



Shop Order

Carrier Truck Center Inc.
 O/A Carrier Centers
 645 Athlone Place
 Woodstock, ON N2S 7V8

The Municipality of North Perth
 330 Wallace Avenue North
 Listowel, ON N4W 1L3

Exp. Date: 10/25/2019
Quote No: North Perth Pumper-0028
Job/Order No: 21217
BODY: 00-10-15 Metalfab Pumper - ULC 05/13

08/31/2021

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PART NO	S	DESCRIPTION	QTY	ID
		== Metalfab Pumper - ULC 05/13 - 0.000 ==	1	MTL
	S	Change Order J	1	MTL
00-10-1520	U	Metalfab Pumper	1	
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		Polypropylene Tank Lifetime Warranty	1	MTL
00-20-2100	S	Plant Inspection Visits - three visits, three representatives - costs by CCEV	1	MTL
		Visit #1 - Pre-construction		
		Visit #2 - Chassis inspection		
		Visit #3 - Pre-delivery inspection		
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	1	MTL
		ENG. NOTE:		
		Note in the shop note if the Fire Department wishes to witness the test		
		Pump tested in Litres units (5000 LPM) as discussed at the pre-construction meeting of 11.07.2019		
10-11-2100		Maximum length not specified E	1	MTL
10-11-2200		Maximum height not specified E	1	MTL
10-11-2400		Overall length is 30' or more	1	MTL
10-11-2500		General Construction	1	MTL
10-11-3000		Manuals - two copies	1	MTL
		***Two copies of manuals are required.		
		Complete listing of OEM part numbers shall be provided.		
		Certification in writing that the chassis has not been used as a tow vehicle for delivery between the chassis factory and the chassis dealer, or between the chassis dealer and the chassis fabricator to be supplied.		
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		
10-11-4300	S	Payment Terms - Chassis and Body NET 30	1	MTL
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		

PART NO	S	DESCRIPTION	QTY	ID
		The rear hose bed shall have adequate capacity to store; 500' 2.5" double jacket nylon hose with attached nozzle. 700' of 4" rubber jacket supply hose 750' of 1.5" of double jacket hose. ***Additional weight allowance of 545 lbs.***		
10-20-2000		Equipment carrying capacity - standard ULC Pumper This vehicle is designed to carry the standard ULC miscellaneous equipment load of 2500 pounds for a vehicle with more than 250 cubic feet of compartment space.	1	MTL
		CHASSIS INFORMATION	1	MTL
20-11-1000	S	Chassis supplied by Metalfab - Freightliner M2 106 Two door chassis, two seating positions 41,600 lb GVWR 14,600 lb front axle 27,000 lb rear axle 260" wheelbase 194.35" cab to axle 100" rear overhang Cummins L9 350 hp @ 2000 rpm 2200 no load governed rpm 1000 lb/ft torque @ 1400 rpm 68 MPH Maximum speed Allison 3000 EVS automatic transmission, 5 speed 275 amp alternator Brake lights activated with engine brake (exhaust brake) 189 litre fuel tank, LH Auxiliary air tank included ESC and VDR included LED headlights Air horn on hood - include snow shields Color is L0006 white over L1132EB red to match M07-7835 Spray outs required and approved by e-mail by Paul Marks 12.16.2019 Paint codes are were confirmed by e-mail by Paul Marks 12.16.2019 Paint dividing line on cab confirmed by e-mail by Paul Marks 12.16.2019 See also 10-11-3000 for letter stating chassis has not been used as a tow vehicle Items added at pre-construction meeting of 11.07.2019 Add front shocks Change to DuraBright wheels Change to Automatic moisture ejectors Change to double frame Add power windows without power door locks	1	MTL
20-11-1500		2013 Emission chassis modifications	1	MTL
20-11-1710	U	Chassis Motor Vehicle Inspection required - by CCEV	1	
20-21-0500		Fluid capacity plate	1	MTL
20-21-0600		Pumping test plate	1	MTL
20-21-1040		Maximum riders sign - 6 persons	1	MTL
20-21-1500		Seat belt warning labels - 2 door chassis	1	MTL
20-21-1520		Helmet warning label - do not wear helmet	6	MTL
20-21-1560	U	Tire Pressure Indicators - Single Axle Ship the original valve stem caps back with the completed unit as requested at the pre-construction meeting of 11.07.2019	1	
20-21-1600		Apparatus Information Label 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"	1	MTL
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
20-21-3800		Front mudflaps	1	MTL
20-21-4000		Rear mudflaps - Metalfab Logo	1	MTL
20-31-0200		Fuel fill label -Ultra Low Sulfur Diesel only	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
20-31-0500		Alum tread fuel tank trim, Conv - 2 door Vertical trim only, OEM cab steps remain Move lower step even with body rubrail	1	MTL
20-31-1900	S	Chassis cab painted by chassis OEM	1	MTL
20-31-7500	S	Console in cab Install Traffic adviser controller (50-11-6600), Customer's radio and wiring provisions (50-35-0500), and pump shift (30-51-0500) in console. Storage area at rear as large as possible with hinged cover and lift and turn latch provided no partitions required. There will be a second shallow storage compartment with hinged cover towards the officer position. Gray Zolatone finish The department will approve the layout prior to building it. As discussed at the pre-construction meeting of 11.07.2019. The layout was approved by Chief Ed Smith by e-mail on 01.13.2021	1	MTL
20-31-7505	S	Stainless glove box holder/dispenser There will be two (2) glove box holders installed on the front face of the SCBA seat base in the enclosed crew cab. The holders will be installed vertically between the outer SCBA seats and will be installed off the floor as much as possible. As requested by Chief Ed Smith by e-mail on 01.13.2021.	2	MTL
20-41-0500		Intake air shutoff for engine E Located on pump operators panel.	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.	1	MTL
20-41-1900		Battery boost terminals with chassis E Included with chassis	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 In back wall of back compartment with slotted cover plates and rubber gaskets.	1	MTL
20-41-52AA	U	Structural steel bumper integrated with rear tailboard A structural steel bumper shall be provided on the rear of the apparatus. The bumper shall be integrated with the rear tailboard step and shall be well braced to provide high strength and rigid framework. The rear bumper will not be used as a lift point or as a push bumper. The framework can be built off the existing tow hooks structure as discussed at the pre-construction meeting of 11.07.2019. Reference 60-10-5450 the rear tailboard step is made of open strut aluminum with non slip surface, SOPT in file	1	
20-51-0710		Master Battery Disconnect included with Freightliner chassis	1	MTL
20-51-2500		Back up alarm included with chassis	1	MTL
20-51-3100	S	Air inlet not requested	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 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 Locations are as follows; Receptacle #1 - placed in a position for the battery conditioner to plug into it. The following outlets shall be powered off the shoreline and the on board generator through the automatic transfer switch; Receptacle #2 - Left rear compartment under cord reel 51-31-4000	5	MTL

PART NO	S	DESCRIPTION	QTY	ID
		Receptacle #3 - On one end of radio shelf 60-31-9610		
		Receptacle #4 - On opposite end of radio shelf 60-31-9610		
		Receptacle #5 - On the pump panel area		
		Receptacles to be minimum 12" from floor level to meet ULC requirements		
		As confirmed at the pre-construction meeting of 11.07.2019		
20-51-6600	S	Kussmaul Pump Plus conditioner/compressor Battery conditioner located under/behind rear seat in cab Air compressor located in the pump compartment easily accessible from the right side pump access door as approved at the pre-construction meeting of 11.07.2019	1	MTL
20-51-66AA	U	Auto Drain for Kussmaul compressor The Kussmaul compressor (20-51-6600) will have an auto drain as requested by the fire department by e-mail on 01.24.2020	1	
20-51-7101	S	Electric System Management - VMUX	1	MTL
20-51-7500		Super Auto eject for 120 v - 20 A with sealed enclosure Located in driver's side step area. Minimum 24" from grade to meet ULC.	1	MTL
20-51-8510	S	Engine compartment light LED Switched when park brake is applied.	1	MTL
20-51-9001	S	Air horns as supplied by chassis OEM Chassis is supplied with air horns (with snow shields) on cab hood, controlled by dual lanyards in cab.	1	MTL
20-52-0010	U	Air horn control on pump panel Located on transverse operators panel. Labeled "AIR HORN"	1	
20-52-1010	U	Gooseneck LED Map light - Federal Littlelite Located on the A-post within easy reach of Officer as discussed at the pre-construction meeting of 11.07.2019 P/N 1032001	1	
20-52-3500		> Chassis steering wheel lined up by Metalfab E ENG. NOTE: Freightliner, Sterling, and Spartan only	1	MTL
20-52-4000	S	Rear View Camera system Rearview Systems STM5600 with 5.6" colour monitor in cab mounted on a rigid bracket on/in dash area. Order monitor with bale mounting holes if possible.	1	MTL
20-60-0400		Chassis wheelbase does not change	1	MTL
20-61-3500	S	> Enclosed crew cab - aluminum - 4 SCBA seats - 72" int ht ENG. NOTE: Add SCBA brackets Specify interior height required - 72" standard A pass through to the driving compartment or an intercom system is required Floor to be non slip embossed aluminum tread plate. Specify interior height required - 72" standard as discussed at the pre-construction meeting of 11.07.2019 A pass through to the driving compartment is provided (ref 20-90-1000) All four seats to be flip up ULLH-EZO SCBA brackets (brackets ref 80-18-0600) Seat/seatbelt sensors required wired to the seat belt indicator in cab. See part # 60-90-6000 for the heater and A/C specs	1	MTL
20-61-4000		Interior finish - Zolatone gray	1	MTL
20-61-5000	S	Crew cab windows - fixed Each side of crew cab by transverse panel, lower section of door, front facing and rear facing transverse windows and rear facing vertical window rear of door opening. ***Engineering to provide purchasing with ordering information.***	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
20-61-5500	S	Crew cab windows - sliding Upper section of entry doors and one each side by crew cab seats. ***Engineering to provide purchasing with ordering information.***	1	MTL
20-90-1000		Sealed pass through cab to body Accordion seal around window opening with foam and gray vinyl	1	MTL
20-90-1500	S	> 12 volt power point - terminal strip connection ENG. NOTE: Specify location in shop note There will be a 12-volt terminal strip connection supplied and installed at the radio shelf in the crew cab 60-31-9610 and in the L3 compartment beside the shoreline 20-51-6200. These connections will be wired battery direct to be used to charge a customer supplied and installed Thermal Imager. As requested by Chief Ed Smith by e-mail on 11.24.2020	2	MTL
20-99-05AA	U	Defrost fan in each corner of canopy rear windows - switched on fan - 2 total P/N 1130779	1	
PUMP AND PLUMBING				
30-11-5600	S	Hale QFLO Single stage 1050 IGPM (5000 LPM)	1	MTL
30-12-3300		Mechanical seal for Hale QFLO pump	1	MTL
30-15-0102		Plumbing - Hale manifold pump TM SS E	1	MTL
30-20-1000		Valves and controls - top mount panel	1	MTL
30-20-1002		Akron valves specified	1	MTL
30-20-1600		Piping stainless steel - general	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
30-20-2000		Piping hydrostatic test	1	MTL
30-20-2500		Anodes in suction and discharge piping 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
30-21-9510		Tank to Pump 4" Ball valve SS, handwheel control with check valve manifold pump	1	MTL
30-22-0530		Tank Fill valve 2" TM SS	1	MTL
30-31-4010	S	Suction - 6" each side manifold pump	1	MTL
30-31-7200		> Hale master intake suction valve - electric control ENG. NOTE: Required for top mount panels Show location in Shop Note For the left and right side 6" suction inlets Electric controls shall be on the transverse pump operators panel. Manual controls shall be adjacent to the valve on the corresponding side panels.	2	MTL
30-32-8530		Suction - 2-1/2" left side SS, TM control, Hale manifold pump Bleeder required	1	MTL
30-32-9030		Suction - 2-1/2" right side SS, TM control, Hale manifold pump Bleeder required	1	MTL
30-40-3010		4" right discharge SS, plumbed 4", handwheel, Hale manifold pump Bleeder required Piping will be terminated with a 30 degree 4" Storz adapter complete with Storz cap	1	MTL
30-41-2030		2-1/2" RS discharge TM SS, bleeder, Hale manifold pump	1	MTL
30-41-2530		2-1/2" LS discharge TM SS, bleeder, Hale manifold pump	2	MTL
30-43-1530	S	2-1/2" rear discharge TM SS, plumbed 2-1/2", bleeder Right side under the hose bed and over the suction hose tube (60-40-5500) to match M11-16100 as discussed at the pre-construction meeting of 11.07.2019	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
30-44-0730	S	1-1/2" speedlay (each) front of pumphouse TM SS, plumbed 2" Each speedlay is equipped with a removable dual direction sliding hose tray with minimum capacity for 250 feet of 1-3/4" DJ hose and nozzle. Stainless steel rollers on each end are installed. Drop down aluminum treadplate doors with "D" handles are installed to hold the hose in place. Bleeder valve provided on pump panel. The layout was approved by e-mail by Paul Marks on 11.25.2019	2	MTL
30-44-6530	S	Piping for monitor TM SS, plumbed 3", bleeder Piping will be centered side to side in area behind transverse panel, will be mounted on back wall of storage and will not interfere with the ladder rack (60-41-9500). Piping will have customer supplied monitor adapter installed. Adapter arrived at Metalfab on 01.08.2021 As discussed at the pre-construction meeting of 11.07.2019	1	MTL
30-51-0500		Pump shift-Midship air ***Includes "Pump Engaged" and "OK to Pump" indicator lights in cab ***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
30-51-1500		Power shift PTO - Automatic transmission For the hydraulic generator.	1	MTL
30-51-1501		> PTO driveshaft E ENG. NOTE: Quantity of 2 for pumps mounted on 4 door cabs due to length	1	MTL
30-51-6810		FRC InControl Governor/Throttle engine display with buttons	1	MTL
30-51-7000		Suction side relief V/V, manifold pump	2	MTL
30-51-7713		Trident Air Primer 3 barrel 3 location Primer is plumbed for the following locations; Location #1 - main pump Location #2 - Left side MIV-E Location #3 - Right side MIV-E	1	MTL
30-51-7720		Additional air tank for air primer system An additional air tank is provided to improve air primer capacity - supplied with the 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
30-51-9100		Thermal Relief Valve with warning light	1	MTL
30-52-1000		Master drain V/V, 12 port	1	MTL
30-52-2000		Drain valve for foam system header	1	MTL
30-52-4210	S	Foam System - Hypro FoamPro 2002 Single Tank The foam system shall be designed such that foam can be supplied to 2 speed lays, rear discharge, right side discharge and one left side discharge (front most unless otherwise specified) as discussed at the pre-construction meeting of 11.07.2019	1	MTL
30-52-8100		Electric foam fill pump with panel pickup Located on the right side pump panel. Pick up hose will be stored (tube mounted) just inside the right side pump compartment access door.	1	MTL
30-52-90AA	U	Internal foam flush system FRC #3430-0834 Controls located on transverse pump operators panel. SOPT in file	1	
30-52-9100		Foam concentrate label at foam tank fill	1	MTL
30-52-9200		Foam System Instruction Plates	1	MTL
30-52-9400		NFPA Foam System certification test	1	MTL
		WATER AND FOAM TANKS	1	MTL
40-11-2100		Polypropylene water tank (Imperial gallons)	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
40-11-2200		Water tank capacity certification (tank manufacturer)	1	MTL
40-11-4500	S	Tank capacity 3200 Litres The tank capacity will be noted in Litres as requested at the pre-construction meeting of 11.07.2019	1	MTL
40-12-5000	S	Foam cell - 140 Litres The tank capacity will be noted in Litres as requested at the pre-construction meeting of 11.07.2019	1	MTL
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		1" foam level gauge connection	1	MTL
40-30-0500		Sump drain valve (3" gate valve) with linkage E Located on left side so there is no interface with drive lines and exhaust	1	MTL
40-30-1000		Water Fill Box front left corner	1	MTL
40-31-0400		Rear dump valve not requested E	1	MTL
40-31-6050		Rear fill not requested E	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 switches are located on the ceiling console of the chassis ***Rocker switch assignments: MASTER -LIGHT BAR RED -LIGHT BAR CLEAR -REAR BEACONS -FLASHING WARNING -LEFT SCENE -RIGHT SCENE -REAR SCENE -REAR FLOODS - TCL wired to Emergency Master -Generator switch - 50-31-4000	1	MTL
50-11-1460	S	Federal EQ2B 200 watt siren The siren will be an EQ2B siren model as discussed at the pre-construction meeting of 11.07.2019 The siren head control will be installed in the chassis dash and the siren amp module will be installed inside the console (20-31-7500) as approved by Chief Ed Smith on 01.13.2021	1	MTL
50-11-1620	S	> Siren speaker, 100 watt, in front bumper ENG. NOTE: AS124 speaker 1570860 There will be two (2) siren speakers installed in the front bumper and they will have a protective cover with the Federal "F" logo to match their last truck M11-16100 as discussed at the pre-construction meeting of 11.07.2019	2	MTL
50-11-2600		Siren to be accessible to driver and officer	1	MTL
50-11-60AA	U	Whelen Freedom IV series light bar There will be a Whelen Freedom IV series light bar supplied and installed on the cab roof. The layout of the bar from left to right starting at the back corner will be: Red LED - back left corner Red LED - end of the bar Red LED - front left corner White LED Red LED Blank space - empty pod	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
		Red LED		
		Both middle pods are empty		
		Red LED		
		Blank Space / empty pod		
		Red LED		
		White LED		
		Red LED - front right corner		
		Red LED - end of bar		
		Red LED - back right corner		
		Or RRRWR-R--R-RWRRR as discussed at the pre-construction meeting of 11.07.2019		
50-11-6600	S	Rear LED Traffic Advisor warning lights - surface mount Whelen model TAM83 to fit the available space. Controller installed in the 20-31-7500 console as discussed at the pre-construction meeting of 11.07.2019	1	MTL
50-11-8600	S	Rear LED beacons-Whelen MCFLED2R (pr) both red	1	MTL
50-12-8500	S	Front LED flashers (pr)-Whelen red LED 400 LS red / RS blue The front left side flasher will be red and the front right side flasher will be blue as discussed at the pre-construction meeting of 11.07.2019	1	MTL
50-12-8600	S	Rear LED flashers (pr)-Whelen red LED 400 LS red / RS blue The rear left side flasher will be red and the rear right side flasher will be blue as discussed at the pre-construction meeting of 11.07.2019	1	MTL
50-12-8700	S	Front side inter lts (pr) - Whelen red LED 400	1	MTL
50-12-8800	S	Body side inter lts (pr)-Whelen red LED 400	1	MTL
50-12-8900	S	> Add'l body side inter lts (pr)-Whelen red LED 400 ENG. NOTE: Required if distance between front and rear side intersection lights exceeds 25'	1	MTL
50-21-1110	U	Whelen LED handheld spot light in cab - P46HHS A handheld spot light shall be mounted easily accessible in officer seat area. Will be located on the front of the 20-31-7500 console accessible to the Officer using the magnet supplied with the light as discussed with Chief Ed Smith on 01.13.2021 P/n 1521712 SOPT #1029	1	
50-21-1505	U	Unity LED rear floods (pr) Switched in cab and on light head. These lights cannot be managed to shed	1	
50-21-27AA	U	Command Light - 120 VAC - KL415A-FS-BL An LED 120 Volt AC light tower, Command Light model KL415A-FS with back light option installed on the top of the apparatus ahead of the fill box. Control will be located in the rear left compartment on the right side wall of the compartment to match M11-16100 as confirmed by Paul Marks by e-mail on 11.25.2019 and Chief Ed Smith by phone on 02.25.2020 SOPT in file	1	
50-21-5100		> Compartment lighting - LED tube lights in each compartment (rollup doors) ENG. NOTE: Rollup doors only	1	MTL
50-21-5560	U	Equipment rack not stowed warning light with buzzer and momentary override Located in overhead console over driver's seating position. Bilingual warning label in cab to read: "Do Not Move Apparatus when Light is on" There will be a momentary override to be used in case of a malfunction as discussed at the pre-construction meeting of 11.07.2019.	1	
50-21-5600	S	Door Ajar warning light with buzzer and momentary override Located in overhead console over driver's seating position. Bilingual warning label in cab to read:	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
		"Do Not Move Apparatus when Light is on" There will be a momentary override to be used in case of a malfunction as discussed at the pre-construction meeting of 11.07.2019.		
50-21-8001		Step lights for body steps - 4" LED Switched when park brake is set.	1	MTL
50-21-8110		Step lights for walkway - 4" LED Switched when park brake is set.	1	MTL
50-21-8200	S	Step lights for chassis steps - LED Switched when park brake is set.	1	MTL
50-21-8510	U	Rear clearance lights on rubber arm (pr) There will be a pair of clearance lights on rubber arms supplied and installed on the rear bumper as discussed at the pre-construction meeting of 11.07.2019. SOPT 812	1	
50-21-8600		LED clearance lts and reflectors	1	MTL
50-21-8800		LED intermediate turn signal/clearance/reflector length >30'	1	MTL
50-22-0700	S	Whelen 64 LED tail/brake-turn-backup module (pr)	1	MTL
50-31-4000	S	8000 watt hydraulic generator - Harrison Located on top of body near front. FROG control located on the pump panel as discussed at the pre-construction meeting of 11.07.2019	1	MTL
50-31-60BB	U	Scene lights (pr) LED Whelen PCPSM1C Located on upper right corners of body sides, controlled by rocker switch in cab. The lights can be managed to shed. Located on upper left corners of body sides, controlled by rocker switch in cab. The lights can be managed to shed. Located on upper back corners of body, controlled by rocker switch in cab and also activate when transmission is placed in reverse gear. The lights can't be managed to shed as they are required for rear lighting per ULC. As requested by engineering and approved by Paul Marks by e-mail 01.07.2020	3	
50-31-6550		Ground lighting (LED Lumabar) - 2 door chassis Switched when park brake is set.	1	MTL
50-31-6580		Ground lighting (LED Lumabar) - top mount body Switched when park brake is set.	1	MTL
50-35-0500	S	Provisions for installation of customer supplied and installed mobile radio A radio cutout, power and ground wire are supplied and labeled under the 20-31-7500 console area for Customer to install a Motorola XPR5550e radio (not included) in the cab of the apparatus. The radio shall be easily accessible from both the driver and officer seating position. Power will be off master switch as discussed at the pre-construction meeting of 11.07.2019 ***Radio NOT included*** A 6-wire cable shall be installed to to the transverse pump panel mic box area and clearly labeled.	1	MTL
50-35-0560		VHF antenna with base - commercial chassis Located one each side rearward of lightbar unless otherwise specified. Customer will cut antenna's to length.	2	MTL
50-99-15AA	U	Federal Traffic Clearing light with chrome bezel - 9"x7" There will be a 9"x7" Federal Traffic Clearing Light (TCL) with chrome bezel supplied and installed in the front grill. It will be interlocked with the emergency lights, have a dedicated switch in 50-11-0900 and interlocked with the park brake. As requested at the pre-construction meeting of 11.07.2019 and confirmed by e-mail by Paul Marks on 01.02.2020. Model LEDTCL97C-W and QL97MC bezel	1	
51-31-3020	S	> 120 volt wiring for hydraulic generator ENG. NOTE:	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
		Specify number and capacity of circuits, location and complete specifications of all electrical devices to be installed.		
		Note that Neutral is bonded to chassis ground. Breaker panel will be located in rear left side compartment like M11-16100 Circuits will be wired for the following Transfer switch 51-31-3100 Cord reel 51-31-4000 Command light 50-21-27AA No additional wiring is required as discussed at the pre-construction meeting of 11.07.2019		
51-31-3100		> Automatic 110 volt transfer switch ENG. NOTE: Requires 20-51-75 or 20-51-80 120 volt inlet Wired to the 20-51-6200 receptacles	1	MTL
51-31-4000	S	> Electric cord reel with 200' x 12/3 cable, lighted box ENG. NOTE: Specify receptacles required in junction box Located in the upper rear portion (on right hand side of compartment) of the left rear side compartment as discussed at the pre-construction meeting of 11.07.2019 Lighted cable box to be mounted and have four (4) dual household outlets to match M11-16100 Reel must meet ULC standards	1	MTL
51-31-40AA	U	MD-70 speed controller for Hannay Cord Reel There will be a MD-70 Speed controller installed on the Hannay Cord Reel (51-31-4000) as requested by Todd Finnie by e-mail on 04.12.2021	1	
51-31-4500		Dielectric strength test for line voltage system BODY	1	MTL
60-10-1400		Single axle extruded aluminum body	1	MTL
60-10-4100		No "beavertail" rear step supports	1	MTL
60-10-4600		Painted fender surround E	1	MTL
60-10-4700		Integral aluminum fender trim	1	MTL
60-10-5400		> Diamondback pumphouse steps ENG. NOTE: Maximum height of step is 24" from ground	1	MTL
60-10-5450	S	> Diamondback 10" rear step minimum ENG. NOTE: Maximum height of rear step is 24" from ground See also 20-41-52AA for steel substructure which will be painted black. The step is to be deep enough so that the Zico Access Ladder is not the furthest thing out and is protected. As discussed at the pre-construction meeting of 11.07.2019	1	MTL
60-10-6500	S	Bolt on extruded aluminum rub rail Reflective material in rub rails requested at pre-construction meeting of 11.07.2019.	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

PART NO	S	DESCRIPTION	QTY	ID
60-11-1000		> Rear left side compartments full height E ENG. NOTE: Specify critical dimensions in shop note	1	MTL
60-11-1400		> Rear right side compartments full height E ENG. NOTE: Specify critical dimensions in shop note	1	MTL
60-11-2000	S	> 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 There will be a compartment over the rear wheels on the left side. There will be a compartment over the rear wheels on the right side that will be rearward of the Zico HLAS ladder rack (60-41-9500) and will measure minimum 52" wide to allow the installation of four (4) SCBA brackets on unistruts (80-18-0600). As discussed at the pre-construction meeting of 11.07.2019	2	MTL
60-11-3200		> Full Height Rear compartment ENG. NOTE: Specify critical dimensions in shop note	1	MTL
60-11-5500	S	Rollup door - standard height Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point The doors will cover the L2 and R2 compartments as discussed at the pre-construction meeting of 11.07.2019	2	MTL
60-11-5520		Rollup door - full height Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point	5	MTL
60-11-5656	U	Amdor pull straps - Flex - HD - L2 and R2 There will be Amdor Flex HD straps ordered with the rollup doors.	2	
60-11-5660	U	Amdor pull straps - Flex - HD - L1, L3, R1 and R3 There will be Amdor Flex HD straps ordered with the rollup doors.	4	
60-31-4100		Extruded aluminum handrails Minimum 2" clearance from handrail to any surface	1	MTL
60-31-5000		Zico access Ladder at rear of unit Minimum 7" clearance between rung and any obstruction. Requires switch wired to the Equipment not stowed warning light in cab to indicate if ladder is stowed correctly.	1	MTL
60-31-5500	S	Steps at rear of body (folding) - 2 on right side only - with LED lights Maximum height between steps is 18" There will only be two (2) required on the right side rear of the body as discussed at the pre-construction meeting of 11.07.2019	1	MTL
60-31-5600		Steps and grab handles at front of body next to pump panel Maximum height between steps is 18"	1	MTL
60-31-5800	S	Special step over rear compartment There will be a step supplied and installed under the hose bed and above the traffic bar (50-11-6600) and camera (20-52-4000) to help transitioning from the Zico Access Ladder (60-31-5000) and hose bed. As discussed at the pre-construction meeting of 11.07.2019	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
60-31-6500	S	Compartment matting - plastic interlocking tile	1	MTL
60-31-7900	U	Adjustable shelf tracking in all compartments	1	
60-31-8004	U	Triple SCBA bottle storage There will be four (4) triple bottle storage supplied and installed on the unit. There will be two (2) installed in the rear left side fender well and two (2) installed in the right side rear fender well. There will be a door ajar switch on each door and each tube will have a secondary restraint strap for a bottle with a 4.5" neck - see picture of bottle in F:/Data/Jacques/Current project/North Perth/Pictures. The bottle length will be 23". As discussed at the pre-construction meeting of 11.07.2019 and confirmed by e-mail by Pual Marks on 01.02.2020	4	
60-31-8210	S	> Sliding vertical tool board - open / closed latch ENG. NOTE: Specify location Left rear side compartment - to the left of the cord reel 51-31-4000 like M11-16100 and spacing to be the same. As confirmed by Paul Marks by e-mail on 01.02.2020 White reflective stripe is applied on the exposed edge for visibility when the compartment door is open.	2	MTL
60-31-822A	U	Price Adjustment	1	
60-31-8400	S	Fixed vertical partition A vertical partition will be installed the rear left side compartment beside the pull out tool board 60-31-8210 to support adjustable shelves 60-31-9600 to match M11-16100 as confirmed by Paul Marks by e-mail on 11.25.2019	1	MTL
60-31-8800	S	> Sliding tray (ea) - 600 pound capacity ENG. NOTE: Specify location ***Hardware requires 3-1/2" of compartment height Reflective stripe is applied on the exposed edge for visibility when the compartment door is open Installed in the following compartments at floor level: Tray #1 - Right side front compartment (R1) Tray #2 - Right side rear compartment (R3) Tray #3 - Back compartment (B1) Tray #4 - Front left side compartment (L1) As discussed in telephone conversation between Jacques Pelletier and Chief Ed Smith on 01.23.2020	4	MTL
60-31-9000	S	> Tip down tray - 30 degree, 250 pound capacity - Steel ENG. NOTE: Specify location White reflective stripe is applied on the exposed edge for visibility when the compartment door is open Installed in the left side compartment over the rear wheels (L2) The sliding hardware will be steel to match M12-16100 and be able to be 72" wide. As discussed with Chief Ed Smith by phone on 10.21.2020	1	MTL
60-31-9600	S	> Adjustable shelf (ea) ENG. NOTE: Specify location Reflective stripe is applied on the exposed edge for visibility when the compartment door is open Shelf #1 - L1 / Full Depth Shelf #2 - L1 / Full Depth Shelf #3 - L1 / Full Depth Shelf #4 - L3 / Full Depth - under cord reel Shelf #5 - L3 / Full Depth - under cord reel Shelf #6 - R3 / Shallow Depth Shelf #7 - R3 / Shallow Depth Shelf #8 - Back / Full Depth	13	MTL

PART NO	S	DESCRIPTION	QTY	ID
		Shelf #9 - Back / Full Depth		
		Shelf #10 - R1 / Shallow Depth		
		Shelf #11 - R1 / Full Depth		
		Shelf #12 - R3 / Full depth		
		Shelf #13 - Back / Full depth		
		As discussed at the pre-construction meeting of 11.07.2019 and confirmed by e-mail by Paul Marks on 01.24.2020		
		Added 13th shelf in back compartment as per discussion with Chief Ed Smith by phone on 02.25.2020		
60-31-9610	S	> Radio shelf for crew cab interior (ea) ENG. NOTE: Specify location	1	MTL
		There will be a shelf installed above the pass through 20-90-1000 that measures approximately 51" wide x 8" deep. As discussed at the pre-construction meeting of 11.07.2019		
60-32-3560	S	Three adjustable hose divider (each) and one fixed to hose bed covers support Hand hold required in end	1	MTL
60-32-7500	S	Hose bed - aluminum The hose bed surface will be as big as possible. The generator will move towards the left side as much as possible to allow a full length hose lay - this will bring hose to the edge of the light tower area. The left side hose lay will extend to the area beside the water fill tower - this will bring hose to the edge of the generator area. As discussed with Chief Ed Smith by phone on 02.25.2020.	1	MTL
60-33-0000	S	Paint exterior - Imron Elite - body red, canopy white over red The crew cab shall be painted white over red - paint dividing line shall be in line with the dividing line on the cab and sweep up to the top of the pump house like New London M16-18194 as discussed at the pre-construction meeting of 11.07.2019. Body shall be paint single color red to match the red on the 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
60-33-1600		Special paint compartment interior - gray zolatone E The compartment interiors are finished with a gray textured paint for chip resistance. Shelves, trays and hardware are left natural aluminum.	1	MTL
60-33-2200	S	Lettering - 80 letters up to 3" tall - 3 colour *** Vinyl letters, Fire Department to provide details on location and text. Layout Drawing approved by customer Lettering will match M11-16100 where possible. They will be numbered as follows: Pumper 1 - Atwood Unit # 22 Pumper 2 - Monkton Unit # 32 There will be a Maltese cross on the hood - see pictures in F:/Data/Jacques/Current Project/North Perth/Pictures Lettering layout drawing approved by customer March 21-2021	1	MTL
60-33-3300	S	Reflective stripe - per Customer's requirements 50% of perimeter each side and 25% of perimeter front 3M Scotchlite material Layout drawing approved by customer March 24, 2021	1	MTL
60-33-3310		Reflective stripe - red and yellow chevron at rear Minimum 50% of rear vertical surface. Printed 3M Scotchlite material	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
60-33-3600	S	White reflective stripe - inside entry doors 96 square inches minimum inside each cab and crew cab entry door	1	MTL
60-35-50AA	U	Aluminum cover over hose bed with end tarps - black An aluminum hose bed cover shall be provided to cover the hose bed and shall be substantial enough to support being walked on. The top surface of the cover shall be designed to be non-slip (embossed aluminum treadplate). Door ajar switches required. Gas struts and safety chains are included. Tie off loops, rail, or tie off mechanisms are not included. Rear flaps with Velcro straps will be provided on the rear of the cover to tie around footman's loops.	1	
60-40-5500		Suction hose tube (each) with door Locate at rear - both right of back compartment. For the storage of the 6" x 10' suction hoses 80-11-5000 Door ajar switch required.	2	MTL
60-41-1015	S	Pike Pole tube in suction hose tube One tube will be 2" ID round for storage of the 10' pike pole 80-13-2500. One tube will be 2" ID round for storage of the 12' pike pole 80-13-253A. One tube will be rectangular in shape for the storage of the 6' pike with "D" handle 80-13-2520 The orientation will be above the suction hose tubes (60-40-5500) to match M11-16100 as discussed at the pre-construction meeting of 11.07.2019	3	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 Right side. 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	S	ZICO HLAS switched at right side pump panel Switch is located on same side as electric rack - right side pump panel to match M11-16100. As discussed at the pre-construction meeting of 11.07.2019.	1	MTL
60-80-0100	S	Cribbing storage compartment under left side rescue body (each) Cribbing compartment under body, under left side front compartment with slide tray. Sliding hardware required "D" handle quarter turn latch with rods Door ajar switch required White reflective striping on edges Tread plate on face. The size of the compartment will be identical to the one on M11-16100. As discussed at the pre-construction meeting of 11.07.2019	1	MTL
60-90-6000	S	Air Conditioner / heater in Rescue Body - 12 volt The crew cab shall be equipped with A/C and heater that will produce 33,000 BTU heating and 24,000 BTU of cooling . There will be heater ducts run to the lower step area in each side door. Location of evaporator will be behind the pump panel and condenser (between frame rails under crew cab as discussed and finalized at the Pre-construction meeting of 11.07.2019	1	MTL
60-90-6010		Air Conditioner installation - subcontractor	1	MTL
60-91-0900	U	Upper compartment left side for shovels and forks Upper compartment above pump house for two (2) flat and two (2) round	1	

PART NO	S	DESCRIPTION	QTY	ID
		shovels, and two (2) small brooms (customer to size the brooms based on the space available). There will be a surface mount door at each end (none on top). As discussed at the pre-construction meeting of 11.07.2019 and confirmed by Paul Marks by e-mail on 01.02.2020		
		INSTRUMENTATION	1	MTL
70-11-0000		Warning Label on Pump Operator's Panel	1	MTL
70-11-1500		Stainless steel 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
70-11-2000		Top 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
70-11-2500		Transverse walkway	1	MTL
70-11-2700		No tread plate overlay on back of chassis cab E	1	MTL
70-11-3100		Mansaver bars not required E	1	MTL
70-11-3200	S	Colour coded tags All labels in Metric measurement as discussed at the pre-construction meeting of 11.07.2019	1	MTL
70-11-3500	S	> Compartments in ends of walkway - each side ENG. NOTE: Flush mount doors with quarter turn "D" handle latches and tread plate overlays There will be a compartment under the speedlay area on each side. It will be covered with a painted door, have a door ajar switch, will NOT be vented, have interlocking rubber tile and be illuminated to meet ULC. As discussed at the pre-construction meeting of 11.07.2019	1	MTL
70-11-4500		Diamondback grip type panel hood step right side	1	MTL
70-11-4600		Diamondback grip type panel hood step left side	1	MTL
70-11-5500		Right side tread plate pump access door No opening dimension less than 18" Door ajar switch required	1	MTL
70-11-5600		Left side tread plate pump access door No opening dimension less than 18" Door ajar switch required	1	MTL
70-11-5700		Transverse tread plate pump access door No opening dimension less than 18"	1	MTL
70-11-7500		Heat pan-aluminum	1	MTL
70-11-8000		Heater in pump compartment	1	MTL
70-20-1120	U	4-1/2" compound gauge - dual face 0-400 To be within 8" of each other - edge to edge	2	
70-20-2171	U	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	
70-20-2500		Primer control	1	MTL
70-20-2501		Additional Primer control	2	MTL
70-20-3300		FRC InControl Governor Control Throttle can be no lower than 42" and no higher than 72" from operator's standing position.	1	MTL
70-20-6500		Test gauge panel Mount below the compound gauges for proper draining	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
70-20-7500		Heat exchanger control valve	1	MTL
70-20-7600		Pump cooler control valve	1	MTL
70-21-1650	U	FRC WLA360-A00 Foam Level gauge on pump panel	1	
70-21-2100	S	> PTO Hourmeter - included with the generator FROG control ENG. NOTE: Specify location in shop note	1	MTL
70-21-3670	U	FRC WLA300-A00 Tank Vision water level gauge	1	
70-21-3671	U	Water level gauge on LS panel There will be a second water level gauge supplied and installed on the left side pump panel as requested by Todd Finnie by e-mail on 03.25.2021	1	
70-21-5500		Panel readout for Battery Conditioner Located in driver's side step area.	1	MTL
71-21-4500	S	Speaker at pump operators position Weatherproof amplified Motorola speaker. Located on or above the transverse pump operators panel. Make and model of speaker to be determined by radio contractor to determine the correct speaker based on the radio and the application	1	MTL
71-21-4510	U	Volume control for speaker, Microphone and connection on pump panel The radio system shall have a weatherproof amplified Motorola speaker (71-21-4500) and volume control and a weatherproof Motorola microphone installed at or above the pump control panel. A 6-wire cable shall be installed to front cab radio location. Customer to specify any special make/model of microphone.	1	
ACCESSORIES				
80-11-2000	U	Price Adjustment	2	MTL
80-11-20AA	U	3" x 10' lightweight suction hose (ea) 2-1/2" CSA threads, rocker lug couplings Rocker lug type couplings so hoses can be stored inside the 6" suction hoses.	2	
80-11-5000		6" x 10' lightweight suction hose (ea) Tube mounted.	2	MTL
80-12-2500	S	6" barrel strainer with rope The apparatus shall be equipped 6" hard suction barrel strainer with rope (30' x 1/2" rope). Shipped loose, not mounted. Customer will mount with Customer's brackets.	1	MTL
80-13-0500		Rubber mallet Shipped loose, not mounted. Customer will mount with Customer's brackets.	1	MTL
80-13-1100		Hose wrenches (triple) with holder Mounted as directed, otherwise shipped loose with mounting fasteners.	1	MTL
80-13-1500	S	Bar with bracket To be mounted on the tool board 60-31-8210 as discussed at pre-construction meeting of 11.07.2019	1	MTL
80-13-2500		Pike pole, fiberglass handle - 10' long Tube mounted.	1	MTL
80-13-2516	U	Pike pole, fiberglass handle - 12' long Tube mounted.	1	
80-13-2520		Pike pole, fiberglass handle - 6' long - "D" handle Tube mounted.	1	MTL
80-13-4000	S	Axe, pick head, fiberglass handle and bracket To be mounted on the tool board 60-31-8210 with Pac bracket listed in 80-99-20AA as discussed at pre-construction meeting of 11.07.2019	1	MTL

PART NO	S	DESCRIPTION	QTY	ID
80-13-4500	S	Axe, flat head, fibreglass handle and bracket To be mounted on the tool board 60-31-8210 with Pac bracket listed in 80-99-20AA as discussed at pre-construction meeting of 11.07.2019	1	MTL
80-14-2510	U	Duo Safety 35' three section ladder Mounted on the HLAS.	1	
80-14-5510	U	Duo Safety 14' roof ladder Mounted on the HLAS.	1	
80-14-8510	U	Duo Safety 10' folding attic ladder Mounted on the HLAS on the 80-14-9000 brackets.	1	
80-14-9000	S	Attic ladder bracket (Zico) Mounted on the HLAS.	1	MTL
80-14-9010	U	Attic ladder bracket (Zico) Mounted on the HLAS.	1	
80-18-0600	S	SCBA brkt w/strap - ZICO ULLH - EZO crew cab mount Zico assembled ULLH bracket with EZ-OUT strap assembly. Installed in crew cab seat backs.	4	MTL
80-18-0600	S	SCBA brkt w/strap - ZICO ULLH - R2 compartment mounted Four (4) brackets will be mounted in the R2 compartment on unistruts as discussed at the pre-construction meeting of 11.07.2019	4	MTL
80-19-0500	S	Large folding wheel chock - aluminum (ea) not mounted Wheel chocks will be shipped loose where the mounting brackets 80-19-0600 were deleted at the pre-construction meeting of 11.07.2019 and noted on Change Order A	2	MTL
80-99-05AA	U	Zico UHH-1-C helmet holder - supply and install 4 / ship 2 loose - (ea) Carrier will mount four (4) across from the SCBA seats on the front of the pump house and ship remaining two (2) loose with mounting fasteners for customer to install after delivery. As discussed at the pre-construction meeting of 11.07.2019 There will be one mount at each end panel (one will be under the A/C heat control) and two (2) on the transverse panel as discussed with Ed Smith on 02.12.2021 The model will be the UHH-1-C - flat model with chrome finish as discussed with Ed Smith on 02.12.2021, include mounting hardware for Carrier's use. These will be shipped to Carrier.	6	
80-99-10AA	U	Flare kit for transportation safety package SOPT in file. These will be shipped loose with the other transportation safety items. P/n 1580317	1	
80-99-15AA	U	Secure mounting for four (4) Customer supplied portable radios in crew cab Mounting to be in the crew cab radio shelf (60-31-9610) as discussed at pre-construction meeting of 11.07.2019	1	
80-99-20AA	U	Various PAC brackets and tracks - Per 7.11 of RFP Brackets shall be supplied as per 7.11 of RFP and shall include the following: 4 - PAC 1001 Hooklok (sold in pairs) - (1561553) 2 - PAC 1004-B Handleloc - (1562215) 2 - PAC 1042-1 Adapter loks for 1-1/2" 4 - PAC 1042-2 Adapter loks for 2-1/2" 2 - PAC 1070-O Jumbolok - (1562650) 1 - PAC K5006 Adjustamount Kit - (1562679) 1 - PAC K5011 Flat head axe hanger/pocket - (1562667) 1 - PAC K5012 Pick head axe hanger/pocket - 1562670) 2 - PAC K5013 Frame saddle for Hyd tool 2 - PAC K5013-X Extended frame saddle for Hyd tool 1 - PAC K5029-1 Kit for mounting bolt cutter - (1562662) 2 - PAC K5032 Kit for mounting Haligon tool - (1562224)	1	

