AMERICAN TEST CENTER

Test and Inspections Nationwide

TEST REPORT

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AMERICAN TEST CENTER
TEST & INSPECTION NATIONWIDE

Aerial Device Inspection Report

Truck Number	Q-1
Report Number	22-487-1
Test Date	2/21/2022

Customer OGDENSBURGH FIRE DEPT
718 FORD ST
OGDENSBURGH, NY 13669

Location	OGDENSBURG		
Temp	37 deg	Humidity	41%
Wind	5 mph		
Weather	CLEAR		

Fire Truck Data

	Aerial Fire Truck	Chassis
Manufacturer	EMERGENCY ONE	EMERGENCY ONE
Model	HM100	FIRE TRUCK
Serial Num	13113	4ENDABA87R1003113
Mfg Date	3/1/1994	3/1/1994
Hours/Mileage		3913/27838

Tests Performed

Test Type: **5 Year NDT**

- ☑ Visual
- ☑ Magnetic Particle
- ☑ Ultrasonic
- ☑ Dye Penetrant
- ☐ Hardness
- ☑ Load Test
- ☑ Functional/Operational
- ☑ Spectroanalysis Hyd. Oil
- ☑ Waterway Test

☑ **Repairs Recommended** ☑ **Immediate Repair Required**

Remarks **MULTIPLE OUT RIGGER HYDRO LEAKS**
WATER WAY FAILURE AT BASE TO 2ND GLAND

Please note! To receive your inspection certificate, you will receive a NOTICE FOR INSPECTION CERTIFICATE in the mail along with your invoice. The notice will list all items on this report that may require further action. Please have your department's AHJ (Authority Having Jurisdiction) sign and date all of the noted items on this report and fax the signed report to 715-426-6941. If you have not received your notice, or if you have questions, please call 800-451-9087.

Test and Report Limitations
This report is provided to you with the understanding that American Test Center's responsibility is solely to conduct the test and assist you with an interpretation of the results; the decisions you make thereafter concerning the equipment are your exclusive responsibility, and American Test Center is not responsible for those decisions or their consequences. Inspection criteria is based on NFPA 1911 Chapter 22 "Performance Testing of Aerial Devices" (2017 edition).

WARNING!
These tests determine the state of the equipment at the time the tests were performed only! Any overloads, accidents, or abuse of this equipment after the test could result in the test performed no longer being valid, as structural damage may have occurred even though the equipment visually may appear intact and usable after said overloads, accidents, or abuse.

Clint Forbes

Results reviewed with: CHARLES IRVINE

Please note! This signature indicates you have reviewed the results of this report with the test technician.

Defect Comments, review with tech on site

Class 1 Defects: Serious, recommend shut down and out of service

Sign and date

Waterway

Flow Meter Test: Meter Setting (+/- 10%)

Flow meter confirmed within 10% accuracy. UNABLE TO COMPLETE WATERWAY TEST

Pressure Test: Elevate 0-10deg, full extend

Waterway inspected for leaks while fully extended and capped. LEAK FOUND AT BASE TO 2ND WATERWAY GLAND. WATERWAY TESTING WAS TERMINATED.

Relief Valve Operation

Waterway relief valve opened at NA175 PSI MAX PUMP PRESSURE REACHED

Class 2 Defects: Caution, use with Caution

Sign and date

Outriggers

Controls

1 OF 4 OUTRIGGER INTERLOCK LIGHTS IS NON-FUNCTIONAL. MARKED WITH RED TAPE.

Cylinder Check Valves

Cylinder valves checked for leaks. LEAK FOUND AT FRONT RIGHT OUTRIGGER VALVE BLOCK, DROPS FORMED.

Cylinder Hoses/Fittings

Outrigger cylinder hoses inspected for leaks or damage. LEAK FOUND AT 1 OF 2 FRONT LEFT OUTRIGGER HOSES, WET WITH OIL. LEAK FOUND AT 1 OF 2 REAR LEFT OUTRIGGER HOSES, WET WITH OIL. LEAK FOUND AT 1 OF 2 REAR RIGHT OUTRIGGER HOSES, WET WITH OIL.

Lacing, Fly

Welds & Bolts

Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material. CRACKED TACK WELD FOUND AT LOWER LEFT HINGE FOR STEP, MARKED WITH RED TAPE &"CW"

Class 3 Defects: Repairs needed, recommend soon or next maintenance

Sign and date

Chassis

Other

WEATHER CHECKED FUEL SUPPLY LINE AT FUEL FILTER, MARKED WITH RED TAPE.

Pedestal

Hydraulic Swivel Joint

Rotation hydraulic swivel inspected for leakage and proper attachment. LEAF FOUND AT 1OF 2 LARGE SUPPLY HOSES AT BOTTOM OF SWIVEL, DROPS FORMED. MARKED WITH RED TAPE.

Turntable

Defect Comments, review with tech on site

Class 3 Defects: Repairs needed, recommend soon or next maintenance

Sign and date

Hydraulic Components & Lines

Turntable hydraulic components inspected for kinks, cuts, abrasions, and leakage. FOUND HYDRO HOSE FROM TURN TABLE TO LOWER BOOM AT LEFT HEEL PIN AREA WET WITH OIL, MARKED WITH RED TAPE.

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Hand Rails, Base

Welds & Bolts

Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material. PT FOUND EXPOSED WELD BEAD AT BASE HAND RAIL AREA WHERE THE WELD HAD BEEN GROUND DOWN.

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Class 4, Inspection Detail

Aerial Ladder Tests

Max Elevation Load Test	Max elevation load test, elevated 75 deg and fully extended, loaded to 750 lbs for 5 minutes. No permanent deformation or twist noted.
Horizontal Load Test	Horizontal load test, elevated 0 deg, loaded 500 lbs for 5 minutes. No permanent deformation or twist noted.
Operational Test	After passing load test, operational test procedure was performed. Ladder was taken to full elevation, maximum extension, then rotated 90 degrees. All functions were completed smoothly and without undue vibration. Completed in 71 seconds.

Measurements

Drift Test-Elevation Cylinders	Left elevation cylinder drift 1/8" at 1 hour. Right elevation cylinder drift 1/8" at 1 hour.
Drift Test-Extension Cylinders	Left extension cylinder drift 1/8" at 1 hour. Right extension cylinder drift 1/8" at 1 hour.
Drift Test - Front Outrigger Cylinders	Left front cylinder drift 0" at 1 hour. Right front cylinder drift 0" at 1 hour.
Drift Test - Rear Outrigger Cylinders	Left rear cylinder drift 0" at 1 hour. Right rear cylinder drift 0" at 1 hour.
Rotation Bearing & Gear-Inner Race	Vertical bearing movement measured 0.022" at FRONT OF TURN TABLE ACCESS HOLE TO FRONT OF PEDESTAL.
Rotation Bearing & Gear-Gear	Backlash measured 0.010" at LEFT REAR PINION TO INTERMEDIATE GEAR.
Throttle RPM-Lo Setting	Throttle low setting 600 RPM
Throttle RPM-Hi Setting	Throttle high setting 1100 RPM
Relief Setting, Hyd. System-Relief	Hydraulic relief setting EXTEND-2200 RETRACT-2000 ELEVATE-2700 LOWER-1800
Outrigger Deploy Time, Front	Front Left, deployment time 7 seconds Front Right, deployment time 7 seconds
Outrigger Deploy Time, Rear	Rear Left, deployment time 7 seconds Rear Right, deployment time 7 seconds
Ladder Section Alignment-Overall	Ladder alignment overall 1/4" LOWER ON THE LEFT SIDE. No change measured after load tests.

Class 4, Inspection Detail

Outriggers

Pad Outrigger pads are present, of proper construction, and are in serviceable condition.

Stiff Legs/Beam/Housing Outrigger structural components inspected for defects, welds mag particle inspected for fractures.

Attachment Welds Mag particle test of outrigger attachment welds showed no defects.

Cylinders Outrigger cylinders inspected for damage and hydraulic leakage, none found.

Chassis

Truck Frame Truck frame inspected for cracks, bends, dents, twists, or other weldment defects. Weldments inspected with magnetic particle tester. No defects found.

Torque Box/Frame Welds Frame attachment welds inspected for flaws with mag particle, none found.

Suspension Components Suspension components inspected for proper installation, no defects found.

Transmission & Differential Transmission/Aerial Device interlocks checked for proper function/operation.

P T O PTO engages and disengages properly, and no hydraulic fluid leaks were found.

Hydraulic Pump & Mounting Hydraulic pump is properly mounted, and no leaks found.

Hydraulic Components & Lines Aerial hydraulic components mounted on chassis inspected for kinks, cuts, abrasions, and leakage.

Pedestal

Mounting Bolts & Welds Pedestal attachment welds mag particle inspected for flaws, none found.

Structure Mag particle test of critical welds, no defects found.

Hydraulic Component & Lines Pedestal hydraulic components inspected for kinks, cuts, abrasions, and leakage.

Swing Drive Gearbox Mounting Bolts 3/4" grade 8 bolts torque checked at 250 ft-lbs. Bolts inaccessible with torque wrench inspected with ultrasound for internal flaws. No defects noted.

Rotation Bearing

Upper Bearing Attachment Welds & Bolts 3/4" grade 8 bolts torque checked at 250 ft-lbs. Bolts inaccessible with torque wrench inspected with ultrasound for internal flaws. No defects noted.

Lower Bearing Attachment Weld & Bolts 3/4" grade 8 bolts torque checked at 250 ft-lbs. Bolts inaccessible with torque wrench inspected with ultrasound for internal flaws. No defects noted.

Condition Rotation gear inspected for missing or damaged teeth, pinion-to-gear alignment, and proper lubrication.

Turntable

Structure Mag particle inspection of turntable structure, no defects found.

Lower Control Operation Lower controls are clearly labeled and functioning properly. Interlocks engage properly.

Alignment Indicator Turntable alignment indicator installed and functioning properly.

Auxiliary Hydraulic Power Auxiliary hydraulic power is functional.

Lower Boom

Heel Pins Heel pin inspected for proper installation and operation. Inspected with ultrasound for internal flaws.

Class 4, Inspection Detail

Lower Boom

Lift Cylinders Cylinder rods inspected for pitting, scoring and other defects. Cylinder rod to barrel seal inspected for leakage.

Lift Cylinder Attachment and Pin Retainers Lift cylinder attachment points are properly installed and functioning normally. Ultrasonic inspection of pins revealed no defects.

Upper/Extend Cylinder Extension cylinder rods inspected for pitting scoring, and other defects. Rod to barrel seal examined for excessive leakage. All hydraulic components inspected for damage or leaks.

Upper/Extend Cylinder Attachment and Pin Retainers Upper boom extension cylinder attachment points inspected for defects. Ultrasonic inspection of pins revealed no defects.

Rest Support Ladder rest inspected for damage and proper alignment. WELDS INSPECTED No defects noted.

Rails, Base

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents & Gouges Base rails inspected for straightness and signs of wear, ironing, dents, or corrosion.

Wear Pads & Babbitt Slides Guides, babbited areas, and wear pads inspected for proper operation and deformities.

Rail Glove Rail gloves removed for inspection, no defects found.

Cable Sheaves Cable sheaves inspected for signs of wear, free movement during operation, proper retainers, and proper lubrication.

Sheave Mounting Brackets Sheave mounting bracket welds liquid penetrant inspected for defects.

Cable Attachment Points Cable attachment points visually inspected for proper installation and operation.

Rail Inspection Rails inspected for straightness and any signs of wear, ironing, dents, or corrosion. Checked for proper installation of heat sensors.

Rungs, Base

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents/Gouges/Bent Rungs Rungs inspected for straightness, signs of ladder lock damage, damaged or loose rung covers and rung cap castings, and signs of cracks or missing rivets.

Lacing, Base

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Lacing Vertical and diagonal braces inspected for straightness, dents, and other deformities.

Hand Rails, Base

Dents, Gouges, or Bent Rails Hand rails inspected for misalignment.

Rails, Second

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents & Gouges Base rails inspected for straightness and signs of wear, ironing, dents, or corrosion.

Class 4, Inspection Detail

Rails, Second

Wear Pads & Babbitt Slides Guides, babbited areas, and wear pads inspected for proper operation and deformities.

Cable Sheaves Cable sheaves inspected for signs of wear, free movement during operation, proper retainers, and proper lubrication.

Sheave Mounting Brackets Sheave mounting bracket welds liquid penetrant inspected for defects.

Cable Attachment Points Cable attachment points visually inspected for proper installation and operation.

Rail Inspection Rails inspected for straightness and any signs of wear, ironing, dents, or corrosion. Checked for proper installation of heat sensors.

Rungs, Second

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents/Gouges/Bent Rungs Rungs inspected for straightness, signs of ladder lock damage, damaged or loose rung covers and rung cap castings, and signs of cracks or missing rivets.

Lacing, Second

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Lacing Vertical and diagonal braces inspected for straightness, dents, and other deformities.

Hand Rails, Second

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Rails Hand rails inspected for misalignment.

Rails, Third

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents & Gouges Base rails inspected for straightness and signs of wear, ironing, dents, or corrosion.

Wear Pads & Babbitt Slides Guides, babbited areas, and wear pads inspected for proper operation and deformities.

Cable Sheaves Cable sheaves inspected for signs of wear, free movement during operation, proper retainers, and proper lubrication.

Sheave Mounting Brackets Sheave mounting bracket welds liquid penetrant inspected for defects.

Cable Attachment Points Cable attachment points visually inspected for proper installation and operation.

Rail Inspection Rails inspected for straightness and any signs of wear, ironing, dents, or corrosion. Checked for proper installation of heat sensors.

Rungs, Third

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents/Gouges/Bent Rungs Rungs inspected for straightness, signs of ladder lock damage, damaged or loose rung covers and rung cap castings, and signs of cracks or missing rivets.

Lacing, Third

Class 4, Inspection Detail

Lacing, Third

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Lacing Vertical and diagonal braces inspected for straightness, dents, and other deformities.

Hand Rails, Third

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Rails Hand rails inspected for misalignment.

Rails, Fly

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents & Gouges Base rails inspected for straightness and signs of wear, ironing, dents, or corrosion.

Wear Pads & Babbit Slides Guides, babbited areas, and wear pads inspected for proper operation and deformities.

Cable Sheaves Cable sheaves inspected for signs of wear, free movement during operation, proper retainers, and proper lubrication.

Sheave Mounting Brackets Sheave mounting bracket welds liquid penetrant inspected for defects.

Cable Attachment Points Cable attachment points visually inspected for proper installation and operation.

Rail Inspection Rails inspected for straightness and any signs of wear, ironing, dents, or corrosion. Checked for proper installation of heat sensors.

Rungs, Fly

Structural Welds Weldments liquid penetrant inspected for defects, no defects found.

Dents/Gouges/Bent Rungs Rungs inspected for straightness, signs of ladder lock damage, damaged or loose rung covers and rung cap castings, and signs of cracks or missing rivets.

Lacing, Fly

Dents, Gouges, or Bent Lacing Vertical and diagonal braces inspected for straightness, dents, and other deformities.

Hand Rails, Fly

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Dents, Gouges, or Bent Rails Hand rails inspected for misalignment.

Egress

Welds & Bolts Accessible welds visually inspected for fractures and other defects. Fasteners inspected for cracks and other defects, and cracks in surrounding material

Attachment to tip Egress attachment to ladder tip visually inspected for defects, none found.

Cables

Base - Second, Left Extend Lay length = 3.500", nominal diameter .500", and measured diameter .491". Total diameter reduction is 1.80%. Greatest outer wire wear is 5%.

Class 4, Inspection Detail

Cables

Base - Second, Right Extend	Lay length = 3.500", nominal diameter .500", and measured diameter .495". Total diameter reduction is 1.00%. Greatest outer wire wear is 5%.
Base - Second, Left Retract	Lay length = 3.200", nominal diameter .500", and measured diameter .492". Total diameter reduction is 1.60%. Greatest outer wire wear is 5%.
Base - Second, Right Retract	Lay length = 3.200", nominal diameter .500", and measured diameter .489". Total diameter reduction is 2.20%. Greatest outer wire wear is 5%.
Second - Third, Left Extend	Lay length = 2.300", nominal diameter .313", and measured diameter .308". Total diameter reduction is 1.60%. Greatest outer wire wear is 5%.
Second - Third, Right Extend	Lay length = 2.300", nominal diameter .313", and measured diameter .311". Total diameter reduction is 0.64%. Greatest outer wire wear is 5%.
Second - Third, Left Retract	Lay length = 2.300", nominal diameter .313", and measured diameter .308". Total diameter reduction is 1.60%. Greatest outer wire wear is 5%.
Second - Third, Right Retract	Lay length = 2.300", nominal diameter .313", and measured diameter .310". Total diameter reduction is 0.96%. Greatest outer wire wear is 5%.
Third - Fourth, Left Extend	Lay length = 2.300", nominal diameter .313", and measured diameter .312". Total diameter reduction is 0.32%. Greatest outer wire wear is 5%.
Third - Fourth, Right Extend	Lay length = 2.300", nominal diameter .313", and measured diameter .309". Total diameter reduction is 1.28%. Greatest outer wire wear is 5%.
Third - Fourth, Left Retract	Lay length = 2.300", nominal diameter .313", and measured diameter .313". Total diameter reduction is 0.00%. Greatest outer wire wear is 5%.
Third - Fourth, Right Retract	Lay length = 2.300", nominal diameter .313", and measured diameter .309". Total diameter reduction is 1.28%. Greatest outer wire wear is 5%.

Waterway

Components: Rust, Corrosion, Blockage, Leaks	Waterway components inspected for rust, corrosion, blockage, and leaks.
Brackets: Loose bolts, cracked weld, Fractures	Waterway brackets inspected for loose bolts, weld fractures, or other defects.
Pressure Test: Elevate 0-10deg, full retract	Waterway inspected for leaks while fully retracted and capped. Ladder then taken to full elevation and rotated 360 deg.
Gauge Test: #1 (+/- 10 PSI)	Aerial gauge reads: 130 ATC gauge reads: 130
Gauge Test: #2 (+/- 10 PSI)	Aerial gauge reads: 175 ATC gauge reads: 175
Gauge Test: #3 (+/- 10 PSI)	Aerial gauge reads: NA ATC gauge reads: NA

General

Capacity Chart Mounting	Capacity chart is present, proper, and legible.
Lower Control Placard at Turntable Controls	Lower control placard is present, proper, and legible.
Oil Spectroanalysis	Sample taken for spectrochemical analysis. Analysis report will be mailed to you. Call the ATC office for details, 800-451-9087.

Class 4, Inspection Detail

General

ATC Tool Calibration	Torque Wrench, Precision C3FR250F, serial number 101177, calibration due on 7/6/2022
ATC Tool Calibration	Torque Wrench, Precision C4D600F, serial number 17091, calibration due on 6/14/2022
ATC Tool Calibration	Mag Particle, Contour B100, serial number 027, calibration due on 6/14/2022
ATC Tool Calibration	Ultrasound, Dakota CMX-DL+, serial number 9340, calibration due on 6/14/2022
ATC Tool Calibration	Dillon, Dillon 2000#, serial number E05354, calibration due on 6/14/2022
ATC Tool Calibration	Dillon, Dillon 5000#, serial number E01817, calibration due on 6/14/2022