data Recorder and Seatbelt Indicator Systems, for 4 to 6 Seat Belts	0/0	0
16HGH	GAUGE, OIL TEMP, AUTO TRANS for Allison Transmission	1/0	1
16HHE	GAUGE, AIR CLEANER RESTRICTION {Filter-Minder} with Black Bezel, Mounted in Instrument Panel	2/0	2
16HKT	IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster	0/0	0
16HLX	GAUGE, VOLTMETER Auxiliary Gauge, Located in Center Panel. Standard Cluster Also Includes Digital Voltage Readout	0/0	0
16JJG	SEAT, DRIVER {H.O. Bostrom Sierra Air 100} NFPA Compliant, Air Suspension, High Back, Vinyl with Covered Back and International Logo on Headrest, for Fire Truck	-4/-1	-5
16PXH	SEAT, PASSENGER {H.O. Bostrom Tanker 450} for SCBA; Non-Suspension, High Back, Vinyl with Covered Back, International Logo on Headrest, Adjusters, 7-Degree Back Angle	94/37	131
16RZL	SEAT, REAR {H.O. Bostrom Tanker 400CT} for SCBA; Three Individual Seats on One Riser, Non Suspension, High Back, Vinyl, with Covered Back and International Logo on Headrest	195/80	275
16SDC	GRAB HANDLE, EXTERIOR (2) Chrome, Towel Bar Type, with Anti-Slip Rubber Inserts, for Cab Entry Mounted Left and Right Side at B-Pillar	6/0	6
16SDD	GRAB HANDLE, ADDITIONAL EXT (2) Chrome, Towel Bar Type, with Anti-Slip Rubber Inserts, Mounted Left and Right Side, Rear of Rear Doors, for Crew Cab	5/0	5
16SNR	MIRRORS (2) C-Loop, Power Adjust, Heated, LED Clearance Lights, Bright Heads and Arms, 7.5" x 14" Flat Glass, Includes 7.5" x 7" Convex Mirrors, for 102" Load Width	0/0	0
	<u>Notes</u> : Mirror Dimensions are Rounded to the Nearest 0.5"		
16VCA	SEAT BELT All Red; 4 to 6	0/0	0
16VKD	CAB INTERIOR TRIM Classic, for Crew Cab	0/0	0

Includes

<u>Code</u>	<u>Description</u>	<u>F/R Wt</u> (lbs)	<u>Tot Wt</u> (lbs)
	: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets, Retainer Nets and CB Radio Pocket; Located Above Driver and Passenger		
	: DOME LIGHT, CAB Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Integral to Overhead Console, Center Mounted		
	: SUN VISOR (2) Padded Vinyl; 2 Moveable (Front-to-Side) Primary Visors, Driver Side with Toll Ticket Strap		
16WEE	CAB SOUND INSULATION Includes Dash Insulator and Engine Cover Insulator	12/0	12
16WJV	WINDOW, POWER (4) And Power Door Locks, Front and Rear Doors, Left and Right, Includes Express Down Feature	10/0	10
16WSK	CAB REAR SUSPENSION Air Bag Type	0/0	0
16XCW	CAB, INTERIOR TRIM, CLOSEOUT Under IP, Driver Side	0/0	0
16XJN	INSTRUMENT PANEL Flat Panel	0/0	0
16ZBU	ACCESS, CAB Steel, Driver & Passenger Sides, Two Steps per Door, for use with Crew Cab	43/40	83
27DUW	WHEELS, FRONT {Accuride 51408} DISC; 22.5x8.25 Rims, Powder Coat Steel, 2-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with Steel Hubs	-10/0	-10
28DUW	WHEELS, REAR {Accuride 51408} DUAL DISC; 22.5x8.25 Rims, Powder Coat Steel, 2-Hand Hole, 10-Stud, 285.75mm BC, Hub-Piloted, Flanged Nut, with Steel Hubs	0/-20	-20
60ACW	BDY INTG, I/O EXP HARNESS {for Diamond Logic Builder} In-Cab wire harness (DLB) program only, Includes a harness with five blunt cut wires routed on lower left of instrument panel. Two ground active inputs and two (.5Amp) relay drivers outputs are provided	0/0	0
7372135444	(2) TIRE, FRONT 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive	0/0	0
7372135444	(4) TIRE, REAR 11R22.5 Load Range G HDR2+ (CONTINENTAL), 491 rev/mile, 75 MPH, Drive	0/60	60
Services Section:			
40128	WARRANTY Standard for HV507, HV50B, HV607 Models, Effective with Vehicles Built July 1, 2017 or Later, CTS-2025A	0/0	0
Total Component Weight:		8927/5387	14314
Body/Allied Equipment	Description	F/R Wt	Tot Wt
Code	Description	F/R Wt	Tot Wt
Goods Purchased	Description	F/R Wt	Tot Wt
Code	Description	F/R Wt	Tot Wt
	Pre-Delivery and Programming	0/0	0
	(2) Hadley Hood Mounted Air Horns w/ Driver & Pass. Foot Switches	0/0	0
	Exhaust Extension to exit in front of the right rear wheel	0/0	0
Total Goods Purchased:		0/0	0

The weight calculations included in this proposal are an estimate of future vehicle weight. The actual weight as manufactured may be different from the estimated weight. Navistar, Inc. shall not be liable for any consequences resulting from any differences between the estimated weight of a vehicle and the actual weight.