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Preface

This document addresses specific fire equipment items used within the National Fire Equipment System (NFES). These national standards are applicable at local units.

As new items are introduced or current items are discontinued, this document will be revised to provide updated information.

A few overall equipment-refurbishing procedures should be used *when applicable*:

- Mark items with testing/inspection dates.
- Package items in sealed bags or “zip-tied”. This will help determine if the item has been used when returned. For example, place nozzles, tee’s, valves in a sealed bag. If the seal is not broken, the item should only need a visual inspection. “Zip-tie” the starter ropes on a chainsaw to the saw. If it is still “zip-tied” when returned, there is no need to refurbish the chainsaw.
- Clean, sanitize, rinse and air dry any items used to transport, consumption or storage of potable water or food. Clean items with a mild detergent and water. Sanitize items rinsing with mixture of ½ ounce or 1 tablespoon of chlorine bleach thoroughly mixed into a gallon of room-temperature water. Rinse with clean water, drain, and air dry.
- Clean and dry items that are exposed to the human body using the specific instructions in this document. Examples are Nomex clothing, neck shrouds, sleeping bags, sleeping pads, and cots. Failure to follow the cleaning instructions may result in the failure of the fabric or materials to correctly or safely perform its function. This procedure also prevents the spread of communicable diseases.
- Dispose of hazardous materials according to local health and safety regulations.
- Repackage items using the standards set forth in this document.
- If there is a question, the cache manager or the supervisor has the responsibility of determining whether it is economical to refurbish or dispose of an item.

Fire Equipment Storage and Refurbishing Standards

**ITEM: ADAPTER, 1-inch
ADAPTER, 1 1/2-inch**

**NFES #0003, #0004
#0006, #0007**

A. Initial Inspection/Disposal Criteria

1. Inspect for cracks and large burrs, if any dispose of.
2. Inspect for fire damage, burn marks or melted areas, if any dispose of.
3. Inspect threads for damage, if threads are crossed or show signs of excessive wear (loose fitting or hard to connect to other fittings), dispose of.

B. Tests

None

C. Refurbishing Procedures

1. Replace gasket if missing, cracked, damaged, or stiff.
2. If male threads are damaged try using a triangle file to remove burrs or dings. If threads don't fit smoothly, dispose of.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean in parts washer, high pressure wash with warm water and a mild detergent using a brush or scouring pad.
2. Rinse in clean water and let dry.

F. Repackaging

1. Package to protect threads.
2. Pack 10 each in carton (cache option) or 60 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: APPLICATOR, water, 2-piece

NFES #0720

A. Initial Inspection/Disposal Criteria

1. Inspect for cracks and large burrs, if any dispose of.
2. Inspect for fire damage, burn marks or melted areas, if any dispose of.
3. Inspect threads for damage, if threads are crossed or show signs of excessive wear (loose fitting or hard to connect to other fittings), dispose of.
4. Inspect for gaskets in female fittings, if missing replace gasket.

B. Tests

1. Assemble 2-piece applicator.
2. Inspect for visual signs of wear and tear.

C. Refurbishing Procedures

None

D. Retesting Criteria

See Section B for tests.

E. Cleaning Procedures

1. All items will be washed and cleaned of mud, dirt, and grease. Clean with a mild detergent with bristle brush or scouring pad; pressure wash as needed.
2. Rinse thoroughly and let dry.

F. Repackaging

Package 12 each in NFES #0385 and label accordingly.

G. Storage and Shelf Life Checks

None

**ITEM: AXE, boy's single bit, 24" handle, w/sheath
AXE, single bit, 4 lb w/sheath**

**NFES #0352
NFES #0707**

A. Initial Inspection/Disposal Criteria

1. Inspect for obvious damage to head, cutting edges, contains metal wedges, if so dispose of.
2. Inspect for large chips in blade or cracked head eye, if so dispose of.
3. Dispose if any modifications to head, such as rivets through side of head to hold handle.

B. Tests

1. Head.
Blades have not been tapered or rounded to point that tool cannot be sharpened properly.
2. Handle.
 - a. Twisted, bent, or open-grain handle.
 - b. Cracks, or suspect based on sound of hammer rap on end of handle. Sharp ringing sound is good. Dull thud sound is suspect, or pressure application to side of handle.

C. Refurbishing Procedure

1. Head.
 - a. Clean head.
 - b. Sharpen tool to specifications according to tool sharpening gauge.
CAUTION—Tool should never be ground to the degree that the metal temperature rises high enough to remove temper, i.e., blue or burned edges.
 - c. Ensure that blade corners are square.
 - d. Paint tool head with rust inhibitor. (cache option)
2. Handle.
 - a. Visually Inspect handle.
 - b. Sand handle if it is rough, chipped, dinged, or has any type of residue that did not come off during sanding.
 - c. When replacing handle, shape eye for a snug fit. Use high impact plastic or wood-type wedges with appropriate type of epoxy.
 - d. The bottom of the tool head should be within 3/8 inch to 5/8 inch of the shoulder of the handle.
 - e. Cut excess off handle, flush with tool head after inserting wedge into handle.
 - f. Wipe handle with rag and linseed oil.

NOTE: Metal wedges can be added only in the field as an emergency measure for field refurbishing.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

1. For NFES #0707 (no sheath available).
Package 12 each in carton NFES #0338; 37 inch by 18 inch by 8 inch (NSN 8115-00-139-0673).
2. For NFES #0352 install leather sheath NFES #0359.
Package 12 each in appropriate size carton (until an appropriate size is found).

G. Storage and Shelf Life Checks

Per local cache requirements to ensure proper serviceability of tools.

ITEM: BAG, backpack pump, with 2 liners & couplings

NFES #1197

A. Initial Inspection/Disposal Criteria

Fabric and webbing.

1. Inspect for any holes, cuts, tears, burns, or torn seams that are not economically repairable, if any dispose of.
2. Inspect for any fastener missing or that does not provide adequate closure, replace.
3. Inspect for excessive dirt or fuel stain that cleaning cannot eliminate, dispose of.
4. Inspect for any writings, drawings, and if so dispose of item.

B. Tests

None

C. Refurbishing Procedures

1. Replace nonfunctioning hardware.
2. Take new plastic liner out of pouch and replace old liner, insert a new liner into pouch, NFES# 597.
3. Install rubber gasket on cap, to prevent leakage.
4. Replace "O" ring.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow mud and loose dirt to dry. Remove with a stiff-bristle brush. If stains remain wash and rinse as recommended below.
2. To remove heavy oil, as well as dirt and stains.
 - a. Soak in a solution of a mild detergent and hang to dry.
 - b. Or, pre-treat with a mild detergent, high pressure wash, rinse thoroughly, and hang to dry.
 - c. If you machine wash use cold water, do not use bleach, and air dry.

F. Repackaging

Pack 10 each in carton (local cache option).

G. Storage and Shelf Life Checks

None

ITEM: BAG, sleeping, cloth, washable, 3 lb fill

NFES #0022

A. Initial Inspection/Disposal Criteria

1. Inspect for any holes, cuts, tears, abrasions, or torn seams that cannot be repaired economically, if any dispose of.
2. Inspect for excessive dirt or stains that laundering cannot eliminate, if any dispose of.
3. Inspect for missing slider, damaged coils, or other defects that make zipper inoperable, repair.
4. Inspect for batting that is bunched-up or in clumps. Shake the bag several times to ensure that the batting will loft evenly, not clump or shift.
5. Inspect for any indelible marking on the bag, if any dispose of.
6. Inspect for any signs of body fluid stains. If there's any question on whether the bag can be completely cleaned and sanitized, dispose of the item.

B. Tests

1. Inspect cord lock to ensure spring works properly and that the cord passes freely through when the lock is disengaged.
2. Close zipper to ensure it provides a smooth and secure closure the full length of the bag opening.
3. Open and close the hook and pile fastener to ensure closure is adequate.

C. Refurbishing Procedures

1. Repair any hole, cut, tear, abrasion, or open seam.
2. Remove excessive dirt or stains by air drying and brushing with a soft bristle brush.
3. Replace any zipper that has damaged coils and replace any missing slider.
4. Inspect loft of batting in bags prior to sending for laundering.

D. Retesting Criteria

Retest all replacement hardware.

E. Cleaning Procedures

1. Remove all contents not part of the bag and zip closed before laundering.
2. Launder bags in front-loading machine. Use mild soap in water of no more than 130 °F. Bags shall undergo six wash and rinse cycles in an alternating combination, i.e., three washes and three rinses.
3. With bag unzipped, sterilize by dry tumbling with vacuum extraction of loosened dirt and soil particles, with a controlled heat application. The heat shall be held at an average of 130 °F for a minimum of 20 minutes. The dryer unit shall be of the reverse-action type. All bags shall be unfolded and shall tumble free. (To obtain the average temperature, test the temperature every 5 minutes and average the findings.)
4. After drying, zip bags closed.

F. Repackaging

1. Package 5 bags in carton NFES #0644 (NSN 8115-00-139-0691).
2. Cache Option: Package 10 bags in carton NFES #0513 (NSN 8115-01-290-9543).
3. Package in plastic bag.

G. Storage and Shelf Life Checks

Prior to shipping, inspect carton for rodent damage. If found, handle accordingly and dispose of carton and contents in appropriate manner.

ITEM: BAG, sleeping, firefighters, 36" x 86"

NFES #1062

A. Initial Inspection/Disposal Criteria

1. Inspect for any holes, cuts, tears, abrasions, or torn seams that cannot be repaired economically, if any dispose of.
2. Inspect for excessive dirt or stains that laundering cannot eliminate, if any dispose of.
3. Inspect for missing slider, damaged coils, or other defects that make zipper inoperable, repair.
4. Inspect for batting that is bunched-up or in clumps. Shake the bag several times to ensure that the batting will loft evenly and not clump or shift.
5. Inspect for any indelible marking on the bag, if any dispose of.
6. Inspect for any signs of body fluid stains. If there's any question on whether the bag can be completely cleaned and sanitized, dispose of the item.

B. Tests

1. Inspect cord lock to ensure spring works properly and that the cord passes freely through when the lock is disengaged.
2. Close zipper to ensure it provides a smooth and secure closure the full length of the bag opening.
3. Open and close the hook and pile fastener to ensure closure is adequate.

C. Refurbishing Procedures

1. Repair any hole, cut, tear, abrasion, or open seam.
2. Remove excessive dirt or stains by air drying and brushing with a soft bristle brush.
3. Replace any zipper that has damaged coils and replace any missing slider.
4. Inspect loft of batting in bags prior to sending for laundering.

D. Retesting Criteria

Retest all replacement hardware.

E. Cleaning Procedures

1. Remove all contents not part of the bag and zip closed before laundering.
2. Launder bags in front-loading machine. Use mild soap in water of no more than 130 °F. Bags shall undergo six wash and rinse cycles in an alternating combination, i.e., three washes and three rinses.
3. With bag unzipped, sterilize by dry tumbling with vacuum extraction of loosened dirt and soil particles, with a controlled heat application. The heat shall be held at an average of 130 °F for a minimum of 20 minutes. The dryer unit shall be of the reverse-action type. All bags shall be unfolded and shall tumble free. (To obtain the average temperature, test the temperature every 5 minutes and average the findings.)
4. After drying, zip bags closed.

F. Repackaging

1. Package 5 bags in carton NFES #0644 (NSN 8115-00-139-0691).
2. Cache Option: Package 10 bags in carton NFES #0513 (NSN 8115-01-290-9543).
3. Package in plastic bag.

G. Storage and Shelf Life Checks

Prior to shipping, check carton for rodent damage. If found, handle accordingly and dispose of carton/contents appropriately.

Fire Equipment Storage and Refurbishing Standards

ITEM: BAG, slingable, water, 72 gallon, non-potable	NFES #0426
BAG, slingable, water, 250 gallon, non-potable	NFES #6017
BAG, slingable, water, 360 gallon, non-potable	NFES #6021

A. Initial Inspection/Disposal Criteria

1. Separate by NFES #.
2. Visually inspect for missing components, or need for repair such as: straps, hoses, spigot, cap, and gasket.

B. Tests

1. Fill with air test for leaks.
2. Visually inspect bags for rips, tears, or obvious defects. (NFES #6017, #6021)

C. Refurbishing Procedures

1. Clean area around damaged spot with lacquer thinner or other suitable cleaner. Caution:
Utilize well-ventilated area. Apply suitable glue (manufacturer's recommendation) to both surfaces (patch and tank). Let dry until tacky. Place patch on damaged area and apply pressure with roller or suitable device for at least 1 minute.
2. Repair or replace any damaged components. Clean exterior of tank thoroughly (with filler cap attached).
3. Support or hang tank with spigot closed, remove cap and fill with water to rinse out tank. Replace cap. Shake tank vigorously until all foreign matter is removed. Drain tank completely through hose and spigot.
4. Invert tank after removing cap, open spigot and empty as much water as possible. Let dry inverted for 1 hour in sun, if possible.

D. Retesting Criteria

1. Re-inspect any patches or repairs.
2. Replace cap and close spigot.

E. Cleaning Procedures

None

F. Repackaging

1. Ensure that tank is stenciled visibly with the words "NON-POTABLE" or "SUPPRESSION USE ONLY" and proper NFES # is stenciled on tank.
2. Use carton (cache option) for NFES #0426 and label accordingly.
3. Use carton (cache option) for NFES #6017 and label accordingly.
4. Use carton (cache option) for NFES #6021 and label accordingly.

G. Storage and Shelf Life Checks

None

A. Initial Inspection/Disposal Criteria

1. Nylon outer bag.
 - a. Any holes, cuts, tears, burns, or torn seams that is not economically repairable. (Dispose)
 - b. Any zipper that does not close properly (Dispose).
 - c. Unsightly dirt or fuel stain that cleaning cannot eliminate. (Dispose)
 - d. Any buckle that does not function properly. (Repair Replace or Dispose)
2. Fill and drain hardware.

Any part missing or damaged (Replace or Repair)
3. Liners.
 - a. Replace old liner and make sure plugs are tightly threaded onto fitment caps to keep new liner sanitary.
 - b. Inspect condition of spare liner. Unless the integrity of the liner is in question, do not remove from the sealed bag to make this inspection.

B. Tests

1. Test fill and drain fittings for proper function and tight seal. The fill fitting is the special hardware that keeps dirt and bacteria out of the liner.
2. Test buckles by fastening and unfastening. They should function easily with little force applied and with no difficulty in the release.
3. Test zippers by opening and closing. Zipper should operate smoothly over its full length.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, and broken seams.
2. Replace nonfunctioning buckles.
3. Replace used liners (NFES #0436).
4. Replace missing or damaged fittings.

D. Retesting Criteria

Test any replacement buckle, or fitting as specified in section C.

E. Cleaning Procedures

1. Nylon outer bag.
 - a. Allow mud and loose dirt to dry, and then remove with a stiff bristle brush. If stains remain, clean as recommended in E.1.b
 - b. To remove heavy oil, as well as dirt and stains, soak in a mild detergent for 30 minutes, and then brush with a bristle brush. Or pressure wash and hang to dry.
 - c. **DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.**
2. Filling and draining hardware.
 - a. Wash thoroughly in a solution of chlorine bleach, consisting of 1-ounce bleach per gallon of water. Rinse in potable water and dry completely.
 - b. Once hose and fittings are sanitized and dried, reseal in the plastic storage bag provided and put in zipper pocket.

ITEM: BAG, slingable, water, drinking, 55 GL (208.2L) (Cont'd)

NFES #0435

F. Repackaging

Local Cache Option

G. Storage and Shelf Life Checks

None

H. Reference

Check for additional information at:

<http://www.fs.fed.us/t-d/programs/fire/>

For the above site username is t-d and password is t-d

Then go to item 9451 or 2306

<http://www.gsa.gov/fireprogram>

ITEM: **BAG, SLINGABLE, water, suppression, 55 GL**

NFES #0437

A. Initial Inspection/Disposal Criteria

1. Nylon outer bag.
 - a. Any holes, cuts, tears, burns, or torn seams that is not economically repairable. (Dispose)
 - b. Any zipper that does not close properly. (Dispose)
 - c. Unsightly dirt or fuel stain that cleaning cannot eliminate. (Dispose)
 - d. Any buckle that does not function properly. (Repair, replace or Dispose)
2. Fill and drain hardware.

Any part missing or damaged. (Repair or Replace)
3. Liners.

Replace old liner and ensure that plugs are tightly threaded onto fitment caps.

B. Tests

1. Test fill and drain fittings for proper function and tight seal. The fill fitting is a special piece of hardware that keeps dirt and bacteria out of the liner.
2. Test buckles by fastening and unfastening. They should function easily with little force applied and with no difficulty in the release.
3. Test zippers by opening and closing. Zipper should operate smoothly over its full length.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, and broken seams.
2. Replace nonfunctioning buckles.
3. Replace used liner and place additional liner in pocket (NFES #0438).
4. Replace missing or damaged fitting parts.

D. Retesting Criteria

Test any replacement buckle, zipper, or fitting as specified in section C.

E. Cleaning Procedures

Nylon outer bag.

1. Allow mud and loose dirt to dry; remove with a stiff-bristle brush. If stains remain, clean as recommended in E.1.b.
2. To remove heavy oil, as well as dirt and stains, soak in a mild detergent for 30 minutes and brush with a bristle brush.

Or pressure wash and hang to dry.
3. **DO NOT MACHINE WAS OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.**

F. Repackaging

Local Cache Option

G. Storage and Shelf Life Checks

None

H. Reference

Check for additional information at: <http://www.fs.fed.us/t-d/programs/fire/>

For the above site username is t-d, password is t-d, and then go to item 9451, 2307

For GSA specifications on NFES supplies and equipment go to www.gsa.gov/fireprogram. Then select library and search in "Specifications FS 5100".

ITEM: BAG, tent, personal gear pack

NFES #0281

A. Initial Inspection/Disposal Criteria

Fabric and webbing.

1. Inspect for any holes, cuts, tears, burns, or torn seams that is not economically repairable, if any dispose of.
2. Inspect for any fastener missing or that does not provide adequate closure, replace.
3. Inspect for excessive dirt or fuel stain that cleaning cannot eliminate, dispose of.
4. Inspect for any writings, drawings, if any dispose of.

B. Tests

1. Test hardware by fastening and unfastening the item. The hardware should function easily with little force being applied and with no difficulty in the release.
2. Open and close zipper to test. The zipper should operate smoothly through its full length.

C. Refurbishing Procedures

1. Repair holes, cuts, or tears.
2. Replace nonfunctioning hardware, if economical.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow any mud and loose dirt to dry, and then remove using a stiff-bristle brush. If stains remain, wash as recommended below.
2. To remove heavy oil, as well as dirt and stains.
Soak in a mild detergent and hang to dry.
3. Or, pre-treat with water and a mild detergent, steam clean or high-pressure wash, and hang to dry.
4. **DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.**

F. Repackaging

Store 20 bags in carton (to be determined).

G. Storage and Shelf Life Inspects

None

BERM, containment, 55 GL (1 to 4 drums)
BERM, containment, MK III

NFES #0692
NFES #0693

A. Initial Inspection/Disposal Criteria

1. Inspect for fuel or other liquids which may be present.
 - a. Use absorbent cloth or similar to pick up excess fluids.
 - b. Dispose of soiled absorbent according to local hazardous materials standards.
2. Inspect for small holes, rips or tears and repair if economical and mark with felt tip pen or other means of identification.

B. Tests

None

C. Refurbishing Procedures

Clean and repair as stated in Manufacturing Guidelines for Use and Repair.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean with pressure washer to remove matter such as mud, dirt, and grease.
2. Use a solution of mild detergent and water to remove grease with an absorbent cloth.
Dispose of saturated cloth according local hazardous materials standards.

F. Repackaging

1. Roll berm and band for storage.
2. Local cache option.

G. Storage and Shelf Life Checks

Store in a dry environment.

H. Reference

SEI Industries
7400 Wilson Avenue
Delta, BC, Canada V4G 1F5
Phone: 604-946-3131
Web site: <http://www.sei-ind.com>

ITEM: BLANKET, bed, wool, 66" x 84"

NFES #0441

A. Initial Inspection/Disposal Criteria

1. Inspect for visible rips, burns, or tears, mend if economically feasible, if not dispose of.
2. Inspect for possible mildew, if so dispose of.

B. Tests

None

C. Refurbishing Procedures

None

D. Retesting Criteria

None

E. Cleaning Procedures

Wool blankets must be DRY CLEANED ONLY.

F. Repackaging

1. Individually pack in plastic or waterproof bag.
2. Pack 15 each in carton NFES #0644 (33 inch by 16 inch by 22 inch) (NSN 8115-00-139-00691).

G. Storage and Shelf Life Checks

None

ITEM: CAN, gasoline, safety, 5 GL, DOT approved style

NFES # 0606

A. Initial inspection/Disposal Criteria

NOTE: Dispose of contaminated fuel according to hazardous material regulations in your area.

1. Inspect for fuel and dispose of properly.
2. Inspect for leaks or separation along seams.
3. Inspect all threads on nozzles for serviceability.
4. Inspect for proper labeling.
5. Inspect all cotter keys and pins.
6. Ensure that containers are properly marked and labeled.

B. Tests

1. Visible inspection only.
2. Dispose of unserviceable cans.

C. Refurbishing Procedures

1. Drain all existing fuel.
2. Use a rag and air hose to dry the interior of the container.
3. Turn upside down with lids off or open to dry.
4. Replace any defective cotter key or pins.
5. Inspect spring closure devices to be sure they are functioning properly.
6. Secure proper spout to top of can (3/4 inch on old style and 1 inch on new style).
7. Visually verify that no rust exists inside container.
8. Wipe down outside of container and repaint if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Package according to DOT standards.

G. Storage and Shelf Life Checks

Annual visual inspection for rust

H. Reference

Replacement parts available from:

SAFE-T-WAY

National Sales Office

PO Box 1188

Salem, OR 44460

Phone: 330-332-3200

Fax: 330-332-2340

Fax order entry: 800-721-7216

Web site: <http://www.safewayproductsinc.com/index.htm>

ITEM: CAN, 1 GL (3.8L), gas, safety, Vented, 3 GL	NFES #1290
CAN, 5 GL (18.9L), gas, safety, Vented, 5 GL	NFES #1291
CAN, 1 GL (3.8L), gas, safety, Vented	NFES #0350
CAN, 5 GL (18.9L), gas, w/o spout, Jeep, 18" x 13" x	NFES #1175

A. Initial Inspection/Disposal Criteria

NOTE: Dispose of contaminated fuel according to local hazardous material regulations.

1. Inspect for fuel and dispose of properly.
2. Inspect for leaks or separation along seams.
3. Inspect all threads on nozzles for serviceability.
4. Inspect for proper marking and labels.

B. Tests

1. Inspect visually.
2. Dispose of unserviceable cans including those with unidentifiable contents.

C. Refurbishing Procedures

1. Drain all existing fuel.
2. Use a rag and air hose to dry the interior of the container.
3. Turn upside down with lids off or open to dry.
4. Inspect vent hole to ensure it is clean and serviceable.
5. Visually verify that no rust exists inside container.
6. Wipe down outside of container and repaint if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Local cache option

G. Storage and Shelf Life Checks

Annual visual inspection for rust.

ITEM: CAPS

NFES#0732

NFES#2210

A. Initial Inspection/Disposal Criteria

1. Inspect for cracks, bad threads, and obvious damage. If detected then dispose of the cap.
2. Inspect gaskets if stiff, damaged, or missing.
3. Chain is attached and of sufficient length.

B. Tests

Inspect threads with an appropriate male fitting.

C. Refurbishing Procedures

1. Replace gaskets if stiff, damaged, or missing.
2. Replace chain if missing or too short.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean with a mild detergent with a brush or scouring pad or high-pressure wash.
2. Rinse thoroughly.
3. Stand upright to drain and dry.

F. Repackaging

1. Package 10 each (NFES #0732) in 6 inch by 4 inch carton (NSN 8115-00-183-9505).
2. Package 10 each (NFES #2210) per local cache options.

G. Storage and Shelf Life Inspects

None

H. Reference

1. Gasket, hose 1 ½" NFES 0254
2. Gasket, hose 1" NFES 0743

For GSA specifications on NFES supplies and equipment go to <http://www.gsa.gov/fireprogram> and select "Library" and then select 5100-120c

For San Dimas Technology and Development Center (STDC) publications and specifications visit <http://www.fs.fed.us/t-d/programs/fire/>

NOTE: For the above site username is t-d and password is t-d.

NFES 1275 Water Handling Equipment Guide can be found under publication # 0351 1206

A. Initial Inspection/Disposal Criteria

Inspect Local Job Hazard Analysis for proper personnel protection equipment required when working on this item.

1. Evidence of use (dust, oil, fuel and starter seal broken).
2. Return to stock if not used and run within the last 12 months.
3. Evidence of damage.
4. Inspect and remark/replace trackable property tags if necessary.

B. Tests

NOTE: See Refurbishing Procedures (section C).

1. Repair to recommended manufacturer's standards using local repair procedures.
2. Test for performance.
3. Drain fuel and purge.
4. Tie off starter rope to handle to determine field use. Use plastic snap seal.
5. Dispose of according to local policies if saw is not economically repairable.

C. Refurbishing Procedures

1. Refurbish to manufacturer's specifications and tolerances.
2. Inspect for broken seal to verify that saw was used, even if seal is intact, look for exterior damage. If used, disassemble and clean complete saw, removing chain, bar, sprocket cover, sprocket, clutch drum clutch, worm gear, air filter cover, air filter, cylinder cover, sparkplug, starter cover, pawls, rope rotor, and muffler.
3. Clean all parts, inspecting each part as reassembling.
4. Filters should be cleaned with warm soap and water. New filter material (flocking) degrades quickly with solvent washing. Replace if holes appear in flocking.
5. Replace sparkplug if there are any doubts. Inspect sparkplug boot and high-tension lead.
6. Lubricate starter spring. Inspect rope for fraying. Replace if frayed.
7. Clean muffler of excess carbon. Inspect spark arrestor screen for build up. Bead blast and repair if necessary.
8. Replace sprocket or star drum if the wear is deep enough to catch a fingernail.
9. Sharpen chain, using manufacturer's procedures after each use. Inspect and adjust raker depth with a depth gauge regularly. Replace chain if: cutters are of unequal length on opposing sides; two or more cutters are broken; tie straps are worn down to rivets; if stretched beyond tensioning abilities; or when side plate is filed back to rear attaching rivet.
10. Service bar after each use. Inspect groove depth and width; true and file rails; and Inspect for bends. Replace if rails are cracked, chipped, burned, or have a dip deeper than 1/16 inch. Inspect sprocket tip for wear and looseness. Lubricate tip if grease type.
11. Inspect clutch shoes and springs. Replace if burned or missing. Replace clutch drum if badly burned (discolored).
12. Test run. Set oiler to full open and Inspect function, test brake function. Set RMS's with a digital tach, between 12,500 and 13,000 (or manufacturer's specifications). Make a test cut.
13. If saw runs properly, purge fuel, wipe sawdust and oil off saw, seal starter rope, and tag it with the date and a signature.
14. If a problem is exposed on run-up, use Stihl 15-minute engine analysis to troubleshoot.

ITEM: CHAIN SAW, 20" – 24" bar

(Cont'd)

NFES #0159

D. Retesting Criteria

Completed in section B.

E. Cleaning Procedures

Completed in sections B and C.

F. Repacking

1. Place bar cover over chain saw bar for safety.
2. If packaged in kit form, assemble in carton NFES #0353 with other component items.

G. Storage and Shelf Life Checks

Retest annually when used.

ITEM: CHAPS, protective, summer weight

**NFES #0044, #0045
#0078, #0150**

A. Initial Inspection/Disposal Criteria

1. Fabric and webbing.
 - a. Inspect for any holes, cuts, tears, or burns if the item cannot be repaired economically, is so dispose of item.
 - b. Inspect for any area of abrasion that has weakened fabric beyond repair, if so dispose of item.
 - c. Inspect for any webbing that is cut, burned, or abraded beyond economical repair, if so dispose of item.
 - d. Inspect each leg, if either leg of has more than five patches, dispose of item.
 - e. Dispose of item, if one cut exceeds 7 inches.
 - f. Dispose of if all layers have been cut through.

2. Hardware.

Inspect all plastic and metal hardware for dirt, cracks, breaks, and proper function. See section B.

B. Tests

Test hardware by fastening and unfastening. The hardware should function easily with little force being applied and no difficulty in the release.

C. Refurbishing Procedures

1. Repair burn holes and cuts. Repair techniques vary depending on whether damage is restricted to the outer layer of green nylon duck or involves the yellow Kevlar also. If only the nylon is burned or cut through, hand stitch this folded edge to the nylon. When hand stitching the patch to the nylon, ensure no stitches are sewn into the Kevlar. Deeper cuts that involve the Kevlar material must be repaired with a patch equal to the number of layers cut and must be machine sewn. If three layers are cut, the patch must contain these three layers. Make the patch large enough to extend 1-inch beyond the damaged area. Insert the patch under the nylon, and then sew on all four sides and along the cut in the nylon shell. Obtain patch materials from a pair of previously damaged chaps.
2. Replace burned, abraded, or cut webbing with like items.
3. Replace broken or nonfunctioning hardware.

D. Retesting Criteria

Retest all replaced hardware as specified in section B.

E. Cleaning Procedures

1. Allow any mud or loose dirt to dry, and then remove using a stiff-bristle brush. If stains remain, wash as recommended below.
2. Clean to remove heavy oil, as well as dirt and stains. Soak in water and a mild detergent for 30 minutes.
3. Brush with a bristle brush, rinse thoroughly, and hang to dry.
4. Or pre-treat with a mild detergent and water, and hang to dry.

DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.

ITEM: CHAPS, protective, summer weight (Cont'd)

**NFES #0044, #0045
#0078, #0150**

F. Repackaging

1. STANDARD PACK is 10 per carton.
2. Pack in carton NFES #2007 (NSN 8115-00-292-0123).

G. Storage and Shelf Life Checks

None

H. Reference

Inspection and repairing your Chainsaw Chaps, MTDC Publication 8267 2505.

ITEM: CLAMP, hose, shut-off, 1" – 1 1/2" hoses

NFES #0046

A. Initial Inspection/Disposal Criteria

Inspect for obvious/damage.

1. Inspect metal components for cracks or deformation, if any dispose of.
2. Inspect metal components for burn marks, if any dispose of.
3. Inspect all pins for excessive wear (very loose fittings), if any replace the pins or dispose of.

B. Tests

None

C. Refurbishing Procedures

Replace worn or broken pins.

D. Retesting Criteria

None

E. Cleaning Procedures

Clean with a parts washer, high pressure washer, or with a mild detergent and scrub with a brush or scouring pad.

F. Repackaging

G. Storage and Shelf Life Checks

None

ITEM: CONTAINER, 1 liter, fuel, aluminum, red finish

NFES #1535

A. Initial Inspection/Disposal Criteria

1. Inspect for fuel in bottle and dispose of fuel properly.
2. Inspect outside of bottle for excessive dents, cracks, or evidence of fuel leakage, dispose of bottle if any are present.
3. Inspect inside of bottle for any foreign matter that cannot be removed. Dispose of bottle if this has occurred.
4. Inspect cap and bottle for any thread damage. Replace cap if necessary.
5. Inspect O-ring for damage or wear, replace if necessary.
6. Inspect for fill to here line, without it dispose of bottle.

B. Tests

Visually inspect only.

C. Refurbishing Procedures

1. Wash bottle inside and out with mild detergent or power wash.
2. Rinse thoroughly.
3. Turn upside down with cap off and let air dry.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None

ITEM: CORDS, extension, 50' or 100' AWG, 12/3 wire

NFES #0560, #1172

A. Initial Inspection/Disposal Criteria

Visually inspect for broken plugs, cracked, or damaged cord, if any dispose of.

1. Discard field modified cords if not economically feasible to repair.
2. 2 Dispose or repair ends with grounding prong removed or damaged.
3. Dispose of any cord that is not UL approved with a 12/3 gauge minimum wire.

B. Tests

Plug into 110V source, and plug light into other end to ensure no connecting problems.

C. Refurbishing Procedures

Repair or replace as necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

Wipe down cord with damp cloth to remove foreign material.

F. Repackaging

1. Rollup cord (approximately 12 -14-inch loop). Tie off with wire ties or strappex banding (minimum of 1 per cord).
2. Tag cord with proper NFES number and nomenclature.
3. Repack in carton 18 inch by 15 inch by 15 inch (NSN 8115-00-290-3386).
 - a. NFES #0560-3 each per carton.
 - b. NFES #1172-2 each per carton.

G. Storage and Shelf Life Checks

None

ITEM: CORD, light, 50', with multiple light sockets, AWG, 12/3 wire

NFES #0563

A. Initial Inspection/Disposal Criteria

Visually inspect for broken plugs, cracked or damaged cord, cracked or damaged sockets, bent or broken bulb guards.
If light bulbs are in place, plug into source and verify all sockets and bulbs are working.

1. Dispose of or repair if bulb guards are bent or missing.
2. Dispose of or repair if any bent plug.
3. Replace any cracked or broken light sockets.
4. Dispose of any broken, frayed, or burned cords.
5. Dispose of any cords that are not UL approved with a 12/3 gauge minimum wire.
6. Replace any missing or broken bulbs.

B. Tests

If not done during (A) above, plug cord into 110v source and test each socket by screwing in a bulb or testing with voltage tester at cache option.

C. Refurbishing Procedures

Repair or replace as described in (A) above.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Damp wipe with mild detergent solution to remove mud, dirt, and grease.
2. Clean guards with soapy water, brush, and scouring pad.
3. Do NOT soak.
4. Dry completely before use (due to possible electric shock).

F. Repackaging

Local cache option for coiling and repacking.

G. Storage and Shelf Life Checks

None

ITEM: COT, folding, 12 oz cover, 3 1/2' x 6 1/2'

NFES #0053

A. Initial Inspection/Disposal Criteria

1. Visually inspect for tears in cover, soiled cover, missing parts, and loose nuts and bolts, replace.
2. Dispose of cot if structural damage to the frame is present. (Salvage usable parts when feasible.)

B. Tests

Assemble to ensure completeness and all parts fitting properly. Inspect for weakness or non-visual damage.

C. Refurbishing Procedures

1. If cover is torn or its seam is separated, replace the cover. See parts list section C.4.a.
2. Replace damaged rail end tubing pieces. See parts list section C.4.b.
3. If plug for cot ends are missing replace them with the appropriate plug. See parts list, section C.4.c, d, and e.
4. Parts list for cot parts available from Department of Defense-S9I. See section H for website info.
 - a. Cover, Nylon 7105-00-935-1845.
 - b. Rail End Tubing 7105-00-935-0424.
 - c. Plug (Dowel) 7105-00-935-0433.
 - d. Plug (Spacing) 7105-00-935-0344.
 - e. Plug (End) 7105-00-935-0435.
 - f. Strap 7105-00-113-0003.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Soiled cots can be power washed and left to dry. Assemble cot completely before power washing.
2. NEVER wash a cot without rail end tubing installed properly. This will cause shrinkage.
3. Disinfect cot per local cache option.

F. Repackaging

1. Refold and band.
2. Local cache option

G. Storage and Shelf Life Checks

None

H. Reference. To order parts: <https://emall6.prod.dodonline.net/main/>

ITEM: COUPLINGS

**NFES #0710, #0855, #0856
#0857, #0916**

A. Initial Inspection/Disposal Criteria

1. Visual Inspects on male couplings.
 - a. Inspect for worn or damaged threads.
 - b. Inspect coupling to ensure it has not been smashed, bent, or cracked.
 - c. Ensure that rocker lugs are not stripped.
2. Visual Inspects on female couplings.
 - a. Inspect for worn or damaged threads.
 - b. Inspect coupling to ensure it has not been smashed, bent, or cracked.
 - c. Inspect for gaskets.
 - d. Ensure that swivel operates properly.
 - e. Ensure that rocker lugs are not stripped.

B. Tests

1. Male coupling.

Attach to female coupling to ensure that threads operate smoothly.
2. Female coupling.

Ensure that threads operate smoothly.

C. Refurbishing Procedures

1. Male coupling.

If threads are damaged, try to file with a triangular file.
2. Female coupling.
 - a. Replace gaskets if necessary.
 - b. Lubricate with a dry lubricant, i.e., graphite.

D. Retesting Criteria

Re-inspect male threads that have been repaired or “chased.”

E. Cleaning Procedures

1. Wash and clean of mud, dirt, and grease.
2. Clean in parts washer, high pressure wash or clean in sink with dishwashing detergent with a brush or scouring pad.
3. Rinse thoroughly and let dry.

F. Repackaging

1. Package 10 each in carton (cache option) and label accordingly.
2. Package 60 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: EXTINGUISHER, fire, 20A:120BC, 20 lb (9.1L)

NFES #0307

A. Initial Inspection/Disposal Criteria

1. Visual inspection indicating use (discharge).
2. Inspect for missing parts.
 - a. Safety pin.
 - b. Verify expiration date and signature of authorized service representative

B. Tests

Testing and filling performed by authorized service representatives only.

C. Refurbishing Procedures

Completed in sections B.

D. Retesting Criteria

None

E. Cleaning Procedures

Completed in sections B.

F. Repackaging

NFES #0307 Package 1 each in carton NFES #0385 to prevent accidental discharge of extinguisher.

G. Storage and Shelf Life Checks

Yearly inspection by authorized service representative.

ITEM: FENCE, barricade, plastic, 4' X 50'

NFES #0608

A. Initial Inspection/Disposal Criteria

1. Inspect for damage, repair or dispose of.
2. Inspect for length, if less than 50' splice is required. (See section C)
3. Inspect for dirt, grease, oil, or paint, clean or repair.

B. Tests

None

C. Refurbishing Procedures

Replace damage barricade section by splicing. Splice using small cable ties or small hog rings one top, one bottom, and one every 6 inches to ensure splice security; only one splice for each barricade fence.

D. Retesting Criteria

None

E. Cleaning Procedures

Clean with high-pressure wash; or clean with mild detergent using a brush or scouring pad.

F. Repackaging

Re-roll and secure.

G. Storage and Shelf Life Checks

None

ITEM: FLIGHT SUIT

**NFES #0501, #0507, #0508, #0509, #0514, #0517, #0518, #0519
#0521, #0525, #0527, #0539, #0545, #0546, #0547, #0548
#0567, #0572, #0574, #0576**

A. Initial Inspection/Disposal Criteria

1. Inspect for holes, cuts, tears, burns, or torn seams, if any dispose of.
2. Inspect hook and pile fastener missing or that does not provide adequate closure, repair or dispose of.
3. Inspect zipper broken or missing a slider, dispose of.

B. Tests

1. Open and close the hook and pile fasteners to ensure they provide an adequate and secure closure.
2. Open and close zipper to ensure smooth operation and a secure closure.

C. Refurbishing Procedures

None

D. Retesting Criteria

None

E. Cleaning Procedures

1. Follow the cleaning procedures described in the publication, Nomex®- Aramid -Laundering Guide (2197).
The publication can be obtained by calling Dupont at 1-800-453-8527 or by writing:
Dupont Company
Aramid Inquiry Center
Chestnut Run Plaza
Laurel Run Building
Wilmington, DE 19880-0705
2. Washing procedures from above publication:
 - a. "Tests show that (commercial and industrial detergent) formulations designed for use at a temperature of 140 °F (60 °C) or less, adequately clean NOMEX® and provide the best fabric color retention.
 - b. "Garments of NOMEX® must be adequately rinsed to remove residual wash chemicals.
 - c. "In some instances, tumble dry conditioning is the only finishing necessary for garments of NOMEX®."
3. In addition to these guidelines:
 - a. Select temperatures to maintain color fastness, except as necessary to clean heavily soiled items.
 - b. The use of commercial cold-water process may be used in remote field locations as necessary.
 - c. Garments heavily soiled with petroleum products may require dry-cleaning with perchloroethylene.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None

ITEM: FLY, plastic, tent, 16' X 24' with 10 guy ropes

NFES #0070

A. Initial Inspection/Disposal Criteria

1. Dispose of nonstandard item.
2. Inspect for rips and tears on main sheet. Inspect borders for seam damage and loose grommets.
3. Inspect for petroleum or other stains on main sheet.
4. Inspect for mold or mildew.

B. Tests

None

C. Refurbishing Procedures

1. Completely unfold tent fly on clean, dry floor or work area so that any defects (tears, burns, mildew, etc.) will be visible.
2. Sweep off entire fly with stiff-bristle broom.
3. Repair any minor rips, tears, or any other defects at this time (if possible)
4. Replace missing grommets with 5/8 inch brass grommets.
5. Repair missing or damaged guy ropes with 25 foot by 1/4" manila rope with sliders.
6. Fly should have 10 (ea) guy ropes.

D. Retest Criteria

None

E. Cleaning Procedures

1. Pressure wash with hot water and scrub with a stiff-bristle brush and a mild detergent.
2. Hang tent fly until completely dry.

F. Repackaging

1. Utilize flat, clean surface greater than 20 foot by 20 foot. Fold lengthwise once, fold lengthwise again, and sweep after each fold until fly is in a neat, tight package approximately 16 inch by 24 inch.
2. Secure fly with 1/4 inch manila or similar rope. Use carton NFES #2006 (NSN 8115-00-139-0722), or band.
3. Tag finished product with proper NFES # and nomenclature.

G. Storage and Shelf Life Checks

None

ITEM: FLY, sunscreen, 20' x 20', w/guy ropes

NFES #6131

A. Initial Inspection/Disposal Criteria

1. Nonstandard item, if smaller than 20' x 20' dispose of.
2. Inspect for rips and tears, dispose of if uneconomical to repair.
3. Inspect for excessive petroleum products, if so dispose of.
4. Inspect for mildew.

B. Tests

None

C. Refurbishing Procedures

1. Completely unfold fly on clean, dry floor or work area so that any defects (tears, burns, mildew, etc.) will be visible.
2. Repair any rips, tears, or any other defects.
3. Replace missing or damaged guy ropes with 25 foot by 1/4 inch manila rope w/tensioners. (10 each).
4. Replace missing grommets with 5/8-inch brass grommets.

D. Retest Criteria.

None

E. Cleaning Procedures

1. Sweep off entire fly with stiff bristle broom.
2. Power wash with a mild detergent and air dry.

F. Repackaging

Use carton NFES #2006 (NSN 8115-00-139-0722).

G. Storage and Shelf Life Checks

None

ITEM: FLY, tent, type II, 9' x 10'

NFES #1521

A. Initial Inspection/Disposal Criteria

1. Nonstandard item, dispose of.
2. Rips and tears, if any dispose of.
3. Missing or loose grommets, if any dispose of.

B. Tests

None

C. Refurbishing Procedures

1. Wash with soapy water and rinse with clean water (use a mild degreasing soap) or high-pressure wash.
2. Air dry.
3. Repair rips and tears.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash with water and mild degreaser detergent.
2. Rinse to remove all soap residues.
3. Air dry.

F. Repackaging

Package 20 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: FOOD, meals ready to eat (MRE'S)

NFES #1842

A. Initial Inspection/Disposal Criteria

1. Receipt inspection: Verify shipping carton for marking of MRE meals. The carton must show the following data.
N (National Stock Number)
Item Nomenclature
Wt. _____ Cu _____
Contract No. _____ Lot No. _____
Name and Address of Ration Assembly Contractor
Date packed
ITD Inspection test date
Fresh – Check Indicator
2. Expiration of MRE meals will be based on a US Army food service inspector's evaluation. The Fresh-check Indicator may be used for field inspections.
 - a. MRE meals will be disposed of if the meal storage pouch is open.
 - b. That meal will be removed from its container and rendered unusable and placed in a wet-garbage container.
 - c. The water activated heater, for heating the MRE entree will be removed from the meal and placed in a metal pail with water to deactivate. They may then be disposed of in your local landfill.

B. Tests

None

Requires food service inspection.

C. Refurbishing Procedures

None. Dispose of all loose, partial, or open MRE meals, and all unmarked MRE meals, and MRE meals in unmarked shipping containers, i.e., not in original shipping containers.

D. Retesting Criteria

Inspect container for proper marking, look for container damage, look for insect or rodent damage, and look for product leakage and foul odor. If damage found follow section A. Mark case/pallet with next inspection test date if no damage found.

E. Cleaning Procedures

Dust case look for damage as noted in section D.

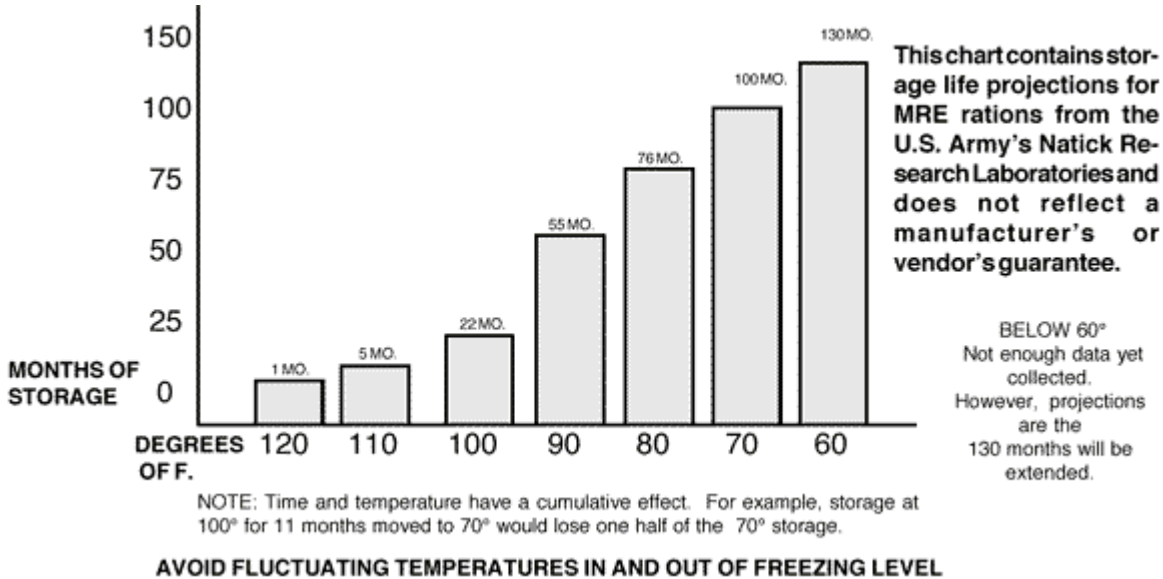
F. Repackaging

Label appropriately and store accordingly.

G. Storage and Shelf Life Checks

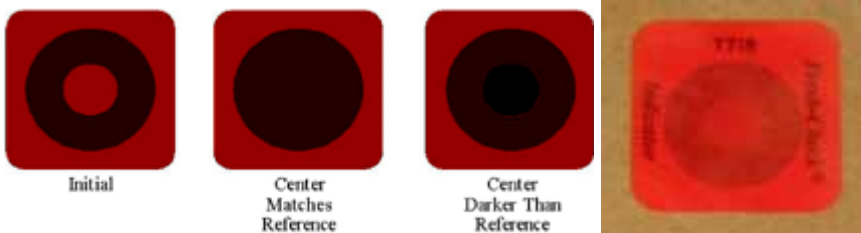
Official Answers

Officially, how long MREs last depends on how long they are stored and at what temperatures they are stored. At the least, they'll last 1 month at 120 degrees F. Or they could last 130+ months at 60 degrees F. Here's the time/temp chart typically used:



Since about 1997, MRE cases have also included something called a TTI (time and temperature indicator) on the outside of the box to assist inspectors in determining if MREs are still good. There are two parts to the TTI - an outer dark circle and an inner light circle. As long as the inner circle is still lighter than the outside circle, the MREs are supposed to be good. For the official info on the TTIs visit http://www.natick.army.mil/soldier/media/fact/food/Time-Temperature_Indicator.htm.

TIME-TEMPERATURE INDICATOR



Implementation with MRE XVII

H. Reference

The website for information is <http://www.dscpl.dla.mil> go to search type in MRE and www.mreinfo.com.

ITEM: GENERATOR, gasoline engine, 3 to 6 KW w/ground rod

NFES #0709

A. Initial Inspection/Disposal Criteria

1. Inspect generator for any obvious damage to body, frame, or shock absorbing system.
2. Inspect for oil leaks, dirty air filters, and condition of spark plug.

B. Tests

1. Inspect oil level, fuel level, condition of gas and oil, and condition of spark plug and air filter. Do this before starting.
2. See operator's manual for specified generator. Start generator; look for items that need repair.
 - a. Engine smoking, running rough, missing.
 - b. Not starting.
 - c. Leaking fuel lines.
3. Turn on generator.
 - a. Inspect voltage output using test meter.
 - b. Plug in an electric tool to inspect the generator under load.

SAFETY NOTES:

1. Ensure that generator is grounded properly to prevent electrical shock.
2. Attach noise label on generator to warn operator.
3. Do not fuel generator when hot. Watch out for hot mufflers.
4. Inspect operation of Ground Fault Interrupter (GFI).
5. Inspect to be sure there is a 12-gauge GET at generator.

C. Refurbishing Procedures

A generator should be able to run properly and put out the proper amount of voltage (see operator's manual).

If the generator does not meet these criteria, refer to the operator's manual and troubleshooting guide, or send it out to a local repair shop to be repaired. Ensure that the shop has the operator's manual and troubleshooting guide.

D. Retesting Criteria

1. Start generator to make sure it is operating properly.
2. Use a test meter to inspect for proper voltage output.

E. Cleaning Procedures

Clean off dirt and oil. Allow generator to dry.

F. Repackaging

1. Drain fuel from tank and fuel lines.
2. Purge gas tank using NFES #0700 Purge.
3. Ensure that all identification is on the generator: Property No's, Serial No's, Cache Identification.
4. Tie off starter rope to handle to determine field use. Use plastic snap seal.

G. Storage and Shelf Life Checks

Shelf life Inspects should be made once or twice a year to ensure proper operating conditions. This is necessary if they are not shipped out during the year.

ITEM: HARNESS, chest, fire shelter

NFES #0294

A. Initial Inspection/Disposal Criteria

1. Webbing.
 - a. Inspect webbing for cuts, tears, frayed, or burned, if any dispose of.
 - b. Inspect for any area of abrasion that has weakened the webbing beyond repair, dispose of.
2. Hardware
Inspect all plastic hardware for cracks, breaks, and proper function (see section B).

B. Tests

Test hardware by fastening and unfastening. The hardware should function easily with little force and difficulty in opening and closing.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, and/or burns, if economical repair.
2. Replace damaged hardware.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow any mud and loose dirt to dry; remove with a stiff brush.
2. Remove light oil by spraying with a water and mild detergent, power wash or scrub with a stiff brush, and hang to let dry.
3. Remove heavy oil by soaking in water and mild detergent, power wash, and hang to dry.
4. If machine washing use cold water, rinse, and air dry.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None

ITEM: HEADLAMP, firefighters (advanced)

NFES #0667

A. Initial Inspection/Disposal Criteria

1. Lamp head.
 - a. Inspect lamp head should have two bulbs, one in place for use, and one inside the housing as a spare. The computer chip inside the housing should be intact and firmly in place.
 - b. Lens/reflector should be clear, unscratched, and turn on the housing with resistance, if not dispose of.
 - c. The housing should be free of cracks and the switch boot free of cracks or tears. The strap lugs should be intact, if not dispose of.
 - d. Inspect O-ring should be free of cracks and pliable, if not dispose of.
 - e. The wire should be tight and have no cracks; the connector should be round and clean.
2. Battery pack.
 - a. Housing should free of cracks, both cap lugs and strap lugs should be present and intact.
 - b. The cap should be free of cracks, the wire tight and without defect and the o-ring intact. The cap should fit snugly on the battery housing and lock in place. The connector plate inside the cap should be centered and free of corrosion.
 - c. The battery frame should be intact and firmly hold 5 AA batteries. The electrical connectors should mate with the connectors in the cap.
3. Helmet strap.

The helmet strap should be without tears, pliable, and hold the headlamp components.

B. Tests

1. Insert 5 new AA batteries into the battery frame all pointing towards the top. Insert battery frame into the battery housing. Tighten the cap; attach the lamp head, the light should go on. Press and release the lamp button, the light should either brighten or dim. Press and hold the lamp button, the light should go off.
2. Remove batteries.

C. Refurbishing Procedures

Replace components until the lamp works properly.

D. Retesting Criteria

Retest as specified in section B.

E. Cleaning Procedures

Clean headlamp with clean water.

F. Repackaging

Store 20 headlamps per carton.

G. Storage and Shelf Life Checks

Headlamps should be stored **without batteries**.

H. Reference

Headlamps should be stored without batteries. Replacement parts can be obtained from:

Easter Seals Greater Hartford Rehabilitation Center, Inc.
100 Deerfield Road
Windsor, CT 06095
Phone: 860-714-9500

ITEM: HEADLAMP, single cell, cordless (obsolete, replaced by NFES #0667)

NFES #0713

A. Initial Inspection/Disposal Criteria

Inspect for broken wires, rust or corrosion on any metal part, and cracks in the case or lens cover. If detected dispose.

B. Tests

1. Test unit with new batteries.
2. Test both bulbs; if defective, replace.
3. Test elasticity of headband; if defective, replace.
4. If cracks in insulation are less than 3 inches from termination point, cut out bad section and rewire or throw away.

C. Refurbishing Procedures

NFES #0713 Inspect battery adapter type and replace with one of the same kind (9-volt battery configuration or battery with contacts on outer part of adapter).

1. Install test batteries.
2. Test and clean entire unit, install new bulbs and headband if required.
3. Remove test batteries.
4. Validate "O" rings are present in lens and battery compartment.

D. Retesting Criteria

None

E. Cleaning Procedures

Wipe entire unit clean to include lamp housing, battery cam, and both sides of lens.

F. Repackaging

1. Package 24 individual headlamps in 20 inch by 20 inch by 20 inch carton (NSN 8115-00-428-4158).
2. **CAUTION—Do not repack units with batteries.**

G. Storage and Shelf Life Checks

None

H. Reference

1. Light Bulb – (General Electric Miniature Lamps #502)
2. Adapter, single cell headlamp, 4 – AA style NFES 1090

ITEM: HEATER, propane, 20# tank mounted
HEATER, propane, outdoor, 360° radiant heat

NFES #6139
NFES #6187

A. Initial Inspection/Disposal Criteria

1. Visual inspection indicating use or missing parts (guards, knobs, etc.).
2. Structural damage preventing repair—if so dispose of (salvage usable parts).
3. Inspect for torn or cut heater element, if so dispose of heater.
4. Inspect for damaged or cracked hose/hose connections, if so replace.
5. Inspect for damage to regulators, if so dispose of.

B. Tests

1. Inspect hoses for cracks, inspecting for breaks by flexing, if so dispose of.
2. Inspect hose or valve for foreign material that might cause a blocked line, if so dispose of.
3. Inspect “O” rings on supply hose and replace if needed.
4. Inspect for out-of-round fittings by screwing regulator into tank POL fitting.
5. Mount or connect the heater to a LP-Gas supply cylinder.
6. Turn on gas supply to the heater and check all fittings and connections for gas leaks using mild soap and water solution. Should a gas leak occur, shut off the gas supply to the heater immediately and wait a minimum of five minutes before repairing the leak.

CAUTION: Do not inspect by using a match or any other type of flame.

7. When assured that there are no leaks, light heater/pilot. If heater/pilot does not ignite within 5 seconds, extinguish flame and shut off gas valve. Wait 5 minutes before retrying.
8. (#6139 heaters) Once lit, let run for 3-5 minutes, try on/off cycle 2 to 3 times.
(#6187 heaters) Once pilot is lit, turn heater on, let run for 3-5 minutes; try on/off cycle 2 to 3 times.
9. If heater fails, determine if economical to repair, send to a certified repair shop.
10. Inspect auto shut off valve is in working condition by tipping unit over. (if applicable)

C. Refurbishing Procedures

1. Replace regulator if there is any damage to the regulator or threads do not properly seat.
2. Replace or straighten any damaged or bent parts.
3. Repair or replace auto shut off valve if not working properly. (if applicable)

D. Retesting Criteria

Follow procedures in section B.

E. Cleaning Procedures

1. Clean the outside of the heater using a damp cloth. DO NOT clean the heater by spraying water on it.
2. Clean the inside of the heater using compressed air.

F. Repackaging

Repack in original carton if possible or pack to local cache requirements.

G. Storage and Shelf Life Checks

None

**ITEM: HELMET, flight, SPH-5TPL
HELMET, flight, SPH-5C**

**NFES #1214, #1215
NFES #2314, #2315**

A. Initial Inspection/Disposal Criteria

1. Visual inspection indicating use or missing parts (screws, visors, worn cords, etc.).
2. Structural damage (cracked shell, visor housing, booms, etc.).
3. Structural damage preventing repair and refurbishment (cracked helmet shell, salvage useable part and dispose of helmet shell).
4. Flight helmets must meet requirements in Instruction Memo No. 96-2006 (In reply refer to: 9400 (FA-100)).
5. SPH-4 Helmet should be converted to SPH-5 Helmets or disposed of.

B. Tests

1. All testing and refurbishment will be conducted by certified personnel.
2. Agency flight helmet testing and refurbishment maybe preformed by the following:

National Interagency Fire Center
Ramp Services
3833 S. Development Avenue
Boise, ID 83705
Phone: 208-387-5529
Fax: 208-387-5785

C. Refurbishing Procedures

1. Test avionics.
 - a. Earphones.
 - b. Microphone.
 - c. Cord assembly.
 - d. Microphone cable assembly.
2. Clean flight helmet thoroughly.
3. Replace missing or damaged parts.
4. Replace thermoplastic liner (TPL) in SPH-5 TPL.
 - a. Size Regular NFES #3063.
 - b. Size XL- NFES #3064.
 - c. Size Small NFES #3065. Contact address above for further information.

D. Retesting Criteria

Retest avionics if necessary.

E. Cleaning Procedures

Use general purpose cleaner. (Do not use bleach, paint remover, thinner, or acetone on flight helmet shell. It may cause damage).

F. Repackaging

Package 1 each in 12 inch by 12 inch by 12 inch carton (NSN 8115-00-079-8680).

G. Storage and Shelf Life Checks

None

ITEM: HELMET, safety, plastic, w/chin strap

NFES #0109

A. Initial Inspection/Disposal Criteria

1. Inspect for cracks, chips in shell, if so dispose of.
2. Ensure that all attachment clips are present (chin strap, headlamp, liner, neck and face shroud).
3. Inspect for markings, drawings or labels, if any dispose of.
4. All certification labels must be present in helmet. (ANSI, etc)

B. Tests

Filling helmet with water will reveal unseen cracks, will leak.

C. Refurbishing Procedures

1. Wash with soap and water and air dry.
2. Replace with new liner and new chin strap.
 - a. Bullard helmet use liner NFES #2025
 - b. Mine Safety Appliances (MSA) helmets use liner NFES #1840
3. Attach front 2 suspension clips to helmet to ensure proper fit.
4. Add or replace reflective strips.
5. Add or replace Velcro strips
 - a. Velcro strips 1 ½" by 2 ¼" inch and placed at center at rear of helmet and 9 ½" around curvature of helmet on each side.
 - b. The adhesive used shall be approved by the manufacturer for use on the helmet.

Velcro available from:

Textrol Systems Inc.
435 Meadow Lane
Carlstadt, NJ 07072
Part #193973 (Part B-male)
Phone: 800-624-8746

D. Retesting Criteria

None

E. Cleaning Procedures

Wash entire shell with soap and water, or high-pressure wash.

F. Repackaging

1. STANDARD PACK 20 helmets per carton.
2. Pack in carton NFES #2007 (NSN 8115-00-292-0123).

G. Storage and Shelf Life Checks

None

ITEM: HOE, adze (Obsolete when stock has been depleted)

NFES #1396

A. Initial Inspection/Disposal Criteria

1. If there are modification to head, such as rivets through side of head to hold handle, dispose of.
2. Cracked, damaged, or improper length of handle. Replace of handle.
3. Nonstandard handle. Dispose of handle.
4. Tool head bent, twisted, or cracked, dispose of.

B. Tests

Note: Construction specifications are not available for this tool, so criteria of sufficient hoe blade to refurbish is determined through visual determination if the blade is of sufficient size to permit tool to be effective.

1. Blade is sufficient length to be serviceable, and not rounded.
2. Head is not twisted or bent.
3. Handle is tight. Check by pulling tool head away from handle.
4. No metal wedges in handle.

C. Refurbishing Procedures

1. Check handle for proper length, cracks, and chips.
2. Check handle tightness. If loose, drive the handle into the head using a 4-pound blacksmith hammer and pound on the long planed side of head. Use wooden wedges between handle and head to provide more area of wood for proper tightness. When tight, drive nails into handle on underside of head to lock head into position, one nail to each side of handle on the long plane of head. Handle is to be flush and is not to exceed 3/8 inch protrusion from head.
3. With head tight, sand blast the head to remove all foreign objects, such as dirt, burrs, rust, etc.
4. Sharpen grubbing edge to tool sharpening gauge. Ensure that blade corners are square. Remove all burrs with a hand file.

CAUTION: Tool should NEVER be ground to the degree that the metal temperature raises high enough to remove temper, i.e., blue or burned edges.

5. Sand handle if it is chipped, dinged, rough, or has other residue.
6. With handle, smooth, apply linseed oil to handle only. Remove all excess oil.
7. Apply rust inhibitor to the head.

D. Retesting Criteria

None

E. Cleaning Procedures

Remove all excess linseed oil from handle.

F. Repackaging

1. Apply protective sheath to blade edge. (Sheath is to be made by cache warehouse person using rejected fire hose.)
2. Package 10 each in carton NFES #0338; 37 inch by 18 inch by 8 inch (NSN 8115-00-139-0673).

G. Storage and Shelf Life Checks

Per local cache requirements to ensure proper serviceability of tools.

ITEM: HOSE, garden, synthetic, 3/4" NH x 50'

NFES #1016

A. Initial Inspection/Disposal Criteria

1. Visually inspect for burns, cuts, damaged fittings, if any dispose of.
2. Recycle brass fittings from discarded hose.
3. Inspect gasket for cracks, if any replace.

B. Tests

1. Start pump.
2. Test hose at bib pressure, which should be at least 120 psi. (Check bib pressure with pressure gauge. Gauge can be purchased at any local hardware store.)
3. Inspect hose for leaks.
4. Shut down pump.
5. Drain excess water from hose.

C. Refurbishing Procedures

None

D. Retesting Criteria

None

E. Cleaning Procedures

1. Remove excess dirt from hose.
2. Wash hose with clean water or clean water with mild detergent or high pressure wash.
3. If detergent is used, rinse with clean water.
4. Allow hose to dry thoroughly.

F. Repackaging

1. Roll hose in single-roll configuration, male fitting in center of roll.
2. Secure roll with band, string, etc.
3. Package 20 lengths in a carton 16 inch by 12 inch by 10 inch and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: HOSE, lined

**NFES # 0932, #0933, #0966
#0967, #1238, #1239**

A. Initial Inspection/Disposal Criteria

1. Segregate by NFES number.
2. Inspect for obvious burns, cuts, or damaged couplings, if so dispose of.
3. Inspect for worn, defective or missing gaskets, if so replace.

B. Tests (For detailed information refer to H.)

1. Replace gasket if necessary.
2. Connect female end of hose to pump or manifold (confirm not out of round and no damaged threads).
All 1 1/2-inch hose should be NH threads. All 1-inch hose should be NPSH threads
3. Pressure Test
 - a. Start pump.
 - b. Make sure nozzles are open. Let all air escape from hose. Shut nozzles.
 - c. Time for 3 minutes after reaching 300 psi.
 - d. Walk the length of the hose inspecting for the following which will indicate a need for repair or disposal: burns, cuts, or leaks between hose and couplings, and at swivel portion of female coupling.
 - e. Test for 3 minutes, turn off pump water.
 - f. Female and male couplings.
 - i. Inspect for leaks where hose goes into coupling.
 - ii. Inspect for crooked coupling (easier to see when hose is charged).
 - g. Remove hose.
 - h. Stretch out good hose to drain.

C. Refurbishing Procedures

1. Refurbished hose shall result in lengths that are a minimum of 90 percent of original length.
2. Good couplings shall be salvaged from discarded hose.
3. Re-coupling procedures.
 - a. Remove old expansion ring and coupling from hose.
 - b. Remove unserviceable portion of hose, squaring end to be re-coupled.
 - c. Utilize expander machine to insert new expander and coupling. Follow specific machine operating instructions.
 - d. Refurbished hose shall result in hoses that are 90 to 100 foot in length.

D. Retesting Criteria

1. None required unless re-coupling has occurred.
2. Following re-coupling, follow test procedures as outlined in section B.5.

E. Cleaning procedures

1. Clean excess dirt from hose.
2. Run hose through hose washer using other clean water or clean water with a mild detergent.
3. If detergent is used, rinse with clean water.
4. Allow hose to dry thoroughly before rolling.

ITEM: HOSE, lined (Cont'd)

NFES # 0932, #0933, #0966
#0967, #1238, #1239

F. Repackaging

1. Roll in a single roll configuration-male coupling in center of roll.
2. Secure roll (plastic band, string)
3. Local cache option for storage.
 - a. Roll, secure, and place on pallet. Cache option quantity per pallet 1 inch by 100 foot length/pallet.
 - b. Roll, secure, and place on pallet. Cache option quantity per pallet 1 1/2 inch by 100 foot length/pallet.
 - c. Roll, secure, and package 2 lengths in carton (to be determined). Cache option quantity per pallet.

G. Storage and Shelf Life Checks

None

H. Reference

Check for additional info at: <http://www.nwcg.gov/pms/pubs/pubs.htm>
NFES #1275, Water handling Equip. Guide pg 201-203

ITEM: HOSE, synthetic weeping

NFES #1873, #0334

A. Initial Inspection/Disposal Criteria

1. Segregate by NFES number.
2. Inspect for obvious burns, cuts, damaged couplings, worn or defective gaskets.

B. Tests

1. Replace gasket if necessary.
2. Connect female end of hose to pump or manifold (confirm not out of round and no damaged threads). All 1 ½ inch hose should be NH threads. All 1 inch hose should be NPSH threads.
3. See current edition of the NFES #1275 Water Handling Guide for hose testing procedures.
4. For linen hose, begin pressure test with a 5-minute wet soak at 50 psi prior to applying full test pressure.
5. When hose is under pressure, walk the length of hose inspecting for the following which will indicate a need for repair or disposal: leaks between hose and couplings and at swivel portion of female coupling.
6. Pressure test.
 - a. Start pump.
 - b. Time for 3 minutes after reaching 300 psi.
 - c. Walk the length of the hose two or three times looking for burns or cuts.
 - d. After 3 minutes turn off pump water.
 - e. Female and male couplings.
 - i. Inspect for leaks where hose goes into coupling.
 - ii. Inspect for crooked coupling (easier to see when hose is charged).
 - f. Remove hose.
 - g. Stretch out good hose to drain.

NOTE: Items 6.c and 6.e require special attention with synthetic hose.

C. Refurbishing Procedures

1. Refurbished hose shall result in lengths that are a minimum of 90 percent of original length.
2. Good couplings shall be salvaged from discarded hose.
3. Re-coupling procedures:
 - a. Remove old expansion ring and coupling from hose.
 - b. Remove unserviceable portion of hose, squaring end to be re-coupled.
 - c. Utilize expander machine to insert new expander and coupling. Follow specific machine operation instructions.

D. Retesting Criteria

1. None required unless re-coupling has occurred.
2. Following re-coupling, follow test procedures as outlined in section B.6.

E. Cleaning procedures

1. Clean excess dirt from hose.
2. Run hose through hose washer using other clean water or clean water with a mild detergent.
3. If detergent is used, rinse with clean water.
4. Dry linen hose immediately after testing and washing to avoid mildew. Allow synthetic hose to dry thoroughly before rolling.
 - a. A 100-foot hose is hung from the middle and left to drain for 4 hours.
 - b. After 4 hours, double hose again, with couplings off the ground.

ITEM: HOSE, synthetic weeping (Cont'd)

NFES #1873, #0334

F. Repackaging

1. Roll in a single roll configuration-male coupling in center of roll.
2. Secure roll (rubber or plastic band, string).
3. Local cache option for storage.

G. Storage and Shelf Life Checks

Linen hose should be inspected periodically for mildew or rot, and should be retested after 3 years on the shelf, regardless of appearance.

ITEM: HOSE, suction

**NFES #0115, #0652
#0914, #1808**

A. Initial Inspection/Disposal Criteria

Visually inspect for cracks, cuts, damaged couplings, and gasket, if so dispose of.

B. Tests

1. Service pressure test.
 - a. Start pump.
 - b. Test for 3 minutes at 50 psi.
 - c. Inspect hose for leaks.
 - d. Shut down pump.
 - e. Drain hose completely.
2. Dry vacuum test.

See current edition of the NFES #1275 Water Handling Equip. Guide for complete annual testing procedures.

C. Refurbishing Procedures

Replace gasket if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Remove excess dirt from hose.
2. Clean with damp rag.
3. Apply a rubber protectant to prevent drying and cracking.

F. Repackaging

1. No special repack requirements.
2. Protect male coupling threads.

G. Storage and Shelf Life Checks

None

ITEM: HOSE ROLLER, (electric only)

NFES #0633

A. Initial Inspection/Disposal Criteria

1. Inspect for missing parts, foot pedal switch, cracks in frame structure power cord and motor.
2. Verify protective guards are on any and all moving parts. (i.e., pulleys, etc.).

B. Tests

Plug in and test motor and moving parts.

C. Refurbishing Procedures

1. Blow dust and dirt out of electric motor.
2. If needed wash with high-pressure washer (cover electric motor).
3. Let dry.
4. Repair cracks in frame as needed.
5. Tie-wrap power cord and control switch (foot pedal) to frame.

D. Retesting Criteria

Plug and test motor and moving parts.

E. Cleaning Procedures

Covered in section C.

F. Repackaging

None

G. Storage and Shelf Life Checks

None

ITEM: HOSE ROLLER; (gas)

NFES #0633

A. Initial Inspection/Disposal Criteria

1. Pressure wash hose roller.
2. Inspect hose roller for any obvious damage to body or frame.
3. Inspect motor for:
 - a. Oil leaks.
 - b. Dirty air filters.
 - c. Condition of spark plug.
4. Inspect all belts.
5. Inspect all cables and accessories.
6. Verify protective guards are on any and all moving parts (i.e., pulleys, etc.).

B. Tests

1. Start engine and inspect for:
 - a. Hard starting.
 - b. Smoking engine.
 - c. Running rough or missing.
2. Worn or loose belts.
3. Leaking fuel lines.
4. Worn pulleys.

C. Refurbishing Procedures

1. Engine should be properly adjusted to obtain the standard idle speed.
2. Replace any worn belts, worn pulleys, and fuel line if it leaks.
3. Tighten all loose belts.
4. Adjust carburetor as needed.
5. Drain fuel from tank and fuel line. Start engine to ensure that all gas has been run out of unit.
6. Use clean rag to rid fuel tank of any excess fuel and then purge fuel tank.
7. Ensure that all identification labels are on unit (i.e., property numbers and serial numbers on engines).
8. Use plastic TY-RJP to tie off starter rope (gas units) to determine field use.
9. Lubricate wheels on hose roller.

D. Retesting Criteria

If unit has not been run in past 12 months, start hose roller and complete section C.

E. Cleaning Procedures

Clean dirt and oil off unit using a mild detergent.

F. Repackaging

None

G. Storage and Shelf Life Checks

See section D

H. Reference

Refer to specific engine owner's manual and troubleshooting guide for all needed specifications on gas engine.

ITEM: INCREASERS

NFES #0416, #0854, #2235

A. Initial Inspection/Disposal Criteria

1. Inspect for cracks, bad threads, or obvious damage, if any dispose of.
2. Inspect gaskets. (refer to C1.)

B. Tests

Check threads by using appropriate female fitting.

C. Refurbishing Procedures

1. Replace gasket if stiff, missing, or cracked.
2. Inspect threads for damage. Use triangular file to “chase” threads.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean in parts washer, high pressure wash or clean in sink with mild detergent using a brush or scouring pad.
2. Rinse thoroughly.
3. Stand upright to drain and dry.

F. Repackaging

1. NFES #0416 package 10 each in carton (cache option) or 60 each in carton (cache option) and label accordingly.
2. NFES #0854 package 10 each in carton (cache option) or 60 each in carton (cache option) and label accordingly.
3. NFES #2235 package 10 each in carton (cache option) or 60 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: JEAN, BDU

All Sizes

A. Initial Inspection/Disposal Criteria

1. Inspect for holes, cuts, tears, burns, or torn seams if non-repairable dispose of.
2. Inspect for pant legs cut off and not repairable to a minimum of 30-inche inseam, dispose of if non-repairable.
3. Inspect buttonholes for frayed or broken stitching and if non-repairable dispose of.
4. Inspect all hook and pile fasteners to ensure that they provide adequate closure. If non-repairable dispose of.
5. Inspect zippers for broken or missing teeth and dispose of if non-repairable.
6. Inspect all belt loops to ensure that none are missing or broken. If non-repairable dispose of.
7. Inspect all side take-up tape or buckles if missing, damaged, or with loose thread (see section C note).

NOTE: Lost or damaged cuff closure cord and side take-up tape should not be disposal criteria. It is not recommended to replace any lost or damaged cuff closure cords and side take-up tape.

B. Tests

1. Open and close the hook and pile fasteners to ensure that they provide adequate and secure closure.
2. Open and close zipper to ensure smooth operation and a secure closure.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, burns, and torn seams by darning, patching, or by duplicating the original construction (see note in section A).
Use Nomex® (Aramid) patching material for all repairs.
2. Re-stitch frayed buttonholes using a buttonhole or zigzag stitch that has 50 to 60 stitches per buttonhole.
3. Replace damaged hook and pile fastener tape with tape of the same length, width, and quality as the original (see note in section A).
4. Replace damaged zipper with the same type, length, and quality as the original.
5. Replace damaged belt loops with loops of the same material and construction as the original (see note in Section A).
6. Replace side take-up tape using Nomex® (Aramid) tape with a metal tri-glide. The replacement tape should be 3/4 inch wide Aramid tape, style #70-6185-2007-3/4 inch, color black. Order from:

C. M. Offray & Son, Inc.
Rt. 24, Box 601
Chester, NJ 07930
Phone: 908-879-4700

NOTE: The first lot of pants manufactured in 2000 have thin light green side take-up tapes; later contracts have heavier black side take up-tapes. It is recommended that the loose end of the light green take-up tapes be replaced by the recommended Nomex® tape (#6 above). It is not necessary to replace the tape that is holding the metal tri-glide.

D. Retesting Criteria

Test all replacement hook and pile fasteners and zippers after sewing in place, as specified in section B.

ITEM: JEAN, BDU (Cont'd)

All Sizes

E. Cleaning Procedures

See www.personalprotection.dupont.com

DO NOT USE BLEACH TO CLEAN FABRIC.

F. Repackaging

1. Close fly and all pocket flaps, properly thread side take-up tape, untie cuff cord. With inseams meeting, fold pants from the leg bottom up toward the waist band to an overall length of about 23 inches.
2. Pack 30 pairs of the same size pants in carton NFES #2007.

G. Storage and Shelf Life Checks

None

ITEM: KIT, Coffee Heating

NFES #0480

A. Initial Inspection Disposal Criteria

1. Visually inspect kit components.
2. Dispose of bad hose lines, badly bent stove, urn, lid, and broken faucets.
3. Inspect to see that threaded pipe fittings inside the burner have been welded (completely around) to prevent the possibility of a gas leak.

B. Tests

1. Connect stove and all fittings to propane source.
2. Turn on tank with valve in "OFF" position at burner.
3. Inspect connections for leaks.
4. Light burner and make sure it is operable.
5. Confirm test date on propane tank. (Must be recertified, [hydrostatic testing] 12 years from manufacture date and every 5 years after the first recertification). (See H 1.)
6. Inspect handle to ensure that tank meets current 04/01/2002 standards for proper valve. (See H 3.)

C. Refurbishing Procedures

1. Clean heater components. Repaint if necessary with high-temperature paint.
2. Clean with soap and water and disinfect urn, basket, bucket, lid, and faucets.

D. Retesting Criteria

Concerns and questions about propane fittings, regulators, and propane tanks should be directed to an authorized service representative.

E. Cleaning Procedures

1. Use soap, water, and disinfectant to clean coffee urn, lid, and faucets.
2. Clean heater components.

F. Repackaging

Recommended carton is NFES #0500.

G. Storage and Shelf Life

None

H. Reference

1. Compliance Guide No. DOT 31
<http://www.propanecouncil.org/files/DOT%20Guide%20No%2031%20Revised%2010-28-03.pdf>
2. GSA Web
<http://www.gsa.gov/fireprogram>
3. OPD Valves
<http://www.p2pays.org/ref/14/13043.pdf>

ITEM: KIT, First Aid, 10 Person, belt
KIT, First Aid, type III, 24-person

NFES #1143
#1604

A. Initial Inspection/Disposal Criteria

1. Inspect case is for excessive wear and cleanliness. Inspect belt and buckles for serviceability.
2. Open case and inspect contents. Standard updated packing slip should be utilized while inventorying contents.
3. Inspect contents and inspect expiration dates. Dispose of expired items.
4. Inspect any items that require sanitary package for tears or other damage, dispose of if torn or damaged.

B. Tests

None

C. Refurbishing Procedures

Clean, repair, or replace container as needed.
Replace damaged or expired items.

D. Retesting Criteria

None

E. Cleaning Procedures

Clean as necessary.
Bag for NFES # 1143 (Machine wash cold water and air dry)

F. Repackaging

1. Utilizing packing slip, replace items in elastic retainers inside container.
2. Hook belt buckles together and fold against back of container on belt kit.
3. Enclose in a clear plastic bag with kit label and expiration dates visible and then heat seal bag.
4. Package 10 each NFES #1143 in carton NFES #2007 and label accordingly.
5. Package 10 each NFES #1604 in carton NFES#2030 and label accordingly.

G. Storage and Shelf Life Checks

Inspect expiration dates of contents annually, store in heated area.

H. Reference

GSA Web - <http://www.gsa.gov/fireprogram>

ITEM: KIT LONGLINE, WITH REMOTE HOOK

NFES #1309, #0849, 0398, 0243

KIT COMPONENTS:

SECTION	NFES	DESCRIPTION
I	0849	LONGLINE, CABLE 50' WITH NEMA PLUGS
II	0398	CONNECTOR, PIGTALE
III	0243	HOOK, CARGO, ELECTRIC WITH BRUSH GUARD

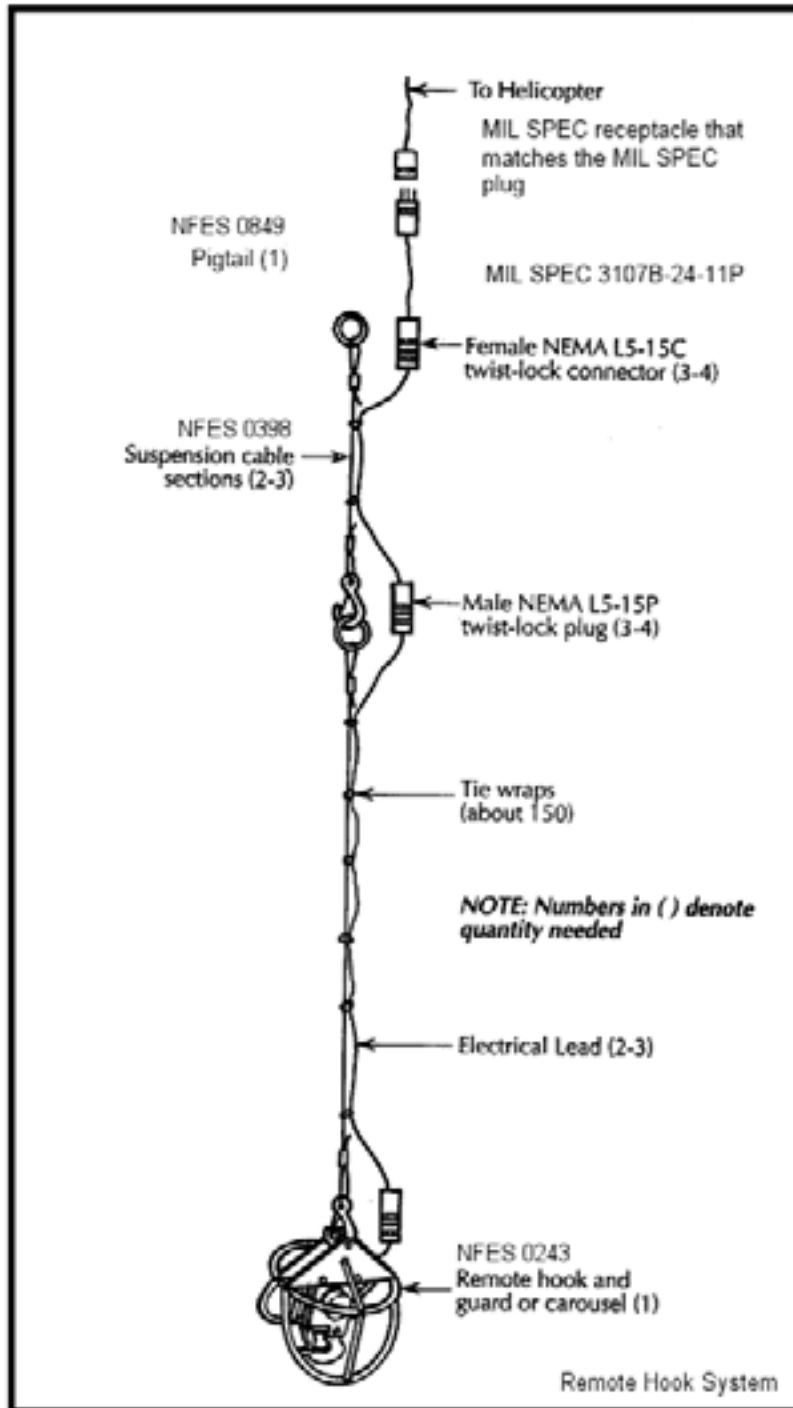
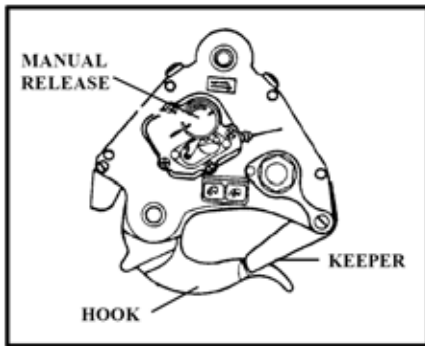


Figure 1. Remote Hook System.



A. Initial Inspection/Disposal Criteria

1. Inspect case and covers for damage. If damage is found, remove from service. See C.
2. Inspect brush guard for structural damage and loose bolts. If brush guard is damaged or distorted, remove from service. See C Refurbishing.
3. Ensure safety latch is not bent.
Inspect keeper operation, keeper should move smoothly from the hook and return to closed position.
If keeper does not operate smoothly, remove from service. See C Refurbishing
4. Visually inspect hook damage such as gouges, wear or distortion? If any damage is found, remove from service. See C Refurbishing.
5. Operate manual release of hook; hook should rotate away from body when manual release is operated, if not remove from service. See C Refurbishing.
6. Visually inspect electrical cable and connector for damage. If any damage is found, remove from service, See C Refurbishing.
7. Testing electrical operation requires special tools and should be performed by an approved repair facility.

B. Tests

No local testing is recommended.

C. Refurbishing Procedures

All repairs of corrosion of the cargo hook must be authorized by an approved government maintenance inspector, FAA certified Airframe Mechanic, or FAA Repair Station.

D. Retesting Criteria

1. The hook assembly shall be functionally and proof tested every 5 years.
2. The hook can be proof functionally tested by any certified rigging company.

Aero Accessory Service
612 S, Scott
Boise, ID 83705
Phone 208-344-6461

Field Support Services
2001 Flightway Drive
Atlanta, Georgia 30341
Phone 770-454-1130

ITEM: HOOK, CARGO, ELECTRIC W/BRUSH GUARD (Cont'd)

NFES #0243

Boise Rigging Supply
106 W. 32nd St
Garden City, ID 83714
Phone 208-342-8919, 800-342-7673
Fax 208-342-8919

E. Cleaning Procedures

The hook assembly may be cleaned with hot water. A light water-displacement oil (such as WD 40) may be used to displace water on the hook assembly. Any use of degreasing products during cleaning of the hook assembly will require the hook to be lubricated in accordance with the hook manufacturer's recommendations.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None at this time.

H. Reference

For further information on this subject, see copy of Office of Aircraft Services Memorandum, dated December 14, 1989 (or later revision) on this subject.

ITEM: CONNECTOR, PIGTAIL

NFES #0398

A. Initial Inspection/Disposal Criteria

1. Inspect wire and connections for damage.
2. Broken wires (electrical cord).
3. Bent or distorted electrical connections.
4. Cuts, tears or frayed electrical wires.
5. Inspect the electrical cable:
 - a. Check for breaks in electrical leads and shorts. If broken wires or shorts are found replace electrical cable. See B Tests.
 - b. Visually inspect the length of the electrical cable for cuts, tears, crushed or frayed wires. If cuts, tears or frayed wires are found, replace electrical cable. Replace electrical cable if broken wires discovered.
6. Check for damaged, bent or distorted electrical connections, repair or replace connector. Repair or replace bent or distorted electrical connections.

B. Tests

1. Check for breaks in electrical leads. Use a continuity checker, such as Ohmmeter or Continuity Tester. Place plugs side by side and place probe in their respective plugs. The continuity checker will light up if wires are unbroken. Also test for shorts by keeping one probe on the same plug and moving the opposite probe on the adjacent plugs. If continuity checker lights, then a short exist. If broken wires or shorts are found replace electrical cable.
2. Check electrical connections per drawing FS/OAS A-16 accessory connector pin assignments: simplex helitorch, bambi bucket, remote hook, and seeders (2-wire). Electrical pin connections can be checked per the above drawing with an ohmmeter.

Information from FS/OAS A-16 accessory connector pin assignments:	
<u>Pin</u>	<u>Function</u>
D	Aircraft Ground
E	+28VDC (Bucket/Hook Open & Torch/Seeder On)

C. Refurbishing Procedures

None

D. Retesting Criteria

None

E. Cleaning Procedures

Clean electrical connections with electrical cleaner, wipe, or blow dry.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None

A. Initial Inspection/Disposal Criteria

1. Inspect eye and swage for red paint and slippage, see B.1
2. Inspect wire rope for damage, wear and deformation, see B.2
3. Measure wire rope length, see B.3.
4. Check for identification tag that has the required information and is permanently attached, see B.4
5. Inspect thimbles for damage, wear, and deformation, see B.5
6. Inspect hook for damage, wear, and deformation, see B.6
7. Inspect hook safety gate for damage, wear and deformation , see B.7
8. Inspect ring and link for damage, wear, and deformation, see B.8
9. Inspect for missing tie wraps attaching electrical wire to wire rope. B.9
10. Inspect electrical wire and connectors for damage, wear, and deformation. B.9

B. Tests and Retesting Criteria

1. Swage And Cable Slippage
 - a. Visually inspect each swage and eye of the sling, for red paint. Red paint is required on the swage and wire rope in the area between the swage and the thimble eye, see Figure 1. If paint is not present, paint shall be applied to the indicated area slippage at the swage, and then sent to a qualified testing facility for proof load testing. See Figure 1. See Section C Refurbishing.
 - b. Inspect swage and wire rope eyes for slippage. Swage termination shall be flush with the swage collar and extend no more than 0.125 inch from the swage collar. Slippage is indicated by the exposed or exposed and unpainted wire rope between the thimble and swage. See Figure 1. If slippage has occurred, dispose of the longline. See Section HG, Salvage.

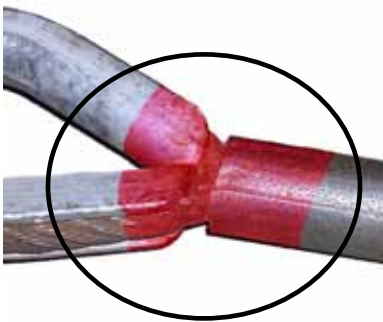


Figure 1. Painted swage.

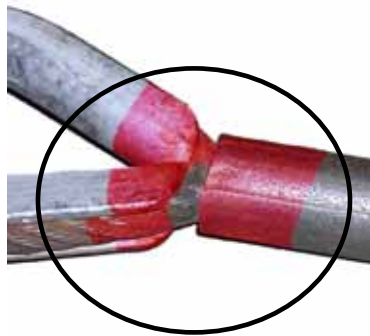


Figure 2. Paint showing slippage

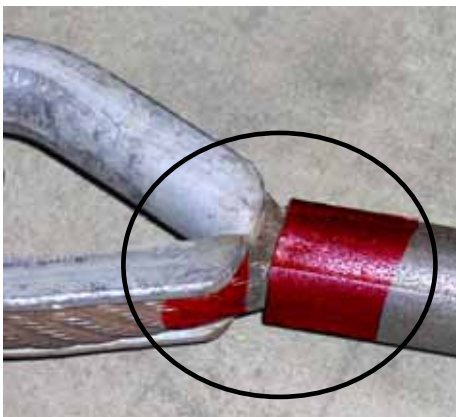


Figure 1. Painted slipped swage.

2. Wire Rope Construction consists of a number of wires grouped in strands and then a number of strands are wrapped around a core. Figure 3.

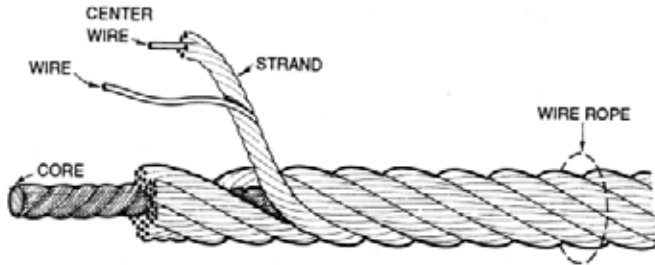


Figure 3. Wire Rope Construction

- a. Visually inspect length of wire rope for structural damage
 - i. Severe kinks in wire rope, see Figure 4
 - ii. Ballooning of wire rope, see Figure 5
 - iii. Severe Corrosion,
 - iv. Abrasion, wear over 1/3 the outer wire diameter, see Figure 7.
 - v. Reduction in diameter of wire rope.

If any damage is found then dispose of the wire rope. See HG. Salvage.



Figure 4. Kink



Figure 5. Ballooning

- b. Inspect length of wire rope for damage. Wear heavy protective gloves and run a dry rag over the entire length of the wire rope. Never use an ungloved hand to check the length of the cable. Flex wire rope to expose breaks. Snags indicate broken wires in the wire rope. If individual broken wires are found, they may be trimmed back. If 4 or more broken wires are found grouped together, then dispose of wire rope. See H. Salvage.
- c. Wire rope that is plastic coated shall be checked for damage. Abrasion to plastic coating down to the wire rope may cause corrosion. Run gloved hand over length of plastic coated wire rope to check for any abnormalities, such as lumps, depressions and exposed wire. If wire rope has severe damage or corrosion is found exposed and damaged, dispose of plastic coated wire rope. See Figure 6 and 7. See H. Salvage.



Figure 6.

Damaged plastic coated wire rope.



Figure 7

Abrasion and Corrosion extends through plastic coating to wire rope.

3. Wire Rope Length.

Check wire rope length, measure inside loaded surface of the hook to the inside loaded surface of the ring. If wire rope length exceeds tolerance dispose of properly. See H. Salvage.

Table 1. Wire Rope Length

Length	Tolerance
50 feet	+ 0 / -1 inches per 5100-500e
100 feet	+0 / -1 inches per 5100-500e

4. Proof Load Tag

Visually inspect longline for permanently attached tag. Proof load tag shall be permanently attached with a swaged stainless steel wire rope; temporary attachments are not allowed, such as wire ties. Tag shall contain at a minimum the following information: Manufacture Name, Working load and Date of Test (i.e. 06/06 for June, 2006) If permanently attached proof load tag is not present, missing required information or attached with a non-permanent tag remove the longline from service, Test must be performed by qualified testing personnel/facility and attach identification tag. See Section C, Refurbishing B.



Figure 8. Thimble and Pear Link.



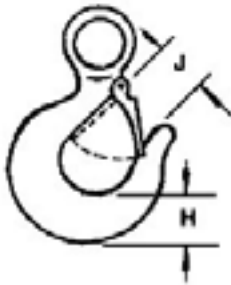
Figure 9. Deformed Thimble and Hook.

5. Thimble

Inspect thimble for cracks, wear, and deformation. Physically examine each thimble for movement by forceful motion with hand, thimbles may move but should not be loose. Thimble shall have a smooth arc, see Figure 8. If thimbles have any cracks, wear, deformation or are loose, dispose of longline. See Figures 8 and 9. See H. Salvage. See G. Salvage.

Table 2. Hook Dimensions

H (max)	J (min)
1.50 inch	0.75 inch



Safety Latch Hook



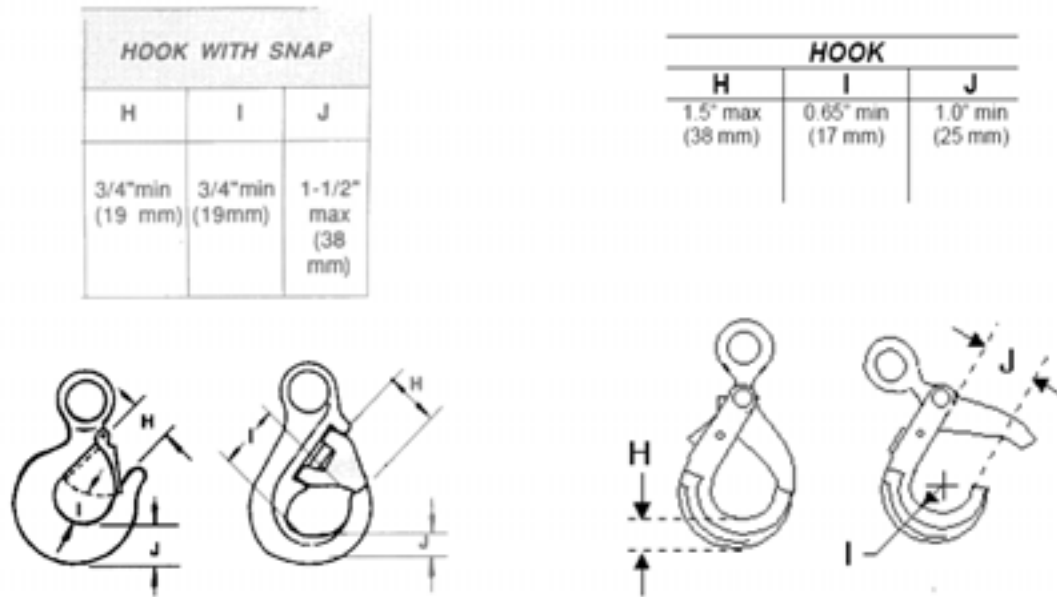


Figure 10. Dimension for Hooks

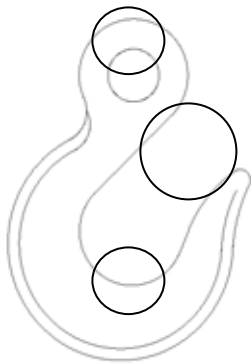


Figure 11. Check Hook for damage at the circled I Locations to check for damage on Hook.

6. Hook (Safety Gate and Locking Safety Latch)

- a. Inspect hook, Check hook for damage such as cracks, nicks, wear, gouges, and deformation. See Figure 10 and 11. Check operation and ensure that hook is not bent or distorted. If any damage, deformation or wear are is found, then remove from service. See H. Salvage.
- b. Check hook's gate operation.
 - i. Ensure gate fully opens and closes completely
 - ii. Inspect for gate that is damaged, bent, or distorted,
 - iii. Gate shall have either rivet or bolt with self locking nut.

If gate is damaged, does not operate as required, missing required hardware remove from service, see C. Refurbishing.

See G. Salvage

7. Hook (Safety Gate Type)

Check hook's gate operation.

- a. Does it close completely?
- b. Is the gate damaged or distorted?
- c. If used does the gate bolt have a self locking nut?
- d. Check Hook Dimensions, See Figure 10.
- e. If gate is damaged, does not operate as required, missing hardware, or does not meet dimensional requirements remove from service. See G. Salvage

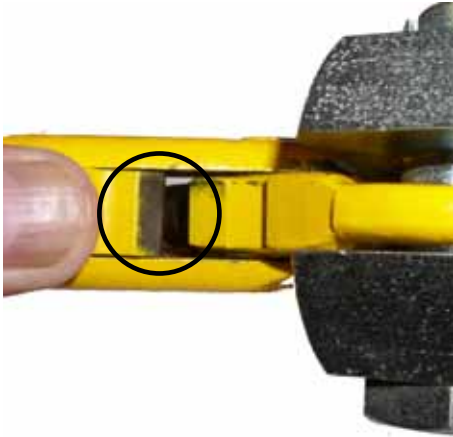


Figure 11. Examine Gate Lock Latch for rounding.

8. Hook (Gate Lock Latch)

Check hooks locking safety latch operation.

- a. Does it open and close completely?
- b. Does the spring loaded latch hold the latch in the closed position?
- c. Check lock latch for rounded edge, see Figure 11.
- d. Is the latch damaged or distorted?
- e. Check Hook Dimensions, See Figure 10.

If latch is damaged, does not operate as required, missing hardware, or does not meet dimensional requirements remove from service. See G. Salvage

9. Ring or Link

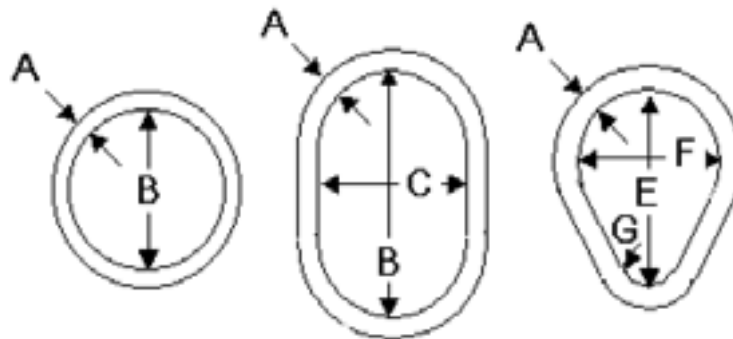
Inspect ring or link.

- a. Check for damage such as cracks, nicks, wear, and gouges.
- b. Check dimensions for deformations, See Figure 12.

If ring or link is damaged then remove from service. See H. Salvage. See G. Salvage

Table 3. Ring and Pear Link

<i>ALL</i>	<i>RING</i>	<i>OBLONG LINK</i>		<i>PEAR LINK</i>		
A	B	C	D	E	F	G
5/8" max (15.8 mm)	3" min (76 mm) 4" max (102 mm)	3" min (76 mm) 4" max (102 mm)	1-1/2" min (38 mm) 3" max (76 mm)	3" min (76 mm) 4" max (102 mm)	3" max (76 mm)	1/2" min (12 mm)



Dimensions

	A	B	C
Ring or Pear Link	5/8 inch max	3 – 4 inch	3 – 4 inch

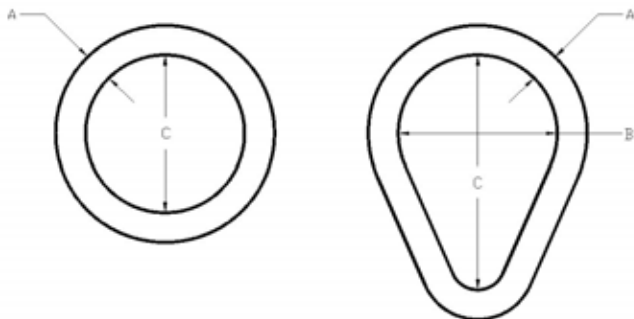


Figure 12. Dimension for Ring, Oblong Link and Pear Link.

10. Electrical Cable

- a. Check for missing nylon tie wraps. Tie wraps shall be located two at each end and then every ten feet. Replace missing or broken nylon tie wraps. See Figure 1.
- b. Inspect the electrical cable:
 - i. Use a continuity checker, such as ohmmeter or light to check for breaks in electrical leads. Place NEMA plugs side by side and place probe on their respective plugs. The continuity checker will light up if wires are unbroken. Also test for shorts by keeping one probe on the same plug and moving the opposite probe on the adjacent plugs. If continuity checker lights, then a short exist. If broken wires or shorts are found replace electrical cable.
 - ii. Visually inspect the length of the electrical cable for cuts, tears, crushed or frayed wires. If cuts, tears or frayed wires are found, replace electrical cable. Replace electrical cable if broken wires discovered.
- c. Check for damaged, bent or distorted electrical connections, repair or replace connector. Repair or replace bent or distorted electrical connections.

B. Tests and Retesting Criteria

Proof tests can be performed by any local certified rigging company when:

1. Repaired sections shall be tested at twice the rated working load prior to being returned to the available stores system.
2. The wire rope shall be proof tested every 5 years.

C. Refurbishing Procedures

1. Repairs to wire rope should be completed by qualified testing personnel. See section B.
2. Proof tests must be performed by a certified rigging company when:
 - a. Repaired sections shall be tested at twice the rated working load prior to being returned to the available stores system.
 - b. The wire rope shall be proof tested every 5 years.
3. Any certified rigging company can test the leadline assembly.

D. Retesting Criteria

1. Repaired sections shall be tested at twice the rated working load prior to being returned to the available stores system.
2. The wire rope and hook assembly shall be proof and functionally tested each 5 years.

E. Cleaning Procedures

1. The cable and hook assembly may be cleaned with hot water. A light water-displacement oil (such as WD 40) maybe used to displace water on the hook assembly. Any use of degreasing products during cleaning of the hook assembly will require the hook to be lubricated in accordance with the hook manufacturer's recommendations. Never use heavy grease or engine oil to lubricate wire rope.
2. The wire rope may be cleaned with hot water.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None.

H. Salvage

1. Salvage all useable hardware (link and hook) and connectors prior to disposing of longline and cable. Salvaged material can be sent to San Dimas Technology and Development Center.
Label the container:
"Salvaged Material from _____ Cache."
2. Segregate 3000 lb capacity equipment from 6000 lb capacity equipment.
3. Salvage all useable hardware and connectors prior to disposing of longline and cable. Salvage material can be sent to San Dimas Technology and Development Center.

ITEM: KIT, Shelter, 15' X 27'	NFES #0430
KIT, Shelter, 16' OCTAGON	NFES #0550
KIT, Shelter, 18' OCTAGON	NFES #0540
KIT, Shelter, 20' OCTAGON	NFES #0549

A. Initial Inspection/Disposal Criteria

1. Inspect packing list and instructions. Assemble the mainframe and components according to instructions. All locking pins and flex joints should move easily. Inspect for burrs on all components of mainframe, even bars, and base bars.
2. Loosen flex joints and remove burrs as needed.
3. Inspect install door; should open and close easily.
4. Inspect roof and wall panels for any tears or rips and repair as needed.
5. Inspect windows and screens in wall panels. (Repair or replace where necessary)
6. Stencil main frame with property number. (Stencil inside the center roof ring)

B. Tests

None

C. Refurbishing Procedures

1. Repair or replace any part of the main frame as needed. When dismantling, wipe all component parts with a damp cloth and return to proper container.
2. Inspect roof and wall panels for any holes, tears or rips, repair as needed. Clean the roof and wall panels with a mild soap and water solution using a brush to remove hard dirt and grime or high-pressure wash.
3. Ensure that all locking buttons snap into place.
4. Ensure that the Velcro is dry on all panels before folding and placing in proper container.
5. Ensure that all Kit components are accounted for prior to repacking.

Major repairs and replacement parts may be obtained by contacting:

Western Shelter Systems

830 Wilson Street
Eugene, OR 97402
Phone: 541-344-7267

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean main frame and misc. parts with a damp cloth and mild detergent if necessary.
2. Clean the roof and wall panels with a mild detergent and water solution. Use a brush to remove hard dirt and grime or high pressure wash.

F. Repackaging

1. Repack according to manufacturer's instructions and local cache standards.
2. Ensure that installation/assembly instructions are included in package.

G. Storage and Shelf Life Checks

None

H. Reference <http://www.westernshelter.com>

ITEM: LADDER, step, 8' fiberglass

NFES #0586

A. Initial Inspection/Disposal Criteria

1. Inspect for damage, nicks, and gouges, cracked or broken parts; dispose.
2. Inspect for paint, if covered with large amount—dispose.
3. Inspect footpads, if missing, damaged or worn replace with matching set.
4. Inspect steps, if loose, missing or damaged—dispose.
5. Inspect legs for damage if so, dispose of.
6. Inspect pail platform for damage. Repair or replace.
7. Inspect ladder for cracks, breaks, rough or splintered surfaces, if so dispose of.
8. Inspect ladder for oil and grease. Clean.
9. Inspect ladder hinge supports and cross supports for damage, if so dispose of.
10. Inspect ladder for missing cross supports, if so dispose of.
11. Inspect for twisted or distorted rails, if so dispose of.
12. Inspect for loose screws, bolts, nuts or rivets and repair.
13. Inspect for corrosion oxidization, and excessive wear especially on the treads.

B. Tests

Visual inspection of all ladder steps, ladder legs, and ladder cross supports.
Set up ladder and check for stability.

C. Refurbishing Procedures

See section E below.

D. Retesting Criteria

Visually inspect ladder steps, ladder legs, ladder foot pads, and ladder cross supports.

E. Cleaning Procedures

Fiberglass:

1. Remove all oil and grease.
2. Clean with soap and water or power wash.
3. Air dry.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

If stored upright, must be securely strapped to prevent falling.

H. Reference

1. GSA Web <http://www.gsa.gov/Fire> program
2. Ladder inspection http://www.ccohs.ca/oshanswers/safety_haz/ladders/inspection.html

ITEM: LANTERN, camp, electric, fluorescent

NFES #2501

A. Initial Inspection/Disposal Criteria

Inspect for broken lens, cracked cases, missing bulbs, and broken switches, replace or dispose of.

B. Tests

Install batteries to test operation of switch and bulbs.

C. Refurbishing Procedures

1. Clean as necessary, remove batteries and repair as needed.
2. Replace bulbs if necessary

USE APPROPRIATE REPLACEMENT BULBS

- a. F6T5/CW (6 watt)
- b. F9W (9 watt)
- c. HS/S15W/6500K (15 watt)

D. Retesting Criteria

Only if needed.

E. Cleaning Procedures

Use soft cloth to clean lens and battery compartment.

F. Repackaging

Local cache options.

G. Storage and Shelf Life Checks

None

H. Reference

<http://www.gsa.gov/fireprogram>

ITEM: LANTERN, mantle, gas, w/spark lighter

NFES #0125

A. Initial Inspection/Disposal Criteria

1. Inspect for use, fuel in tank, and missing mantles. Etc.
2. Inspect for missing or damaged parts.
 - a. Glass broken: handle, igniter, or mantles missing.
 - b. Inspect for dents, rust spots, and crease in the fuel tank.

B. Tests

1. With the lantern tank empty and switched off, charge the fuel tank with air according to the directions. Spray the tank and lantern manifold with a soapy water solution and look for bubbles. If the tank or manifold is leaking dispose of.
2. Ensure that lantern has working mantle(s).
3. Fill tank with fuel and charge with air.
4. Light mantles and test for proper burning.
5. Replace with new mantles at conclusion of test.

C. Refurbishing Procedures

1. Drain fuel and purge.
2. Lubricate the leather gasket on the air pressure pump with light oil.
3. Clean and paint.
4. Repair and replace all broken parts.

D. Retesting Criteria

See section B.

E. Cleaning Procedures

See section C.

F. Repackaging

Wrap in bubble wrap and package in snug fitting carton or manufacturer's travel case.

G. Storage and Shelf Life Checks

Inspect oil plunger assembly periodically to prevent drying.

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS
LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS

NFES #0380
#0528

A. Initial Inspection/Disposal Criteria

1. Inspect eye and swage for red paint and slippage, see B.1
2. Inspect wire rope damage, see B.2
3. Measure wire rope diameter and length, see B.3.
4. Check for identification, see B.4
5. Inspect thimbles, see B.5
6. Inspect hook for damage, wear, and deformation, see B.6
7. Operate hook safety latch/gate, see B.7
8. Inspect ring and link, see B.8

B. Tests and Retesting Criteria

1. Swage and Cable Slippage
 - a. Inspect swage and wire rope eyes for slippage. If slippage has occurred, see figure 2, dispose of the leadline. See Section H, Salvage.
 - b. Visually inspect each swage and eye for red paint, if the paint shows that slippage has not occurred, but the paint is worn in such a way that this determination was difficult, the swage shall be repainted see Section C. If paint is not present, dispose of leadline. See Section H. Salvage.

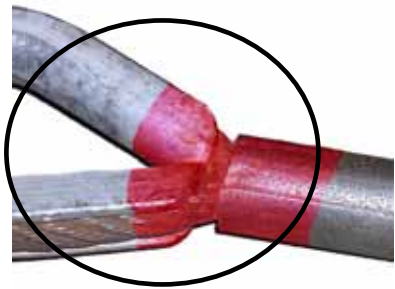


Figure 1. Painted swage.

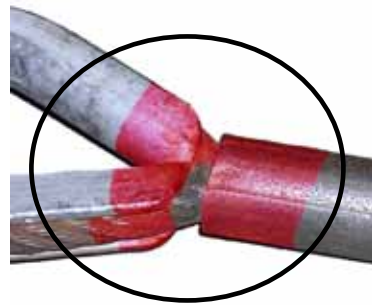


Figure 2. Paint showing slippage

2. Wire Rope
 - a. Visually inspect length of wire rope for structural damage
 - i. Kinks in wire rope, see Figure 3.
 - ii. Ballooning of wire rope, see figure 4.
 - iii. Severe Corrosion,
 - iv. Abrasion, wear over 1/3 the outer wire diameter. see figure 6.
 - v. Reduction in diameter of wire rope.

If any damage is found then dispose of the wire rope, see Section H, Salvage.



Figure 3. Kink



Figure 4. Ballooning

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS (Cont'd)
LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS (Cont'd)

NFES #0380
#0528



Figure 5. Damaged plastic coated wire rope.



Figure 6 Abrasion

- b. 6000 pound Leadline, inspect length of wire rope for damage. Wear heavy protective gloves and run a dry rag over the entire length of the wire rope. Never use an ungloved hand to check the length of the cable. Flex wire rope to expose breaks. Snags indicate broken wires in the wire rope. If individual broken wires are found, they may be trimmed back. If 4 or more broken wires are found grouped together, then dispose of wire rope. See Section H. Salvage.
 - c. 3000 pound Leadline inspect plastic coated wire rope for damage. Abrasion to plastic coating down to the wire rope may cause corrosion. Run gloved hand over length of plastic coated wire rope to check for any abnormalities, such as lumps, depressions and exposed wire. If plastic coated wire rope has severe damage or corrosion dispose of properly. See Figure 5. See Section H. Salvage.
3. Wire Rope Length Measure wire rope for length and diameter
- a. Check wire rope length, length is measured from center of each thimble. If wire rope length exceeds tolerance dispose of properly. See Section H. Salvage.

Table 1. Wire Rope Length

Length	Tolerance per FSS 5100-503/505
12 feet	+/-3 inches
25 feet	+/-3 inches
50 feet	+/-3 inches

- b. Measure wire rope diameter at 3 points, 12 feet from each end and at middle. Dispose of wire rope that exceeds tolerance.

Table 2. Wire rope diameter

Size	Dimension
3000 lb	5/16 inch to 5/8 inch
6000 lb	1/2 inch to 9/16 inch

4. Proof Load Tag
- Visually inspect leadline for permanently attached tag. Proof load tag shall be permanently attached with a swaged stainless steel wire rope; temporary attachments are not allowed, such as wire ties. Tag shall contain at a minimum the following information: Manufacture Name, Test Company or Trademark; Working load; and Date of Proof Test (i.e. 06/06 for June, 2006) If permanently attached proof load tag is not present, missing required information or attached with a non-permanent tag remove the leadline from service, see Section C.

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS (Cont'd)
 LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS (Cont'd)

NFES #0380
 #0528



Figure 7. Thimble, Pear Link and Proof Load Tag.



Figure 8. Deformed Thimble and Hook.

5. Thimble

Inspect thimble for cracks, wear, and deformation. Physically examine each thimble for movement by forceful motion with hand, thimble may move but should not be loose within the eyelet. Thimble shall have a smooth arc, see figure 7. If thimbles have any cracks, wear, deformation or are loose (see Figure 8), dispose of leadline, see Section H, Salvage.

Table 3. Hook Dimensions

Leadline Capacity	Style	H (max)	J (min)
3000	Safety latch hook	1.5 inches	0.75 inches
	Self-locking hook	1.0 inch	1.33 inches
6000	Self-locking hook	1.33 inches	1.7 inches

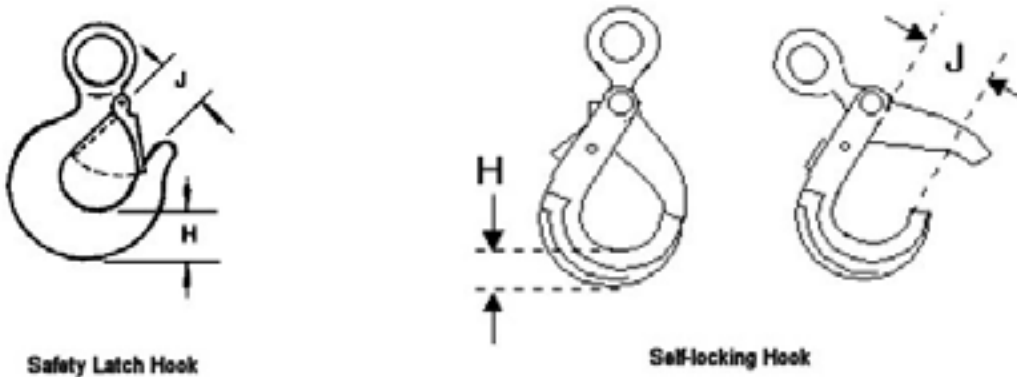


Figure 10. Dimension for Hooks

6. Hook (Safety Gate and Self-locking)

- a. Check hook for damage such as cracks, nicks, wear, gouges, and deformation. See Figure 11.
- b. Ensure that hook is not bent or distorted.
- c. Check hook dimensions, see table 3 and figure 10.
 If hook is damaged, distorted, does not meet dimension requirements, then remove leadline from service, see Section H, Salvage.

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS (Cont'd)
LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS (Cont'd)

NFES #0380
#0528

7. Hook (Safety Latch)

Check hook's gate operation.

- a. Ensure gate fully opens and closes completely
- b. Inspect for gate that is damaged, bent, or distorted,
- c. Gate shall have either rivet or bolt with self locking nut.

If gate is damaged, does not operate as required, missing required hardware remove from service, see Section C.

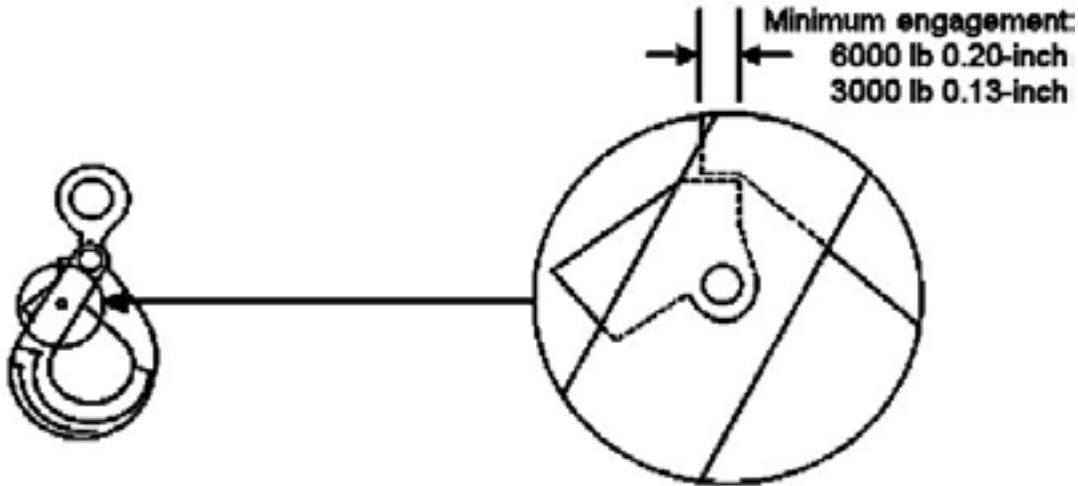


Figure 11. Examine Gate Lock Latch for rounding.

8. Hook (Self-locking)

- a. Check hook's locking safety latch operation.
 - i. Ensure safety latch open and close completely.
 - ii. Examine latch for damage or distortion.
 - iii. Examine lock latch for rounded edge, see Figure 11.
 - iv. Ensure spring loaded latch hold the latch in the closed position.
 - v. Ensure lock latch pin is secure and flush with the latch, see figure 11.
- b. If latch is damaged, does not operate as required, missing hardware, or does not meet dimensional requirements remove from service. See H. Salvage.

9. Ring or Link

- a. Inspect ring or link.
 - i. Check for damage such as cracks, nicks, wear, and gouges.
 - ii. Check dimensions for deformations, See Figure 12.
- b. If ring or link is damaged then remove from service. See H. Salvage.

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS (Cont'd)
LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS (Cont'd)

NFES #0380
#0528

Table 3. 3000 lb. Leadline Ring and Pear Link Dimensions

	A	B	C
3000 lb Leadline	5/8 inch max	1.5 – 3 inch	3 – 4 inch
6000 lb Leadline	0.63 inch max	1.5 – 3 inch	3 – 4.5 inch

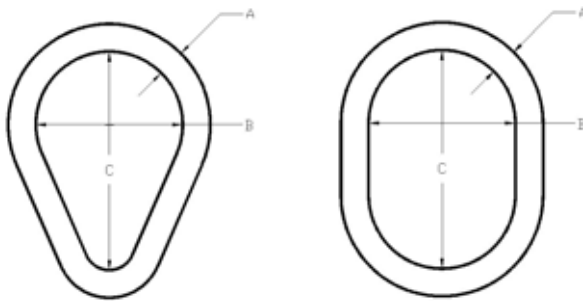


Figure 12. Dimension for Pear Link and Oblong Link.

C. Refurbishing Procedures

1. Replace damaged or missing safety gates from paragraph B.7.a. The attachment screw shall use a self-locking nut.
2. Apply slippage paint to the swage and thimble as shown in Figure 13. The paint shall be a red spray epoxy or acrylic. Mask or cover the area to achieve a painted area similar to Figure 13. Spray around the swage and do not attempt to spray paint into the ends of swage.



Figure 13. Swage Paint.

D. Retesting Criteria.

1. Proof tests must be performed by a certified rigging company when:
 - a. Wire rope proof tests shall be tested at twice the rated working load prior to being returned to the available stores system.
 - b. The wire rope and hook assembly shall be proof and functionally tested each 5 years.
2. Any certified rigging company can test the leadline assembly.

E. Cleaning Procedures

The cable and hook assembly may be cleaned with hot water only, no soap.

F. Repackaging

Local cache option.

Fire Equipment Storage and Refurbishing Standards

ITEM: LEADLINE, HELICOPTER, EXTERNAL LOADS, 6,000 POUNDS (Cont'd)
LEADLINE, HELICOPTER, EXTERNAL LOADS, 3,000 POUNDS (Cont'd)

NFES #0380
#0528

G. Storage and Shelf Life Checks

None.

H. Salvage

Salvage all useable hardware (link and hook) prior to disposing of leadline. Salvaged material can be sent to San Dimas Technology and Development Center. Label the container, "Salvaged Material from _____ Cache." Segregate 3000 lb capacity equipment from 6000 lb capacity equipment.

ITEM: LITTER, S.K.E.D.

NFES #1670

A. Initial Inspection/Disposal Criteria

1. Inspect if bloodstained, alert supervisor for further instructions.
2. Inspect visually for cuts or tears in plastic surface, soiled surface, missing parts such as straps or fasteners. Repair or dispose of.
3. Inspect for structural damage such as grommets pulled out. Repair or dispose.
4. Inspect all straps; handles (web gear) are intact and functional, if not repair or dispose of.

B. Tests

Inspect for weakness or non-visible damage.

C. Refurbishing Procedures

1. If plastic is cut or torn and cannot be economically repaired, remove from service. Retain all serviceable components for replacement on other litters.
2. Wash S.K.E.D. with a disinfectant and warm water. Wash with power washer and hang to dry.
3. Replace worn or damaged straps or fasteners.

D. Retesting Criteria

Reassemble to ensure completeness and all parts are fitting properly.

E. Cleaning Procedures

Completed in section C.

F. Repackaging

Roll up S.K.E.D (using rubber gloves for better grip) small enough to fit into case. Fasten retaining strap tightly so S.K.E.D can be easily extracted.

G. Storage and Shelf Life Checks

None

H. Reference

1. For information and parts lists see:
SKEDCO, Inc.
PO Box 230487
Portland, OR. 97281
Phone: 800-770-7533
Web site: <http://www.skedco.com>
2. GSA Web
<http://www.gsa.gov/fireprogram>

ITEM: McLeod, with plastic sheath, 11"wide

NFES #0296

Check local Job Hazard Analysis for proper personnel protective equipment required when refurbishing this item.

A. Initial Inspection/Disposal Criteria

Obvious damage to cutting edge, rake fingers, and handle. (Repair or Dispose)

1. Broken blade. (Dispose)
2. Loose head. (Dispose)
3. Missing or severely bent fingers. (Dispose)
4. Short or nonstandard handle. (Replace or Dispose)

B. Tests

1. Head
 - a. Blade to be at least 10 to 14 inches wide from handle base. USE TEMPLATE
 - b. Handle base not tilted, bent, or distorted.
 - c. Blade ends have not been rounded or severely tapered so that they cannot be ground to specifications.
 - d. Proper angle of cutting edge as per tool sharpening gauge NFES #0510.
2. Handle
 - a. Handle must be straight.
 - b. Inspect for cracks, chips, or open grain.
 - c. Head loose on handle (loose or missing rivets).
 - d. Inspect for tape residue, or other residue (tar, sap, etc.).

C. Refurbishing Procedures

1. Head
 - a. Remove dirt and grime from head with wire brush or hose.
 - b. Square up blade if necessary.
 - c. Sharpen cutting edge 1/8-inch wide at 50° angle. Ensure that blade corners are square.
 - d. Check large nut on head and tighten or replace as needed
2. Handle

Sand handle if it is chipped, dinged, rough, or has any type of residue.

D. Retesting

None

E. Cleaning Procedures

See section C.

F. Repackaging

1. Install plastic sheath NFES #1854.
2. Package 10 each in carton NFES #0305; 56 inch by 20 inch by 11 inch; (NSN 8115-00-139-0690).

G. Storage and Shelf Life Checks

Inspect once per year for rust and loose handles

H. Reference

Check for additional information at: <http://www.fs.fed.us/t-d/programs/fire/>

NOTE: For the above site username is t-d and password is t-d, go to T&D Pubs and click on fire
http://www.fs.fed.us/eng/php/eng_products.php?var=Fire or <http://www.gsa.gov/fireprogram>

ITEM: NET, cargo, 12' x 12', polypropylene, 3000 lb capacity
NET, cargo, 15'x 15', 6000 lb capacity
NET, cargo, lightweight, 10' X 10', 300 lb capacity

NFES #0531
NFES #0458
NFES #0695

A. Initial Inspection/Disposal Criteria

1. Inspect for fraying or deterioration of lines. (If more than 10 percent of strands in any two adjacent cycles of the net are broken, see Equip Tips 8657 1304 5700-Aviation Oct 1986). Then dispose of.
2. Inspect netting for contamination by fuel oils or other liquids considered degenerative to netting.
3. Verify identification tag is attached to net. (300, 3,000 or 6,000 pounds)
4. Any NFES #0695 net that has black mesh must be taken out of service.
5. Inspect loop thimbles for cracks, wear, and deformation. Ensure thimbles are not loose from net and easily removed.

B. Tests

Brittleness: Test by bending several areas of the nets rope 180 degrees back on itself. If more than 2 strands break per bend, dispose of net or return to manufacturer for repair. (See Equip Tips 8657 1304 5700-Aviation Oct 1986).

C. Refurbishing Procedures

1. Lay out net and inspect all ropes for fraying, burns, or wear points.
2. Clean all dirt from netting.
3. Remove all flagging, string, and rope.

NOTE: On some heavy cargo nets, the mesh intersections are fixed with molded plastic crosses. These should be visually inspected for cracks and missing parts whenever the loop thimbles are inspected.

D. Retesting Criteria

None

E. Cleaning Procedures

Hang or stack polypropylene nets and clean with water from high-pressure hose.

F. Repackaging

Suggested cartons are:

1. NFES #0531 net, package in carton NFES #2006, 23 inch by 19 inch by 10 inch (NSN 8115-00-139-0722).
Label accordingly.
2. NFES #0458 net, package in carton NFES #2007. 24 inch by 16 inch by 16 inch (NSN 8115-00-292-0123).
Label accordingly.
3. NFES #0695 net, package in carton NFES #2006. 23 inch by 19 inch by 10 inch (NSN 8115-00-139-0722).
Label accordingly.

G. Storage and Shelf Life Checks

None

Fire Equipment Storage and Refurbishing Standards

ITEM: NOZZLE, combination, barrel, KK 1 & 1 ½”
NOZZLE, plastic, 35 gpm 1” & 60 gpm 1 ½”

NFES #1081, #1082
NFES #0137, #0138

A. Initial Inspection/Disposal Criteria

Inspect for obvious damage:

1. Inspect for burrs and cracks.
2. Inspect gasket. Replace if missing, cracked, or stiff.
3. Inspect screw or washer.
4. Must turn freely.
5. Inspect for fire damage. May cause failure in the future.
6. Inspect hose coupling threads for damage.
7. Old Style KK: Inspect threads inside of barrel; if they show—dispose.
8. If a-g exists dispose of item.

B. Tests

Pressure testing:

1. Turn on pump to 300 psi.
2. Inspect for leaks:
 - a. Around the gasket.
 - b. Behind the barrel.
 - c. The tip of the barrel.
 - d. If plastic nozzle is found defective, dispose (NFES #0137, #0138).

C. Refurbishing Procedures

Replace tip, screw, and “O” ring, if needed (NFES #1081, #1082).

D. Retesting Criteria

Retest according to section B.

E. Cleaning Procedures

1. All items will be washed and cleaned of foreign matter, such as mud, dirt, and grease. Clean in a mild detergent with brush and scouring pad, or high pressure wash as needed. Do not soak for extended periods of time or the detergent will corrode the metal.
2. Rinse thoroughly.
3. Stand upright with barrel in open position to drain water and dry.
4. Lubricate threads on back of the barrel with appropriate dry lubricant (graphite).

F. Repackaging

1. NFES # 1081 STANDARD PACK 20 per carton 10” x 8” x 6” (NSN 8115-00-183-9497)
2. NFES # 1082 STANDARD PACK 20 per carton recommended 16” x 10” x 6”
3. NFES # 0137 STANDARD PACK 10 per carton 10” x 8” x 6” (NSN 8115-183-9497)
4. NFES # 0138 STANDARD PACK 10 per carton 10” x 8” x 6” (NSN 8115-00-183-9497)

G. Storage and Shelf Life Checks

None

H. Reference

See Water Handling Equipment Guide NFES #1275 for more information.

ITEM: NOZZLE, fire foam, 8 GPM, 16 GPM, 30 GPM, plastic

NFES #0627, #0628, #0629

A. Initial Inspection Disposal Criteria

1. Inspect for worn or damaged threads, repair or replace.
2. Inspect for gasket, replace if missing.
3. Ensure nozzle barrel has no cracks in plastic, if cracked dispose of.

B. Tests

None

C. Refurbishing Procedures

Replace gasket if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash and clean of foreign matter, such as mud, dirt, and grease.
2. Clean with scrub brush in water with dishwashing detergent or high pressure wash.
3. Rinse thoroughly.
4. Stand upright and allow to dry.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Checks

None

H. Reference

See Water Handling Equipment Guide NFES #1275 for more information

ITEM: NOZZLE, garden hose $\frac{3}{4}$ "

NFES #0136

A. Initial Inspection/Disposal Criteria

1. Inspect for burrs.
2. Inspect washer if bad replace.
3. Inspect for bad threads.
4. If 1 or 3 exists dispose of.

B. Test

Test at 100 psi, if nozzle leaks, dispose of.

C. Refurbishing Procedures

Replace missing or cracked gaskets.

D. Retesting Procedures

None

E. Cleaning Procedures

1. Wash and clean of mud, dirt, and grease.
2. Clean in a mild detergent with brush or scouring pad or high-pressure wash.
3. Rinse thoroughly.
4. Stand upright to drain water and dry.

F. Repackaging

1. Local cache option
2. STANDARD PACK is 10 each per carton or 100 each per carton.

G. Storage and Shelf Life Checks

None

ITEM: NOZZLE, twin tip, combination, 1" NPSH-F

NFES #0024

A. Initial Inspection/Disposal Criteria

1. Inspect for obvious damage, cracks, and large burrs, if so dispose of.
2. Inspect for gasket and screen, if missing replace.
 - a. Inspect handle for damage or missing screw. Is handle in right position?
 - b. Does handle turn freely in proper position?
 - c. Inspect for fire damage. May cause failure in the future.
 - d. Inspect hose coupling threads for damage.

B. Tests

1. Install on pump.
2. Open handle on nozzle.
3. Turn on water.
4. Inspect pattern on fog-tip to see if clogged—CLEAN OUT.
5. Close handle.
6. Turn on pump to 300 psi.
7. Inspect for leaks:
 - a. Gasket.
 - b. Under the handle.
 - c. At both tips.

C. Refurbishing Procedures

1. Replace handle and ball with a new kit if needed.
2. Replace tail gasket and/or screen if missing, cracked, or stiff.
3. Nozzle will have a 3/16 inch straight-stream tip (NFES #0637) and a 2- to 4-gal/min fog tip (NFES #0635).

D. Retesting Criteria

See section B.

E. Cleaning Procedures

1. Clean in a dishwashing detergent with brush, scouring pad, or high-pressure wash as needed. Do not soak for extended periods of time or the detergent will corrode the metal.
2. Rinse thoroughly, stand upright with handle in open position and allow to dry.
3. Lubricate with appropriate dry lubricant such as graphite.

F. Repackaging

1. Package in units containing nozzle body with a 3/16 inch straight-stream tip and 2- to 4-gal/min fog tip.
2. Package 20 each in carton 12 inch by 9 inch by 10 inch (NSN 8115-01-012-5504).

G. Storage and Shelf Life Checks

None

H. Reference

See Water Handling Equipment Guide NFES #1275 for more information

ITEM: PACK, fireline, blue, complete (w/canteen case and stuff sack)
PACK, field, firefighter, unisex, complete

NFES #0674
NFES #1372

A. Initial Inspection/Disposal Criteria

1. Inspect fabric for cuts, tears, burns and areas of abrasion, dispose of item when beyond economical repair.
2. Inspect seams for breaks in stitching and for areas where the fabric is unraveling into the seams.
Dispose of item when beyond economical repair.
3. Inspect all straps and webbing for cuts or excessive wear. Ensure they're securely attached to the fabric.
Dispose of the item when beyond economical repair.
4. Inspect all zippers for broken coils, missing or broken sliders. Ensure they're securely attached to the fabric.
Open and close the zippers to ensure a smooth and proper function.
Dispose of the item when beyond economical repair.
5. Ensure all hardware, buckles and Velcro closures are correctly attached. Inspect all buckles and hardware for cracks or breaks. Fasten and unfasten all buckles and hardware to ensure a smooth and proper function.
Ensure all Velcro closures are securely attached. Dispose of the item when beyond economical repair.
6. Dispose of the item if there's any indelible writing or markings on the item.

B. Tests

None

C. Refurbishing Procedures

1. If necessary, replace buckles and hardware.
2. Repair any tears, holes or areas of excessive abrasion if economically feasible.
3. Repair any seams that are worn or that have torn loose.
4. Repair or replace webbing.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow any mud and loose dirt to dry, and then remove with a stiff brush.
2. Remove light oil stains using a solution of warm water and mild detergent and a brush.
Rinse with clean water, hang to dry.
3. Remove heavy stains by soaking (as long as needed) in water-soluble biodegradable cleaner. After soaking, wash with a hot water pressure washer and rinse with warm clean water. Hang to dry.

DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.

F. Repackaging

1. Insert 2 blue canteen case and blue stuff sack into main compartment. Close all buckles, secure the shoulder yoke.
Pack 10 packs per box.
2. For #1372, insert 2 canteen cases and 1 belt pack into main compartment. Close all buckles and secure the shoulder straps.
Pack 10 packs per box.

G. Storage and Shelf Life Checks

None

ITEM: PACK, personal gear

NFES #1855

A. Initial Inspection/Disposal Criteria

1. Inspect fabric for cuts, tears, burns and areas of abrasion, dispose of the item when beyond economical repair.
2. Inspect seams for breaks in stitching and for areas where the fabric is unraveling into the seams.
Dispose of item when beyond economical repair.
3. Inspect all straps and webbing for cuts or excessive wear. Ensure they're securely attached to the fabric.
Dispose of the item when beyond economical repair.
4. Inspect all zippers for broken coils, missing or broken sliders. Ensure they're securely attached to the fabric. Open and close the zippers to ensure a smooth and proper function.
Dispose of the item when beyond economical repair.
5. Ensure all hardware, buckles and Velcro closures are correctly attached. Inspect all buckles and hardware for cracks or breaks. Fasten and unfasten all buckles and hardware to ensure a smooth and proper function. Ensure all Velcro closures are securely attached. Dispose of item when beyond economical repair.
6. Dispose of item if there's any indelible writing or markings on the item.

B. Tests

None

C. Refurbishing Procedures

1. If necessary, replace buckles, Velcro closures and hardware.
2. Repair any tears, holes or areas of excessive abrasion if economically feasible.
3. Repair any seams that are worn or that have torn loose.
4. Repair or replace worn straps.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow any mud and loose dirt to dry, and then remove using a stiff bristle brush.
2. Remove light oil using a solution of warm water and mild detergent and a brush. Rinse with clean water, hang to dry.
3. Remove heavy stains by soaking (as long as needed) in water-soluble biodegradable cleaner. After soaking, wash with a hot water pressure washer and rinse with warm clean water. And hang to dry.
4. **DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH TO CLEAN FABRIC.**

F. Repackaging

Store 10 packs in carton 18 inch by 14 inch by 18 inch.

G. Storage and Shelf Life Checks

None

ITEM: PACKSACK, waterproof, w/straps

NFES #0744

A. Initial Inspection/Disposal Criteria

1. Fabric and webbing.
 - a. Inspect for any holes, cuts, tears, burns or torn seams are not economically repairable, if any dispose of.
 - b. Inspect for any fastener missing or that does not provide adequate closure, replace.
 - c. Inspect for excessive dirt or fuel stain that cleaning cannot eliminate, dispose of.
 - d. Inspect for any writings, drawings, and if so dispose of item.
2. Hardware
Inspect all plastic and metal hardware for dirt, cracks, breaks, and proper function, if any dispose of.
3. Zippers
Inspect zippers (new style) for broken coils, missing or broken sliders, and proper function, if any dispose of.

B. Tests

1. Test hardware by fastening and unfastening. The hardware should function easily with little force being applied and release with ease.
2. Open and close zipper to test. The zipper should operate smoothly through its full length.
3. To test spring lock (new styles) make sure spring works properly and cord passes through spring lock with ease.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, and broken seams, if economically feasible.
2. Replace nonfunctioning hardware, if economically feasible.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Allow any mud and loose dirt to dry, and then remove using a stiff-bristle brush. If stains remain, wash and rinse as recommended below.
2. To remove heavy oil, as well as dirt and stains.
 - a. Soak in a solution of a mild detergent and hang to dry.
 - b. Or, pre-treat with a mild detergent, high pressure wash, rinse thoroughly, and hang to dry.
3. **DO NOT MACHINE WASH OR DRY. DO NOT USE BLEACH.**

F. Repackaging

Local Cache option.

G. Storage and Shelf Life Checks

None

ITEM: PAD, sleeping, gray, 3/8" by 23"by 75", foam

NFES #1566

A. Initial Inspection/Disposal Criteria

1. Inspect for any cuts, splits, tears, holes or cracks, if so dispose of.
2. Inspect for uniformity; if it contains, large voids or inclusions, dispose of.
3. Inspect for cleanliness or the presence of foreign matter, if so dispose of.
4. Dampness. See section E. 1.

B. Tests

None

C. Refurbishing Procedures

See section E.

D. Retesting Criteria

None

E. Cleaning Procedures

1. If pad is wet, expose to sun or other heat source until dry.
2. Brush with stiff-bristle brush to eliminate dirt or other foreign matter.
4. Blow off remaining dust or fine dirt particles with high-pressure air hose or vacuum.
5. Disinfect with mild detergent and air dry.

F. Repackaging

Repack 50 each in original carton if serviceable or use NFES #0134 carton, sleeping pad, 76 inch by 22 inch by 20 inch, (NSN 8115-01-381-6529).

G. Storage and Shelf Life Checks

None

ITEM: POLE, ridge, 16'

NFES #0089

A. Initial Inspection/Disposal Criteria

Visually inspect for damage, bent pole—dispose of damaged pieces (salvage usable parts).

B. Tests

None

C. Refurbishing Procedures

Replace missing or damaged parts.

D. Retesting Criteria

None

E. Cleaning Procedures

Completed in section C.

F. Repackaging

Package in commercial carton, Style RSC, Type CF, class domestic, grade 275, size 4 1/2 inch by 6 1/2 inch by 42 1/2 inch.

G. Storage and Shelf Life Checks

None

ITEM: POLE, upright, adjustable

NFES#0083

A. Initial Inspection/Disposal Criteria

Visually inspect for damage, bent pole—dispose of damaged pieces (salvage usable parts).

B. Tests

Extend pole to see if pole telescopes freely.

C. Refurbishing Procedures

1. If top pin is bent or broken, replace with a steel pin.
2. Replace adjuster pins and cables when missing.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Remove all foreign material.
2. Clean with damp cloth.

F. Repackaging

Package 6 each in commercial carton, Style RSC, Type CF, class domestic, grade 275, size 4 1/2 inch by 6 1/2 inch by 42 1/2 inch.

G. Storage and Shelf Life Checks

None

ITEM: PULASKI, with plastic sheath

NFES #0146

A. Initial Inspection/Disposal Criteria

1. Obvious structural damage to cutting edges or head.
2. Dispose of tool if modifications have been made to head, such as rivets through side of head to hold handle.

B. Tests/Inspections

1. Head.
 - a. Head is within specifications as per gauge. (NFES# 0510)
 - b. Grubbing end is not bent or twisted.
 - c. Blade or grubbing hoe ends have not been tapered or rounded to point the tool cannot be sharpened to meet gauge standards.
2. Handle replacement.
 - a. Twisted, bent, or open grain.
 - b. Cracks, or suspect based on sound of hammer rap on end of handle (sharp ringing sound is good; dull thud sound is suspect), or pressure application to side of handle.
 - c. Head is loose and/or contains metal wedges.
 - d. Handle has been shortened.
 - e. Nonstandard handle.

C. Refurbishing Procedures

1. Head.
 - a. Clean head.
 - b. Sharpen tool to specifications as per tool sharpening gauge NFES #0510. Ensure that blade corners are square.

CAUTION: Tool should NEVER be ground to the degree that the metal temperature raises high enough to remove temper, i.e., blue or burned edges.

2. Used handles.
 - a. Clean handle.
 - b. Sand handle if it is chipped, dinged, rough, or has tape or other residues.
3. New handles.

Local replacement-utilize NFES #1857 handle with plastic wedge or wood wedges secured using epoxy of appropriate type.
4. Metal wedges can be added only in the field as an emergency measure for field refurbishing.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

1. Install plastic sheath NFES #0257.
2. Package 10 each in carton NFES #0338; 37 inch by 18 inch by 8 inch; (NSN 8115-00-139-0673).

Full depth carton top.

J. Storage and Shelf Life Checks

1. Per local cache requirements to ensure proper serviceability of tool.
2. Excessive dry storage may cause handles to loosen.

ITEM: PULLER, fence

NFES #0011

A. Initial Inspection/Disposal Criteria

1. Inspect visually for broken, used or missing parts.
2. Inspect for structural damage, bent upright or handle, if so dispose of. (salvage usable parts)

B. Tests

None

C. Refurbishing Procedures

1. Clean if necessary.
2. Replace bolts or pins if bent or broken.
3. Repaint if necessary to prevent rust or corrosion.

D. Retesting Criteria

Inspect to see that all parts function correctly once refurbishing is complete.

E. Cleaning Procedures

See Section C.

F. Repackaging

None

G. Storage and Shelf Life Checks

None

ITEM: PUMP, fire, lightweight

NFES #0124, #0253

A. Initial Inspection/Disposal Criteria

Inspect local Job Hazard Analysis for proper personnel protection equipment required when working on this item.

1. Evidence of use (dust, oil, starter seal broken).
2. Evidence of damage.
3. Return to stock if not used and date last tested (DLT) does not exceed 12 months.

B. Tests

1. Repair to recommended manufacturer's standard, using local repair procedures.
2. Test for performance.
3. Clear fuel from fuel line.
4. Tie off starter rope to handle to determine field use. Use plastic snap seal.
5. If pump is not economically repairable, it should be disposed of using agency policies.

C. Refurbishing Procedures

Refurbished pumps should run and meet the pump performance standards set by the operator's manual and should be in good condition, i.e., no leaks, cracks, or broken parts. If not, send to an established repair shop ensuring the shop has the refurbishing standards and appropriate repair and instruction manual.

1. Clean off dirt, oil, and grease. (Use degreaser if needed.)
2. Inspect for identification marking, property, and serial numbers, cache identification sticker, and any other required stickers.
3. Ensure that water and dirt are removed from inside pump.
4. Grease pump as necessary.
5. Allow pump to dry.

D. Retesting Criteria

After the pump is repaired, it should be run tested to ensure that it meets performance standards.

1. Start engine to inspect for proper operation.
2. Inspect pump for proper performance output.

E. Cleaning Procedures

Completed in section C.

F. Repackaging

Ensure that pump is drained of water.

G. Storage and Shelf Life Checks

Ensure that DLT does not exceed 12 months.

ITEM: PUMP, fire, portable, Mark III w/fuel line

NFES #0148

A. Initial Inspection/Disposal Criteria

1. Evidence of use (dust, oil, starter seal broken).
2. Evidence of damage.
3. Return to stock if not used and date last tested (DLT) does not exceed 12 months.
4. Ensure inspection tag is current.

B. Tests

See section C.

1. Repair to recommended manufacturer's standard, using local repair procedures.
2. Test for performance.
3. Clear fuel from fuel line.
4. Tie off starter rope to handle to determine field use. Use plastic snap seal.
5. In event that the pump is not economically repairable, it shall be disposed of using local policies.

C. Refurbishing Procedures

1. Rubber plugs and bumpers on all starters.
2. Test pumps at 1/4-inch nozzle and at shutoff. MK III should be a minimum of 230 psi.
3. Use loss of prime method to test over speed.
4. Keep decals legible.
5. Do not paint frame on Mark III.
6. Paint over speed reset button yellow.
7. Replace muffler if neck is cracked.
8. Affix hearing protection mandatory stickers.
9. Paint exposed metal on cowling and pump.
10. Inspect buffer and buffer coupling holes, replace if needed
11. Inspect head and piston for carbon buildup regularly.
12. Replace head or cylinder if two or more fins are broken.
13. Cracks in cowling overhead are okay.
14. Replace spark plug protector ("sparky") if ripped or there is a hole in the top.
15. Ensure that each pump has a fuel mix sticker and a cache owner sticker.
16. See refurbishing standards for: Tank, Gasoline, 5 Gallon, Pump Adapted, NFES #0218.

D. Retesting Criteria

Completed in sections B and C.

E. Cleaning Procedures

Local cache option

F. Repackaging

Make sure pump is drained of water.

G. Storage and Shelf Life Checks

Ensure that DLT does not exceed 12 months.

ITEM: PUMP, trombone, backpack, single action

NFES #0151

A. Initial Inspection/Disposal Criteria

1. Inspect for obvious damage.
2. Inspect for burns and cracks if so dispose of.
3. Inspect for damaged threads, if beyond repair dispose of.

B. Tests

Place hose in water and pump handle to validate that the pump works properly.

C. Refurbishing Procedures

1. If pump pressure is still not sufficient, remove pump unit and replace “O” rings.
2. Inspect quick connection on pump for proper seating.
3. Inspect hose connection to pump for tightness; if loose, use a hose clamp.
4. Inspect supply hose on pump assembly for obstructions and tight connections, bent push rods, and clogged tips.
5. Also Inspect spring and ball bearing.
6. Lubricate slide with appropriate lubricant. Chevron NLGI2 or equivalent. (per tech tip)

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash and clean all items of foreign matter, such as mud, dirt, and grease. Clean in mild detergent with brush or scouring pad as needed.
2. Rinse thoroughly.

F. Repackaging

Local cache option, mark with date of inspection and testing.

G. Storage and Shelf Life Checks

If stored for 5 years or longer without use, it should be retested.

ITEM: PUMP, volume, trash 2"

NFES #0683, #1222

A. Initial Inspection/Disposal Criteria

1. Pressure wash pump. Use a degreaser if necessary.
2. Inspect unit for obvious damage to body or frame.
3. Inspect for oil leaks, dirty air filters, and condition of spark plug.

NOTE: Dispose of contaminated fuel according to hazardous materials regulations in your area.

B. Tests

NOTE: See the owner's manual for specified pump.

1. Before starting pump.
 - a. Change engine oil.
 - b. Clean air filter.
 - c. Fill pump with water.
2. Start pump and look for items that need repair.
 - a. Engine smoking.
 - b. Running rough.
 - c. Missing.
 - d. Adjust carburetor as needed.

C. Refurbishing Procedures

1. Pump should run properly and discharge a specified amount of water.

NOTE: See appropriate owner's manual for specifications and troubleshooting guide relating to your specific unit. (If taken to local repair shop, ensure that they have the appropriate owner's manual and troubleshooting guide.)

2. Drain fuel from tank and fuel lines. Start pump to ensure all fuel has been run out of unit.
3. Inspect to make sure all identification (serial numbers, property numbers, or other cache identification numbers) is securely fastened to pump.

D. Retesting Criteria

If pump has not been run in past 12 months, pump must be started and run to ensure that the pump is working properly.

E. Cleaning Procedures

Clean off dirt and oil.

F. Repackaging

Use nylon tie rap to tie off starter rope to determine field use.

G. Storage and Shelf Life Checks

See section D if unit has been stored for 12 months.

ITEM: RAKE, collapsible

NFES #0659

A. Initial Inspection/Disposal Criteria

1. Inspect for damaged/missing tines, if so dispose of.
2. Inspect for damage to handle sliding-locking mechanism, repair or dispose of.
3. Inspect all welds to see if cracked or broken, repair or dispose of.
4. Inspect grips for tears/loss of grips, repair or dispose of.
5. Inspect nuts and bolts to make sure they are in place (2 each), repair or replace.
6. Inspect pin in locking mechanism, repair or replace.

B. Tests

1. Inspect slide mechanism to see if moves freely and does not bind up when expanding tines of rake.
2. Expand tines and inspect all tines to see if secure and stable.

C. Refurbishing Procedures

1. Clean with water, let stand and dry.
2. Repair/replace nuts, bolts, and pins as needed.
3. Replace rubber handles.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Damp wipe with mild detergent solution to remove dirt, mud, and grease.
2. Let stand and dry.
3. Lubricate slide mechanism with WD 40 or like solution.

F. Repacking

Place 10 each in carton 8 inch by 20 inch by 50 1/2 inch or equivalent. NFES #0037

G. Storage and Shelf Life Checks

None

H. Reference

The manufacturer of this item is:

Mercedes Textiles Ltd.

16633 Hymus Blvd.

Kirkland. QC. Canada

H9H 4R9

Phone: 514-697-0817

Fax: 514-697-5297

Web site <http://www.mercedestextiles.com/english>

Various nuts, bolts, and locking pins may be procured at your local hardware store.

ITEM: RAKE, fire (council tool) w/sheath

NFES #1807

A. Initial Inspection/Disposal Criteria

1. Inspect handles for cracks, splinters, and warping, if so dispose of.
2. Inspect cutting teeth for cracks, excessive wear, replace teeth as necessary.
3. Inspect for loose rivets, tighten or replace loose.
4. Inspect mounting head for cracks, loose handles, dispose of if cracked.

B. Tests

1. Apply pressure on handle, inspecting for cracks or splinters overlooked in visual inspection.
2. Hand check each cutter tooth for loose rivets.

C. Refurbishing Procedures

1. Replace broken, cracked, or splintered handles.
2. Replace broken or cracked tooth, flat surface inside.
3. Tighten loose rivets.
4. Grind on even bevel, use sickle stone.
5. Retain square point on cutter teeth. **DO NOT ROUND CORNERS.**
6. Paint head with rust inhibitor.
7. Smooth handle with fine sandpaper.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean head with fine wire brush.
2. Clean handle with damp cloth.

F. Repackaging

1. Oil cutting edge.
2. Sheath with NFES #1854 McLeod sheath.
3. Package 10 each in carton NFES #0305; 56 inch by 20 inch by 11 inch; (NSN 8115-00-139-0690).

G. Storage and Shelf Life Checks

Per local cache requirements to ensure proper serviceability of tools.

ITEM: REDUCERS

**NFES #0009, #0010, #0417, #0418
#0685, #0733, #2229, #2230**

A. Initial Inspection/Disposal Criteria

Inspect for obvious damage.

1. Cracks. (Dispose)
2. Bad threads.(Repair or Dispose)
3. Gaskets–stiff, cracked or worn (Dispose), if missing.(Replace)
4. Inspect for fire damage. (Dispose) (May cause future failure)

B. Tests

None

C. Refurbishing Procedures

1. Replace gaskets if stiff, damaged, or missing.
2. Inspect male threads. If they are damaged try using a triangular file to remove burrs, dings, etc.

D. Retesting Criteria

Re-inspect damaged threads by fitting with appropriate female fitting. If not smooth fit, dispose of item.

E. Cleaning Procedures

1. Clean in mild detergent with a brush or scouring pad or high-pressure wash.
2. Rinse thoroughly.
3. Stand upright to drain and dry.

F. Repackaging

Local cache option

G. Storage and Shelf Life Checks

None

ITEM: REGULATOR, pressure, propane

NFES #0930

A. Initial Inspection/Disposal Criteria

1. Visual inspection for loose, defective fittings, if so replace or dispose of.
2. Inspect regulating handle to ensure tightness and smooth operation.
3. Ensure that screws holding halves together are present and tight.

B. Tests

See certified propane vendor.

C. Refurbishing Procedures

1. Wipe off dirt with damp cloth or blow off with air compressor.
2. Clean fitting threads with wire brush.
3. Replace fittings if worn or missing.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Local cache option for repackaging.

G. Storage and Shelf Life Inspect

None

ITEM: SHELTER, fire, complete

NFES #0169

A. Initial Inspection/Disposal Criteria

Shelter:

1. Inspect polyvinyl bag for cuts, punctures, torn seams, if any remove shelter from service.
2. If the Fire Shelter **does not** have a **red strip** running from pull ring to pull ring and a nylon deployment strap, remove from service.
3. Look for tears along folded edges and aluminum particles present that have turned the vinyl bag gray. If either condition exists, remove the shelter from service.
4. **If unsure of the condition of a shelter, remove from service.**
5. Inspect for presence of plastic liner in the carrying case. If not present, replace the liner before replacing the shelter.
6. Inspect fire shelter case for cuts, tears, missing or malfunctioning snaps as well as missing or loose threads on Velcro fastener.
7. Ensure deployment instruction sheet is included in fire shelter case.
8. Check for belt clips on fire shelter case and ensure they are in good working condition.

B. Tests

None

C. Refurbishing Procedures

1. If the shelter is undamaged, wipe clean with mild detergent and replace in clean plastic liner and carrying case.
2. **If in doubt about a shelter condition, REMOVE FROM SERVICE.**
3. Replace deployment instructions if missing, torn or illegible.
4. Replace belt clips if missing or damaged.
5. Replace fire shelter case if defective.
6. Replace shelter liner if cracked or damaged.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean the carrying case.
 - a. Allow any mud and loose dirt on carrying case to dry, remove with a stiff brush.
 - b. Remove heavy stains by soaking in a mild detergent, scrubbing with a stiff brush, pressure washer with hot water and, rinse with clean water and let dry.
2. Clean plastic liner with damp rag.

F. Repackaging

Per local cache.

G. Storage and Shelf Life Checks

None

ITEM: SHELTER, fire, complete, M-2002

NFES #0925

Components:

SHELTER, fire, M-2002

NFES #0926

CASE, carrying, fire shelter, M-2002

NFES #0927

LINER, fire, shelter carrying case, M-2002

NFES #0928

A. Initial Inspection/Disposal Criteria

1. Shelter:

- a. DO NOT OPEN POLYVINYL BAG FOR INSPECTION.
- b. Inspect polyvinyl bag for cuts, puncture, torn seams, if the bag has any that may affect the integrity of the bag or the shelter, remove shelter from service (see #6 below).
- c. Inspect that the red quick-opening tear strip is unbroken and it is sealed to the bag the entire length, pull rings should be unbroken, if not, remove shelter from service (see #6).
- d. Look through bag at shelter for tears along seams. If any tears evident, or if sufficient gray discoloration of the interior of the polyvinyl bag to obscure interior inspection, remove shelter from service and use for training or discard.
- e. If there is any doubt about the condition of the shelter or polyvinyl bag, REMOVE FROM SERVICE.
- f. Due to the high cost of these shelters, rather than discard shelters that show damage to the polyvinyl bag but not to the shelter itself, it is recommended that these shelters be stored until sufficient shelters are available for re-bagging to be economical.

2. Carrying Case

- a. Inspect for cuts, tears, torn seams or flap. If any found that are un-repairable, remove from service.
- b. Ensure that M-2002 use instructions (English on one side, Spanish on the other) are in the Use Instructions pocket on the front.
- c. Check that there are two belt clips and that they are in good working condition.

3. Liner - Inspect the plastic liner for cracks or tears, if there is any evidence of damage the liner should be disposed of.

B. Tests

None

C. Refurbishing Procedures

1. If necessary, replace Use Instructions with M-2002 Use Instructions English on one side, Spanish on the other.
2. If necessary, replace belt clips.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean Fire Shelter off with damp cloth.
2. Allow any mud and loose dirt on carrying case to dry, then remove with a stiff brush.
3. Remove oil on carrying case using a solution of warm water and detergent and a brush. Rinse with clear water, let dry.

Fire Equipment Storage and Refurbishing Standards

ITEM: SHELTER, fire, complete, M-2002	(Cont'd)	NFES #0925
Components:		
SHELTER, fire, M-2002		NFES #0926
CASE, carrying, fire shelter, M-2002		NFES #0927
LINER, fire, shelter carrying case, M-2002		NFES #0928

F. Repackaging

1. Complete Fire Shelters are packed 10 per box.
2. Shelters without carrying case & liner are packed 10 per box.
3. If not part of the Complete Fire Shelter, pack 100 carrying cases in a commercial carton, Style RSC, Type CF, class domestic, grade 275, sized to fit.
4. If not part of the Fire Shelter, Complete, M-2002, pack 100 liners in a commercial carton, Style RSC, Type CF, class domestic, grade 275, sized to fit.

G. Storage and Shelf Life Checks

None

ITEM: SHELTER, fire, practice, complete, M-2002	NFES #2678
Components:	
SHELTER, fire, practice, M-2002	NFES #2679
POLYVINYL BAG, practice fire shelter, M-2002	NFES #2681
CASE, carrying, fire shelter, practice, M-2002	NFES #2680
LINER, fire shelter, carrying case, M-2002	NFES #0928
SHELTER, fire, practice	NFES #2407

A. Initial Inspection/Disposal Criteria

1. Practice Fire Shelter
Unfold practice fire shelter and inspect for tears, ripped seams, punctures. If not economically repairable, dispose of.
2. Polyvinyl Bag
 - a. Inspect the bag for cracks or tears, if there is any evidence of damage the bag should be disposed of.
 - b. Inspect that there is a Velcro pull strip and that it is not damaged.
3. Carrying Case
 - a. The M-2002 Practice Fire Shelter Carrying Case is orange in color.
 - b. Inspect for cuts, tears, torn seams or flap. If any found that are unreparable, dispose of.
 - c. Ensure that a M-2002 use instruction sheet and a folding instructions sheet are in the Use Instructions pocket on the front.
 - d. Check that there are two belt clips and that they are in good working condition.
4. Liner
Inspect the plastic liner for cracks or tears, if there is any evidence of damage the liner should be disposed of.

B. Tests

None

C. Refurbishing Procedures

1. Make repairs as necessary and economical.
2. If necessary, replace Use Instructions with M-2002 Use Instructions, English on one side, Spanish on the other.
3. If necessary, replace Folding Instructions with M-2002 Folding Instructions.
4. If necessary, replace belt clips.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean Practice Fire Shelter and Polyvinyl Bag with wet cloth.
2. Allow any mud and loose dirt on carrying case to dry, and then remove with a stiff brush.
3. Remove oil from carrying case using a solution of warm water and detergent and a brush. Rinse with clear water, let dry.

Fire Equipment Storage and Refurbishing Standards

ITEM: SHELTER, fire, practice, complete, M-2002 (Cont'd)	NFES #2678
Components:	
SHELTER, fire, practice, M-2002	NFES #2679
POLYVINYL BAG, practice fire shelter, M-2002	NFES #2681
CASE, carrying, fire shelter, practice, M-2002	NFES #2680
LINER, fire shelter carrying case, M-2002	NFES #0928
SHELTER, fire, practice	NFES #2407

F. Repackaging

1. Complete Practice Fire Shelters are packaged 10 per box.
2. Pack 10 Practice Fire Shelters (without polyvinyl bag, Carrying Case and liner) in a close fitting commercial carton,
3. Style RSC, Type, I class domestic, grade 275, size 16 inch by 10 inch by 12 inch.
4. If not part of the Practice Fire Shelter, Complete, M-2002, pack 100 carrying cases in a commercial carton, Style RSC,
5. Type CF, class domestic, grade 275, sized to fit.
6. If not part of the Practice Fire Shelter, Complete, M-2002, pack 100 polyvinyl bags in a commercial carton, Style RSC,
7. Type CF, class domestic, grade 275, sized to fit.
8. If not part of the Practice Fire Shelter, Complete, M-2002, pack 100 liners in a commercial carton, Style RSC, Type CF, class domestic, grade 275, sized to fit.

G. Storage and Shelf Life Checks

None

ITEM: SHIRT, fire

All Sizes

A. Initial Inspection/Disposal Criteria

1. Inspect for holes, cuts, tears, or torn seams if not economical to repair, then dispose of.
2. Inspect buttonholes for frayed or broken stitching and mend if possible, if unable to mend then dispose of.
3. Inspect for missing or tack buttons, if unable to mend then dispose of.
4. Inspect all hooks and pile fasteners to ensure they provide adequate closure, repair or replace if economically feasible, or dispose of.
5. Inspect for pitch or oil, if any dispose of.
6. Inspect for any markings on shirts, if marked dispose of.

B. Tests

Open and close hook and pile fasteners. They should provide an adequate and secure closure.

C. Refurbishing Procedures

1. Repair any hole, cut, tear, or torn seam by darning or patching, duplicating the original construction.
See note in section A.
2. Over stitch any frayed buttonhole using a buttonhole or zigzag stitch that has 50 to 60 stitches per buttonhole.
3. Replace damaged hook and pile fastener tape with tape of the same length, width, and quality as the original.
See note in section A.
4. Use Nomex® (Aramid) thread and materials for all repairs.

D. Retesting Criteria

Test all replacement hook and pile fasteners after sewing in place, as specified in section B.

E. Cleaning Procedures

1. See www.personalprotection.dupont.com
2. **DO NOT USE BLEACH TO CLEAN FABRIC.**

F. Repackaging

Package 50 each of same size in carton NFES #2007, 24 inch by 16 inch by 16 inch (NSN 8115-00-292-0123).

G. Storage and Shelf Life Checks

None

ITEM: SHOVEL, with plastic sheath, size # 1

NFES #0171

A. Initial Inspection/Disposal Criteria

1. Obvious damage to cutting head, step plate, and handle. (Dispose)
2. Loose head, severely rounded, distorted or bent blade.(Dispose)
3. Blade less then 3 3/4 inch from center to edge on both sides.(Dispose)
4. Blade has been modified by improper grinding or filing, such as modification of step plate.(Dispose)
5. Short or nonstandard handle, handle not straight, handle cracked or chipped.(Dispose)

B. Tests/Inspections

1. Head.
 - a. Blade distortion or bent.
 - b. Blade to be at least 7 1/2 inch wide. USE TEMPLATE
 - c. Shank not bent or handle base tilted.
 - d. Blade tip that has been severely rounded.
2. Handle.
 - a. Handle must be straight.
 - b. Inspect for cracks, chips, or open grain.
 - c. Inspect for tape residue, or other residue (tar, sap, etc.).

C. Refurbishing Procedures

Head and handle.

1. Wash and wipe dry.
2. Sand handle if it is rough, chipped, dinged, or has any type of residue.
3. Sharpen cutting edge using tool sharpening gauge NFES #0510.

Caution: Tool should NEVER be ground to the degree that the metal temperature raises high enough to remove temper, i.e., blue or burned edges.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

1. Install plastic sheath NFES #1853.
2. Package 10 each in carton NFES #0337, 55x 12 1/2 x 11 3/4 , (NSN 8115-00-139-0689).

G. Storage and Shelf Life Checks

Inspect once per year for rust and loose handles

ITEM: SHROUD, face & neck, Nomex w/front closure

NFES #1274

A. Initial Inspection/Disposal Criteria

1. Inspect for holes, cuts, tears, or torn seams if not economical to repair, then dispose of.
2. Inspect all hooks and pile fastener to ensure they provide adequate closure, repair or replace if possible, or dispose of.

B. Tests

Open and close the hook and pile fasteners to ensure that they provide and adequate and secure closure.

C. Refurbishing Procedures

1. Repair holes, cuts, tears, burns, and torn seams by darning, patching, or by duplicating the original construction (see note in section A).
2. Replace damaged hook and pile fastener tape with tape of the same length, width, and quality as the original (see note in section A).

D. Retesting Criteria

Test all replacement hook and pile fasteners and zippers after sewing in place, as specified in section B.

E. Cleaning Procedures

1. See <http://www.personalprotection.dupont.com>
2. **DO NOT USE BLEACH TO CLEAN FABRIC.**

F. Repackaging

1. Lay with inside up, fold both sides towards middle, fastening hook and loop fasteners.
2. Pack 20 shrouds in carton to be determined.

G. Storage and Shelf Life Checks

None

ITEM: SPOUT, gas, flexible, 16" steel

NFES #0210

A. Initial Inspection/Disposal Criteria

1. Visual inspection for obvious damage.
 - a. Bent or crushed sections in flexible portion, dispose of unit.
 - b. Replace, cracked, or stiff gasket on bottom of spout.
 - c. Replace screen on pouring end.
2. Visual inspection of spout for obstructions.
3. Inspect locking flange to ensure it is in working condition. If not, dispose of unit.

B. Tests

Using a solvent, inspect spout for leaks.

C. Refurbishing Procedures

1. If possible, replace tail gasket if missing, cracked, or stiff.
2. If possible, replace screen. (Try to salvage screens from disposed items.) If unable to replace screen, dispose of unit.
3. Remove any obstructions that may be in spout.
4. Clean screen and threads on screen cap.
5. Can be washed using a pressure washer.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean completely with solvent or high-pressure wash. (Use in a well-ventilated area.)
2. Stand on end or lay unit down to drain and dry.
3. Make sure spout is completely dry before repacking.

F. Repackaging

Local cache option for carton.

G. Storage and Shelf Life Checks

None

ITEM: SWATTER, fire

NFES #1868

A. Initial Inspection/Disposal Criteria

1. Inspect handle, flapper, and metal that connect the two parts.
2. Dispose of if handle is cracked or broken, flapper has large chunks missing, or is badly weathered.

B. Tests

1. Push down on handle to check for strength, cracks.
2. Look down length of handle to check for warping.
3. Ensure that connection between handle and flapper is in good condition.

C. Refurbishing Procedures

1. Visually inspect flapper condition. No repair to flapper, if damaged, dispose of.
2. Check handle for roughness. Sand down handle until smooth if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

Wire brush and wash any mud and residue off handle and flapper.

F. Repackaging

1. Cache option for repacking swatters in bundles of 5 or 10 and plastic wrap the handles into group.
2. Store in this condition (at this time tool is not boxed).

G. Storage and Shelf Life Checks

Per local cache requirements to ensure proper serviceability of tools.

ITEM: SWIVEL, CARGO, 3,000-POUND CAPACITY
 SWIVEL, CARGO, 6,000-POUND CAPACITY

NFES #0526
 #0286



A. Initial Inspection/Disposal Criteria

1. Inspect swivel
 - a. Swivel shall rotate freely by hand, see B.1.a.
 - b. Swivel shall not have excessive lateral movement greater than 5 degrees, see B.1.b
 - c. Swivel shall not have any cracks or gouges, see B.1.c.
 - d. Swivels with spring gate, see B.1.d
2. Inspect hook for damage, wear, and deformation, see B.2.a, b and e.
3. Inspect hook safety latch operation, see B.2.c
4. Inspect link for damage, wear and deformation, see B.3.a and b.
5. Inspect hook and link attachment points, see B.3.c

B. Test Inspections

1. Inspect swivel.
 Swivel shall rotate freely by hand (no binding) with no load. If swivel does not rotate freely, remove from service. If binding is suspected, perform the following free rotation test. Using a string, hang a 2 lb. weight to the hook. Close the hook and rotate the swivel slowly in one direction and then the other. The speed of rotation shall not be greater than 1 revolution in 5 seconds. If the binding of the swivel results in the string being carried around the rotation, remove the swivel from service. See Section C Refurbishment.

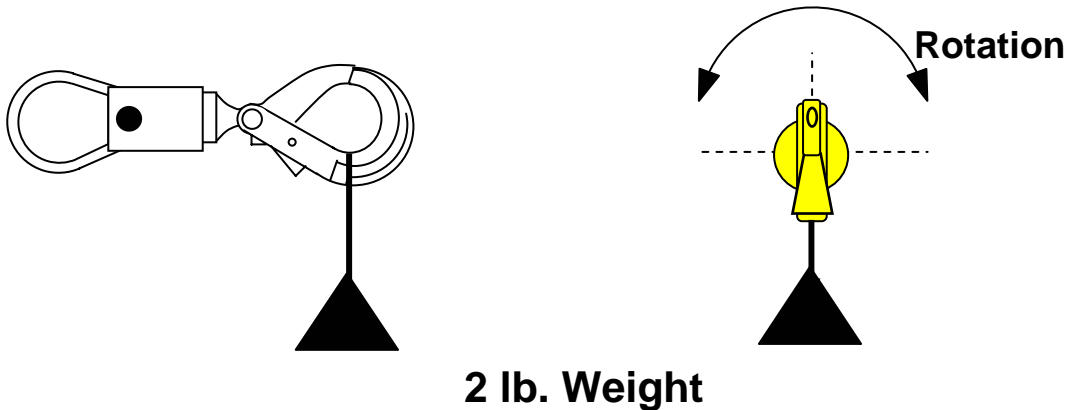


Figure 1. Free Rotation Test

ITEM: SWIVEL, CARGO, 3,000-POUND CAPACITY (Cont'd)
 SWIVEL, CARGO, 6,000-POUND CAPACITY

NFES #0526
 #0286

2. Excessive lateral movement of the swivel may indicate bearing wear. Excessive lateral movement is defined as 5 degrees (angular measurement) of total movement. Remove from service.

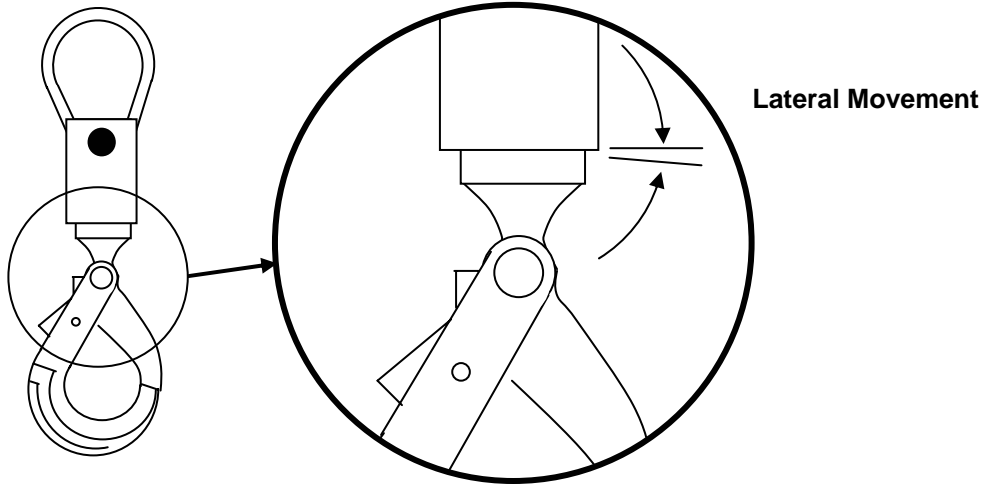


Figure 2. Excessive Lateral Movement

- a. Inspect swivel rotating body or hook for any cracks or gouges. If cracks or gouges are found, remove from service and return to manufacturer.
- b. Inspect gate for type. If the gate is a spring gate (the hook opens by pushing the gate into the hook) it is an old style hook and needs replacement. Remove the swivel from service and refer to Cache Memorandum No. 04-03, Cargo Swivel Retrofit Project dated 8/10/04.
- c. Inspect the swivel for the dimensions shown in figure 3 and table 1. If dimensions exceed those in table 1, remove the swivel from service. See C Refurbishment.

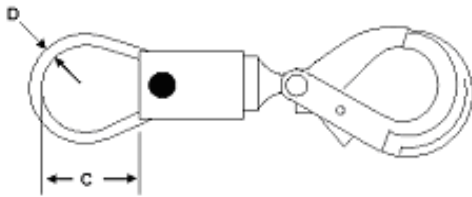


Figure 3. Swivel Dimensions

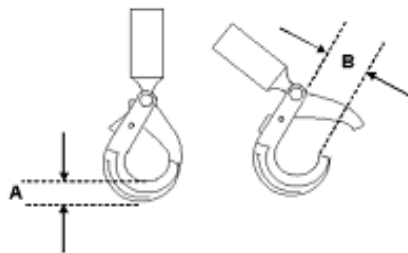


Figure 4. Shank Hook

Table 1. Swivel Dimensions

Style	C	D
3000 pounds	3 to 5 inch max	5/8-inch nominal
6000 pounds	3 to 5 inch max	5/8-inch nominal

Table 2. Shank Hook Dimensions

Style	A (max)	B (max)
3000 pounds	1.0 inch	1.33 inch
6000 pounds	1.3 inch	1.7 inch

ITEM: SWIVEL, CARGO, 3,000-POUND CAPACITY (Cont'd)
 SWIVEL, CARGO, 6,000-POUND CAPACITY

NFES #0526
 #0286

3. Inspect Hook

- a. Inspect the hook for the dimensions shown in figure 4 and table 2. If dimensions exceed those in table 2, remove the swivel from service. See C Refurbishment.
- b. Check the hook for damage such as cracks, nicks, wear, gouges, and deformation. Check operation and ensure that hook is not bent or distorted. If any damage is found, then remove from service. See H. Salvage.

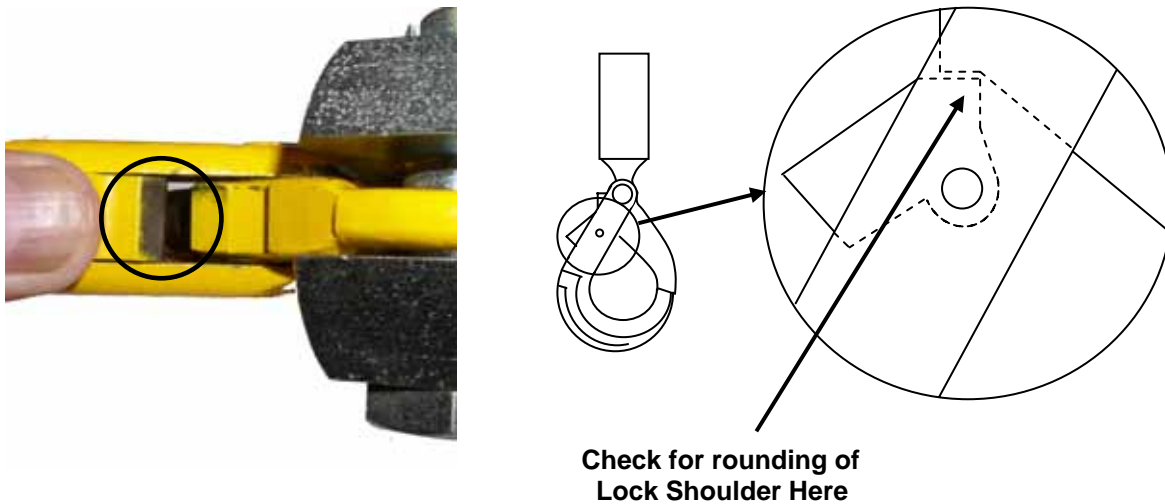


Figure 5. Examine Gate Lock Latch for rounding.

- c. Check the hook's locking gate operation.
 - i. Ensure safety latch open and close completely.
 - ii. Examine latch for damage or distortion.
 - iii. Examine lock latch for rounded edge, see Figure 5.
 - iv. Ensure spring loaded latch hold the latch in the closed position.
 - v. Ensure lock latch pin is secure and flush with the latch, see figure 5. If latch is damaged, does not operate as required, missing hardware, or does not meet dimensional requirements remove from service. See H. Salvage.

4. Link

- a. Inspect the link.
 - i. Check for damage such as cracks, nicks, wear, and gouges.
 - ii. Check link for deformations. The curved ends of the link (either oblong or pear) should be generally circular in shape. If overstressing has occurred, the end portions of the link will appear "pinched." Figure 6 shows the pinched affect of overstressed parts.

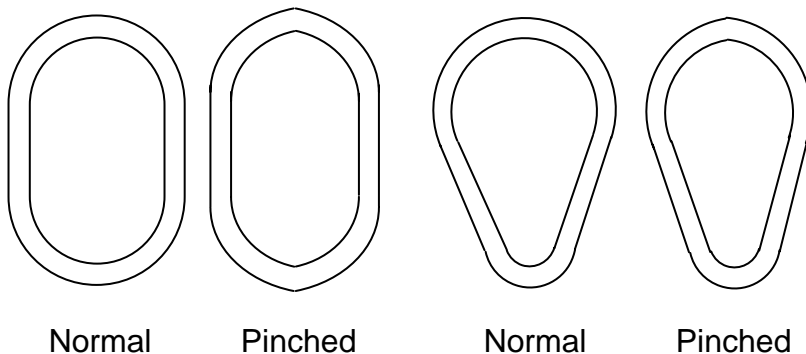


Figure 6. Normal and "pinched" link shapes. **If link is damaged then remove from service. See C. Refurbishment.**

ITEM: SWIVEL, CARGO, 3,000-POUND CAPACITY (Cont'd)
SWIVEL, CARGO, 6,000-POUND CAPACITY

NFES #0526
#0286

- b. Inspect the link attachment fastener.
 - i. If the link is to the swivel with a threaded fastener with nut:
 - ii. Ensure that not more than 2 threads are exposed.
 - iii. Ensure that fastener has not slipped by inspecting the paint indication, see Figure 7. If slippage is indicated, see Section C Refurbishment Procedures.

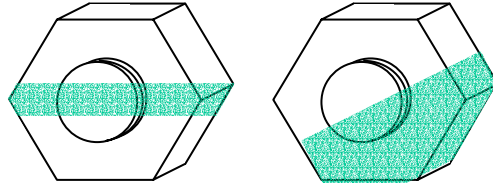


Figure 7. Slippage paint indication.

- c. Inspect the fastener and nut for damage (cracks and gouges). If the link is attached with a pin secured with roll pins, ensure that the roll pins are not bent or cracked. If damage is observed, see Section C Refurbishment.

C. Refurbishing Procedures

1. Swivel rotation binding and lateral movement repairs. These repairs shall be performed by the manufacturer or certified/qualified rigging facility. The typical repair is the replacement of the bearing. If the bearing is replaced, the replacement bearing shall be capable of a bearing load 3.75 times the swivel’s rated capacity.
2. Hook and link problems. The hooks and links of a swivel shall not be altered, rework, or reshaped. They may be replaced. Replacement components shall have a strength capacity of 3.75 times the load carrying capacity of the swivel. Return the swivel to the manufacturer or certified rigging facility for all replacement parts or repairs.
3. Repaint the fastener slip indicator when necessary. Paint as shown in figure 7.

NOTE: All above repaired swivels (including replaced components) shall be tested per Section D Retesting Criteria.

4. Link retaining fastener. Threaded link retaining fasteners that use a bolt and self-locking nut, may be retightened in accordance with the Table 2, Link Fastener Torque Values. Then paint as shown in figure 7. Other fastener systems shall be sent to the manufacturer to be repair.

Fastener Size	Torque (Ft-lbs.)
5/16	12
3/8	20
7/16	25
1/2	30

Table 2. Link Fastener Torque Values

NOTE: Never repair, alter, rework, or reshape a hook or swivel. Return to the manufacturer or qualified rigging company for repair.

ITEM: SWIVEL, CARGO, 3,000-POUND CAPACITY (Cont'd)
SWIVEL, CARGO, 6,000-POUND CAPACITY

NFES #0526
#0286

D. Retesting Criteria

1. Repairs must be performed by the manufacturer or certified/qualified rigging facility.
2. Each and every repaired swivel shall be strength tested to 2.0 times its rated capacity. The swivel shall be placed into a tensile style loading device that has a current calibration. The swivel shall be tensile loaded to 2.0 times the rated capacity of the swivel. The swivel shall not show any signs of damage (see Section B above) due to loading.
3. Each and every swivel whose bearing is repaired swivel shall pass the following tests:
 - a. Free rotation. Open the hook. Rotate the swivel until the 'jaw' of the hook is down. Rotate the swivel slowly in one direction and then the other. The speed of rotation shall not be greater than 1 revolution in 5 seconds. The jaw should be held (due to gravity) to an orientation less than 135 degrees from vertical. If the binding of the swivel results in the jaw of the hook rotating over the top the repair is unacceptable.

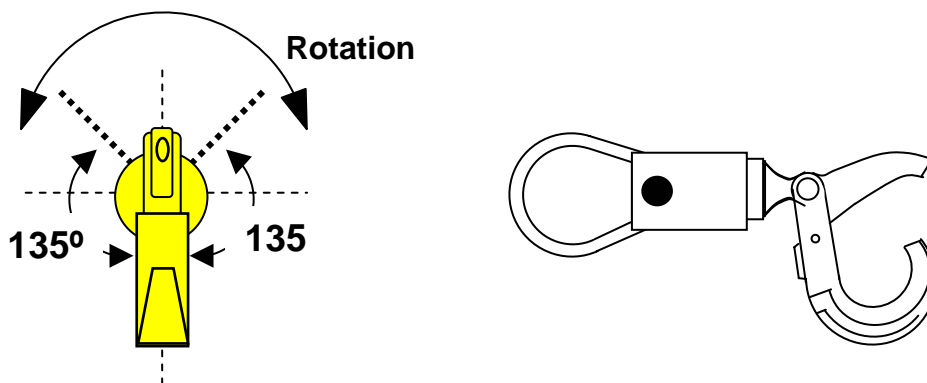


Figure 8. Free Rotation, Unloaded.

- b. The lateral movement test of B.1.b described above, except that maximum lateral movement shall be less than 2 degrees, see figure 2.
4. All replacement hardware (links, bearings, hooks) shall have a minimum working load limit equal to the safe working load of the corresponding swivel; and have a minimum ultimate strength equal to 11,250 lbs. for 3000-lb. capacity swivels and 22,500 lbs. for 6,000-lb. capacity swivels. Links and hooks shall meet the requirements of USDA Forest Service Specification for Swivel, 5100-506 for 6,000-lb. swivels and 5100-501 for 3,000-lb. swivels.
5. Each and every swivel whose link is replaced shall meet the dimensional requirements of B.1.e.
6. Each and every swivel whose hook is replaced shall meet the dimensional requirements of B.2.
7. For replaced shank style hooks, the threading of the hook shall follow the hook manufacturer's recommendations.

E. Cleaning Procedures

Wipe clean, paint as needed.

F. Repackaging

1. Pack 6 each NFES #0526 in carton (cache option) and label accordingly
2. Pack 5 each NFES #0286 in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

H. Salvage

Salvage all useable hardware prior to disposing of swivel. Salvage material can be sent to San Dimas Technology and Development Center.

ITEM: TABLE, mess, 4 person
TABLE, folding

NFES #1390
#2698

A. Initial Inspection/Disposal Criteria

1. Inspect for table surface damage.
2. Inspect for broken or bent legs.
3. Inspect for rough cutting surface edges.
4. Inspect for missing items and supports.
 - a. If suitcase table and the damaged area cannot be repaired, dispose of the table.
 - b. If folding table, and legs or top cannot be repaired, dispose of the unit.

B. Tests

None

C. Refurbishing Procedures

1. For plywood mess table, replace any missing or broken parts with 3/4-inch birch plywood and refinish.
2. For metal/plastic suitcase mess table, repair damage area by welding, pop riveting or by gluing.
3. Folding table, try to repair legs and top and if possible straighten any dents and miscellaneous damage to metal folding tables.

D. Retesting Criteria

None

E. Cleaning Procedures

1. High pressure wash or wipe tables with household cleaner suitable for the table surface.
2. Remove any foreign matter on tables, such as gum.
3. Let table stand to dry.

F. Repackaging

1. For suitcase mess table, band case and place in proper location.
2. For folding tables, collapse and place in proper location.

G. Storage and Shelf Life Checks

None

ITEM: TANK, collapsible, 1,000 GL	NFES #0588
TANK, collapsible, 1,200 GL	#0090
TANK, collapsible, 1,500 GL	#0589
TANK, collapsible, 1,800 GL	#0668
TANK, collapsible, 3,000 GL	#0568
TANK, collapsible, 4,800 GL	#6030
TANK, collapsible, 6,000 GL	#6031

A. Initial Inspection/Disposal Criteria

1. Segregate by NFES #.
2. Inspect for obvious punctures, cuts, burns, damaged hose couplings, drain plugs, etc. Holes larger than 3” should be disposed of.

B. Tests

1. Determine that all plugs are present and in good serviceable condition.
2. Secure tank to forklift with a chain of proper size to bear the weight of the tank. Mark all punctures, cuts, etc., while forklift or hoist suspends tank. This allows light to be seen through any obvious problem areas. Use of spotlight can be helpful in finding holes.

C. Refurbishing Procedures

1. Repair or replace any damaged plugs or couplings.
2. Clean entire tank with soapy water inside and out. Rinse well with clear water from high-pressure washer.
3. Allow to air dry on both sides.
4. Patch or repair any damaged areas previously noticed. All patches should be welded with patch material that is recommended by the manufacturer.

D. Retesting Criteria

1. Suspend tank again so that any holes can be spotted while looking towards light.
2. Refer to section C. If holes are found, patch and re-inspect.

E. Cleaning Procedures

See section C.

F. Repackaging

1. Fold or roll tank as tightly as possible, secure with plastic banding or rope to keep from unrolling.
2. Local cache option for repackaging and labeling.
3. Suggest using NFES #0500 for packing NFES #0589, #0668, #0568.

G. Storage and Shelf Life Checks

None

ITEM: TANK, dip, 15,000 GL, Heliwell

NFES #0669

A. Initial Inspection/Disposal Criteria

1. Observe condition prior to take down or after setting unit up following manufacturer's assembly procedures.
2. Look at rim covers and inspect attached webbing.
3. Remove rim covers and inspect top of tank for abrasions or tears.
4. Look in tank for slices or holes and mark with felt pen if repairs needed.
5. Inspect panels to ensure they are not bent or misshapen and attached clips are functional.
6. Inspect turn buckles and cables for frays and buffs.

B. Tests

Verify panels close together by inspecting placement.

C. Refurbish Procedures

1. Clean interior by running hose through a 3-inch drain hole and washing with water.
2. Patch all holes.
3. Rivet rim covers if missing.
4. Straighten panels and replace clips if needed.
5. File off buffs on turn buckles.

D. Retesting Criteria

None

E. Cleaning Procedures

Clean tank liner and panels using warm soapy water. Steam cleaning, plus brushes efficiently expedites this process.

F. Repackaging

1. Fold tank in a shape that fits under one panel. Place folded tank on provided pallet and stack panels atop tank.
2. Box other components, place on pallet, and strap down securely.

G. Storage and Shelf Life Checks.

None

ITEM: TANK, folding, 1,000 GL, w/frame
TANK, folding, 1,500 GL, w/frame

NFES #0661
#0664

A. Initial Inspection/Disposal Criteria

1. Frame broken or bent beyond repair. Dispose of frame.
2. Liner seam has separation. Dispose of liner.
3. Liner has tears larger than 3 inches. Dispose of liner.
4. Two or more grommets are missing in succession and new grommets cannot be used, due to damage of area. dispose of liner.

B. Tests

Verify hinges operate smoothly.

C. Refurbishing Procedures

1. Straighten frame.
2. Inspect welds for cracks and separation. Repair as needed.
3. Remove rust, paint as needed.
4. Lubricate hinges with appropriate lubricant.
5. Inspect liner seam to verify no separations exist.
6. Inspect for holes and tears, patch by welding material recommended by the manufacturer.
7. Inspect liner to ensure that it is properly attached to frame through each grommet. The use of cable ties or 1/4-inch nylon rope is recommended. Ensure that ties and ropes are secure. No damage or fraying. Replace or tighten as necessary. When using cable ties, use one per grommet and utilize large cable ties at corner and midpoints. Use smaller ties in all other grommets. When using rope, secure one end to the frame. Then using a lacing motion, go through the grommet, then over the frame and back through the next grommet. Continue this motion until entire liner is attached to frame. Secure end.
8. Fold the tank ensuring that liner is not pinched during process. Only a minimum, if any, amount of liner is to extend outside the metal frame.

D. Retesting Criteria

None

E. Cleaning Procedures

Use warm soapy water and scrub brushes to clean the frame and liner. A steam cleaner can be used in conjunction with brushes.

F. Repackaging

Fold and stencil with NFES number and:

1. Band 1,000-gallon tank near both ends.
2. Band 1,500-gallon tank in middle and at both ends.

G. Storage and Shelf Life Checks

None

ITEM: TANK, gasoline, 5 GL (18.9L), pump adapted

NFES #0218

A. Initial Inspection/Disposal Criteria

1. Check for fuel and dispose of properly.

NOTE: Dispose of contaminated fuel according to hazardous material regulations in your area.

2. Check for leaks or separation along seams.
3. Check all threads on connector for serviceability.
4. Inspect gasket on cap. Replace if missing, cracked, or stiff.
5. Inspect for rust, if found, dispose of tank.
6. Inspect and tighten quick release fuel valve.

B. Tests

Visual inspection only.

C. Refurbishing Procedures

1. Drain all existing fuel and purge.
2. Use an air hose to dry the interior of the container and verify that no grit and or dirt material has dried within female opening of quick disconnect coupling.
3. Turn upside down with lids off or open to dry.
4. Inspect vent hole to ensure it is clean and serviceable.
5. Wipe down outside of container and repaint if necessary.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Local cache option for repackaging.

G. Storage and Shelf Life Checks

None

ITEM: TANK, propane, fuel, LPG, 20# tank (5 GL)

NFES #0491

A. Initial Inspection/Disposal Criteria

1. Inspect for rust, dents, punctures, broken valves, and valve handle. Look for weak or broken handle.
2. Confirm test date on propane tank (must be recertified, [hydrostatic testing] 12 years from manufacturer date and every years after the first recertification).
3. Verify handle type to ensure that tank meets current specifications for “OPD” valve.

B. Tests

1. Apply soapy water to valve area.
2. Watch for bubbles indicating leaks.
3. Tag immediately for repair or remove from service.

C. Refurbishing Procedures

1. Repair or replace defective valves and broken handles. All repairs will be done by an authorized facility.
2. Power wash tank, let dry.
3. Ensure warning labels are visible and replace if necessary.
4. Install plastic cap or plug in valve opening if missing.
5. All repairs will be done by an authorized facility. Ensure valve is in “OFF” position.

D. Retesting Criteria

Inspect valve to ensure it is in “OFF” position before issuing.

E. Cleaning Procedures

Completed in section C.

F. Repackaging

1. Place on pallets and shrink wrap or tie with cord to ensure tanks do not fall or tip over.
2. Store in secured (no smoking) area; tanks will vent fumes when they get hot.

G. Storage and Shelf Life Checks

1. Store in secured (no smoking) area; tanks will vent fumes when they get hot.
2. Attempt to store out of sun.
3. Refer to Health & Safety Handbook, OSHA, NFPA, and local direction.

H. Reference

For more information on propane tank maintenance you can search the internet under “propane tank safety” or OPD valve laws and regulation.

ITEM: TANK, portable, 300 GL
TANK, pyramid, liquid storage 150 GL

NFES #0220
NFES #0221

A. Initial Inspection/Disposal Criteria

1. Inspect for rips or holes greater than 3 inches, if any dispose of.
2. Inspect for separation of seams, if any dispose of.

B. Tests

Fill with air and inspect for holes.

C. Refurbishing Procedures

1. Fill with water, air, and inspect for holes.
2. If leaks are observed, patch area, by welding with materials recommended by the manufacturer.
3. Clean with soapy water and air dry.

D. Retesting Criteria

Refill with air after patching to ensure patch is secure.

E. Cleaning Procedures

Clean with soapy water then air dry.

F. Repackaging

1. Ensure that tank is dry.
2. Package 1 each in carton NFES #2006; 23 inch by 19 inch by 10 inch (NSN 8115-00-139-0722).

G. Storage and Shelf Life Checks

None

ITEM: TEES, hoseline

NFES #0230, #0731, #1809, #2240

A. Initial Inspection/Disposal Criteria

1. Inspect for burrs.(Repair)
2. Inspect gasket.(Replace if missing cracked or worn)
3. Ensure that 1-inch valve is seated properly (NFES #0230).(Repair if necessary)
4. Check for fire damage (could cause future failure)

B. Tests

None

C. Refurbishing Procedures

Replace gasket if missing, cracked, or stiff.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Clean in mild detergent with a brush or scouring pad or high pressure wash
2. Rinse thoroughly.
3. Stand upright to dry.

F. Repackaging

Pack 10 or 60 to container.

G. Storage and Shelf Life Checks.

None

ITEM: TENT, 2 person

NFES #0077

A. Initial Inspection/Disposal Criteria

INSPECT TENTS IMMEDIATELY UPON RECEIPT AT CACHE FOR MOISTURE. WET TENTS WILL MOLD QUICKLY; SOME MOLD SMELLS ARE IMPOSSIBLE TO REMOVE.

1. Tent body and fly.
 - a. Inspect for any tears, holes, burns, or unraveled seams that are not economically repairable.
 - b. Any zipper that does not provide adequate closure.
 - c. Any missing stretch cords or plastic hooks missing on rain fly.
 - d. If a-c exists dispose of
2. Poles or stakes.
 - a. Cracked or broken poles.
 - b. Cracked or broken hinge joints.
 - c. Bent, broken, or mushroomed tops of stakes.

B. Tests

1. Set up the tent with the fly; inspect hinge joints for smooth operation.
2. Open and close all zippers ensuring adequate closure.
3. Inspect stretch cords and plastic clips for cracks and frays.

C. Refurbishing Procedures

1. Repair holes, tears, and seams.
2. Replace damaged zippers.
3. Replace nonfunctioning hardware.
4. Remove dirt from stakes with wire brush, straighten and file off burrs.
5. Replace damaged poles.

D. Retesting Criteria

None

E. Cleaning Procedures

1. For dirt and light stains, use warm soapy water. Wipe or brush out stain, rinse with clean water, and air dry.
2. For heavy stains, power wash. Air dry. A steam cleaner on low will also work.
3. Provide enough weight in tent so that winds will not blow tent away.

F. Repackaging

1. Place clean tent into tent bag and secure.
2. STANDARD PACK is 1 per carton recommend carton 30" x 6" x 6"
3. STANDARD PACK is 6 per carton recommend carton 31" x 20" x 13"

G. Storage and Shelf Life Checks

Inspect periodically for dampness.

ITEM: TENT, wall, 14' x 16', without poles

NFES # 0084

A. Initial Inspection/Disposal Criteria

1. Inspect for nonstandard item, if so dispose of.
2. Inspect for rips and tears, if uneconomical to repair, dispose of.
3. Inspect for mildew, if present dispose of.

B. Tests

None

C. Refurbishing Procedures

1. Completely unfold tent on clean, dry floor or work area so that any defects (tears, burns, mildew, etc.) will be visible.
2. Sweep off entire tent with stiff-bristle broom.
3. Repair any rips, tears, or other defects at this time if possible. If repairs cannot be made easily and cost effectively, continue to clean tent and tag it for repair. Replace missing or damaged guy ropes (1/4 inch by 8 foot manila rope) and ridge lines (1/4 inch by 12 foot manila rope) and replace missing or damaged grommets with proper size grommets.
4. Let dry and fold tent with guy ropes in the center of folding.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash tent with warm water and a mild detergent. If necessary clean stubborn stains with hot water pressure washer
2. Using a stiff bristle brush for scrubbing.

F. Repackaging

Place 1 each tent in carton NFES #0645 and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: TIP, applicator, 3 GPM
TIP, applicator, 15 GPM

NFES #0735, #0736

A. Initial Inspection/Disposal Criteria

1. Inspect for burns, cracks, or bad threads, if so dispose of.
2. Inspect for gasket (correct or not correct). Replace if needed.
3. Look through tip; if clogged, clean out. Take out disk to clean out on spray tips.

B. Tests

1. Attach to hose.
2. Turn on water and ensure that adequate flow and pattern are attained.

C. Refurbishing Procedures

None

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash and clean all items of foreign matter (i.e., mud, dirt, and grease).
2. High-pressure wash or clean in dishwashing detergent with a brush or scouring pad as needed.
3. Do not soak for extended periods of time or the detergent will corrode the aluminum.
4. Rinse thoroughly.
5. Stand upright to drain water and dry.

F. Repackaging

1. Place 10 each NFES #0735 in carton (cache option) or 60 each in carton (cache option) and label accordingly.
2. Place 10 each NFES #0736 in carton (cache option) or 60 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: TIP, nozzle, straight stream and fog

**NFES #0635, #0636, #0637,
#0638, #0903, #0094, #0737**

A. Initial Inspection/Disposal Criteria

Inspect for obvious damage.

1. Inspect for burrs, repair.
2. Inspect gasket, replace if needed
3. Inspect for cracks, if cracked dispose of.
4. Inspect for bad threads, repair or dispose of.
5. Look through tip, if clogged, clean out. Take out disk to clean out on spray tips.

B. Tests

1. Attach to hose.
2. Turn on water and ensure adequate flow and pattern are attained.

C. Refurbishing Procedure

None

D. Retesting Criteria

None

E. Cleaning Procedures

1. All items will be washed and cleaned of mud, dirt, and grease. Clean in a mild detergent with brush, scouring pad or high-pressure wash. Do not soak for extended periods of time or the detergent will corrode the metal.
2. Rinse thoroughly
3. Stand upright to drain water and dry.

F. Repackaging

1. Local cache option.
2. Standard pack is 24 each per carton.

G. Storage and Shelf Life Checks

None

ITEM: TOOL, combination shovel and grub hoe

NFES #1180

A. Initial Inspection/Disposal Criteria

Inspect for structural damage to pick, hoe blade or both that cannot be repaired by replacing components, if so dispose of.

1. Pick replacement: (see figure 1)
 - a. If bent or twisted.
 - b. If shorter than 4 1/2 inches long in extended position.
 - c. If cracks exist around hinge leg bolt hole or if hinge leg bolt hole is enlarged.
2. Hoe blade replacement: (see figure 1)
 - a. If there are cracks or looseness in the area of the hinge leg rivets.
 - b. If hinge leg bolt hole is enlarged or cracked.
 - c. If shorter than 6 inches. Measure from turn step to blade tip.
3. Handle replacement:
 - a. Cracked, bent, twisted, or has open grain.
 - b. Has been shortened (except for detachable handle smokejumper version, which has a 4-inch shorter handle).
 - c. Has a nonstandard handle.

B. Tests

1. Extend hoe blade and pick at right angles to tool handle.
2. Tighten friction nut (wear gloves). Move blade and pick up and down and further tighten friction nut.
3. Repeat process to ensure that the blade and pick can be maintained tight by the friction nut.
4. If friction nut does not turn freely, flush with water. Blow clean with air gun. (Wear safety glasses). If the nut does not turn freely after flushing, remove the hinge leg bolt and friction nut, and clean the threads inside. Do not use oil on the friction nut threads or hinge bolt, since oil attracts dust and debris.
5. If tool head cannot be tightened, inspect hinge leg surface contact with friction nut. Remove hinge leg bolt; grind hinge legs as needed so they meet flush with friction nut.
6. Replace friction nut if defective.

C. Refurbishing Procedures

1. Head.
 - a. Clean head and friction nut. See Section B.
 - b. Sharpen both blade and pick at 45 degree angle per hand tool. Refer to tool sharpening gauge NFES #0510.
2. Handle.
 - a. Clean handle.
 - b. Tighten handle in ferrule by peening rivet head.
 - c. Scrape and sand handle if chipped, dinged, rough, or has tape or other residues.
3. Handle replacement
 - a. Grind off end of rivet. Punch it through the handle. Remove the handle from the ferrule.
 - b. Place the new handle in the ferrule and drill hole through handle.
 - c. Replace the rivet with a # 6 x 1-13/16 inch long rivet. Tap rivet with a hammer to mushroom the rivet head or until the handle is tightened.
 - d. Replacement handles are available from GSA, order NSN 5120-01-296-3592.

D. Retesting Criteria

None

ITEM: TOOL, combination shovel and grub hoe (Cont'd)

NFES #1180

E. Cleaning Procedures

See Section B.

F. Repackaging

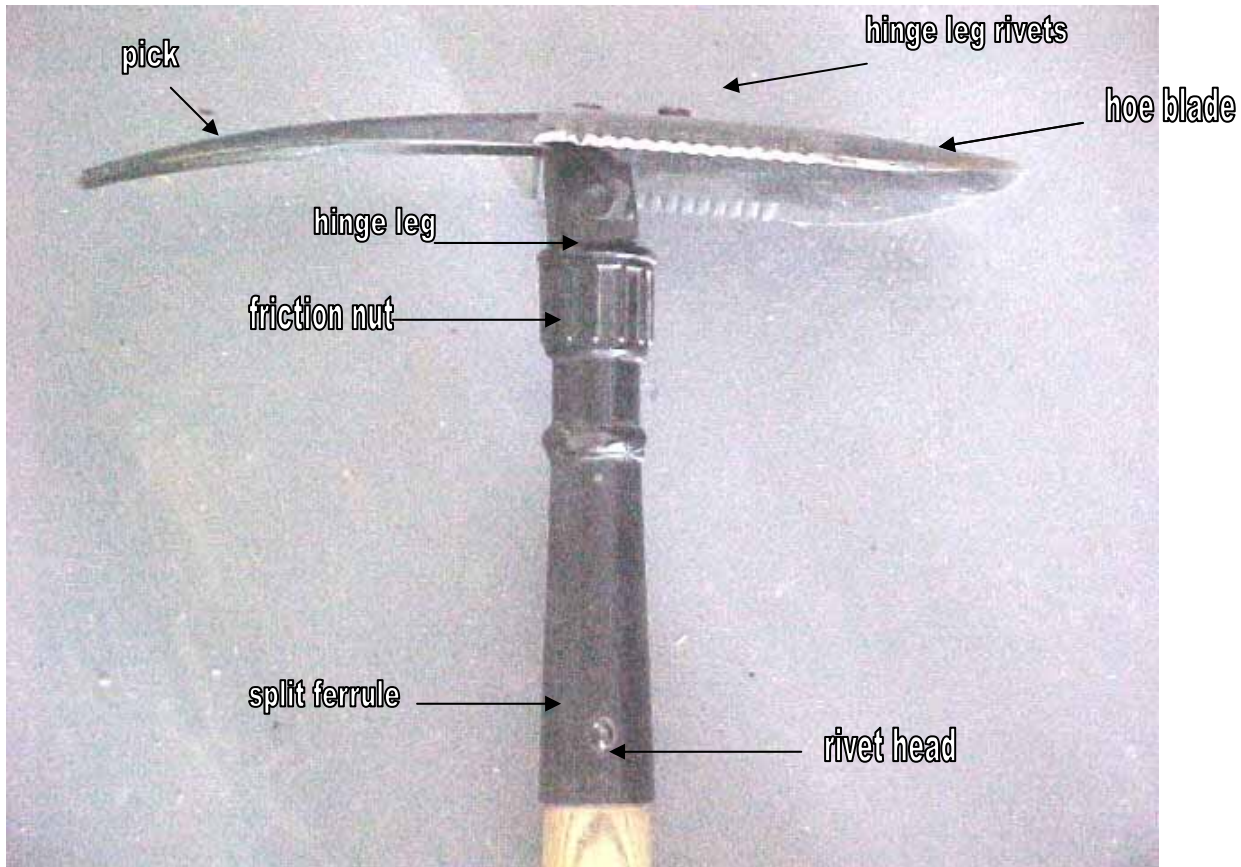
Package 10 each in carton NFES #0384, 46 inch by 11 inch by 8 inch (NSN 8115-01-307-2951).

G. Storage and Shelf Life Checks.

Per local cache requirements to ensure proper serviceability of tools.

H. Reference <http://www.fs.fed.us/t-d/programs/fire/>, user name (t-d), password (t-d). Click on (t & d pubs.), then click on (fire) look for mt dc publication 8951-2809 combi tool.

Figure 1- combi tool



ITEM: TORCH, drip, 1 ¼ GL (4.7L) capacity

NFES #0241

A. Initial Inspection/Disposal Criteria

1. Visually inspect tank for cracks, splits, and obvious damage that may cause tank to leak. Dispose of.
2. Lock ring will not seal due to thread damage, if so dispose of.
3. Air breather tube is not broken off or missing, if so replace.
4. Salvage usable component parts.

B. Tests

1. Fill drip torch with water inspect for leaks.
2. Place spout and ring on drip torch and remove discharge plug.
3. Turn drip torch with spout down, open vent, water should flow, close vent water should stop.

CAUTION: Remove any residual fuel before testing and dispose of according to local hazardous materials regulations.

C. Refurbishing Procedures

1. Steam clean or wash with mild degreaser soap, rinse with water, inspect for and remove any scab deposits inside tank.
2. Replace igniter if screen is ruptured, crushed, or tiller is burned out or carbonized. Some carbonization can be cleaned with wire brush.
3. Tighten screw that holds igniter and screen in place.
4. Ensure that discharge plug and chain are attached to tank cover assembly.
5. Install discharge plug into tank cover assembly.
6. Thoroughly dry all components with clean rag and air hose.
7. There are several different manufacturers of drip torches. Do not mix the components as the drip torch will not function correctly or will leak.
8. Insert spout into tank and tighten lock ring.
9. Replace worn flammable liquid labels if damage.

D. Retesting Criteria

None

E. Cleaning Procedures

See section C.

F. Repackaging

Package 1 each in 8 inch by 8 inch 16 inch carton. (NSN 8115-00-079-8693).

ITEM: TORCH, drip, 1 ¼ GL (4.7L) capacity (Cont'd)

NFES #0241

G. Storage and Shelf Life Checks

None

H. The drip torch on the right in these pictures is a UN approved shipping container. The drip torch on the left is a Non-UN approved shipping container.



ITEM: TORCH, drip, 1 ¼ GL (4.7L) capacity (Cont'd)

NFES #0241



ITEM: TORCH, drip, 1 ¼ GL (4.7L) capacity

(Cont'd)

NFES #0241



ITEM: VALVE, automatic check and bleeder 1 ½ “ NH-F

NFES #0228

A. Initial Inspection/Disposal Criteria

Visually inspect.

1. Inspect for missing parts (valves, plugs, and gaskets), (Replace if missing)
2. Inspect handle.(Replace if missing or damaged)
3. Inspect threads.(Repair or dispose)
4. Inspect for fire damage (May cause future failure) (Dispose)

B. Tests

Pressure testing.

1. Install valve on test pump.
2. Fill with water; close handle.
3. Attach caps or nozzle for testing.
4. Test for leaks at 300 psi for 3 minutes.
 - a. Inspect for leaks around female coupling.
 - b. Inspect for leaks around male flange.
 - c. Inspect for leaks under top of handle shaft.
 - d. Inspect for leaks on bottom end of handle shaft.
 - e. Inspect for leaks in casing.
 - f. Repair if valve is found defective.
 - g. Ensure that the check valve (flapper) is operational.

C. Refurbishing Procedures

Replace missing or damaged parts (O-ring, gasket, flapper and handle).

D. Retesting Criteria

Retest after repair.

E. Cleaning Procedures

1. Wash and clean all items of foreign matter, such as mud, dirt, and grease.
2. Rinse thoroughly.
3. Stand upright to drain and dry.
4. Lubricate with appropriate dry lubricant such as graphite.
 - a. Female coupling.
 - b. Wipe off excess.

F. Repackaging

Local cache option.

G. Storage and Shelf Life Check

None

ITEM: VALVE, foot, 1-1/2" NH-F w/strainer
VALVE, foot, 2" NPSH w/strainer

NFES #0212
NFES #0906

A. Initial Inspection/Disposal Criteria

1. Inspect for missing parts (screws, screen, and adaptor when required), replace.
2. Inspect for damaged threads and gaskets, repair or replace.
3. Inspect spring on check valve for smooth operation.

B. Tests

Ensure that valve assembly functions.

C. Refurbishing Procedures

Repair or replace missing parts.

D. Retesting Criteria

None

E. Cleaning Procedures

1. All items will be washed and cleaned.
2. Rinse thoroughly.
3. Stand upright to drain and dry.

F. Repackaging

Repack 10 per container

G. Storage and Shelf Life Checks

None

ITEM: VALVE, pressure relief, 1-1/2" NH-F

NFES #0229

A. Initial Inspection/Disposal Criteria

Visually inspect.

1. Inspect for missing parts.
2. Inspect handle.
3. Inspect threads.

B. Tests

Pressure testing.

1. Install valve on test pump.
2. Close handle.
3. Attach cap or nozzle for testing.
4. Test for leaks at 300 psi.
 - a. Inspect for leaks around female coupling.
 - b. Inspect for leaks under top of handle shaft.
 - c. Inspect for leaks on bottom end of handle shaft.
 - d. Inspect for leaks in casing.

C. Refurbishing Procedures

Replace missing or damaged handle.

D. Retesting Criteria

Retest after repair. See section B.

E. Cleaning Procedures

1. All items will be washed and cleaned of foreign matter, such as mud, dirt, and grease.
2. Rinse thoroughly.
3. Stand upright to drain and dry.

F. Repackaging

Package 10 each in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: VALVE, shut off, ball,

NFES #1201, #1207, #0738

A. Initial Inspection/Disposal Criteria

1. Inspect for obvious damage:
2. Inspect for burrs and thread damage, if so dispose of.
3. Inspect gasket if damaged or missing replace.
4. Collar must turn freely. (if applicable) (Dispose of or repair)
5. Inspect for fire damage, if so dispose of.

B. Tests

1. Gasket:
 - a. Replace if missing.
 - b. Must be in good condition, not cracked or stiff, replace.
 - c. Must be seated properly.
2. Install valve on test pump.
3. Close valve and turn on water to valve.
4. Open valve to expel air then close valve.
5. Turn on pump
 - a. NFES #1201 and NFES #1207 test at 300 psi for 3 minutes.
 - b. NFES #0738 test at 100 psi for 3 minutes.
6. Inspect for leaks.
 - a. Around the gasket.
 - b. At the handles.
 - c. If valve leaks, dispose through local procedures.

C. Refurbishing Procedures

Replace cracked or missing gasket.

D. Retesting Criteria

None

E. Cleaning Procedures

1. Wash and clean all items of foreign matter, such as mud, dirt, and grease.
2. Use parts washer, high pressure wash, or clean in a mild detergent with brush or scouring pad as needed.
3. Do not soak for extended periods of time or the detergent will corrode the metal.
4. Rinse thoroughly.
5. Stand upright with barrel in open position to drain water and dry.

F. Repackaging

Pack 10 each in 8 inch by 8 inch by 16 inch carton (NSN 8115-00-079-8693) and label accordingly.

G. Storage and Shelf Life Checks

None

ITEM: VALVE, wye, gated

NFES #0259, #0231, #0272

A. Initial Inspection/Disposal Criteria

Inspect for obvious damage:

1. Handles.
 - a. Bent, if it has a slight bend, replace the handle.
 - b. Broken.(Replace)
 - c. Missing.(Replace)
 - d. Too tight.(Repair or Replace)
 - e. Too loose.(Repair or Replace)
 - f. Expansion pins coming out or missing.(Replace)
 - g. Handles positioned properly.(Repair)
 - h. Correct handle, left and right.(Repair)
 - i. Burrs.(Repair)
2. Male flange, lockring, and setscrews(Repair or Replace)
 - a. Damaged threads.(Repair or Replace)
 - b. Missing.(Replace)
 - c. Smooth, flat surface on flange.(Repair or Replace)
 - d. Burrs.(Repair)
 - e. Loose.(Tighten)
3. Female coupling:
 - a. Coupling spins freely; if not check for wear, replace bearings.
 - b. Gasket is present.(Replace If stiff cracked, worn or missing)
 - c. No rough burrs.(Repair or Replace)
4. Casting (body):
 - a. Fire damage, look for further damage, “0” rings. (Dispose)
 - b. Corrosion.(Dispose)
 - c. Cracks.(Dispose)
 - d. Burrs.(Repair)
5. Plastic sphere
Inspect sphere while turning handle; if pitted or rough, replace.

B. Tests

Pressure Testing: (NFES #0259 & NFES #0231 and NFES# 618 test at 300 psi for 3 minutes)
(NFES #0272 test 100 psi for 3 minutes)

1. Install valve on test pump.
2. Close handles.
3. Turn on water to valve.
4. Open handle to expel air.
5. Turn on pump and check valve for leaks.
 - a. If valve is found to be defective, repair as needed.
 - b. Retest after repair.

C. Refurbishing Procedures

Replace worn, cracked, or missing “0” rings or gasket.

ITEM: VALVE, wye, gated

(Cont'd)

NFES #0259, #0231, #0272

D. Retesting Criteria

Retest if "O" rings or gaskets are replaced according to section B.

E. Cleaning Procedures

1. Wash and clean all items of foreign matter, such as mud, dirt, and grease. High pressure wash or clean in a mild detergent with brush or scouring pad as needed. Do not soak for extended periods of time or the detergent will corrode the metal.
2. Rinse thoroughly.
3. Stand upright with handles in half open position to drain water and dry.
4. Lubricate with appropriate type of lubricant.

F. Repackaging

NFES #0259, #0231 package 10 per container, NFES #0272 100 per container.

G. Storage and Shelf Life Checks

None

ITEM: WYE, plain

NFES #0739, NFES #0839, NFES #0883

A. Initial Inspection/Disposal Criteria

1. Inspect for obvious damage, cracks, bad threads, etc. if detected dispose of the wye.
2. Inspect condition of the gaskets for stiffness, damage, or missing, replace.

B. Tests

1. Clean threads.
2. Cap male ends.
3. Attach to test pump. Test at 300 psi. Test NFES 0739 at 100 psi.
4. Inspect for leaks.
5. Discard if leaking.

C. Refurbishing Procedures

Replace gaskets if missing, cracked, or stiff.

D. Retesting Criteria

Retest if gasket was replaced.

E. Cleaning Procedures

1. Wash to remove all mud, dirt, and grease. High pressure wash or clean in a mild dishwashing detergent with a brush or scouring pad as needed.
2. Do not soak. Detergent may corrode metal.

F. Repackaging

1. Package 10 each NFES #0839 in carton (cache option) and label accordingly.
2. Package 10 each NFES #0883 in carton (cache option) and label accordingly
3. Package 20 each NFES #0739 in carton (cache option) and label accordingly.

G. Storage and Shelf Life Checks

None

H. Reference

For GSA specifications on NFES supplies and equipment go to www.gsa.gov/fireprogram and select "Library" then select 5100-120c. For San Dimas Technology and Development Center (STDC) publications and specifications visit <http://www.fs.fed.us/t-d/programs/fire/>

NOTE: For the above site username is t-d and password is t-d. NFES 1275 Water Handling Equipment Guide can be found under publications #0351 1206.