



Shop Order

Carrier Truck Center Inc.
O/A Carrier Centers
645 Athlone Place
Woodstock, ON N4S 7V8

Corporation of the Town of Hanover
341 10th Street
Hanover, ON N4N 1P5

Exp. Date: 08/10/2018
Quote No: Hanover, ON-0035
Job/Order No: 20350
BODY: 00-10-15 Metalfab Pumper - ULC 05/13

08/08/2019

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PART NO	S	DESCRIPTION	QTY	ID
		== Metalfab Pumper - ULC 05/13 - 0.000 ==	1	MTL
	S	CHANGE ORDER I	1	MTL
00-10-1500		Metalfab Pumper E	1	MTL
00-20-1000		Company Profile E	1	MTL
00-20-1500		Standard Body Warranty	1	MTL
00-20-1550		Metalfab Limited Ten (10) Year Paint and Corrosion Warranty	1	MTL
00-20-1700		Hale Pump Warranty - 5 years	1	MTL
00-20-1800	S	Polypropylene Tank Lifetime Warranty	1	MTL
00-20-2100	S	Plant Inspection Visit - Final Inspection - 3 persons - Costs covered by CCEV	1	MTL
00-20-3000	S	No Bonding Requested	1	MTL
00-20-3500		Certification for Fusion Welding of Aluminum	1	MTL
00-20-4000	S	Quality System registered to ISO 9001:2015	1	MTL
00-20-4500		Fire Apparatus Manufacturers' Association Membership	1	MTL
		GENERAL INFORMATION	1	MTL
10-11-0000		Intent E	1	MTL
10-11-0110		Vehicle data recorder included with chassis	1	MTL
10-11-1101	S	ULC S515-13 and NFPA 1901-2016 Compliance E	1	MTL
10-11-1500	S	> ULC Testing - Pumper - tested in Litres per Minute (Metric)	1	MTL
		ENG. NOTE:		
		Note in the shop note if the Fire Department wishes to witness the test		
10-11-2100		Maximum length not specified E	1	MTL
10-11-2200	S	Maximum height - 11 feet (132")	1	MTL
10-11-2400		Overall length is 30' or more	1	MTL
10-11-2500		General Construction	1	MTL
10-11-2600	S	Preconstruction Meeting - by CCEV	1	MTL
10-11-3000	S	Manuals - two copies	1	MTL
		***Two copies of manuals are required, one hard copy and one on USB stick.		
		Certification of slip resistance of all stepping, standing and walking surface to be supplied with the delivery of the apparatus.		
10-11-3600	S	> Delivery - FOB Fire Department - by CCEV	1	MTL
		ENG. NOTE:		
		Note in the shop note if more than 4 hours of training is required		
10-11-4200	S	Payment Terms-\$115,000.00 down payment,chassis & Body COD less 10% HB for 45days	1	MTL
		Down payment of \$115,000.00		
		Remainder COD, less 10% holdback for 45 days		
10-20-1400	S	> Hose capacity exceeding ULC/NFPA requirements	1	MTL
		ENG. NOTE:		
		Specify the type of hose and quantity of hose to be carried on the vehicle		
		Main hose bed expected capacity is as follows;		
		600' - 100 mm hose		
		300' - 65 mm hose		

PART NO	S	DESCRIPTION	QTY	ID
10-20-2000		Equipment carrying capacity - standard ULC Pumper	1	MTL
		CHASSIS INFORMATION	1	MTL
20-11-1000	S	Chassis supplied by Metalfab - Freightliner M2 106	1	MTL
		Air horn controls to be push button at officer position and steering wheel for driver - no foot switch		
		Model year 2020		
		47,000 lb GVW 16,000 lb front axle 31,000 lb rear axle		
		264" wheelbase 151.21" cab to axle		
		Cummins L9 350 HP @ 2000 rpm 2200 governed rpm		
		1000 lb/ft torque at 1400 rpm		
		Allison 3000 EVS automatic transmission, 5 speed		
		275 Amp alternator		
		Differential lock		
		Auxiliary air tank		
		189 liter fuel tank, left side		
		LED headlights		
		No rear window		
		ESC		
		L0006 EB white over L3240 EB Red		
		Spray outs required for Customer sign off.		
		Customer specified paint line on Jan 4, 2019		
20-11-1500		2013 Emission chassis modifications	1	MTL
20-11-1700	S	Chassis Motor Vehicle Inspection required - by CCEV	1	MTL
20-21-0500		Fluid capacity plate	1	MTL
		***Customer request paint codes to be included to this list		
20-21-0600		Pumping test plate	1	MTL
		Metric units		
20-21-1030		Maximum riders sign - 5 persons	1	MTL
20-21-1510		Seat belt warning labels - 4 door chassis	1	MTL
20-21-1520		Helmet warning label - do not wear helmet	4	MTL
20-21-1530		Tire Pressure Indicators - Single Axle	1	MTL
20-21-1600		Apparatus Information Label	1	MTL
		An information label is provided in the chassis cab, visible to the driver, stating:		
		"When manufactured, this vehicle was:		
		** m high		
		** m long		
		** kg GVW		
		Changes in height since the apparatus was manufactured shall be noted on this plate by the Fire Department"		
20-21-2000		Non removable key	1	MTL
20-21-2500		Shifter lock not required E	1	MTL
20-21-3500		Rear step warning label	1	MTL
20-21-3810		Front mudflaps provided with chassis E	1	MTL
20-21-4000		Rear mudflaps - Metalfab Logo	1	MTL
20-31-0200		Fuel fill label -Ultra Low Sulfur Diesel only	1	MTL
20-31-1100		Alum tread fuel tank covers, diamond grip steps, Conv - 4 dr	1	MTL
		To be one piece design		
20-31-1500	S	> Special compartments in chassis steps - AS ROOM PERMITS	2	MTL
		ENG. NOTE:		
		Specify any required dimensions, latch type in the shop note		
		Compartment under right and left rear door of cab if space permits.		
		Compartment to have an LED light and door to be wired to the door ajar warning light in cab. Door(s) will be vertically hinged towards front of cab.		
		Interlocking plastic tile to be installed on floors of compartments.		
20-31-1900	S	Chassis cab painted white over red by chassis OEM	1	MTL
20-31-4700	S	> Extend front bumper, gravshld with preconnected hosewell	1	MTL
		ENG. NOTE:		
		Note location of preconnect elbow		
		Note special capacity requirements		

PART NO	S	DESCRIPTION	QTY	ID
		***Bumper to be extended approximately 20" ahead of cab to carry 150' of 45mm (1.75") hose. A hinged tread plate cover over the trash line with a notch/slot so hose can be stay pre-connect will be installed. It shall have a "D" handle style latch.		
20-31-7500	S	Console in cab A console is installed between the cab seats with the siren (50-11-1450), pump shift (30-51-0500), Traffic advisor control (50-11-66AA) and a cutout for a customer supplied and installed Kenwood NX5700 (DIN mount does not exist for this unit). Provide storage for 6 inches (thick) of letter sized binders and miscellaneous paperwork and clipboards. There will be storage for a Vulcan Streamlight charger 80-99-20AA. Gray Zolatone finish Console layout to be approved via EMAIL - send layout to Rod when ready	1	MTL
20-31-76AA	U	LED lighting in Console storage area - 12" LED Lumabar(s) - as required SOPT #307a	1	
20-41-0600	S	Intake air shutoff for engine not requested	1	MTL
20-41-0900		Auxiliary braking system disabled when pumping	1	MTL
20-41-1100		Transmission programming - Allison WT	1	MTL
20-41-1500		Extend exhaust pipe - RS front of rear wheels E Engineering to specify exhaust pipe material as required by the chassis manufacturer. Engineering to sign off on the exhaust configuration to make sure it meets the chassis manufacturer's emission specifications. ***See also 20-99-15AA re Nederman provision/requirements	1	MTL
20-41-1900		Battery boost terminals with chassis E	1	MTL
20-41-2000		Chassis batteries remain in OEM location	1	MTL
20-41-2510		Fuel fill at step fuel tank under cab	1	MTL
20-41-2600		Chassis fuel tank remains in OEM location	1	MTL
20-41-5010		Rear Tow Hooks - through rear of body E	1	MTL
20-51-0710		Master Battery Disconnect included with Freightliner chassis	1	MTL
20-51-2500		Back up alarm included with chassis	1	MTL
20-51-3000		Air inlet with matching fitting - LS Located in left side cab step area.	1	MTL
20-51-3400		Protection valve installed for air operated accessories	1	MTL
20-51-6200	S	> 120 volt 20 A shore line connection in chassis cab ENG. NOTE: Requires 20-51-75 120 volt auto eject or 20-51-80 120 volt inlet Standard 5-20R duplex receptacle in chassis cab, not fused One (1) for the battery conditioner to plug inside the cab powered from the shore power. One (1) each side (rear most) of the console facing back - total of two (2) One (1) in the upper left portion of the L3 compartment under the fixed shelf to provide power for a customer supplied / installed portable pump charger. As confirmed with Rod Harris by phone 06.10.2019.	4	MTL
20-51-621B	U	120 volt 15 A outlet powered from inverter There will be one (1) outlet installed in the L1 upper side rear wall that will be powered by the inverter 51-31-28AA.	1	
20-51-6501	S	Kussmaul Pump Plus battery conditioner, 120 Volt air compressor Pump plus 1200 with water separator and automatic drain built in. Kussmaul Model 52-11-4106 SOPT #547 - Truck specific Conditioner is mounted in cab behind rear seat. Compressor is mounted in pump house easily accessible through right side pump access door.	1	MTL
20-51-7101	S	Electric System Management - VMUX	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
20-51-7500	S	Super Auto eject for 120 v - 20 A with sealed enclosure Located in left side cab step area.	1	MTL
20-51-8500	S	Engine compartment lighting - LED Switched when park brake is set	1	MTL
20-51-9001	S	Air horns and controls as supplied with Freightliner chassis Air horn controls to be push button at officer position and steering wheel for driver - no foot switch Horn transfer switch on chassis dash from Freightliner to switch steering wheel horn button from electric to air horns. The push button for the Officer will be located on the chassis dash within easy reach.	1	MTL
20-52-0010	U	Air horn switch on pump operators panel Labeled "AIR HORN" SOPT #475	1	
20-52-3500		> Chassis steering wheel lined up by Metalfab E ENG. NOTE: Freightliner, Sterling, and Spartan only	1	MTL
20-60-0400		Chassis wheelbase does not change	1	MTL
20-90-1810	U	Extend air tank moisture ejectors to rubrail and tag/tag label SOPT #507	1	
20-99-05AA	U	Chassis wheels re-aligned after body installed and full of water SOPT #1220	1	
20-99-06AA	U	Bumper guides, chrome, lighted There will be a set of bumper guides installed on the front bumper extension. The guides will be chromed and have a marker light installed on the top. Same as Innisfil, ON SOPT 462	1	
20-99-10AA	U	USB dual charging port in cab - installed on console 20-31-7500 Part number 1521659 SOPT #467 Customer requested two in the cab - one is included with the Freightliner chassis, install the above one in the console 20-31-7500 near the officer location. The USB plugs are to be live all the time off the chassis batteries.	1	
20-99-15AA	U	Exhaust adapter/magnetic anchor plate compatible with Nederman system Exhaust to be terminated at a right angle to the body and spaced below rubrail for so it is compatible for Nederman exhaust removal system. There will be a Nederman exhaust extraction anchor plate designed for use with the magnarail and magnatrack system mount to the body See SOPT #811	1	
20-99-25AA	U	Federal Camset rear view camera with 1 side view camera, 5.6" LCD monitor One rear view camera (to activate when transmission is placed in reverse gear) In addition to the rear camera there shall be one (1) side mounted camera model mounted on the passenger side mirror or approved location. This camera will activate when right signal is chosen by operator. Both cameras to be viewed on the single 5.6" colour monitor (mounted on the upper center console area). SOPT #465a - Truck specific	1	
PUMP AND PLUMBING			1	MTL
30-11-3802		Hale DSD midship pump - 1250 IGPM	1	MTL
30-15-0304		Plumbing - non manifold pump SM SS E	1	MTL
30-20-0500		Valves and controls - side mount panel	1	MTL
30-20-1003		Elkhart valves specified	1	MTL
30-20-1620		Piping stainless steel - non manifold Pumper	1	MTL
30-20-1700	S	1-1/2" thread specifications - NPSH	1	MTL
30-20-1800	S	2-1/2" thread specifications - CSA	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
30-20-2000		Piping hydrostatic test	1	MTL
30-20-2510		Anodes in suction and discharge piping - non manifold pump Install one anode on discharge side of pump, one anode on suction side of pump - do not use teflon tape or thread sealant. Paint flange silver and mask brass anode before painting for visibility.	1	MTL
30-21-5520		Tank to Pump SS 3" w/ check valve non manifold pump 4" plumbing	1	MTL
30-22-0520		Tank Fill valve 2" SS	1	MTL
30-31-4020	S	Suction - 6" not gated LS and EMIV RS- SS non manifold pump 6" header LS - department will install an Elkhart 9786 piston intake valve RS - Electric Master Intake Valve	1	MTL
30-31-5100	S	Suction - 4" SS piping to rear - electric valve, 4" Storz fitting w/ droop The 4" connection will have a 30-degree droop as confirmed by e-mail on 05.06.2019.	1	MTL
30-31-7200	S	> Hale master intake suction valve - electric control ENG. NOTE: Required for top mount panels Show location in Shop Note The 6" right side inlet and the 4" rear Storz inlet will be gated.	2	MTL
30-32-8050		Suction - 2-1/2" right side SS, bleeder, non manifold pump	1	MTL
30-40-2006	S	4" right discharge, plumbed 3", non manifold pump, SS, bleeder	1	MTL
30-41-2040		2-1/2" RS discharge SS, bleeder, non manifold pump	1	MTL
30-41-2540		2-1/2" LS discharge SS, bleeder, non manifold pump	1	MTL
30-43-1520	S	2-1/2" rear LS hose bed discharge SS, plumbed 2-1/2", bleeder Left side hose bed - leave ample clearance from hose bed and piping so a hose wrench can be used to the threaded adapter.	1	MTL
30-44-0720	S	1-3/4" (45mm) speedlay (each) top of pumphouse SS, plumbed 2" Each hose bed shall be capable of holding 200 feet of hose and nozzle.	2	MTL
30-44-1000	S	> 1-3/4" front trash line, plumbed 2", hosewell ENG. NOTE: Requires extended front bumper, gravelshield Will carry 150' of 45mm (1-3/4") hose. CP Swivel on top of bumper.	1	MTL
30-44-6520	S	Piping for monitor SS, plumbed 3", bleeder Maximum height with monitor installed - 11' Make and Model of Monitor - Elkhart 2.0 Stinger with SM1250 nozzle - 80-99-35AA The piping will be in the left rear corner of the pump house and there will be a cutout in the cover (70-11-52AA) to allow deployment of the monitor without opening the cover.	1	MTL
30-51-0500		Pump shift-Midship air ***Includes "Pump Engaged" and "OK to Pump" indicator lights on chassis instrument panel ***Includes "Throttle Ready" indicator light on Pump operating panel	1	MTL
30-51-0700		Pump Gearbox mounted manual over ride for pump shift E	1	MTL
30-51-6700		FRC Pump Boss Governor/Throttle engine display	1	MTL
30-51-7002		Suction side relief V/V, non manifold pump One for main pump One for right side 6" inlet One for rear 4" Storz inlet	3	MTL
30-51-7713		Trident Air Primer 3 barrel 3 location Location one - Primer control for main pump Location two - Pre-primer control for right side 6" inlet Location three - Pre-primer control for rear 4" Storz inlet	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
30-51-7720	S	Additional air tank for air primer system An additional air tank is provided to improve air primer capacity and is supplied with the Freightliner chassis	1	MTL
30-51-8100		Heat exchanger included with chassis	1	MTL
30-51-8500		Pump cooler with control valve, check valve	1	MTL
30-51-9000		Thermal Relief Valve	1	MTL
30-52-1000		Master drain V/V, 12 port	1	MTL
30-52-2000	S	Drain valve for foam system header	1	MTL
30-52-5510	S	Foam system-Hypro FoamPro 2001 Single Tank Foam system is plumbed to the front trash line, both speedlays and rear 2.5" discharge in the hose bed.	1	MTL
30-52-9100	S	Foam concentrate label at foam tank fill	1	MTL
30-52-9200	S	Foam System Instruction Plates	1	MTL
30-52-9400	S	NFPA Foam System certification test	1	MTL
		WATER AND FOAM TANKS	1	MTL
40-11-2100	S	Polypropylene water tank (Imperial gallons)	1	MTL
40-11-2200		Water tank capacity certification (tank manufacturer)	1	MTL
40-11-5500	S	Tank capacity 1200 Imperial Gallons	1	MTL
40-12-4500	S	Foam cell - 10 Imperial gallon	1	MTL
40-13-0100	S	> Through the tank tunnel for the portable tank rack ENG. NOTE: Charge 60 per cubic foot of tunnel volume	1	MTL
		Ref 60-40-9001		
40-21-1000		4" tank to pump connection	1	MTL
40-22-0500		2" tank fill connection	1	MTL
40-23-0500		1" water level gauge connection	1	MTL
40-23-1000	S	1" foam level gauge connection	1	MTL
40-23-1050		4" Fireman's Friend connection	1	MTL
40-23-1060		10" Newton dump connection	1	MTL
40-30-0500		Sump drain valve (3" gate valve) with linkage E Locate sump drain connection in sump box left side of tank.	1	MTL
40-30-1000		Water Fill Box front left corner	1	MTL
40-31-3500		10" rear Newton dump, stainless steel	1	MTL
40-31-5500		Electric operator for Newton dump	1	MTL
40-31-5610	U	SS Swivel Dump chute (Rotating w/lock) SOPT #2	1	
40-31-9000		4" Storz rear fill, Fireman's Friend Right of dump above the rotating swivel chute - keep as low as possible. Include bleeder	1	MTL
		ELECTRICAL	1	MTL
50-11-0300		Base electrical system - multiplex E	1	MTL
50-11-0600		Warning Light Certification	1	MTL
50-11-0700		Low Voltage Electrical system test	1	MTL
50-11-0800		Low Voltage Electrical System Documents As required by ULC and NFPA standards	1	MTL
50-11-0900	S	Rocker switch panel with master warning switch ***Rocker switch assignments: - Overhead center console - MASTER -LIGHT BAR RED -LIGHT BAR CLEAR -FLASHING WARNING -BROW LIGHT -LEFT SCENE -RIGHT SCENE -RIGHT POLE LIGHT -LEFT POLE LIGHT - Rear Scene - was missing from the list and added on 05.07.2019	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
50-11-1450		Federal PA300 200 watt siren	1	MTL
50-11-1630		Siren speaker, 200 watt, in front bumper	1	MTL
50-11-2010	S	Federal Q2B mechanical siren - through front bumper	1	MTL
		Siren mounted in the right side of bumper on an angle unless otherwise specified.		
		***Controlled by push button and siren brake switch is located on chassis dash near the air horn button (20-51-9001).		
50-11-2600		Siren to be accessible to driver and officer	1	MTL
50-11-61AA	U <	Whelen Justice JE2NFPA LED light bar	1	
		Add an additional blue light in lightbar.		
		SOPT 269a		
50-11-66AA	U	Rear LED Traffic Advisor - Whelen TAL65 - surface mount	1	
		Install under the rear step		
50-12-8500	S	Front LED flashers (pr)-Whelan red LED 400 - 1 pair red, 1 pair blue	2	MTL
		1 pair red and 1 pair blue in grille.		
		Arrange so the red and blue lights are diagonal to each other		
50-12-8600	S	Rear LED flashers (pr)-Whelen red/blue LED 400	1	MTL
		There will be a pair of Whelen 400 flashers installed midway up the rear of the unit.		
		The left side will be a blue flasher and the right side will be red.		
50-12-8620	S	Rear LED flashers (pr)-Whelan red LED 900 with integral flasher - upper level	1	MTL
50-12-8700		Front side inter lts (pr) - Whelan red LED 400	1	MTL
50-12-8800		Body side inter lts (pr)-Whelan red LED 400	1	MTL
50-12-8820	S	Body side inter lts (pr)-Whelan red LED 900 with integral flasher - upper level	1	MTL
		One each side - upper rear corners		
50-12-8900	S >	Add'l body side inter lts (pr)-Whelan red LED 400	1	MTL
		ENG. NOTE:		
		Required if distance between front and rear side intersection lights exceeds 25'		
50-21-25AA	U	Federal Commander Series 12 volt telescoping lights at front of body (ea)	2	
		One each side on front of body as shown on FT-11099		
		Federal Model #COM15K-530SW		
		12 volt bottom raise		
		Switched in the cab - not on the light		
		Include "SW" for hazard switch wired to the the equipment rack not stowed light in cab.		
		Confirmed the location with Rod Harris by e-mail on 04.29.2019		
50-21-25BB	U	Federal Commander Series - 12 volt contour brow light - center front of chassis	1	
		Federal Model #COM15K-800-08		
		12 volt - Specify chassis when ordering (Freightliner M2)		
		Switched in the cab		
50-21-5100	>	Compartment lighting - LED tube lights in each compartment (rollup doors)	1	MTL
		ENG. NOTE:		
		Rollup doors only		
50-21-5500		Door Ajar warning light	1	MTL
		Located in overhead console over drivers seat		
		Bilingual warning label in cab to read:		
		"Do Not Move Apparatus when Light is on"		
50-21-5550		Equipment rack not stowed warning light	1	MTL
		Located in overhead console over drivers seat		
		Bilingual warning label in cab to read:		
		"Do Not Move Apparatus when Light is on"		

PART NO	S	DESCRIPTION	QTY	ID
50-21-8001	S	Step lights for body steps - LED Switched when park brake is set.	1	MTL
50-21-8201	S	Step lights for chassis steps - LED Switched when park brake is set and also activated with corresponding turn signal	1	MTL
50-21-8600		LED clearance lts and reflectors	1	MTL
50-21-8605	U	Polished cast aluminum license plate bracket with LED light SOPT #18	1	
50-21-8800		LED intermediate turn signal/clearance/reflector length >30'	1	MTL
50-22-0770	U	Whelen M6 LED tail light assembly, M6FCV4 housing From top to bottom; Flashing red left side and flashing blue right side. Amber turn Red tail/brake Clear back up SOPT #1093	1	
50-31-6015	U	Whelen C9SL LED Scene lights (pr) - Left side In upper corners of side Switched in cab These lights can be managed to shed and will be Whelen C9SL.	1	
50-31-6016	U	Whelen C9SL LED Scene lights (pr) - Rear facing In upper corners at rear under C9 flashers Switched in cab as listed in 50-11-0900. They will also be activated with the reverse gear of the transmission as requested by e-mail on 05.06.2019 These lights cannot be managed to shed as they are required for ULC and they will be Whelen C9SL.	1	
50-31-6017	U	Whelen C9SL LED Scene lights (pr) - Right side In upper corners of side Switched in cab These lights can be managed to shed and they will be Whelen C9SL.	1	
50-31-6560		Ground lighting (LED Lumabar) - 4 door chassis Switched when park brake is set and also activated with corresponding turn signal	1	MTL
50-31-6570		Ground lighting (LED Lumabar) - side mount body The lights under rear step are to be located at 45 degree on the rear corners of the step. Switched when park brake is set and also activated with corresponding turn signal	1	MTL
50-31-6595	U	Extra ground lighting - LED Lumabar One each side just ahead of rear wheels One in center under rear step Switched when park brake is set and also activated with corresponding turn signal SOPT #590 - Truck specific	1	
50-35-0500	S	Customer supplied / Metalfab installed radio equipment Supply power and ground wires in console or have 12-volts easily accessible in the console. The department will install their own Kenwood NX5700 radio after the delivery Power through the master disconnect switch unless otherwise specified. Metalfab will install the Motorola speaker and microphone that were provided by Carrier and logged into inventory on 03.21.2019. Carrier also supplied cables for the speaker and mic that Metalfab will run from the pump house to the console 20.31.7500.	1	MTL
50-35-0560	S	VHF antenna base - customer supplied Install the antenna base supplied by Carrier and run cable to console area.	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
		The department will hook up to radio after delivery. The antenna base will be installed behind the light bar 1/2 way to the back of the cab and 1/2 way left to right of the cab.		
50-99-10AA	U	Hose bed cover lights - LED - 4 x 40" Lumabars Switched when park brake is set. SOPT #209	1	
51-31-28AA	U	Kussmaul 450-3000-0 Inverter - 3000 Watt ***To be installed after ULC*** A Kussmaul 3000 watt inverter to be installed (Model 450-3000-0) SOPT #341a - Truck specific The inverter will be installed in the R1 compartment upper forward side wall and will be wired to one (1) outlet in the L1 compartment (refer to 20-51-621B).	1	
51-31-4500		Dielectric strength test for line voltage system BODY	1	MTL
60-10-1400		Single axle extruded aluminum body	1	MTL
60-10-15AA	U	1" drop on lower edge of compartment floor - sweep out type SOPT #1236	1	
60-10-4100		No "beavertail" rear step supports	1	MTL
60-10-4600		Painted fender surround E	1	MTL
60-10-4770		Removable stainless steel fender trim - single axle E	1	MTL
60-10-5400		> Diamondback pumphouse steps ENG. NOTE: Maximum height of step is 24" from ground	1	MTL
60-10-5430		> Diamondback 19" rear step ENG. NOTE: Maximum height of rear step is 24" from ground	1	MTL
60-10-6500		Bolt on extruded aluminum rub rail E	1	MTL
60-11-0300		> Front left side compartments full height E ENG. NOTE: Specify critical dimensions in shop note	1	MTL
60-11-0700		> Front right side compartments full height E ENG. NOTE: Specify critical dimensions in shop note	1	MTL
60-11-1000	S	> Rear left side compartments full height ENG. NOTE: Specify critical dimensions in shop note	1	MTL
		There will be a 600lb tray at the bottom of the compartment, a fixed shelf at the depth change and a shallow adjustable shelf in the upper portion of the compartment. The customer supplied fan that was originally being stored in this compartment has moved to the R4 compartment. As requested by Rod Harris by e-mail on 05.31.2019.		
60-11-1400	S	> Rear right side compartments full height ENG. NOTE: Specify critical dimensions in shop note	1	MTL
		There will be a portable pump stored in this compartment and it measures 25" tall x 28" x 23". It will be stored beside the rolled hose and interlocking tile will not be required under the fan. As requested by Rod Harris by e-mail on 05.31.2019.		
60-11-2000		> High side compartment (over 18") each ENG. NOTE: Specify critical dimensions in shop note Specify type of door Specify flip up or drop down Specify which side of body	3	MTL

PART NO	S	DESCRIPTION	QTY	ID
		One left side, two right side		
60-11-3100		No rear compartment E	1	MTL
60-11-5500		Rollup door - standard height Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point	3	MTL
60-11-5520		Rollup door - full height Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point	4	MTL
60-11-5640	S	Drip pan under rollup door roll (each) - L1 compartment only L1 compartment only - standard Metalfab drip tray	1	MTL
60-11-5655	U	Amdor pull straps - Flex-HD for L2, R2 and R3 doors Order with doors SOPT #1114	3	
60-11-5660	U	Amdor pull straps - Flex - HD for L1, L3, R1 and R4 doors Order with doors SOPT #1114	4	
60-31-4100		Extruded aluminum handrails Minimum 2" clearance from handrail to any surface	1	MTL
60-31-5500	S	Steps at rear of body (folding) with LED lights Maximum height between steps is 18"	1	MTL
60-31-5600	S	Steps and grab handles at front of body next to pump panel Maximum height between steps is 18". There will be one (1) on the front of the body under the extendable light and one (1) under the speedlay - each side of the body.	1	MTL
60-31-5800	S	Intermediate step at rear - Maximum 18" down from hose bed Stepping surface is diamond back aluminum.	1	MTL
60-31-6500	S	Compartment matting - Interlocking tile Interlocking tile is not required in the sliding tray 60-31-8700 in the R4 compartment. The fan and hose roll storage require the maximum amount of space as requested by Rod Harris by e-mail 05.31.2019.	1	MTL
60-31-7900	U	Unistruts in compartment R2 and R3 There will be unistruts installed in the R2 and R3 compartments for the future installation of shelving as requested by Rod Harris on 05.31.2019 by e-mail SOPT 271	2	
60-31-8006	U	BA bottle comp (ea)-fender well The SCBA bottle measures 25" long x 8" diameter.	4	
60-31-83AA	U	PAC tool board There will be PAC tool board material installed in the following locations: Board #1 - Upper portion of the front left side compartment (L1) beside the pump panel Board #2 - High side compartment over the left side rear wheels (L2). It will be approximately 50" wide to allow storage of an SCBA beside it.	2	
60-31-8400	S	Fixed vertical partition There will be a vertical partition at the following locations: 1. In the front left side compartment (L1) to separate the Pump Operator's panel and rest of compartment. 2. In the front right side compartment (R1) in the shallow portion of the compartment. It will be 25" from the right side wall.	2	MTL

PART NO	S	DESCRIPTION	QTY	ID
60-31-8700	S	> Sliding tray (ea) - 400 pound capacity with open / close latches ENG. NOTE: Specify location The tray will be installed in the rear right side compartment (R4). Reflective stripe is applied on the exposed edge for visibility when the compartment door is open. Interlocking tiles are not required under the fan or under the hose storage as requested by Rod Harris by e-mail on 05.31.2019.	1	MTL
60-31-8800	S	> Sliding tray (ea) - 600 pound capacity ENG. NOTE: Specify location The tray will be installed in the rear left side compartment (L3). ***Hardware requires 3-1/2" of compartment height Reflective stripe is applied on the exposed edge for visibility when the compartment door is open	1	MTL
60-31-9600	S	> Adjustable shelf (ea) ENG. NOTE: Specify location The location of the adjustable shelves will be: Adjustable shelf #1 - Front left side compartment (L1) - full depth Adjustable shelf #2 - Rear left side compartment (L3) - shallow depth Adjustable shelf #3 - Front right side compartment (R1) - shallow depth rearward of fixed partition 60-31-8400 Adjustable shelf #4 - Rear right side compartment (R4) - shallow depth Reflective stripe is applied on the exposed edge for visibility when the compartment door is open	4	MTL
60-31-97CC	U	Fixed shelves There will be seven (7) fixed shelves installed at the following locations: Shelf #1 - Front left side compartment (L1) at compartment depth change Shelf #2 - Rear left side compartment (L3) at compartment depth change Shelf #3 - Front right side compartment (R1) at compartment depth change Shelf #4 - Rear right side compartment (R4) at compartment depth change Shelf #5 - Front right side compartment (R1) full depth at above rolled hose Shelf #6 - Front right side compartment (R1) full depth at above strainer storage Shelf #7 - Rear right side compartment (R4) at above the rolled hose for a customer supplied hydrant valve. Reflective stripe is applied on the exposed edge for visibility when the compartment door is open.	7	
60-32-7500		Hose bed - aluminum Main hose bed expected capacity is as follows; 600' - 100 mm hose 300' - 65 mm hose	1	MTL
60-33-0000		Paint exterior - Imron Elite *** Paint code and colour red to match red on cab	1	MTL
60-33-0200		Undercoat vehicle with KROWN rust protection	1	MTL
60-33-0600		Chassis wheels not painted	1	MTL
60-33-1000		Paint pump and plumbing job colour	1	MTL
60-33-1500		Buffed finish compartment interior	1	MTL
60-33-2300	S	Lettering - as per Customer's requirements *** Vinyl letters, Fire Department to provide details on location and text. Hanover Fire Department sized to fit Freightliner door Door crest to be supplied by Carrier and will be sized at final inspection. Will be installed on crew door There will be an "E-10" approximately 12" high in red reflective installed on the lower part of the L3 and R4 doors. Paint break to be covered with 1/8" black - 1/4" gold - 1/8" black pinstripe "WORKING SMOKE ALARMS SAVES LIVES" above compartment tops	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
		Truck number to be determined See pictures F:/Data/Jacques/Current projects/Hanover/lettering		
60-33-3300	S	Reflective stripe - to match existing fleet 50% of perimeter each side and 25% of perimeter front Reflective stripe to be 4" gold reflective with 1/8" black pinstripe above and below with " Z " pattern up L1 and R1	1	MTL
60-33-3310		Reflective stripe - red and yellow chevron at rear Minimum 50% of rear vertical surface	1	MTL
60-33-3600		Reflective stripe - inside entry doors 96 square inches minimum inside each cab entry door	1	MTL
60-33-4000	S	End tarps for speedlays - Red Held in place with 1/4 turn fasteners on top and shock cords on the bottom.	1	MTL
60-33-5000	S	Aluminum cover over hose bed with end tarps - RED Doors to be wired to the door ajar warning light in cab Tarps to be red in color complete with 1/4 turn fasteners on top and shock cords below. The aluminum covers will be supported by a fix hose bed divider.	1	MTL
60-40-5500	S	Suction hose tube (each) with door Two (2) in body under tee of tank for 6" x 10' suction hoses 80-11-5000 and two (2) upper LS of body for Customers 4" suction hoses. Door ajar switch required Customer specified OA length of 4" suction hoses to be 10' (120") and the measurement across the long handles on the swivel coupling is 12". The right side 6" suction hose tube will be 16" longer than the suction hose 80-11-5000 to allow the customer supplied barrel strainer to stay connected. The customer supplied barrel strainer measures 16" long.	4	MTL
60-40-9001	S	> Tube mount for porta tank through tank with door ENG. NOTE: Specify location, ladders to be installed in this tube, complete dimensions of ladders if user supplied Rear access with a drop down smooth plate door with "D" handle. Door ajar switch required To house the 1500 gallon portable tank 80-15-0500	1	MTL
60-41-1000	S	Pike Pole tube Incorporated with the suction hose tubes in the upper LS of body. To house 4', 6, and 8' New York style pike poles with "D" handles, 80-99-2500, 80-99-26AA, and 20-99-27AA respectively.	3	MTL
60-41-1500		Attic ladder tube with rear door Incorporated with the suction hose tubes in the upper LS of body. To house the 10' attic ladder 80-14-8500.	1	MTL
60-41-9500		> Zico Horizontal Ladder Access system ENG. NOTE: Specify mounting location desired. If ladder(s) are customer supplied, specify overall length and width, width between side rails, rung spacing; also specify ladder brand and model Include HLAS-OS optional stop To be wired so only operable when park brake is engaged. Flashing lights and reflective tape required at front and rear to indicate any areas that protrude beyond the body.	1	MTL
60-41-9510		ZICO HLAS switched at rear above tail light Switch is located on same side as electric rack	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
60-99-05AA	U	Low level strainer storage There will be a storage in the front right side compartment that will hold four (4) low level strainers that measure 17" wide x 13-1/2" high each. The final layout was approved by Rod Harris by e-mail on 05.31.2019.	1	
60-99-10AA	U	Rolled hose slots There will be rolled hose slots at the following locations: Four (4) in the front right side compartment (R1) 3-1/2" each slot x 22" high Two (2) in the rear right side compartment on the pull out tray (R4) - 7-1/2" each slot by 16-1/8" high. The slots will not cover the first 4" of the tray to allow the hose couplings to lay there (they are wider than the hose) A third rolled hose slot will be installed under the fixed shelf in the R4 compartment above the customer supplied fan. The slot will measure 16-3/8" wide by 4-1/2" high. One (1) hose will be stored in a compartment and restrained by Velcro and two (2) footman loops. The department will determine the location at delivery and Carrier will install. The layout was approved by Rod Harris by e-mail on 05.31.2019.	7	
INSTRUMENTATION			1	MTL
70-11-0000		Warning Label on Pump Operator's Panel	1	MTL
70-11-0500		Side mount instrument panel No gauge or visual display can be higher than 84" above the operator's standing position Midpoint of any control cannot be higher than 72" above the operator's standing position	1	MTL
70-11-1000		Black zolatone instrument panels No gauge or visual display can be higher than 84" above the operator's standing position Midpoint of any control cannot be higher than 72" above the operator's standing position	1	MTL
70-11-3200	S	Colour coded tags - Metric 1-3/4" = 45mm 2-1/2" = 65mm 4" = 100mm 6" = 150mm Special color codes were requested by e-mail on 04.06.2019 and will be as follows: Speedlay #1 - Orange Speedlay #2 - Red Rear 2.5" (65mm) - Green Front trashline - Blue Monitor - Purple Right side suction - Maroon along with labels for electric MIV 4" (100 mm) Right side discharge - White 2.5" (65mm) Right side discharge - Yellow 2.5" (65mm) Left side discharge - Black	1	MTL
70-11-4000		Stainless steel side panel hood right side	1	MTL
70-11-4100		Stainless steel side panel hood left side	1	MTL
70-11-5100		Open storage at rear top of pump house Lighting required to meet ULC - switched when park brake is set. Install drains in front corners of floor with tubes down through pump house.	1	MTL
70-11-5200	U	End doors on top of pump house There will be an end door on the right side of the pump house top dunnage. SOPT 146	1	
70-11-52AA	U	Hinged cover on top of pump house There will be one (1) door on top of the pump house. There will be a cutout on the left side corner to allow the monitor to be deployed without opening the cover. SOPT 610	1	

PART NO	S	DESCRIPTION	QTY	ID
70-11-5500	S	Right side plate pump access door No opening dimension less than 18"	1	MTL
70-11-75AA	U	Heat pan - extreme weather type SOPT #575	1	
70-11-8000		Heater in pump compartment Switch for heater is located on the left side pump operators panel.	1	MTL
70-11-8200	U	Rubber seal around suction and discharge opening on panel SOPT #483	1	
70-20-0500	S	4-1/2" compound gauge - dual face 0-400 To be within 8" of each other - edge to edge	2	MTL
70-20-1500	S	2-1/2" pressure gauge - dual face 0-400 Gauge to be no more than 6" from edge of the gauge to the center of the control.	8	MTL
70-20-2500		Primer control	1	MTL
70-20-2501		Additional Primer control For the pre-primers for the Right side and rear suction inlets.	2	MTL
70-20-3200		FRC Pump Boss Governor Control Throttle can be no lower than 42" and no higher than 72" from operator's standing position.	1	MTL
70-20-3500		Electric water level gauge on pump panel, Class One	1	MTL
70-20-3610		Remote PSTANK water level indicators each side, rear with driver E Interlock with park brake so powered only when the park brake is set.	1	MTL
70-20-6500		Test gauge panel Mount below the compound gauges for proper draining	1	MTL
70-20-7500		Heat exchanger control valve	1	MTL
70-20-7600		Pump cooler control valve	1	MTL
70-21-1500	S	Electric Foam Level gauge Include access to and room for sender in front of body and back of pump house	1	MTL
70-21-5500		Panel readout for Battery Conditioner Located in left side cab step area.	1	MTL
ACCESSORIES			1	MTL
80-11-2000		4" x 10' lightweight suction hose (ea) Tube mounted	1	MTL
80-11-5000		6" x 10' lightweight suction hose (ea) Tube mounted	2	MTL
80-13-0500		Rubber mallet Shipped loose, not mounted. Customer will mount.	1	MTL
80-13-1200		Clare hose wrenches (double) with holder One installed on left side panel, one installed on right side panel and one installed on the rear of the body where space permits.	3	MTL
80-13-4000	S	Axe, pick head, fibreglass handle only There will be an axe shipped loose with no bracket.	1	MTL
80-13-4500	S	Axe, flat head, fibreglass handle only There will be an axe shipped loose with no bracket.	1	MTL
80-14-0500	S	24' 2 section extension ladder PEL 24 Mounted on the HLAS 60-41-9500	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
80-14-5500	S	14' aluminum roof ladder PRL-14 Mounted on the HLAS 60-41-9500	1	MTL
80-14-8500		10' aluminum folding attic ladder FL-10 Tube mounted	1	MTL
80-15-0500		1500 l gallon portable tank - Husky Color to be RED. minimum 28 oz reinforced bottom, 2 quick dump/drains. Tube mounted.	1	MTL
80-15-7025	U	6" NHF x 4" Storz 30 degree adapter for RS 6" inlet Kochek SKE4T6L, Metalfab part number 1501827 Install on right side 6" inlet, complete with 4" Storz reducing cap 80-99-14AA (IPO 6" long handle CP cap). SOPT #496 - Truck specific	1	
80-17-0500	S	20# dry chemical fire extinguisher and mount The extinguisher and bracket will be shipped loose.	1	MTL
80-18-0500	S	SCBA bracket with strap - compt mount There will be two (2) SCBA brackets supplied: 1. The 1st bracket will be installed in the L2 compartment beside the PAC board 60-31-83AA and it will hold a complete SCBA unit. 2. The second bracket will be shipped loose for customer installation after delivery.	2	MTL
80-18-0680	U	Supply/install Bostrom SecureALL SCBA brackets in Bostrom SecureALL ready seats SOPT #959a	4	
80-19-0500	S	Large folding wheel chock - aluminum (ea) The wheel chocks will be shipped loose without brackets.	2	MTL
80-99-05AA	U	Zico UHH-1 Helmet holder - mounted (ea) Part number 1562378 Two (2) on vertical plate behind driver like Muskoka Lakes, One on plate between outboard and middle crew seat up high (no rear window, so in this location), other two other two to go in compartments under crew doors. SOPT #426 Customer confirmed the mounting locations by e-mail 12.12.2018	5	
80-99-10AA	U	MSA Evolution 6000 TIC and truck charger - mounted in cab MSA Evolution 6000 Basic TIC - MSA part number 10145939 and Vehicle Kit - MSA part number 10145771 TIC and vehicle charger mounted on back of officer seat like Muskoka Lakes SOPT #939 and quotation in file - Truck specific	1	
80-99-14AA	U	4" Storz x 2-1/2" CSA male with cap Installed on 80-15-7025 adapter Kochek S36S425, Metalfab part number 1501278 Vented CP Cap 1500291 SOPT #1089	1	
80-99-20AA	U	Vulcan Streamlight LED hand lights (ea) - installed on the back wall of console SOPT #393, Metalfab part number 1521631 Hand lights and chargers Installed and wired 12-volts on the back of the console. Customer specified preferred location by e-mail 12.12.2018.	3	
80-99-25AA	U	4' fibreglass New York style pike pole with D handle	1	
80-99-26AA	U	6' fibreglass New York style pike pole with D handle Tube mounted SOPT #1217	1	

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