



## Shop Order

Carrier Truck Centers  
 O/A Carrier Centers Emergency Vehicles  
 6 Edmondson Street  
 Brantford, ON N3T 5N3

Hastings Highlands Fire Services  
 Pat Hoover Fire Chief/CEMC  
 1-613-332-2442  
 phoover@nhfire.ca

<b>Sales Rep:</b> Ryan Stacey Metalfab Ltd.	<b>Terms:</b> Chassis Net 10 days Body and Equipment COD
<b>Drawing #:</b> FT-10872 <b>Est. Delivery Date:</b> / / <b>Customer PO #:</b> 114 <b>Customer #:</b> 1560 <b>QPF #:</b>	<b>Penalty:</b> None

**Quote No:** RBAON-0011  
**Job/Order No:** 19715  
 10/16/2017

PART NO	QTY	DESCRIPTION
	1	== <b>Metalfab Pumper - ULC 05/13 - 0.000</b> ==
	1	<b>CHANGE ORDER B</b>
00-10-1500	1	Metalfab Pumper <span style="float: right;">E</span>
00-20-1000	1	Company Profile <span style="float: right;">E</span>
00-20-1500	1	Standard Body Warranty
00-20-1550	1	Metalfab Limited Ten (10) Year Paint and Corrosion Warranty
<b>00-20-1700</b>	<b>1</b>	<b>Hale Pump Warranty - 5 years</b>
<b>00-20-1800</b>	<b>1</b>	<b>Polypropylene Water Tank Lifetime Warranty</b>
00-20-2000	1	Plant Visits - unlimited at customer expense
<b>00-20-3000</b>	<b>1</b>	<b>No Bonding Requested</b>
00-20-3500	1	Certification for Fusion Welding of Aluminum
00-20-4000	1	Quality System registered to ISO 9001:2008
00-20-4500	1	Fire Apparatus Manufacturers' Association Membership
	1	<b>GENERAL INFORMATION</b>
10-11-0000	1	Intent <span style="float: right;">E</span>
<b>10-11-0110</b>	<b>1</b>	<b>Vehicle data recorder included with chassis</b>
<b>10-11-1100</b>	<b>1</b>	<b>ULC S515-13 Compliance</b>
10-11-1500	1	ULC Testing - Pumper
10-11-2100	1	Maximum length not specified <span style="float: right;">E</span>
10-11-2200	1	Maximum height not specified <span style="float: right;">E</span>
10-11-2300	1	Overall length is less than 30'
10-11-2500	1	General Construction
10-11-3000	1	Manuals - two copies
		***Two copies of chassis manuals are required.
<b>10-11-3600</b>	<b>1</b>	<b>Delivery - FOB Fire Department - By Carrier</b>
10-11-4000	1	Payment Terms - Chassis Net 10 days, Balance COD
10-20-1000	1	Hose bed capacity - standard ULC Pumper
10-20-2000	1	Equipment carrying capacity - standard ULC Pumper
	1	<b>CHASSIS INFORMATION</b>
<b>20-11-1000</b>	<b>1</b>	<b>Chassis supplied by Metalfab - Freightliner M2 106 two-dr</b>
		<b>40,000 lb GVWR 14,000 lb front axle 26,000 lb rear axle</b>
		<b>206" wheelbase 140.45" cab to axle (approximately)</b>
		<b>Cummins L9 350 HP @ 2000 rpm, 2200 governed rpm</b>
		<b>1000 lb-ft torque at 1400 rpm</b>
		<b>Allison automatic transmission, 275 Amp alternator</b>

PART NO	QTY	DESCRIPTION
		<b>189 liter fuel tank</b>
		<b>ESC</b>
		<b>Paint color code to be determined</b>
20-11-1500	1	2013 Emission chassis modifications
<b>20-11-1700</b>	<b>1</b>	<b>Chassis Motor Vehicle Inspection required - ON By Carrier</b>
20-21-0500	1	Fluid capacity plate
20-21-0600	1	Pumping test plate
20-21-1000	1	Maximum riders sign - 2 persons
20-21-1500	1	Seat belt warning labels - 2 door chassis
<b>20-21-1530</b>	<b>1</b>	<b>Tire Pressure Indicators - Single Axle</b>
20-21-1600	1	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"
20-21-2000	1	Non removable key
20-21-2500	1	Shifter lock not required E
20-21-3500	1	Rear step warning label
<b>20-21-3810</b>	<b>1</b>	<b>Front mudflaps provided with chassis E</b>
20-21-4000	1	Rear mudflaps - Metalfab Logo
<b>20-21-4500</b>	<b>1</b>	<b>Transportation Safety Kit - order with chassis</b>
20-31-0200	1	Fuel fill label -Ultra Low Sulfur Diesel only
<b>20-31-0500</b>	<b>1</b>	<b>Alum tread fuel tank trim, Conv - 2 door</b> Vertical trim only, OEM cab steps remain
<b>20-31-1900</b>	<b>1</b>	<b>Chassis cab painted single color by chassis OEM</b>
<b>20-31-7000</b>	<b>1</b>	<b>SS nut covers, hub caps and high hats - single axle</b>
<b>20-31-7500</b>	<b>1</b>	<b>Console in cab</b> Install switch panel, siren, and pump shift in console. Provide a cutout for customer radio - dimensions to come Storage area with hinged cover and lift and turn latch provided at rear of console. Gray Zolatone finish Provide a 3D layout drawing of the console for review by Fire Department prior to manufacture
20-41-0600	1	Intake air shutoff for engine not required
<b>20-41-0900</b>	<b>1</b>	<b>Auxiliary braking system disabled when pumping</b>
20-41-1100	1	Transmission programming - Allison WT ***Includes "Pump Engaged" light next to pump shift on chassis instrument panel.
20-41-1500	1	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.
20-41-1900	1	Battery boost terminals with chassis E
20-41-2000	1	Chassis batteries remain in OEM location
20-41-2510	1	Fuel fill at step fuel tank under cab
20-41-2600	1	Chassis fuel tank remains in OEM location
20-41-5000	1	Rear Tow Hooks - under body *** Flat bar tow hooks under rear step (2)
<b>20-51-0710</b>	<b>1</b>	<b>Master Battery Disconnect included with Freightliner chassis</b>
20-51-2600	1	Back up alarm
20-51-3400	1	Protection valve installed for air operated accessories

PART NO	QTY	DESCRIPTION
20-51-6200	1	<b>120 volt 20 A shore line connection in chassis cab</b> Standard 5-20R duplex receptacle in chassis cab, not fused Mount as required for battery condition to plug into. Minimum 12" off floor level to meet ULC
20-51-6500	1	<b>Kussmaul Autocharge 1000 battery conditioner w/battery saver</b> Mount behind console 20-31-7500
20-51-6700	1	<b>Kussmaul Auto Pump 120 V compressor</b> Mounted in pump compartment right side accessible through pump access door.
20-51-7100	1	Electric System Manager
20-51-7500	1	<b>Super Auto eject for 120 v - 20 A with sealed enclosure</b> Located left side cab step area
20-51-8500	1	<b>Engine compartment lights (pair) to meet ULC</b> One required each side to light up complete engine compartment Activated when park brake is set
20-51-9001	1	<b>Air horns with chassis</b> Air horns on cab hood, controlled by foot switches at drivers and officer's locations included with chassis.
20-52-3500	1	<b>Chassis steering wheel lined up by Metalfab</b> <span style="float: right;"><b>E</b></span>
20-60-0400	1	Chassis wheelbase does not change
	1	<b>PUMP AND PLUMBING</b>
30-11-3800	1	<b>Hale DSD midship pump - 1050 IGPM</b>
30-15-0304	1	<b>Plumbing - non manifold pump SM SS</b> <span style="float: right;"><b>E</b></span>
30-20-0500	1	Valves and controls - side mount panel
30-20-1002	1	<b>Akron valves specified</b>
30-20-1620	1	<b>Piping stainless steel - MG, DSD pumps</b>
30-20-1700	1	<b>1-1/2" thread specifications - NPSH</b>
30-20-1800	1	<b>2-1/2" thread specifications - CSA</b>
30-20-2000	1	Piping hydrostatic test
30-20-2510	1	<b>Anodes in suction and discharge piping -AP/MG/DSD</b> 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.
30-21-5520	1	<b>Tank to Pump SS 3" w/ check valve non manifold pump</b> 4" piping and 4" check valve
30-22-0520	1	<b>Tank Fill valve 2" SS</b>
30-31-4020	1	<b>Suction - 6" not gated each side SS non manifold pump 6" header</b>
30-32-7550	1	<b>Suction - 2-1/2" left side SS, bleeder, non manifold pump</b>
30-41-2040	2	<b>2-1/2" RS discharge SS, bleeder, non manifold pump</b>
30-41-2540	2	<b>2-1/2" LS discharge SS, bleeder, non manifold pump</b>
30-43-1520	1	<b>2-1/2" rear discharge SS, plumbed 2-1/2", bleeder</b> Right side as shown on proposal drawing
30-44-0520	2	<b>1-1/2" crosslay (each) SS, 2" valve, bleeder</b> Minimum capacity for 200' x 1-3/4" hose and nozzle in each hose lay. The transverse hose bed is equipped with stainless steel rollers on each end
30-51-0500	1	<b>Pump shift-Midship air</b> ***Includes "Pump Engaged" and "OK to Pump" indicator lights on chassis instrument panel ***Includes "Throttle Ready" indicator light on Pump operating panel
30-51-6630	1	<b>Class One "TPG" Governor/Throttle</b>
30-51-7000	1	Suction side relief V/V, manifold pump

PART NO	QTY	DESCRIPTION
<b>30-51-7700</b>	<b>1</b>	<b>Primer Hale oil less ESP with oil tank Hale</b> Indicator light on panel to show when primer is operating
<b>30-51-8100</b>	<b>1</b>	<b>Heat exchanger included with chassis</b>
30-52-1000	1	Master drain V/V, 12 port
30-52-3001	1	Foam system not requested E
	<b>1</b>	<b>WATER AND FOAM TANKS</b>
<b>40-11-2100</b>	<b>1</b>	<b>Polypropylene water tank (Imperial gallons)</b>
40-11-2200	1	Water tank capacity certification (tank manufacturer)
<b>40-11-4500</b>	<b>1</b>	<b>Tank capacity 835 Imperial Gallons</b>
<b>40-21-1000</b>	<b>1</b>	<b>4" tank to pump connection</b>
<b>40-22-0500</b>	<b>1</b>	<b>2" tank fill connection</b>
40-23-0500	1	1" water level gauge connection
40-30-0400	1	3" plug in sump box
40-30-1000	1	Water Fill Box front left corner
40-31-0400	1	Rear dump valve not requested E
40-31-6050	1	Rear fill not requested E
	<b>1</b>	<b>ELECTRICAL</b>
50-11-0500	1	Base electrical system ***Includes green "Battery On" indicator light on chassis instrument panel.
50-11-0600	1	Warning Light Certification
50-11-0700	1	Low Voltage Electrical system test
50-11-0800	1	Low Voltage Electrical System Documents As required by ULC and NFPA standards
<b>50-11-0900</b>	<b>1</b>	<b>Rocker switch panel with master warning switch</b> ***Rocker switch assignments: <b>MASTER</b> <b>-LIGHT BAR RED</b> <b>-REAR BEACONS</b> <b>-FLASHING WARNING</b> <b>-REAR SCENE</b> <b>-REAR FLOODS</b>
50-11-1400	1	Federal PA300 100 watt siren
50-11-1620	1	Siren speaker, 100 watt, in front bumper
<b>50-11-2600</b>	<b>1</b>	<b>Siren to be accessible to driver and officer</b>
<b>50-11-5650</b>	<b>7</b>	<b>Pull down straps for rollup doors</b> Install one on each rollup door including back door
<b>50-11-5810</b>	<b>1</b>	<b>Federal Warning Light Package</b>
<b>50-11-5812</b>	<b>1</b>	<b>Federal Discrete LPX NFPA LED Light Bar</b>
50-11-6501	1	Rear Directional Light not required E
<b>50-11-8900</b>	<b>1</b>	<b>Rear beacons-Federal Sentry (pr) 1 red, 1 amber</b> Right side is red, left side is amber
50-12-5020	1	Front LED flashers (pr)-red Federal QL64XF-R
<b>50-12-5110</b>	<b>1</b>	<b>Rear LED flashers (pr)-red Federal QL64XF-R</b> In 50-22-0800 tail light module
50-12-5210	1	Front side inter lts (pr)-red LED Federal QL64XF-R
50-12-5310	1	Body side inter lts (pr)-red LED Federal QL64XF-R
50-21-1500	1	Rear floods (pr)-Unity Note that these lights are also used as rear step lights and cannot be managed
50-21-5100	1	Compartment lighting - LED tube lights in each compartment (rollup doors)
<b>50-21-5500</b>	<b>1</b>	<b>Door Ajar warning light</b> Located in overhead console over drivers seating position Bilingual Warning label in cab to read: "Do Not Move Apparatus when Light is on"

PART NO	QTY	DESCRIPTION
50-21-8000	1	<b>Step lights for body steps</b> Activated when park brake is set
50-21-8200	1	<b>Step lights for chassis steps - LED</b> Activated when park brake is set
50-21-8600	1	LED clearance lts and reflectors
50-22-0800	1	<b>Federal 4 QuadraFlare LED tail/brake-turn-backup-warning module (pr)</b>
50-31-6006	1	<b>Scene lights (pr) - Federal QL97 LED</b> Located on outer upper corners on rear face of body as shown on the proposal drawing Switched in cab and also activated when transmission in in reverse gear.
50-31-6011	1	<b>Scene light boxes not required</b> <span style="float: right;"><b>E</b></span>
50-31-6550	1	<b>Ground lighting (LED Lumabar) - 2 door chassis</b> Activated when park brake is set
50-31-6570	1	<b>Ground lighting (LED Lumabar) - side mount body</b> Activated when park brake is set
50-31-65AA	1	<b>Hose bed lighting - LED strip lights on front partition to meet ULC</b> Activated when park brake is set
50-31-7000	1	<b>Work light for crosslay hose beds</b> Activated when park brake is set
50-35-0560	1	<b>Antenna base - commercial chassis</b> Install on chassis cab roof - route cable to console
	<b>1</b>	<b>BODY</b>
60-10-1400	1	Single axle extruded aluminum body
60-10-4100	1	No "beavertail" rear step supports
60-10-4600	1	Painted fender surround <span style="float: right;"><b>E</b></span>
60-10-4700	1	Integral aluminum fender trim
60-10-5400	1	Diamondback pumphouse steps
60-10-5440	1	<b>Diamondback 14" rear step</b>
60-10-6500	1	<b>Bolt on extruded aluminum rub rail</b> <span style="float: right;"><b>E</b></span>
60-11-0300	1	<b>Front left side compartments full height</b> <span style="float: right;"><b>E</b></span>
60-11-0700	1	<b>Front right side compartments full height</b> <span style="float: right;"><b>E</b></span>
60-11-1000	1	<b>Rear left side compartments full height</b> <span style="float: right;"><b>E</b></span>
60-11-1400	1	<b>Rear right side compartments full height</b> <span style="float: right;"><b>E</b></span>
60-11-2000	2	<b>High side compartment (over 18") each</b>
60-11-3200	1	Full Height Rear compartment
60-11-5500	2	<b>Rollup door - standard height</b> Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point
60-11-5520	5	<b>Rollup door - full height</b> Natural aluminum finish Includes magnetic door switch, LED tube lights, rubber bumpers to prevent pinch point
60-31-4100	1	Extruded aluminum handrails Minimum 2" clearance from handrail to any surface
60-31-5500	1	<b>Steps at rear of body (folding) - LED Lights</b> Left side only Maximum height between steps is 18" Lights are activated when park brake is set
60-31-5600	1	Steps and grab handles at front of body next to pump panel Maximum height between steps is 18"

PART NO	QTY	DESCRIPTION
<b>60-31-5800</b>	<b>1</b>	<b>Rear Intermediate Step over Rear Compartment</b>
60-31-6500	1	Compartment matting-Turtle tile
<b>60-31-8700</b>	<b>2</b>	<b>Sliding tray (ea) - 400 pound capacity with gas strut</b>
		Location of trays;
		Tray #1 - R1 front right side compartment at floor level
		Tray #2 - L3 rear left side compartment at floor level
		Reflective stripe is applied on the exposed edge for visibility when the compartment door is open
<b>60-31-9600</b>	<b>7</b>	<b>Adjustable shelf (ea)</b>
		Location as below:
		Shelf #1 - L1 full depth
		Shelf #2 - L1 full depth
		Shelf #3 - L2 full depth
		Shelf #4 - L3 full depth
		Shelf #5 - R1 shallow upper
		Shelf #6 - R3 shallow upper
		Shelf #7 - B1 full depth
		Reflective stripe is applied on the exposed edge for visibility when the compartment door is open
<b>60-32-3560</b>	<b>1</b>	<b>Three adjustable hose divider (each)</b>
		Hand hold required in end
60-32-7500	1	Hose bed - aluminum
<b>60-33-0000</b>	<b>1</b>	<b>Paint exterior - Imron Elite</b>
		*** Paint code and colour red to match cab
60-33-0200	1	Undercoat vehicle with KROWN rust protection
<b>60-33-0600</b>	<b>1</b>	<b>Chassis wheels not painted</b>
60-33-1000	1	Paint pump and plumbing job colour
60-33-1500	1	Buffed finish compartment interior
<b>60-33-2200</b>	<b>1</b>	<b>Lettering - install customer provided lettering</b>
		*** Vinyl letters, Fire Department to provide details on location and text.
<b>60-33-3000</b>	<b>1</b>	<b>Reflective stripe - 4" white</b>
		50% of perimeter each side and 25% of perimeter front
		Stripe straight along bottom of chassis door and continuing at same level through L1/L3 and R1/R3
<b>60-33-3310</b>	<b>1</b>	<b>Reflective stripe - red and yellow chevron at rear</b>
		Minimum 50% of rear vertical surface.
<b>60-33-3500</b>	<b>1</b>	<b>Tarp over hose bed - black</b>
		A hosebed cover will be provided and secured to top body flanges by quarter turn snaps at front of hosebed and Velcro on each side edge of the cover. A weighted flap will be furnished at the front of the cover, and Velcro straps will be provided on the rear of the cover to tie around the rear handrail.
<b>60-33-4000</b>	<b>1</b>	<b>Tarp over crosslays - black</b>
		A crosslay hosebed cover will be provided and secured to top body flanges by quarter turn snaps at each end of hosebed and Velcro on each side edge of the cover. A flap will be furnished on each end of the cover with Velcro straps to wrap around the hose bed rollers.
<b>60-40-4500</b>	<b>2</b>	<b>6" Hose tray - side mount (ea)</b>
		Located one each side over compartments for 6" x 10' Suction hoses 80-11-5000
		Stainless steel scuff plate each end
<b>60-40-9000</b>	<b>1</b>	<b>Tube mount for ladders, with rear door</b>
		Right side rear access. Smooth painted door with "D" handle and chevron applied.
		The 24' two section ladder 80-14-0500 and 14' roof ladder 80-14-5500 will be stored in this tube

PART NO	QTY	DESCRIPTION
		Ladder tube to be completely enclosed
60-41-1000	2	<b>Pike Pole tube incorporated with 60-40-9000</b> For the 10' pike poles 80-13-2500
60-41-1500	1	<b>Attic ladder tube incorporated with 60-40-9000</b> For the 10' attic ladder 80-14-8500
60-99-0010	1	<b>Horizontal tracking R2 for customer SCBA mounts</b> SOPT 271 Two horizontal unistruts provided, supply 10 unistrut nuts and bolts for customer SCBA brackets, mounted by customer
	1	<b>INSTRUMENTATION</b>
70-11-0000	1	Warning Label on Pump Operator's Panel
70-11-0500	1	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
70-11-1500	1	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
70-11-3200	1	Colour coded tags
70-11-4000	1	Stainless steel side panel hood right side
70-11-4100	1	Stainless steel side panel hood left side
70-11-5000	1	Standard cover over rear top of pump house - no storage
70-11-5500	1	Right side tread plate pump access door No opening dimension less than 18" Slot required for Primer level viewing
70-11-7500	1	Heat pan-aluminum
70-11-8000	1	<b>Heater in pump compartment</b>
70-20-0500	2	4-1/2" compound gauge - dual face 0-600 To be within 8" of each other - edge to edge
70-20-2100	7	<b>2-1/2" pressure gauge - dual face 0-400</b> Gauge to be no more than 6" from edge of the gauge to the center of the control
70-20-2500	1	<b>Primer control</b>
70-20-3100	1	<b>Class One Governor Control</b> Throttle can be no lower than 42" and no higher than 72" from operator's standing position.
70-20-3500	1	Electric water level gauge on pump panel, Class One
70-20-6500	1	Test gauge panel Mount below the compound gauges for proper draining
70-20-7500	1	<b>Heat exchanger control valve</b>
70-21-5500	1	<b>Panel readout for Battery Conditioner</b> Located left side cab step area
	1	<b>ACCESSORIES</b>
80-11-5000	2	<b>6" x 10' lightweight suction hose (ea)</b> Mounted in trays
80-12-2500	1	<b>6" barrel strainer</b> Not mounted, shipped loose. Customer will mount.
80-13-0500	1	<b>Rubber mallet</b> Not mounted, shipped loose. Customer will mount.

