

Operating Guideline # 315

Extrication Equipment

September 30, 2019



PURPOSE:

The purpose of this Operating Guideline (OG) is to establish policy and procedures for the care and maintenance of the Departments vehicle extrication equipment.

GUIDELINE:

General

1. The equipment cache for vehicle extrication that is being regularly utilized by our Department includes one or more of the following:

- a) Hurst Low-Pressure (5000 psi) Gasoline-Powered Hydraulic System (including the Power Unit, Spreader, Cutter, Rams, Hose/Reels, Chains)
- b) Reciprocating saws
- c) Come-Along/Chains
- d) Vehicle Mounted Winches
- e) Air Chisel
- f) Hi-Lift Jacks
- g) Rescue 42 struts
- h) Wooden Cribbing
- i) Small hand tools (Glass saw, spring loaded centre punch, pry-axe)
- j) telescopic struts

2. Each element or piece of equipment must be regularly inspected and maintained by a person who is properly trained in its use. As a minimum, each piece of equipment must be inspected quarterly during apparatus checks, and following each use. Each inspection shall be documented via the equipment log books provided. Equipment that is damaged shall be taken out of service and repairs or replacement arranged by notifying the officer in charge of the Deputy Chief. Repairs shall not be undertaken by anyone other than a qualified representative of the manufacturer.

Hurst Hydraulic Tools

3. Each component of the Hurst hydraulic extrication system shall be cleaned and inspected after use and shall be checked for:

- a) Rust or oxidation/clean and properly lubricated
- b) Excessive wear at pressure points.
- c) Excessive nicks, gouges, visible cracks, deformation.
- d) Blade/spreading arm condition
- e) Hydraulic hose line damage (pinches, cuts etc.) including reels
- f) Damage or leaks to valves and couplings
- g) Quick connect valves are working correctly with caps installed when stored
- h) Physical damage to power unit (including ignition wiring) or tools elements
- i) Proper operation of the power unit
- j) Proper operation of "deadman" switches
- k) Hydraulic fluid levels

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- l) Fuel and lubrication oil levels (gasoline power unit)
- m) Battery life (battery powered unit – fully charged battery to be installed after each use)

Any defects noted in these inspections shall be reported to the Officer in Charge who in turn notifies the Deputy Chief who will arrange for a competent person to perform testing and make repairs if required. If equipment is to be taken out of service, it shall be tagged with all applicable information and the mechanical officer/technician shall be notified.

4. Each component of the Hurst extrication tool cache shall be inspected by a third party service provider on an annual basis for serviceability and to ensure each component is operating within the manufacturers operational specifications.

Chains, Come-Alongs and Winches

5. Chains, come-alongs and winches shall be inspected after each use by a person trained in their use for:

- a) Physical damage and cleanliness
- b) Elongation, distortion of or damage to chain links, couplings or attachments
- c) Twists in chains/spread at the throat openings of chain hooks
- d) Condition of wire rope (pinches, fraying, flattening)
- e) Exposure to excessive heat or shock loading
- f) Operation of electrical components, if any

Any defects noted in these inspections shall be reported to the Officer in Charge who in turn notifies the Deputy Chief who will arrange for a competent person to perform testing and make repairs if required. If equipment is to be taken out of service, it shall be tagged with all applicable information and the mechanical officer/technician shall be notified.

Lifting and Load Bearing Tools

6. Lifting tools and load bearing tools (Hi-Lift Jacks, Rescue 42 Struts) shall be inspected after each use by a person trained in their use for:

- a) Physical damage and cleanliness
- b) Condition of all straps, webbing etc. (check for cuts, abrasions, stretching, signs of exposure to excessive heat)
- c) Condition of pins and retaining clips
- d) Proper and full extension of strut components

Any defects noted in these inspections shall be reported to the Officer in Charge who in turn notifies the Mechanical Officer who will arrange for a competent person to perform testing and make repairs if required. If equipment is to be taken out of service, it shall be tagged with all applicable information and the mechanical officer/technician shall be notified.

Other Tools

7. Reciprocating saws, the air chisel and all other small tools shall be inspected after each use by a person trained in their use for:

- a) Physical damage and cleanliness
- b) Condition of electrical cords and plugs
- c) Blade condition (replace all worn blades)
- d) Battery life (battery powered unit – fully charged battery to be installed after each use)
- e) Chisel sharpness
- f) Hose integrity (no nicks, cuts, abrasions, signs of exposure to excessive heat)

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g) Air regulators and quick connect couplings are working correctly

h) Proper operation

i) Air cylinder pressure and integrity of threads/dust cover in place (note only low pressure - 2216 psi - air cylinders to be used with air chisels)

Any defects noted in these inspections shall be reported to the Officer in Charge who in turn notifies the Mechanical Officer who will arrange for a competent person to perform testing and make repairs if required. If equipment is to be taken out of service, it shall be tagged with all applicable information and the mechanical officer/technician shall be notified.

Repairs

8. Repairs on any element of the Departments extrication equipment cache shall be undertaken only by a qualified person to the original equipment manufacturers specifications.

NOTE: when extending straps, webbing, wire rope and chains over sharp edges, it is recommended that edge protection be provided to avoid damage to the tool element.

RESPONSIBILITY:

It is the responsibility of all Emergency Operations Division staff to comply with the provisions of this Operating Guideline.

REFERENCES:

- Section 21 Committee Guidance Note GN-1-06, Inspection of Chains, Webbing, Wire Rope and Extrication Tools
- MLFD OG 904, Vehicle Extrication Scene Operations