

Truck 740 Information

Sandy Spring Volunteer Fire Department
Updated February 2016

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APPARATUS INFORMATION

GENERAL VEHICLE SPECIFICATIONS

Make	Pierce
Model	Lance
Year	1995
Length (bumper to bumper)	41 feet 4 inches (+8 inches for waterway adaptor)
Overall Length	42 feet (with waterway)
Width (mirror to mirror)	8 feet
Height	11 feet 4 inches
Highest Point on Vehicle	Roof ladder on last fly section of the aerial ladder (3.25 inches above aerial ladder)
Wheelbase	21 feet (252 inches)
Weight	64,500 lbs.
Serial Number	2-95-0380
Manufacture Date	May 1995
Date in Service	September 1995
Purchase Price	\$460,000
Vehicle Identification Number (V.I.N.)	4P1CT02S2SA000380
Pierce Engineering Shop Order	E8959
Vehicle Dealer	Potomac Fire Equipment Hebron, MD 21830


FLUID CAPACITIES

Fluid	Type/ Weight	Capacity	Fluid Check Location	Fill Location	Filter Location
Engine Oil	15W40	41 quarts	Officer Side above front wheel	Officer Side above front wheel	On Engine
Transmission Oil	ATF Dextron II	39 quarts	Officer Side above front wheel	Dipstick (see fluid check location)	On Transmission
Power Steering	ATF Dextron II	9 quarts	Officer Side above front wheel	Officer Side above front wheel	NA
Coolant	50% Mix	76 quarts	Officer Side above front wheel	Officer Side above front wheel	NA
Diesel Fuel	On- Road	66 gallons actual 63 gallons useable	Dash Gauge	Driver Side above rear axle quarter panel	Racor Fuel/ water separator

Window Washer Fluid	Standard	1.8 liters (< 0.5 gallons)	Officer Side above front wheel	Officer Side above front wheel	NA
Hydraulic Tank (Aerial)	Mobil DTE 16M	38 gallons	In front of Water Tank Fill (See Gauge when running)	In front of Water Tank Fill	Officer Side in front of rear bumper. Has indicator above filter
Swing Drive Gear Oil (Aerial Turntable)	80W-90 Gear Lube	1-2 quarts	Dipstick has to be within 1 inch of top of plug	Dipstick	NA
Waterous (Fire) Pump Primer Oil	30 weight	4 quarts	Officer side pump panel access door	Officer side pump panel access door	NA
Waterous (Fire) Pump Transfer Case Oil	ATF Dextron II	13 quarts	See through check- rear of transfer case	Plug on side of transfer case	NA
Cab Lift Pump	ATF Dextron II	2 quarts	Sealed (Mechanic Only)	At Lift Pump (Mechanic Only)	NA
Front Axle	80W-90 Gear Lube	1 pint per hub	See through check- on axle hub.	Axle hub.	NA
Rear Axles	80W-90 Gear Lube	44 quarts	On Differential (mechanic only)	On Differential (mechanic only)	NA

ENGINE SPECIFICATIONS

Engine Make	Detroit
Engine Model	60 series
Horse Power	470 @ 2100 RPM
Max Torque	1450 ft. Lbs. @ 1200 RPM
Peak RPM	2100 (Note: Waterous Pump governed at 2225 RPM)
Number of Cylinder	6
Type of Cylinders	Inline
Bore	5.12 inches
Stroke	6.30 inches
Displacement	12.7 Liters (774 cubic inches)
Compression Ratio	15: 1
Fuel Type	Diesel
Notes	Primary Fuel Filter was replaced by a Racor Fuel/ water separator when T740 was being built.
Operation Notes	Avoid letting engine idle for long periods of time.

	<p>If running for extended periods of time: 750 RPM for Spring and Summer 1200 RPM for Fall and Winter</p>																																																																																								
<p>DDEC (Detroit Diesel Electronic Control)</p>	<p>If there is a problem with the engine, open the circuit/ fuse box control panel (located on officer side, in front of the officer seat) and see what the DDEC code is. See manual for troubleshoot code identification.</p>																																																																																								
<p>DDEC Error Code Key</p>	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: right;">Diagnostic Codes</p> <p style="text-align: center;">DDEC-II</p> <hr/> <p style="text-align: center;">DETROIT DIESEL Electronic Controls</p> <hr/> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;"><u>Diagnostic Connector</u></p>  </div> <div style="width: 45%;"> <p>TO READ CODES: Use diagnostic data reader or short pin A to pin M. The latter method will flash codes at the CEL.</p> </div> </div> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Error Code #</th> <th style="text-align: left; border-bottom: 1px solid black;">Description</th> <th style="text-align: left; border-bottom: 1px solid black;">Error Code #</th> <th style="text-align: left; border-bottom: 1px solid black;">Description</th> </tr> </thead> <tbody> <tr><td>11</td><td>Power Take-off Sensor Lo Volt</td><td>42</td><td>Synchronous Ref Sensor</td></tr> <tr><td>12</td><td>Power Take-off Sensor Hi Volt</td><td>43</td><td>Low Coolant Level</td></tr> <tr><td>13</td><td>Coolant Sensor Lo Volt</td><td>44</td><td>Engine Overtemperature</td></tr> <tr><td>14</td><td>Eng Temp Sensor Hi Volt</td><td>45</td><td>Low Oil Pressure</td></tr> <tr><td>15</td><td>Eng Temp Sensor Lo Volt</td><td>46</td><td>Low Battery Voltage</td></tr> <tr><td>16</td><td>Coolant Sensor Hi Volt</td><td>47</td><td>Hi Fuel Pressure</td></tr> <tr><td>21</td><td>Throttle Pos Sensor Hi Volt</td><td>48</td><td>Lo Fuel Pressure</td></tr> <tr><td>22</td><td>Throttle Pos Sensor Lo Volt</td><td>51</td><td>EEPROM Error</td></tr> <tr><td>23</td><td>Fuel Temp Sensor Hi Volt</td><td>52</td><td>ECM - A/D Fail</td></tr> <tr><td>24</td><td>Fuel Temp Sensor Lo Volt</td><td>53</td><td>EEPROM Memory Failure</td></tr> <tr><td>25</td><td>No Codes</td><td>54</td><td>Vehicle Speed Sensor</td></tr> <tr><td>26</td><td>Power Control Enabled</td><td>55</td><td>Proprietary Comm. Link</td></tr> <tr><td>31</td><td>Fault on Auxiliary Output</td><td>56</td><td>ECM - A/D Fail</td></tr> <tr><td>32</td><td>ECM Backup System Fail</td><td>58</td><td>Cruise Ctl Switches</td></tr> <tr><td>33</td><td>Turbo Bst Sensor Hi Volt</td><td>61-68</td><td>Inj Response Time Long</td></tr> <tr><td>34</td><td>Turbo Bst Sensor Lo Volt</td><td>71-78</td><td>Inj Response Time Short</td></tr> <tr><td>35</td><td>Oil Prs Sensor Hi Volt</td><td>81</td><td>Crankcase Monitor - High Volt</td></tr> <tr><td>36</td><td>Oil Prs Sensor Lo Volt</td><td>82</td><td>Crankcase Monitor - Low Volt</td></tr> <tr><td>37</td><td>Fuel Prs Sensor Hi Volt</td><td>84</td><td>Crankcase Pressure High</td></tr> <tr><td>38</td><td>Fuel Prs Sensor Lo Volt</td><td>85</td><td>Engine Overspeed</td></tr> <tr><td>41</td><td>Timing Reference Sensor</td><td></td><td></td></tr> </tbody> </table> </div>	Error Code #	Description	Error Code #	Description	11	Power Take-off Sensor Lo Volt	42	Synchronous Ref Sensor	12	Power Take-off Sensor Hi Volt	43	Low Coolant Level	13	Coolant Sensor Lo Volt	44	Engine Overtemperature	14	Eng Temp Sensor Hi Volt	45	Low Oil Pressure	15	Eng Temp Sensor Lo Volt	46	Low Battery Voltage	16	Coolant Sensor Hi Volt	47	Hi Fuel Pressure	21	Throttle Pos Sensor Hi Volt	48	Lo Fuel Pressure	22	Throttle Pos Sensor Lo Volt	51	EEPROM Error	23	Fuel Temp Sensor Hi Volt	52	ECM - A/D Fail	24	Fuel Temp Sensor Lo Volt	53	EEPROM Memory Failure	25	No Codes	54	Vehicle Speed Sensor	26	Power Control Enabled	55	Proprietary Comm. Link	31	Fault on Auxiliary Output	56	ECM - A/D Fail	32	ECM Backup System Fail	58	Cruise Ctl Switches	33	Turbo Bst Sensor Hi Volt	61-68	Inj Response Time Long	34	Turbo Bst Sensor Lo Volt	71-78	Inj Response Time Short	35	Oil Prs Sensor Hi Volt	81	Crankcase Monitor - High Volt	36	Oil Prs Sensor Lo Volt	82	Crankcase Monitor - Low Volt	37	Fuel Prs Sensor Hi Volt	84	Crankcase Pressure High	38	Fuel Prs Sensor Lo Volt	85	Engine Overspeed	41	Timing Reference Sensor		
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TRANSMISSION & DRIVE TERRAIN SPECIFICATIONS

Transmission Make	Allison
Transmission Model	HD4060 World Automatic
Gears	5
Over Drive	5 th Gear
Retarder Type	Transmission- automatic engagement when on
Retarder Activation Type	Manual on/ off switch
Troubleshoot: How to reset transmission if the “do not shift” light stays on?	Shut Vehicle down, wait for 2 to 5 minutes, restart vehicle.
PTO Locations (View from rear)	8 o'clock and 1 o'clock
Inter-axle differential lock activation location	Right side of steering wheel
How to activate inter-axle differential lock	While moving slowly
Instant Tire Chain Activation Location	Left side of steering wheel
Instant Tire Chain Equipped Axles:	Both rear axles
Total Vehicle GVW	69,500 lbs.
Front Axle Rating	21,500 lbs. with 425/65R22.5 (J) tires, 22.5 x 8.25 rims @ 110 psi cold single tires.
Front Axle Make	Rockwell FL941
Intermediate Axle Rating	24,000 lbs. with 12R22.5 (H) tires, 22.5 x 8.25 rims @ 110psi cold Dual tires.
Intermediate Axle Make	Rockwell RT46-160
Rear Axle Ratings	24,000 lbs. with 12R22.5 (H) tires, 22.5 x 8.25 rims @ 110psi cold Dual tires.
Rear Axle Make	Rockwell RT46-160
Information	Tandem “Advanced Lube” Rear Drive Axle without Oil Pump and Filter
WINTER MANUAL CHAINS	Manually chain front outside tandem axle DO NOT use Instant Tire Chains with Manual Chains!

VEHICLE TIRES, WHEELS, & SUSPENSION SPECIFICATIONS

Front Wheel (Rim) Size	22.5 x 8.25
Front Tire Size	425/65R22.5 (J)
Front Cold Tire Pressure	110 psi
Front Current (Jan. 2013) Tire Make & Model	Michelin X2Y3
Intermediate Wheel (Rim) Size	22.5 x 8.25
Intermediate Rear Tire Size	12R22.5 (H)
Intermediate Tire Cold Pressure	95 psi (Note: Pierce plate says 110 psi Dual)

Intermediate Current (Jan. 2013) Tire Make & Model	Michelin XDN2
Rear Wheel (Rim) Size	22.5 x 8.25
Rear Tire Size	12R22.5 (H)
Rear Tire Cold Pressure	95 psi (Note: Pierce plate says 110 psi Dual)
Rear Current (Jan. 2013) Tire Make & Model	Michelin XDN2
Front Suspension	Semi-Eliptical 3.50" x 52.00"
Leafs	11
Rear Suspension	Hendrickson RS480, 48,000 lbs (RT-48) (Rubber Load Cushion)

VEHICLE BRAKES & AIR COMPRESSOR

Brake Type Front	Cam (Drum)
Brake Type Rear	Cam (Drum)
Air Compressor Make & Model	Bendix Air Compressor
Air Compressor Model	TU-FLO-750
Air Compressor Output CFM and PSI	16.5 at 1250 rpm. PSI is adjustable.
PSI Setting	For DOT, air compressor should have the following settings: Cut in at 100 psi, Cut out between 120 and 135 psi.
Cut In Pressure	100 psi. (95 psi needs to be reported to CMF)
Low Cut In Pressure (Report to CMF)	95 psi or below
Out of Service Cut In Pressure	80 psi or below
Cut Out Pressure	120- 135 psi
Cut Out Pressure (Report to CMF)	135 psi and up
Air Dryer Make & Model	Heavy Vehicle Systems AD-9 Air Dryer
Air Dryer Location	In front of Intermediate Axle
Air Tank Locations (4 tanks)	In front of front tandem axle
Air Tank Size	8" x 30.5" Service, 1454 cubic inch
Air Tank Designations	Tanks supplied in the following order: <ol style="list-style-type: none"> 1. Supply/ Reservoir Tank 2. Primary Tank 3. Secondary Tank 4. Accessory Tank
Vehicle Air Outlet Location	Pump Panel (need to turn knob to turn it on)
Vehicle Air Inlet	Driver Side Seat Rise (under step)

DIRECT CURRENT (DC) ELECTRICAL SPECIFICATIONS

Engine Battery Type	Sealed 12 VDC
Engine Battery Quantity	2
Engine Battery Location(s)	Under Crew Cab Steps
Engine Battery Cold Cranking Amps (CCA)	1400
Engine Alternator Amperage and Voltage	290 amps
Engine Alternator Make & Model	Niehoff N1222-2
Jumper Stud Location:	NA
DC Power Outlet Location(s)	Two behind the driver’s seat One on the dash to the right of the radio
Fuse Box/ Breaker Location	In front of officer seat dash kick plate.
Load Managers	Emergency Lighting (Driver side engine tunnel)

CAB TILT PROCEEDURES

Notes:	The below instructions are located on the driver side cab tilt access door. UNPLUG EPCR CHARGING CORD (LOCATED IN CAB) BEFORE RAISING CAB!!! YOU MUST RAISE THE AERIAL BEFORE RAISING THE CAB!
Raise Cab Instructions (from Pierce)	<ol style="list-style-type: none"> 1. Turn battery switch and ignition on. Set parking brake. 2. Turn pump control lever to the raise position. 3. Hold cab tilt switch on until cab reaches its travel limit, 4. Lower cab stay arm to the lower position 5. Turn pump control lever to the lower position. Cab will lower to rest on the stay arm. 6. Turn control level back to the raise position. 7. Ignition switch and battery switch can be turned off.
Lower Cab Instructions (from Pierce)	<ol style="list-style-type: none"> 1. Battery switch and ignition must be on. Parking brake must be set. Control lever must be in raise position. 2. Hold cab tilt switch to raise cab off stay arm 3. Return cab stay arm to the to the rest position. 4. Turn control lever to the lower position. Cab will lower automatically.

	<p>5. Cab latches lock automatically with cab in rest position.</p> <p>6. Leave control lever in lower position.</p>
Manual Cab Raise Information	<p>The cab raise bar is behind the driver's seat.</p> <p>The manual hydraulic lift is next to the electric cab raise switch.</p>

WATEROUS MIDSHIP WATER PUMP	
Make	Waterous
Model & Serial Number	CSU 114007
Transmission Model & Serial Number	YBX 114007
Date	7-29-03
Ratio	2.27
Hydro	600 PSIG
Max Discharge Pressure	400 PSIG
	Note: PSIG= pound-force per square inch gauge
Capacity @ Discharge Pressure	1500 GPM @ 150 PSI
Stage	Single
Flow Plate Specifications	<p><u>1518</u> gpm @ 150 psi at <u>1597</u> rpm</p> <p><u>1051</u> gpm @ 200 psi at <u>1570</u> rpm</p> <p><u>750</u> gpm @ 250 psi at <u>1722</u> rpm</p>
Direct Gear (Transmission Gear)	4
Pump In	Direct Drive
Governed Speed	2225 RPM
Type of Discharge Relief	Waterous Dependable (spring type)
LDH Intake Relief Valve Location	Officer Side
Intake Relief Valve Pressure:	150 psi
Booster Tank Size:	500 gallons
Primer	Rotary Vane
Purpose of pull out platform at the pump panel	When using aerial, the pump operator is to stand on it to avoid electrocution if the aerial is to come into contact with energized power lines.

ENGAGING AERIAL AND PUMP	
Pump or Aerial Engaged First:	Engage Aerial at LOW RPM, then Pump
	Remember, when pumping, you need to have high throttle (high RPM) depending on the volume and pressure needed. If you want to engage the aerial, you will need to lower the engine throttle (low RPM), which will reduce the pump volume and pressure.

AERIAL INFORMATION	
Make	Pierce
Model	Heavy Duty Ladder
Length	105 feet @ 75 degrees
Sections	4 (3 fly sections, 1 base section)
Construction	Steel
Tip Strength	500 lbs. Flowing 1000 GPM with unlimited nozzle position at all elevations.
Aerial Operation	
Angles of operation	-5 to 75 degrees
Best Aerial Work Angle	70-75 degrees
Safe Operating Limits: Slope (side to side)	0 to 3.5 degrees
Slope Inclinometer Location	Rear of Truck, above bumper
Safe Operating Limits: Grade (front to rear)	0 to 5.5 degrees
Grade Inclinometer Location	Driver Side Stabilizer control compartment
How to tell when the ladder is over loaded	Visual indicator at aerial base operators control, amber visual warning lights (one amber strobe at each end of the tip of the base ladder section), and a horn.
How to tell what the load capacity is on the aerial at any time	500 lbs. tip load flowing 1000 GPM at any elevation. Can look at chart at aerial base operator's controls.
Aerial tools and appliances on last fly section of ladder:	See Equipment Section
Aerial overload warning light locations	One Amber strobe at each end of the tip of the aerial ladder base section
Aerial overload warning siren sound	Horn
What holds the ladder in the cradle	When the hydraulic pressure is "dumped" (after lowering aerial, hold down until you hear a

	release sound. It will lock pressure into the system to keep the aerial ladder down).
Extension control location	Aerial Turntable Console (as of 2012, no tip controls)
Raise/ lower location	Aerial Turntable Console (as of 2012, no tip controls)
Rotation control location	Aerial Turntable Console (as of 2012, no tip controls)
Rung lock location	NA
Cylinder lock location	NA
Rotation lock location	NA
Manual Extension Location	NA
Manual Lowering Location	NA
Manual Rotation Location	NA
Stabilizer Operation & Information	
Outrigger vs. Aerial Mode Selector Switch Location	Stabilizer control pedestal
Outrigger Control Location	Officer Side: Above rear bumper Driver Side: Above rear bumper
Outrigger Width from vehicle	40 inches
Vehicle Width (Outriggers Fully Extended)	14 feet
Number of Outriggers	4
Location of Outriggers	Front: Behind Midship Pump Rear: Behind Rear (last) Compartment
Jack Penetration	10 inches
Jack Plate Size	12 inch x 13 inch
Jack Pad Size	24 inch x 24 inch
How far rear wheels need to come off the ground	1.5 inches
How far front wheels need to come off the ground	Take the Bulge Out
Aerial Hydraulic Control Information	
PTO Pump	32 GPM, 3000 PSI pump
Oil Pressure at Idle	450-475 psi
Oil Pressure during operation	3000 psi max
Oil Pressure relief valve setting	3150 psi
Transmission PTO Location for ladder	8 o'clock position (look at from rear of transmission). PTO Pump is extended from transmission via PTO driveshaft. Actual pump is located on the driver's side, in front of the Waterous pump section.
Transmission operating gear for ladder	NA (PTO driven)

Electric Aerial Override Locations	
Rotation Limit Override	Stabilizer Control Panel
Stabilizer not fully extended Override	Stabilizer Control Panel
Manual Aerial Override Locations	
Jack Override to control jacks while the ladder is out of the cradle.	Behind access door above rear bumper- Driver Side Control
Aerial Override to lift Aerial without stabilizers down	Behind access door above rear bumper- Officer Side Control
Ladder Rotation to Driver Side (Counter Clockwise Rotation)	Base of Aerial Ladder Platform (lift plate)- closest to driver side
Ladder Rotation to Officer Side (Clockwise Rotation)	Base of Aerial Ladder Platform (lift plate)- closest to officer side
Emergency Hydraulic Pump	
Activation	Aerial Turntable Control Box or Ground Ladder Storage Aerial Control Box
Run and Cool down time	Run 7 minutes, Cool down 30 minutes.
Waterway	
Type of Waterway	Pinable waterway
Size	4 inch
Rear Intake Size	5 inch (with 4 inch LDH adaptor)
Discharge Size	3.5 inches
Other Aerial Waterway Supply Method	T740 Waterous pump
Note	Aerial cannot be supplied by the T740 pump and the rear intake simultaneously.
Note	If Aerial is being supplied via rear intake, T740 Waterous pump can still be used for other operations.
Rated Flow	1000 GPM
Max Rear Intake Pressure	200 PSI
Aerial Relief Valve Location	Behind 5" waterway inlet (under rear of truck)
Aerial Relief Valve Pressure	225 psi
How to prevent from over-pressurizing waterway	Pump through T740 pump Note: NEED TO SET PUMP RELIEF VALVE PROPERLY TO AVOID OVER-PRESSURIZING. If using rear intake, use gated Y with a pressure relief valve (set pressure properly). Rear intake has its own relief valve.
Note	Leave rear intake drain open until water begins to flow. It gives the air in the hose line a place to go.
Waterway rear intake pressure gauge location	Next to intake

Waterway pump pressure gauge location	On pump panel
Aerial output pressure location	Tip of Waterway
Aerial flow gauge model	Flowminder (Electric display) on Aerial Turntable Console
Aerial flow gauge	Aerial Turntable Console
Rear Intake Drain Location	Rear of truck (above bumper) Keep open when not in use
Pump Aerial Waterway Drain Location	Driver Side of pump panel
Monitor	Electric
Monitor Model	Elkhart Monitor- 8294-041, PAL
Range	Full Sweep 180 degrees
Control Type	Wired
Control Locations	Aerial Turntable Control Box and Ladder Tip (driver side)
Primary Nozzle (Electric- attached)	Fog Nozzle (300-1000 GPM) Elkhart Brass SM-100E
Secondary Nozzle	Smooth Bore (Sizes: 1 3/8", 1 1/2", 1 3/4", 2")
Backup Primary Nozzle (manual)	Fog Nozzle (150 to 1250 GPM)
Note	150 MAX psi at tip
Secondary Nozzle Location	Diamond Plate Box above Officer Seat
Water Supply Methods	T740 Waterous pump supply the Aerial
Retract aerial while flowing water under pressure	NO! Aerial can be raised, lowered, swung, and extended under pressure. LADDER CANNOT BE RETRACTED WHILE UNDER PRESSURE! It will blow out the waterway seals.
Other Equipment	
Intercom:	Atkinson
Intercom Locations:	Ladder Tip, Ladder
Ladder Tip:	Turn on and adjust volume. Microphone is always on.
Base and Pump	Turn on and adjust volume. Press to talk.
Cradle Interlock System	Prevent lifting the aerial from the nested position until the operator has positioned all the stabilizers in a load support configuration. A switch is installed at the cradle to prevent operation of the stabilizers once the aerial has been elevated from the nested position.
Rotation Interlock System	Restricts the rotation of the aerial ladder in the direction that the stabilizers have been short set ("short jacked").
Notes for positioning aerial	
Stabilizers	Only set up over areas that can support 75 psi. Do not set up over manhole covers, storm drains, parking garages, etc.

	Leave at least 16 feet behind Truck to pull out ground ladders
	Monitor slope and grade gauges before setting up the aerial
Aerial Maintenance	Check Hydraulic Oil Filter Indicator (rear of T740, next to officer side turntable steps, under vehicle).
	See Pierce manual for all the details of ladder maintenance.

ON BOARD GENERATOR

GENERATOR INFORMATION	
Make	Cummins Onan
Model	10 HDKAG
Serial	L953460186
Spec	61731A
Type	Commercial/ Industrial Mobile Generator
Wattage	10 KW (10,000 watts)
Voltage	120 / 240 VAC
Phase	Single
Frequency	60 Hz
Engine Make	Kubota Diesel
Engine Model	V1305
Horse Power	18.6
Cylinders	4
Cooling System	Liquid
Start	Electric
Enclosed or Open	Open
Fuel System	
	Fuel Diesel
	Fuel Supply Vehicle Fuel Tank
	Fuel Filter Yes, on generator (center)
	Fuel Shut off Yes, next to fuel line
Circuit Breakers	<p>DC Control Breaker: 15 amp DC breaker (protects control box wiring and remote wiring from short circuits or overload). It is also an emergency stop switch.</p> <p>Fault Breaker: A manual reset breaker that shuts down the engine for low oil pressure and high coolant temperatures.</p>
Control Components	Engine Monitor Circuit Board Starter Solenoid Glow Plug Heater Solenoid Fuel Solenoid
Priming	If system needs to be primed, it needs to be done by a skilled diesel professional.
Cleaning Information	Clean the generator set at least every six months. Dust usually can be removed with a damp cloth. Some road contaminants may require steam cleaning. Do not steam clean the generator set while the

	<p>engine is running. When cleaning, protect the area so spray is not directed into the generator, air cleaner, control box, fuel solenoid, or electrical connections. Do not clean with solvents; they can damage electrical connectors.</p>
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GENERATOR FLUID INFORMATION					
Fluid	Type/ Weight	Capacity	Fluid Check Location	Fill Location	Filter Location
Generator Engine Oil	SAE 10W-30	5 quarts with oil filter	Dipstick- near center of generator	Two: above fuel filter near radiator	Under fill locations
Generator Coolant	50/50 mix ethylene glycol and water (NO stop leak additive)	Unknown (New Radiator installed in 2011-2012)	Recovery Tank: Levels between FULL and LOW	Recovery Tank (may need to remove radiator cap after filling, when engine is off, to relieve air pressure.	NA
Fuel	No. 1 or 2 Diesel, (No. 2 is best) Cetain Level of 45 +	Vehicle Tank (uses On Road Diesel Fuel)	Vehicle Fuel Gauge	Vehicle Fuel Fill	Under Oil Dipstick

GENERATOR STARTING INFORMATION		
STARTING LOCATIONS & CONTROLS		
Location	Generator Control	Lighting Control
Driver Side Pump Panel	Generator Start, Stop, Pre-heat. Separate Preheat switch.	Driver and Officer side pump panel telescoping lights Aerial Tip Lights and Outlet (1 switch for both)
Cab Interior- Officer Seat (on headboard)	Generator Start, Stop, Pre-heat. (Push down stop to preheat)	Driver and Officer side pump panel telescoping lights
On Generator	Generator Start and Stop.	None
PREHEAT TIMES		
Temperature	Preheat Time	
Above 86 degrees Fahrenheit	10 seconds	

Between 50 to 86 degrees Fahrenheit	15 seconds
Between 32 to 50 degrees Fahrenheit	20 seconds
Below 32 degrees Fahrenheit	30 seconds
Note: Pre-heating longer than 30 seconds can damage the glow plugs.	
STARTING	
Do not engage starter for more than 30 seconds without allowing 2 minutes for cooling.	
RUNNING OPERATION	
<p>Wait for generator to reach operating speed before placing a load on it (oil pressure needs to reach 5 psi to ensure proper lubrication before allowing engine to reach full speed)</p> <p>Hold no-load operation to a minimum.</p> <p>When running, connect a load (turn something on).</p> <p>No load when running allows the combustion chamber temperatures to drop low, which allows fuel to not completely burn. This contributes to carbon deposits, which clogs injectors, glaze cylinders, and cause piston rings to stick.</p>	
STATUS INDICATOR LIGHT (Note: Currently OOS)	
<p>At fault shutdown, the status indicator light will repeated blink sets of 1, 2, 3, or 4 blinks:</p> <p>1 blink= shutdown due to high engine coolant temperature</p> <p>2 blinks= shutdown due to a loss of oil pressure</p> <p>3 blinks= service fault. Press STOP once to cause the two-digit, second level shutdown code to blink (Press stop again will stop the blinking). The two digit code consists of 1, 2, 3, 4, or 5 blinks, a brief pause, and then 1 to 9 blinks. The first set of blinks represents the tens digit, and the second set of blinks represents the unit digit of the shutdown code number.</p> <p>4 blinks= cranking time exceeded 35 seconds.</p> <p>Restore Fault Code Blinking- stops blinking after 5 minutes. Press STOP 3 times within 3 seconds to restore fault code blinking.</p> <p>Note: The last fault logged will blink even though the condition that caused the shutdown may have been corrected.</p>	

AC POWER CIRCUIT BOX INFORMATION					
Located in Driver Side Lower Compartment 2					
Breaker #	Item	Draw	Breaker #	Item	Draw
1 & 3	Main- 50 amp	Total Electrical Draw	2 & 4	Aerial Floodlights- 20 amp	1000W @ 120 VAC
	Main- 50 amp			Aerial Receptacle- 20 amp	Up to 2400W @ 120 VAC
5 &	Floodlight Driver Side- 15 amp	1500W @ 240 VAC	6 &	Floodlight Officer Side- 15 amp	1500W @ 240 VAC

7	Floodlight Driver Side- 15 amp		8	Floodlight Officer Side- 15 amp	
9	Receptacle D.S. Front-20 amps`	Up to 2400W @ 120 VAC	10	Receptacle Officer Side- 20 amp	Up to 2400W @ 120 VAC
11	Cordreel Driver Side- 20 amp	Up to 2400W @ 120 VAC	12	Receptacle Officer Side- 20 amp	Up to 2400W @ 120 VAC
13	Cordreel Officer Side- 20 amp	Up to 2400W @ 120 VAC	14	No Breaker Installed	NA
15	Portable Floodlight Driver Side- 20 amp	750W @ 120 VAC	16	Portable Floodlight Officer Side- 20 amp	750W @ 120 VAC

AC FIXED OUTLET LOCATIONS

Location	Outlet Location
Front	None
Rear	Above Bumper Officer Side
Driver Side	1 on pump panel 1 above tandem axle (750 watt flood light is plugged into it)
Officer Side	1 on pump panel 1 above tandem axle (750 watt flood light is plugged into it)
Aerial	On Aerial Tip, Officer Side

PORTABLE AND FIXED EQUIPMENT

ELECTRIC CORD REELS

Location	Fixed or Portable	Length	Qty.	Cord Outlets	Cord Gauge
Above Generator Area (1 each side)	Fixed	200 feet	2	4	10/3
Hose Well	Portable	100 feet	2	1	14/3
Driver (2) and Officer Side (2) 2 nd Upper Compartment	Portable	50 feet	4	1	14/3

ELECTRIC LIGHT LOCATIONS AND INFORMATION

Location	Make and Model	Fixed or Portable	Wattage each	Qty.	If Fixed, location(s) to turn on
Aerial Tip	FRC Focus	Fixed	500	2	Pump Panel
Pump Panel	FRC Focus (240 VAC)	Fixed- Telescoping	1500	2	Pump Panel; Officer Controls (above head)
Above Tandem Axles	Kwik Raze KR-736-HD	Portable	750	2	Circuit Breaker (each has a switch)
Driver (2) and Officer Side (2) 2 nd Upper Compartment	Circle D	Portable	500	4	NA
Total Fixed Lighting			4000W		
Total Portable Lighting			3500W		
LIGHTING TOTAL			7500W		

ELECTRIC PORTABLE EQUIPMENT

Equipment	Location	Power	Qty.	Notes
Milwaukee Heavy Duty High Performance Super Sawzall	Officer Side 1st Lower Compartment	120 VAC	1	
Drill	Driver Side Under Cab Transverse Compartment	Cordless	1	Battery Charger in watch office

GROUND LADDERS			
Ladder Type	Length	Construction Type	Location
Attic (folding)	10 feet	Aluminum	Ladder Bed
Roof	14 feet	Aluminum	Last Aerial Fly Section
Extension	14 feet	Aluminum	Ladder Bed
Little Giant (folding)	15 feet	Aluminum	Roof (driver side)
Roof	16 feet	Aluminum	Ladder Bed
Roof	16 feet	Aluminum	Ladder Bed
Extension	24 feet	Aluminum	Ladder Bed
Extension	35 feet	Aluminum	Ladder Bed

VENTILATION FANS								
Fan Type & Size	Make & Model	CFM	Gas or Electric	If electric, starting wattage	If electric, running wattage	Set Back and Angle	Weight	Location
Positive Pressure- 20"	Unifire DS-9P4	17,500	Straight Gas	NA	NA	Variable	100#	Officer Side Lower Compartment 3
NOTE: Blade is a laminated Hardrock Maple Prop. Wipe Prop only with non-abrasive solution of mild soap. Do not use a harsh cleaner that contains alcohol or harsh solvents. See manual for more information about prop care and information on the tape on the end of the blades.								
Positive Pressure- 18"	Super Vac 718VR2	12,355	Electric	2000W	1600W	6 ft. @ 18 degrees	85#	Driver Side Lower Compartment 2
Note: Wattage on 18" PPV Sticker (1200W Start, 700W Run). is not correct.								
Positive Pressure- 16"	Super Vac 716VR2	9,500	Electric	2000W	1500W	6 ft. @ 18 degrees	66#	Driver Side Lower Compartment 2
Note: Information tags are missing. Unit weights								
Ejector- 16"	Super Vac P164SE	3,200	Electric	2000W	700W	NA	49#	Officer Side Lower Compartment 3

HOSE LENGTHS AND HOSE LOADS						
Item	Total Length	Diameter	Location	Nozzle Flow	Nozzle Pressure	Nozzle Type
Crosslay 1	200 feet	1.75"	Above pump	250	75	Combination
Crosslay 2	200 feet	1.75"	Above pump	250	75	Combination
Standpipe	150 feet	1.75"	Roof Compartment above officer	195	85	Combination
				350	115	
Supply Line w/ 4.5" hydrant adaptor	400 feet	4"	Rear Chute- Officer Side	NA	NA	NA
Supply Line	100 feet	4"	Rear Chute- Driver Side	NA	NA	NA
Supply Line w/ 4.5" hydrant adaptor	25 feet	4"	Driver Side Upper Compartment 1	NA	NA	NA
"Trash Line"*	100 feet	1.75"	Front Bumper	250	75	Combination

GAS POWERED EQUIPMENT			
Type	Fuel Type	Location	Notes (i.e. Blade type)
Echo QV-8000 Roof Saw	Mix Gas (50:1)	Officer Side 1st Lower Compartment	
Stihl TS460 Cutoff Saw	Mix Gas (50:1)	Officer Side 1st Lower Compartment	Aluminum Oxide Blade
Partner K650 Active II 5500 RPM	Mix Gas (50:1)	Officer Side 1st Lower Compartment	Carbide Tip Blade
Stihl Farm Boss MS260 Chain Saw- 18"	Mix Gas (50:1)	Aerial Platform Officer Side Box	
Stihl MS460 Magnum Rescue Chain Saw with Depth Guide	Mix Gas (50:1)	Cab Roof Officer Side Box	
Honda EU2000 with Telelight 500w halogen light	Straight Gas	Driver Side Lower Compartment 2	1600 Watts Running 2000 Watt Surge 1 set of 2 household outlets.
Unifire PPV	Straight Gas	Officer Side	Officer Side Lower Compartment 3

AERIAL STORAGE- ON THE AERIAL LADDER

Quantity	Equipment	Location
1	Junkin SAF-300W Stokes Basket	Base Section
1	Backboard	Base Section (inside back board)
1	14 roof ladder	Inside last fly section
1	Pick Head Axe	Inside last fly section
1	8 foot roof hook with pry end	Inside last fly section
2	500W Tip Lights	Always leave switch on
1	125 VAC 20 amp outlet	If 120 VAC lights have power, outlet has power
2	12 VDC powered spotlights (tip)	Always leave switch on
2	12 VDC powered spotlights (base)	Always leave switch on
1	Intercom	Always leave on

EQUIPMENT REMOVED FROM T740

Quantity	Equipment	Location
1	WSAD (Warning Strobe and Alarm Device)	Driver Side Cab Transverse Compartment
1	Officer Pack (hose is now combined with standpipe pack)	Cab Roof Officer Side Box