



## CFS Inspections

P. O. Box 8238 Searcy, AR 72145  
866.811.5237 / 501.279.1166 Fax: 501.279.1225

As required by NFPA 1911 19.3:

CFS Inspections is accredited to the requirements of ISO/IEC 17020.



# Report of Inspection

SAFETY INSPECTION  
FOR

## Elevating Platforms

In accordance with

### NFPA 1911 Chapter 19

Performance Testing of Aerial Devices

Customer Tulsa Fire Dept.

Location Tulsa, OK.

Manufacturer E-One

Date of Manufacture 2012 Date of Inspection 05/04/16

Category # 3

Unit Number  
Ladder 29

Type of Unit  
Elevating Platform



Serial Number  
5924-044

Model Number  
EL.F114RPL

Heat Sensors Replaced N/A

Inspected By Aaron Harden

Job # 2016AH0186



## Inspector Qualification Summary

Inspector: Aaron Harden

Date: 12/31/15

### Certifications:

METHOD	LEVEL	CERT.DATE	GENERAL	SPECIFIC	PRACTICAL	AVERAGE	EXAMINER
MT	II	5/11/2011	70.80%	88.00%	90.00%	82.90%	LC
UT	II	7/2/2012	77.89%	70.00%	92.00%	80.00%	LC
PT	II	10/16/2012	76.25%	85.00%	89.00%	83.40%	LC

### NDT Training:

METHOD	LEVEL	Conducted by	Date	Hours
MT	II	NDT Training & Test Center	May-11	24
UT	II	NDT Training & Test Center	Jul-12	24
PT	II	NDT Training & Test Center	Oct-13	16

### NDT Experience:

#### CFS Inspections

METHOD	MAGNETIC	VISUAL	ULTRASONIC-WT	PENETRANT
HOURS	1406	2812	1406	763

Larry Case - Certifying Agent, CFS Inspections

## Equipment Calibration List

Unit #: 0050

Date: 04/22/16

	Serial #	Model #	Date Calibrated
250 LB Torque Wrench	1111503066	TQFR250E	08/06/15
600 LB Torque Wrench	505200568	TQR600E	08/06/15
Ultrasonic Machine	01DH3J	DMS2	06/24/15
Contour Probe (Mag Gun)	19052	DA-400	04/13/16
Dynamometer	D26131	2000LB	03/02/16

Calibrations are preformed by calibration equipment that is maintained within accuracy specifications using test bars and weights traceable to National Institute of Standards and Technology.

All calibrations are good for a period of 12 months from date calibrated unless damaged or broken or otherwise stated. Damaged or broken equipment shall be sent in for repair and calibration before returning to service. All calibration certificates are on file at the CFS office.

Gary Elliott - Operations Manager, CFS Inspections

# DISCLAIMER

CFS Inspections ("CFS") represents that CFS conducted its assessment of the equipment and prepared the report in accordance with the professional and industry standards prevailing at the time such services were rendered.

The information provided in this report is the result of the specific testing and inspection procedures conducted by CFS on the equipment and identified herein, as limited by the scope of work authorized by the customer (the "test results"). The test results reflect only the conditions of the components tested or inspected within the scope of work authorized. We have reviewed neither the maintenance records nor the actual use of the equipment before or after the date of the testing or inspection. No attempt has been made and no information is rendered with respect to any conditions of equipment or any component other than as expressly stated in the written test results. Specifically, but without limitations, no information, testing or inspection services are rendered concerning equipment design, suitability of the equipment for any particular purpose or the future serviceability of the equipment. The test results should not be construed as statement that equipment is safe or serviceable.

Additionally, you should be advised that the above report contains information that is time sensitive and that the report was prepared by CFS subject to the particular scope limitations, budgetary and time constraints and business objectives detailed in the report. If at any time this report is to be used by a third party other than the customer, CFS has the right to verify, at third party expense, the accuracy of the information contained in the report, as deemed necessary by CFS, based upon the passage of time or other material change in conditions since its assessment of the Site.

The information provided in this report is not a substitute for proper use, maintenance, modification, inspection and repair of the equipment, assurance of safe operation of the equipment within its intended limitation. Furthermore, nothing in the test results should be construed as a recommendation for corrective action and CFS has not and will not supervise corrective action of any condition found to exist, as such is the sole responsibility of the owner/operator and it is hereby expressly excluded from the scope of the work performed by CFS. The test results are intended solely for informational purposes of the customer and should not be utilized or relied upon by any other person.

To the full extent permitted by law, the Customer agrees to indemnify and hold CFS harmless from and against any liabilities, claims, damages and costs (including reasonable attorney's fees) that arise out of any use of this survey.

In the event that any questions arise with respect to the scope or meaning of CFS's statements or conclusions, you are directed to immediately contact us for clarification, explanation or to update the Report. These services will be provided in accordance with CFS's standard commercial rates and terms in effect at the time of the request.



## CFS Inspections

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### Summary of Test

Customer Tulsa Fire Dept. Location Tulsa, OK. Date 05/04/16  
Unit # Ladder 29 Serial # 5924-044  
Manufacturer E-One Model # EL.F114RPL Manu Date 2012  
Aerial Hours 518.4 Engine Hours 2154.8 Odometer 1716.3  
Weather Conditions Sunny Temperature 61 Humidity 68% Wind Velocity W 6

Reason For Inspection: Annual ☒ Repair ☐ Collision ☐

### NDT Methods and Inspections

	Performed (Y/N)	N/A
Ultrasonic Test of Pins (5 Year)	Y	
Thickness Test of Ladder Rails (5 Year)		X
Magnetic Particle Test of Welds (5 Year)	Y	
Dye Penetrant (5 Year)	Y	
Hardness Test of Aluminum Ladders		X
Visual Inspection	Y	
Operational Test of Unit	Y	
Bolt Torque Check of Accessible Bolts	Y	
Drift Test of Hydraulic Cylinders	Y	
Stability Test of Aerial Platforms	Y	
Waterway Pressure Test	N	
Waterway Flow Test	N	
Spectrochemical Analysis of Hydraulic Oil	Y	

### Required Measurements

Operating Hydraulic Pressure N/A psi Bearing Clearance N/A  
Relief Hydraulic Pressure N/A psi Maximum Height 114 FT  
Maximum Reach 76 FT

#### Hydraulic Cylinder Leak down:

Outriggers LF 0 RF 0 LR 0 RR 0  
Street-side Lift cylinder 1/4 Officer-side Lift cylinder 1/4 Extension Cylinder 1/4

Base Rail Thickness: Base N/A 1st N/A 2nd N/A 3rd N/A 4th N/A

### Hydraulic Oil Sample Information

Stub Number: 358833

Wear Check USA  
501 Madison Avenue  
Cary, NC 27513

1-800-237-1369



## CFS Inspections

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Customer Tulsa Fire Dept. Location Tulsa, OK.  
Manufacturer E-One Date 05/04/16

### Operational Test

Raise To 60°	<u>35</u>	Seconds
Complete Rotation	<u>199</u>	Seconds
Fully Extend	<u>86</u>	Seconds
NFPA Formula	<u>171</u>	Seconds

### Stability Test

Stability Load Test 1000 Lbs. @ 0 °

### Manufacturer Bolt Torque Values

	<b>Ft. Lbs.</b>	<b>Grade</b>
Torque Box To Frame	<u>150</u>	<u>8</u>
Turntable Bearing Bolts		
Upper	<u>250</u>	<u>8</u>
Lower	<u>252</u>	<u>8</u>
Tractor Drawn Components		
Frame	<u>N/A</u>	<u>N/A</u>
Suspension	<u>N/A</u>	<u>N/A</u>
Rotation Gear Reduction Box	<u>150</u>	<u>8</u>

### NDT Equipment

Ultrasonic Machine: KrautKramer DMS2  
Magnetic Particle: Parker Contour Probe  
Hardness Tester: Barber Colman  
Dye Penetrant: Penetrant, Developer & Cleaner





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Unit # Ladder 29 Date 05/04/16 Page 1  
Customer Tulsa Fire Dept. Location Tulsa, OK.

## Visual Checklist per NFPA 1911 Chapter 19 2012 Edition

19.9 Inspecting and Testing Elevating Platforms	19.8.4.21 Auxiliary Hydraulic Power	19.8.5.9 Holding Valves On Extension Cylinders
19.9.2 Service Records	19.8.4.22 Turntable Alignment Indicator	19.8.5.10 Operating Controls
19.9.3 Hydraulic Components	19.8.4.23 Throttle Controls	19.8.5.11 Leveling Indicators
19.9.4 Turntable and Torque Box Inspection and Test	19.8.4.24 Communication System	19.8.5.12 Diverter Valve
19.8.4.1 Rotation - Bearing Mounting Bolts	19.8.4.25 Relief Hydraulic Pressure	19.8.5.13 Positive Stops
19.8.4.2 Torque Box Mounting to Frame	19.8.4.26 Unit Main Frame	19.8.5.14 Stabilizer Deployment
19.8.4.4 Suspension System	19.8.4.27 Transmission/Aerial Device Interlocks	19.9.6 Platform and Boom Inspection and Test
19.8.4.5 Rotation Gear and Bearing	19.8.4.28 Engine Speed Interlocks	19.9.6.1 Structural Modifications, Improper Repairs, or added Weight
19.8.4.6 Rotation Gear Reduction Box Mounting	19.8.4.29 Breathing Air System	19.9.6.2 Platform Mounting Brackets
19.8.4.7 Structural Components	19.9.5 Stabilizer Inspection and Test	19.9.6.3 Platform
19.8.4.8 Rotation Hydraulic Swivel	19.8.5.1 Stabilizer Structural Components	19.9.6.4 Hydraulic, Pneumatic, and Electrical Lines in the Platform
19.8.4.9 Hydraulic Lines and Hoses	19.8.5.2 Stabilizer Pads	19.9.6.5 Auxiliary Winch Mounting
19.8.4.10 Elevation, Extension, and Rotation Lock (s)	19.8.5.3 Stabilizer Mounting to Frame or Torque Box	19.9.6.6 Winch Controls
19.8.4.11 Power Take Off	19.8.5.4 Hydraulic Lines and Hoses In Stabilizer System	19.9.6.7 Elevating Platform Rated Capacity Identification
19.8.4.12 Hydraulic Pump	19.8.5.5 Stabilizer Interlock System	19.9.6.8 Platform Gate Latches and Hinge Points
19.8.4.13 Collector Rings	19.8.5.6 Stabilizer Warning Device	19.9.6.9 Platform Hinge Pins
19.8.4.18 Operating Controls	19.8.5.7 Stabilizer Extension Cylinder Pins and Hinge Pins	19.9.6.10 Platform Controls
19.8.4.19 Load Limit Indicators	19.8.5.8 Stabilizer Extension Cylinders	19.9.6.11 Platform Monitor and Nozzle
19.8.4.20 Emergency Hand Crank Controls		





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19.9.6.12 Boom Illumination	19.9.8 Articulating Boom-Upper Boom Inspection and Test	19.9.9 Telescoping Boom Inspection and Test
19.9.7 Articulating Boom-Lower Boom Inspection and Test	19.9.8.1 Upper Boom for Alignment with Lower Boom	19.8.4.14 Elevation Cylinder Anchor Ears and Plates
19.9.7.1 Hinge Pins	19.9.8.2 Platform Leveling Linkages	19.8.4.15 Elevation Cylinder Pins
19.9.7.2 Lower Boom Elevation Cylinder Anchor Ears and Plates	19.9.8.3 Boom Boost Cylinder Brackets	19.8.4.16 Elevation Cylinders
19.9.7.3 Lower Boom Elevation Cylinders	19.9.8.4 Boom Boost Cylinders	19.8.4.17 Holding Valves on Elevation Cylinders
19.9.7.4 Holding Valves on Lower Boom Elevation Cylinder	19.9.8.5 Cylinder Link Pins	19.9.7.10 Cables, Chains, and Rods
19.9.7.5 Boom Assembly	19.9.8.6 Boom Assembly	19.9.7.11 Sprockets, Pulleys, and Hooks
19.9.7.6 Cylinder Link Pins	19.9.8.7 Hydraulic Lines and Hoses in Upper Boom	19.9.7.12 Boom Support
19.9.7.7 Platform-Leveling Linkages	19.9.8.8 Cables, Chains, and Rods	19.9.9.1 Boom Assemblies
19.9.7.8 Hydraulic Lines and Hoses in Lower Boom	19.9.8.9 Sprockets, Pulleys, and Hooks	19.9.9.2 Ancillary Boom Ladder
19.9.7.9 Hydraulic Lines in Knuckle	19.9.8.10 Upper Boom Hold-Down Device	19.9.9.3 Guides, Wear Strips and Pads and Slide Blocks
19.9.7.10 Cables, Chains, and Rods	19.9.8.11 Safety Stop Mechanism	19.9.9.4 Extension Sheaves
19.9.7.11 Sprockets, Pulleys, and Hooks	19.9.8.12 Upper Boom Elevation Cylinder Anchors Ears and Plates	19.9.9.5 Extension Cables
19.9.7.12 Boom Support	19.9.8.13 Upper Boom Elevation Cylinder(s)	19.9.9.6 Elevation Indicator
19.9.7.13 Lower Boom Angle Indicator Lights	19.9.8.14 Holding Valves on Upper Boom Elevation Cylinder	19.9.9.7 Maximum Extension Warning Device
19.9.7.14 Pneumatic and Electrical Lines	19.9.8.15 Pneumatic and Electrical Lines	19.9.9.8 Platform-Leveling Cylinders
		19.9.9.9 Hydraulic Lines and Hoses in Boom Assemblies



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19.9.9.10 Extension Cylinder

Cylinder Ears and Plates

19.9.9.11 Extension Cylinder Pins

19.9.9.12 Extension Cylinder

19.9.9.13 Holding Valves on Extension  
Cylinder

19.9.9.14 Pneumatic and Electrical  
Lines

19.9.10 Diagnostic Check from  
Lower Controls

19.9.11 Diagnostic Check from  
Platform Controls

19.9.12 Load Test

19.9.13 Operating Test

19.9.14 Water System Inspection

19.9.15 Signs

19.9.16 Hydraulic Fluid

19.9.17 Records



# Certificate of Inspection



As required by NFPA 1911 19.3: CFS Inspections is accredited to the requirements of ISO/IEC 17020.



**This unit meets NFPA 1911 Standard for Testing Fire Department Elevating Platforms**

Department Tulsa Fire Dept.

Location Tulsa, OK.

Unit Number Ladder 29

Manufacturer E-One

Serial Number 5924-044

Model EL.F114RPL



Job Number 2016AH0186

Date of Certification 05/04/16

Date of Inspection 05/04/16

Date Certification Expires 05/04/17

Inspected By Aaron Harden