



Build Specification

DeBeque Fire Protection District
396 Curtis Avenue
DeBeque, CO 81630
970-283-8632

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Exp. Date: 12/31/2008
Quote No: DEBCOMR-0003 **Job/Order No:** SVI #723

04/08/2009

Page 1

PART NO	S	DESCRIPTION	QTY
		== Boiler Plate Information - 2008.100 02/05/08 ==	1
01-04-0110		Engineering Drawings (17" x 11" Sheet)	1
01-08-A100		Internet In-Process Site	1
01-13-2025		Carrying Capacity	1
01-13-2050		-- Equipment Allowance: Special Service Fire Apparatus	1
01-15-0200		Operations and Service Documentation	1
01-15-1100		-- Manuals: CD Format, Two (2)	1
01-13-1700		-- Manuals: Printed Copy Provided	1
01-40-0100		Warranty: Boiler Plate	1
01-40-1100		-- Warranty: General, 1 Year, Standard	1
01-40-2000		-- Warranty: Low Voltage Electrical, 5 Year, Standard	1
01-40-2100		-- Warranty: Structural, 10 Years, Standard	1
01-40-3300		-- Warranty: Paint, 10 Years, Standard	1
01-43-0050		Construction Period	365
01-43-0100	S	Overall Height: 118" (OAH)	1
01-43-0200	S	Overall Length: 382" (OAL)	1
01-45-0100		Testing	1
01-45-2000		-- Testing: 12 VDC, NFPA	1
01-45-3010		-- Testing: 120/240 VAC, NFPA, UL Test	1
01-45-3000		-- Testing: Line Voltage, Dielectric Withstand	1
		== Dealer Options - 2008.100 02/05/08 ==	1
02-20-0200		Delivery and Demonstration: By Dealer / Representative	1
02-T0-0100	XS	Dealer Commission	1
		== Chassis Preparation - 2008.100 02/05/08 ==	1
03-SV-0100	XS	SVI Supplied Chassis: IH 4400 4-Door 4x4	1
03-SV-1200		-- Cab/Chassis: Prepayment, Due Within 30 Days of Invoice	1
		== Walk Around Rescue - 2008.100 02/05/08 ==	1
00-00-0000		QW Data - March 2009 (2009.100)	1
		CHASSIS	1
10-00-0110		Chassis Options: Commercial	1
10-10-1240		-- Bumper: 20" Extension	1
10-10-1410		-- Bumper: (2) Compartments, Streetside/Curbside	1
10-11-1150		-- Air Horns: (2) Grover - Rcspd - One Each Side	1
10-20-1120		-- Front Winch: Warn 12,000 lb., 12 VDC - 125' of 3/8" Cable	1
10-25-1110		-- Exhaust: As Provided by Cab/Chassis	1
10-AA-1110	XS	-- Driver/Officer Radio Antenna Mounting	2
10-AA-1310	XS	-- Driver/Officer Radio Mounting: Customer Supplied	2
10-AA-1410	XS	-- Driver/Officer 12 Volt Accessory Plug	2
10-C0-0100		-- Paint Cab: Cab/Chassis Supplied	1
10-C5-1200		-- Cab Step Cover: Alum T/P w/ Alum Diamondback Steps	3
10-C5-2200		-- Cab Step Cover: Fuel Tank w/ Diamondback Steps	1
10-C5-A100		-- Battery Jumper Studs	1
10-C6-1000		-- Mudflaps	1
10-C7-1010		-- Air System Quick Build-Up: Manual Inlet	1
10-HA-1020		-- Rear Tire Chains: "On Spot"	1
10-J1-1010		-- Road Emergency Safety Kit	1
		BODY TYPE	1
A0-10-2140		BODY: 16' Walk Around (4 Side Comp'ts)	1
A0-20-4100		-- MATERIAL: 3/16" Aluminum	1
A0-25-0100		-- BODY ROOF: Roof w/ Upper Body Compartments	1
A0-30-1100		-- SUBFRAME: 2"x6"x1/4" Aluminum Tube	1

PART NO	S	DESCRIPTION	QTY
A0-40-1120		-- MOUNTING: Spring Mounts (6" alum)	6
A0-61-1220		-- REAR BUMPER: 10", Aluminum	1
A0-6A-1110		-- Rear Tow Eyes: (2) Painted, Below Body - Subframe	1
A0-6B-1120		-- Trailer Hitch Receiver: Class III (7,500#) (w/o equalizer)	1
A0-6D-1100		-- Ground Lights: (2) OnScene LED	1
A0-80-1200		-- Body Fender Panels: 1/8" Smooth Aluminum	1
A0-81-1010		-- Wheel Well Opening Edge: Die Formed	1
A0-81-2020		-- Wheel Well Liner: Bolted Polymer	1
A0-82-1120		-- SCBA Fender Compts: (2) Each Side, 8" Dia.	1
		PAINT: Aluminum Body	1
P1-10-1100		-- Paint Body: Single Color	1
P1-21-1000		-- Paint Color: Match Cab Chassis Provided Paint Color	1
P1-25-1100		-- Paint Body: Color Coat / Clear Coat	1
P1-Z0-1100		-- Paint Warranty: 10 Year	1
P1-A0-1100		-- Body Undercoating	1
P1-Z0-2000		-- Undercoating Warranty	1
P1-50-1100	XS	-- Interior Finish: Scorpion Liner	1
P1-60-1100	XS	-- Roof Compartment Interior Finish: Scorpion Liner	1
		--- REFLECTIVE STRIPING ---	1
P2-01-1110		-- Reflective Striping	1
P2-05-1010		-- Reflective Stripe: Cab, Scotchcal	1
P2-05-2230		-- Reflective Stripe: Cab Side, 6" Scotchcal - 4 Door Comm.	1
P2-01-2030		-- Stripe Color: Blue	1
P2-07-1100		-- Reflective Stripe: Cab Front, 4" Scotchcal	1
P2-01-2030		-- Stripe Color: Blue	1
P2-08-1100		-- Reflective Stripe: Cab Bumper, Chevron Not Provided	1
P2-09-1100		-- Reflective Stripe: Cab Doors, Interior	1
P2-01-2030		-- Stripe Color: Blue	1
P2-20-1100		-- Reflective Stripe: Body Side, 6" Scotchcal	1
P2-01-2030		-- Stripe Color: Blue	1
P2-C0-1030		-- Stripe Layout: "Z"	1
P2-45-1000		-- Mural: Not Provided	1
P2-65-1010		-- Reflective Stripe: Rear Body, Chevron - Rear Side Panels	1
P2-65-A030	XS	-- Stripe Color: Blue and White	1
		--- LETTERING ---	1
P3-00-0100		-- Lettering	1
P3-10-0500		-- Lettering Location: Cab Sides	1
P3-10-1010		-- No Lettering	1
P3-10-0510		-- Lettering Location: Body Sides	1
P3-10-1900	XS	-- Lettering: Reflective - 12-1/2" high (per letter)	7
P3-05-1A30		-- Lettering Color: Blue	7
P3-10-0520		-- Lettering Location: Rear Body	1
P3-10-1010		-- No Lettering	1
P3-10-0530		-- Lettering Location: Cab Front	1
P3-10-1010		-- No Lettering	1
P3-10-A200		-- Decal: Custom Logo, 12" - 18"	2
A0-A0-1010		-- Door Details: Roll-up Std.	1
A0-A0-1120		-- Roll-up Compartment Doors: Robinson	1
P1-80-1200		-- Roll-up Door Finish: Wet Painted	1
P2-D0-1010		-- Reflective Stripe with Roll-up Doors	1
		BODY HEIGHT	1
A0-V1-3200		-- Body Height: 10" Raised Roof w/ Upper Body Comp'ts	1
D0-20-1140		-- Upper Body Comp'ts: (4) Open [16][10]	1
D0-30-1130		-- Roof Compartment: Shelf Trac in Side Comp't (Open)	4
D0-30-1210		-- Roof Compartment: Vertical Partition	2
D0-50-1100		-- Upper Body Walkway	1
D0-50-1110		-- Walkway Lights: OnScene LED, Polished Aluminum	2
EF-50-1120		-- Rear Center Stairway Roof Access (Step Compartments)	1
D0-50-1110		-- Walkway Lights: OnScene LED, Polished Aluminum	2
EF-80-1110		-- Step Compartment(s) - Lower Below Frame Level	1
EF-80-1112		-- Step Compartment(s) - Intermediate	1
EF-80-1114		-- Step Compartment - Upper Full Body Depth	1
D0-10-1240	XS	-- Upper Compartment: 20' 2-Section Ladder	1
D0-10-1260	XS	-- Upper Compartment: 12' Roof Ladder	1
D0-10-1280	XS	-- Upper Compartment: 10' Folding Ladder	1
D0-10-1290	XS	-- Upper Compartment: Pike Pole	1

PART NO	S	DESCRIPTION	QTY
EF-80-1120		-- Fold-Down Step at Rear Bumper	1
EF-A0-1110		-- Handrails: Two - Vertical on Rear of Body	1
		BODY WIDTH	1
A0-W0-3000		-- Body Width: 100.0" Wide	1
		STREETSIDE FORWARD	1
A1-15-1100		-- Compartment S1 (WA)	1
CZ-10-1310		-- Width: 41.0" Wall to Wall & 34.0" Door Open [37.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A2-2135		-- Tray: OnScene, Adjustable 1000 lb. - Transv	1
CZ-A4-1410		-- Transverse Module: Long Equipment	1
CZ-A4-1510	XS	-- Transverse Module: Stokes Basket	1
CZ-A4-1520	XS	-- Transverse Module: Backboard	2
CZ-A4-1530	X	-- Tripod Storage	1
CZ-A4-6120		-- OnScene Solutions Cargo Straps	4
CZ-90-1110		-- Compartment Components: Front Full Height [WA][AL]	1
CZ-91-1120		-- Floor: Non-Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-C0-8110		-- Light Tower Controls (Location Only)	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
CZ-A0-0610		-- Compartment Components: Exterior	1
CZ-B0-1130		-- 12V Panel Location: Streetside Front Lower	1
		STREETSIDE INTERMEDIATE	1
A2-15-1100		-- Compartment S2 (WA)	1
CZ-10-1310		-- Width: 41.0" Wall to Wall & 34.0" Door Open [37.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A0-1310	X	-- Shelf: Adjustable - 24" D	1
CZ-A0-1320	X	-- Shelf: Adjustable - 46" D	1
CZ-A0-1620		-- Tray: Stationary 400 lb. - 24" D	1
CZ-A2-1120		-- Tray: OnScene, Stationary 1000 lb. - 46" D	1
CZ-90-1110		-- Compartment Components: Front Full Height [WA][AL]	1
CZ-91-1110		-- Floor: Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
E9-10-2250		-- Portable Winch: Mount	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0530		-- Compartment Components: Hydraulic	1
CZ-A0-0610		-- Compartment Components: Exterior	1
CZ-L0-2110		-- Underbody Lights: (1) OnScene LED	1
		STREETSIDE WHEELWELL	1
A3-15-1320		-- Compartment S3 (WA)	1
CZ-10-1710		-- Width: 59.0" Wall to Wall & 52.0" Door Open [55.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1

PART NO	S	DESCRIPTION	QTY
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A0-1320		-- Shelf: Adjustable - 46" D	1
CZ-A2-1120		-- Tray: OnScene, Stationary 1000 lb. - 46" D	1
CZ-90-1210		-- Compartment Components: Over Rear Wheels [WA]	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0270		-- Compartment Components: VDC (ORW)	1
CZ-B0-2420		-- Compartment Lights: (2) OnScene LED, Over Wheel	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
STREETSIDE REAR			1
A5-15-1100		-- Compartment S4 (WA)	1
CZ-10-1510		-- Width: 49.0" Wall to Wall & 42.0" Door Open [45.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A2-1125		-- Tray: OnScene, Stationary 1000 lb. - 70" D	1
CZ-A4-1210		-- Tool Board: Accuride, Aluminum - 24" D	2
CZ-A4-12H2		-- Tool Board: Mounting, Horizontally Adjustable	1
CZ-A4-1310	XS	-- Vertical Partition	1
CZ-90-1310		-- Compartment Components: Rear Full Height [WA][AL]	1
CZ-91-1110	XS	-- Floor: Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
CZ-A0-0610		-- Compartment Components: Exterior	1
CURBSIDE FORWARD			1
B1-15-1100		-- Compartment C1 (WA)	1
CZ-10-1310		-- Width: 41.0" Wall to Wall & 34.0" Door Open [37.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A2-1136		-- Tray: OnScene, Stationary 1000 lb. - Transv Opp	1
CZ-A4-1420		-- Transverse Module: Long Equipment - Opposite Side	1
CZ-A4-6120		-- OnScene Solutions Cargo Straps	4
CZ-90-1110		-- Compartment Components: Front Full Height [WA][AL]	1
CZ-91-1120		-- Floor: Non-Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-C0-1105		-- Load Center: 120/240 VAC (Location Only)	1

PART NO	S	DESCRIPTION	QTY
CZ-C0-1106		-- Generator Gauge Panel: FRC FROG-D (Location Only)	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
CZ-A0-0610		-- Compartment Components: Exterior	1
CZ-B0-1110		-- 12V Panel Location: Streetside (Must Select in S1)	1
		CURBSIDE INTERMEDIATE	1
B2-15-1100		-- Compartment C2 (WA)	1
CZ-10-1310		-- Width: 41.0" Wall to Wall & 34.0" Door Open [37.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A0-1320	XS	-- Shelf: Adjustable - 46" D	1
CZ-A0-1620		-- Tray: Stationary 400 lb. - 24" D	1
CZ-A2-4150		-- Tray: OnScene, Out/Down, Adjustable 250 lb. - 46" D	1
CZ-90-1110		-- Compartment Components: Front Full Height [WA][AL]	1
CZ-91-1110		-- Floor: Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0430		-- Compartment Components: High Pressure Air	1
CZ-A0-0530		-- Compartment Components: Hydraulic	1
CZ-D0-1130	XS	-- Hydraulic Power Unit: Holmatro DPU, Gas	1
CZ-D0-6110	XS	-- Hydraulic Tool Mounting: Ram	1
CZ-D0-6120	XS	-- Hydraulic Tool Mounting: Cutter	1
		SHOP NOTE:	
CZ-D0-6130	XS	-- Hydraulic Tool Mounting: Spreader	1
CZ-D0-6160	XS	-- Hydraulic Tool Mounting: Combination Tool	1
CZ-D0-6160	X	-- Hydraulic Tool Mounting: Mini Cutter	1
CZ-A0-0610		-- Compartment Components: Exterior	1
CZ-L0-2110		-- Underbody Lights: (1) OnScene LED	1
		CURBSIDE WHEELWELL	1
B3-15-1320		-- Compartment C3 (WA)	1
CZ-10-1710		-- Width: 59.0" Wall to Wall & 52.0" Door Open [55.0" S2S][WA]	1
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A0-1320		-- Shelf: Adjustable - 46" D	1
CZ-A2-1120		-- Tray: OnScene, Stationary 1000 lb. - 46" D	1
CZ-90-1210		-- Compartment Components: Over Rear Wheels [WA]	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0270		-- Compartment Components: VDC (ORW)	1
CZ-B0-2420		-- Compartment Lights: (2) OnScene LED, Over Wheel	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
		CURBSIDE REAR	1
B5-15-1100		-- Compartment C4 (WA)	1
CZ-10-1510		-- Width: 49.0" Wall to Wall & 42.0" Door Open [45.0" S2S][WA]	1

PART NO	S	DESCRIPTION	QTY
CZ-30-9000		-- Roll-up Door: Robinson, Painted Job Color	1
CZ-41-1110		-- Door Lock: Not Provided	1
CZ-41-1310		-- Door Pull Straps: Roll-up	1
CZ-41-2110		-- Drip Pan: Roll-up	1
CZ-51-1000		-- Compartment Threshold: Aluminum	1
CZ-A0-0110		-- Compartment Components: Storage [WA]	1
CZ-A0-1230		-- Shelf Trac: Aluminum (WA)	1
CZ-A0-1315		-- Shelf: Adjustable - 30" D	1
CZ-A4-1600	XS	-- Air Bag Storage Module	1
CZ-A4-6110		-- NO - OnScene Solutions Cargo Straps	1
CZ-A4-1720		-- SCBA Bottle Storage Rack: 8" PVC (4-48 Bottles)	1
SHOP NOTE:			
Brand: _____			
Diameter: _____ "			
Length: _____ " (with valve)			
CZ-A4-1910		-- SCBA Bottle Rack Storage Capacity: 8" diameter	4
CZ-A4-6110		-- NO - OnScene Solutions Cargo Straps	2
CZ-90-1310		-- Compartment Components: Rear Full Height [WA][AL]	1
CZ-91-1120		-- Floor: Non-Extended	1
CZ-A0-0210		-- Compartment Components: Reels - 120/240 VAC	1
CZ-C0-3320		-- Reel: 120V - 200' of 10/3 [TR][MR] {22.75 Wide}	1
CZ-C0-3B32		-- Electrical Cable: Black 10/3 [200]	1
CZ-C0-3C10		-- Power Distribution Box: Akron Brass EJB, Aluminum, Yellow	1
CZ-C0-3C11		-- EJB - Pigtail L5-30	1
CZ-C0-3C21		-- Outlet Location #1	1
CZ-C0-3C2H		-- L5-20 Single Twist Lock [Opt #9]	1
CZ-C0-3C22		-- Outlet Location #2	1
CZ-C0-3C2H		-- L5-20 Single Twist Lock [Opt #9]	1
CZ-C0-3C23		-- Outlet Location #3	1
CZ-C0-3C2H		-- L5-20 Single Twist Lock [Opt #9]	1
CZ-C0-3C24		-- Outlet Location #4	1
CZ-C0-3C2H		-- L5-20 Single Twist Lock [Opt #9]	1
CZ-C0-3C2V		-- EJB - Vertical Mount - Treadplate	1
CZ-A0-0220		-- Compartment Components: Reels - Hydraulic	1
CZ-A0-0230		-- Compartment Components: Reels - LP Air / HP Air	1
CZ-A0-0250		-- Compartment Components: Misc	1
CZ-A0-0260		-- Compartment Components: VDC	1
CZ-B0-2320		-- Compartment Lights: (2) OnScene LED	1
CZ-A0-0330		-- Compartment Components: VAC	1
CZ-A0-0360		-- Compartment Components: Utility Air	1
CZ-A0-0410		-- Additional Compartment Components	1
CZ-A0-0610		-- Compartment Components: Exterior	1
REAR CENTER			1
C1-10-1210		-- Roof Access Stairway ILO Compartment	1
MISC BODY OPTIONS			1
E0-00-0100		-- Miscellaneous Body Options - 16'	1
E1-10-1110		-- Plastic Tile (Dri-Dek): Compt Floor, Shelving, and Trays	1
E1-10-1220		-- Plastic Tile Color: Red Dri-Dek, 12x12	16
E1-10-1222		-- Plastic Tile Color: Red Dri-Dek , Edge Trim	16
E9-10-1100		-- Receiver: Rope Tie-off or Portable Winch	1
E9-10-1120		-- Portable Winch / Tieoff Receiver: Tie off Anchor Assesory	2
E9-10-2120		-- Portable Winch: Warn, 6000 lbs.	1
E9-10-3210		-- Portable Winch / Tieoff Receiver: Streetside - Forward W/W	1
E9-10-A110		-- Portable Winch: 12 VDC Powerport, Ramsey	1
E9-10-A210		-- Receiver Portable Winch / Tieoff Reciever: Rubber Cover	1
E9-10-3310		-- Portable Winch / Tieoff Receiver: Curbside - Forward W/W	1
E9-10-A110		-- Portable Winch: 12 VDC Powerport, Ramsey	1
E9-10-A210		-- Receiver Portable Winch / Tieoff Reciever: Rubber Cover	1
E9-10-3420		-- Portable Winch / Tieoff Receiver: Rear Bumper(Use Trl Hitch)	1
E9-10-A110		-- Portable Winch: 12 VDC Powerport, Ramsey	1
E9-10-A210		-- Receiver Portable Winch / Tieoff Reciever: Rubber Cover	1
HOLMATRO CORE BULKHEAD FITTINGS			1

PART NO	S	DESCRIPTION	QTY
E9-12-1200	S	-- Holmatro "CORE" Bulkhead Fitting - Front Bumper	1
EB-10-1200		-- Rub Rail: 16' body (both sides full length)	1
P2-F0-1100		-- Reflective Stripe: Rubrail, Dmd. Grade, Red/White	1
EJ-10-1000		-- NO Awning: Streetside	1
EJ-10-1010		-- NO Awning: Curbside	1
		COMPARTMENT COMPONENTS DESCRIPTIONS	1
G0-10-1010		-- Compartment Components Descriptions	1
		--- Storage Components Descriptions ---	1
G0-10-1110		-- Shelf Trac: Aluminum - Header	1
G0-10-1210		-- Shelving: Adjustable - Header	1
G0-10-1340		-- Tray: Accuride 502, 400 lb. - Header	1
G0-10-1301		-- Tray: On Scene, 1000 lb. - Header	1
G0-10-1305		-- Tray: On Scene, Transverse 1,000 lb. - Header	1
G0-10-1510		-- Tool Board: Accuride - Header	1
G0-10-1710		-- Transverse Module: Long Equip - Header	1
G0-10-1810		-- Air Bag Storage Module - Header	1
G0-10-1910		-- SCBA Storage Rack - Header	1
G0-20-1210		-- Compartment Lights: OnScene Nightstik	1
		--- VAC Components Descriptions ---	1
G0-30-1210		-- Hannay Cord Reel: 120V - Header	1
		--- Utility Air Components Descriptions ---	1
		--- High Pressure Air Components Descriptions ---	1
		--- Hydraulic Rescue Tool Components Descriptions ---	1
		--- HPA Source Components Descriptions ---	1
		--- HPA Source (AL) Components Descriptions ---	1
		--- HPA Source (Fill) Components Descriptions ---	1
		--- Exterior Components Descriptions ---	1
G1-10-2110		-- Step/Door/Ground Light - OnScene Solutions LED	1
		--- Fire Suppression Option Descriptions ---	1
		VDC	1
N0-10-2100		-- VDC System (Commercial Cab)(Rescue)	1
N0-11-1110		-- VDC Control Center: Relays (Commercial: Walk Around)	1
N0-14-1110		-- Rocker Switch Panel: Backlit	1
N0-14-2200	XS	-- Center Console Master Electrical Module	1
N0-15-1100		-- VDC System Manager: Class One - TSM	1
N0-18-1100		-- Battery System: Commercial	1
N0-18-2300		-- Battery Switch: SVI Supplied	1
N0-18-3100		-- Battery Solenoid: 200 amp	1
N0-19-1120		-- Battery Conditioner: Kussmaul 1200, 40 amp	1
N0-19-A110		-- Shore Power Inlet: Kussmaul 20 Amp	1
N0-19-A220		-- Shore Power Inlet Cover: Red	1
N0-19-A310	XS	-- Shore Power Inlet Location: Driver Step Area	1
N0-18-4100		-- VDC Standard Options	1
N0-20-2100		-- Engine Compartment Light: SVI Supplied	1
N0-21-6100		-- Rear Work Light Switch	1
N0-21-7100	XS	-- Map Light: Cab, Officer Dash	1
N0-21-9100	XS	-- Cab Spotlight: Collins Pulsar #750, Handheld	1
N0-22-1100		-- Headlight WIG/WAG flasher	1
N0-24-1100		-- Hazard Warning Light: SVI Supplied	1
N0-24-1110		-- Door Ajar Audible Alarm	1
N0-25-1000		-- Back-up Alarm - Electronic: 107 dB	1
N0-25-B110	XS	-- Backup Camera: Voyager, 7" Color Flat Panel	1
N1-10-15B0		-- Tail Lights: Whelen 600 LED/Halogen -4 Place Cast Alum Bezel	1
N1-12-1110		-- Midship Marker/Turn Signal - LED: Whelen	1
N1-12-2100		-- Clearance Lights and Reflectors: LED (std)	1
N1-12-3110		-- Step/Door Ground Lights	2
N1-12-4200		-- License Plate: Light and Bracket	1
N2-21-1100		-- Siren: Federal PA300 - 100 watt	1
N2-A1-6100		-- Speaker (1): CPI IH4000 Series (SAP/D-4307)	1
N2-A0-0105		-- Locate Siren - Streetside Front Bumper	1
N4-20-0005		-- No Front Scene VDC Lights	1
N4-20-1500		-- Side Scene VDC (1): Whelen 810 Series	4
N4-20-0030		-- Light Control: 12 Volt Panel	4
N4-20-A500		-- Rear Scene VDC (2): Whelen 810 Series	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N4-23-1100		-- Rear Scene Light Activation in Reverse	1

PART NO	S	DESCRIPTION	QTY
N9-30-3160		-- Traffic Advisor - Whelen: LED (Split 4437L)	1
N9-31-1110		-- Traffic Light: Surface Mount	1
		-- INTERCOM SYSTEM --	1
NC-00-0010		-- No Intercom System	1
		WARNING LIGHT SYSTEM	1
N5-05-1200		-- Warning Light System (Rescue)	1
N5-09-1100		-- NFPA Warning Light Package	1
N5-20-1000		-- Upper Level: Whelen	1
N5-20-2000		-- Zone A - Front	1
N5-20-2520		-- Lightbar: LED, Whelen Freedom FN72QLED, 72"	1
N4-20-0040		-- Lightbar Control: 12 Volt Panel	1
N5-20-3000		-- Zones B & D - Side Upper Rear	1
N5-20-3080		-- Warning Lights: LED, (2) Whelen 900 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N5-20-3085		-- Warning Lights: Lens Color, Red	1
N5-20-3500		-- Upper Front Warning Lights (Not required by NFPA)	1
N5-20-3080		-- Warning Lights: LED, (2) Whelen 900 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N5-20-3085		-- Warning Lights: Lens Color, Red	1
N5-20-4000		-- Zone C - Rear	1
N5-20-4120		-- Warning Lights: LED, (2) Whelen 900 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N5-20-4121		-- Warning Lights: Lens Color, Red	1
N6-20-1000		-- Lower Level: Whelen	1
N6-20-2000		-- Zone A - Front	1
N6-20-2040		-- Warning Lights: LED, (2) Whelen 600 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N6-20-2041		-- Warning Lights: Lens Color, Red	1
N6-20-3001		-- Zones B & D - Cab Intersector	1
N6-20-2040		-- Warning Lights: LED, (2) Whelen 600 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N6-20-2041		-- Warning Lights: Lens Color, Red	1
N6-20-3003		-- Zones B & D - No Cab Auxillary Light	1
N6-20-3004		-- Zones B & D - Body Auxillary Light	1
N6-20-2040		-- Warning Lights: LED, (2) Whelen 600 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N6-20-2041		-- Warning Lights: Lens Color, Red	1
N6-20-3006		-- Zones B & D - Body Intersector	1
N6-20-2040		-- Warning Lights: LED, (2) Whelen 600 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N6-20-2041		-- Warning Lights: Lens Color, Red	1
N6-20-4000		-- Zone C - Rear	1
N6-20-2040		-- Warning Lights: LED, (2) Whelen 600 Series, Red	1
N4-20-0030		-- Light Control: 12 Volt Panel	1
N6-20-2041		-- Warning Lights: Lens Color, Red	1
		VAC	1
R0-05-1200		-- VAC System (Rescue)	1
R0-10-1120		-- Generator: Onan 20 kW, 1 Phase, PTO	1
R0-10-1300		-- Generator Splash Cover	1
R1-10-1110		-- Generator Mount: Between Chassis Frame Rails	1
R1-15-1610		-- Generator Manuals	1
R1-20-1110		-- Generator Drive: Standard Duty PTO	1
R1-20-1112		-- PTO, 3000EVS - Chelsea	1
R1-25-1120		-- Generator Control: OEM Electronic Engine	1
R1-30-1130		-- Generator Gauge Panel: Fire Research FROG-D	1
R2-20-2120		-- Load Center: 120/240 VAC, 200 A, 1 Phase	1
		SHORE POWER INLETS	1
R2-38-1100		-- Shore Power Inlet: Battery Charger	1
R2-41-1100		-- Reference 12V Section for Inlet Size / Type	1
R2-A0-1100		-- 120/240 Volt Outlets / Interior Lights	1
R2-B0-1100		-- Exterior Outlets: 120V - (2) Body Fenders	1
R2-D1-1200		-- Twist-Lock: 120 Volt / 20 Amp (exterior)	2
R2-B0-2100		-- Exterior Outlets: 120V - (2) Rear of Body	1
R2-D1-1200		-- Twist-Lock: 120 Volt / 20 Amp (exterior)	2
R2-10-1200		-- VAC Wiring System (Rescue)	1
R2-10-2200		-- Wiring (Rescue)	1

PART NO	S	DESCRIPTION	QTY
R2-10-4100		-- Receptacle and Equipment Labeling	1
R2-10-5100		-- Electrical Wiring Schematic	1
R5-10-1010		-- VAC Scene Lighting	1
R5-20-1010		-- No VAC Brow Lights	1
R5-20-2010		-- No VAC Front Scene Lights	1
R5-20-3010		-- No VAC Side Scene Lights	1
R5-20-4010		-- No VAC Rear Body Scene Lights	1
R5-20-5010		-- No VAC Rear Tripod Scene Lights	1
R7-40-1131		-- Light Tower: CL615, (6) 1,500 Watt w/ BL, 240 VAC	1
R7-40-6210		-- Light Tower: CL/KL, Strobe	1
R7-40-62A0		-- Light Tower: CL/KL, Strobe Color, Green	1
R7-42-1220		-- Light Tower: Recessed Mounted into Body Roof	1
V0-00-1200		No Water System	1
		== SVI Supplied Loose Equipment - 2008.100 02/05/08 ==	1
X0-00-1010		Minor Equipment List: NFPA 1901-2009, Special Service	1
X0-05-1100		-- Assorted Fastners	1
X0-10-1500		-- Wheel Chocks: (2) Folding, 44" Dia. Tires	1
X0-10-A110		-- Wheel Chocks: Mounted Behind Rear Wheels, Streetside	1
X0-21-1302		-- Ladder: Duo-Safety 900-A, 20' 2-Section, Aluminum	1
X0-22-1204		-- Ladder: Duo-Safety 775-A, 12' Roof, Aluminum	1
X0-23-1100		-- Ladder: Duo-Safety 585-A, 10' Folding, Aluminum	1
X0-24-A100		-- Ladder: Mounting, Compartment	1
X0-30-1400		-- Pike Pole: Duo-Safety 12' Fiberglass	1
X0-30-A100		-- Pike Pole: No D Handle Attached	1
X0-30-A200		-- Pike Pole: Mounting, Compartment	1
X0-60-1100		-- Flashlight: Streamlight, LiteBox	2
X0-60-A110	XS	-- Flashlight: Mounted	2

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INTERNET IN-PROCESS SITE

The Bidder shall post and maintain a website where the DeBeque Fire Protection District will be able to view digital images of their apparatus as its being manufactured. The digital images shall be posted once a week starting when the body begins production or when the cab/chassis arrives and shall continue until the final completion of the apparatus.

CARRYING CAPACITY

The GAWR and the GCWR or GVWR of the chassis shall be adequate to carry the weight of the completed vehicle when loaded to its estimated in-service weight. The manufacturer shall establish the estimated in service weight during the design of the vehicle

The estimated in-service weight shall include the following:

- (1) The chassis, body, and tank(s)
- (2) Full fuel, lubricant, and other chassis or component fluid tanks or reservoirs
- (3) Full water and other agent tanks
- (4) *250 lb (114 kg) in each seating position
- (5) Fixed equipment such as pumps, aerial devices, generators, reels, and air systems as installed
- (6) Ground ladders, suction hose, designed hose load in their hose beds and on their reels
- (7) An allowance for miscellaneous equipment that is the greatest of the values for type of vehicle per NFPA 1901, a purchaser provided list of equipment to be carried with weights, or a purchaser specified miscellaneous equipment allowance.

The manufacturer shall engineer and design the vehicle such that the completed unit, when loaded to its estimated in-service weight, with all movable weights distributed as close as is practical to their intended in-service configuration, does not exceed the GVWR.

A final manufacturer's certification of the GVWR or GCWR, along with a certification of each GAWR, shall be supplied on a label affixed to the vehicle.

Apparatus Type	Equip. Storage Area	Apparatus Size	Equipment Allowance	
			lb.	kg.
Special Service Fire Apparatus	Minimum of 120 cu ft (3.4 cu m) of enclosed compartmentation.	30,001 lb to 40,000 lb (14,001 kg to 18,000 kg) GVWR	4,000	1,800

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Build Specification

OPERATION AND SERVICE DOCUMENTATION

The contractor shall supply, at time of delivery, at least two sets of complete operation and service documentation covering the completed apparatus as delivered and accepted.

The documentation shall address at least the inspection, service, and operations of the apparatus and all major components thereof.

The contractor shall also provide documentation of the following items for the entire apparatus and each major operating system or major component of the apparatus:

1. Manufacturers name and address
2. Country of manufacture
3. Source of service and technical information
4. Parts and replacement information
5. Descriptions, specifications, and ratings of the chassis, and pump
6. Wiring diagrams for low voltage and line voltage systems to include the following information: representations of circuit logic for all electrical components and wiring, circuit identification, connector pin identification, zone location of electrical components, safety interlocks, alternator-battery power distribution circuits, and input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems
7. Lubrication charts
8. Operating instructions for the chassis, any major components such as a pump or any auxiliary systems
9. Instructions regarding the frequency and procedure for recommended maintenance
10. Overall apparatus operating instructions
11. Safety considerations
12. Limitations of use
13. Inspection procedures
14. Recommended service procedures
15. Troubleshooting guide
16. Apparatus body, chassis, and other component manufacturers warranties
17. Special data required by this standard
18. Copies of required manufacturer test data or reports, manufacturer certifications, and independent third-party certifications of test results
19. A material safety data sheet (MSDS) for any fluid that is specified for use on the apparatus

The contractor shall deliver with the apparatus all manufacturers operations and service documents supplied with components and equipment that are installed or supplied by the contractor.

NFPA REQUIRED DOCUMENTATION FORMAT - CD-ROM

The vehicle construction details and the operations and service documentation as required per NFPA 1901 latest edition shall be provided on a CD-ROM. These manuals shall be divided into sections for ease of reference. There shall be two (2) copies of the CD-ROM provided with the completed vehicle.

- There shall be one (1) printed copies of the manual provided with the apparatus.

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Build Specification

WARRANTY

The Bidder shall provide a full statement of the warranty provided for the vehicle(s) being bid. This warranty should clearly describe the terms under which the vehicle's Manufacturer accepts responsibility for the cost to repair defects caused by faulty design, quality of work or material, and for the applicable period of time after delivery.

Cost of repairs refers to all costs related thereto including, but not limited to, the cost of materials, the cost of labor.

The Manufacturer shall warrant all materials and accessories used in the vehicle(s), whether fabricated by the Manufacturer or purchased from an outside source and will deal directly with the DeBeque Fire Protection District on all warranty work.

The warranty shall commence upon acceptance of the vehicle.

GENERAL WARRANTY - ONE (1) YEAR

The entire body and all contractor installed components shall be warranted, including parts and labor for a period of at least **one (1) year** commencing upon the placing of the unit in-service by the DeBeque Fire Protection District (except that warranty on the tires and tubes, batteries, electrical lamps, and other devices subject to deterioration is limited to the warranty of the manufacturer thereof and adjustments for same are to be made directly with the manufacturer). Extended warranties on the engine, transmission, or other major components shall be detailed by contractor in their proposal.

This warranty shall not apply to those items which are usually considered normal maintenance and repair; including but not limited to normal lubrication or proper adjustment of main functional operating components. All manufacturers' warranties (apparatus & equipment) shall be furnished and indicated in the manufacturer's bid. Any standard warranties, including, but not limited to engine, transmission, tires and axles furnished by the original equipment manufacturer (OEM) or the prime contractor will be passed on to the DeBeque Fire Protection District. Also include any available extended warranties that will start after the initial warranty period. Goods or property shall be as represented by these specifications as well as additional agreements as a result of discussions regarding these specifications and shall be as promised with implied liability on the manufacturer.

The contractor must be the "single source" coordinator of all warranties on the vehicle.

DeBeque Fire Department

Medium Rescue

Build Specification

LOW VOLTAGE ELECTRICAL SYSTEM - FIVE (5) YEARS

Contractor shall warrant the integrity of the electrical system on this emergency vehicle for a period of **five (5) years, or 60,000 miles** from date of delivery. To be free from defects in materials and workmanship under normal use and service. The obligation of contractor under this warranty is limited to repairing or replacing, at its option, any part or parts thereof which shall, after delivery of such vehicle to the original purchaser, be returned with transportation charges pre-paid to contractor or an authorized distributor or dealer, and which examination shall disclose to have been defective, except as herein after provided.

Items specifically covered are:

- Electrical harness and harness installation
- Printed circuit boards
- Load management system
- Warning light control panel switches that are provided and installed by bidder.

Items excluded are:

- Chassis electrical systems and components installed by chassis manufacturer including, but not limited to: printed circuit boards, switches, relays, fuses, and similar equipment.
- Separately manufactured items installed by bidder including, but not limited to: batteries, sirens, battery chargers, inverters, light bars and similar equipment. These are covered by warranties supplied by the manufacturer of the components.
- Periodic tightening and cleaning of connection terminals as this is considered routine maintenance.
- Normal wear, abuse, accident, negligence or unapproved alteration of original parts.

STRUCTURAL WARRANTY - TEN (10) YEARS

The contractor shall warrant that each new rescue body (exclusive of paint, finish, hardware, moldings, windows, and other appointments and accessories) is structurally sound and free of all structural defects of both material and workmanship and further warrants that it will maintain such structural integrity for a period of **ten (10) years** from the completion date listed on the Manufacturer's data plate attached to the vehicle inside the cab.

The contractor further warrants that this structural integrity warranty may be transferred to a second purchaser providing the vehicle is inspected by the original contractor or their authorized representative within thirty (30) days of ownership transfer. To maintain warranty coverage, the proper ownership transfer papers shall be kept on file at contractor's facility.

In the event of a chassis remount, this structural warranty shall remain in effect providing that the re-chassis work is completed by the contractor or a facility which obtains written authorization from the contractor.

Should repairs become necessary under the terms of this warranty, the extent of the repair shall be determined solely by the Manufacturer and shall be repaired by the contractor or an Authorized Service Center designated by the contractor. The expense of any transportation to or from the ASC shall be the responsibility of the DeBeque Fire Protection District and is not an item covered by this warranty.

There shall be a Warranty Certificate supplied with the completed apparatus to detail the warranty configuration.

PAINT WARRANTY - TEN (10) YEARS

The exterior paint and finish on the portion of the unit painted by the contractor shall be warranted against cracking, checking, hazing, chalking, or fading or peeling of the topcoat or any layers from the substrate due to defects in manufacturing or improper preparation for a period of **Ten (10) years** from acceptance.

DeBeque Fire Department

Medium Rescue

Build Specification

CONSTRUCTION PERIOD

The completed vehicle shall be delivered within three hundred sixty five (365) days after receipt of a purchase order, or contract.

Contractor shall not be held liable for delays of chassis delivery due to accidents, strikes, floods or other events not subject to their control. Contractor shall provide immediate written notice to DeBeque Fire Protection District as to delays and to what extent these delays have in completing vehicle within the stated construction time period.

OVERALL HEIGHT

The overall height (OAH) of the vehicle shall be approximately 118" (9' - 10") from the ground. This measurement shall be taken on flat ground with the tires properly inflated, in the unloaded condition, at that highest point of the vehicle.

OVERALL LENGTH

The overall length (OAL) of the vehicle shall be approximately 382" (31' - 9").

TESTING

LOW VOLTAGE ELECTRICAL SYSTEM NFPA PERFORMANCE TEST

The vehicles low voltage electrical system shall be tested and certified by the manufacturer. The certified test results shall be delivered with the completed vehicle. Tests shall be performed when the air temperature is between 0°F and 110°F (– 18°C and 43°C).

TEST SEQUENCE

The following three (3) tests shall be performed in the order in which they appear below. Before each test, the batteries shall be fully charged until the voltage stabilizes at the voltage regulator set point and the lowest charge current is maintained for 10 minutes. Failure of any of these tests shall require a repeat of the sequence.

(1) RESERVE CAPACITY TEST

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off, and the minimum continuous electrical load shall be activated for 10 minutes.

All electrical loads shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test failure of the battery system.

(2) ALTERNATOR PERFORMANCE TEST

TEST AT IDLE

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

DeBeque Fire Department

Medium Rescue

Build Specification

TEST AT FULL LOAD

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of 2 hours. Activation of the load management system shall be permitted during this test.

An alarm sounded by excessive battery discharge, as detected by the warning system required in 13.3.4, or a system voltage of less than 11.8 V dc for a 12 V nominal system, 23.6 V dc for a 24 V nominal system, or 35.4 V dc for a 42 V nominal system for more than 120 seconds shall be considered a test failure.

(3) LOW VOLTAGE ALARM TEST

The following test shall be started with the engine off and the battery voltage at or above 12 V for a 12 V nominal system, 24 V for a 24 V nominal system, or 36 V for a 42 V nominal system.

With the engine shut off, the total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals.

The test shall be considered a failure if the alarm does not sound in less than 140 seconds after the voltage drops to 11.70 V for a 12 V nominal system, 23.4 V dc for a 24 V nominal system, or 35.1 V for a 42 V nominal system.

The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

DOCUMENTATION

The manufacturer shall deliver the following with the fire apparatus:

- (1) Documentation of the electrical system performance tests
- (2) A written electrical load analysis, including the following:
 - (a) The nameplate rating of the alternator
 - (b) The alternator rating
 - (c) Each of the component loads specified that make up the minimum continuous electrical load
 - (d) Additional electrical loads that, when added to the minimum continuous electrical load, determine the total continuous electrical load
 - (e) Each individual intermittent electrical load.

DeBeque Fire Department

Medium Rescue

Build Specification

UL 120/240 VAC CERTIFICATION

The 120/240 volt electrical system shall be tested and certified by Underwriters Laboratories, to perform as listed below;

The prime mover shall be started from a cold start condition, and the unloaded voltage and frequency shall be recorded.

The line voltage electrical system shall be loaded to at least 100 percent of the continuous rated wattage stated on the power source specification label. Testing with a resistive load bank shall be permitted.

The power source shall be operated in the manner specified by the apparatus manufacturer as documented on instruction plates or in operation manuals. The power source shall be operated at a minimum of 100 percent of the continuous rated wattage as stated on the power source specification label for a minimum of 2 hours.

The load shall be adjusted to maintain the output wattage at or above the continuous rated wattage during the entire 2-hour test.

The following conditions shall be recorded at least every 1.2 hour during the test:

- (1) The power source output voltage, frequency, and amperes
- (2) The prime mover's oil pressure, water temperature, and transmission temperature, if applicable
- (3) The power source hydraulic fluid temperature, if applicable
- (4) The ambient temperature and power source air inlet temperature

The following conditions shall be recorded once during the test for power sources driven by dedicated auxiliary internal combustion engines:

- (1) Altitude
- (2) Barometric pressure
- (3) Relative humidity

If the generator is driven by the chassis engine and the generator allows for operation at variable speeds, the chassis engine speed shall be reduced to the lowest rpm allowed for generator operation and the voltage and frequency shall be recorded.

The load shall be removed, and the unloaded voltage and frequency shall be recorded.

Voltage shall be maintained within ± 10 percent of the voltage stated on the power source specification label during the entire test. Frequency shall be maintained within ± 3 Hz of the frequency stated on the power source specification label during the entire test.

The total continuous electrical loads, excluding those loads associated with the equipment defined in 22.15.7.3.11.2, shall be applied during the testing unless an auxiliary engine drives the power source.

If the apparatus is equipped with a fire pump, the 2-hour certification test of the power source shall be completed with the fire pump pumping at 100 percent capacity at 150 psi (1000 kPa) net pump pressure. The test shall be permitted to be run concurrently with the pump certification test.

The results of each test shall be recorded on an appropriate form and provided with the delivery of the fire apparatus.

DeBeque Fire Department

Medium Rescue

Build Specification

DIELECTRIC VOLTAGE WITHSTAND TEST

The line voltage wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900 volts for 1 minute. The testing shall be performed after all body work has been completed.

The test shall be conducted as follows:

- (1) Isolate the power source from the panel board and disconnect any solid state low voltage components.
- (2) Connect one lead of the dielectric tester to all the hot and neutral buses tied together.
- (3) Connect the other lead to the fire apparatus frame or body.
- (4) Close any switches and circuit breakers in the circuit(s).
- (5) Apply the dielectric voltage for 1 minute in accordance with the testing equipment manufacturer's instructions.

The electrical polarity of all permanently wired equipment, cord reels, and receptacles shall be tested to verify that wiring connections have been properly made.

Electrical continuity shall be verified from the chassis or body to all line voltage electrical enclosures, light housings, motor housings, light poles, switch boxes, and receptacle ground connections that are accessible to fire fighters in normal operations.

If the apparatus is equipped with a transfer switch, it shall be tested to verify operation and that all non grounded conductors are switched.

Electrical light towers, floodlights, motors, fixed appliances, and portable generators shall be operated at their full rating or capacity for 30 minutes to ensure proper operation.

DELIVERY AND DEMONSTRATION

The contractor shall be responsible for the delivery of the completed unit to the DeBeque Fire Protection Districts location. On initial delivery of the apparatus, the contractor shall supply a qualified representative to demonstrate the apparatus and provide initial instruction to representatives of the DeBeque Fire Protection District regarding the operation, care, and maintenance of the apparatus and equipment supplied at the DeBeque Fire Protection Districts location.

The delivery engineer shall set delivery and instruction schedule with the person appointed by DeBeque Fire Protection District.

After delivery of the apparatus, the DeBeque Fire Protection District shall be responsible for ongoing training of its personnel to proficiency regarding the proper and safe use of the apparatus and associated equipment as defined in NFPA 1002, *Standard for Fire Apparatus Driver/Operator Professional Qualifications*, and NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

DeBeque Fire Department

Medium Rescue

Build Specification

CAB CHASSIS SPECIFICATIONS

APPLICATION:	Rescue Requested GVWR: 37000. Calc. GVWR: 37000 Calc. Start / Grade Ability: 27.10% / 3.01% @ 55 MPH Calc. Geared Speed: 74.8 MPH 8.53 MPG @74.8 MPH
DIMENSION:	Wheelbase: 238.00, CA: 119.00, Axle to Frame: 79.00
ENGINE, DIESEL:	{International MaxxForce 9} 330 HP, 950 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, # 2 Bell Housing
TRANSMISSION, AUTOMATIC:	{Allison 3000EVS_P} 4th Generation Controls; Close Ratio, 5-Speed; with Overdrive, Includes Oil Level Sensor, With Provision for PTO, Less Retarder, Max. GVW N/A
CLUTCH:	Omit Item (Clutch & Control)
AXLE, FRONT DRIVING:	{Meritor MX-14-120} Single Reduction, 14,000-lb Capacity
AXLE, REAR, SINGLE:	{Meritor RS-23-160} Single Reduction, 23,000-lb Capacity, with Driver Control Locking Differential, With "R" Wheel 200 Wheel Ends Gear Ratio: 4.89
CAB:	Conventional 6-Man Crew Cab
TIRE, FRONT:	(2) 12R22.5 G282 MSD (GOODYEAR) 481 rev/mile, load range H, 16 ply
TIRE, REAR:	(4) 12R22.5 G282 MSD (GOODYEAR) 491 rev/mile, load range H, 16 ply
SUSPENSION, RR, SPRING, SINGLE:	Vari-Rate; 23,500-lb Capacity, With 4500 lb Auxiliary Rubber Spring
PAINT:	Cab schematic 208GM Location 1: 9037, Winter (custom) Location 2: 2642, Flame Red (custom)

Base Chassis, Model 4400 SFA 4X4 with 238.00 Wheelbase, 119.00 CA, and 79.00 Axle to Frame.

TOW HOOK, FRONT (2) Inside Rail, Frame Mounted.

FRAME RAILS Heat Treated Alloy Steel (120,000 PSI Yield); 10.866" x 3.622" x 0.433"

BUMPER, FRONT Full Width, Aerodynamic, Chrome Plated Steel; 0.189" Material Thickness

FRAME EXTENSION, FRONT Bolt On Type; 20" In Front of Grille, Without Cross member

AXLE, FRONT DRIVING {Meritor MX-14-120} Single Reduction, 14,000-lb Capacity 3/0 3

Includes

: DRAIN PLUG, DRIVING FRONT AXLE Magnetic

SUSPENSION, FRONT, SPRING Parabolic, Taper Leaf; 14,000-lb Capacity; With Shock Absorbers 37/0 37

Includes

: SPRING PINS Rubber Bushings, Maintenance-Free

BRAKES, FRONT, AIR CAM

SUSPENSION, FRONT, SPRING Parabolic, Taper Leaf; 14,000-lb Capacity; With Shock Absorbers

Includes

: SPRING PINS Rubber Bushings, Maintenance-Free

BRAKE SYSTEM, AIR Dual System for Straight Truck Applications

Includes

: BRAKE CHAMBERS, SPRING (2) Rear Parking

: BRAKE LINES Color and Size Coded Nylon

: DRAIN VALVE Twist-Type

DeBeque Fire Department

Medium Rescue

Build Specification

- : DUST SHIELDS, FRONT BRAKE
- : DUST SHIELDS, REAR BRAKE
- : GAUGE, AIR PRESSURE (2) Air 1 and Air 2 Gauges; Located in Instrument Cluster
- : PARKING BRAKE VALVE Color-Coded Yellow Knob, Located on Instrument Panel
- : SLACK ADJUSTERS, FRONT Automatic
- : SLACK ADJUSTERS, REAR Automatic
- : SPRING BRAKE MODULATOR VALVE

DRAIN VALVE, AUTOMATIC {Bendix DV-2} With Heater; for Air Tank

AIR BRAKE ABS {Bendix Anti-Lock Brake System} Full Vehicle Wheel Control System (4-Channel)

AIR DRYER {Bendix AD-IP} With Heater

BRAKES, FRONT, AIR CAM S-Cam; 16.5" x 5.0"; Includes 20 Sq. In. MGM Long Stroke Brake Chambers

BRAKES, REAR, AIR CAM 16.5" x 7.0"; Includes MGM TR3030 Long Stroke Brake Chamber and Heavy Duty Spring Actuated Parking Brake

AIR COMPRESSOR {Bendix Tru-Flo 550} 13.2 CFM Capacity

STEERING COLUMN Tilting and Telescoping

STEERING WHEEL 2-Spoke, 18" Diam., Black

STEERING GEAR {Sheppard M-110} Power

DRIVESHAFT {Dana Spicer} SPL170XL Series in lieu of SPL140

EXHAUST SYSTEM Single, Horizontal, Aftertreatment Device, Frame Mounted Right Side Back of Cab, Includes Horizontal Tail Pipe
Includes

: PLEASE NOTE: The Horizontal Tailpipe Includes a Temperature Control Device

ENGINE BRAKE, DLOGIC {Diamond Logic} for MaxxForce 9 / DT570, MaxxForce 10 / HT570 Engines; Combination Engine and Exhaust Brake, Electronically Activated

SWITCH, FOR EXHAUST 2 Position, Lighted & Latching, ON/OFF Type, Mounted in IP, Inhibits Diesel Particulate Filter Regeneration as Long as Switch is in ON Position

ELECTRICAL SYSTEM 12-Volt, Standard Equipment

Includes

- : BATTERY BOX Steel; Mounted Left Side, Under Cab
- : DATA LINK CONNECTOR For Vehicle Programming and Diagnostics In Cab
- : FUSES, ELECTRICAL SAE Blade-Type
- : HAZARD SWITCH Push On/Push Off, Located on Top of Steering Column Cover
- : HEADLIGHT DIMMER SWITCH Integral with Turn Signal Lever
- : HORN, ELECTRIC Single
- : JUMP START STUD Located on Positive Terminal of Outermost Battery
- : PARKING LIGHT Integral with Front Turn Signal and Rear Tail Light
- : RUNNING LIGHT (2) Daytime, Included With Headlights
- : STARTER SWITCH Electric, Key Operated
- : STOP, TURN, TAIL & B/U LIGHTS Dual, Rear, Combination with Reflector
- : TURN SIGNAL SWITCH Self-Cancelling for Trucks, Manual Cancelling for Tractors, with Lane Change Feature

DeBeque Fire Department

Medium Rescue

Build Specification

: TURN SIGNALS, FRONT Includes Reflectors and Auxiliary Side Turn Signals, Solid State Flashers; Flush Mounted
: WINDSHIELD WIPERS Single Motor, Electric, Cowl Mounted
: WIRING, CHASSIS Color Coded and Continuously Numbered

CIGAR LIGHTER Includes Ash Cup

HORN, ELECTRIC (2)

IGNITION SWITCH Keyless

ALTERNATOR {Leece-Neville 4949PA} Brush Type; 12 Volt 270 Amp. Capacity, Pad Mounted

BODY BUILDER WIRING To Rear of Frame, With Stop, Tail, Turn, and Marker Lights Circuits, Ignition Controlled Auxiliary Feed and Ground, Less Trailer Socket

BATTERY SYSTEM {International} Maintenance-Free, (3) 12-Volt 1950CCA Total

RADIO {International} AM/FM Stereo with CD Player, Weatherband, Clock, Auxiliary Input, Includes Multiple Coaxial Speakers
Includes

: SPEAKERS IN CAB (2) Coaxial with Deluxe Interior

: SPEAKERS IN CAB (4) Coaxial with Premium Interior

BACK-UP ALARM Electric, 102 dBA

HORN, AIR Black, Single Trumpet, Air Solenoid Operated, Mounted Behind Bumper on Right Rail

BATTERY DISCONNECT SWITCH {Joseph Pollack 51-315} Positive Type, Lever Operated, Mounted on Cab Floor

SWITCH, AIR HORN, PASSENGER Fire Truck Application; Switch Located in Instrument Panel Close to Passenger, Driver Also To Activate Switch at Steering Wheel

HEADLIGHTS Halogen; Composite Aero Design for Two Light System; Includes Daytime Running Lights

STARTING MOTOR {Delco Remy 38MT Type 300} 12 Volt; less Thermal Over-Crank Protection

INDICATOR, LOW COOLANT LEVEL With Audible Alarm

CIRCUIT BREAKERS Manual-Reset (Main Panel) SAE Type III With Trip Indicators, Replaces All Fuses Except For 5-Amp Fuses

FENDER EXTENSIONS Rubber

GRILLE Stationary, Chrome

FRONT END Tilting, Fiberglass, With Three Piece Construction

GRILLE EMBER SCREEN Mounted to Grille to Keep Hot Embers out of Engine Air Intake System

PAINT SCHEMATIC, PT-1 Two Tone, Deign 208

PAINT TYPE Base Coat/Clear Coat, 1-2 Tone

KEYS,- ALL ALIKE, ID Z-001

DeBeque Fire Department

Medium Rescue

Build Specification

CLUTCH Omit Item (Clutch & Control)

RADIATOR HOSES Silicone; Molded

ENGINE, DIESEL {International MaxxForce 9} 330 HP, 950 lb-ft Torque @ 1200 RPM, 2200 RPM Governed Speed, # 2
Bell Housing

Includes

- : AIR COMPRESSOR AIR SUPPLY LINE Naturally-Aspirated
- : COLD STARTING EQUIPMENT Intake Manifold Electric Grid Heater with Engine ECM Control
- : CRUISE CONTROL Electronic; Controls Integral to Steering Wheel
- : ENGINE OIL DRAIN PLUG Magnetic
- : ENGINE SHUTDOWN Electric, Key Operated
- : FUEL FILTER Included with Fuel/Water Separator
- : FUEL/WATER SEPARATOR Fuel/Water Separator and Fuel Filter in a Single Assembly; With Water-in-Fuel Sensor; Engine Mounted
- : GOVERNOR Electronic
- : OIL FILTER, ENGINE Spin-On Type
- : WET TYPE CYLINDER SLEEVES

FAN DRIVE {Horton Drivemaster} "Two Speed" Direct Drive, With Residual Torque Device for Disengaged
Fan Speed

Includes

- : FAN Nylon
- : FAN Optimized Position

FEDERAL EMISSIONS for 2004; for International VT365, DT466 and DT570 Engines

RADIATOR Cross Flow, Series System; 1228 SqIn Aluminum Radiator Core and 1167 SqIn Charge Air Cooler 0/0 0
Includes

- : ANTI-FREEZE Red Shell Rotella Extended Life Coolant -40F (-40C)
- : DEAERATION SYSTEM with Surge Tank
- : HOSE CLAMPS, RADIATOR HOSES Gates Shrink Band Type; Thermoplastic Coolant Hose Clamps
- : RADIATOR HOSES Premium, Rubber

AIR CLEANER Single Element

Includes

- : GAUGE, AIR CLEANER RESTRICTION Air Cleaner Mounted

THROTTLE, HAND CONTROL Engine Speed Control; Electronic, Stationary, Variable Speed; Mounted on
Steering Wheel

FEDERAL EMISSIONS 2007 for International MaxxForce 9 & 10 Engines (DT570 & HT570)

ENGINE CONTROL, REMOTE MOUNTED Provision for; Includes Wiring for Body Builder Installation of PTO Controls;
With Ignition Switch Control for International post 2007 Emissions Electronic Engines

FAN OVERRIDE Manual; With Electric Switch on Instrument Panel, (Fan On With Switch On)

EXPANDED ENGINE TEMP EFFECTS to Allow Higher Engine Operating Temperature Range; Includes Nylon
Surge Tank and 15 psi Pressure Cap

EMISSION COMPLIANCE Federal, Does Not Comply With California Clean Air Regulations

DeBeque Fire Department

Medium Rescue

Build Specification

TRANSMISSION, AUTOMATIC {Allison 3000EVS_P} 4th Generation Controls; Close Ratio, 6-Speed; With Double Overdrive, Includes Oil Level Sensor, With Provision for PTO, Less Retarder, Max. GVW N/A

Includes

: OIL FILTER, TRANSMISSION Mounted on Transmission

: TRANSMISSION OIL PAN Magnet in Oil Pan

TRANSFER CASE {Meritor T-4210 2} 2 Spd, 10000 lb-ft Total Capacity, Without Provision for PTO, With Electric Over Air Control, With Lube Pump

Includes

: LIGHT, INDIC, ALL-WHEEL DRIVE Illuminates With All Wheel Drive Engaged, Located on Instrument Panel

OIL COOLER, AUTO TRANSMISSION {Modine} Water to Oil, for Allison or CEEMAT Transmission

TRANSMISSION SHIFT CONTROL {Allison} Push-Button Type; for Allison 3000 & 4000 Series Transmission

SHIFT CONTROL PARAMETERS WT-Allison S-1 Performance Programming in Primary and Allison S-4 Economy Programming in Secondary

ALLISON SPARE INPUT/OUTPUT for Emergency Vehicle Series (EVS); Rescue, Ambulance

AXLE, REAR, SINGLE {Meritor RS-23-160} Single Reduction, 23,000-lb Capacity, With 200 Wheel Ends. Gear Ratio: 4.89

Includes

: REAR AXLE DRAIN PLUG (1) Magnetic, For Single Rear Axle

SUSPENSION, RR, SPRING, SINGLE Vari-Rate; 23,500-lb Capacity, With 4500 lb Auxiliary Rubber Spring

FUEL TANK Top Draw; D Style, Steel, 50 U.S. Gal., 189 L Capacity, With Quick Connect Outlet, 16" Tank Depth, Mounted Left Side Under Cab

CAB Conventional 6-Man Crew Cab

Includes

: ARM REST (2) Molded Plastic; One Each Door

: CLEARANCE/MARKER LIGHTS (5) Flush Mounted

: COAT HOOK, CAB Located on Rear Wall, Centered Above Rear Window

: CUP HOLDERS Two Cup Holders, Located in

: DOME LIGHT, CAB Rectangular, Door Activated and Push On-Off at Light Lens, Timed Theater Dimming, Integral to Console, Center Mounted

: GLASS, ALL WINDOWS Tinted

: GRAB HANDLE, CAB INTERIOR (1) "A" Pillar Mounted, Passenger Side

: GRAB HANDLE, CAB INTERIOR (2) Front of "B" Pillar, One Each Side

: GRAB HANDLE, CAB INTERIOR (4) Two Each Side, Rear Door Mounted at Hinge Side and "C" Pillar Mounted

: INTERIOR SHEET METAL Upper Door (Above Window Ledge) Painted Exterior Color

: PLEASE NOTE: 43.9" CA Loss

: STEP (8) Two Steps Per Door

HEATER HOSES Silicone

GAUGE CLUSTER English With English Electronic Speedometer

Includes

: GAUGE CLUSTER (5) Engine Oil Pressure (Electronic), Water Temperature (Electronic), Fuel (Electronic), Tachometer (Electronic), Voltmeter

: ODOMETER DISPLAY, Miles, Trip Miles, Engine Hours, Trip Hours, Fault Code Readout

: WARNING SYSTEM Low Fuel, Low Oil Pressure, High Engine Coolant Temp, and Low (Visual and Audible)

DeBeque Fire Department

Medium Rescue

Build Specification

GAUGE, OIL TEMP, ALLISON TRAN

IP CLUSTER DISPLAY On Board Diagnostics Display of Fault Codes in Gauge Cluster

SEAT, DRIVER {Seats, Inc. Universal Series} 911, NFPA Compliant, Air Suspension, High Back Vinyl with Covered Back and International Logo on Head Rest

Includes

: SEAT BELT 3-Point, Lap and Shoulder Belt Type

SEAT, REAR {Seats, Inc. Universal Series} 911, NFPA Compliant, Three Individual Seats on one Riser, Non-Suspension, High Back for SCBA, Vinyl With Covered Back, International Logo on Headrest

Includes

: SEAT BELT (3) Two 3-Point Shoulder Belts and One 2-Point Lap Belt (Center Position)

SEAT, PASSENGER {Seats, Inc. Universal Series} 911, NFPA Compliant, Non-Suspension, High Back for SCBA, With 5 Degree Back angle, Vinyl Covered Back, With Adjusters and International Logo on Headrest

Includes

: SEAT BELT 3-Point, Lap and Shoulder Belt Type

GRAB HANDLE (2) Chrome Towel Bar Type With Anti-Slip Rubber Inserts; for Cab Entry, Mounted Left and Right, Each Side at "B" Pillar

GRAB HANDLE, ADDITIONAL EXT (2) Chrome; Towel Bar Type With Anti-Slip Rubber Inserts; Mounted Left and Right Side on Exterior, Rear of Rear Doors, With Crew Cab

MIRRORS (2) {Lang Mekra} Styled; Rectangular, 7.09" x 15.75" & Integral Convex Both Sides, 102" Inside Spacing, Breakaway Type, Heated Heads Thermostatically Controlled, Power Both Sides, Clearance Lights LED, Bright Finish Heads & Brackets

SEAT BELT All Red; 4 to 6

INSTRUMENT PANEL Center Section, Flat Panel

AIR CONDITIONER {International Blend-Air} With Integral Heater & Defroster

Includes

: FRESH AIR FILTER

: HEATER HOSES Premium

: REFRIGERANT Hydrofluorocarbon HFC-134A

FRESH AIR FILTER for HVAC

STORAGE POCKET, DOOR Molded Plastic, Full Width; Mounted on Passenger Door

CAB INTERIOR TRIM Deluxe; for Crew Cab

Includes

: "A" PILLAR COVER Molded Plastic

: CAB INTERIOR TRIM PANELS Cloth Covered Molded Plastic, Full Height; All Exposed Interior Sheet Metal is Covered Except for the Following: with a Two-Man Passenger Seat the Back Panel is Only Partially Covered and with a Full Bench Seat the

: CONSOLE, OVERHEAD Molded Plastic with Dual Storage Pockets and Retainer Nets and CB Radio Pocket

: DOOR TRIM PANELS Molded Plastic; Driver and Passenger Doors

: FLOOR COVERING Rubber, Black

: HEADLINER Soft Padded Cloth

DeBeque Fire Department

Medium Rescue

Build Specification

: INSTRUMENT PANEL TRIM Molded Plastic with Black Center Section
: STORAGE POCKET, DOOR (1) Molded Plastic, Full-Length; Driver Door
: SUN VISOR (2) Padded Vinyl with Driver Side Toll Ticket Strap, Integral to Console

CAB REAR SUSPENSION Air Bag Type

WHEELS, FRONT DISC; 22.5" Polished Aluminum, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs

Includes

: WHEEL SEALS, FRONT Grease Lubricated, Includes Wheel Bearings

WHEELS, REAR DUAL DISC; 22.5" Polished Aluminum, 10-Stud (285.75MM BC) Hub Piloted, Flanged Nut, Metric Mount, 8.25 DC Rims; With Steel Hubs.

: WHEEL SEALS, REAR Oil Lubricated, Includes Wheel Bearings

(2) 12R22.5 G282 MSD (GOODYEAR) 481 rev/mile, load range H, 16 ply

(4) 12R22.5 G282 MSD (GOODYEAR) 491 rev/mile, load range H, 16 ply

WRTY,LTD, BASIC VEHICLE DSPEC {Diamond SPEC} To 12-Month/Unlimited Mileage; Includes Diamond Emergency Breakdown Service, With 90-Day Towing

DeBeque Fire Department

Medium Rescue

Build Specification

CHASSIS MODIFICATIONS

LUBRICATION AND TIRE DATA PLATE

A permanent label in the driving compartment shall specify the quantity and type of the following fluids used in the vehicle and tire information:

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

VEHICLE DATA PLATE

A permanent label in the driving compartment which indicates the following:

- Filter part numbers for the
 - Engine
 - Transmission
 - Air
 - Fuel
- Serial numbers for the
 - Engine
 - Transmission
- Delivered Weights of the Front and Rear Axles
- Paint Brand and Code(s)
- Sales Order Number

OVERALL HEIGHT, LENGTH DATA PLATE

The fire apparatus manufacturer shall permanently affix a high-visibility label in a location visible to the driver while seated.

The label shall show the height of the completed fire apparatus in feet and inches or in meters, the length of the completed fire apparatus in feet and inches or in meters, and the GVWR in tons or metric tons.

Wording on the label shall indicate that the information shown was current when the apparatus was manufactured and that, if the overall height changes while the vehicle is in service, the fire department must revise that dimension on the plate.

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ACCIDENT PREVENTION

There shall be a placard in the cab seating area which reads, "ALL OCCUPANTS MUST BE SEATED AND BELTED WHEN THE APPARATUS IS IN MOTION".

PERSONNEL CAPACITY

A label that states the number of personnel the vehicle is designed to carry shall be located in an area visible to the driver.

ACCIDENT PREVENTION

If the rear bumper is 8" deep or more, there shall be a placard on the rear face of the body, in clear sight from the ground, which reads, "WARNING - DO NOT RIDE ON STEPS OR DECK AREAS WHILE THE APPARATUS IS IN MOTION. DEATH OR SERIOUS INJURY MAY RESULT".

WEARING HELMET WARNING

A label stating "DO NOT WEAR HELMET WHILE SEATED" shall be visible from each seating location.

FRONT BUMPER EXTENSION

The front bumper of the chassis shall be extended approximately 20" ahead of the cab using Junior I-beams.

The bumper mounting plate shall be welded to the Junior I-beam for mounting of the chassis bumper. After fabrication of the bumper extension, the panels shall be removed and the unit shall be primed and painted black.

BUMPER COMPARTMENTS

The bumper extension shall have two (2) tool compartments each located outboard of the chassis frame rail and as large as possible. The compartment lids shall be 1/8" NFPA compliant aluminum tread plate with stainless steel hinges and single point lift/turn latches. Each compartment lid shall have a spring hold open device.

Rubber bumpers and chains shall be provided as required to prevent the doors from hitting the cab.

AIR HORNS

Two (2) Grover 24" Stuttertone chrome plated air horns shall be recess mounted in the front bumper, one (1) on each side outboard of the frame rails. An emergency air shut off valve shall be provided in the cab.

FRONT MOUNTED WINCH

The bumper extension shall be equipped with a Warn M12000, 12 volt electric, 12,000 lb. capacity winch.

The control of the winch shall be with a plug-in remote control unit. The unit shall have 12 feet of control cable, with forward, neutral, and reverse dead man type hand control.

The winch shall be equipped with 125 feet of 3/8" galvanized cable. The cable shall end with a clamped type loop and a drop forged heavy duty hook. The cable shall feed through a full captive type 4-way roller and guide assembly.

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EXHAUST

The exhaust system shall be as provided by cab/chassis manufacturer. No other alternation or modifications are required.

The exhaust piping and discharge outlet shall be located or shielded so as not to expose any portion of the apparatus or equipment to excessive heating.

Exhaust pipe discharge shall be directed away from any operator's position.

Where parts of the exhaust system are exposed so that they are likely to cause injury to operating personnel, protective guards shall be provided.

RADIO ANTENNA INSTALLATION

There shall be two (2) radio antenna mounts provided and installed on the roof of the cab/chassis. The end of each radio antenna shall be routed to the cab console.

Due to multiple configurations of antenna whips, the Manufacturer shall provide the antenna base, and DeBeque Fire Protection District shall provide the whip.

RADIO INSTALLATION

There shall be two (2) DeBeque Fire Protection District supplied radio(s) installed in the cab console. Each radio shall be wired for 30A switched and battery direct 12 volt power.

12 VOLT ACCESSORY PLUG

There shall be two (2) 12 volt accessory plug(s) furnished and installed in the cab console. The layout shall be as shown in the approved sales drawing.

CAB PAINT

The finish paint and color as provided from the cab/chassis manufacturer shall be provided. Cab shall not be repainted by Body Manufacturer.

(Note: Most departments do NOT find that the fleet paint finish from a commercial cab/chassis manufacturer is acceptable. The Body Builder will NOT be responsible for paint quality and finish issues.)

CAB STEP COVER

There shall be three (3) cab step cover(s) fabricated of 1/8" aluminum treadplate and using aluminum diamondback material as the stepping surface.

CAB STEP AND FUEL TANK COVER

The chassis fuel tank shall be overlaid with 1/8" aluminum treadplate. The fuel tank shall be labeled "DIESEL FUEL" with a permanent type label. There shall be cab access steps using aluminum diamondback material as the stepping surface.

BATTERY JUMPER STUDS

Battery jumper studs shall be provided in the driver's step area. The studs allow the vehicle to be jump started in an emergency due to battery failure.

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MUDFLAPS

There shall be rubber mudflaps furnished and installed behind each set of tires.

AIR BRAKE SYSTEM QUICK BUILD-UP

There shall be one (1) Milton male quick connector type air shoreline inlet to provide air to the chassis air tanks from an external source compressed air shoreline hookup in order to maintain full operating air pressure while the vehicle is not running. Air inlet shall be located near driver's door. The female end of the connector shall be supplied by the DeBeque Fire Protection District.

The quick buildup system shall provide sufficient air pressure so that the apparatus has no brake drag and is able to stop under the intended operating conditions following the 60-second buildup time.

AUTOMATIC TIRE CHAINS

The apparatus chassis shall be provided with "ONSPOT" air operated automatic tire chains at the rear driving axle. Tire chains shall offer the traction of a single set of conventional snow chains at the touch of a button on the dash, without having to stop the vehicle.

ROAD EMERGENCY SAFETY KIT

One (1) set of three dual faced triangular warning flares with fold away base complete with storage case per DOT requirements shall be provided with the completed apparatus.

One (1) 2.5 lb. ABC type vehicle fire extinguisher with bracket shall be provided and mounted in the cab or the front streetside compartment.

BODY DESIGN

The importance of public safety associated with emergency vehicles requires that the construction of this vehicle meet the following specifications. These specifications are written to establish the minimum level of quality and design. All Bidders shall be required to meet these minimum requirements.

It is the intent of these specifications to fully describe the requirements for a custom built emergency type vehicle. In order to extend the expected service life of this vehicle, the body module shall be removable from the chassis frame and be capable of being installed on a new chassis.

The sheet metal material requirements, including alloy and material thickness, throughout the specifications are considered to be a minimum. Since such materials are available to all Manufacturers, the material specifications shall be strictly adhered to.

The fabrication of the body shall be formed sheet metal. Formed components shall allow the DeBeque Fire Protection District to have the body repaired locally in the case where any object has struck the body and caused damage. The use of proprietary extrusions will prevent the DeBeque Fire Protection District from such repair and shall NOT be used.

Following construction of the subframe, which supports the apparatus body, the sheet metal portion of the body shall be built directly on the subframe. The joining of the subframe and body shall be of a welded integral construction.

The sheet metal fabrication of the body shall be performed using inert gas continuous feed welders only. The entire body shall be welded construction. The use of pop rivets in any portion of structural construction may allow premature failure of the body structure. Therefore, pop rivets shall NOT be used in the construction of the structural portions of the body. This includes side body sheets, inner panels of compartment doors, and any other structural portions of the body.

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EXTERIOR ALUMINUM BODY

The fabrication of the body shall be constructed from aluminum 3003H-14 alloy smooth plate. This shall include compartment front panel, vertical side sheets, side upper rollover panels, rear panels and compartment door frames.

The body compartment floors and exterior panels shall be constructed with not less than 3/16" (.187) aluminum 3003H-14 smooth plate. Interior compartment dividing walls shall be constructed with not less than 1/8" (.125) aluminum 3003H-14 smooth plate. Lighter gauge sheet metal will not be acceptable in these areas.

The door side frame openings shall be formed "C" channel design. An electrical wiring conduit raceway running the full length of exterior compartments shall be provided. This raceway shall contain all 12 volt wiring running to the rear of the apparatus, permitting easy accessibility to wiring.

Individual compartment modules, with dead air space voids between compartments, will not be an acceptable method of compartment construction.

The compartments shall be an integral part of the body construction. Compartment floors from front of body to ahead of rear axle, also from rear axle to rear of body shall be single one-piece sections. Compartment floors shall be preformed, then positioned in body and welded into final position.

Compartment floors shall have a "sweep-out" design with door opening threshold positioned lower than compartment floor, permitting easy cleaning of compartments. Angles, lips, or door moldings are not acceptable in the base of compartment door opening. One-way rubber drain valves shall be provided in compartment floors so that a water hose may be used to flush-out compartment area.

All exterior seams in sheet metal below frame, and around the rear wheel well area shall be welded continuous to prevent moisture from entering compartments. All other interior seams and corners shall be sealed with silicone based caulk prior to painting.

Only stainless steel bolts, nuts, and sheet metal screws shall be used in mounting exterior trim, hardware and equipment.

Exterior compartments shall have louvers in lower back wall of compartment for ventilation.

ROOF CONSTRUCTION

The roof shall be integral with the body and shall be all welded construction. The roof shall be reinforced with 2" x 2" tubing running the full width of the body. All seams in the roof area shall be welded prior to paint to prevent entry of moisture.

BODY SUBFRAME

To assure proper body alignment and clearance, the body subframe shall be constructed directly on the chassis.

The chassis frame rails shall be fitted with 1/4" custom extruded UHMW polyethylene rail cap to isolate the body frame members from direct contact with chassis frame rails.

The body subframe shall be constructed from 6061T6 aluminum alloy tubing. Subframe shall consist of two (2) 2" x 6" x 1/4" aluminum tubes, the same width as the chassis frame rails, NO EXCEPTION. Welded to this tubing shall be crossmembers of 2" x 6" x 1/4" aluminum. These crossmembers shall extend the full width of the body to support the compartments. Crossmembers shall be located at front and rear of the body, below compartment divider walls, and in front and rear of wheel well opening. Additional aluminum crossmembers shall be located as necessary to support walkway or heavy equipment.

To form the frame, the tubing shall be beveled and welded at each joint using 5356 aluminum alloy welding wire.

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BODY MOUNTING

The body subframe shall be fastened to the chassis frame with a minimum of six (6) spring loaded body mounts. Each mount shall be configured using a two-piece encapsulated slide bracket. The two (2) brackets shall be fabricated of heavy duty 1/4" thick steel and shall have a powder coat finish to prevent any corrosion. Each mounting assembly shall utilize two (2) 3/4" diameter x 6" long grade 8 bolts and two (2) heavy duty springs. The assembly design shall allow the body and subframe to act as one (1) component, separate from the chassis. As the chassis frame twists under driving conditions, the spring mounting system shall eliminate any stress from being transferred into the body. The spring loaded body mounts shall also prevent frame side rail or body damage caused by unevenly distributed stress and strains due to load and chassis movement.

Body mountings that do not allow relief from chassis movement will not be acceptable.

10" REAR STEP BUMPER

The full width rear bumper shall be constructed from 2" x 2" x 1/4" aluminum tubing frame and covered with 3/16" NFPA compliant aluminum tread plate. The bumper shall extend from the rear vertical body panel 10" and provide a rear step with a minimum of 1/2" space at body for water drainage.

REAR TOW EYES

There shall be two (2) heavy duty rear mounted tow eyes securely attached to the body subframe, below the apparatus body. The tow eyes shall be fabricated from steel plate and shall have a black powder coat finish.

TRAILER HITCH

A Class III, 7,500 lbs. weight carrying capacity (gross trailer weight) rear hitch receiver shall be provided below the rear bumper. The receiver shall be attached to the apparatus body frame.

The hitch shall be complete with a 2" square receiver. Without the use of a "weight distribution" ball hitch the Class III receiver shall have a capacity of 5,000 lbs. gross trailer weight.

For hydraulic brake equipped or electric brake equipped trailer towing capability, a primary electrical receptacle shall be provided near the hitch point and shall match the umbilical cable specified.

An auxiliary electrical receptacle shall be provided near the hitch point and shall match the umbilical cable specified for optical warning lights.

A label shall be provided in a location in which it is visible to an operator making trailer connections. The label shall state the maximum GVWR and tongue weight of the trailer that can be safely towed with the hitch system.

Two (2) safety chain attachment points shall be provided near the hitch point for hitches designed to use safety chains, each designed with an ultimate strength of not less than the maximum GVWR specified on label.

GROUND LIGHTS

Two (2) OnScene Solutions 9" LED Nightstik ground lights shall be mounted below the rear bumper.

WHEEL WELL EXTERIOR PANEL

The exterior panel of the body wheel well enclosure shall be constructed from 1/8" aluminum smooth plate.

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DIEFORMED BEADED EDGE BODY FENDERS

A die formed beaded edge shall be provided along the radius of the wheel well opening for a finished appearance.

WHEEL WELL LINERS

The wheel wells shall be provided with an easily removable polymer, circular inner fender liner. The inner liner shall be bolted to the wheel well with stainless steel bolts and spaced away from the wheel well so the liner will not accumulate dirt or water.

SCBA BOTTLE COMPARTMENTS

There shall be four (4) SCBA compartments located adjacent to the rear wheels. There shall be two (2) on each side of the apparatus body. Each compartment shall have a Cast Products aluminum door assembly with a positive catch latch. Each compartment shall have a 8" diameter aluminum tube behind the wheel well panel, attached to the Cast Products door assembly.

PAINT FINISH - SINGLE COLOR

The apparatus body shall be painted single color with PPG Delfleet paint for a high gloss, hard finish.

- Paint Color: Match cab/chassis supplied paint color.

The painted body shall be finished with a clear coat of acrylic urethane for paint protection and maximum quality finish.

PAINT WARRANTY

The apparatus shall be provided with a ten (10) year non-prorated warranty to the original Owner. Warranty is provided by PPG Inc. A "PPG Warranty" sheet with all conditions shall be provided with the delivered apparatus.

BODY UNDERCOATING

The entire underside of apparatus body shall be sprayed with black automotive undercoating. Undercoating shall cover all areas to retard corrosion under the apparatus.

UNDERCOAT WARRANTY

The undercoating shall be provided with a warranty by its manufacturer for the lifetime of the vehicle. The re-spray warranty shall be transferable between vehicle owners. Should the coating applied to the underside of the body and wheel wells of the vehicle ever flake off, peel, chip or crack due to drying out, the damaged area shall be re-sprayed without charge to the vehicle owner.

COMPARTMENT INTERIOR FINISH

The compartment interior (below exterior drip rail line) shall be treated with phosphoric acid and epoxy primer will be applied 1.0 mil thick. All body seams will be caulked with urethane seam sealer and painted with an epoxy primer and textured Scorpion Liner material. Liner color shall be gray.

ROOF COMPARTMENT INTERIOR FINISH

The roof compartment shall be treated with phosphoric acid and epoxy primer will be applied 1.0 mil thick. All body seams will be caulked with urethane seam sealer and painted with an epoxy primer and textured Scorpion Liner material. Liner color shall be gray.

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REFLECTIVE STRIPE

All retroreflective materials shall conform to the requirements of ASTM D 4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, Section 6.1.1 for Type I Sheeting.

All retroreflective materials used that are colors not listed in ASTM D 4956, Section 6.1.1, shall have a minimum coefficient of retroreflection of 10 with observation angle of 0.2 degrees and entrance angle of -4 degrees.

Any printed or processed retroreflective film construction used shall conform to the standards required of an integral colored film as specified in ASTM D 4956, Section 6.1.1.

REFLECTIVE STRIPE - CAB SIDE

A retroreflective stripe(s) shall be affixed to at least 50 percent of the cab and body length on each side.

The stripe or combination of stripes shall be a minimum of 4 in. (100 mm) in total width.

The 6 in. (152 mm) wide stripe or combination of stripes shall be permitted to be interrupted by objects (i.e., receptacles, cracks between slats in roll up doors) provided the full stripe is seen as conspicuous when approaching the apparatus.

- The stripe material shall be 3M Scotchcal 680.
- This reflective stripe shall be blue in color.

REFLECTIVE STRIPE - CAB FRONT

A reflective stripe shall be affixed to the front of cab. The stripe or combination of stripes shall be a minimum of 4 in. (100 mm) in total width.

A retroreflective stripe(s) shall be affixed to at least 25 percent of the width of the front of the apparatus.

- The stripe material shall be 3M Scotchcal 680.
- This reflective stripe shall be blue in color.

REFLECTIVE STRIPE - CAB DOOR INTERIOR

Any door of the apparatus designed to allow persons to enter or exit the apparatus shall have at least 96 in.² (62,000 mm²) of retroreflective material affixed to the inside of the door.

- The stripe material shall be 3M Scotchlite 680.
- This reflective stripe shall be blue in color.

REFLECTIVE STRIPE - BODY SIDES

A 6" minimum reflective stripe shall be affixed to the sides of the body.

- The stripe material shall be 3M Scotchcal 680.
- This reflective stripe shall be blue in color.

The stripe shall extend straight back from the chassis and then, ahead of the rear wheels, it shall form a "Z" and then extend straight back to the rear of the body.

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CHEVRON REFLECTIVE STRIPE - REAR SIDES PANELS

At least 50 percent of the rear-facing vertical surfaces, visible from the rear of the apparatus, excluding any pump panel areas not covered by a door, shall be equipped with retroreflective striping in a chevron pattern sloping downward and away from the centerline of the vehicle at an angle of 45 degrees. Each stripe shall be 6" width.

The rear side panels only of the body shall have a Chevron style reflective stripe layout, and cover as much of the rear side panels as possible. Chevron panels shall have a 3M UV over laminate to protect from UV rays, scene damage, and everyday use. Chevron panels shall have a minimum 10 year warranty for material failure, and colorfastness.

- The stripe material shall be 3M Diamond Grade.

All retroreflective materials required shall conform to the requirements of ASTM D 4956, *Standard Specification for Retroreflective Sheeting for Traffic Control*, Section 6.1.1 for Type I Sheeting.

- This reflective Chevron stripe shall alternate blue and white in color.

LETTERING

The following lettering shall be furnished and installed on the completed unit:

SIDE CAB DOOR LETTERING

UPPER BODY SIDE LETTERING

There shall be seven (7) 12-1/2" high reflective letters furnished and installed on the vehicle.

- This reflective lettering shall be blue in color.

CUSTOM DECAL LOGO - 12" -18"

Two (2) custom designed 12" - 18" Scotchcal type retroreflective logo(s) shall be provided on the completed vehicle, located on the. The exact layout shall be provided by the DeBeque Fire Protection District prior to completion.

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EXTERIOR COMPARTMENT DOORS

ROLL-UP DOOR CONSTRUCTION - ROBINSON (ROM)

The apparatus shall be equipped with Robinson Series III roll-up exterior compartment doors. Robinson roll-up doors shall be complete with the following features;

- Doors shall be front roll with drum positioned at upper front portion of compartment to afford maximum clearances and head room for mounting equipment to ceiling of compartment
- There shall be a non-abrasive side brush seals
- Magnetic door ajar system must be integrated in lift bar handle and the retainer block to signal open door. No mechanical switches or switches interior to the compartment shall be used
- Every slat must have interlocking end shoes to prevent slat from moving side-to-side and binding the door
- Between each slat must be a co-extruded PVC inner seal to prevent metal-to-metal contact and to repel moisture. This inner seal is not visible to detract from appearance of door
- Slat are to have interlocking joints with a folding locking flange to provide security and prevent penetration by sharp objects
- Slat to be double-wall extrusion 1.366" high by .315" thick. Exterior surface to be flat and interior surface to be concave to prevent loose equipment from interfering with door operation
- Latch system to be a full width one piece lift bar operable by one (1) hand
- A 2" wide finger pull integrated into the bottom rail extrusion for easy one (1) hand opening and closing
- Clip system that connects the curtain slats to the operator drum which allows for easy tension adjustment without tools
- Each roll-up door shall have a 4" diameter counterbalance operator drum to assist in lifting the door.
- Track shall be one-piece aluminum that has an attaching flange and finishing flange incorporated into its design
- Drip rail will have specially designed seal that prevents the seal from scratching the door
- Bottom rail extrusion must have smooth back to prevent loose equipment from jamming the door
- Bottom rail to have "V" shaped double seal to prevent water and debris from entering the compartment
- Standard replacement parts to be shipped from the United States and available in as little as 48 hours

Each shutter door shall decrease the compartment door frame opening approximately 2.00" in width and approximately 4.50" in height for the bottom section of door assembly.

EXTERIOR ROLL-UP DOOR FINISH - PAINTED

The roll-up compartment doors shall be painted with a wet type paint application. The color choice shall be the same as the primary color specified for the body. The paint finish on the doors shall be an exact match in color and gloss.

The specified retroreflective stripe material shall be applied on the roll-up compartment doors. The stripe shall be precision machine cut for each door slat of the roll-up doors. Under no circumstance will the stripe material be cut on roll-up door surface.

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BODY HEIGHT MEASUREMENTS

The vertical body dimensions shall be as follows:

AHEAD OF REAR AXLE

	<u>Description</u>	<u>Dimension</u>
A	Bottom of Subframe to Top of Body	74.0"
B	Bottom of Subframe to Bottom of Body	25.0"
C	Vertical Door Opening	
	-with roll-up door	67.5"
	-with hinged door	71.5"

ABOVE REAR AXLE

	<u>Description</u>	<u>Dimension</u>
D	Vertical Door Opening - Above Rear Wheel	
	-with roll-up door	34.0"
	-with hinged door	37.0"

BEHIND REAR AXLE

	<u>Description</u>	<u>Dimension</u>
E	Bottom of Subframe to Bottom of Body	20.0"
F	Vertical Door Opening	
	-with roll-up door	62.0"
	-with hinged door	66.0"

GENERAL

	<u>Description</u>	<u>Dimension</u>
G	Bottom of Drip Rail to Top of Body	23.5"

(Dimensions are generic and subject to change during the actual design process)

UPPER BODY COMPARTMENTS

There shall be four (4) compartments parallel to the sides of the body, two (2) on each side. Each of these compartments shall be 66.0" wide x 26.0" long x 18.5" deep. The side compartments shall be open under each door sill to allow for long equipment.

Each compartment shall have a lift-up type compartment door hinged on the outboard side. Each door shall be fabricated from 3/16" aluminum tread plate. Each door shall have two (2) pneumatic type cylinders, one (1) at each end, attached to cast aluminum brackets mounted to the interior surface of the door to hold the door in both the opened and closed positions. Each door shall be mounted using 16" long, equally spaced, 14 gauge stainless steel hinges, with 1/4" stainless steel pin. The gravity-driven, sealed, ball-style tilt switch shall be mounted to one of the cast aluminum mounting brackets to activate the door open indicator system and the interior compartment light. A polyester barrier film gasket shall be placed between stainless steel hinge and the body mounting surface as necessary to prevent corrosion caused by dissimilar metals.

Each compartment door shall overlap a 2" vertical lip on the body roof to prevent entry of moisture and sealed with automotive type rubber molding to provide a weather resistant seal.

Each compartment shall have a horizontally mounted OnScene Solutions LED Night Stik on the underside of the door that will be automatically activated when the door is opened and wired to the NFPA required hazard warning light provided in cab.

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SIDE ROOF COMPARTMENT - SHELF TRAC

There shall be four (4) roof compartment(s) provided with horizontally mounted Shelf Trac on front and rear walls for vertical partition installation.

ROOF COMPARTMENT - VERTICAL PARTITION

There shall be two (2) vertical partition(s) provided in the roof compartment(s). The partitions shall be designed for holding equipment in place during travel. Each partition shall be fabricated from 3/16" smooth aluminum and bolted to specified Shelf Trac for ease of adjustment.

UPPER BODY WALKWAY

A recessed walkway shall be provided recessed at the center of the roof area. The walkway shall be finished with NFPA compliant 3/16" aluminum tread plate with continuously welded seams to prevent moisture penetration into apparatus body. Drains shall be installed in the walkway to allow moisture to drain to the ground through flexible drain hose.

WALKWAY LIGHTS

Two (2) OnScene Solutions 9" LED Night Stik lights provided to illuminate the upper body walkway area. The lights shall be activated when the parking brake is set.

Each light shall be mounted in a polished cast aluminum housing to protect against damage from personnel or equipment.

ROOF ACCESS STAIRWAY

The rear of the body shall be provided with a recessed center stairway approximately 34" wide. Stairs treads shall be formed 3/16" NFPA compliant aluminum tread plate with reinforcement as necessary.

STAIRWAY HANDRAILS

There shall be two (2) handrails provided, one (1) on each side wall of recessed center stairway. The handrails shall be angled for optimum use during ingress or egress of the upper walkway area.

Handrails shall be NFPA compliant 1-1/4" extruded aluminum tubing with chrome plated end stanchions.

WALKWAY LIGHTS

Two (2) OnScene Solutions 9" LED Night Stik lights provided to illuminate the upper body walkway area. The lights shall be activated when the parking brake is set.

Each light shall be mounted in a polished cast aluminum housing to protect against damage from personnel or equipment.

STEP COMPARTMENT(S) - LOWER

There shall be one (1) compartment(s) located in the roof access stairway area. Each compartment shall have a horizontally hinged door with a D-ring handle. Each compartment shall be manufactured to prevent road debris, dirt and moisture from entering the enclosure. The compartment(s) shall be 26" wide x 8" high x the maximum appropriate dimensions based upon requirements for structural integrity of the body.

Each Compartment shall have an OnScene Solutions LED Night Stik that will be automatically activated when the door is opened and wired to the NFPA required hazard warning light provided in the cab.

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STEP COMPARTMENT(S) - INTERMEDIATE

There shall be one (1) compartment(s) located in the roof access stairway area. Each compartment shall have a horizontally hinged door with a D-ring handle. Each compartment shall be manufactured to prevent road debris, dirt and moisture from entering the enclosure. The compartment(s) shall be 26" wide x 8" high x as deep as the front wall of the rear transverse compartment.

Each Compartment shall have an OnScene Solutions LED Night Stik that will be automatically activated when the door is opened and wired to the NFPA required hazard warning light provided in the cab.


STEP COMPARTMENT - UPPER

There shall be one (1) upper compartment located in the roof access stairway area. The compartment shall have a horizontally hinged door with a D-ring handle. The compartment shall be manufactured to prevent road debris, dirt and moisture from entering the enclosure. The compartment shall be approximately 26" wide x 8" high x depth of equipment.

Each Compartment shall have an OnScene Solutions LED Night Stik that will be automatically activated when the door is opened and wired to the NFPA required hazard warning light provided in the cab.

Devices to secure equipment, compartment dividers, or UHMW plastic angles, or sheeting will be used for storage of specified equipment as required to prevent damage to equipment.

The compartment will be designed to store the following equipment:

- One (1) 20' 2-section ladder as specified in the equipment section.
- One (1) 12' roof ladder as specified in the equipment section.
- One (1) 10' folding ladder as specified in the equipment section.
- One (1) pike pole as specified in the equipment section. 

FOLD-DOWN STEP

There shall be one (1) fold-down step located at the bottom of the roof access stairway to reduce the distance from the ground to the first step. The step shall manually fold up into the stairway during travel. The step shall activate the "Hazard Warning Light" in the cab when not in the stowed position.

REAR BODY HANDRAILS

There shall be two (2) vertical handrails on the rear of the body. Handrails shall be NFPA compliant 1-1/4" extruded aluminum tubing with chrome plated end stanchions.

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BODY WIDTH DIMENSIONS

The body shall be 100.0" wide, not including drip rail or non-permanent fixtures. Interior compartment depth dimensions shall be:

<u>Area Description</u>	<u>Dimension</u>
Transverse Area:	95.5"
- Above Top of Subframe	
Compartment Depth:	24.5"
- Below Top of Subframe	
- Ahead of Rear Axle	
Compartment Depth:	23.5"
- Below Top of Subframe	(Eng. Note)
- Behind the Rear Axle	

(Dimensions are generic and subject to change during the actual design process)

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STREETSIDE COMPARTMENT - FRONT (S1)

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 94" deep and as wide as the compartment layout or door opening permits, capable of extending out either side of the body located above the level of the chassis frame rails. It shall be vertically adjustable in height.
- There shall be one (1) transverse module(s) for the following long tools and equipment:
 - One (1) DeBeque Fire Protection District supplied Stokes Basket(s). Exact dimensions shall be determined by the approved sales drawing.
 - Two (2) DeBeque Fire Protection District supplied backboard(s). Exact dimensions shall be determined by the approved sales drawing.
 - One (1) DeBeque Fire Protection District supplied rescue tripod(s). Exact dimensions shall be determined by the approved sales drawing.
 - There shall be four (4) OnScene Solutions cargo straps provided to secure the stored equipment.
- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- The controls for the specified light tower(s).
- The 12 volt electrical distribution panel shall be located in the streetside front lower compartment.

DeBeque Fire Department

Medium Rescue

Build Specification

STREETSIDE COMPARTMENT - AHEAD OF REAR WHEELS (S2)

The interior useable compartment width shall be approximately 41.0" wide.


The compartment door opening shall be approximately 34.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) non-adjustable shelf/shelves approximately 24" deep located approximately 16" above the compartment floor. The shelf shall be permanently mounted to the compartment walls. 
- There shall be one (1) adjustable shelf/shelves approximately 46" deep. The shelf/shelves shall have a 4" upturned lip on the rear and a 2" upturned lip on the front.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- The floor of the compartment above the frame rails shall be extended to the interior edge of the door. The floor shall have a 2" vertical lip and a 1" return to increase strength.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- The specified portable winch shall be mounted in compartment using a heavy duty "U" shaped channel. Winch receiver tube and mounting pin shall be utilized to hold in place during travel.
- One (1) OnScene Solutions 9" LED Nightstik ground light shall be provided below the body.

DeBeque Fire Department

Medium Rescue

Build Specification

STREETSIDE COMPARTMENT - ABOVE REAR WHEELS (S3)

The interior useable compartment width shall be approximately 59.0" wide.

The compartment door opening shall be approximately 52.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

DeBeque Fire Department

Medium Rescue

Build Specification

STREETSIDE COMPARTMENT - REAR (S4)

The interior useable compartment width shall be approximately 49.0" wide.

The compartment door opening shall be approximately 42.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 70" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- There shall be two (2) slide-out smooth aluminum vertical tool board(s) approximately 24" deep.
 - The tool board(s) will be horizontally adjustable mounted on shelf trac on compartment floor.
- There shall be one (1) vertical compartment partition dividing compartment into left and right sides located approximately 24-1/2" from the forward compartment wall.
- The floor of the compartment above the frame rails shall be extended to the interior edge of the door between the forward compartment wall and the vertical partition. The floor shall have a 2" vertical lip and a 1" return to increase strength.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

DeBeque Fire Department

Medium Rescue

Build Specification

CURBSIDE COMPARTMENT - FRONT (C1)

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with an OnScene Solutions base approximately 94" deep, capable of extending out either side of the body located above the level of the chassis frame rails.
- There shall be one (1) transverse module(s) for long tools and equipment which extends to the opposite side of the body.
 - There shall be four (4) OnScene Solutions cargo straps provided to secure the stored equipment.
- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.
- One (1) 120/240 VAC load center.
- The FRC FROG-D generator gauge panel.

DeBeque Fire Department

Medium Rescue

Build Specification

CURBSIDE COMPARTMENT - AHEAD OF REAR WHEEL (C2)

The interior useable compartment width shall be approximately 41.0" wide.

The compartment door opening shall be approximately 34.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep. The shelf/shelves shall have a 4" upturned lip on the rear and a 2" upturned lip on the front.
- There shall be one (1) 400 lbs. slide-out tray(s) approximately 24" deep and as wide as the compartment layout or door opening permits.
- There shall be one (1) 250 lbs. slide out and down tray(s) with an OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits. It shall be located above the level of the chassis frame rails and shall be vertically adjustable in height.
- The floor of the compartment above the frame rails shall be extended to the interior edge of the door. The floor shall have a 2" vertical lip and a 1" return to increase strength.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

DeBeque Fire Department

Medium Rescue

Build Specification

- One (1) Max Fire Apparatus supplied Holmatro DPU 30 hydraulic power unit. Power unit shall be mounted on the 400 lbs stationary tray on the compartment floor.
- Mounting provisions for one (1) Max Fire Apparatus supplied Holmatro 4350 small telescopic hydraulic ram. Ram shall be mounted to the 250 lbs adjustable out and down tray.
- Mounting provisions for one (1) Max Fire Apparatus supplied Holmatro 4050 NCT hydraulic cutter. Cutter shall be mounted to the 250 lbs adjustable out and down tray.
- Mounting provisions for one (1) Max Fire Apparatus supplied Holmatro 4260 hydraulic spreader. Spreader shall be mounted to the 250 lbs adjustable out and down tray.
- Mounting provisions for one (1) Max Fire Apparatus supplied Holmatro 4150 hydraulic Combi-Tool. Combi-Tool shall be mounted to the 250 lbs adjustable out and down tray.
- Mounting provisions for one (1) Max Fire Apparatus supplied Holmatro 3005 hydraulic mini cutter. Cutter shall be mounted to the 400 lbs stationary tray on the compartment floor.
- One (1) OnScene Solutions 9" LED Nightstik ground light shall be provided below the body.

DeBeque Fire Department

Medium Rescue

Build Specification

CURBSIDE COMPARTMENT - ABOVE REAR WHEEL (C3)

The interior useable compartment width shall be approximately 59.0" wide.

The compartment door opening shall be approximately 52.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 46" deep.
- There shall be one (1) 1,000 lbs. slide-out tray(s) with a OnScene Solutions base approximately 46" deep and as wide as the compartment layout or door opening permits located above the level of the chassis frame rails.
- Two (2) vertically mounted OnScene Solutions LED Nightstiks.

DeBeque Fire Department

Medium Rescue

Build Specification

CURBSIDE COMPARTMENT - REAR (C4)

The interior useable compartment width shall be approximately 49.0" wide.

The compartment door opening shall be approximately 42.0" wide.

This compartment shall have a Robinson roll-up door with the exterior aluminum slats painted the same color as the primary exterior body color.

- There shall be NO keyed lock on this roll-up compartment door.
- One (1) nylon strap shall be provided to assist in closing the door.
- One (1) aluminum drip pan / splash guard shall be provided with the rollup door.

Compartment threshold protection plate shall be installed on the bottom edge of the compartment door opening. The threshold protection shall be fabricated from an aluminum extrusion with an anodized exterior finish.

COMPARTMENT COMPONENTS

- There shall be vertically mounted shelf trac for shelving installation.
- There shall be one (1) adjustable shelf/shelves approximately 30" deep.
- There shall be one (1) air bag storage module(s). The module shall be designed to hold the following Max Fire Apparatus supplied air bags:
 - One (1) Holmatro HLB 40
 - One (1) Holmatro HLB 20
 - One (1) Holmatro HLB 10
 - One (1) Holmatro HLB 3
- There shall be one (1) spare SCBA cylinder rack(s). Each rack shall be manufactured using 8" OD PVC tubing.
 - The SCBA bottle rack will be capable of storing four (4) SCBA cylinders up to 7.5" diameter.
- The floor of the compartment above the frame rails shall cover the area directly above the frame rails ONLY (non-extended floor).

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- One (1) Hannay ECR1618-17-18 cable reel(s) capable of storing 200' of 10/3 electric cable. The rewind switch for each reel shall be located adjacent to the reel it controls.
 - The cable reel shall be equipped with 200' of 10/3 SEOW black cable, a molded plastic ball clamp, and a single heavy duty L5-30 twist-lock female plug at the end.
 - One (1) Akron model EJB, cast aluminum electrical power distribution box with yellow powder coat painted finish shall be provided. The power distribution box shall include:
 - A 12" pigtail that terminates in an L5-30 configuration to match the cable on the cord reel. The outlet configuration shall include:
 - One (1) L5-20 single twist lock receptacle
 - One (1) L5-20 single twist lock receptacle
 - One (1) L5-20 single twist lock receptacle
 - One (1) L5-20 single twist lock receptacle
 - One (1) EJB vertical apparatus mounting bracket - treadplate
- Two (2) vertically mounted OnScene Solutions LED Nightsticks.

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Medium Rescue

Build Specification

ROOF ACCESS STAIRWAY

The rear of the body shall be provided with a recessed center stairway approximately 34" wide.

PLASTIC FLOOR AND SHELF TILE

All compartment floors, shelves, and trays shall be covered with Dri-Dek plastic interlocking grating.

- The plastic floor tile shall be red.
- The plastic edge trim shall be red.

ROPE TIE-OFF OR PORTABLE WINCH RECEIVERS

The completed unit shall have an integrated receiver system for use with rope rescue accessories and/or electric winch components. Each receiver shall have the following load rating:

	<u>STRAIGHT PULL</u>	<u>SAFETY FACTOR</u>
Rope Tie Off:	600 LBS.	15:1
Winch:	1,000 LBS	4:1

The following items shall be provided to accomplish rope rescue or portable winch operations:

- Two (2) rope tie off anchor accessories shall be provided with the completed vehicle. Each accessory shall include a push button detent pin to lock it in place. The tie off accessories shall have an eyelet for use with a rope rescue carabineer. A mounting bracket shall be provided to store each rope tie off accessory in a body compartment, location shall be determined by the DeBeque Fire Protection District.
- One (1) Warn model M6000 SDP - 6,000 lb. 12 volt electric winch furnished with the completed apparatus. It shall be capable of being stored in a compartment and mounted to the apparatus by inserting the mounting point into a properly rated receiver. A minimum of 50' of 5/16" stranded galvanized steel cable with pinned utility hook shall be installed on the drum. A 12' remote control shall be provided with the assembly that permits the Operator to stand at a safe operating distance from the cable and winch.
- There shall be one (1) receiver tube(s) located on the streetside of the body in the forward portion of the wheel well panel for use with a portable winch or tie-off point accessory.
 - There shall be one (1) 12 volt plug with a quick connect used to power the portable winch.
 - There shall be one (1) rubber cover / plug for the receiver.
- There shall be one (1) receiver tube(s) located on the curbside of the body in the forward portion of the wheel well panel for use with a portable winch or tie-off point accessory.
 - There shall be one (1) 12 volt plug with a quick connect used to power the portable winch.
 - There shall be one (1) rubber cover / plug for the receiver.
- The rear center mounted trailer hitch shall be compatible with a pinnable rope tie-off accessory or a portable winch.
 - There shall be one (1) 12 volt plug with a quick connect used to power the portable winch.

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- There shall be one (1) rubber cover / plug for the receiver.

HOLMATRO CORE BULKHEAD FITTING - FRONT BUMPER

There shall be one (1) Holmatro "CORE" bulkhead fitting, without cover, provided in the curbside front bumper compartment. There shall be a "CORE" hydraulic hose provided to connect the onboard HPU in compartment C2 and the bulkhead fitting. The "CORE" hose shall include a long enough pigtail to allow the slide out tray to be fully extended during use.

SIDE BODY PROTECTION - RUB RAIL

There shall be side rub rails provided below the compartment door openings on both the streetside and curbside. The rub rail shall be fabricated from 6063 extruded aluminum, measuring approximately 2-3/4" high x 1-3/8" thick with tapered aluminum end caps. The rub rail shall be bolted to the body using stainless steel bolts and 1-1/2" diameter x 5/8" thick rubber mount isolators to prevent damage to the body. The rails shall incorporate LED clearance marker lighting recessed into the rail fascia to avoid damage to the light in case of impact. The rub rail shall have an accessory mounting track integrated into the backside of the rail to allow mounting of accessories such as ground lighting.

- 3M™ Diamond Grade™ Conspicuity striping shall be provided in the rub rail. The striping shall be red/white in color.

COMPARTMENT COMPONENTS DESCRIPTIONS

All interior compartment components shall be fabricated as follows:

ADJUSTABLE SHELVING HARDWARE

Adjustable shelving hardware shall be provided indicated in the numbered compartment list.

The shelving hardware shall include a minimum of four (4) aluminum shelf tracs mounted vertically on compartment side walls or vertical partitions. There shall be one (1) cast aluminum shelf bracket per vertical shelf trac to mount each shelf, tray, or adjustable storage module. Shelving hardware shall be of heavy duty quality with unlimited vertical adjustment settings.

ADJUSTABLE SHELF/SHELVES

Adjustable shelf/shelves shall be provided in exterior compartment as indicated in the numbered compartment list.

Shelves shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate with a 2" vertical flange along the front and rear edges. Shelves shall be designed to be used with flanges either in the upward position to hold various equipment on shelf, or in the downward position for sweep-out shelf surface.

All shelves shall be fully adjustable, from top to bottom of the compartment. There shall be at least four (4) vertical mounting channels and shelving hardware, two (2) each side of compartment. Shelving hardware shall be of heavy duty quality with unlimited vertical adjustment settings.

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SLIDE-OUT EQUIPMENT TRAY - (400 LB CAPACITY)

Slide-out equipment tray(s) shall be provided in exterior compartment, as indicated in the numbered compartment list.

Trays shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate. Trays shall be built with a 3" vertical lip, with welded corners, to form a box type tray surface. Sliding tracks shall be Accuride 502 series. The length shall be per numbered compartment list and the extension shall be 100% of the slide length. Slides shall be constructed of formed steel with ball bearings mounted in triple track rails. The tray shall be rated for a maximum 400 lbs. evenly distributed load.

Tray(s) shall utilize a pneumatic cylinder mounted on underside to hold the tray in both the extended and closed positions.

HEAVY DUTY 100% EXTENSION EQUIPMENT SLIDE - (1,000 LB. CAPACITY)

Heavy duty slide-out equipment tray(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

Trays shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate. Trays shall be built with a 4" high vertical lip with welded corners to form a box type tray surface. The tray shall be mounted on a slide frame constructed of anodized aluminum extrusion(s). The frame shall be assembled using stainless steel fasteners (no welds). Each slide shall use a three extrusion rail design utilizing twelve to sixteen (12 - 16) urethane rollers. Each roller shall contain two (2) precision roller bearings mounted in an aluminum hub with a molded on urethane cover. The rollers shall not lose contact with the rail extrusion during operation of the slide unit. Each slide shall have a cable operated, spring loaded latch complimented by a large hand opening and red pull handle (Pull to Release). The slide shall lock in the closed and full extension positions. The slide shall be rated for a maximum evenly distributed load of 1,000 lbs.

HEAVY DUTY 70% EXTENSION EQUIPMENT SLIDE TRANSVERSE (1,000 LBS. CAPACITY)

Heavy duty slide-out equipment tray(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

Trays shall be fabricated from 3/16" (.188) aluminum 3003H-14 alloy smooth plate. Each tray shall be built with a 4" high vertical lip with welded corners to form a box type tray surface. The tray shall be mounted on a slide frame constructed of anodized aluminum extrusion(s). The frame shall be assembled using stainless steel fasteners (no welds). Each slide shall use a two extrusion rail design utilizing twenty (20) urethane rollers. Each roller shall contain two (2) precision roller bearings mounted in an aluminum hub with a molded on urethane cover. Each slide shall have two (2) cable operated, spring loaded latches operated by two (2) large hand openings with red pull handles (Pull to Release). The slide shall lock in the closed and full extension position in two (2) directions. The slide shall be rated for a maximum distributed load of 1,000 lbs.

SLIDE-OUT TOOL BOARD (SMOOTH ALUMINUM)

Slide-out tool board(s) shall be provided in the exterior compartment as indicated in the numbered compartment list.

Tool boards shall be fabricated of 3/16" (.188) aluminum 3003H-14 alloy smooth plate with double flange at the outer edge to provide an easy grip handle. The top and bottom of tool board shall be provided with Accuride 502 series slide tracks. The length shall be per numbered compartment list and the extension shall be 100% of the slide length. Slide tracks shall be constructed from formed steel with ball bearings in triple track rails. The board shall be rated for a maximum 200 lbs. evenly distributed load.

Tool board(s) shall utilize a pneumatic cylinder to hold the tool board in both the opened and closed positions. Both the upper and lower roller slide shall be mounted to Shelf Trac to allow the tool board to be adjusted horizontally for best fit in the compartment.

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TRANSVERSE STORAGE MODULE

Transverse storage module for long equipment shall be provided as indicated in the numbered compartment list.

The module shall be fabricated from 1/8" (.125") thick smooth aluminum. Exact size and layout shall be approved prior to construction.

AIR BAG MODULE

An air bag module rack shall be supplied in the exterior compartment located as indicated in the numbered compartment list.

The module shall be fabricated of 1/8" (.125) smooth aluminum plate with individual sections for each air bag.

Circular notches shall be provided along the front edge for ease of removing air bags with gloved hand. Modules shall be large enough for specified air bag and matching plywood panels. Exact size and layout shall be approved prior to construction.

SCBA CYLINDER RACK

A spare SCBA cylinder storage rack shall be provided and located as indicated in the numbered compartment list.

The rack shall have a shell fabricated of 1/8" (.125) thick smooth aluminum. There shall be a 2" slope in the rack to keep the bottles from sliding out. The air bottle storage tubes shall be fabricated of PVC tube. There shall be rubber matting installed inside each storage tube for bottle protection.

COMPARTMENT LIGHTING

Each enclosed equipment compartment greater than 4 ft³ (0.1 m³) in volume and having an opening greater than 144 in.² (92,900 mm²) shall have sufficient compartment lighting to provide a minimum of 2 fc (20 lx) at any location on the floor of the compartment without any shelves, dividers, or equipment in the compartment.

Compartments such as ladder tunnels, pike pole storage tubes, or underbody compartments designed around the volumetric requirements of specific equipment that can be removed without the use of article illumination shall not be required to have compartment lighting.

All compartments shall be equipped with OnScene Nightstik LED lights with the following minimum light requirements;

- Full Height Compartments, 54" Section (36 LED's)
- Wheel well Compartments, 36" Section (24 LED's)
- Rear Rescue Compartment, 54" Section (36 LED's)
- Low Compartments, 18" Section (12 LED's), Vertical
- Low Compartments, 36" Section (24 LED's), Horizontal

The OnScene Nightstik lights shall be rated at 100,000 hours of service and shall be provided with a 5 year free replacement warranty.

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Build Specification

ELECTRIC CORD REEL

Electric cord reel(s) shall be provided in exterior compartment as indicated in the numbered compartment list.

The 120 volt cord reel(s) shall be Hannay with electric rewind, equipped with fully enclosed 45 amp, three (3) conductor collector rings.

The 12 volt reel rewind system shall be directly wired to the chassis battery system with heavy duty stranded copper wire, with guarded finger type rewind button located within easy reach of the operator.

Each reel shall have a Hannay 4-way roller assembly to permit cable to feed directly off the reel and away from compartment. Plastic roller assemblies are not acceptable.

The wiring from the generator system shall be through Carflex electrical weatherproof conduit, with stranded copper wiring. The wiring shall terminate in a sealed conduit box at the reel with mechanical type connectors for quick removal of wiring.

Cord Reel General Requirements

All permanently mounted cord reels shall be rated for continuous duty and installed to be accessible for removal, cord access, maintenance, and servicing.

The power rewind cord reel spool area shall be visible to the operator during the rewind operation, or the reel spool shall be encapsulated to prevent cord from spooling off the reel.

Rollers or guides shall be provided, where required, to prevent damage to the cord at reel spools or compartment openings.

Rewind Provision

Power rewind type reels shall have the control in a position where the operator can observe the rewinding operation.

If a reel is in an enclosure or out of direct view, the cord entry point to the enclosure shall be visible to the operator of the reel control.

The rewind control or crank shall not be more than 72 in. (1830 mm) above the operator's standing position. The rewind control shall be marked with a label indicating its function and shall be guarded to prevent accidental operation.

Cord

The reel shall be designed to hold 110 percent of the capacity needed for the intended cord length.

The wire size shall be in accordance with *NFPA 70*, Table 400.5(A), but in no case shall it be smaller than 12AWG. Electrical cord shall be Type SEOOW, Type SOOW, or Type STOOW.

A label that indicates the following information shall be provided in a visible location adjacent to any permanently connected reel:

- (1) Current rating
- (2) Current type
- (3) Phase
- (4) Voltage
- (5) Total cord length

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STEP / GROUND LIGHTS

Step and ground lights shall be OnScene Solutions 9" LED Nightstik and be placed at any entry door and step where personnel climb on or descend from the apparatus to ground level. OnScene LED lights shall have 6 LED lights per 9" light, and shall be rated at 100,000 hours of service. On Scene Solutions LED lights shall be have a 5 year free replacement warranty.

All of the required step and ground lights shall be activated when the parking brake is set.

LOW VOLTAGE ELECTRICAL SYSTEM- 12 VDC

General

Any low voltage electrical systems or warning devices installed on the fire apparatus shall be appropriate for the mounting location and intended electrical load.

Where wire passes through sheet metal, grommets shall be used to protect wire and wire looms. Electrical connections shall be with double crimp water-tight heat shrink connectors.

All 12 VDC wiring running from front to back of vehicle body shall be run in full length electrical wiring raceway down each side of body.

Wiring

All electrical circuit feeder wiring supplied and installed by the fire apparatus manufacturer shall meet the requirements of NFPA Chapter 13.

The circuit feeder wire shall be stranded copper or copper alloy conductors of a gauge rated to carry 125 % of the maximum current for which the circuit is protected. Voltage drops in all wiring from the power source to the using device shall not exceed 10 %. The use of star washers for circuit ground connections shall not be permitted.

All circuits shall otherwise be wired in conformance with SAE J1292, *Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring*.

Wiring and Wire Harness Construction

All insulated wire and cable shall conform to SAE J1127, *Low Voltage Battery Cable*, or SAE J1128, *Low Voltage Primary Cable*, type SXL, GXL, or TXL.

All conductors shall be constructed in accordance with SAE J1127 or SAE J1128, except where good engineering practice dictates special strand construction. Conductor materials and stranding, other than copper, shall be permitted if all applicable requirements for physical, electrical, and environmental conditions are met as dictated by the end application. Physical and dimensional values of conductor insulation shall be in conformance with the requirements of SAE J1127 or SAE J1128, except where good engineering practice dictates special conductor insulation. The overall covering of conductors shall be moisture-resistant loom or braid that has a minimum continuous rating of 194°F (90°C) except where good engineering practice dictates special consideration for loom installations exposed to higher temperatures. The overall covering of jacketed cables shall be moisture resistant and have a minimum continuous temperature rating of 194°F (90°C), except where good engineering practice dictates special consideration for cable installations exposed to higher temperatures.

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All wiring connections and terminations shall use a method that provides a positive mechanical and electrical connection. The wiring connections and terminations shall be installed in accordance with the device manufacturer's instructions. All ungrounded electrical terminals shall have protective covers or be in enclosures. Wire nut, insulation displacement, and insulation piercing connections shall not be used.

Wiring shall be restrained to prevent damage caused by chafing or ice buildup and protected against heat, liquid contaminants, or other environmental factors.

Wiring shall be uniquely identified at least every 2 ft (0.6 m) by color coding or permanent marking with a circuit function code. The identification shall reference a wiring diagram.

Circuits shall be provided with properly rated low voltage overcurrent protective devices. Such devices shall be readily accessible and protected against heat in excess of the overcurrent device's design range, mechanical damage, and water spray. Circuit protection shall be accomplished by utilizing fuses, circuit breakers, fusible links, or solid state equivalent devices.

If a mechanical-type device is used, it shall conform to one of the following SAE standards:

- (1) SAE J156, *Fusible Links*
- (2) SAE J553, *Circuit Breakers*
- (3) SAE J554, *Electric Fuses (Cartridge Type)*
- (4) SAE J1888, *High Current Time Lag Electric Fuses*
- (5) SAE J2077, *Miniature Blade Type Electrical Fuses*

Switches, relays, terminals, and connectors shall have a direct current (dc) rating of 125 % of maximum current for which the circuit is protected.

Power Supply

A 12 V or greater electrical alternator shall be provided. The alternator shall have a minimum output at idle to meet the minimum continuous electrical load of the vehicle, at 200°F (93°C) ambient temperature within the engine compartment, and shall be provided with full automatic regulation.

Minimum Continuous Electrical Load

The minimum continuous electrical load shall consist of the total amperage required to simultaneously operate the following in a stationary mode during emergency operations:

- (1) The propulsion engine and transmission
- (2) All legally required clearance and marker lights, headlights, and other electrical devices except windshield wipers and four-way hazard flashers
- (3) The radio(s) at a duty cycle of 10 percent transmit and 90 % receive (for calculation and testing purposes, a default value of 5 A continuous)
- (4) The lighting necessary to produce 2 fc (20 lx) of illumination on all walking surfaces on the apparatus and on the ground at all egress points onto and off the apparatus, 5 fc (50 lx) of illumination on all control and instrument panels, and 50 percent of the total compartment lighting loads
- (5) The minimum optical warning system, where the apparatus is blocking the right-of way
- (6) The continuous electrical current required to simultaneously operate any fire pumps, aerial devices, and hydraulic pumps
- (7) Other warning devices and electrical loads defined by the purchaser as critical to the mission of the apparatus

If the apparatus is equipped to tow a trailer, an additional 45 A shall be added to the minimum continuous electrical load to provide electrical power for the federally required clearance and marker lighting and the optical warning devices mounted on the trailer.

DeBeque Fire Department

Medium Rescue

Build Specification

The condition of the low voltage electrical system shall be monitored by a warning system that provides both an audible and a visual signal to persons on, in, or near the apparatus of an impending electrical system failure caused by the excessive discharge of the battery set.

The charge status of the battery shall be determined either by direct measurement of the battery charge or indirectly by monitoring the electrical system voltage.

If electrical system voltage is monitored, the alarm shall sound if the system voltage at the battery or at the master load disconnect switch drops below 11.8 V for 12 V nominal systems, 23.6 V for 24 V nominal systems, or 35.4 V for 42 V nominal systems for more than 120 seconds.

A voltmeter shall be mounted on the driver's instrument panel to allow direct observation of the system voltage.

Electromagnetic Interference

Electromagnetic interference suppression shall be provided, as required, to satisfy the radiation limits specified in SAE J551/1, *Performance Levels and Methods of Measurement of Electromagnetic Compatibility of Vehicles, Boats (up to 15 m), and Machines (16.6 Hz to 18 GHz)*.

Wiring Diagram

A complete electrical wiring schematic of actual system shall be provided with finished apparatus. Similar or generic type electrical schematics shall NOT BE ACCEPTABLE.

Low Voltage Electrical System Performance Test

A low voltage electrical system test certification shall be provided with delivered apparatus.

12 VOLT DIAGNOSTIC RELAY CONTROL CENTER

The 12 volt power distribution shall be conveniently located with easy access for service. All relays and circuit breakers shall be plug-in type allowing for removal for repairs without necessitating soldering or tools. The sockets mounts for both the relays and circuit breakers shall be of a design that permits the use of standard automotive type components.

The 12 volt distribution panel shall utilize printed circuit boards mounted in high strength enclosure. Each printed circuit board shall be provided with twelve (12) heavy duty independent switching relays. Each relay shall have the ability to be configured either normally open or normally closed and be protected by a 20 amp automatic reset breaker. Each circuit will be provided with a LED for visual diagnostic.

Power distribution panel shall be located in apparatus body within a protected enclosure with removable or hinged cover.

ROCKER SWITCH PANEL

The control of the 12 volt equipment installed on chassis and body shall be centrally located in the cab. The individual rocker style switches shall be located on a separate electrical panel, complete with backlit name tags describing function of each individual switch. The back lighting shall have two (2) levels of intensity, low level lights activated when the vehicle lights or ignition switch is turned "On", and high level lights activated when individual switch is turned "On". An internally lighted rocker switch shall be furnished to the left of specified emergency lighting switches, and identified as "MASTER EMERGENCY SWITCH".

Switch circuitry shall be on a printed circuit board. The lights shall be solid state type and have a 100,000 hour life span.

The rocker switch panel shall be located in the cab center console for all master switches and emergency light switches.

DeBeque Fire Department

Medium Rescue

Build Specification

CAB CONSOLE

A center cab console shall be provided between the Driver's and Officer's seats. Console shall be as large as possible and fabricated of 1/8" smooth aluminum. A textured powder coat paint finish shall be provided for durability and finished appearance.

The rear portion of the console shall be provided with open top storage for notebooks or maps. Two (2) adjustable dividers shall be provided in the storage area. The forward portion of console shall be slanted for mounting of siren head, radio or 12 volt control panel, and etc, with easy access to both Driver and Officer.

The final design of console shall be as shown in the approved sales drawing.

ELECTRICAL SYSTEM MANAGER

LOAD MANAGEMENT

If the total continuous electrical load exceeds the minimum continuous electrical output rating of the installed alternator(s), an automatic electrical load management system shall be required. The minimum continuous electrical loads shall not be subject to automatic load management.

The apparatus 12 volt electrical system shall be provided with a system manager for:

- Monitoring chassis battery voltage
- Shedding pre-determined electrical circuits
- Sequencing pre-determined electrical circuits
- Automatically controlling chassis engine fast-idle
- Monitor master switch and parking brake applications
- Automatically control warning light modes ("Calling-For" and "Blocking Right of Way")
- Provide low voltage alarm
- Programmable control circuits
- Remote system status indicator panel

System manager shall perform all electrical functions required by current NFPA 1901 Standards.

BATTERY MONITORING

The system manager shall monitor the vehicle battery voltage. When electrical loads exceed the alternator output and the voltage drops, the load manager shall start shutting down electrical outputs. The system shall shut down only as many outputs required to maintain the system voltage. A special indicator to show different states of the electrical system by flashing at rate proportional to the battery discharge.

LOAD SEQUENCING AND SHEDDING

The system shall be capable of sequentially switching and shedding 12 volt loads. The Master light switch starts the sequential switch when it is turned "On". Likewise turning the Master Switch "Off" will sequentially de-energize the loads.

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Build Specification

BATTERY SYSTEM

The battery connectors shall be heavy duty type with cables terminating in heat shrink loom. Heavy duty battery cables shall provide maximum power to the electrical system. Where required, the cables shall be shielded from exhaust tubing and the muffler. Large rubber grommets shall be provided where cables enter the battery compartment.

Batteries shall be of the high-cycle type. With the engine off, the battery system shall be able to provide the minimum continuous electrical load for 10 minutes without discharging more than 50 percent of the reserve capacity and then to restart the engine. The battery system cold cranking amps (CCA) rating shall meet or exceed the minimum CCA recommendations of the engine manufacturer. The batteries shall be mounted to prevent movement during fire apparatus operation and shall be protected against accumulations of road spray, snow, and road debris. The batteries shall be readily accessible for examination, testing, and maintenance.

A means shall be provided for jump-starting the engine if the batteries are not accessible without lifting the cab of a tilt-cab apparatus.

Where an enclosed battery compartment is provided, it shall be ventilated to the exterior to prevent the buildup of heat and explosive fumes. The batteries shall be protected against vibration and temperatures that exceed the battery manufacturer's recommendation.

A master load disconnect switch shall be provided between the starter solenoid(s) and the remainder of the electrical loads on the apparatus. The starter solenoids shall be connected directly to the batteries.

Electronic control systems and similar devices shall be permitted to be otherwise connected if so specified by their manufacturer.

The alternator shall be wired directly to the batteries through the ammeter shunt(s), if one is provided, and not through the master load disconnect switch.

A green "battery on" pilot light that is visible from the driver's position shall be provided.

A sequential switching device shall be permitted to energize the optical warning devices and other high current devices required in minimum continuous electrical load, provided the switching device shall first energize the electrical devices required in minimum continuous electrical load within 5 seconds.

BATTERY SWITCH

One (1) battery "On/Off" switch in cab located within easy reach of Driver with green "BATTERY ON" pilot light that is visible from the driver's position shall be provided.

BATTERY SOLENOID

Battery switch shall consist of a minimum 200 ampere, constant duty solenoid to feed from positive side of battery.

BATTERY CONDITIONER

One (1) Kussmaul model Auto Charge 1200 single battery conditioner, with 120 VAC input and 40 amp, 12 volt output shall be provided. This system shall monitor the condition of batteries and provide an electrical current at variable rates to overcome battery failure. A display shall be provided with charge indicator, remote mounted.

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Build Specification

SHORE POWER INLET

One (1) Kussmaul 120 VAC, 20 amp shore power inlet with weather resistant snap cover shall be provided. The protective ground from the shoreline inlet shall be bonded to the vehicle frame.

- The outlet cover shall be red.
- The shore power plug shall be located near the Driver step area.

ENGINE COMPARTMENT LIGHT

There shall be one (1) light(s) mounted in the engine compartment with integral switch with a light output of at least 20 candlepower (250 lumens). The engine compartment light(s) shall operate only when the master battery switch is turned "On".

REAR SCENE LIGHTS (BACK-UP LIGHTS)



There shall be a switch on the left side rear to convert backup lights and rear step lights to scene lights during night operations. The switch shall be of momentary style and shall be connected to a bi-stable relay, allowing multiple switching locations. The scene/reverse lights shall automatically shut off when the parking brake is disengaged.

MAP LIGHT

There shall be one (1) 24" goose neck 12 volt map light(s) provided and installed on the front officer side corner of the cab console.

CAB SPOTLIGHT

There shall be one (1) Collins Dynamics #750 Pulsar hand held spotlight furnished and installed. The map light shall be located on the rear of cab console.

CHASSIS HEADLIGHT WIG/WAG

Chassis headlight Wig/Wag flashing unit shall be provided on apparatus. Headlight flasher shall be switched from 12 volt control panel. The headlight flasher shall be shut down when the parking brake is engage for "Blocking Mode".

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Medium Rescue

Build Specification

CAB HAZARD WARNING LIGHT

A red flashing or rotating light, located in the driving compartment, shall be illuminated automatically whenever the vehicles parking brake is not fully engaged and any of the following conditions exist:

- Any passenger or equipment compartment door is not closed.
- Any ladder or equipment rack is not in the stowed position.
- Stabilizer system is not in its stowed position.
- Powered light tower is not stowed.
- Any other device permanently attached to the apparatus is open, extended, or deployed in a manner that is likely to cause damage to the apparatus if the apparatus is moved.

Compartments and equipment meeting all of the following conditions shall be permitted to be exempt from being wired to the hazard light:

- The volume is less than or equal to 4 ft³ (0.1 m³).
- The compartment has an opening less than or equal to 144 in.² (92,900 mm²).
- The open door does not extend sideways beyond the mirrors or up above the top of the fire apparatus.
- All equipment in the compartment is restrained so that nothing can fall out if the door is open while the apparatus is moving.
- Manually raised pole lights with an extension of less than 5 ft (1.5 m).

The hazard light shall be labeled "DO NOT MOVE APPARATUS WHEN LIGHT IS ON".

An audible alarm shall be provided for the door ajar light.

BACK-UP ALARM

The body manufacturer shall furnish and install one (1) 107 dB(A) electronic back-up alarm. Back-up alarm to actuate automatically when the transmission gear selector is placed in reverse.

REAR VIEW CAMERA

There shall be one (1) Voyager rear observation camera system provided and installed on the apparatus. The system shall include one (1) color camera installed on the rear the body. The image shall be displayed on a 7" color flat panel display located in the center of the windshield below the cab headliner, in place of the standard rear view mirror.

TAIL LIGHTS

Rear body tail lights shall be vertically mounted per Federal Motor Vehicle Safety Standards. The following lights shall be furnished:

- Two (2) Whelen amber LED 600 Series 60A00TAR turn signal lights
- Two (2) Whelen red LED 600 Series 60R00XRR stop/tail lights
- Two (2) Whelen halogen 600 Series 60J000CR back-up lights with clear lens
- Two (2) Whelen warning lights as detailed in the warning light section

Two (2) Whelen CAST-4V, 4-light polished aluminum bezels shall be provided, one (1) each side vertically mounted on the rear of the apparatus body for the above tail lights.

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Build Specification

MIDSHIP MARKER/TURN SIGNAL

Two (2) Whelen LED midship body clearance marker/turn signal lights (T0A00MAR) shall be installed. There shall be one (1) light on each side of the body, in the wheel well, ahead of the rear axle. Both lights shall have an amber lens and operate with the chassis clearance marker and turn signals.

MARKER LIGHTS

The apparatus body shall be equipped with all necessary clearance lights and reflectors in accordance with Federal Motor Vehicle Safety Standards (FMVSS) regulations. All body clearance lights shall be LED to reduce the need for maintenance and lower the amp draw. Clearance lights shall be wired to the headlight circuit of the chassis.

STEP LIGHTS / GROUND LIGHTS

There shall be two (2) OnScene Solutions 9" LED Nightstik light(s) installed on the apparatus capable of providing illumination at a minimum level of 2 fc (20 lx) on ground areas within 30 in. (800 mm) of the edge of the vehicle in areas designed for personnel to climb onto or descend from the vehicle to the ground level.

Lighting designed to provide illumination on areas under the driver and crew riding area exits shall be switchable but activated automatically when the exit doors are opened.

LICENSE PLATE LIGHT

One (1) Arrow #437 chrome plated license plate light shall be installed on the rear of the apparatus body. License plate light shall be wired to the headlight circuit of chassis. A fastener system shall be provided for license plate installation.

ELECTRONIC SIREN

One (1) Federal PA300MSC, 100 watt electronic siren with standard microphone shall be provided in cab. The siren shall be installed as close to the 12 volt control panel as possible.

SIREN SPEAKER

One (1) Cast Products Inc. model SAP/D-4307 100 watt siren speaker shall be provided, recessed in the front bumper.

- The siren speaker shall be located at the streetside of the front bumper.

SIDE SCENE LIGHTS

There shall be four (4) Whelen 810 series (10" x 8") surface mounted Opti-Scene lights (810CA0ZR) provided on the upper body. Each light will have a 8-32 degree lens and chrome flange. They will be equally divided between the curbside and streetside.

Two (2) switches shall be provided, one (1) for the streetside scene lights, and one (1) for the curbside scene lights.

The lights shall be switched at the 12 volt control panel in the cab.

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Build Specification

REAR SCENE LIGHTS

Two (2) Whelen 810 series (10" x 8") surface mounted Opti-Scene lights (810CA0ZR) shall be provided on the upper rear body to light the work area immediately behind the vehicle to a level of at least 3 fc (30 lx) within a 10 ft x 10 ft (3 m x 3 m) square. Each light will have a 8-32 degree lens and chrome flange.

The lights shall be switched at the 12 volt control panel in the cab.

The rear scene lights shall also be activated when the apparatus is in reverse.

TRAFFIC DIRECTIONAL LIGHT

One (1) Whelen TA4437L LED eight (8) lights, split two-piece housing, traffic directional warning device with 30' control cable shall be located on upper rear body. The control head shall be located in the cab within easy reach of Driver.

- The traffic directional light shall be surface mounted on upper rear body.

WARNING LIGHT PACKAGE

Each apparatus shall have a system of optical warning devices that meets or exceeds the requirements of this section.

The optical warning system shall consist of an upper and a lower warning level. The requirements for each level shall be met by the warning devices in that particular level without consideration of the warning devices in the other level.

For the purposes of defining and measuring the required optical performance, the upper and lower warning levels shall be divided into four warning zones. The four zones shall be determined by lines drawn through the geometric center of the apparatus at 45 degrees to a line drawn lengthwise through the geometric center of the apparatus. The four zones shall be designated A, B, C, and D in a clockwise direction, with zone A to the front of the apparatus.

Each optical warning device shall be installed on the apparatus and connected to the apparatus's electrical system in accordance with the requirements of this standard and the requirements of the manufacturer of the device.

A master optical warning system switch that energizes all the optical warning devices shall be provided.

The optical warning system on the fire apparatus shall be capable of two separate signaling modes during emergency operations. One mode shall signal to drivers and pedestrians that the apparatus is responding to an emergency and is calling for the right-of-way. One mode shall signal that the apparatus is stopped and is blocking the right-of-way. The use of some or all of the same warning lights shall be permitted for both modes provided the other requirements of this chapter are met.

A switching system shall be provided that senses the position of the parking brake or the park position of an automatic transmission. When the master optical warning system switch is closed and the parking brake is released or the automatic transmission is not in park, the warning devices signaling the call for the right-of-way shall be energized. When the master optical warning system switch is closed and the parking brake is on or the automatic transmission is in park, the warning devices signaling the blockage of the right-of-way shall be energized. The system shall be permitted to have a method of modifying the two signaling modes.

The optical warning devices shall be constructed or arranged so as to avoid the projection of light, either directly or through mirrors, into any driving or crew compartment(s). The front optical warning devices shall be placed so as to maintain the maximum possible separation from the headlights.

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UPPER LEVEL OPTICAL WARNING DEVICES

The upper-level optical warning devices shall be mounted as high and as close to the corner points of the apparatus as is practical to define the clearance lines of the apparatus. The upper-level optical warning devices shall not be mounted above the maximum height, specified by the device manufacturer.

ZONE A - FRONT WARNING LIGHTS

There shall be one (1) Whelen Edge FN72QLED LED 72" lightbar permanently mounted to the cab roof.

The lightbar configuration (streetside to curbside) shall be:

<u>SECTION</u>	<u>INTERNAL COMPONENTS</u>	<u>LENS COLOR</u>
1	Red Linear LED - Side Facing	Clear
2	Red Corner LED	Clear
3	Blank	Clear
4	Clear Linear LED	Clear
5	Blank	Clear
6	Red Linear LED	Clear
7	Blank	Clear
8	Blank	Clear
9	Red Linear LED	Clear
10	Blank	Clear
11	Clear Linear LED	Clear
12	Blank	Clear
13	Red Corner LED	Clear
14	Red Linear LED - Side Facing	Clear

All clear lights shall shut down when the parking brake is set to comply with "Blocking" mode requirements as outlined in NFPA 1901.

The lightbar shall be separately switched at the 12 volt control panel in the cab.

ZONES B AND D - SIDE WARNING LIGHTS

UPPER REAR CORNER WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each 900 series light shall have a red lens (90RR5FRR) and chrome flange.

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UPPER FORWARD CORNER WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each 900 series light shall have a red lens (90RR5FRR) and chrome flange.

ZONE C - REAR WARNING LIGHTS

There shall be two (2) Whelen 900 series (9" x 7") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light shall have a red lens (90RR5FRR) and chrome flange.

LOWER LEVEL OPTICAL WARNING DEVICES

To define the clearance lines of the apparatus, the optical center of the lower-level optical warning devices in the front of the vehicle shall be mounted on or forward of the front axle centerline and as close to the front corner points of the apparatus as is practical.

The optical center of the lower-level optical warning devices at the rear of the vehicle shall be mounted on or behind the rear axle centerline and as close to the rear corners of the apparatus as is practical. The optical center of any lower-level device shall be between 18 in. and 62 in. (460 mm and 1600 mm) above level ground for large apparatus, and 18 in. and 48 in. (460 mm and 1220 mm) above level ground for small apparatus.

A midship optical warning device shall be mounted right and the left sides of the apparatus if the distance between the front and rear lower-level optical devices exceeds 25 ft (7.6 m) at the optical center. Additional midship optical warning devices shall be required, where necessary, to maintain a horizontal distance between the centers of adjacent lower-level optical warning devices of 25 ft (7.6 m) or less. The optical center of any midship mounted optical warning device shall be between 18 in. and 62 in. (460 mm and 1600 mm) above level ground.

ZONE A - FRONT WARNING LIGHTS

There shall be two (2) Whelen 600 series (6" x 4") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light (60R02FRR) shall have a red lens and chrome finished flange.

ZONES B AND D - CAB INTERSECTOR LIGHT (CAB FRONT CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light (60R02FRR) shall have a red lens and chrome finished flange.

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ZONES B AND D - BODY INTERSECTOR LIGHT (BODY WHEELWELL AREA)

There shall be two (2) Whelen 600 series (6" x 4") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light (60R02FRR) shall have a red lens and chrome finished flange.

ZONES B AND D - BODY INTERSECTOR LIGHT (BODY REAR CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light (60R02FRR) shall have a red lens and chrome finished flange.

ZONE C - REAR WARNING LIGHTS (LOWER REAR CORNERS)

There shall be two (2) Whelen 600 series (6" x 4") red linear Super-LED lights provided, one (1) each side.

The lights shall be switched at the 12 volt control panel in the cab.

Each light (60R02FRR) shall have a red lens and chrome finished flange.

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LINE VOLTAGE ELECTRICAL SYSTEM

ONAN PTO GENERATOR

The apparatus shall be equipped with an Onan Protec PTO generator system with a capacity of 20,000 watts at 120/240 VAC, 166/83 amps, single phase. Current frequency shall be stable at 60 hertz.

The transmission's PTO port and PTO, or the split shaft PTO, and all associated drive shaft components shall be rated to support the continuous duty torque requirements of the generator's continuous duty rating as stated on the power source nameplate.

Where the generator is driven by the chassis engine and transmission through a split shaft PTO, the driving compartment speedometer shall register when the generator drive system is engaged.

Where the generator is driven by the chassis engine and transmission through a split shaft PTO and a chassis transmission retarder is furnished, it shall be automatically disengaged for generator operations.

The direct drive generator shall be mounted so that it does not change the ramp breakover angle, angle of departure, or angle of approach as defined by other components, and it shall not extend into the ground clearance area.

The direct drive generator shall be mounted away from exhaust and muffler areas or provided with a heat shield to reduce operating temperatures in the generator area.

GENERATOR ENGAGEMENT

A "Generator Engaged" indicator shall be provided in the driving compartment to indicate that the generator shift has been successfully completed.

An "OK to Operate Generator" indicator shall be provided in the driving compartment to indicate that the generator is engaged (if not always engaged), the transmission is in the proper gear (if required, automatic transmissions only), and the parking brake is engaged (if applicable).

An interlock system shall be provided to prevent advancement of the engine speed in the driving compartment or at any operator's panel unless the parking brake is engaged, and the transmission is in neutral or the output of the transmission is correctly connected to a pump or generator instead of the drive wheels.

WARRANTY PERIOD

Provided such goods are operated and maintained in accordance with Onan's written instructions, Onan warrants that the Protec YDCR series PTO generators shall be free from defects in material and workmanship for a period of five (5) years or one thousand (1,000) hours, whichever comes first, from the date of delivery to the first purchaser.

GENERATOR SPLASH GUARD

A powder coat painted splash cover shall be installed to reduce the amount of road spray on the frame mounted PTO generator. A V-ring seal shall also be installed in the cover to provide additional protection against contaminants reaching the generator front seals.

GENERATOR MOUNTING

The generator shall be mounted between the chassis frame rails. The generator mounting brackets shall be fabricated using heavy duty steel tubing, or structural channel. The generator mounting shall be bolted and removable so that the generator can be lowered from under apparatus for service, if necessary. The generator case shall not extend below the bottom edge of the apparatus body.

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MANUALS AND SCHEMATICS

Two (2) complete manuals on parts list, maintenance, wiring schematics, hydraulic schematics, circuit boards, voltage regulator board and other components shall be provided on delivery.

POWER-TAKE-OFF GENERATOR DRIVE

There shall be a "Hot Shift" power-take-off (PTO) installed on the transmission PTO opening of the chassis. The "Hot Shift" PTO is provided to allow the engagement of the PTO at higher engine RPM. speeds. The PTO output shall be connected to the generator through hollow tube type driveline with heavy duty universals.

The engagement of the PTO shall be in the chassis cab with a rocker switch and red pilot light to note engagement of the PTO.

The power supply to the PTO engagement control shall be wired to the parking brake and a neutral position transmission switch to prevent engagement unless the vehicle is stopped and transmission has been placed in neutral.

The installation of the engine, transmission, driven accessories (power takeoffs (PTO), etc.) shall meet the engine and transmission manufacturers' installation recommendations for the service intended.

Model part number shall be Chelsea 277XMFJPB5XD, 129% Ratio.

ENGINE SPEED CONTROL

An engine speed auxiliary control device (high idle switch or throttle) shall be installed to maintain a stable cycle output from generator when the apparatus is parked.

An interlock shall prevent the operation of the engine speed auxiliary control device unless the parking brake is engaged and the transmission is in neutral or park, or the parking brake is engaged and the engine is disengaged from the drive wheels.

The engine shall be prevented from regulating its own engine speed during times when engine rpm control is critical for consistent apparatus functions such as generator, water pump, or aerial operation.

GENERATOR MONITORING PANEL

To properly monitor the generator performance and load demand during operation, the generator installation shall be equipped with a full instrument monitor panel.

This unit shall be manufactured by FRC model FROG-D and mounted next to the circuit breaker panel. This generator output display shall consolidate five (5) generator monitoring instruments into one device. The display case shall be waterproof and have dimensions not to exceed 4 1/4" high by 4 1/4" wide by 3 1/4" deep.

The following continuous displays shall be provided with super bright LED digits more than 1/2" high:

- Generator frequency in hertz
- Line 1 current in amperes
- Line 2 current in amperes
- Generator voltage in volts

The program shall support the accumulation of elapsed generator hours and the monitoring of engine oil temperature. Generator hours and oil temperature shall be displayed at the push of a button.

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Build Specification

LOADCENTER

The loadcenter shall be a Cutler Hammer, BR Series, specifically designed for protection and distribution of 120/240 volt AC, such as lighting and small motor branch circuits. The loadcenter enclosure shall be made of 16 gauge galvanized sheet steel. The galvanized coating provides corrosion protection and as such does not require paint. All trims used on the BR Loadcenter shall be chromate sealed and finished with electro disposition epoxy paint (ASA61) which exceeds requirements for outdoor and indoor applications. A combination surface/flush cover with integral door shall be supplied.

The loadcenter shall be UL / CSA listed, **NO EXCEPTIONS** will be allowed.

SHORE POWER INLET - BATTERY CHARGER

The above mentioned shore power inlet, and battery conditioner shall be specified in the 12 volt section.

OUTLETS AND CIRCUITS

The generator shall supply the electrical equipment and outlets outlined below. Proper circuit protection shall be installed as noted:

- Two (2) 120 volt exterior outlets, one (1) each side near rear wheel well area.
 - The receptacle shall be 20 amp, twist-lock (NEMA L5-20R).
- Two (2) 120 volt exterior outlets, one (1) each side rear of body.
 - The receptacle shall be 20 amp, twist-lock (NEMA L5-20R).

GENERAL REQUIREMENTS

Stability

Any fixed line voltage power source producing alternating current (ac) shall produce electric power at 60 Hz, ± 3 Hz when producing power at all levels between no load and full rated power. Any fixed line voltage power source shall produce electric power at the rated voltage ± 10 percent when producing power at all levels between no load and full rated power.

The maximum voltage supplied to portable equipment shall not exceed 275 volts to ground. Higher voltage shall be permitted only when used to operate fixed wired, permanently mounted equipment on the apparatus.

Conformance with National Electrical Code

All components, equipment, and installation procedures shall conform to *NFPA 70, National Electrical Code*, except where superseded by the requirements of this chapter. Where the requirements of this chapter differ from those in *NFPA 70*, the requirements in this chapter shall apply.

Where available, line voltage electrical system equipment and materials included on the apparatus shall be listed and used only in the manner for which they have been listed. All equipment and materials shall be installed in accordance with the manufacturer's instructions.

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Build Specification

Location Ratings

Any equipment used in a dry location shall be listed for dry locations. Any equipment used in a wet location shall be listed for wet locations.

Any equipment, except a PTO-driven generator, used in an underbody or under chassis location that is subject to road spray shall be either listed as Type 4 or mounted in an enclosure that is listed as Type 4.

If a PTO-driven generator is located in an underbody or under chassis location, the installation shall include a shield to prevent road spray from splashing directly on the generator.

Grounding

Grounding shall be in accordance with 250.34(A) and 250.34(B) of *NFPA 70*. Ungrounded systems shall not be used.

Only stranded or braided copper conductors shall be used for grounding and bonding.

The grounded current-carrying conductor (neutral) shall be insulated from the equipment-grounding conductors and from the equipment enclosures and other grounded parts.

The neutral conductor shall be colored white or gray in accordance with 200.6, "Means of Identifying Grounded Conductors," of *NFPA 70*.

Any bonding screws, straps, or buses in the distribution panel board or in other system components between the neutral and equipment-grounding conductor shall be removed and discarded.

Bonding

The neutral conductor of the power source shall be bonded to the vehicle frame. The neutral bonding connection shall occur only at the power source. In addition to the bonding required for the low voltage return current, each body and each driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor.

The conductor shall have a minimum ampere rating, as defined in 310.15, "Ampacities for Conductors Rated 0–2000 Volts," of *NFPA 70*, of 115 percent of the rated ampere on the power source specification label.

A single conductor that is sized to meet the low voltage and line voltage requirements shall be permitted to be used.

Ground Fault Circuit Interrupters

In special service vehicles incorporating a lavatory, sink, toilet, shower, or tub, 120 V, 15 or 20 A receptacles within 6 ft (1.8 m) of these fixtures shall have ground fault circuit interrupter (GFCI) protection. GFCIs integrated into outlets or circuit breakers or as stand-alone devices shall be permitted to be used in situations.

Power Source General Requirements

All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.

The power source shall be shielded from contamination that would prevent the power source from operating within its design specifications.

DeBeque Fire Department

Medium Rescue

Build Specification

Power Source Rating

For power sources of 8 kW or larger, the power source manufacturer shall declare the continuous duty rating that the power source can provide when installed on fire apparatus according to the manufacturer's instructions and run at 120°F (49°C) air intake temperature at 2000 ft (600 m) above sea level.

The rating on the power source specification label shall not exceed the declared rating from the power source manufacturer.

Access shall be provided to permit both routine maintenance and removal of the power source for major servicing. The power source shall be located such that neither it nor its mounting brackets interfere with the routine maintenance of the fire apparatus.

Instrumentation

If the power source is rated at less than 3 kW, a "Power On" indicator shall be provided. If the power source is rated at 3 kW or more but less than 8 kW, a voltmeter shall be provided.

If the power source is rated at 8 kW or more, the following instrumentation shall be provided at an operator's panel:

- (1) Voltmeter
- (2) Current meters for each ungrounded leg
- (3) Frequency (Hz) meter
- (4) Power source hour meter

The instrumentation shall be permanently mounted at an operator's panel. The instruments shall be located in a plane facing the operator. Gauges, switches, or other instruments on this panel shall each have a label to indicate their function.

The instruments and other line voltage equipment and controls shall be protected from mechanical damage and not obstructed by tool mounting or equipment storage.

An instruction plate(s) that provides the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the apparatus at any point where such operations can take place.

Operation

Provisions shall be made for placing the generator drive system in operation using controls and switches that are identified and within convenient reach of the operator.

Where the generator is driven by the chassis engine and engine compression brakes or engine exhaust brakes are furnished, they shall be automatically disengaged for generator operations.

Any control device used in the generator system power train between the engine and the generator shall be equipped with a means to prevent unintentional movement of the control device from its set position in the power generation mode.

If there is permanent wiring on the apparatus that is designed to be connected to the power source, a power source specification label that is permanently attached to the apparatus at the operator's control station shall provide the operator with the information required.

The power source, at any load, shall not produce a noise level that exceeds 90 dBA in any driving compartment, crew compartment, or onboard command area with windows and doors closed or at any operator's station on the apparatus.

DeBeque Fire Department

Medium Rescue

Build Specification

Power Supply Assembly

The conductors used in the power supply assembly between the output terminals of the power source and the main overcurrent protection device shall not exceed 12 ft (4 m) in length.

All power supply assembly conductors, including neutral and grounding conductors, shall have an equivalent ampere rating and shall be sized to carry not less than 115 percent of the ampere rating of the nameplate current rating of the power source.

If the power supply assembly connects to the vibrating part of a generator (not a connection on the base), the conductors shall be flexible cord or other fine-stranded conductors enclosed in metallic or nonmetallic liquid tight flexible conduit rated for wet locations and temperatures not less than 194°F (90°C).

Overcurrent Protection

Manually resettable overcurrent devices shall be installed to protect the line voltage electrical system components.

Power Source Protection

A main overcurrent protection device shall be provided that is either incorporated in the power source or connected to the power source by a power supply assembly.

The size of the main overcurrent protection device shall not exceed 100 percent of the rated ampere rating stated on the power source specification label or the rating of the next larger available size overcurrent protection device, where so recommended by the power source manufacturer.

If the main overcurrent protection device is subject to road spray, the unit shall be housed in a Type 4-rated enclosure.

Branch Circuit Overcurrent Protection

Overcurrent protection devices shall be provided for each individual circuit and shall be sized at not less than 15 amps in accordance with 240.4, "Protection of Conductors," of *NFPA 70*.

Any panel board shall have a main breaker where the panel has six or more individual branch circuits or the power source is rated 8 kW or larger.

Each overcurrent protection device shall be marked with a label to identify the function of the circuit it protects.

Dedicated circuits shall be provided for any large appliance or device (air conditioning units, large motors, etc.) that requires 60 percent or more of the rated capacity of the circuit to which it is connected, and that circuit shall serve no other purpose.

Panel Boards

All fixed power sources shall be hardwired to a permanently mounted panel board unless one of the following conditions exists:

- (1) All line voltage power connections are made through receptacles on the power source and the receptacles are protected by integrated overcurrent devices.
- (2) Only one circuit is hardwired to the power source, which is protected by an integrated overcurrent device.

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The panel shall be visible and located so that there is unimpeded access to the panel board controls. All panel boards shall be designed for use in their intended location. The panel(s) shall be protected from mechanical damage, tool mounting, and equipment storage.

Where the power source is 120/240 V and 120 V loads are connected, the apparatus manufacturer or line voltage system installer shall consider load balancing to the extent that it is possible.

Wiring Methods

Fixed wiring systems shall be limited to the following:

- (1) Metallic or nonmetallic liquid tight flexible conduit rated at temperatures not less than 194°F (90°C) with stranded copper wire rated for wet locations and temperatures not less than 194°F (90°C)
- (2) Type SOW, SOOW, SEOW, or SEOOW flexible cord rated at 600 V and at temperatures not less than 194°F (90°C)

Electrical cord or conduit shall not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring and shall be arranged as follows:

- (1) Separated by a minimum distance of 12 in. (300 mm) from exhaust piping or shielded from such piping
- (2) Separated from fuel lines by a minimum distance of 6 in. (150 mm)

A means shall be provided to allow "flexing" between the driving and crew compartment, the body, and other areas or equipment whose movement would stress the wiring.

Electrical cord or conduit shall be supported within 6 in. (150 mm) of any junction box and at a minimum of every 24 in. (600 mm) of run.

Supports shall be made of nonmetallic materials or of corrosion-resistant or corrosion-protected metal. All supports shall be of a design that does not cut or abrade the conduit or cord and shall be mechanically fastened to the apparatus.

Only fittings and components listed for the type of cord or conduit being installed shall be used.

Splices shall be made only in a listed junction box.

Additional Requirements for Flexible Cord Installations

Where flexible cord is used in any location where it could be damaged, it shall be protected by installation in conduit, enclosures, or guards.

Where flexible cord penetrates a metal surface, rubber or plastic grommets or bushings shall be installed.

Wiring Identification

Each line voltage circuit originating from the main panel board shall be identified.

The wire or circuit identification either shall reference a wiring diagram or wire list or shall indicate the final termination point of the circuit.

Where pre-wiring for future power sources or devices exists, the un-terminated ends shall be marked with a label showing their wire size and intended function.

DeBeque Fire Department

Medium Rescue

Build Specification

Wiring System Components

Only stranded copper conductors with an insulation rated for temperatures of at least 194°F (90°C) and wet locations shall be used. Conductors in flexible cord shall be sized in accordance with Table 400.5(A) of *NFPA 70*. Conductors used in conduit shall be sized in accordance with 310.15, "Ampacities for Conductors Rated 0–2000 Volts," of *NFPA 70*. Aluminum or copper-clad aluminum conductors shall not be used.

All boxes shall conform to and be mounted in accordance with Article 314, "Outlet, Device, Pull, and Junction Boxes; Conduit Bodies; Fittings; and Manholes," of *NFPA 70*. All boxes shall be accessible using ordinary hand tools. Boxes shall not be permitted behind welded or pop-riveted panels.

The maximum number of conductors permitted in any box shall be in accordance with 314.16, "Number of Conductors in Outlet, Device, and Junction Boxes, and Conduit Bodies," of *NFPA 70*.

All wiring connections and terminations shall provide a positive mechanical and electrical connection. Connectors shall be installed in accordance with the manufacturer's instructions. Wire nuts or insulation displacement and insulation piercing connectors shall not be used.

Each switch shall indicate the position of its contact points (i.e., open or closed) and shall be rated for the continuous operation of the load being controlled. All switches shall be marked with a label indicating the function of the switch. Circuit breakers used as switches shall be "switch rated" (SWD) or better. Switches shall simultaneously open all associated line voltage conductors. Switching of the neutral conductor alone shall not be permitted.

Line voltage circuits controlled by low voltage circuits shall be wired through properly rated relays in listed enclosures that control all non-grounded current-carrying conductors.

Receptacles and Inlet Devices

Wet and Dry Locations

All wet location receptacle outlets and inlet devices, including those on hardwired, remote power distribution boxes, shall be of the grounding type, provided with a wet location cover, and installed in accordance with Section 406.8, "Receptacles in Damp or Wet Locations," of *NFPA 70*.

All receptacles located in a wet location shall be not less than 24 in. (600 mm) from the ground. Receptacles on off road fire apparatus shall be a minimum of 30 in. (750 mm) from the ground. All receptacles located in a dry location shall be of the grounding type and shall be at least 12 in. (300 mm) above the interior floor height. No receptacle shall be installed in a face-up position.

The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical.

Wiring: All electrical wiring shall be fine stranded copper type THHN. The wire shall be sized to load and circuit breaker rating. Wiring shall be color coded and printed with function every 3" for easy identification.

Conduit: All 120/240 volt wiring in the apparatus body shall be through flexible moisture resistant reinforced conduit, with proper seal tight connectors and hardware.

DeBeque Fire Department

Medium Rescue

Build Specification

Receptacle Label

Each receptacle shall be marked with a label indicating the nominal line voltage (120 volts or 240 volts) and the current rating in amps of the circuit. If the receptacle is DC or other than single phase, that information shall also be marked on the label.

All receptacles and electrical inlet devices shall be listed to UL 498, *Standard for Safety Attachment Plugs and Receptacles*, or other recognized performance standards.

Receptacles used for DC voltages shall be rated for DC service.

Wiring Schematics

An "As-Built" Wiring diagrams for line voltage systems shall be provided to include the following information;

- (a) Pictorial representations of circuit logic for all electrical components and wiring
- (b) Circuit identification
- (c) Connector pin identification
- (d) Zone location of electrical components
- (e) Safety interlocks
- (f) Alternator–battery power distribution circuits
- (g) Input/output assignment sheets or equivalent circuit logic implemented in multiplexing systems

120/240 VAC SCENE LIGHTING

COMMAND LIGHT TOWER w/ BACKLIGHT

The apparatus shall be equipped with one (1) all electric Command Light(s). The unit shall not require tapping into vehicle braking system to be operated, eliminating the chance for vehicle brake problems. Hydraulic or pneumatic type floodlights are not acceptable alternatives to the all electric light tower specified.

The light bank shall have six (6) weatherproof, 1,500 watt, 240 volt quartz halogen lights. Light heads shall be mounted in three (3) pairs, giving two (2) vertical lines of three (3) when the lights are in the upright position.

The lower pair of light heads shall be capable of being rotated about a horizontal axis to provide light down on the vehicle or to the opposite side of the vehicle.

Power for light bank shall be transmitted through power collecting rings thus allowing 360+ degrees rotation in either direction.

Positioning of the light bank shall be accomplished with maintenance free, heavy duty 12 volt linear actuators.

The Command Light assembly shall be all aluminum construction, with stainless steel shafts and bronze bushings for long life and low maintenance.

Light tower shall be controlled with a hand-held umbilical line remote control. Command Light to be equipped with "Auto-Park" automatic nesting feature.

DeBeque Fire Department

Medium Rescue

Build Specification

Command Light controls shall feature:

- Three (3) switches, one (1) for each light bank
- One (1) light bank rotation switch
- One (1) switch for elevating lower stage
- One (1) switch for elevating upper stage
- One (1) indicator light to indicate when light bank is out of roof nest position
- One (1) indicator light to indicate when light bank is rotated to proper nest position
- One (1) back light rotation switch

Command Light controls shall be located per the itemized compartment list.

The light tower shall have a full extension of 10' - 6" from mounted position and shall extend from nested position to full upright in under 20 seconds.

The overall size of the nested light tower shall be approximately 41" wide x 73" long x 12-3/4" high, and weigh approximately 310 lbs.

A flashing warning light shall be provided in cab, indicating when a light tower is not in nested position.

The operational envelope of the mast shall be automatically illuminated whenever the mast assembly is being raised, lowered, or rotated as required by NFPA 1901.

The Command Light shall be covered by a One Year limited warranty from defects in materials and workmanship.

An operation, maintenance, and parts manual shall be provided with the delivered apparatus.

The floodlight tower shall have a strobe indicator located on the top of the upper section.

The lens color for the strobe light shall be green.

The specified light tower(s) shall be recessed into the roof of the apparatus body so that no part of the light tower extends above the roof line. The recessed area shall have two (2) water drain holes (in opposite corners) with flexible 1" diameter hose routed to the area below the body.

EQUIPMENT

The following equipment shall be furnished with the completed Special Service vehicle;

- One (1) container of assorted stainless steel nuts, bolts, screws and washers used in the construction of the apparatus shall be provided with the completed apparatus.
- There shall be two (2) NFPA approved folding aluminum wheel chocks provided for 44" diameter tires that together will hold the vehicle when loaded to its GVWR or GCWR, on a hard surface with a 20 % grade, with the transmission in neutral, and the parking brake released.
 - The wheel chock(s) shall be mounted behind rear wheels, below body on streetside.
- One (1) Duo-Safety 900-A series 20' 2-section extension ladder(s) shall be provided with the completed unit. Ladder mounting shall be per the itemized compartment list or specified by the DeBeque Fire Protection District.
- One (1) Duo-Safety 775A series 12' aluminum roof ladder(s) shall be provided with the completed unit. Ladder mounting shall be per the itemized compartment list or specified by the DeBeque Fire Protection District.

DeBeque Fire Department

Medium Rescue

Build Specification

- One (1) Duo-Safety 585-A 10' aluminum folding ladder(s) shall be provided with the completed unit. Ladder mounting shall be per the itemized compartment list or specified by the DeBeque Fire Protection District.
 - The ladder(s) shall be mounted on vehicle, per itemized compartment list.
- One (1) Duo-Safety 12' fiberglass pike pole(s) shall be provided with the completed unit, mounting to be specified by the DeBeque Fire Protection District.

The above specified pike pole will not have a D handle attached

- The pike pole(s) shall be mounted on vehicle, per itemized compartment list.
- Two (2) Streamlight LiteBox Vehicle Mounting Systems shall be provided. Each flashlight shall be orange in color. Each flashlight shall have a 12 volt DC charger and vehicle mount kit. Each flashlight shall have a 20 watt spotlight style bulb and reflector. The flashlights shall be wired to batter direct unless otherwise specified by the customer.
 - The flashlight(s) shall be mounted on the completed unit, on the rear of the cab console, one (1) per side.

**APPROVED**

By James Weber at 11:52 am, Apr 08, 2009

Change Order #1

Customer: DeBeque Fire Protection District

Dealer: Max Fire Apparatus

Date: 4/8/2009

SVI #: 723

Change Order Description Graphics Changes to Specification

Based on the following changes/modifications to the specification, (0) days will be added to the quoted delivery time.

Review each item for change description and price. Check the appropriate response for each item, sign and date form at bottom, and fax completed form to SVI Trucks at (970) 667-3343.

Prices shown above are per unit (ea truck) prices unless otherwise noted. All work to be performed under same terms and conditions as specified in original contract unless otherwise stipulated. Change Order documentation will override specification in cases of conflicting documentation.

Item #	Spec Section	Item Description	Unit Cost (In US \$)	Change Accepted?
1	REFLECTIVE STRIPE CAB SIDE	Change the cab side reflective stripe to a blue 6" Scotchcal stripe ILO a white 4" Scotchcal stripe as originally specified.	\$74.00	<input checked="" type="checkbox"/> YES
2	REFLECTIVE STRIPE CAB FRONT	Change the cab front reflective stripe to a blue 4" Scotchcal stripe ILO a white 4" Scotchcal stripe as originally specified.	\$0.00	<input checked="" type="checkbox"/> YES
3	REFLECTIVE STRIPE CAB DOOR INTERIOR	Change the interior cab door reflective stripe to a blue Scotchcal stripe ILO a white Scotchcal stripe as originally specified.	\$0.00	<input checked="" type="checkbox"/> YES
4	REFLECTIVE STRIPE BODY SIDES	Change the body side reflective stripe to a blue 6" Scotchcal stripe with a 'Z' pattern ILO a 4" Scotchcal stripe with a straigh pattern as originally specified.	\$694.00	<input checked="" type="checkbox"/> YES
5	SIDE CAB DOOR LETTERING	Delete fifty (50) 3" high white Scotchcal reflective letters from the cab doors.	(\$312.00)	<input checked="" type="checkbox"/> YES
6	UPPER BODY SIDE LETTERING	Delete forty (40) 8" high white Scotchcal reflective letters from the upper body sides.	(\$498.00)	<input checked="" type="checkbox"/> YES
7	UPPER BODY SIDE LETTERING	Add seven (7) 7" high blue Scotchcal reflective letters to upper body side.	\$126.00	<input checked="" type="checkbox"/> YES
8	CUSTOM DECAL LOGO - 12" -18"	Add two (2) 12"-18" Scotchcal type reflective logos to cab doors. Exact content of decal shall be determined by approved graphics lavout as presented to DeBeque Fire.	\$624.00	<input checked="" type="checkbox"/> YES
Change Order Total:			\$708.00	

Authorized Customer Signature:

Date Accepted:

Authorized Dealer Signature:

Date Accepted:



Change Order #1

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Item #	Spec Section	Item Description	Unit Cost (In US \$)	Change Accepted?
Authorized SVI Signature:			Date Accepted:	

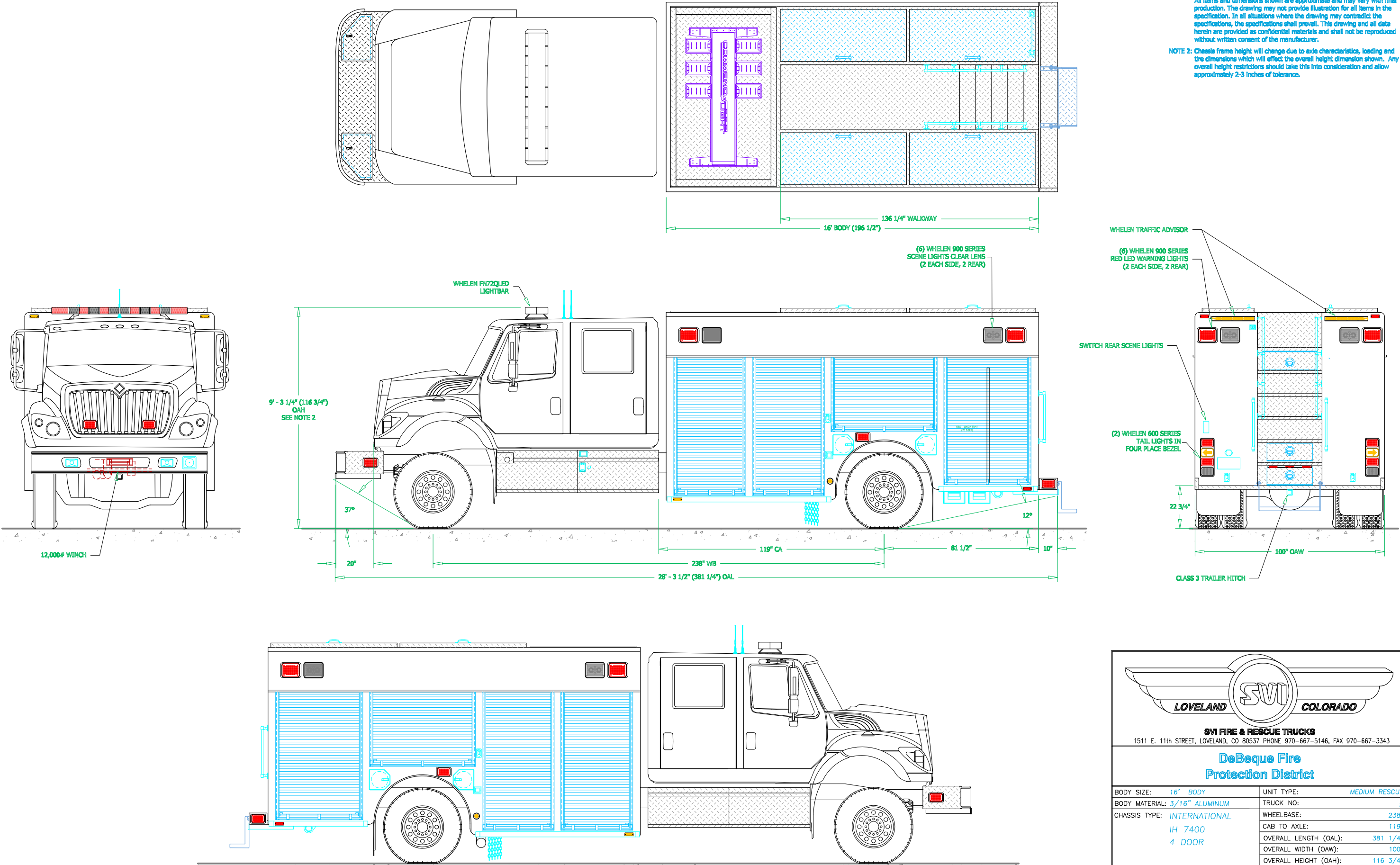
This change order is not valid until signed by all parties listed above.

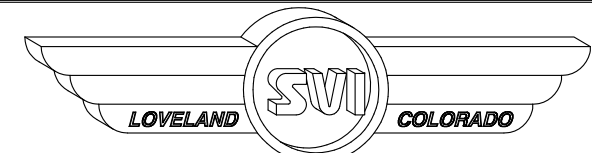
PRECONSTRUCTION PROPOSAL DRAWING, CHANGES PENDING CHANGE ORDER

REVISIONS			
REV	DESCRIPTION	DATE	BY

NOTE 1: Do not scale drawing. This drawing is for general truck configuration only. All items and dimensions shown are approximate and may vary with final production. The drawing may not provide illustration for all items in the specification. In all situations where the drawing may contradict the specifications, the specifications shall prevail. This drawing and all data herein are provided as confidential materials and shall not be reproduced without written consent of the manufacturer.

NOTE 2: Chassis frame height will change due to axle characteristics, loading and the dimensions which will effect the overall height dimension shown. Any overall height restrictions should take this into consideration and allow approximately 2-3 Inches of tolerance.





LOVELAND SVI COLORADO

SVI FIRE & RESCUE TRUCKS

1511 E. 11th STREET, LOVELAND, CO 80537 PHONE 970-667-5146, FAX 970-667-3343

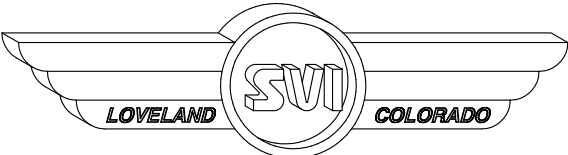
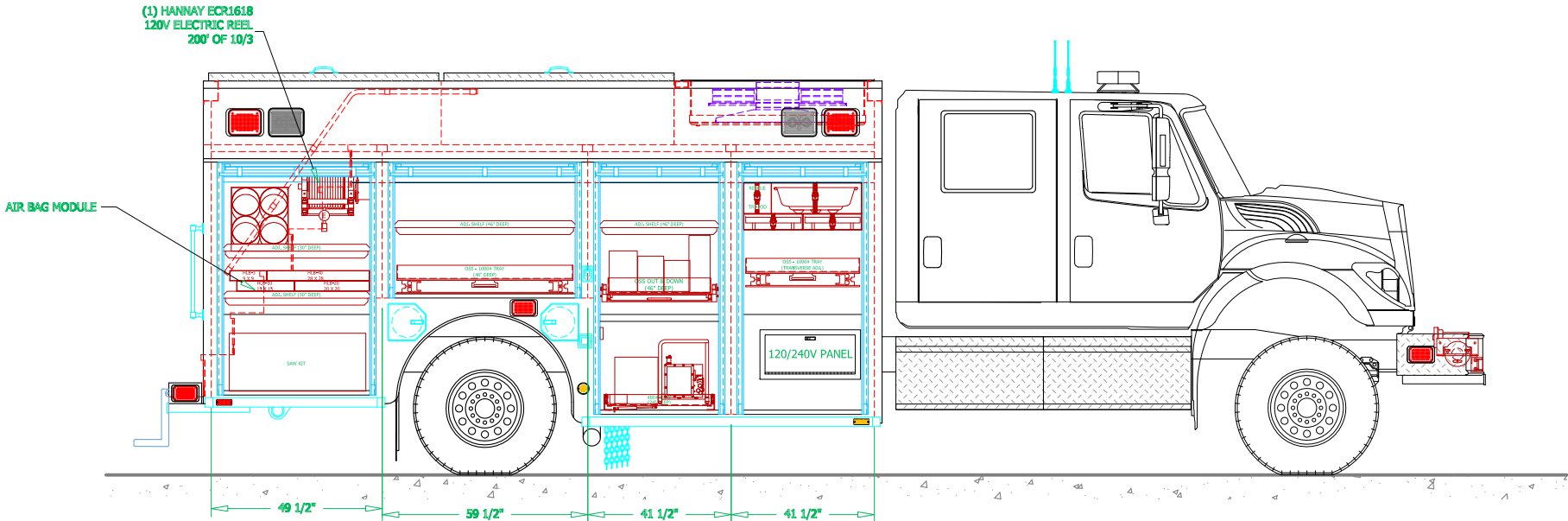
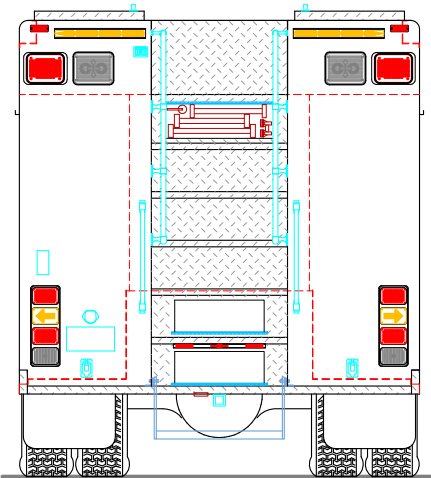
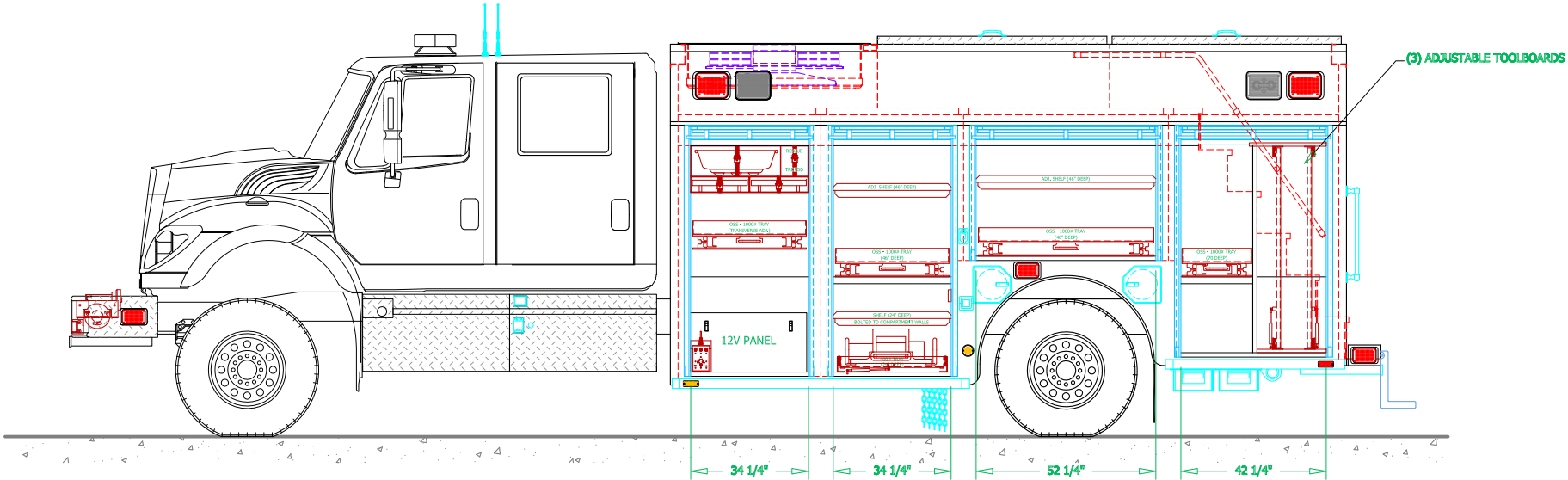
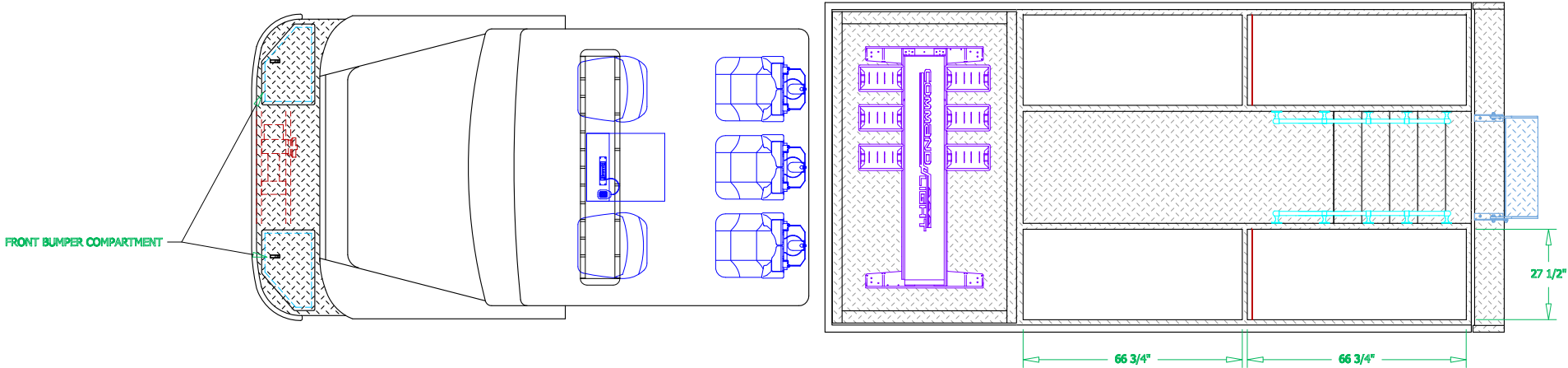
DeBeque Fire Protection District

BODY SIZE: 16' BODY	UNIT TYPE: MEDIUM RESCUE
BODY MATERIAL: 3/16" ALUMINUM	TRUCK NO: #
CHASSIS TYPE: INTERNATIONAL IH 7400 4 DOOR	WHEELBASE: 238"
	CAB TO AXLE: 119"
	OVERALL LENGTH (OAL): 381 1/4"
	OVERALL WIDTH (OAW): 100"
	OVERALL HEIGHT (OAH): 116 3/4"

DRAWN BY: HJR	DATE: MARCH 13, 2009	SCALE: 1/2" = 1' - 0"
DRAWING NO: DeBeque_CO_MR_723_Precon.dwg		SHEET 1 OF 2

REVISIONS			
REV	DESCRIPTION	DATE	BY

NOTE 1: Do not scale drawing. This drawing is for general truck configuration only. All items and dimensions shown are approximate and may vary with final production. The drawing may not provide illustration for all items in the specification. In all situations where the drawing may contradict the specifications, the specifications shall prevail. This drawing and all data herein are provided as confidential materials and shall not be reproduced without written consent of the manufacturer.



SVI FIRE & RESCUE TRUCKS
1511 E. 11th STREET, LOVELAND, CO 80537 PHONE 970-667-5146, FAX 970-667-3343

DeBeque Fire
Protection District

DRAWN BY: HJR	DATE: MARCH 13, 2009	SCALE: 1/2" = 1' - 0"
DRAWING NO: Poonia_CO_RP_16_Prelim1.dwg	SHEET 2 OF 2	