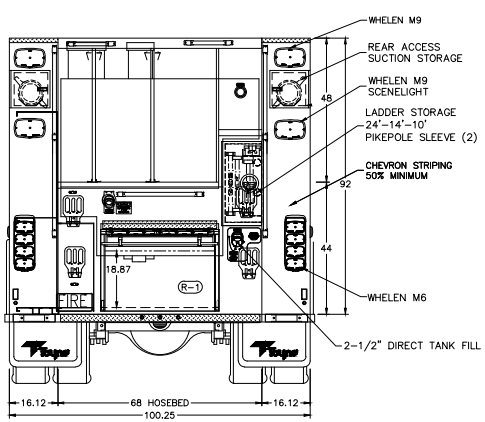
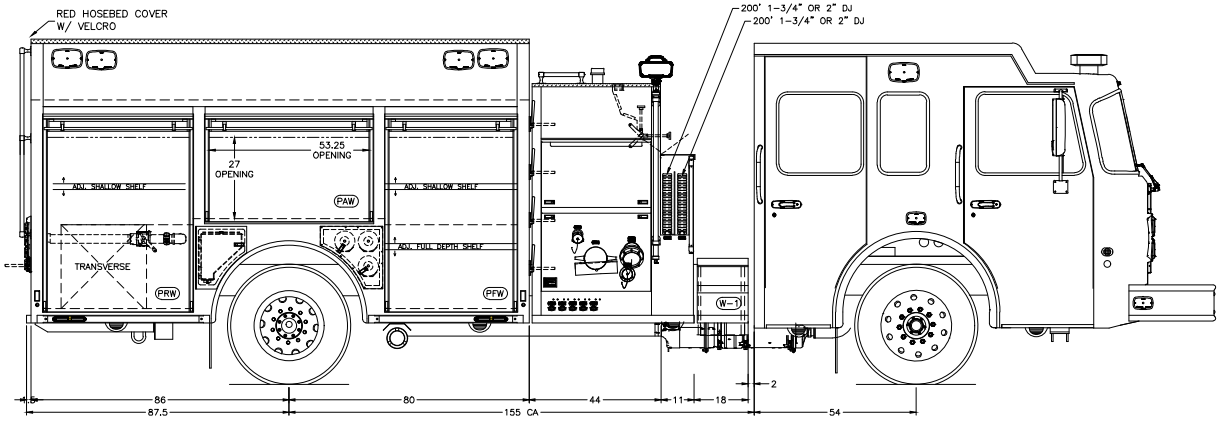
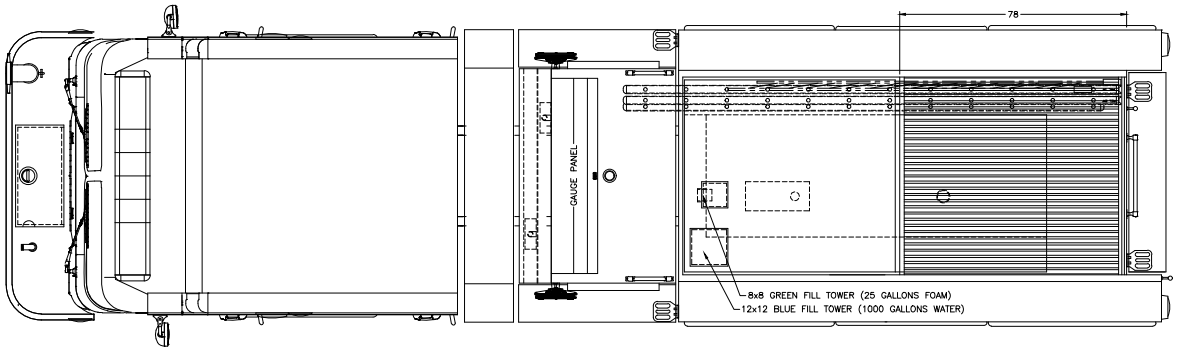
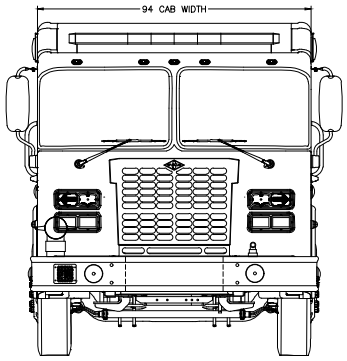
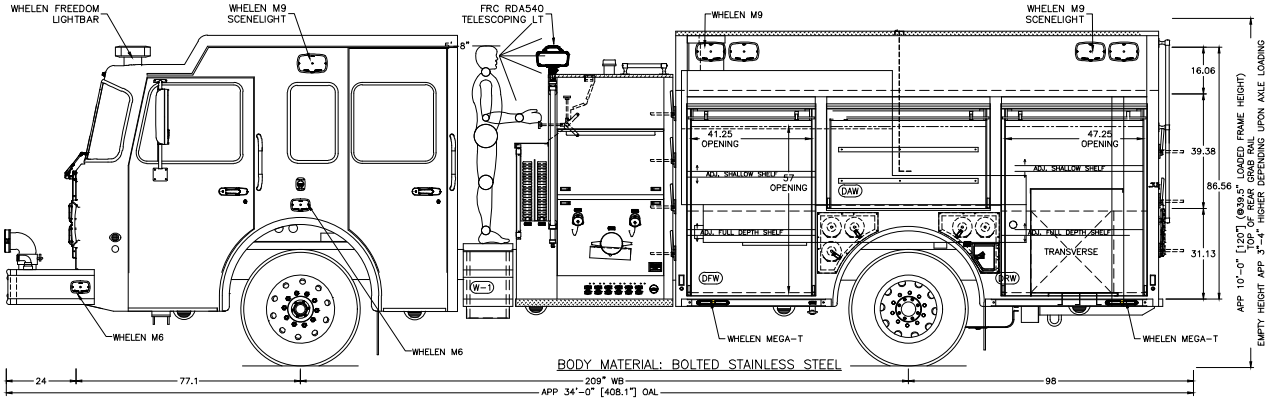




COMP.	HEIGHT	WIDTH	USABLE DEPTH UPPER	USABLE DEPTH LOWER	DIVIDE HEIGHT	FT³
DFW	67.12	35.88	14	26	28	26.49
DAW	37.12	63.75	14	–	–	19.18
DRW	67.12	44.00	14	26	28	32.49
PFW	67.12	35.88	14	26	28	26.49
PAW	37.12	63.75	14	–	–	19.18
PRW	67.12	44.00	14	26	28	32.49
R-1	28.00	44.00	–	30	–	21.39
HOSEBED	48	68	–	78	–	136.00
FRONT XLAY	25.75	4.62	–	73.75	–	5.08
REAR XLAY	25.75	4.62	–	73.75	–	5.08





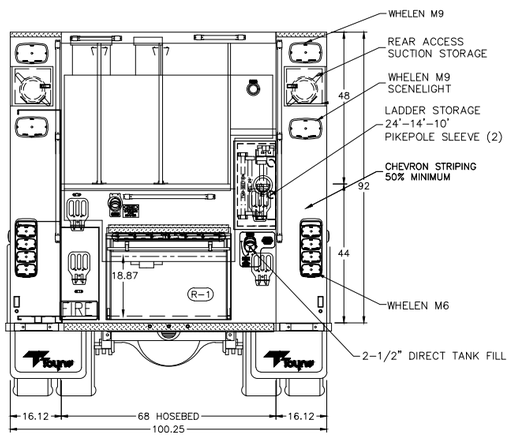


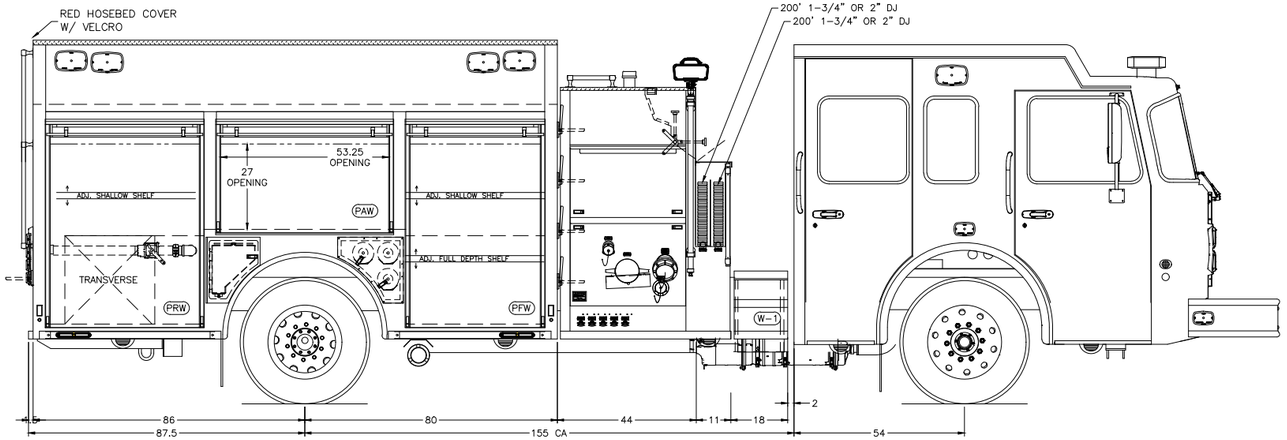
NOTE:
DIMENSIONS SHOWN ARE APPROXIMATE AND ARE SUBJECT TO MINOR CHANGE AS MAY BE FOUND NECESSARY DURING CONSTRUCTION. MINOR DETAILS MAY NOT BE SHOWN.
IF DISCREPANCIES EXIST BETWEEN THIS DRAWING AND THE WRITTEN SPECIFICATIONS PROVIDED BY TOYNE, THE WRITTEN SPECIFICATIONS SHALL PREVAIL.

ORIGINAL DRAWING	0SEPT26	CHASSIS:	SPARTAN FC94 MFD 10" RR	SCALE:1/66	SHEET: A
REVIEW	22SEPT26	WB-CA-AF:	209"-155"-41" D17	CITY:	--
		BODY MATL:	BOLTED STAINLESS STEEL	STATE:	--
		PUMP:	WATEROUS CSU 1500	DLR:	TOY
		TANK:	1000 "L" POLY TANK	CAD:	GROSSMAN
		FOAM SYSTEM:	PRE-PIPE	DATE:	10 SEPTEMBER 2026
		GENERATOR:	N/A	FILE:	14818Demo

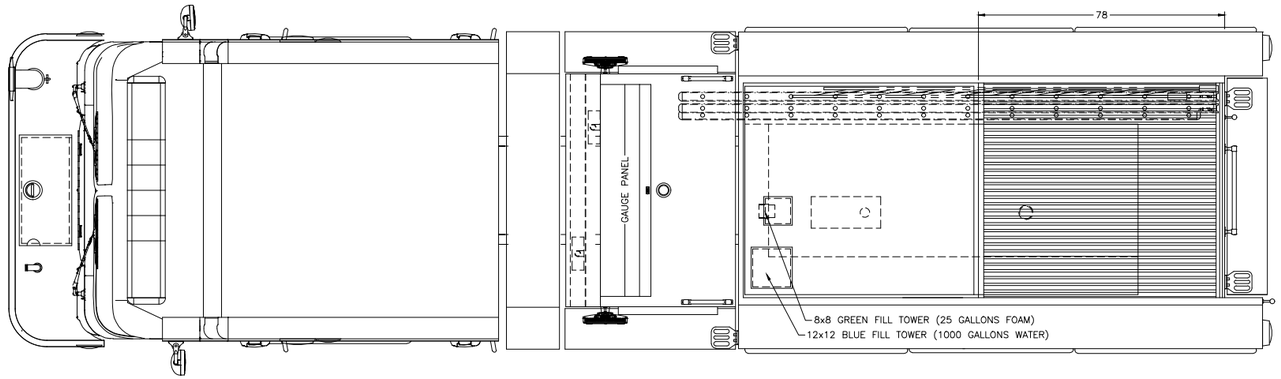
Toyne
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BREDA, IA 51436
800-648-3358
WWW.TOYNE.COM

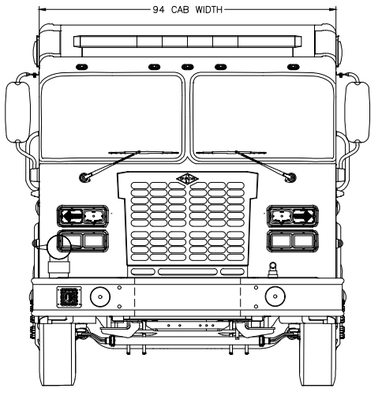
14818 Demo
CUSTOM PUMPER

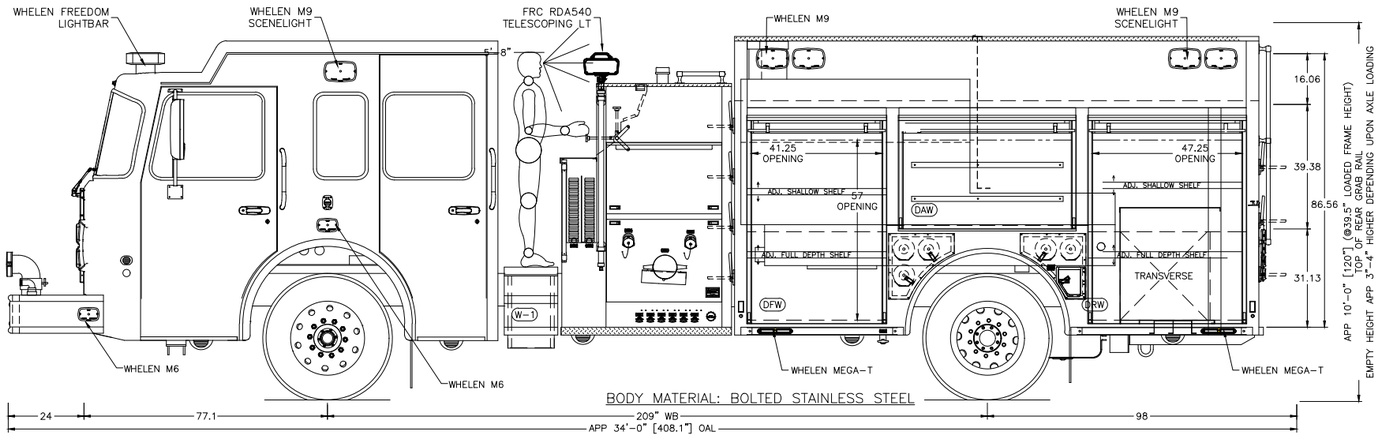




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ORIGINAL DRAWING	10SEPT26	CHASSIS:	SPARTAN FC94 MFD 10" RR	SCALE: 1/48	SHEET: B	BREDA, IA 51436 800-648-3358 WWW.TOYNE.COM
REVIEW	22SEPT26	WB-CA-AF:	209"-155"-41" D17	CITY: --		
NOTE: PRINT MUST BE SIGNED BY A RESPONSIBLE PERSON AND RETURNED BEFORE CONSTRUCTION WILL PROCEED.		BODY MATL:	BOLTED STAINLESS STEEL	STATE: --		
		PUMP:	WATEROUS CSU 1500	DLR:	TOY	
SIGNATURE:		TANK:	1000 "L" POLY TANK	CAD:	GROSSMAN	14818 Demo
PRINT NAME:		FOAM SYSTEM:	PRE-PIPE	DATE:	10 SEPTEMBER 2026	CUSTOM PUMPER
TITLE: DATE:		GENERATOR:	N/A	FILE:	14818Demo	

Quotation

Description

VEHICLE

0100-020	**MODEL**	FC-94
8012-019	**CUSTOMERS / OEMS**	Toyne (TOY1000)[1002914]
8011-028	**MODEL YEAR**	Model Year - 2028
8001-001	**COUNTRY OF SERVICE**	Country of Service United States Of America
8065-014	**EMISSIONS CERTIFICATION LEVEL**	Emissions Certification Level - EPA 2027 w/Legacy L9 & Aftertreatment
8017-001	**CAB AND CHASSIS LABELING LANGUAGE**	Cab and Chassis Labeling Language English
8006-009	**APPARATUS TYPE**	Apparatus Type Pumper
8008-001	**VEHICLE TYPE**	Vehicle Type Straight Truck
8008A-000	**VEHICLE ANGLE OF APPROACH PACKAGE**	Vehicle Angle of Approach NFPA Minimum 8.00 Degrees
0104-001	**AXLE CONFIGURATION**	Axle Configuration 4x2 (Rear Axle Drive Only)
0101-003	**GROSS AXLE WEIGHT RATINGS FRONT**	GAWR Front 20000#
0102-004	**GROSS AXLE WEIGHT RATINGS REAR**	GAWR Rear 27000#
8010-201	**PUMP PROVISION**	Pump Provision Driveline Midship, Pump Mode Prog w/Auto Park Brake "N"
8003-200	**WARRANTY**	Warranty Cab and Chassis (1) Year RFW0101

CAB

1000-004	**CAB STYLE**	Cab Style MFD 10" Raised Roof
8101-303	**OCCUPANT PROTECTION**	Occupant Protection IMMI 4Front
1501-018	**CAB FRONT FASCIA**	Cab Frt Fascia Classic w/Quad Headlight Bezels
1518-060	**FRONT GRILLE**	Cab Frt Grille FC-94
1551-002	**CAB UNDERCOAT**	Cab Undercoat
1552-002	**CAB SIDE DRIP RAIL**	Cab Side Drip Rail
1521-001	**CAB PAINT EXTERIOR**	Cab Paint Exterior Single Color
1533-001	**CAB PAINT PROCESS/MANUFACTURER**	Cab Paint Process/Manufacturer PPG
1522-086	**CAB PAINT PRIMARY/LOWER COLOR**	Cab Paint Primary/Lower Color PPG Red FBCH 71663
8013-154	**CAB PAINT WARRANTY**	Cab Paint Warranty PPG (1) Year RFW0701
1334-036	**CAB PAINT INTERIOR**	Cab Paint Int Multi-tone Silver Gray
1005-001	**CAB ENTRY DOORS**	Cab Entry Doors (4)
1101-102	**CAB ENTRY DOOR TYPE**	Cab Entry Door Type Barrier Free w/Pollak Switches
1322-007	**CAB INSULATION**	Cab Insulation Nonwoven Polyester Fiber
8004-032	**CAB STRUCTURAL WARRANTY**	Cab Structural Warranty (5) Year RFW0601
9001-006	**CAB TEST INFORMATION**	Cab Test Information Crash Test ECE-R29/SAE J2420/SAE J2422

ELECTRICAL POWER DISTRIBUTION

5000-018	**ELECTRICAL SYSTEM**	Elec System 12V DC Multiplex
5005-214	**VEHICLE DISPLAY**	Vehicle Display Multiplex VFD Display
5004-002	**LOAD MANAGEMENT SYSTEM**	Load Management System Multiplex
5622-003	**DATA RECORDING SYSTEM**	Data Recording Sys Vehicle Data Weldon MUX
5031-005	**ACCESSORY POWER**	Accessory Pwr & Gnd Stud 40A Batt Dir & 15A Ign Sw & 225A Batt Dir OEM Conn
5011-001	**EXTERIOR ELECTRICAL TERMINAL COATING**	Exterior Electrical Terminal Coating Spray On Plasti Dip

8014-001	**ELECTRICAL SYSTEM WARRANTY**	Electrical System Warranty (1) Year RFW0201

ENGINE

1701-168	**ENGINE**	Engine Diesel 450HP Cummins L9
1329-001	**CAB ENGINE TUNNEL**	Cab Engine Tunnel Small/Medium
1731-002	**DIESEL PARTICULATE FILTER CONTROLS**	DPF Ctrl Regeneration Sw & Inhibit Sw
1718-002	**ENGINE PROGRAMMING HIGH IDLE SPEED**	Engine Programming High Idle Speed 1250 RPM
1719-004	**ENGINE HIGH IDLE CONTROL**	Engine High Idle Ctrl Automatic and Manual
1710-001	**ENGINE PROGRAMMING ROAD SPEED GOVERNOR**	Engine Programming Road Speed Governor Enabled
1713-010	**AUXILIARY ENGINE BRAKE**	Aux Engine Brake Compression Brake w/VG Turbo
1708-004	**AUXILIARY ENGINE BRAKE CONTROL**	Aux Engine Brake Ctrl On/Off & Low/Med/High Sw Pnl
1720-003	**ELECTRONIC ENGINE OIL LEVEL INDICATOR**	Elec Engine Oil Level Indicator
1715-008	**FLUID FILLS**	Fluid Fills Under Cab
1735-001	**ENGINE DRAIN PLUG**	Engine Drain Plug
8002-001	**ENGINE WARRANTY**	Engine Warranty Cummins (5) Year/100,000 Miles
1707-116	**REMOTE THROTTLE HARNESS**	Rmt Throttle Harness Cab Harness Only Shift Interlock
1721-001	**ENGINE PROGRAMMING REMOTE THROTTLE**	Engine Program Rmt Throttle Off
1727-001	**ENGINE PROGRAMMING IDLE SPEED**	Engine Programming Idle Speed 700 RPM

AIR INTAKE

2801-010	**ENGINE AIR INTAKE**	Engine Air Intake Filtration and Restriction w/Replaceable Element Abv Radiator

COOLING

2704-016	**ENGINE FAN DRIVE**	Engine Fan Drive Variable Speed
2701-021	**ENGINE COOLING SYSTEM**	Engine Cooling System Serial Flow w/Package Drop-Out Prov
2711-002	**ENGINE COOLING SYSTEM PROTECTION**	Engine Cooling System Protection Light Duty Skid Plate
2708-001	**ENGINE COOLANT**	Engine Coolant Extended Life
2706-003	**ELECTRONIC COOLANT LEVEL INDICATOR**	Elec Low Coolant Level Indicator
2709-001	**COOLANT HOSES**	Coolant Hoses Silicone
2710-005	**ENGINE COOLANT OVERFLOW BOTTLE**	Engine Coolant Overflow Expansion Bottle
2705-002	**ENGINE PUMP HEAT EXCHANGER**	Engine Pump Heat Exchanger
2715-002	**PUMP PANEL/BODY HEATER PROVISION**	Pump Panel/Body Heater Provision

EXHAUST

2901-068	**ENGINE EXHAUST SYSTEM**	Eng Exhaust Sys Under Frm RH Single Module Aftertreatment Inboard
2907-003	**DIESEL EXHAUST FLUID TANK**	Diesel Exhaust Fluid Tank LH 6 Gal Fill Thru Rr Step
2902-010	**ENGINE EXHAUST ACCESSORIES**	Engine Exhaust Acc Temp Mitigation
2906-002	**ENGINE EXHAUST WRAP**	Engine Exhaust Wrap
8018-002	**EMISSIONS SYSTEM WARRANTY**	Emissions System Warranty (5) Years/100,000 Miles RFW0140

TRANSMISSION

1801-015	**TRANSMISSION**	Transmission Allison 3000 EVS
1806-002	**TRANSMISSION MODE PROGRAMMING**	Transmission Mode Programming 5th Startup/5th Mode
1811-004	**TRANSMISSION FEATURE PROGRAMMING**	Transmission Feature Programming Allison Gen 5 & 6-E I/O Package 198/Pumper
1807-005	**TRANSMISSION SHIFT SELECTOR**	Transmission GEN 5 & 6-E Shift Sel Key Pad/Push Button
1815-002	**ELECTRONIC TRANSMISSION OIL LEVEL INDICATOR**	Elec Transmission Oil Level Indicator
1814-002	**TRANSMISSION PRE-SELECT WITH AUXILIARY BRAKE**	2nd Gear Pre-Select
1808-007	**TRANSMISSION COOLING SYSTEM**	Transmission Cooling System
1817-001	**TRANSMISSION DRAIN PLUG**	Transmission Drain Plug
8005-001	**TRANSMISSION WARRANTY**	Transmission Warranty Allison (5) Year

POWER TAKE OFF

2005-009	**PTO LOCATION**	PTO Location 8:00/4:00

DRIVELINE

3001-014	**DRIVELINE**	Driveline MSI 1710 w/Meritor U-Joints w/Thrust Washers
3005-002	**MIDSHIP PUMP / GEARBOX**	Midship Pump Jackshaft Only
3008-085	**MIDSHIP PUMP / GEARBOX MODEL**	Midship Pump/Gearbox Model Waterous CSUC20/C22 Fwd
3048-007	**MIDSHIP PUMP GEARBOX DROP**	Midship Driveline Pump Gearbox Drop Waterous "C"
3009-007	**MIDSHIP PUMP RATIO**	Midship Pump Ratio 2.27:1
3010-090	**MIDSHIP PUMP LOCATION C/L**	Midship Pump Location C/L Suction to C/L Rear Axle 90.0"
0	**SUCTION TO C/L REAR AXLE**	

FUEL SYSTEMS

3109-067	**FUEL FILTER/WATER SEPARATOR**	Fuel Filter/Wtr Separator Fleetguard FS20121 w/Lt & Alarm
3111-001	**FUEL LINES**	Fuel Lines Nylon
3103-008	**ELECTRIC FUEL PRIMER**	Electric Fuel Primer Engine Sply Electric Lift Pump
3101-101	**FUEL TANK**	Fuel Tank 50 Gallon
3130-001	**FUEL TANK MATERIAL AND FINISH**	Fuel Tank Material Steel & Finish Painted Frame Components Color
3131-001	**FUEL TANK STRAP MATERIAL AND FINISH**	Fuel Tank Strap Material Steel & Finish Painted Frame Components Color
3102-007	**FUEL TANK FILL PORT**	Fuel Tank Fill Port LH Rwd/RH Mid
3115-002	**FUEL TANK DRAIN PLUG**	Fuel Tank Drain Plug Magnetic

FRONT AXLE

2401-003	**FRONT AXLE**	Frt Axle Meritor MFS 20000# Beam
8059-028	**FRONT AXLE WARRANTY**	Front Axle Warranty Meritor 2028
2405-001	**FRONT WHEEL BEARING LUBRICATION**	Frt Wheel Bearing Lube Oil

FRONT SUSPENSION

2502-002	**FRONT SHOCK ABSORBERS**	Frt Shock Absorbers Bilstein
2501-016	**FRONT SUSPENSION**	Frt Suspension 10 Leaf 20000-21500#

STEERING

2601-006	**STEERING COLUMN/WHEEL**	Steering Column/Wheel Tilt/Telescopic 18" 4 Spoke
2609-002	**ELECTRONIC POWER STEERING FLUID LEVEL INDICATOR**	Elec Power Steering Fluid Level Indicator
2603-011	**POWER STEERING PUMP**	Power Steering Pump TRW w/Passive Cooler
2606-009	**FRONT AXLE CRAMP ANGLE**	Front Axle Cramp Angle 48L/44R Degrees
2610-003	**POWER STEERING GEAR**	Power Steering Gear TRW TAS 65 w/Assist
2608-001	**CHASSIS ALIGNMENT**	Chassis Alignment

REAR AXLE

3401-003	**REAR AXLE**	Rear Axle 27000# Meritor RS-25-160
8061-023	**REAR AXLE WARRANTY**	Rear Axle Warranty Meritor 2028
3403-001	**REAR AXLE DIFFERENTIAL LUBRICATION**	Rear Axle Differential Lubrication Oil
3411-001	**REAR WHEEL BEARING LUBRICATION**	Rear Wheel Bearing Lubrication Oil
3408-008	**VEHICLE TOP SPEED**	Vehicle Top Speed 68 MPH
3410-001	**REAR AXLE EXTERNAL VENT**	Rear Axle External Vent OEM Housing Breather

REAR SUSPENSION

3501-032	**REAR SUSPENSION**	Rear Susp Reyco 79KB Spring 21000-31500# Conventional

TIRES

3625-002	**TIRE INTERMITTENT SERVICE RATING**	Tire Intermittent Service Ratings Acceptable
3601-045	**FRONT TIRE**	Frt Tire 315/80R 22.5 Michelin XZUS 2
3602-012	**REAR TIRE**	Rear Tire 12R 22.5 Michelin XDN2
3413-513	**REAR AXLE RATIO**	Rear Axle Ratio 5.13
3614-030	**TIRE PRESSURE INDICATOR**	Tire Pressure Ind Frt & Rr LED

WHEELS

3701-036	**FRONT WHEEL**	Frt Wheel Alcoa 22.5 x 9.00 Alum
3703-061	**REAR WHEEL**	Rr Whl Alcoa 22.5 x 8.25 Alum

BRAKES

3205-012	**BRAKE SYSTEM**	Brake System ABS/ATC/ESC Sgl Axle
3206-001	**FRONT BRAKES**	Frt Brakes S-Cam Drum 16.5" x 6"
3207-009	**REAR BRAKES**	Rr Brakes S-Cam Drum 16.5" x 8.6" Cast Iron Shoe
3208-001	**PARK BRAKE**	Prk Brake Rr Wheels Only
3204-029	**PARK BRAKE CONTROL**	Prk Brake Ctrl LH Tunnel Mnt, Integrated w/Shift Pod, Adjacent To Trans Shifter
3213-001	**FRONT BRAKE SLACK ADJUSTERS**	Frt Brake Slack Adjusters Meritor
3214-001	**REAR BRAKE SLACK ADJUSTERS**	Rr Brake Slack Adjusters Meritor
3202-001	**AIR DRYER**	Air Dryer Wabco System Saver 1200 Bhd RH Step
3215-001	**FRONT BRAKE CHAMBERS**	Frt Brake Chambers MGM Type 30
3210-015	**REAR BRAKE CHAMBERS**	Rr Brake Chambers TSE 30/36 Long Stroke

AIR SUPPLY SYSTEMS

3320-001	**AIR COMPRESSOR**	Air Compressor Wabco SS318 18.7 CFM
3339-004	**AIR GOVERNOR**	Air Governor Mnt on Air Dryer Bracket

3303-001	**MOISTURE EJECTORS**	Moisture Ejectors Manual
3307-101	**AIR SUPPLY LINES**	Air Sply Lines Nylon w/PTC Fittings
3334-002	**AIR TANK SPACERS**	Air Tank Spacers Inboard 1.5"
3338-001	**REAR AIR TANK MOUNTING**	Rear Air Tank Mnt Any Bhd Rear Axle Parallel w/Frame

FRAME

2103-209	**WHEELBASE**	Wheelbase 209.0"
0		
2106-041	**REAR OVERHANG**	Rear Overhang 41.0"
0		
2101-002	**FRAME**	Frame Double Channel 35.00" Width
2110-101	**FRAME PAINT**	Frame Paint Powder Coat Black
8007-034	**FRAME ASSEMBLY STRUCTURAL WARRANTY**	Frame Assembly Structural Warranty (5) Year RFW0301
8019-002	**FRAME RAIL CORROSION WARRANTY**	Frame Rail Corrosion Warranty (3) Year RFW0311
8022-003	**FRAME COMPONENTS CORROSION WARRANTY**	Frame Components Corrosion Warranty (1) Year RFW0313

BUMPER

2201-001	**FRONT BUMPER**	Frt Bumper Stainless Steel Flat
2202-006	**FRONT BUMPER EXTENSION LENGTH**	Frt Bumper Extension Length 24"
2215-002	**FRONT BUMPER SUCTION PROVISION**	Frt Bumper Suction Provision 5.0" RH Vertical Outboard
2208-007	**FRONT BUMPER APRON**	Frt Bumper Apron For 24" Extension
2237-005	**FRONT BUMPER DISCHARGE**	Front Bumper Discharge 2.5" LH Frame Mnt Plumbing
2211-118	**FRONT BUMPER COMPARTMENT CENTER**	Frt Bumper Cmpt Ctr Full Size 38.00"Wx12.00"D w/Cover
2210-002	**FRONT BUMPER COMPARTMENT COVER HARDWARE**	Frt Bumper Cmpt Cover Hardware Gas Cylinder/D-Ring
5501-020	**AIR HORN**	Air Horn (2) 21" Round Hadley E-Tone
2216-010	**AIR HORN LOCATION**	Air Horn Location (2) Frt Bmpr Face R/L IB
2232-002	**AIR HORN RESERVOIR**	Air Horn Reservoir (1) 1200 Cu In
5504-060	**ELECTRONIC SIREN SPEAKER**	Elect Siren Speaker 100W Federal Signal Dynamax w/EF Grille
2217-005	**ELECTRONIC SIREN SPEAKER LOCATION**	Elec Siren Speaker Location Frt Bmpr Face RH OB
2203-002	**FRONT BUMPER TOW HOOKS**	Frt Bumper Tow Hooks Painted Below Fwd

CAB TILT

2301-001	**CAB TILT SYSTEM**	Cab Tilt System
2303-003	**CAB TILT LIMIT SWITCH**	Cab Tilt Limit Sw Preset Limit
2305-001	**CAB TILT CONTROL RECEPTACLE**	Cab Tilt Ctrl Receptacle Temp
2306-002	**CAB TILT LOCK DOWN INDICATOR**	Cab Tilt Lock Down Indicator

CAB GLASS

1401-009	**CAB WINDSHIELD**	Cab Windshield
1402-005	**GLASS FRONT DOOR**	Glass Frt Dr Roll Down/XDuty Regulator
1407-001	**GLASS TINT FRONT DOOR**	Glass Tint Frt Dr Automotive Green
1419-012	**GLASS REAR DOOR RIGHT HAND**	Glass Rr Dr RH Roll Down/XDuty Regulator
1430-001	**GLASS TINT REAR DOOR RIGHT HAND**	Glass Tint Rr Door RH Automotive Green
1412-013	**GLASS REAR DOOR LEFT HAND**	Glass Rr Dr LH Roll Down/XDuty Regulator
1431-001	**GLASS TINT REAR DOOR LEFT**	Glass Tint Rr Door LH Automotive Green

	HAND	
1410-003	**GLASS SIDE MID RIGHT HAND**	Glass Side Mid RH Fxd 16"W x 26"H
1432-001	**GLASS TINT SIDE MID RIGHT HAND**	Glass Tint Side Mid RH Automotive Green
1409-003	**GLASS SIDE MID LEFT HAND**	Glass Side Mid LH Fxd 16"W x 26"H
1433-001	**GLASS TINT SIDE MID LEFT HAND**	Glass Tint Side Mid LH Automotive Green

CLIMATE CONTROL

1614-101	**CLIMATE CONTROL**	Climate Ctrl Htr Defroster Frt Ovrhd/Htr A/C Tunnel Mnt
1632-002	**CLIMATE CONTROL DRAIN**	Climate Control Drain Gravity
1617-101	**CLIMATE CONTROL ACTIVATION**	Climate Ctrl Actv Device Mnt Ovrhd/Device Mnt Tunnel
1603-003	**A/C CONDENSER LOCATION**	A/C Condenser Location Roof Mnt Fwd Ctr
1601-001	**A/C COMPRESSOR**	A/C Compressor Large Capacity
1530-100	**UNDER CAB INSULATION**	Under Cab Insulation Engine Tunnel

CAB INTERIOR

1327-036	**INTERIOR TRIM FLOOR**	Interior Trim Floor w/Cast Alum Trim
1302-001	**INTERIOR TRIM**	Interior Trim Vinyl
1368-002	**REAR WALL INTERIOR TRIM**	Rear Wall Interior Trim Vinyl
1306-006	**HEADER TRIM**	Header Trim XDuty
1305-014	**TRIM CENTER DASH**	Trim Center Dash XDuty
1339-102	**TRIM LEFT HAND DASH**	Trim LH Dash XDuty
1321-030	**TRIM RIGHT HAND DASH**	Trim RH Dash XDuty Glove Cmpt/MDT Prov/4.50"H Glovebox
1307-002	**ENGINE TUNNEL TRIM**	Eng Tnl Trim Flr Mat
5040-188	**POWER POINT DASH MOUNT**	Pwr Pnt Dash Mnt Batt Dir (1) Sw Pnl/(1) Dual USB Blue Sea 4.8A Batt Dir Sw Pnl
1303-056	**STEP TRIM**	Step Trim Embossed & Diamond Cut TPlt Lwr, TPlt Mid
1379-002	**UNDER CAB ACCESS DOOR**	Under Cab Access Door Rear Step LH DA Sanded
1102-013	**INTERIOR DOOR TRIM**	Interior Door Trim Painted
1105-001	**CAB DOOR TRIM REFLECTIVE**	Cab Dr Trim Reflective Vert Stripe/6" Chevron w/Logo
1308-001	**INTERIOR GRAB HANDLE "A" PILLAR**	Interior Grab Handle 'A' Pillar 11" Molded
1332-008	**INTERIOR GRAB HANDLE FRONT DOOR**	Interior Grab Handle Frt Door Horiz 9"
1345-002	**INTERIOR GRAB HANDLE REAR DOOR**	Int Grab Handle Rr Dr Alum Window Span 30" Black Powder Coat
1301-003	**INTERIOR SOFT TRIM COLOR**	Interior Soft Trim Color Gray
1337-001	**INTERIOR TRIM SUNVISOR**	Interior Trim Sunvisor Vinyl
1304-001	**INTERIOR FLOOR MAT COLOR**	Interior Floor Mat Color Gray
1335-017	**CAB PAINT INTERIOR DOOR TRIM**	Cab Paint Int Dr Trim Multi-tone Silver Gray
1371-017	**HEADER TRIM INTERIOR PAINT**	Header Trim Interior Paint Multi-tone Silver Gray
1370-019	**TRIM CENTER DASH INTERIOR PAINT**	Trim Center Dash Interior Paint Multi-tone Silver Gray
1378-018	**TRIM LEFT HAND DASH INTERIOR PAINT**	Trim LH Dash Interior Paint Multi-tone Silver Gray
1373-018	**TRIM RIGHT HAND DASH INTERIOR PAINT**	Trim RH Dash Interior Paint Multi-tone Silver Gray
1344-002	**DASH PANEL GROUP**	Dash Pnl Group 3-Pnl
1312-005	**SWITCHES CENTER PANEL**	Switches Ctr Pnl 12 Upr
1313-054	**SWITCHES LEFT PANEL**	Switches Left Pnl 12 (6+6) w/Headlight/Dimmer/Wiper
1314-001	**SWITCHES RIGHT PANEL**	Switches Right Pnl 0

CAB SEATS

1225-018	**SEAT BELT WARNING**	Seat Belt Warn Indv Seat Loc & LED Display w/VDR Weldon
1237-005	**SEAT MATERIAL**	Seat Material Bostrom Durawear Plus

1243-001	**SEAT COLOR**	Seat Color Gray/Red Seat Belts
1249-001	**SEAT BACK LOGO**	Seat Back Logo Spartan
1201-007	**SEAT DRIVER**	Seat Driver Bostrom Firefighter 8-Way Elect ABTS
1213-025	**SEAT BACK DRIVER**	Seat Back Driver Non-SCBA ABTS
1219-001	**SEAT MOUNTING DRIVER**	Seat Mounting Driver
8102-206	**OCCUPANT PROTECTION DRIVER**	Occupant Protection Driver 4Front & Mechanical/Elect Pretensioner
1202-047	**SEAT OFFICER**	Seat Officer Bostrom Firefighter Fixed 300 Series ABTS
1214-055	**SEAT BACK OFFICER**	Seat Back Officer SCBA Bostrom SecureAll+
1220-002	**SEAT MOUNTING OFFICER**	Seat Mounting Officer
8103-206	**OCCUPANT PROTECTION OFFICER**	Occupant Protection Officer 4Front & Mechanical/Elect Pretensioner
1297-002	**POWER SEAT WIRING**	Power Seats Wiring Battery Direct
1273-001	**SEAT BELT ORIENTATION CREW**	Seat Belt Orientation Crew Outboard Shoulder To Inboard Hip
1263-001	**SEAT REAR FACING OUTER LOCATION**	Seat RFO Location Primary Pos (2) R/L
1203-029	**SEAT CREW REAR FACING OUTER**	Seat Crew RFO Bostrom Firefighter Flip-Up 300 Series
1215-055	**SEAT BACK REAR FACING OUTER**	Seat Back RFO SCBA Bostrom SecureAll+
1221-009	**SEAT MOUNTING REAR FACING OUTER**	Seat Mounting RFO Rwd 2"
1266-001	**SEAT FORWARD FACING CENTER LOCATION**	Seat FFC Location Secondary Pos (2) Ctr
1206-041	**SEAT CREW FORWARD FACING CENTER**	Seat Crew FFC Bostrom Firefighter Flip-Up 300 Series
1218-057	**SEAT BACK FORWARD FACING CENTER**	Seat Back FFC SCBA Bostrom SecureAll+
1269-101	**SEAT FRAME FORWARD FACING**	Seat Frm Fwd Fcg Dual Width
1281-104	**SEAT FRAME FORWARD FACING STORAGE ACCESS**	Seat Frm Fwd Fcg Strg Acc Cutout (2) R/L Sd
1224-002	**SEAT MOUNTING FORWARD FACING CENTER**	Seat Mounting Forward Facing Center

CAB EXTERIOR

1511-200	**WINDSHIELD WIPER SYSTEM**	Windshield Wiper System
1534-002	**ELECTRONIC WINDSHIELD FLUID LEVEL INDICATOR**	Electronic Windshield Fluid Level Indicator
1103-002	**CAB DOOR HARDWARE**	Cab Door Hardware Black Composite
1111-001	**DOOR LOCKS**	Door Locks Manual
1503-200	**GRAB HANDLES**	Grab Handles SS 18"
1504-014	**REARVIEW MIRRORS**	Mirror Aerodynamic Retrac 613305 Rmt Htd
1529-002	**REARVIEW MIRROR HEAT SWITCH**	Rearview Mirror Heat Sw Pnl
1513-010	**CAB FENDER**	Cab Fender Alum Wide w/ABS Liner
1526-005	**CAB EXTERIOR FRONT & SIDE EMBLEMS**	Cab Ext Frt & Side Emblems Spartan Frt Only
1502-056	**CAB EXTERIOR MODEL NAMEPLATE**	Cab Exterior Model Nameplate FC-94

START / CHARGING SYSTEMS

5109-015	**IGNITION**	Ign Mstr Rkr Sw w/Push-Button Start
5101-020	**BATTERY**	Batt (3) Group 31 Harris
5106-001	**BATTERY TRAY**	Batt Tray LH Steel
5107-002	**BATTERY BOX COVER**	Batt Box Cover LH Steel w/Black Handle
5102-002	**BATTERY CABLE**	Batt Cables w/Rmt Terminal Stud
5108-010	**BATTERY JUMPER STUD**	Batt Jumper Stud Frt LH Lwr Step 8" Apart
5104-002	**ALTERNATOR**	Alternator Leece-Neville 320A
5105-001	**STARTER MOTOR**	Starter Motor Delco

LINE VOLTAGE ELECTRICAL POWER DISTRIBUTION

5202-400	**BATTERY CONDITIONER**	Batt Cond Kussmaul Chief 4012 40A
5218-002	**BATTERY CONDITIONER LOCATION**	Batt Cond Loc LH RFO Seat Position
5203-200	**BATTERY CONDITIONER DISPLAY**	Batt Cond Display Integrated In Elec Inlet w/Digital Status Center
5220-002	**BATTERY CONDITIONER DISPLAY LOCATION**	Batt Cond Display Location Integrated with Elec Inlet
3314-207	**AUXILIARY AIR COMPRESSOR**	Aux Air Cmp Kussmaul 12V w/Auto Drain
3370-002	**AUX AIR COMPRESSOR LOCATION**	Aux Air Compressor Location RH Under Dash
5209-002	**ELECTRICAL INLET LOCATION**	Elec Inlet Location LH Cab Side Mid
5204-055	**ELECTRICAL INLET**	Elec Inlet 120V 20A Auto Eject
5210-004	**ELECTRICAL INLET CONNECTION**	Elec Inlet Conn to Batt Conditioner
5206-002	**ELECTRICAL INLET COLOR**	Elec Inlet Color Yellow

LIGHTING

5301-102	**HEADLIGHTS**	Headlights 4 Headlamps LED
5303-004	**FRONT TURN SIGNALS**	Frt Turn Signals Whelen 600 LED
5337-001	**HEADLIGHT LOCATION**	Headlights Below Frt Warn Lts
5336-015	**SIDE TURN/MARKER LIGHTS**	Side Turn/Marker Lts LED Tecniq S170
5302-022	**MARKER & ICC LIGHTS**	Marker & ICC Lts Face Mnt LED Tecniq S170
5350-092	**HEADLIGHT AND MARKER LIGHT ACTIVATION**	Hdlt & Mrkr Lt Actv Rkr Sw/DRL Ign Sw
5305-350	**INTERIOR OVERHEAD LIGHTS**	Interior Overhead Lts Red/Clear LED
5388-002	**INTERIOR OVERHEAD LIGHTING ACTIVATION**	Int Ovrhd Lt Actv Resp Dr
5403-062	**LIGHTBAR PROVISION**	Lightbar Prov Wire & Lwr Mnt Chassis Supply
5450-233	**CAB FRONT LIGHTBAR**	Cab Frt Ltbar Whelen Freedom F4N72QLED 12R2C Layout 1
5426-002	**LIGHTBAR SWITCH**	Lightbar Sw Pnl
5306-220	**SIDE SCENE LIGHTS**	Side Scene Lts Whelen M9 EZ Series 12V LED
5318-004	**SIDE SCENE LIGHT LOCATION**	Side Scene Lt Loc Upper Mid Rwd 10" Roof Position
5316-004	**SIDE SCENE ACTIVATION**	Side Scene Actv Indv Sw & Resp Side Doors
5308-300	**GROUND LIGHTS**	Ground Lts Tecniq T44 LED
5386-002	**GROUND LIGHTING ACTIVATION**	Ground Lt Actv Prk Brk
5309-003	**LOWER CAB STEP LIGHTS**	Lwr Cab Step Lts Tecniq T44 LED
5382-008	**INTERMEDIATE STEP LIGHTS**	Intermediate Step Lts Tecniq D06 LED Frt Drs
5312-003	**ENGINE COMPARTMENT LIGHT**	Engine Cmpt Work Lt LED (1)

OPTICAL WARNING DEVICES

5406-119	**DO NOT MOVE APPARATUS LIGHT**	Do Not Move App Lt Flashing Red Tecniq K50 LED w/Alarm
5422-001	**MASTER WARNING SWITCH**	Mstr Warn Sw Pnl
5401-032	**INBOARD FRONT WARNING LIGHTS**	Inboard Frt Warn Lts Whelen M6 LED Chrm Bezel
5413-002	**INBOARD FRONT WARNING LIGHTS COLOR**	Inboard Frt Warn Lts Color Red
5423-007	**FRONT WARNING SWITCH**	Frt Warn Sw Pnl
5404-027	**INTERSECTION WARNING LIGHTS**	Intersection Warn Lts Whelen M6 LED
5419-002	**INTERSECTION WARNING LIGHTS COLOR**	Int Warn Lts Color Red
5420-002	**INTERSECTION WARNING LIGHTS LOCATION**	Intersection Warn Lts Location Bumper Tail Rwd
5402-029	**SIDE WARNING LIGHTS**	Side Warn Lts Whelen M6 LED
5418-002	**SIDE WARNING LIGHTS COLOR**	Side Warn Lts Color Red
5412-002	**SIDE WARNING LIGHTS LOCATION**	Side Warn Lts Location Lwr Mid

5424-008	**SIDE AND INTERSECTION WARNING SWITCH**	Side & Intersection Warn Sw Pnl

AUDIBLE WARNING DEVICES

5510-004	**SIREN CONTROL HEAD**	Siren Ctrl Head Whelen 295HFS2
5514-100	**STEERING WHEEL HORN BUTTON SELECTOR SWITCH**	Horn Btn Sel Sw Elec Horn/Air Horn
5512-600	**AIR HORN AUXILIARY ACTIVATION**	Air Horn Actv PB Sw Pnl
5505-002	**BACK-UP ALARM**	Back-Up Alarm Ecco 575

INSTRUMENTATION

5601-041	**INSTRUMENTATION**	Instrumentation Standard
5624-001	**BACKLIGHTING COLOR**	Backlighting Color Red

COMMUNICATIONS SYSTEMS

5701-300	**RADIO**	Radio Jensen WB/AM/FM/BT
5737-200	**RADIO SPEAKERS**	Radio Speakers (4) Front/Rear
5736-306	**RADIO LOCATION**	Radio Ctr Dash Lwr LH, Ctr Sw Pnl
5707-002	**AM/FM ANTENNA**	AM/FM Antenna LH Fwd Cab Roof
5728-009	**CAMERA REAR**	Camera HD Rear Box
5731-012	**CAMERA DISPLAY**	Camera Display LH HD Monitor
5703-010	**COMMUNICATION ANTENNA**	Comm Ant Base RH Fwd Cab Rf Chassis Sply
5708-003	**COMMUNICATION ANTENNA CABLE ROUTING**	Comm Ant Cable Routing Under Rkr Sw Pnl
5020-001	**PANEL LAYOUT**	Panel Layout

ADDITIONAL EQUIPMENT

8806-001	**FIRE EXTINGUISHER**	Fire Extinguisher Shiploose
8810-001	**DOOR KEYS**	Door Keys for Manual Locks (4)

SALES ADMIN

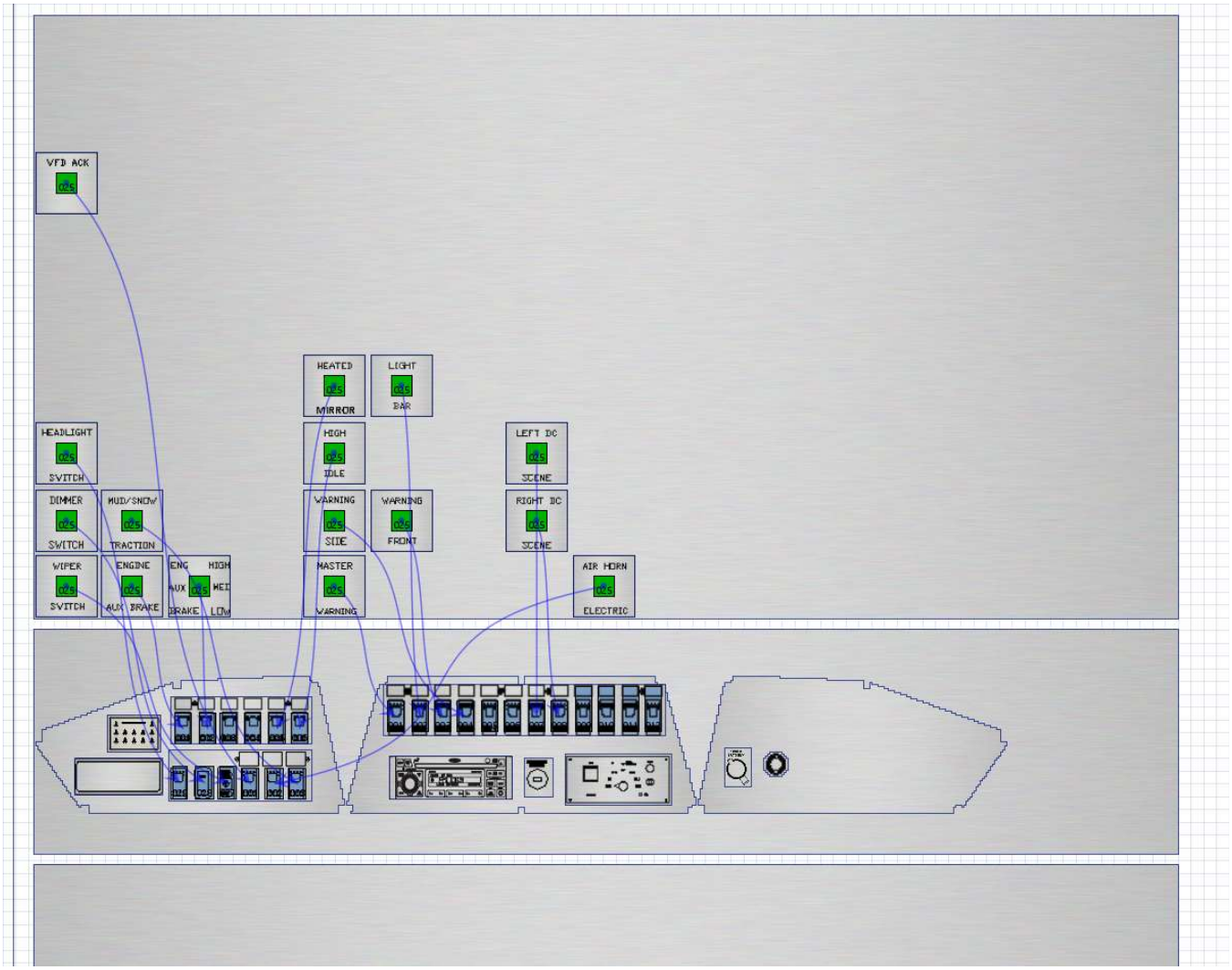
8030-006	**CHASSIS OPERATION MANUAL**	Chassis Operation Manual Digital Copy (2)
8031-024	**ENGINE & TRANSMISSION OPERATION MANUAL**	Eng & Trans Operation Man Eng Hard Copy/Trans Digital/Eng Owner Digital
8805-007	**CAB/CHASSIS AS BUILT WIRING DIAGRAMS**	Cab/Chassis As Built Wiring Diagrams Digital Copy (2)
8063-006	**CAB PAINT CONFIRMATION**	Cab Paint Confirmation - PPG - Confirmation #1
8039-001	**SALES TERMS**	Sales Terms

ENGINEERING

9005-002	**DRIVELINE LAYOUT CONFIRMATION**	Driveline Layout Confirmation Required
2124-009	**EFCM/REAR CROSSMEMBERS**	End of Frame Cross Member 2.25" From EOF

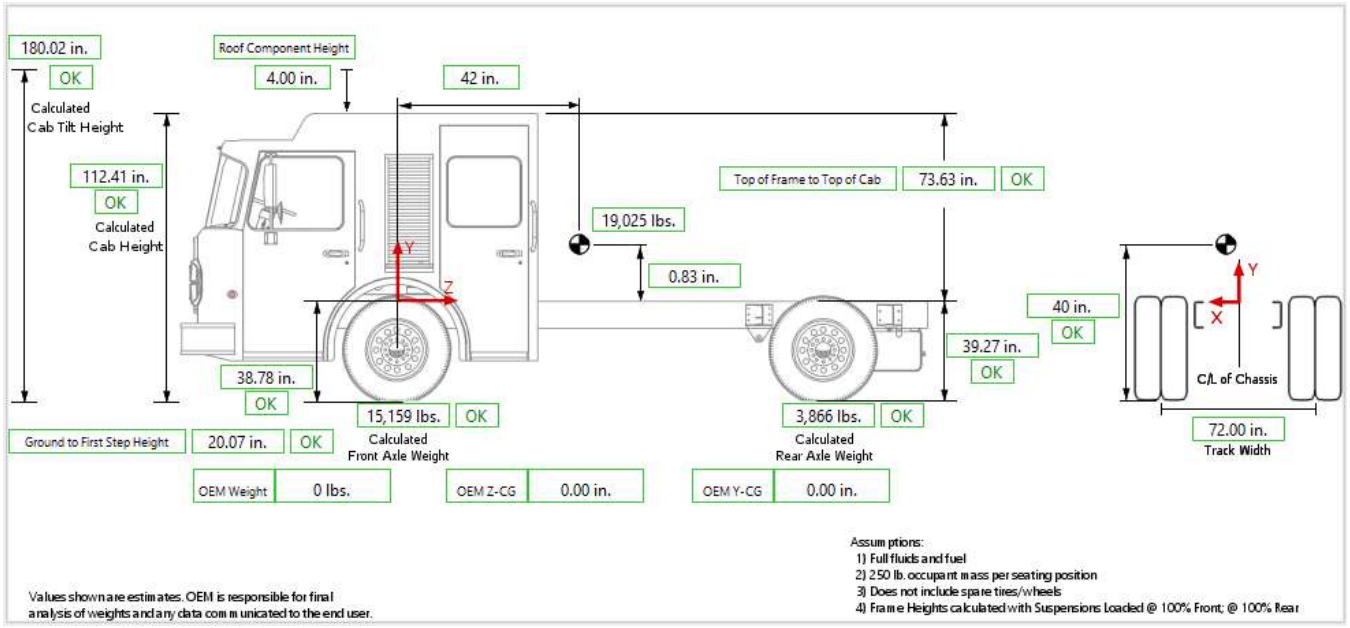
Panel Layout

5020-001 Panel Layout



Option Description
LEGEND LOCATION
RADIO WB/AM/FM W/CD/SAT/IPOD LOWER LH CTR PNL 94"
SW PNL CENTER 12 SW UPR 2010 94"
SIREN CONTROL HEAD WHELEN 295HFS2
PWR POINT DASH MNT BATT DIR DUAL USB 1.13" HOLE SW PNL
AIR HORN BACK LIT PUSH BUTTON 2010
PWR POINT DASH MNT (4) BATT DIR
VEHICLE DISPLAY - VFD DISPLAY FC-94
SEAT BELT WARN ADDITIONAL WELDON SEAT BELT INDICATOR MODULE 2010 LH
LOCKED FC94
SWITCH PANEL LH 6 SWITCHES W/HEADLIGHT/DIMMER/WIPER 2010 94/99"
SWITCH PANEL LH 6 2010
HEATED MIRROR SWITCH
LIGHTBAR SWITCH PANEL -MUX (-010 SW)
VEHICLE DISPLAY VFD ACKNOWLEDGE SWITCH
HDLT & MRKR LT ACTV DIMMER SW
HDLT & MRKR LT RKR SW
MSTR WARN SW PNL 'MASTER WARNING'
AUX ENG BRK CTRL ON/OFF SW PNL SWPN (-010)
BRAKE SYSTEM TYPE ATC RKR SW 'MUD/SNOW TRACTION'
LEFT DC SCENE
RIGHT DC SCENE
AUX ENGINE BRAKE CONTROL ON/OFF & HIGH/MED/LOW SWITCH PANEL
WARNING SIDE SWITCH
FRONT WARN SW
WINDSHIELD WIPER SYSTEM SINGLE MOTOR
ENGINE HIGH IDLE CONTROL RKR SWITCH
HORN RING SEL SW ELEC HORN/AIR HORN

Weight Distribution

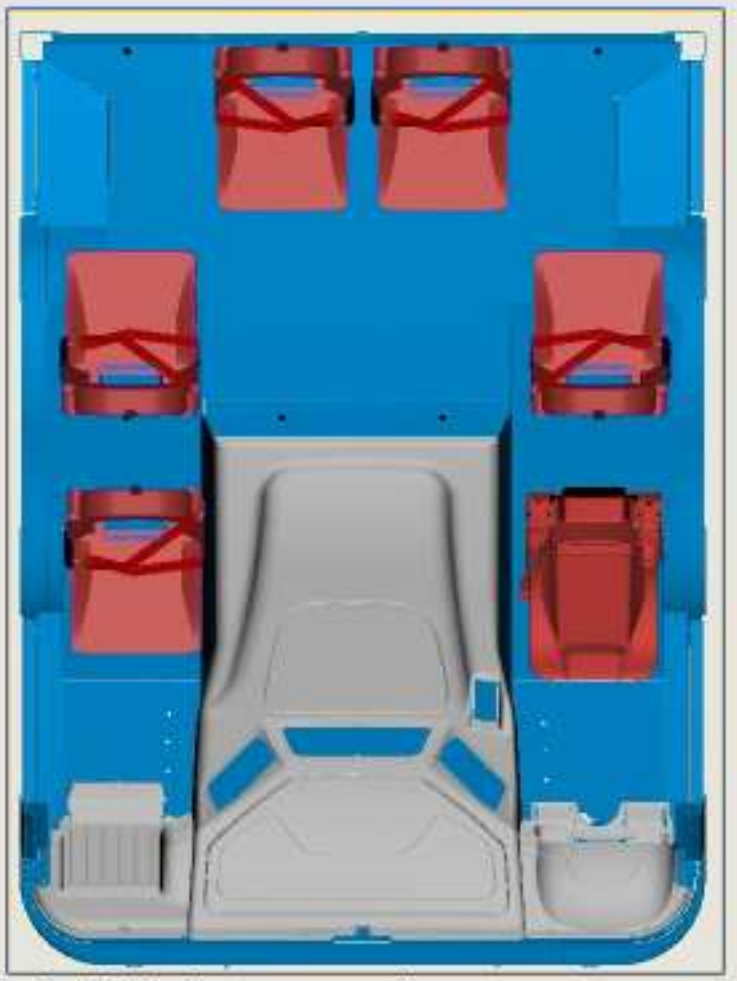


Calculated Apparatus Weight 19,025 lbs.
Calculated Apparatus Z-CG 42 in.
Calculated Apparatus Y-CG 0.83 in.

Note:

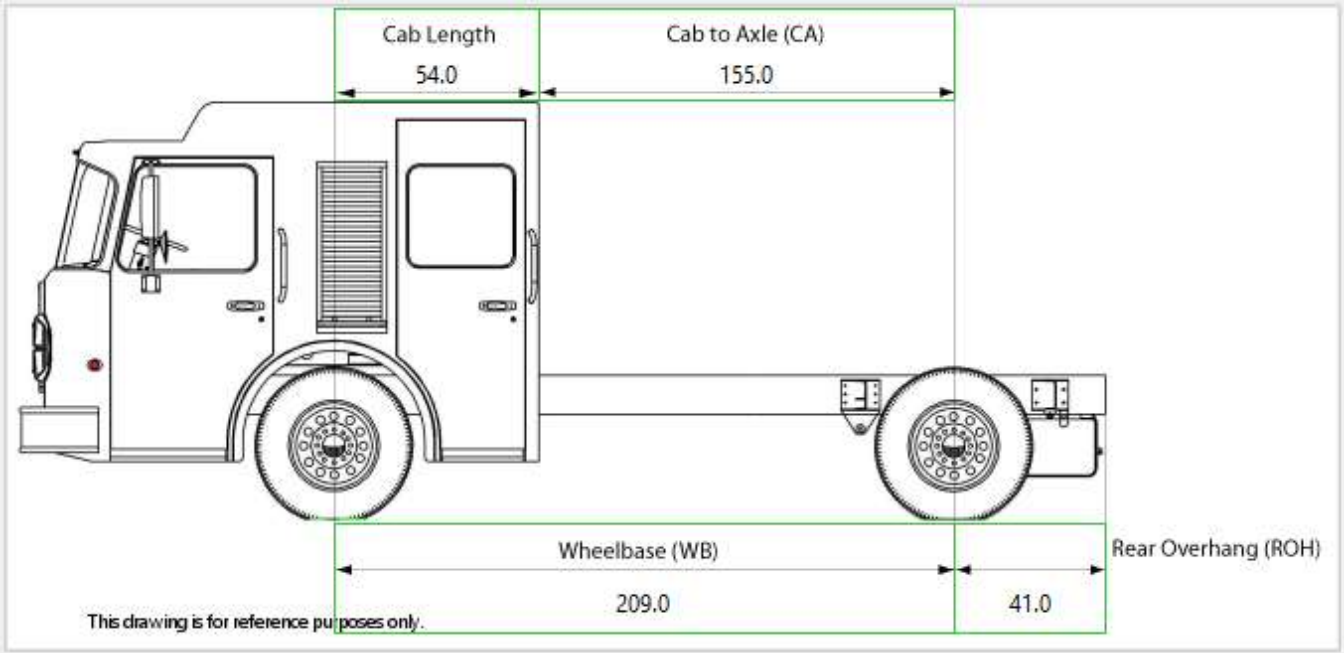
The Y-CG value above is calculated from the top of the frame.
Apparatus refers to total combined value for cab and chassis and OEM inputs.

Seat Locations

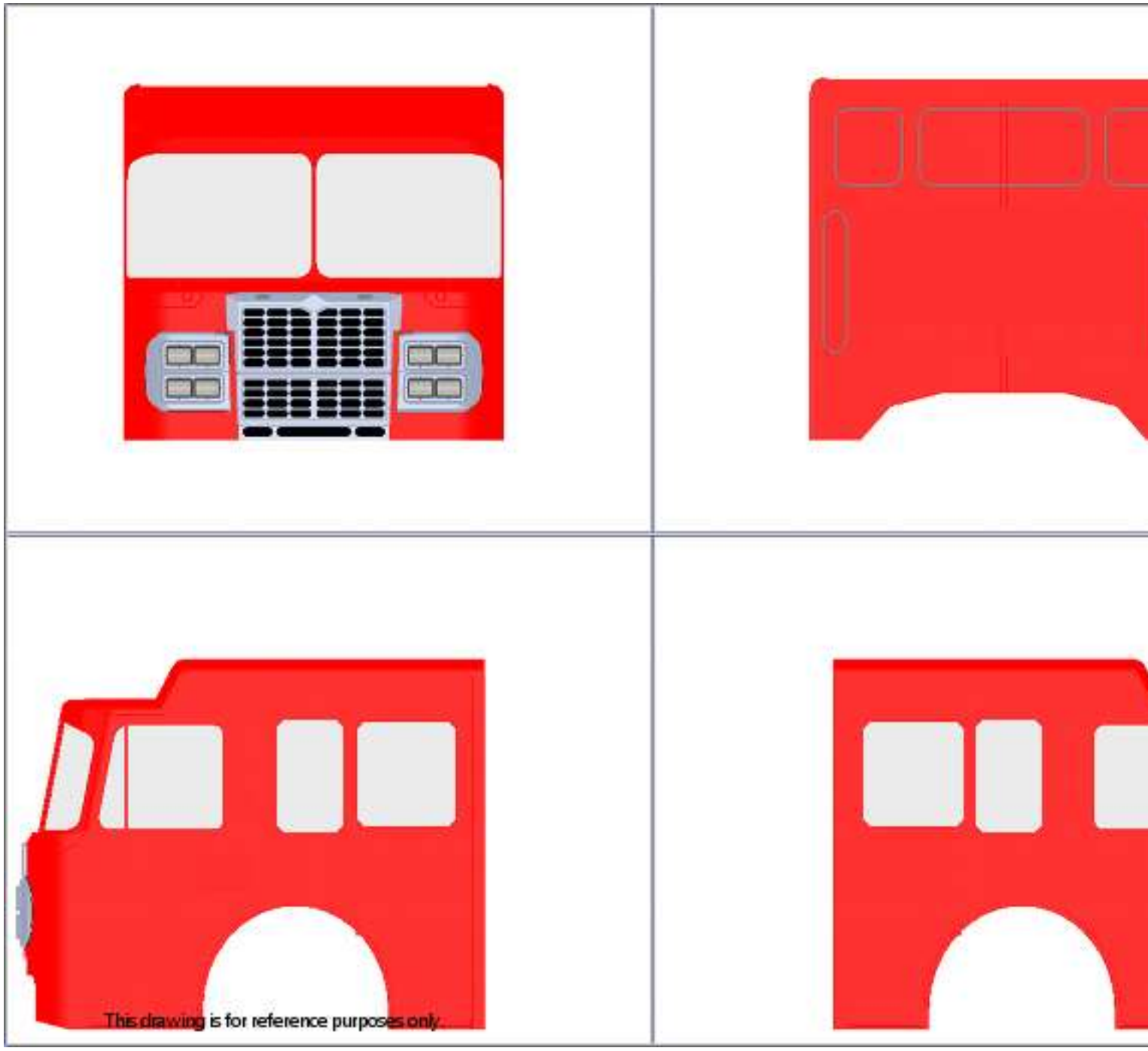


This drawing is for reference purposes only.

Frame Dimensions



Cab Glass



V.R.S. Sales Ltd

EPA 2027 ENGINE DESIGN DISCLAIMER

As the fire apparatus industry shifts towards new EPA standards for engines, certain apparatus designs and components may need to be modified or may no longer be available. Some items that may be affected include, but not limited to, the following:

- Apparatus overall dimensions.
- Compartment dimensions (body and pump).
- Frame mounted components.
- Front or back of cab piping (intake or discharge).

Chassis manufacturer's continue to evaluate the new EPA compliant engines and have not released any information on the required design modifications that will be necessary to accomodate the new engines.

As this information becomes available and it is determined that something on this apparatus will require modification or will no longer be available, notification will be made to the Department.

CORPORATE OWNERSHIP OF MANUFACTURER

The manufacturer of the apparatus must be fully owned and managed by a Parent Company, Corporation, or Individual(s) that is 100% held by United States of America based Company, Corporation, or United States citizen(s).

Proposals from any manufacturer that is fully or partially owned and/or operated by a foreign company, Corporation or Individual(s) under any type of ownership, partnership, or any similar type of agreement will be immediately rejected.

TOP OF THE LINE FIRE APPARATUS

If the manufacturer or bidder for the apparatus manufacturer represents two or more different lines of apparatus and/or operates two or more manufacturing plants, it should be clearly stated in the bid proposal.

In addition to this requirement, the bidder shall give a detailed explanation of why the particular line, brand, model or manufacturing facility will be used.

Manufacturer’s or bidder’s with multiple lines (two or more) or multiple manufacturing facilities (two or more) shall be required to submit bid proposals on only the top of the line brand/model or from the top of the line facility.

It is the intention of the purchaser to purchase a top of the line, first class, #1 quality fire apparatus. Any bidder that submits a bid on a "lower end" line, brand, model, or from a "lower end" manufacturing facility will be immediately rejected.

The purchaser is not interested in purchasing a manufacturer's or bidders "lower end" apparatus. Because of this, any bids submitted that do not comply with the above requirements will be immediately rejected.

NFPA 1900 - 2024 STANDARD

The apparatus shall be constructed to the National Fire Protection Association (NFPA) 1900 - 2024 standards.

CERTIFICATION OF NFPA 1900-2024 COMPLIANCE

As per NFPA 1900, the Purchaser shall assume the responsibility of determining, prior to the purchase of the apparatus, who will be responsible for ensuring that all aspects of NFPA are met. The manufacturer shall be responsible for providing or performing only the items requested by the purchaser in the documents provided to the manufacturer by the purchaser.

Written certification shall be provided by the manufacturer stating that the delivered apparatus complies with the NFPA Standard. If the purchaser has elected to provide, perform, outsource and/or contract with a third party or waive any item required by NFPA, the manufacturer shall provide, upon delivery, a "Statement of Exceptions" per Chapter 7 of NFPA 1900.

The "Statement of Exceptions" shall include:

- A separate specification of the section of the NFPA Standard for which the apparatus is lacking compliance.
- A description of the particular aspect of the apparatus that is not compliant therewith or required equipment that is missing.
- A description of the further changes or modifications to the delivered apparatus which must be completed to achieve full compliance.
- An identification of the entity that will be responsible for making the necessary post-delivery changes or modifications or for suppling and installing any missing required equipment to the apparatus to achieve full compliance to the standard.

Prior to, or at the time of, delivery of the apparatus, the Statement of Exceptions shall be signed by an authorized agent of the entity responsible for the final assembly of the apparatus and by an authorized agent of the purchasing entity, indicating a mutual understanding and agreement between the parties regarding the substance thereof.

The purchaser shall not place the apparatus into active emergency service until fully compliant with NFPA.

NFPA REQUIRED EQUIPMENT

The end user of this apparatus shall provide all other equipment and accessories that are required by NFPA but not specifically listed in these specifications.

MAXIMUM TOP SPEED

The maximum top speed of this apparatus shall be determined using the following NFPA criteria:

- Apparatus with 1250 gallon combined tank capacities shall not exceed 60 MPH.
- Apparatus with GVWR of over 50,000 lbs. shall not exceed 60 MPH.
- Apparatus weighing over 26,000 lbs. shall not exceed 68 MPH.

WATEROUS MODEL CSU 1,500 GPM SINGLE STAGE PUMP

The fire pump shall be a Waterous Fire Pump Company model CSU that complies with all applicable requirements of the latest edition of the "Standard for Automotive Fire Apparatus" published by the National Fire Protection Association.

WATEROUS SEVEN-YEAR LIMITED WARRANTY - PARTS ONLY

The following "PARTS ONLY" warranty shall be provided on the Waterous Fire Pump:

Waterous warrants, to the original Buyer only, that products 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 shall 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 nonconforming with the aforesaid warranty.

When required in writing by Waterous, defective products must be promptly returned by Buyer to Waterous in South St. Paul, Minnesota, or at such other place as may be specified by Waterous, with transportation and other charges prepaid. A Returned Material Authorization (RMA) is required for all products and parts and may be requested by phone, fax, email, or mail.

The aforesaid warranty excludes any responsibility or liability of Waterous for:

(a) damages or defects due to accident, abuse, misuse, abnormal operating conditions, negligence, accidental causes, use in non-firefighting applications, 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 Buyer when requested;

(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; and

(e) normal wear items (packing, strainers, filters, light bulbs, anodes, intake screens, mechanical seals, etc.).

ALL OTHER WARRANTIES ARE EXCLUDED, WHETHER EXPRESS OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING ALL IMPLIEDWARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER AS A RESULT OF BREACH OF CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, OR ANY OTHER CAUSE OF ACTION, SHALL WATEROUS BE LIABLE FOR ANY PUNITIVE, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR PERSONAL INJURY OR PROPERTY DAMAGES.

The exclusive remedy of Buyer and the sole liability of Waterous, whether based on contract, warranty, tort or any other basis of recovery whatsoever, are expressly limited at the election of Waterous to:

(a) 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) the repair of such product or part, or

(c) the refund or crediting to Buyer of the net sales price of the defective product or part.

BUYER'S REMEDIES CONTAINED HEREIN ARE EXCUSIVE OF ANY OTHER REMEDY OTHERWISE AVAILABLE TO BUYER.

UNDERWRITER'S LABORATORY CERTIFICATION

The completed apparatus shall be tested and approved by the independent testing company Underwriter's Laboratories, Inc. The manufacturer of the apparatus shall be responsible for all costs involved in this test. The certification of inspection and approval shall be presented to the Fire Chief of the Department upon delivery of the completed apparatus.

PUMP PERFORMANCE - 1,500 U.S. GPM.

The pump shall be a single stage centrifugal with a class "A" rated capacity of 1,500 United States gallons per minute. The pump shall deliver the percentage of rated discharge pressures as indicated below:

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

PUMP CONSTRUCTION

The fire pump shall be midship mounted. The pump shall be mounted across the chassis frame rails and shall be mounted at the fire pump manufacturer's recommended angular position with the drive shafts.

The pump shall be free from objectionable pulsation and vibration under all normal operating conditions. The engine shall provide sufficient horsepower and revolutions per minute to allow the pump to meet or exceed its rated performance.

The entire pump, both suction and discharge passages, shall be hydrostatically tested to a pressure of 600 PSI. The pump shall be fully tested at the pump manufacturer's factory to the NFPA performance requirements.

The pump body shall be close-grained gray iron and shall be horizontally split in two sections for easy removal of the entire impeller shaft assembly and designed for complete servicing from the bottom of the truck without disturbing the setting of the pump in the chassis or apparatus piping which is connected to the pump. The pump body halves shall be bolted together on a single horizontal face to minimize leakage and facilitate re-assembly.

The impeller shaft shall be stainless steel, accurately ground to size and supported at each end by oil or grease lubricated anti-friction ball bearings for rigid and precise support. The bearings shall be protected from water and sediment by suitable stuffing boxes, flinger rings, and oil seals. The impeller shaft shall be of a two-piece construction separable between the pump and pump transmission to allow true separation of the transmission from the pump without disassembly of either component. No sleeve type bearings shall be used.

The pump transmission shall be rigidly attached to the pump body assembly and be of the latest design incorporating a high strength, involute, tooth-form Hy-Vo chain drive and driven sprockets capable of operating at high speeds to provide smooth, quiet transfer of power.

IMPELLER - FLAME PLATE

The impeller shall be bronze with double suction inlets, accurately balanced (mechanically and hydraulically), of the mixed flow design with reverse-flow, labyrinth-type, wear rings that resist water bypass and loss of efficiency due to wear. The

impeller shall have a **Flame Plated Hub** to assure maximum pump life and efficiency despite the presence of abrasive particles, such as fine sand, in the water being pumped.

Wear rings shall be bronze and shall be easily replaceable to restore pump efficiency and eliminate the need to replace the entire pump casing due to wear.

MECHANICAL SEAL

The pump shaft shall have self-adjusting corrosion and wear resistant mechanical seals.

FRC PUMP BOSS MAX PRESSURE GOVERNOR SYSTEM

Fire Research Pump Boss Max pressure governor and monitoring display kit shall be installed. The kit shall include a control module, pressure sensor, and cables.

The following continuous displays shall be provided on shown on the LCD screen:

- Check engine/stop engine warning
- Engine rpm
- Engine oil pressure
- Engine temperature
- Battery voltage
- PSI / RPM setting
- Throttle ready LED.

An on LCD screen 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.

The program shall store the accumulated operating hours for the pump and engine with push button display. The program shal display and provide audible and visual warning alarms for the following conditions:

- High Transmission Temperature
- Low Battery Voltage (Engine Off)
- Low Battery Voltage (Engine Running)
- High Battery Voltage
- Low Engine Oil Pressure
- High Engine Coolant Temperature
- Out of water (visual alarm only)
- No engine response (visuall alarm only)
- Accumulated engine and pump hours.

The 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 LED shall illuminate when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the 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 governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic

programmed response and a push button to return the engine to idle.

TFT A-18 INTAKE RELIEF VALVE

A TFT model A-18 intake relief/dump valve shall be provided on the intake side of the pump to relieve excess incoming pressure. The system shall be designed to automatically restore to a non-relieving position when excessive pressure is no longer present. The pressure adjustment range shall be from 50 psi to 200 psi. The relief system shall be adjustable with a common type box end wrench.

The intake relief valve shall be pre-set to 125 psi.

PUMP SHIFT MECHANISM -AIR/ELECTRIC

The pump shall be shifted from road to pump by means of a cab mounted air over electric pump shift switch. The switch shall have a built in positive locking mechanism to prevent accidental movement of the switch. The locking mechanism shall require the operator to manually lift up on the switch lever to disengage the lock.

The switch shall have three positions:

- Position 1 = road position
- Position 2 = neutral position
- Position 3 = pump position

A green indicator light shall be provided in the driving compartment and shall be energized when the pump shift has been completed. This light shall be labeled "PUMP ENGAGED".

When the apparatus is equipped with an automatic transmission, a green indicator light shall be provided in the driver's compartment. It shall be energized when both the pump shift has been completed and the chassis transmission is in pump gear. This light shall be labeled "OK TO PUMP".

TRIDENT PRIMING SYSTEM

A Trident air priming system shall be provided.

HEAT EXCHANGER - CHASSIS PROVIDED

The heat exchanger (engine cooler) shall be provided on the chassis.

SUPPLEMENTARY HEAT EXCHANGER - FINAL CONNECTION

The chassis supplied/installed supplementary heat exchanger cooling system shall be connected to the pump system by the apparatus manufacturer.

Appropriate drains shall be provided to allow draining the heat exchanger to help prevent damage from freezing. A valve control shall be provided on the pump operator's panel. The valve control handle shall be of the rotary type and shall have an arrow indicator that identifies the opened/closed position of the valve.

If current or future EPA regulations or engine re-design make the heat exchanger installation impractical or impossible, it will not be provided and the purchaser will be credited for the cost of the exchanger.

MANIFOLD DRAIN VALVE

The pump shall have a manifold type drain valve assembly consisting of a stainless steel plunger in a bronze body with multiple ports. The control for the valve shall be on the left side along the bottom of the panel and above the side running board. The valve shall be a rotary type with a large easy to grip handle. The valve shall be labeled “PUMP DRAIN”.

ICI "LEVER LIFT" BLEEDER/DRAIN VALVES

ICI 3/4" quarter turn ball type bleeder/drain valve shall be provided for each discharge and auxiliary intake. A hose shall be connected to the valve that will direct water below the apparatus and away from the immediate pump operator's location.

The control handle shall be "lever lift" style for easy actuation. The handle for the control shall have a recessed area for the color coded identification label.

LOW POINT AUTO-DRAINS

Automatic drains shall be provided in low points of any discharge piping. The drain shall drain to the ground below its location. This drain shall be a supplementary drain and will not be considered the required 3/4" bleeder drain.

6" LEFT (DRIVER) SIDE MASTER INTAKE

A 6" master intake shall be provided on the left (driver) side of the apparatus. The intake shall have a 6" male NST connection. The intake shall have a removable screen to prevent the entry of large objects into the pump. The screen shall be constructed of a material that will provide cathodic protection to the pump. A label shall be provided above the intake that states "DRIVER SIDE MASTER INTAKE". The label shall be color coded burgundy.

LEFT SIDE MASTER INTAKE CAP

A 6" FNST LH chrome cap shall be provided on the left side master intake.

6" RIGHT (PASSENGER) SIDE MASTER INTAKE

A 6" master intake shall be provided on the right (passenger) side of the apparatus. The intake shall have a 6" male NST connection. The intake shall have a removable screen to prevent the entry of large objects into the pump. The screen shall be constructed of a material that will provide cathodic protection to the pump. A label shall be provided above the intake that states "PASSENGER SIDE MASTER INTAKE". The label shall be color coded burgundy.

RIGHT SIDE MASTER INTAKE CAP

A 6" FNST LH chrome cap shall be provided on the right side master intake.

FRONT BUMPER INTAKE

A front intake shall be provided and located on the right side of the front bumper.

If current or future EPA regulations or engine re-design make the front intake installation impractical or impossible, it will not be provided and the purchaser will be credited for the cost of the intake.

EPA regulations may also cause piping size restrictions causing full or partial pipe size reduction.

AKRON 7950 ELECTRIC MASTER INTAKE VALVE FOR FRONT MASTER INTAKE

The front master intake shall be equipped with an Akron 7950 electric operated intake valve. The valve shall be a full flow butterfly type valve designed to mount on the fire pump between the suction tube extension and the suction tube behind the pump panel. The valve shall not interfere with other suction or discharge openings on the fire pump.

A label stating the following will be provided near the intake: "WARNING-SERIOUS INJURY OR DEATH COULD OCCUR IF INLET IS SUPPLIED BY A PRESSURIZED SOURCE WHEN THE VALVE IS CLOSED".

FRONT INTAKE VALVE CONTROL

An Akron 9327 controller shall be provided on the pump operator's panel to open/close the valve. A hex head connection shall be provided inside the pump compartment to operate the valve manually.

FRONT INTAKE VALVE DRAIN

A 3/4" drain shall be provided on the intake to allow draining of the outer side of the valve.

FRONT INTAKE BLEEDER VALVE

A 1/4" bleeder valve shall be provided on the intake to bleed off air on the outer side of the valve.

FRONT MASTER INTAKE PRE-PRIME VALVE

A Waterous priming valve shall be provided on the pump panel to allow pre-priming of the front master intake when the intake valve is closed.

FRONT INTAKE PIPING DRAIN(S)

3/4" drain(s) shall be provided in the low points on the front intake piping. The manually operated drain controls shall be accessible from the right side of the apparatus.

TFT A-18 INTAKE RELIEF VALVE

A TFT model A-18 intake relief/dump valve shall be provided in the supply side of the front gated master intake to relief excess incoming pressure. The system shall be designed to self-restore to a non-relieving position when excessive pressure is no longer present. The pressure adjustment range shall be from 50 psi to 200 psi. The relief system shall be adjustable with a common type box end wrench. The pressure setting shall be preset by the apparatus manufacturer at a 125-PSI position.

FRONT INTAKE SWIVEL CONNECTION

A **chrome plated** front suction swivel elbow shall be provided. The elbow shall have a vertical lock to prevent vacuum leaks due to side loads and shall have dual o-rings for a positive seal. The elbow, as well as the swivel bearings, shall be brass for increased durability. A built in strainer shall also be included with the elbow.

The front intake swivel shall have a 6" MNST connecting thread.

FRONT MASTER INTAKE CAP

A 6" female NST long handle chrome cap shall be provided on the front master intake.

3/8" PUMP COOLING/BYPASS LINE

A 3/8" pump cooling/bypass line shall be provided from the pump discharge manifold directly into the tank.

This discharge shall implement an all brass ball type 1/4 turn valve with chrome plated handle control located on the pump panel.

The valve control handle shall indicate the open/closed position of the valve. The handle shall have a recessed area for mounting of the identification label which shall clearly state "PUMP COOLER".

TANK REFILL/RECIRCULATION DISCHARGE

A discharge shall be provided from the pump discharge manifold to allow pump cooling when necessary as well as to refill the booster tank.

The water tank fill gauge shall be directly in line with this discharge control.

The valve and piping shall be 2".

The refill/recirculation discharge shall be manually controlled on the pump panel.

STAINLESS STEEL PIPING

All piping for discharges not bolted directly to the pump body or pump dicharge manifold casting shall be stainless steel using stainless steel fittings. High pressure helix wire reinforced flexible piping with an NFPA compliant minimum burst pressure may be used in some areas to minimize friction losses. All flexible piping couplings shall be high tensile strength stainless steel.

All piping shall be properly supported and braced to prevent movement of piping other than what is allowed by the flexible couplings to compensate for apparatus flexing.

Any discharge manifolds provided on the apparatus that are not part of a pump casting must be fabricated of a minimum of schedule 10 marine grade stainless steel piping. Use of any welded light gauge (less than Schedule 10) manifolding or plumbing will not be acceptable.

The stainless steel piping shall be warranted to be free from corrosion perforation for a period of 10 years following the delivery of the apparatus.

VICTAULIC COUPLINGS

Victaulic style couplings shall be used in the assembly of the pump piping system. The couplings shall allow flex in the piping and provide for a disassembly point for maintenance and repairs.

VENTED LUG CAPS AND PLUGS

All discharges and intakes that specify caps and/or plugs shall be provided with vented lug type designed to relieve trapped pressure and help reduce possible operator injuries.

DISCHARGE-INTAKE CAPS-PLUGS-ADAPTER RETENTION CHAINS

All NST discharge caps (up to 4") and NST intake plugs/caps (up to 3") shall be secured to the apparatus using stainless beaded chain.

Large intakes that are not capped with LHF NST caps and large discharges will use double loop chain due to the weight of the cap.

AKRON HD-8800 SERIES VALVES

All discharge and small diameter auxiliary intakes shall have heavy duty Akron 8800 series brass ball valves with stainless steel ball. This shall include the tank to pump and tank fill valve.

RIGHT SIDE REARWARD AUXILIARY INTAKE

An auxiliary intake shall be provided on the right side of the pump compartment in the rearward position.

The intake valve and piping shall be 2 1/2".

The valve control shall be manually controlled at the intake location.

The intake shall have a 2 1/2" chrome plated FNST swivel connection with screen and a MNST chrome plated intake plug.

A 3/4" bleeder/drain valve shall be provided.

FUTURE FOAM CAPABILITIES

The apparatus shall be pre-piped for future installation of a foam system. The manifold shall be stainless steel. This manifold shall be fed from the main pump discharge manifold and shall have a spacer pipe installed between the two manifolds with Victaulic couplings on each end. The spacer pipe shall be the length required for future installation of an electronic foam system.

To minimize the future costs of installing foam on the apparatus, there shall be no exception to this requirement.

RIGHT SIDE DISCHARGES

One 2 1/2" discharge and one 4" discharge shall be provided on the right side pump panel. The 4" discharge shall be located forward of the intake and the 2 1/2" shall be located rear of the intake.

One (1) right side 2 1/2" discharge(s):

The right side 2 1/2" discharge shall be manually controlled on the pump panel.

The discharge shall be equipped with a chrome plated brass or bright finish stainless steel discharge elbow with 2 1/2" MNST thread.

A 2 1/2" chrome plated NST cap shall be provided.

One (1) right side 4" discharge(s):

The right side 4" discharge shall be manually controlled from the pump operator's position with a gear actuated hand wheel control featuring position indication.

The discharge shall extend straight out of the apparatus with no elbow.

A Kochek SKE5T4R 4" FNST x 5" locking swivel Storz elbow adapter with a ZCC507 5" blind cap and chain shall be provided.

LEFT SIDE DISCHARGES

Two 2 1/2" discharges shall be provided on the left side pump panel. The discharges shall be located one forward of the intake and one located rear of the intake.

Two (2) left side 2 1/2" discharge(s):

The left side 2 1/2" discharge shall be manually controlled on the pump panel.

The discharge shall be equipped with a chrome plated brass or bright finish stainless steel discharge elbow with MNST thread.

Two (2) 2 1/2" chrome plated NST cap(s) shall be provided.

LEFT REAR 2 1/2" DISCHARGE

One (1) 2 1/2" discharge shall be provided on the left rear of the apparatus.

The valve shall be manually controlled on the pump panel.

A chrome discharge elbow shall be provided with 2 1/2" NST threads.

The discharge shall be used as a pre-connected line and shall not require any cap or chain.

Any piping for the discharge that is visible above the pump compartment and extending into the exterior front wall of the apparatus body shall be concealed with a cover.

1 3/4" MID MOUNT CROSSLAY PRECONNECTS

Two 1 3/4" preconnected crosslays shall be provided and located in front of the top mounted pump panel, located side by side. The crosslays shall be positioned between the top pump panel and the area where the pump operator stands.

The crosslay compartment shall be constructed of 5052 smooth aluminum sheet material with a random brushed finish applied after fabrication. Each crosslay shall be piped using 2" piping or high pressure hose incorporating a 2" valve with the control on the top mount pump operator's panel.

ALUMINUM TREADBRITE HINGED COVER

An aluminum treadbrite full length hinged cover shall be provided on the top of the crosslay compartment. Rubber spacer blocks shall be provided on the back of the cab to keep the cover from contacting the cab when the cover is in the raised position.

CROSSLAY DIVIDER NOZZLE NOTCH

The outer top corners of the divider shall be notched for nozzle placement.

The #1 crosslay shall have the capacity to hold 200' of 1 3/4" or 2" fire hose and nozzle.

The #2 crosslay shall have the capacity to hold 200' of 1 3/4" or 2" fire hose and nozzle.

The valve(s) shall be manually controlled on the pump panel.

There shall be two (2) 2" swivel elbows with 1 1/2" male NST hose thread connections provided on the 1 3/4" cross lay hose beds. The swivels shall be mounted in a position to prevent hose "pinching" at the hose thread connection.

1 3/4" CROSSLAY MANUAL DRAIN VALVES

3/4" manual drain valves shall be provided for all 1 3/4" crosslays. The valves shall have an all brass body with heavy duty neoprene seal.

The #1 hand line crosslay shall be pre-piped for future foam system installation.

The #2 hand line crosslay shall be pre-piped for future foam system installation.

CROSSLAY COMPARTMENT ENDS - BLACK WEBBING

The crosslay compartment shall be enclosed on each end using a heavy duty webbing to prevent hose from accidently unloading. The webbing shall be black.

A yellow nozzle strap shall be provided for each crosslay. The strap shall be designed to loop through the nozzle handle and secured to the apparatus to keep nozzle from coming out of the crosslay compartment without manually disconnecting the nozzle strap.

The crosslay/speedlay end cover shall be secured with footman loops and velcro straps.

3" MONITOR DISCHARGE

A 3" monitor discharge shall be provided above the pump compartment. The discharge piping shall extend above the pump compartment a sufficient distance to allow use of the deck gun.

The discharge shall be manually controlled from the pump operator's position with a 4" gear actuated handwheel control featuring position indication.

CAPPED MONITOR DISCHARGE

The monitor discharge shall be capped with a FNPT cap for future installation of monitor assembly.

RIGHT FRONT OF HOSEBED 2 1/2" DISCHARGE

One (1) 2 1/2" discharge shall be provided in the front of the hosebed on the right side. The discharge shall be located in an area that will not interfere with other apparatus equipment.

The valve shall be manually controlled on the pump panel.

The discharge shall extend straight out with no chrome discharge elbow(s).

The discharge shall be used as a pre-connected line and shall not require any cap or chain.

The right side front of hosebed 2 1/2" discharge shall be pre-piped for future foam system installation.

Any piping for the discharge that is visible above the pump compartment and extending into the exterior front wall of the apparatus body shall be concealed with a cover.

2 1/2" FRONT BUMPER DISCHARGE

There shall be one (1) 2 1/2" discharge(s) provided on the front of the apparatus.

The valve shall be manually controlled on the pump panel.

The front bumper 2 1/2" discharge shall be pre-piped for future foam system installation.

FRONT BUMPER HOSE WELL FLOORING - TURTLE TILE

Turtle Tile flooring shall be provided in the hose well.

The Turtle Tile shall be black.

FRONT DISCHARGE HOSE CONNECTION - CHROME SWIVEL

The hose connection for the discharge shall be located immediately adjacent to the hosewell. A 2 1/2" chrome plated or polished stainless steel swivel shall be provided.

HOSEWELL COVER NOTCH

The hosewell cover shall be notched to allow for the hose to be preconnected.

FRONT BUMPER DISCHARGE HOSE CONNECTION - DRIVER'S SIDE

The hose connection for the front bumper discharge shall be on the driver's side.

SPARE MANIFOLD CONNECTION

A 2" stubbed pipe shall be provided on the dischage manifold for future discharge installation. The pipe shall terminate in a 2" FNPT threaded conection with cap.

The spare discharge connection shall be pre-piped for future foam system installation.

PUMP COMPARTMENT

A modular pump compartment with top mounted pump operator's panel shall be provided. The modular design of the pump compartment shall allow the compartment to be fully independent of the apparatus body. A 1" flex joint shall be provided between the pump compartment and the apparatus body.

The modular design of the pump compartment shall allow the entire pump system, including the pump itself, to be removed from the apparatus in a one-piece assembly while leaving the body intact and without having to cut any sheet metal or welds.

STAINLESS STEEL PUMP COMPARTMENT CONSTRUCTION

The entire pump compartment shall be constructed using only 304 marine grade stainless steel fabricated sheeting with a # 4 brushed finish on all exterior surfaces. The pump compartment shall not require any finish painting. Due to the extreme twisting and flexing that all fire apparatus are subjected to, aluminum shall not be used in any portion of the pump compartment structural support. The use of any type of enclosed tubing that requires the use of self-tapping or any other type of machine screw shall not be acceptable.

TOP MOUNT PUMP OPERATOR'S WALKWAY

An 18" wide (front to rear) pump operator's walkway shall be provided between the pump compartment and the chassis cab. A 1" minimum space shall be provided between the walkway edges, pump compartment and rear wall of the chassis.

TOP MOUNT WALKWAY LIGHTING – LED

Two LED lights shall be provided to illuminate the top mount walkway area.

EPA REGULATION CHANGE:

If current or future EPA regulations or chassis component or engine/exhaust system re-design make the walkway compartment installation impractical or impossible, it will not be provided and the purchaser will be credited for the cost of the compartment(s).

EPA regulations may also cause piping size restrictions causing full or partial pipe size reduction.

WALKWAY COMPARTMENT - DRIVER'S SIDE

A compartment shall be incorporated into the walkway assembly on the driver's side of the apparatus. The compartment shall have a minimum depth of 22", and shall be a minimum of 12" wide x 18" high in the rear 13" and no less than 6" high in the forward section.

The entire step and running board assembly shall be horizontally hinged to allow complete access to the compartment. A pneumatic spring hold-open device shall be provided to hold the integrated step/door assembly open.

WALKWAY COMPARTMENT - OFFICER'S SIDE

A compartment shall be incorporated into the walkway assembly on the officer's side of the apparatus. The compartment shall have a minimum depth of 22", and shall be a minimum of 12" wide x 18" high in the rear 13" and no less than 6" high in the forward section.

The entire step and running board assembly shall be horizontally hinged to allow complete access to the compartment. A pneumatic spring hold-open device shall be provided to hold the integrated step/door assembly open.

(The right side walkway compartment dimensions may be effected by the chassis exhaust system design.)

WALKWAY COMPARTMENT FLOOR

The walkway compartment floors shall have Turtle Tile floor tiles.

WALKWAY COMPARTMENT LIGHTING – LED

An LED strip light shall be provided in the under walkway compartment(s). The light(s) shall be activated by the pump panel light switch.

INTERMEDIATE WALKWAY ACCESS STEPS

Intermediate steps shall be provided on each side of the walkway, positioned between the walkway surface and the ‘runningboard’ height step. The steps shall be constructed of NFPA aluminum treadbrite.

TOP MOUNT PUMP OPERATOR'S WALKWAY MATERIAL

The entire pump operator's walkway assembly shall be constructed of NFPA compliant slip resistant aluminum treadbrite on all stepping surfaces.

PUMP COMPARTMENT RUNNING BOARDS

The pump compartment side running boards shall be constructed of NFPA compliant slip resistant aluminum treadbrite.

PUMP COMPARTMENT FRONT WALL

The center section of the pump compartment front wall shall be constructed of aluminum treadbrite which is bolted to the pump compartment assembly and removable.

TOP MOUNTED PUMP PANEL

Unless otherwise indicated in these specifications, all discharge and designated intake controls and instruments shall be located on the top mounted pump control panel.

BRUSHED STAINLESS STEEL INSTRUMENT/CONTROL PANEL

A rear facing top mounted pump panel shall be provided to allow simple, efficient operation of all pump functions necessary during normal operations.

A dual level inclined pump panel shall be provided for convenient user friendly layout of the panel to simplify the operation of the apparatus. Both levels of the panel shall be sloped to provide an angled view of the panel so that the operator may read all identification labels easily.

All controls for the pump shall be identified using permanently engraved identification labels properly secured to the panel. All discharge and intake identification labels shall be color coded with labels at the control, intake/discharge location and drain port location.

The front incline panel shall at the lower edge of the front panel just behind the control levers and continue back to the area which the second incline level begins.

The rear incline panel shall begin just above the pressure gauge mounting area and continue up to the top of the pump compartment. The panel shall have a full width stainless steel hinge at the bottom to allow the panel to hinge forward for access to the back of the panel. A latch shall be provided on each end to secure the panel in the closed position. A full pump panel width brushed stainless steel light shield shall be provided at the top of the gauge panel.

Both the front and rear inclined surfaces of the pump panel shall be constructed of brushed stainless steel.

LH/RH LOWER INTAKE/DISCHARGE PANELS - BRUSHED STAINLESS STEEL.

The left and right side lower pump panels shall be constructed of 304 2B marine grade brushed stainless steel with a #4 brushed and polished finish.

Both the right and left side lower panels shall be easily removable. The panels shall be held into place with two latches on the top to allow for easy removal of the panels.

PUMP COMPARTMENT SIDE ACCESS DOOR - BRUSHED STAINLESS STEEL

A horizontally hinged access door shall be provided on both sides of the pump compartment above the lower pump discharge/intake panel.

The doors shall be constructed of brushed stainless steel and have a pneumatic hold open device and push button type flush latches.

LED PUMP PANEL LIGHTS

The top mount pump panel shall be illuminated using a track type LED light assembly.

The light shall be constructed of an unbreakable type clear poly flexible material housed in an aluminum extrusion mounted behind a brushed stainless steel light shield shall be provided across the top of the gauge panel.

LED SIDE DISCHARGE/INTAKE PANEL LIGHTS

The right and left side discharge and intake panels shall be illuminated using a track type LED light assembly on each side.

The lights shall be constructed of an unbreakable type clear poly flexible material housed in an aluminum extrusion mounted behind a brushed stainless steel light shield provided across the top of the gauge panel.

AUTOMATIC PUMP PANEL LIGHT ACTIVATION

The pump panel lights above the pump control panel shall function automatically with the pump shift activation.

INNOVATIVE CONTROLS TOP MOUNT CONTROL HANDLES

Unless otherwise described in these specifications, all top mount manually operated valve control handles shall be Innovative Controls "Squeeze-Lock" lever type with "T" handles. The "T" handles shall be chrome plated zinc and shall have a recessed area for the color coded identification label.

VALVE CONTROL LINKAGES

All manual valve controls requiring remote actuation shall have control rod linkages constructed of 1/2" galvanized pipe and shall implement heavy ball swivel joints and clevises for smooth valve operation.

ICI MASTER PUMP DISCHARGE PRESSURE GAUGE

An ICI 4" diameter master pressure gauge shall be provided to indicate the main pump discharge pressure. The gauge shall read from 30" hg vacuum to 400 psi and shall be accurate within +/- 1%. The gauge shall be glycerin filled (-40F to +150F) and have a high impact resistant clear acrylic lens.

ICI MASTER PUMP INTAKE PRESSURE GAUGE

An ICI 4" diameter master pressure gauge shall be provided to indicate the pump intake pressure. The gauge shall read from 30" hg vacuum to 400 psi and shall be accurate within +/- 1%. The gauge shall be glycerin filled (-40F to +150F), read up to 400 psi, be accurate within +/- 1% and have a high impact resistant clear acrylic lens.

The master intake and discharge gauges shall have bright finish bezels.

The master gauge dials shall be white with black markings. The needle shall match the color of the markings.

The master intake gauge shall be clearly labeled "PUMP INTAKE" and shall be located to the left of the master discharge pressure gauge. The label shall be burgundy color.

The master discharge gauge shall be clearly labeled "PUMP DISCHARGE" and shall be located to the right of the intake pressure gauge. The label shall be black color.

The master intake/discharge pressure gauges shall have a lifetime non-yellowing and freeze warranty. The gauges shall also be warrantied for 4 years for defects in materials and workmanship, including fluid leakage. The warranty will not cover labor costs and/or transportation costs.

PRESSURE/VACUUM TEST PLUGS

Underwriter's test plug adapters shall be provided for connection of pump test gauges.

INNOVATIVE CONTROLS SOFT-GLO TANK GAUGE - PUMP PANEL

An Innovative Controls Soft-Glo tank gauge shall be provided on the pump panel. The gauge shall feature a 180 degree highly visible wide view Soft-Glo LED display showing the level of the booster tank.

The gauge shall have a chrome bezel.

TANK GAUGE PARK BRAKE DISABLE

The tank gauge(s) shall be disabled when the park brake is released so that the lights are not a distraction when the vehicle is in motion.

ICI DISCHARGE PRESSURE GAUGES

Unless otherwise specified, each 1 1/2" or larger discharge shall have an ICI pressure gauge. The gauge shall be glycerin filled (-40F to +150F), read from 0 - 400 psi, be accurate within +/- 1% and have a high impact resistant clear acrylic lens.

The individual discharge pressure gauges shall have a 2 3/4" diameter.

The discharge pressure gauge dials shall be white with black markings. The needle shall match the color of the markings.

The pressure gauge shall be directly in line with or adjacent to the discharge control handle for the discharge that they provide pressure readout for. **For ease of operation, this requirement must be strictly adhered to. There shall be no exception to this requirement.**

The gauges shall be clearly labeled with permanent color coded labels.

The discharge pressure gauges shall have a lifetime non-yellowing and freeze warranty. The gauge shall also be warrantied for four years for defects in materials and workmanship including fluid leakage. Warranty will not cover labor

costs and/or transportation costs.

PUMP PANEL AIR HORN BUTTON

A momentary push button shall be provided on the pump panel to activate air horns.

The button shall be labeled "Evacuation".

IDENTIFICATION LABELS FOR PUMP PANEL

Innovative Controls verbiage label bezels shall be installed. The bezel assemblies will be used to identify apparatus components. These labels shall be designed and manufactured to withstand the specified apparatus service environment.

Where required, the verbiage label bezel assemblies shall include a chrome plated panel mount bezel with durable easy to read UV resistant polycarbonate inserts featuring the specified verbiage and color coding. The UV resistant polycarbonate verbiage and color inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. Both the insert labels and bezel shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

The color scheme for the discharge and intake labels shall be per NFPA.

SPECIAL TANK DESIGN

The booster tank shall be "L" shaped to allow for a lower hosebed height. The front section of the tank shall be higher than the rear section bringing the overall hosebed height down to a more accessible height.

There shall be **no exception** to this requirement.

BOOSTER TANK CAPACITY 1,000 GALLONS

The poly booster tank shall have a capacity of 1,000 U.S. gallons.

BOOSTER TANK FILL TOWER - LEFT SIDE FRONT

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a minimum of **12" x 12"** outer dimension. The tower shall be located in the left front corner of the hose bed. The tower shall have a 1/4" thick removable polypropylene screen and polypropylene hinged type cover.

4" TANK OVERFLOW

A 4" diameter tank vent/overflow shall be provided and integrated into the tank. The piping shall be a minimum of schedule 40 polypropylene designed to run through the tank and discharge behind the rear wheels to the ground.

1" TANK SUMP DRAIN

A 1" drain shall be provided in the bottom of the tank sump to fully drain the tank. The drain shall use 1" stainless steel piping with a 1" valve.

The control for the valve shall be remoted to the driver's side of the apparatus just under and behind the side rub rail. The drain control handle shall be labeled "TANK DRAIN".

3" TANK SUMP CLEAN OUT PLUG

A 3" tank sump clean out plug shall be provided in the bottom of the tank sump.

25 GALLON CLASS A FOAM TANK

A 25 gallon Class A foam tank shall be provided. The tank shall have all connections necessary to connect to the foam system and shall also have a 1/4 turn drain valve with hose attached to allow the tank to be drained.

The tank shall have an **8" x 8"** fill tower with hinged type lid with latch. A vent shall be provided in the lid.

A label shall be provided on the lid that reads "CLASS A FOAM TANK FILL" and "WARNING: DO NOT MIX BRANDS OR TYPES OF FOAM".

CLASS A FOAM TANK/BOOSTER TANK INTEGRATION

The class A foam tank shall be integrated into the apparatus booster tank. The foam tank shall not be separate from the booster tank.

2 1/2" REAR TANK FILL(S)

one (1) 2 1/2" rear tank fills shall be provided on the rear of the apparatus. The valve shall be located on the inside of the rear compartment with the valve control and connection located on the exterior. The fill valve shall be connected to the tank with 2 1/2" stainless steel pipe.

The rear fill shall be located on the right (passenger) side.

An Akron 8825 series valve with R-1 handle shall be utilized on the tank fill. The control for the valve and the valve bleeder/drain control shall be remoted to the exterior of the rear compartment.

The fill shall have a 2 1/2" FNST swivel connection and 30-degree elbow with a chrome plated plug and chain.

The piping and valve for the tank fill will extend into the side rear compartment and may interfere with equipment storage in that area.

A 3/4" bleeder valve shall be provided on the the tank fill.

3" TANK TO PUMP

One 3" tank to pump line(s) and valve(s) shall be provided between the tank and the pump. The piping from the sump to the valve shall be 4".

The tank to pump valve shall be manually controlled on the pump panel.

TANK TO PUMP CHECK VALVE

A check valve assembly shall be provided on the pump. The valve shall prevent unintentional back filling of the tank through the tank to pump line. Connection from the valve to the tank shall be made by using a non-collapsible flexible rubber hose.

HOT DIPPED GALVANIZED SUB FRAME

The tank cradle and body substructure shall be constructed of high strength ASTM A-36 structural steel with 36,000 psi minimum yield strength. The entire substructure shall be framed and jig welded together to insure a truly square assembly. The substructure shall be fastened to the chassis rails so that it may be easily removed from the chassis for repair, replacement or mounting to a new chassis.

After complete assembly of the tank cradle substructure, the entire assembly shall be hot dipped galvanized for superior corrosion protection.

Due to the extreme duty that this apparatus will experience during its intended service life and to prevent rusting and corrosion from shortening the service life of this apparatus, sub frames fabricated of painted/undercoated steel or aluminum tubing shall not be acceptable.

20 YEAR SUB-STRUCTURE WARRANTY

The tank cradle and body substructure shall have a 20 warranty covering failure due to corrosion perforation or structural design error.

This warranty shall be in effect for 20 years after delivery of the apparatus to the customer. **NO EXCEPTION**.

***HYPER-FLEX* BODY MOUNTING**

The body module assembly shall be mounted to the chassis frame rails with "*Hyper-Flex'"* vibration and shock isolators using a forward mounting system. Flexible neoprene pads, or U-springs especially developed for the expected weight and torsional flexing of the apparatus body, shall be incorporated into the system to eliminate chassis frame rail flex from transmitting harmful loads and twisting onto the body.

100" BODY WIDTH

The apparatus body shall be 100" wide from side to side measuring from the rub rail mounting surface.

APPARATUS BODY MATERIAL

The entire apparatus body shall be constructed of 304 marine grade stainless steel with a #4 annealed and polished finish. The interior of the apparatus body shall not require any finish painting. The compartment interiors must be a #4 finish. Mill finish or DA sanded finish will not be acceptable.

APPARATUS BODY CONSTRUCTION

The entire apparatus body shall be formed by sheering and bending the sheet metal. Metal tubular structures or extrusions shall not be used in the construction of the apparatus body. All edges of the sheared metal shall be sanded to remove any sharp shearing edges prior to bending the metal. After sheering and bending, the body shall be assembled on a jig table that is designed to hold all parts securely in place to insure an accurately built apparatus body.

APPARATUS BODY ASSEMBLY METHOD

The entire apparatus body shall be assembled using only bolted type construction. All apparatus body parts shall be able to be unbolted without the need to cut welds, etc. No exceptions to this requirement as all apparatus manufacturers have the capability to manufacture apparatus bodies in this manner.

COMPARTMENT FLOORS

All compartment floors shall be constructed of 304 marine grade stainless steel with a # 4 annealed and polished finish on the interior surface. The drain ports shall be designed to prevent road spray from entering the compartment. The front edge shall consist of a minimum of two bends to provide additional strength in the compartment floor and shall then form the lower door jamb.

All compartment floors shall be sweep out design. This shall include the lower side compartments, any compartments above the wheel well, any transverse compartments, and the rear face compartment(s).
Any exception to this requirement will cause immediate rejection of bid.

INTERIOR COMPARTMENT SURFACES

All visible interior compartment surfaces shall be 304 marine grade stainless steel with a # 4 annealed and polished finish. Surfaces that are painted or coated in any manner, raw material or any surface with any type sanded finish are not acceptable.

FRONT COMPARTMENT CORNERS

The apparatus body front compartment corners and vertical faces on both sides shall be constructed of 304 marine grade stainless steel with a # 4 annealed and polished finish. The corners shall be a one-piece fabrication from top to bottom and from the inner body panel to the outer face of the compartment to provide maximum strength. Corners using structural support channels or extrusions that require two or more pieces shall not be implemented.

The # 4 finish corner shall wrap around the side of the apparatus body and form the front compartment door jamb providing front corner protection.

REAR COMPARTMENT CORNERS - BRUSHED

The apparatus body rear compartment corners and vertical faces on both sides shall be constructed of 304 marine grade stainless steel with a # 4 annealed and polished finish. The corners shall be a one- piece fabrication from top to bottom and from the inner body panel to the outer face of the compartment to provide maximum strength. Corners using structural support channels or extrusions that require two or more pieces shall not be implemented.

The # 4 finish corner shall wrap around the side of the apparatus body and form the rear compartment door jamb providing front corner protection.

COMPARTMENT TOPS/CEILINGS

The apparatus body compartment tops shall be constructed of 304 marine grade stainless steel with a # 4 annealed and polished finish on the interior surface.

COMPARTMENT TOP OVERLAY

The compartment top shall be overlaid with 1/8" aluminum treadbrite. The aluminum treadbrite shall be an overlay only and shall not form any structural part of the apparatus body or shall the bottom side of the treadbrite be visible when looking into the compartment.

PAINTED FENDERWELLS

The left and right side rear fender wells shall be constructed of stainless sheet steel with exterior overlay. The fender wells shall be radius cut and shall have a full circular inner liner to prevent rust pockets and for ease of cleaning. A 1" gap shall be provided on the bottom of each side of the circular liner to allow drainage of water and for easy cleanout. Sufficient clearance shall be provided for tire chains.

The outer surface of the fender well overlay shall be finished painted.

UPPER DOOR POST - PAINTED

The upper door post to the front and rear of the compartment door above the rear wheels shall be constructed of stainless sheet stee with exterior overlay.

The outer surface of the overlay shall be finished painted.

REMOVABLE INNER FENDER LINER

The fender wells shall be radius cut and shall have a circular inner liner to prevent corrosion pockets and for ease of cleaning. The inner liner shall be constructed of high impact polypropylene material and shall be fully removable for chassis suspension access.

To prevent the accumulation of potential corrosive materials in the fender well area, there shall be no exception to the removable inner fender liner.

STAINLESS STEEL FENDERETTE

The fender wells shall be trimmed with a polished stainless steel fenderette. The stainless steel fenderette shall be secured into place with stainless steel fasteners and shall be easily removable for replacement. A black rubber fender welting shall be provided between the fenderette and the inner liner surface. The fenderettes shall protrude from the apparatus body a maximum of 1".

REPLACEABLE FENDERETTE

The stainless steel fenderette shall be secured to the apparatus body with stainless steel fasteners and shall be easily

removable for replacement.

Fenderettes that are welded to the apparatus body are not acceptable.

COMPARTMENT VENTILATION

Each compartment shall be ventilated to the exterior of the body through a removable metal ventialation plate in the compartment wall or through pass through ventilation into an adjioning compartment.

A cleanable filter material shall be provided behind the plate.

ROM SERIES IV ROLL UP COMPARTMENT DOORS

All side compartment doors shall be ROM Series IV roll up doors.

DOOR FINISH - PAINTED

The door slats, bottom rail and drip rail shall be aluminum with single color painted finish.

The paint on the roll up doors and any accessory components of the door that are to be painted will be painted by the door manfacturer using their paint finish and match standards and tolerances.

PAINTED ROLL UP DOOR EXTERIOR TRIMS

The side and upper trims on the roll up door shall be painted a single color to to match the primary exterior color of the apparatus.

STAINLESS STEEL COATED FASTENERS

All fasteners used in the finish construction of the apparatus body shall be marine grade stainless steel. Fasteners that pass through a dissimilar metal panel shall be Magna-Gard, or equal, coated to help prevent metal reaction and corrosion.

As the Magna-Gard, or equal, coating is a "baked on" type coating providing for excellent adhesion to the fastener, spray on type coatings may be used in conjunction with the Magna-Gard, or equal, but not in place of it.

Because dissimilar metal corrosion is a common occurrence on all apparatus and the Magna-Gard (or similar "baked on" coatings) fasteners are commercially available to all manufacturers and is not a proprietary product, there shall be no exception to this requirement.

DRIVER'S SIDE COMPARTMENT IN FRONT OF THE REAR WHEELS

A compartment shall be provided in front of the rear wheels. The compartment interior dimensions shall be 67" high x 47.75" wide with the lower 28" of the compartment being 26" usable depth and the remaining upper section being 14" usable depth.

The compartment shall have a roll up door which shall be painted to match the primary exterior color of the apparatus.

DRIVER'S SIDE ABOVE WHEEL COMPARTMENT

A compartment shall be provided above the rear wheels. The compartment interior dimensions shall be 37" high x 63.75" wide x 14" usable depth.

The compartment shall have roll up door which shall be painted to match the primary exterior color of the apparatus.

DRIVER'S SIDE COMPARTMENT BEHIND REAR WHEELS

A compartment shall be provided behind the rear wheels. The compartment interior dimensions shall be 67" high x 50" wide x 26" useable depth in a portion of the lower section and the remaining upper section being 14" usable depth.

The compartment shall have a roll up door which shall be painted to match the primary exterior color of the apparatus.

PASSENGER'S SIDE COMPARTMENT IN FRONT OF THE REAR WHEELS

A compartment shall be provided in front of the rear wheels. The compartment interior dimensions shall be 67" high x 47.75" wide with the lower 28" of the compartment being 26" usable depth and the remaining upper section being 14" usable depth.

The compartment shall have a roll up door which shall be painted to match the primary exterior color of the apparatus.

PASSENGER'S SIDE ABOVE WHEEL COMPARTMENT

A compartment shall be provided above the rear wheels. The compartment interior dimensions shall be 37" high x 63.75" wide x 14" usable depth.

The compartment shall have a roll up door which shall be painted to match the primary exterior color of the apparatus.

PASSENGER'S SIDE COMPARTMENT BEHIND REAR WHEELS

A compartment shall be provided behind the rear wheels. The compartment interior dimensions shall be 67" high x 50" wide x 26" useable depth in in a portion of the lower section and the remaining upper section being 14" usable depth.

The compartment shall have a roll up door which shall be painted to match the primary exterior color of the apparatus.

REAR FACE COMPARTMENT

A rear compartment shall be provided on the apparatus just ahead of the rear step. The compartment shall be a minimum of 30" useable depth.

REAR COMPARTMENT HEIGHT

The rear facing compartment shall extend upward and shall be flush with the top of the booster tank to maximize the height of the rear compartment.

There shall not be a void area between the top of the rear facing compartment and the bottom of the hose bed nor shall the booster tank extend over the rear compartment.

REAR FACE COMPARTMENT DOOR - ROLL UP

The rear compartment shall have a roll up door. The door shall have a satin finish.

DRIVER'S SIDE REAR COMPARTMENT - TRANSVERSE

The driver's side compartment behind the rear wheels shall be open into the rear facing compartment (transverse).

PASSENGER'S SIDE REAR COMPARTMENT - TRANSVERSE

The passenger's side compartment behind the rear wheels shall open into the rear facing compartment (transverse).

UPPER DOOR JAMB EXTENSIONS - HARD SUCTION COMPARTMENTS

The upper door jamb of the side compartments shall be extended upward on both sides for storage of hard suction hose, one each side.

HARD SUCTION ACCESS DOORS

A smooth aluminum vertically hinged door with a slam-type latch shall be provided for each hard suction compartment.

The door shall be covered with Chevron material.

The door(s) shall be secured using a lever type compression latch.

RECESSED STEP BODY DESIGN

The rear step of the apparatus shall be 'recessed' into the rear of the body to provide additional side compartmentation.

A 'flat back' or beavertail 'fin' design is not acceptable.

13 1/2" REAR TAILBOARD STEP

A 13 1/2" depth rear tailboard step shall be provided on the apparatus. The rear step shall be the full width of the apparatus body between the extended body sides.

The outer rear edge of the rear step shall be positioned 13 1/2" from the rear face of the apparatus. This shall include an approximate 3/4" wash out gap at the rear face of body.

REAR STEP MATERIAL - NFPA ALUMINUM TREADBRITE

The rear step shall be constructed of NFPA complaint bright finish aluminum treadbrite.

EXTRUDED ALUMINUM RUBRAILS - BRIGHT ANODIZED

Extruded aluminum rub rails shall be provided on the apparatus body sides. The rub rails shall have a bright finish with anodized coating to protect the finish. The rub rails shall be spaced from the apparatus body a minimum of 1/4" with poly spacers.

The rub rails must be bolted on to the apparatus body to allow easy replacement if damaged. Rub rails that are permanently fastened to the apparatus body by welding or any other permanent method will not be acceptable. **NO EXCEPTION WILL BE ALLOWED TO THIS REQUIREMENT.**

RUB RAIL ENDS

The rub rail ends shall be 'capped' with a high impact resistant black EPDM contoured block.

HOSE BED FLOORING

The floor of the hose bed shall be constructed of fiber reinforced Dura-Dek, or equal, material.

The top portion of each "T" cross section shall measure 1 5/8" wide x 3/16" thick with beaded ends. The vertical portion shall be 3/16" thick tapering out at the bottom to a thickness of 1/2" and have an overall height of 1". The "T" sections shall be spaced 3/4" apart to allow for drainage and ventilation.

The flooring shall then be protected with a polyurethane coating to screen out ultraviolet rays. The gray colored coating shall be baked on and include a slip resistant material.

HOSE BED - 68" WIDE

The hose bed shall be 68" wide from side to side.

HOSE BED CAPACITY

The hose bed shall have the capacity to carry the following hose load:

Left to right:

All fire hose shall be provided by the Fire Department.

HOSE BED DIVIDER(S) WITH HANDHOLDS

There shall be two (2) hose bed divider(s) to partition off hose. The divider(s) shall be constructed of 3/16" thick aluminum plate material. The lower edge of the divider(s) shall have a two inch, 90-degree bend toward one side and a 2" x 2" x 3/16" aluminum angle welded to the other side.

The divider(s) shall be adjustable by sliding in tracks which are recessed flush into the hose bed flooring, one on front and one on rear. The divider shall be held in place by two bolts on each end.

The upper rear corner of the divider(s) shall have a minimum of a 3" radius cut with a double bent top and rear edge.

The rear of the divider shall have handhold cutout.

The divider height shall be the same height as the side as the apparatus body walls.

RIGHT SIDE PERMANENT HOSEBED DIVIDER

The side of the slide in ladder compartment shall be extended up forming a seperate permanent hosebed area above the compartment.

The hosebed portion shall have a handout cut out.

HOSE BED DIVIDER UPPER SUPPORT

A brushed stainless steel upper horizontal support shall be provided at the rear of the hosebed to help prevent hosebed divider deflection. The support shall have an integrated adjustment track to allow for hosebed divider support and adjustment.

HOSE BED BULKHEAD

A bulkhead divider shall be provided in the front area of the hose bed separating the hose bed from the tank fill tower(s).

HOSE BED COVER WITH VELCRO FASTENERS

A heavy duty vinyl coated nylon hose bed cover shall be provided to protect the hose load from the weather. The cover shall extend from the front of the hose bed to the rear and then extend downward to cover the exposed rear of the bed.

The cover shall be secured to the apparatus using Velcro on the sides and lift dots on front.

The rear of the cover shall be secured to the apparatus using velcro loop latches.

HOSE BED COVER - RED

The hose bed cover shall be red.

LOW MOUNT ENCLOSED LADDER COMPARTMENT

A ladder storage compartment shall be provided on the right side of the apparatus with an access door on the rear. The compartment shall be located below the hose bed level and shall not be located above or through the booster tank. The compartment shall be located between the booster tank and the right side compartments.

For ease of removal and replacement with limited staffing, the compartment shall be designed to carry all portable ladders vertically on their beams. Ladder racks that carry the ladders horizontally shall not be acceptable.

The compartment shall be constructed of 5052 1/8" aluminum with a brushed finish. Individual slides fabricated of 5052 H32 alloy aluminum shall be provided in the compartment on both sides to allow individual storage for all ladders. The slides shall be provided with permanently attached Rodex poly slip blocks with tapered front and rear edges allow easier loading/unloading of the ladders.

All ladders shall be capable of being removed individually without disturbing the remaining ladders.

LADDER COMPARTMENT DOOR

A smooth aluminum vertically hinged door with a slam-type latch shall be provided on the compartment. The latch shall be activated by a large "D" ring control. The use of lift-and-turn or small snap type latches on this door shall not be acceptable.

The door shall be covered with Chevron material.

PIKE POLE STORAGE

Storage for two straight handle pike poles shall be provided in the ladder storage compartment.

LADDER COMPARTMENT LIGHT

An LED light shall be provided in the ladder storage compartment. The light shall be mounted just inside the ladder compartment access door and activated with an automatic door switch.

The light switch shall be incorporated into the door ajar warning system in the cab.

LADDERS 24-14-10

The manufacturer shall provide the following NFPA compliant ladders:

- One 24' aluminum two section ladder.
- One 14' aluminum roof ladder with folding hooks.

- One 10' folding attic ladder.

6" x 10' HARD SUCTION HOSES (2)

Two sections of 6" diameter x 10' length clear lightweight PVC hard suction hose shall be provided.

The hard suction shall be coupled long handle FNST x rocker lug MNST.

NOTE: The long handles on the FNST end shall be folding type.

The hard suction shall be Kochek brand.

COMPARTMENT SHELF TRACKS - ALUMINUM

Two (2) sets consisting of two heavy duty aluminum tracks shall be provided in specified compartments, one for each end of shelf.

The tracks shall not be welded to the apparatus body.

DUAL COMPARTMENT SHELF TRACKS - ALUMINUM

Three (3) sets consisting of four heavy duty aluminum tracks shall be provided in specified compartments, two for each end of shelf.

The tracks shall not be welded to the apparatus body.

SHALLOW DEPTH COMPARTMENT SHELVING

There shall be four (4) shallow depth shelves provided. The shelves shall be constructed of 1/8" smooth aluminum with a 2" upward bend on the front and rear edges.

The shelves shall have a random orbit sanded finish.

FULL DEPTH COMPARTMENT SHELVING

There shall be three (3) full depth shelves provided. The shelves shall be constructed of 1/8" smooth aluminum with a 2" upward bend on the front and rear edges.

The shelves shall have a random orbit sanded finish.

TURTLE TILE SHELF MAT

Each shallow depth shelf shall have Turtle Tile matting.

TURTLE TILE SHELF MAT

Each full depth shelf shall have Turtle Tile matting.

COMPARTMENT SCBA TRACKS - HORIZONTAL

One (1) sets consisting of two heavy duty horizontally mounted tracks shall be provided and mounted to the rear walls of the specified compartment(s).

The tracks shall not be welded to the apparatus body.

DRIVER'S SIDE FRONT OF WHEELWELL SPARE CYLINDER COMPARTMENT

A compartment shall be provided in the wheel area in front of the rear axle on the driver's side to hold three spare SCBA cylinders.

The compartment shall be injection molded high strength polyethylene designed specifically for the SCBA cylinder storage. The compartment shall be slanted towards the rear and have a drain port at the low point of the compartment.

DRIVER'S SIDE REAR OF WHEELWELL SPARE CYLINDER COMPARTMENT

A compartment shall be provided in the wheel area behind the rear axle on the driver's side to hold two spare SCBA cylinders.

The compartment shall be injection molded high strength polyethylene designed specifically for the SCBA cylinder storage. The compartment shall be slanted towards the rear and have a drain port at the low point of the compartment.

NOTE: The door for this compartment shall also cover the chassis fuel fill.

PASSENGER'S SIDE FRONT OF WHEELWELL SPARE CYLINDER COMPARTMENT

A compartment shall be provided in the wheel area in front of the rear axle on the passenger's side to hold three spare SCBA cylinders.

The compartment shall have a drain port at the low point of the compartment.

OIL DRY COMPARTMENT

An aluminum oil dry compartment shall be provided and integrated into the apparatus body in the passenger's side wheel area behind the rear axle.

The compartment shall be designed to roll out of the wheel well area for dispensing oil dry material and for filling. An 8" x 8" hinged fill cover shall be provided on the top of the compartment.

A reflective stripe shall be provided on the front and rear face of the compartment.

WHEELWELL STORAGE COMPARTMENT DOORS – BRUSHED FINISH STAINLESS

Brushed finish stainless steel access doors shall be provided on each wheel well storage compartment in the wheel well.

The doors shall be secured using chome plated thumb lever latches.

WHEELWELL SCBA CYLINDER COMPARTMENT RETENTION STRAPS

One 1" wide loop of high visibility yellow webbing shall be installed in each wheel well spare cylinder compartment for each cylinder to be stored in the compartment. The loop(s) shall be designed to loop around the cylinder valve and help prevent the cylinder from sliding out of the compartment if the door is not latched or fails.

TURTLE TILE FLOOR MATS

All lower level apparatus body compartment floors shall be provided with 3/4" thick Turtle Tile modular 12" x 12" square tiles with perforated surface for ventilation and air circulation. The tiles shall be easily removable for cleaning the compartment. The tiles shall interlock into each other to form a "one piece" floor liner.

Floors with permanent mounted or bolted in place accessories will not have floor mats.

TURTLE TILE - BLACK

The Turtle Tile shall be black in color.

TURTLE TILE BEVELED EDGES - BLACK

The Turtle Tile shall have black beveled edge "ramps" on the outer edge of the compartments.

FOLDING ACCESS STEPS

Austin FS-200 CHR NFPA compliant chrome plated folding access steps shall be provided. The steps shall be 6.5" wide x 6.5" depth and be attached to the apparatus using stainless steel bolts with locking type nuts.

Steps shall be provided in the following locations:

Four folding steps shall be provided on the right side front compartment face.

Four folding steps shall be provided on the left side front compartment face.

Two folding steps shall be provided on the rear of the apparatus on the right side.

Two folding steps shall be provided on the rear of the apparatus on the left side.

INTERMEDIATE HOSEBED STEP

A full width aluminum treadbrite step shall be provided on the rear face of the apparatus. The step assembly shall be bolted into place using stainless steel fasteners.

The rear intermedate step shall be 8" depth.

NFPA KNURLED FINISH HANDRAILS

All apparatus body handrails shall be NFPA compliant 1 1/4" diameter extruded aluminum "knurled finish" with chrome plated stanchions. Rubber gaskets shall be provided between the stanchions and any painted surfaces.

Handrails shall be provided in the following locations:

Left rear of the apparatus for boarding the rear step.

Right rear of the apparatus for boarding the rear step.

A 12" grab rail on the upper front of the apparatus towards the front of the hose bed on the right side.

A 12" grab rail on the upper front of the apparatus towards the front of the hose bed on the left side.

A 12" grab rail on the right rear of the apparatus towards the rear of the hose bed.

A 12" grab rail on the left rear of the apparatus towards the rear of the hose bed.

Intermediate horizontal handrail on the rear of the apparatus.

Two 24" grab handles on the rear face of the hosebed crossbar support.

NFPA CERTIFIED 12 VOLT ELECTRICAL SYSTEM

The 12-volt apparatus body electrical system shall be provided and shall be in compliance with NFPA testing and certification procedures as follows:

NFPA MINIMUM ELECTRICAL LOAD DEFINITION

The NFPA defined minimum electrical load shall consist of the total amperage required to simultaneously operate the following in a stationary mode:

- Propulsion engine and transmission.
- The clearance and marker lights.
- Communication equipment (5 amp default).
- Illumination of all control and instrument panels.
- Illumination of all walking surfaces, the ground at all egress points, control and instrumentation panels and 50% of total compartment lighting.
- Minimum warning lights required for "blocking right of way" mode.
- The current to simultaneously operate and fire pump and all specified electrical devices.
- Anything defined by the purchaser, in the advertised specifications, to be critical to the mission of the apparatus.

RESERVE CAPACITY TEST

A Reserve Capacity Test shall performed on the completed apparatus. All items listed in NFPA Minimum Load Definition shall be activated with the engine shut off. After 10 minutes of operation, those items shall be deactivated. After deactivation, the battery system shall have ample reserve to start the engine.

ALTERNATOR PERFORMANCE TEST AT IDLE

An "alternator performance test at idle" test shall be completed. The minimum continuous electrical load shall be activated with the engine running at idle speed. When the engine temperature has been stabilized at idle speed, the battery system shall be tested to detect any battery discharge current.

ALTERNATOR PERFORMANCE TEST AT FULL LOAD

An "alternator performance test at full load" test shall be completed. The minimum continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed for a 2 hour period.

TEST CONDITIONS

All electrical testing shall be performed with the engine compartment at approximately 200 degrees.

12-VOLT WIRING SYSTEM

All 12-volt electrical wiring shall be SXL cross link rated to carry 125% of the maximum current for which the circuit is protected. The wire shall be of sufficient size so that voltage drop in any electrical device does not exceed 10%. All wiring shall be color, number, and function coded with the number and function being printed every 3" along the entire length of all apparatus body wires (as required by NFPA). All wiring shall be routed through heavy duty PVC split loom securely attached and protected against heat, oil, and physical damage. All locations where the wire passes through a body panel shall be protected with electrical grommets.

All connections shall be made using mechanical connectors and be screwed to terminal or junction box with machine screws. Wire nut, insulation displacement, or piercing connections shall not be used.

All circuits shall be provided with properly rated low voltage over current protective devices of the automatic reset type.

Removable access panels shall be provided to provide access to the wire and electrical components.

MULTI-PLEXED APPARATUS BODY ELECTRICAL SYSTEM

The apparatus body electrical system shall incorporated into the chassis multiplexed electrical system. Any components added to the system shall be of the same brand as used in the chassis consisting of all solid-state components contained inside weather resistant modules. The multiplex system shall use CAN SAE J1939 proprietary protocol, be field re-programmable and re-configurable by any authorized dealer or service center.

ELECTRICAL SYSTEM SCHEMATICS

As-built wiring harness drawings and a master circuit list of electrical circuits that the apparatus builder installs shall be furnished in the delivery manuals. These schematics must show the electrical system broken down into separate functions, or small groups of related functions. Schematics shall depict circuit numbers, electrical components, harnesses, and connectors from beginning to end.

A single drawing for all electrical circuits installed by the apparatus builder shall not be accepted.

REAR LICENSE PLATE LIGHT/BRACKET

A chrome plated LED license plate light shall be provided on the rear of the apparatus.

A license plate mounting bracket shall be provided that spaces the license plate away from the apparatus body.

The license plate shall be on the left side lower rear.

CLEARANCE LIGHTS/REFLECTORS

All apparatus body clearance lights shall be LED style. All lower clearance lights and reflectors shall be mounted in a manner that provides protection from damage, and shall comply with FMVSS-108 regulations.

MID-MOUNTED SIDE TURN SIGNAL - LED

An amber LED side turn signal shall be provided in the mid-section area of the apparatus on both sides.

LED PUMP COMPARTMENT LIGHTS (2)

Two LED compartment lights shall be provided to illuminate the pump compartment.

The lights shall function with the pump operator's gauge panel lights.

DUAL TRACK TYPE LED COMPARTMENT LIGHTING

Each apparatus body compartment shall have two track type LED lights vertically mounted in the compartment. The lights shall be constructed of an unbreakable type clear poly type flexible material housed in an aluminum extrusion.

A compartment that is considered a 'full height' compartment shall each have two 48" long light sections and a 'low height' or above wheel compartment shall each have two 18" long sections.

The lights shall function automatically and independently of other compartments when the compartment door is opened.

COMPARTMENT LIGHT SWITCHES

Each hinged apparatus body door compartment shall have a magnetic style reed indicator switch.

Each roll up door shall have an integral door open indicator magnet in the lift bar. If the bar is not properly closed, it shall activate the "Door Open" light in the cab.

The compartment lights shall function automatically when the door is opened. A master compartment light switch shall not be acceptable.

DOOR AJAR INDICATOR PARK BRAKE DISABLE

All apparatus body door ajar indicators shall be disabled when the park brake is set.

PERIMETER GROUND LIGHTING - APPARATUS BODY

There shall be seven (7) 4" diameter underbody LED perimeter lights furnished and installed under the apparatus body. The lights shall have an unbreakable polycarbonate lens and housing. The lights shall be sealed to help prevent moisture entry.

The ground lights shall be activated with the parking brake.

LED APPARATUS BODY STEP LIGHTING

All apparatus steps and running boards shall be illuminated using chrome plated or stainless steel LED lights. The lights shall function automatically with the park brake.

GROUND/STEP LIGHTING CUTOFF SWITCH

A ground/step light cut off switch shall be provided in the cab to allow the driver to disable the ground lights and other lights that activate when the parking brake is set. The switch shall automatically re-set itself when the parking brake is released.

110 VOLT SHORELINE CONNECTION IN CAB

There shall be one (1) duplex 110 volt shoreline connection(s) provided in the cab for charging accessory items.

The cab interior shoreline(s) will be located as follows:

110 VOLT SHORELINE CONNECTION IN COMPARTMENT

There shall be one (1) duplex 110 volt shoreline connection(s) provided in the apparatus body compartment(s) for charging accessory items.

The body compartment shoreline(s) will be located as follows:

WHELEN M6 QUAD-CLUSTER TAILLIGHTS - LED

Whelen M6BTT 4" x 6" LED taillights and M6T 4" x 6" LED turn signals shall be provided. The backup lights shall be M6BUW 4" x 6" clear LED's.

An additional space shall be provided in the quad-cluster for the lower C warning lights.

M6FCV4 polished trim housings shall be provided.

BACKUP LIGHTS PARK FUNCTION

The backup lights shall automatically activate when the park brake is set to provide work lighting at the rear of the apparatus.

ZONE A UPPER WARNING LIGHTING

The lightbar shall be provided on the chassis. Specifications for the lightbar are listed in the chassis specifications.

MID-SECTION WARNING LIGHTS - SIDES

One Whelen PSR01FCR Mega T-Series red LED light shall be provided on each side in the mid-section of the apparatus.

The lights shall have PSFC chrome bezels.

SIDE FACING LOWER REAR WARNING LIGHTS

One Whelen PSR01FCR Mega T-Series red LED light shall be provided shall be provided on each side of the apparatus as low and as far rearward as possible on the apparatus.

PSFC chrome trim housings shall be provided.

REAR FACING LOWER WARNING LIGHTS

Two Whelen M6R red LED lights shall be provided on the lower rear of the apparatus.

The lower rear warning lights will be mounted in the the tailight cluster housings.

WHELEN M9R UPPER ZONE B/D WARNING LIGHTING

Two Whelen M9R red LED light heads shall be mounted on each side of the apparatus above the side compartments.

M9FC chrome plated trim housings shall be provided.

WHELEN M9R UPPER ZONE C WARNING LIGHTING

Two Whelen model M9R red LED light heads shall be mounted on the rear of the apparatus, one each side. An M9FC chrome bezel shall be provided for each light.

M9FC chrome trim housings shall be provided.

WHELEN TAL65 TRAFFIC ADVISOR

A Whelen TAL65 36" 6 lamp LED directional traffic advisor shall be provided and mounted on the rear of the apparatus.

The advisor shall be subject to load management shedding to comply with NFPA.

A Whelen TACTL5 controller shall be provided for the Traffic Advisor.

The control head shall be mounted using the standard bail strap mounting bracket provided.

DIRECTIONAL LIGHT MOUNTING - INTERMEDIATE STEP

The arrowstick/advisor shall be either recessed into or mounted under the rear intermediate step.

WHELEN M9LZC LED SCENE LIGHTS

Six Whelen M9LZC 9" x 7" LED scene lights shall be provided and mounted two on each side and two on the rear.

M9LZC chrome trim housings shall be provided.

12 VOLT SCENE LIGHT ACTIVATION SWITCHES (3)

Three switches shall be provided to activate the 12 volt scene light(s). The driver's side lights, passenger's side lights and the rear lights shall each be individually switched. The switches shall be located on the cab control console.

DUAL FUNCTION SCENE LIGHT(S)

The side and rear facing scene light(s) shall activate automatically when the apparatus transmission is placed into reverse.

ILI HOSE BED STRIP LIGHT

One 48" ILI LED strip light shall be provided and mounted in the front of the hosebed.

The lighting shall be activated by the pump panel light.

FRC RADIANT MAX LED TELESCOPING LIGHT - 12 VOLT

Two (2) Fire Research Radiant Max RDA540-Q32 top raising telescoping light(s) shall be mounted on the apparatus. The lighthead shall be 12 volt LED and create 32,000 lumens.

The telescoping pole shall be constructed of heavy wall anodized tube. The pole shall be secured in any raised position with a non-directional advanced twist lock locking device. The twist lock mechanism shall have a knurled positive grip. The light(s) shall include a three wire coiled cord extended from the pole bottom.

The light(s) shall be electrically tested so that they are safe for their intended use. The light(s) shall be certified by Underwriters Laboratories (UL) and shall meet/exceed NFPA 1901.

The light head bezel and back shall be white.

The telescoping light(s) shall be equipped with a FRC "ON" switch on the light head(s).

The telescoping light(s) shall be equipped with a FRC "TW" retractile coil cord out of the light head.

The telescoping light(s) shall be mounted at the pump panel.

BACKUP CAMERA MOUNTING

The camera for the chassis provided backup camera system shall be mounted on the rear of the apparatus.

FIRE HELMET MOUNTING

The end user of the apparatus shall be responsible for insuring that all helmets are either stored in an exterior compartment or a securely mounted to NFPA standards inside the cab.

PAINT PROCEDURE - PPG DELFLEET BASE COAT/CLEAR COAT

All interior compartment surfaces shall remain # brushed stainless steel. There shall be no paint or any other type of coating on the interior compartment surfaces. Standard mill finish, DA finish or swirled finish shall not be accepted.

Any exterior surfaces that are to be painted shall be individually listed in the apparatus body portion of this specification.

All seams or flanges on the apparatus body shall be caulked or properly sealed to prevent moisture accumulation in flanged areas.

PPG CERTIFIED 10 YEAR LIMITED PAINT WARRANTY

The apparatus body exterior finish paint shall have a 10 year limited warranty. The warranty shall be certified by the manufacturer of the paint. Documentation of this shall be provided to the end user. Any warranty that is not backed by the paint manufacturer will not be acceptable.

PPG Commercial OEM Product Warranty Coverage:

Warranty Inclusions:

- Delamination of the topcoat and/or other layers of paint.
- Cracking or checking due to failure of the product.
- Excessive loss of gloss caused by cracking, checking and hazing.

Warranty Exclusions:

- Paint deterioration caused by blisters, bubbles, flaking or other degradation due to rust or corrosion originating from the substrate.
- Hazing, chalking or loss of gloss caused by improper care, abrasive polishes, cleaning agents, heavy-duty pressure washing, or aggressive mechanical wash systems.

- Paint deterioration caused by abuse, scratches, chips, gloss reduction, accidents, acid rain, chemical fallout, road treatment materials/chemicals or acts of nature.
- Any paint that was not applied by Toyne, Inc.
- Claims presented without proper Warranty documentation.
- Failure on finishes performed by Non-PPG Commercial Certified Technicians.
- Failure on finishes due to inadequate film builds.
- Failures due to improper cleaning or surface preparation or failure to follow the product use instructions.

These are the only warranties that PPG makes, and all other expressed or implied warranties, including, without limitations, any warranty of fitness for particular purpose or use are disclaimed by PPG.

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 help minimize electrolysis and corrosion between dissimilar metals. This shall be in addition to any other barrier material that may be used.

SINGLE COLOR APPARATUS BODY PAINT

The portions of the apparatus body that are to be painted will have a single color non-metalic paint scheme.

APPARATUS BODY UNDERCOATING

The apparatus body shall be undercoated after assembly is completed. A bituminous based automotive type undercoat shall be used. Care shall be taken to avoid undercoat application to items that would hinder normal maintenance.

COMPARTMENT INTERIORS - BRUSHED STAINLESS FINISH

The compartment interiors shall be brushed stainless steel # 4 finish. The brushed finish shall be as provided by the manufacturer of the material.

Interiors with any type of paint, sprayed-on coatings, DA finish, or standard "mill finish" will not be acceptable.

TIRE PRESSURE MONITORING SYSTEM - CHASSIS PROVIDED

The tire pressure indicating/monitoring system shall be provided with the chassis.

REAR CHEVRON STRIPING

A minimum of 50 percent of the rear vertical surface of the apparatus shall be covered with 6 inch alternating red and fluorescent yellow green retro-reflective striping. The striping shall slope downward away from the centerline of the apparatus at a 45-degree angle.

The retro-reflective material shall conform to the requirements of ASTM D 4956 "Standard Specification for Retro-Reflective Sheeting for Traffic Control", Type I or better.

UNITED STATES FLAG BANNER

A United States flag banner shall be applied to each side of the apparatus above the side compartments.

FUEL TANK ACCESS

A removable panel shall be provided on the rear of the apparatus for maintenance access to the top of the fuel tank.

ENGINE HORIZONTAL EXHAUST

Shielding shall be provided between the apparatus body and the exhaust pipe if necessary to deflect heat away from the body. The exhaust system shall be designed and installed to comply with EPA equipment requirements and shall not be modified.

DRIVER'S SIDE FUEL FILL

A chassis fuel fill shall be located in the driver's side rear wheel well. The fuel fill shall be properly vented.

LEFT (DRIVER'S) SIDE FUEL FILL DOOR

A chassis fuel fill shall be located in the driver's side rear wheel well. The fill shall be located behind a brushed stainless steel hinged door with flush latch. The fuel fill shall be properly vented.

CAB TILT RECEPTACLE

The cab tilt receptacle shall be located in side the right side pump access door.

FRONT MUD FLAPS

Heavy duty black rubber mud flaps shall be provided on the front wheels. The mud flaps shall be attached to the apparatus in the wheel well area using heavy duty stainless steel retention straps that are secured into place using stainless steel fasteners.

REAR MUD FLAPS

Heavy duty black rubber mud flaps shall be provided on the rear wheels. The mud flaps shall be attached to the apparatus in the rear wheel well area using heavy duty stainless steel retention straps that are secured into place using stainless steel fasteners.

REAR PULLING EYES

Two rear 3/4" CRS pulling eyes shall be provided under the rear tailboard. The eyes shall have a minimum of a 3" clear

opening for passing chains through the eye.

BATTERY DANGERS LABEL - FAMA01

A permanent label shall be provided near the battery location that warns of potential injury or death that could be caused by the batteries. The label shall also state precautions that should be taken while working on or around the batteries.

ROTATING SHAFTS DANGER LABEL - FAMA02

A permanent label shall be provided on each side of the frame rail and in any other location(s) where rotating shaft hazards are apparent. The label shall warn of potential injury or death that could be caused by the movement of the shaft(s) as well as precautions that should be taken while working on or around them.

HOT SURFACE DANGERS LABEL - FAMA03

A permanent label shall be provided near any hot surface that warns of potential injury or death that could be caused by contact with the surface. The label shall also state precautions that should be taken while working on or around the surface.

HOT EXHAUST DANGERS LABEL - FAMA04

A permanent label shall be provided near any hot exhaust surface that warns of potential injury or death that could be caused by contact with the surface. The label shall also state precautions that should be taken while working on or around the surface.

SPINNING ENGINE FAN DANGER LABEL - FAMA05

A permanent label shall be provided on both sides of the engine fan. The label shall warn of potential injury or death that could be caused by the movement of the fan as well as precautions that should be taken while working on or around them.

SEATED AND BELTED WARNING LABEL - FAMA07

A permanent label shall be provided that is visible to all occupants that states that they should be seated and belted while the apparatus is in motion. The label shall also state potential injuries or death that could be caused if the safety belts are not used properly.

AIR CONDITIONING REFRIGERANT WARNING LABEL - FAMA09

If the apparatus is equipped with any type of air conditioning system, a permanent label shall be provided that is located in an area that would be visible to service personnel. The label shall state that the system contains R134A, the necessary precautions that should be taken and the dangers of working on or around the system.

CAB INTERIOR EQUIPMENT MOUNTING DANGER LABEL - FAMA10

A permanent label shall be provided inside of the cab warning of the dangers of unsecured equipment inside the cab.

The label shall state that all equipment shall be properly secured and also warn of potential injury or death that could be caused by failing to do so.

FIRE SERVICE TIRE RATING LABEL - FAMA12

A permanent label shall be provided inside of the cab in view of the driver while entering the cab warning of the dangers of improper use of the tires on the apparatus. The label shall also warn of potential injury or death that could be caused by improper tire use or condition.

ELECTRONIC STABILITY CONTROL LABEL - FAMA13

If the apparatus is equipped with an electronic stability control system, a permanent label shall be provided inside of the cab in view of the driver warning of the dangers of improper operation of the apparatus and the importance of safe driving. The label shall also warn of potential injury or death that could be caused by improper operation of the apparatus.

MAXIMUM OCCUPANCY LABEL - FAMA14

A permanent label shall be provided inside of the cab in view of the driver stating the maximum number of personnel that can ride in the apparatus. The label shall also warn of potential injury or death that could be caused by exceeding the stated capacity.

DO NOT WEAR HELMET LABEL - FAMA15

A permanent label shall be provided inside of the cab in view of all seated positions stating that helmets should not be worn in cab. The label shall also warn of potential injury or death that could be caused by wearing helmet in cab.

VEHICLE BACKING LABEL - FAMA17

A permanent label shall be provided inside of the cab in view of the driver advising of proper procedures to following when the apparatus is in reverse motion. The label shall also warn of potential injury or death that be caused by failing to follow proper procedures.

INTAKE/DISCHARGE CAP PRESSURE LABEL - FAMA18

A permanent label shall be provided in all areas that intakes and discharges are capped. The label shall give instruction on how to properly remove the cap. The label shall also warn of potential dangers, injury or death that be caused by failing to follow proper cap removal procedures.

HOSE RESTRAINT LABEL - FAMA22

A permanent label shall be provided near any hose storage area. The label shall instruct the operator to insure that all hose is properly secured prior to placing the apparatus in motion and to provide warning of potential dangers, including injury or death, in failing to do so.

APPARATUS ENTRY/EXIT LABEL - FAMA23

A permanent label shall be provided at any area of the apparatus where personnel will be boarding or exiting the

apparatus. The label shall instruct the operator in the proper method of climbing into or onto the apparatus using only the 3 point of contact, facing the cab method and provide indication of potential injury or death that could occur in failing to do so.

DO NOT RIDE ON REAR STEP WARNING LABEL - FAMA24

A permanent label shall be provided at the rear step area stating that riding in this area while the vehicle is in motion is prohibited and shall warn of the potential dangers, including injury or death, in doing so.

DO NOT RIDE ON REAR STEP WARNING LABEL - FAMA24

A permanent label shall be provided at the rear step area stating that riding in this area while the vehicle is in motion is prohibited and shall warn of the potential dangers, including injury or death, in doing so.

DO NOT RIDE IN WALKWAY WARNING LABEL - FAMA24

A permanent label shall be provided in the walkway/crosswalk stating that riding in this area while the vehicle is in motion is prohibited and shall warn of the potential dangers, including injury or death, in doing so.

TRAINED OPERATOR ONLY LABEL - FAMA25

A permanent label shall be provided on the pump panel that states that only properly trained personnel should operate the apparatus and shall indicate that injury or death could occur as a result.

NOT A STEP WARNING LABEL - FAMA26

A permanent label shall be provided in any horizontal location that a firefighter may feel tempted to use as a step but is not designed, constructed or intended to be a stepping, standing or walking surface. The label shall state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

COMPARTMENT TOP WARNING LABEL - FAMA26

A permanent label shall be provided on the front and rear of the compartment tops on both sides warning that the area is not designed, constructed or intended to be a stepping, standing or walking surface. The label shall state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

FRONT BUMPER EXTENSION WARNING LABEL - FAMA26

A permanent label shall be provided on the front bumper extension warning that the area is not designed, constructed or intended to be a stepping, standing or walking surface. The label shall state that the surface is not intended for this purpose and indicate potential injury or death in doing so.

CAB TILT WARNING LABEL - FAMA41

A permanent label shall be provided inside the driver's door warning of potential injury or death that could be received in the area under or around a tilted cab. The label shall also state safety precautions that should be taken when the cab is tilted.

CAB TILT BUMPER OBSTRUCTION WARNING LABEL

If any potential obstruction exists, a permanent label shall be provided immediately adjacent to the cab tilt switch instructing the individual activating the cab tilt switch to check front bumper for any potential cab contact with bumper mounted equipment prior to tilting cab.

SIREN NOISE WARNING LABEL - FAMA42

A permanent label shall be provided inside the driver's door warning of potential injury that could be received from the noise of the siren. The label shall also state safety precautions that should be taken when the siren is in use.

TANK FILL RATE LABEL

A permanent label shall be provided near any tank fill location clearly stating the following tank fill limitations and procedures:

- Do not exceed 100 psi when filling tank.
- Fill rate in GPM = tank size capacity.
- For tanks over 1000 gallons, do not exceed maximum fill rate of 1,000 GPM.
- Gate back fill when water reaches top of the tank.

The label shall also state that failure to follow procedure could result in over-pressurization, premature tank failure and possibly void tank warranty.

FLUID CAPACITY LABEL

A permanent plate shall be mounted in the driver's compartment specifying the quantity and type of the following fluids used in the apparatus (if applicable) for normal maintenance:

- Engine oil.
- Engine coolant.
- Chassis transmission fluid.
- Pump transmission fluid.
- Pump primer fluid.
- Drive axle fluid.
- Air conditioning refrigerant.
- Air conditioning lubrication oil.
- Power steering fluid.
- Cab-tilt mechanism fluid (if applicable).
- Transfer case fluid (if applicable).
- Equipment rack fluid (if applicable).
- CAFS compressor system lubricant (if applicable).
- Generator system lubricant (if applicable).
- Front tire cold pressure.
- Rear tire cold pressure.
- Maximum tire speed ratings.

LENGTH, HEIGHT, WEIGHT LABEL

A permanent plate or label shall be provided in the cab in clear view of the driver stating the overall length, height and the gross vehicle weight rating (GVWR), in tons, of the completed apparatus.

The wording on this label shall indicate that the information on the plate/label was current at the time of manufacture and if the overall height of the apparatus changes while the vehicle is in service, the purchaser shall revise the height dimension on the plate.

PUMP CERTIFICATIONS

Where applicable, the following documents shall be provided with the completed apparatus:

- Pump manufacturer's certification of suction capability.
- Special condition certifications, if any.
- Pump manufacturer's approval for stationary pumping.
- Engine manufacturer's certified brake horsepower curve showing maximum governed speed.
- Pump manufacturer's certification of hydrostatic test.
- Pump manufacturer's certification of hydrodynamic test, if required. Certification of inspection and tests for the fire pump.

OPTICAL WARNING LIGHT CERTIFICATION

The emergency warning light system shall be certified using one of the available methods provided for in NFPA.

ELECTRICAL SYSTEM PERFORMANCE CERTIFICATION

A written load analysis and the results of the electrical system performance test shall be provided with the completed apparatus. The load analysis shall include the following:

- Nameplate rating of the alternator.
- The alternator rating under the conditions specified in NFPA.
- Each of the component loads specified in NFPA that make up the minimum continuous electrical load.
- Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load.
- Each individual intermittent electrical load.

BOOSTER TANK CAPACITY CERTIFICATION

The manufacturer shall certify the capacity of the booster tank. Certification shall be documented on the Manufacturer's Record of Construction document.

CLASS A FOAM TANK CERTIFICATION

Certification of class A foam tank capacity shall be provided.

NFPA SLIP RESISTANCE CERTIFICATION

Any materials used as a stepping, standing or walking surface shall be certified to be compliant with NFPA. Documentation shall be provided with the completed apparatus.

WEIGHT CERTIFICATION

Documents from a certified scale showing actual loading on the front, rear and overall apparatus shall be provided. The apparatus shall be scaled with the water tank full but without personnel, equipment and hose.

VEHICLE ROLLOVER STABILITY

The apparatus chassis shall be equipped with a stability control system and shall be certified to NFPA Rollover Stability requirements.

UNDERWRITER'S LABORATORIES TESTING

The apparatus shall undergo an Underwriter's Laboratories Certification Test to insure that the completed apparatus meets the requirements of NFPA. The certificate shall be provided to the purchaser upon completion. Underwriter's Laboratories shall also perform the required testing on the entire installed electrical system. Self-certification by the apparatus manufacturer will not be acceptable.

MANUFACTURER'S RECORD OF APPARATUS CONSTRUCTION

All information required to comply with NFPA shall be provided with the completed apparatus.

OPERATIONS AND SERVICE DOCUMENTATION

The apparatus shall be complete with all operation and service documentation covering the apparatus as delivered and accepted. The documentation shall address the inspection, service and operations of the apparatus and all major components as required in NFPA.

"ON-LINE" APPARATUS BODY OWNER'S MANUAL

Upon delivery, the end user shall be instructed on how to access applicable documentation pertaining to the operation of the apparatus and components included on the aparatus body through an on-line web based secure site.

FAMA FIRE APPARATUS SAFETY GUIDE

One (1) FAMA Fire Apparatus Safety Guide(s) shall be provided with the completed apparatus.

STATEMENT OF EXCEPTION - NFPA MISCELLANEOUS REQUIRED EQUIPMENT

The customer shall be responsible for providing all NFPA required miscellaneous equipment that is not contained within these specifications. All required equipment must be properly installed on the apparatus and in working condition prior to the apparatus being placed into service.

FAMILIARIZATION AND DEMONSTRATION

Upon completion of the new apparatus, an authorized properly trained representative of the manufacturer shall provide a a "Familiarization and Demonstration" course of the apparatus and related components.

The Department shall provide the representative with a written list, by full proper names, of the individual(s) that are to receive the overview. Upon completion of the overview, each person in attendance will be required to acknowledge, by signature, that they understand the operation of the apparatus and all related components.

Items to be included in the course shall include all items listed in NFPA 1900 7.19.2.7.2.2.

CHASSIS FAMILIARIZATION

Familiarization of the apparatus shall include the following:

- How to locate gauges or indicators and check all fluid levels and operational use of the apparatus.
- How to tilt the chassis cab or hood assembly for access to the engine, fire pump (if applicable), or aerial control (if applicable), or any other device to allow access to fluids or for required maintenance.
- Interior cab controls, instruments, mirrors, safety devices or alarms, brake operations, transmission control, pump controls (if applicable) exhaust regeneration (if applicable), seat adjustments, warning light engagement and other operational equipment.

Fire Pump:

- Setting the parking brake, proper transmission gear and the fire pump engagement operations.
- Throttle control.
- Primer and tank-to-pump operation.
- Use of pressure control device.
- Tank refilling operations.
- Proper operation of discharge controls.
- Proper shutdown and draining of the system.

POST ACCEPTANCE TRAINING REQUIREMENTS

After apparatus acceptance, the Department shall be responsible for ongoing training of personnel. The Department shall not allow untrained or undertrained personnel to operate the apparatus or any included feature of the apparatus.