This manual is intended for use with the ANSUL® Models 10, 20, and 30 hand portable dry chemical extinguishers.

Those who operate, inspect, maintain, or recharge fire extinguishers should read this entire manual. Specific sections will be of particular interest depending upon one's responsibilities.

Fire extinguishers are mechanical devices. They require periodic care. If the extinguishers are not installed properly, are abused in service or are not properly maintained, they may not perform reliably.

Inspection, to provide reasonable assurance your fire extinguisher is fully charged and operable, will vary from hourly to monthly, based on the needs of the situation. Inspections should always be conducted at regular intervals. Maintenance, to help provide maximum assurance the fire extinguisher will operate effectively and safely, must be conducted annually, or earlier when indicated by an inspection.

These extinguishers are pressure vessels that must be treated with respect and handled with care.

Only genuine ANSUL replacement components shall be installed on ANSUL products. Only Authorized ANSUL Distributors shall be allowed to service and maintain ANSUL products.

This manual is limited to uses herein described. For other applications, contact your local Authorized ANSUL Distributor or Johnson Controls – Technical Services Department, Marinette, Wisconsin 54143-2542, USA.

Note: The converted metric values in this manual are provided for dimensional reference only and do not reflect an actual measurement.

Form Number: F-7674
Date: 2018-OCT-15

ANSUL, RED LINE, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.
EXPLANATION OF SAFETY ALERTS

⚠️ DANGER
Indicates a hazardous situation in which a person **will experience serious personal injury or death** if the situation is not avoided.

⚠️ WARNING
Indicates a hazardous situation in which a person **could experience serious personal injury or death** if the situation is not avoided.

⚠️ CAUTION
Indicates a hazardous situation in which a person **could experience minor or moderate personal injury** if the situation is not avoided.

CAUTION
Addresses practices not related to personal injury, such as a system part malfunctioning, property damage, or system failure.

NOTICE
Addresses general practices or observations related to system function that are **not related to personal injury**.
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### NOTES:
INTRODUCTION

The Occupational Safety and Health Administration (OSHA) – Rules and Regulations state that “the National Fire Protection Association (NFPA) provides excellent guidelines in its standard for portable fire extinguishers. The latest edition of NFPA 10, Standard for Portable Fire Extinguishers is available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

The Compressed Gas Association, Inc. Standard CGA C-6 “Standard For Visual Inspection of Steel Compressed Gas Cylinders” provides information on determining unacceptable dents and corrosion. It is available from the Compressed Gas Association, Inc., 1235 Jefferson Davis Highway, Arlington, VA 22202.

RESPONSIBILITY

The owner or occupant of a property in which fire extinguishers are located has an obligation for the care and use of these extinguishers at all times. By doing so, he/she is contributing to the protection of life and property. The nameplates and instruction manual should be read and thoroughly understood by all persons who may be expected to use extinguishers.

INSPECTION

Inspection is a “quick check” that an extinguisher is available and will operate. It is intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by seeing that the extinguisher is in its designated place, that it has not been actuated or tampered with, and that there is no obvious physical damage or condition to prevent operation. The value of an inspection lies in the frequency, regularity, and thoroughness with which it is conducted. Extinguishers shall be inspected at regular monthly intervals, or at more frequent intervals when circumstances require.

MAINTENANCE

Extinguishers shall be maintained at regular intervals, not more than one year apart, or when specifically indicated by an inspection. Maintenance is a “thorough check” of the extinguisher. It is intended to give maximum assurance that an extinguisher will operate effectively and safely. It includes a thorough examination and any necessary repair, recharging, or replacement. It will normally reveal if there is a need for hydrostatic testing of an extinguisher.

RECHARGE

All extinguishers shall be recharged immediately after use. They shall also be recharged when dictated by an inspection or when performing maintenance. Recharge is the replacement or replenishment of the suppressing agent. It also includes the replenishment of the expellant for certain types of extinguishers. When performing the recharge, use only those materials specified on the nameplate. The use of other recharging materials may impair the efficiency, cause malfunction, or damage the extinguisher resulting in possible injury to the operator.

HYDROTEST

Extinguishers shall be hydrostatically tested at regular intervals as required in the latest edition of NFPA 10, Standard for Portable Fire Extinguishers, or more frequently when inspection or maintenance indicates a specific need. Such tests are usually required on extinguisher shells, some cartridges, and certain hose assemblies.

IF, AT ANY TIME, AN EXTINGUISHER SHOWS EVIDENCE OF CORROSION OR MECHANICAL DAMAGE, THE EXTINGUISHER SHALL BE SUBJECTED TO A HYDROSTATIC PRESSURE TEST, OR REPLACED.

WARNING

AIR OR GAS SHOULD NOT BE USED FOR PRESSURE TESTING AS FAILURE OF THE SHELL COULD BE VIOLENT AND DANGEROUS.

THE EXTINGUISHER SHALL BE EMPTIED AND HYDROSTatically TESTED AT TWELVE-YEAR INTERVALS. THE TEST MAY BE CONDUCTED WITHIN TWELVE MONTHS OF THE SPECIFIED INTERVAL.

WELDING/BRAZING

Field repair of ANSUL cartridge-operated hand portable extinguishers is allowed only if the repairs are made in accordance with good silver brazing practices and the following restrictions:

– Repairs shall be made by means of silver brazing only.
– Silver brazing is restricted to the carrying handle lug, nozzle holster nuts, hanger attachment, and the visual seal attachment.
– Repairs MAY NOT BE MADE TO THE SHELL ITSELF. Thus, if the mild steel shell is damaged as by tearing of the parent metal from the shell, the extinguisher must be discarded.
– After completion of repairs, the extinguisher shall be hydrostatically tested in accordance with the ANSUL Hydrostatic Test Instruction Manual (Form No. F-7602, latest revision).

RECORD KEEPING

Each extinguisher shall have a tag or label securely attached that indicates the month and year the maintenance was performed and shall identify the person performing the service. The record or tag shall indicate if recharging was also performed. At least monthly, the date the inspection was performed and initials of the person performing the inspection shall be recorded.
RECORD KEEPING (Continued)

A separate label shall also be affixed to the extinguisher following a successful hydrostatic test. This label shall include the month and year the test was performed, the test pressure used, and the name or initials of the person performing the test. This label shall be self-destructive when removal from the extinguisher is attempted.

In addition to the required tags or labels, a permanent file record should be kept for each extinguisher. This file record should include the maintenance date and the name of the person performing the maintenance, the date when last recharged and the name of the person or agency performing the hydrostatic test, and a description of the extinguisher’s physical condition after passing a hydrostatic test.

Parts of above were taken from the latest edition of NFPA 10, Standard for Portable Fire Extinguisher.

PARTS LISTS

To order parts lists, contact Johnson Controls Customer Services, Marinette, WI 54143-2542.

REFERENCES

REFERENCES IN THIS MANUAL: AVAILABLE FROM:

NFPA-10 “STANDARD FOR PORTABLE FIRE EXTINGUISHERS” NFPA
1 Batterymarch Park
Quincy, MA 02169-7471

CGA C-1 “METHODS FOR HYDROSTATIC TESTING OF COMPRESSED GAS CYLINDERS” Compressed Gas Association
14501 George Carter Way, Suite 103
Chantilly, VA 20151-1788

CGA C-6 “STANDARD FOR VISUAL INSPECTION OF STEEL COMPRESSED GAS CYLINDERS”
OPERATION

To Operate The Extinguisher:
1. Remove the extinguisher from its station.
2. Use the handle to carry the extinguisher to the fire. Walk at a rapid pace. DO NOT RUN.
3. Proceed to the upwind side of the fire. Stay well clear of the flames. From this position, the air currents help carry the agent into the fire, assures maximum visibility and provides protection from the heat.
4. Start back from fire at a distance recommended on extinguisher nameplate. Remove the nozzle from its holder and pull the hose free from behind the puncture lever. Then take a firm grip on the nozzle and “push” the puncture lever down firmly. The puncture lever must be depressed to become almost flush with the top of the cartridge guard to assure full penetration of the cartridge disc by the puncture pin. If the extinguisher employs a ring pin, pull the ring pin before any attempt to operate the puncture lever.

**NOTICE**

For additional information on the proper use and suppression applications of ANSUL cartridge operated extinguishers, we offer hands-on fire fighting training at the ANSUL fire school. Visit www.ansul.com.
INSPECTION

Where an inspection reveals that tampering has occurred or that the extinguisher is damaged, impaired, leaking or has obvious corrosion, complete maintenance as described on pages 9 through 16 should be followed.

To provide reasonable assurance extinguisher is charged and operable:

1. Make certain the extinguisher is in its designated place, is clearly visible and is accessible for immediate use. Any obstructions that obscure it, or that would otherwise impair its being readily accessible, should be removed.

2. Check the visual seal on the cartridge receiver and, if provided, the tamper-proof seal on the fill cap. The absence of a seal or a broken seal may indicate either unreported use or tampering. In either case, a complete maintenance check is required.

3. Ansul indicator fill cap models, in addition to a visual seal, feature a red stem indicator which pops up in the center of the fill cap and remains up after the pressure has been relieved. Check the red indicator stem. If up, a complete maintenance check is in order.

4. Remove the extinguisher from its mounting bracket and heft (lift up and down slightly) to determine if it is filled.

5. Examine the extinguisher shell, cartridge guard, cartridge receiver and all other external parts for evidence of physical damage, corrosion or other impairments.

6. Check the nameplate for readability – especially the operating instructions. If they are not legible, an instructed (but not necessarily trained) person may not understand the method of operation in the excitement created by a fire.
INSPECTION (Continued)

7. Examine the hose for cuts, severe weather checking, abrasion or deformed exterior. Depending upon the severity of the disorder, the hose could rupture upon pressurization of the extinguisher.

8. Check the hose couplings for tightness, corrosion or cracks. A loose connection of coupling to shell outlet or nozzle could contribute to a significant change in discharge characteristics upon use. A corroded or cracked coupling could separate under pressure.

9. Check the nozzle tip and handle for obvious damage or obstructions. Insects are common causes of obstructions particularly in the warmer climates.

10. Secure the nozzle back into its holder and ensure visual seal, and, if provided, the tamper-proof seal, are intact.

11. If the extinguisher is wall hung, verify that the support is able to hold the extinguisher safely. If a vehicle bracket or a heavy duty vehicle bracket is used, refer to pages 17-20. Return extinguisher to its designated location.

12. Personnel making inspections are usually required to keep records by way of marking a tag attached or affixed to the extinguisher and/or in a permanent file. Your precise guide to record keeping requirements should be the applicable company, local, state or federal authority having jurisdiction.
**SERVICE AND REPAIR**

The best assurance against fire extinguisher malfunction is proper operation, recharge, inspection and maintenance. To remedy any disorder detected through periodic inspection or maintenance examinations, the following table lists some of the possible irregularities that may develop and gives suggestions for corrective action.

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DISORDER</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suppressing Agent Shell</td>
<td>Dents* or abrasions</td>
<td>Hydrostatically test (see Hydrostatic Test Instructions, Form No. F-7602, latest revision) and refinish (clean damaged area and repaint) or replace extinguisher.</td>
</tr>
<tr>
<td>Rust spots, pits and corrosion deposits</td>
<td>Clean corroded areas, and repaint, replacing tank if there is any corrosion penetration.</td>
<td></td>
</tr>
<tr>
<td>Threads nicked, cross-threaded, corroded or worn</td>
<td>Clean threads with a stiff bristle brush. Small nicks or burrs may be eliminated by careful re-tapping. If damaged or worn extensively, the extinguisher should be replaced.</td>
<td></td>
</tr>
<tr>
<td>Fill opening gasket seating surface nicked, gouged, corroded or bearing dirt deposits</td>
<td>Clean seating surface and lubricate the surface lightly with a good grade of high heat resistant grease. If surface is sharply nicked or deeply gouged, replace extinguisher.</td>
<td></td>
</tr>
<tr>
<td>Obstructed pressure vent hole in fill opening threads</td>
<td>Clear vent hole with a stiff, unbreakable wire probe of lesser diameter than vent hole.</td>
<td></td>
</tr>
<tr>
<td>Seam welds evidencing discoloration or pin holes</td>
<td>Consult Johnson Controls, Marinette, Wisconsin 54143-2542.</td>
<td></td>
</tr>
<tr>
<td>Fill Cap</td>
<td>Abraded, cracked, corroded or otherwise damaged fill cap</td>
<td>Replace, destroying affected cap to prevent reuse.</td>
</tr>
<tr>
<td>Threads corroded, nicked, cross-threaded or worn</td>
<td>Replace, destroying affected cap to prevent reuse.</td>
<td></td>
</tr>
<tr>
<td>Cut, checked, deformed, stiff, brittle or worn gasket or quad ring</td>
<td>Replace, lubricate new gasket lightly.</td>
<td></td>
</tr>
<tr>
<td>Plastic indicator housing cap cracked or missing</td>
<td>Replace plastic cap.</td>
<td></td>
</tr>
<tr>
<td>Indicator stem immovable or stiff operating</td>
<td>Disassemble and clean, replacing parts as required.</td>
<td></td>
</tr>
<tr>
<td>Suppressing Agent</td>
<td>Improper fill level</td>
<td>Fill shell to rated capacity with ANSUL suppressing agent specified on nameplate.</td>
</tr>
<tr>
<td>*Caked dry chemical</td>
<td>Discard agent and refill clean tank to rated capacity with ANSUL suppressing agent specified on nameplate.</td>
<td></td>
</tr>
<tr>
<td>Gas Tube</td>
<td>Bent, cracked, broken or obstructed</td>
<td>Replace, using factory built and pressure tested assembly only. See page 23.</td>
</tr>
<tr>
<td>Cut, loose, leaking, damaged, or missing check valve</td>
<td>Replace, using factory built and pressure tested assembly only. See page 23.</td>
<td></td>
</tr>
<tr>
<td>Nameplate</td>
<td>Unreadable wording</td>
<td>Use a mild abrasive (scouring powder) to clean plate. If readability cannot be improved, replace operating nameplate.</td>
</tr>
<tr>
<td>Loose</td>
<td>Inspect area under plate.*** If corroded, see “Suppressing Agent Shell – Rust spots, pits and corrosion deposits” and re-affix nameplate using a good grade of heatless adhesive.</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>Replace with correct nameplate.***</td>
<td></td>
</tr>
<tr>
<td>Expellant Gas Cartridge</td>
<td>Rust spots, pits and corrosion deposits</td>
<td>Clean corroded areas and repaint or replace cartridge if there is any corrosion penetration.</td>
</tr>
<tr>
<td>Dents or abrasions</td>
<td>De-pressurize, remove seal and destroy both internal and external threads on the cartridge to render the vessel unusable.</td>
<td></td>
</tr>
<tr>
<td>Threads on cartridge nicked, cross-threaded, corroded or worn</td>
<td>The cartridge should be replaced and properly scrapped.</td>
<td></td>
</tr>
<tr>
<td>Dry Chemical on Cartridge Seal</td>
<td>Replace Gas Tube.</td>
<td></td>
</tr>
</tbody>
</table>

* Refer to Compressed Gas Association (CGA) Pamphlet C-6.

** The term caked, as applied to dry chemical describes a specific condition that is best identified as dry chemical containing hard lumps. These lumps will render a dry chemical extinguisher inoperative. The condition usually follows the absorption and later the evaporation of an unusual amount of moisture. It is often confused with “packing” (a condition produced by normal settling, by vibration or impact.) A simple procedure to determine which condition exists is the UL test in which lumps are dropped from 4 in. (102 mm) onto a clean hard surface. If the lumps do not break up into individual particles, caking is present. For additional details, refer to ANSUL Technical Bulletin Caking Versus Packing of Dry Chemical Agents (Form No. F-8083, latest revision).

*** Replacement maintenance nameplates will not have U.L. manifest.
## SERVICE AND REPAIR (Continued)

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>DISORDER</th>
<th>CORRECTIVE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Guard</td>
<td>Rust spots, pits or corrosion deposits</td>
<td>Replace guard or clean corroded areas and repaint.</td>
</tr>
<tr>
<td></td>
<td>Dents or abrasions</td>
<td>Repair and refinish; or replace guard.</td>
</tr>
<tr>
<td></td>
<td>Paint peeling</td>
<td>Remove loose paint with a wire brush and repaint or replace guard.</td>
</tr>
<tr>
<td></td>
<td>Broken clip attachment</td>
<td>Drill to Refer to Parts List. o 3/16 in. holes in location of existing composite weld pins. Pop rivet clip into guard using 3/16 in. stainless steel pop rivets.</td>
</tr>
<tr>
<td>Cartridge Receiver</td>
<td>Bent, binding, corroded or dull puncture pin</td>
<td>Replace puncture pin. See page 27.</td>
</tr>
<tr>
<td></td>
<td>Obstructed pressure vent hole</td>
<td>Clear vent hole with a stiff, unbreakable wire probe of lesser diameter than vent hole.</td>
</tr>
<tr>
<td></td>
<td>Threads corroded, nicked, cross-threaded or</td>
<td>Replace cartridge receiver destroying affected receiver to prevent reuse. See page 23.</td>
</tr>
<tr>
<td></td>
<td>worn</td>
<td></td>
</tr>
<tr>
<td>Hose</td>
<td>Cut, cracked, abraded or deformed exterior</td>
<td>Replace entire hose assembly.</td>
</tr>
<tr>
<td></td>
<td>Corroded or cracked coupling, swivel joint or</td>
<td>Replace entire hose assembly.</td>
</tr>
<tr>
<td></td>
<td>ferrule</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corroded, cross-threaded or worn coupling</td>
<td>Replace entire hose assembly.</td>
</tr>
<tr>
<td></td>
<td>threads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Internal blockage</td>
<td>Clear by flexing or blowing dry air or nitrogen through the hose at 50 psi (3.45 bar).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coupling O-ring, brittle, compression set,</td>
<td>Replace, lubricating new o-ring lightly.</td>
</tr>
<tr>
<td></td>
<td>cracked, cut or missing</td>
<td></td>
</tr>
<tr>
<td>Nozzle</td>
<td>Wrong nozzle</td>
<td>Replace with proper model nozzle recommended by Johnson Controls. Refer to Parts List.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nozzle body corroded, cracked or dented</td>
<td>Replace nozzle.</td>
</tr>
<tr>
<td></td>
<td>Operating handle broken or deformed</td>
<td>Replace handle.</td>
</tr>
<tr>
<td></td>
<td>Operating handle binding or immovable</td>
<td>See “Leaking Nozzle” below.</td>
</tr>
<tr>
<td></td>
<td>Leaking nozzle, plugged tip and/or discharge</td>
<td>Disassemble and clean deposits from internal passages and parts with a small, stiff bristle brush; examine internal parts and replace if cut, checked, deformed, stiff, brittle or worn. Reassemble nozzle and pressure test at 250 psi (17.24 bar).</td>
</tr>
<tr>
<td></td>
<td>passage</td>
<td>Replace nozzle.</td>
</tr>
<tr>
<td></td>
<td>Threads nicked, worn or cross-threaded</td>
<td>Replace.</td>
</tr>
<tr>
<td></td>
<td>Gaskets brittle, compression set, cracked,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cut or missing</td>
<td>Replace, lubricating gasket lightly.</td>
</tr>
<tr>
<td></td>
<td>Plunger tip evidencing cuts, abrasions,</td>
<td>Replace.</td>
</tr>
<tr>
<td></td>
<td>degrading rubber, brittleness, or separation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>from plunger</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>NOTICE</strong></td>
</tr>
<tr>
<td></td>
<td>All old, molded rubber plunger type tips</td>
<td>All old, molded rubber plunger type tips (without screw) should be replaced during maintenance with the captured style tip. See page 25.</td>
</tr>
<tr>
<td></td>
<td>(without screw)</td>
<td></td>
</tr>
</tbody>
</table>
MAINTENANCE

If a questionable condition exists, refer to Service and Repair. Become familiar with the Service and Repair section prior to performing maintenance.

To provide maximum assurance extinguisher will operate effectively and safely, maintenance must be conducted annually or when specifically indicated by an inspection.

NOTICE

Always be alert for any indications of damage or in-operability in the unit. No manual can anticipate everything that could happen to a unit. In the event that something not covered in the manual is found, ascertain whether any potential for damage exists and repair or replace, as necessary.

1. Make certain the extinguisher is in its designated place, conspicuous, readily accessible and immediately available in the event of fire.

2. Remove the extinguisher from its wall hanger or bracket. Check the securement of the hanger or bracket. See page 19 for maintenance of the extinguisher bracket. A loose hanger or bracket could lead to loss of the extinguisher with resultant harm to the extinguisher and/or people in the vicinity.

NOTICE

Extinguishers out of service for maintenance or recharge shall be replaced by spare extinguishers of the same type and at least equal rating.

3. Check the date of manufacture stamped on the shell or the date of last hydrostatic test on the label affixed to the extinguisher to make certain it does not exceed the test interval (twelve years) specified in the latest edition of NFPA 10, Standard for Portable Fire Extinguishers.

4. Invert the extinguisher and open the nozzle to ensure that any pressure is relieved from the shell.

5. Return extinguisher to the upright position, place the hose in its normal position and insert the nozzle in the holder.

6. Examine the dry chemical shell and all other external components for evidence of corrosion, mechanical damage, or the presence of welding, soldering or brazing repairs other than as allowed by Johnson Controls. (See Introduction, page 1, of this manual for welding/brazing restrictions.) Depending on the degree of corrosion, extent of mechanical damage, or type of repair, the extinguisher may constitute a potential hazard to persons in its vicinity, to operators, or service personnel; and may require replacement or hydrostatic test.
MAINTENANCE (Continued)

7. Check the nameplates for legibility, looseness or corrosion. If the wording is illegible, the nameplate must be cleaned or replaced. A loose nameplate must be removed for examination of the area under the plate. If corroded, take appropriate corrective action as the surface condition would indicate, meaning clean and repaint, hydrostatic test and then re-affix the nameplate using a good grade of heatless adhesive or replace extinguisher if necessary.

8. Remove cartridge guard and check integral inside components for mechanical damage or evidence of corrosion.

   **“E” Models (Metal cartridge guard)** – Pull the guard straight out from the side of the extinguisher.

   **“G” Models (Composite cartridge guard)** – To remove the composite cartridge guard, remove the nozzle from the nozzle retainer, lift the hose out from behind the puncture lever, (it will be necessary to break the visual seal), pull on the upper portion of the guard until it releases from the cartridge, and then pull up until the bottom fork of the guard clears the discharge elbow.

9. Unscrew the cartridge (turn in direction of arrow on cartridge) to examine seal. Ensure that it has not been punctured and it is the proper ANSUL cartridge and has the proper ANSUL seal. A spent or used cartridge is readily identifiable from a full cartridge by the large hole in the seal, made by the puncture pin upon operation of the extinguisher.

10. Weigh the cartridge. If weight is 1/4 oz (7.1 g) for Model 10 or 1/2 oz (14.2 g) for Models 20/30 less than stamped on the cartridge, replace with full cartridge. Cartridges which weigh more than 1/4 oz (7.1 g) over stamped weight should also be replaced.

   **CAUTION**

   Do not return cartridge to receiver at this time. Failure to comply could result in personal injury or property damage due to violent cartridge movement or premature extinguisher pressurization.

11. Install safety shipping cap (Part No. 77250 for left-hand and 77251 for right-hand threaded cartridges) onto cartridge at this time.

   **CAUTION**

   Cartridge safety shipping caps must always be installed whenever cartridge is removed from receiver (except while weighing). If shipping cap is not installed, and seal ruptures due to damage or high temperature, the cartridge could become a projectile causing possible personal injury or property damage.

12. Remove nozzle from its holder and lift hose out from behind and under the puncture lever, breaking the visual seal, and, if provided, the tamper-proof seal, at this time. Note: On extinguishers with the composite guard, the seals will already have been removed and the hose will be out from behind the puncture lever.
MAINTENANCE (Continued)

13. Operate the puncture lever to make sure the lever works freely. Inspect the cutting edge for sharpness. A bent or dull puncture pin could hang up and not puncture the cartridge seal disc cleanly. (See Service and Repair Section for pin replacement.)

14. Check the pressure relief vent in the cartridge receiver for obstruction. This relief vent may be a small hole in the receiver collar, or a set of grooves in the threads. The pressure relief vent provides an audible signal and a safe vent if a cartridge is unscrewed while there is still pressure inside. A stiff wire or a bristle brush may be used for cleaning.

15. Remove and examine gasket in the cartridge receiver. Replace if brittle, compression set, cracked, cut or missing. Lightly lubricate with a good grade of silicone grease or equivalent and reinstall.

16. Make sure the extinguisher shell does not contain any pressure by slowly loosening the fill cap approximately 3-4 turns. If the extinguisher contains any pressure, it will be relieved through the relief grooves in the cap. Re-tighten the fill cap, until flat gasket makes contact with the cover.

17. Carefully examine the hose assembly. A cut, cracked, abraded or deformed exterior may constitute a potential rupture upon pressurization and require replacement.

18. Check the hose couplings. Corroded or cracked couplings, cross-threaded or worn threads dictate replacement.
MAINTENANCE (Continued)

19. Operate the nozzle handle to check for free movement. If handle is binding or immovable, refer to “Nozzle(s)” in the Service and Repair Section of this manual for corrective action.

20. Unscrew the nozzle tip while squeezing the nozzle handle. Ensure that it is the proper nozzle tip for that particular model by referring to the extinguisher parts list. Remove any obstructions from nozzle tip and discharge outlet. Make certain o-ring and/or flat gasket is in place and is not damaged.

21. Inspect plunger tip inside nozzle body. Replace if tip shows evidence of cuts, abrasions, degraded rubber, brittleness, or separation from plunger.

   NOTICE

   All molded rubber style tips should be replaced and upgraded with the captured style tips. See page 25.

22. Apply a thin coating of thread lubricant to the nozzle tip threads. Wipe away from the interior of the tip before threading into nozzle. Operate nozzle handle to ensure free movement of plunger assembly. Squeeze the nozzle handle and thread the nozzle tip into nozzle body. Screw the nozzle tip until it seats against the plunger. Depress the handle and continue to turn clockwise for 1/2 to 3/4 turn.
MAINTENANCE (Continued)

23. To check the hose for internal blockage, place the extinguisher on its side, with the outlet elbow in the up position, and remove the hose. Note: If the hose contains a hose seal, remove retaining ring and seal before running pressure through hose as described in Step 24. With a very small, flat bladed screwdriver, (approximately the size used for eye glass screws), pry the retaining ring out of the groove in the hose coupling. There is a small cutout area in one end of the retaining ring for this purpose. The ring can be prevented from flying out of the groove by placing your thumb over a portion of the inlet end of the hose during removal. Remove the retaining ring and the metal bordered hose seal. Both can be reused if they have not been damaged.

⚠️ CAUTION
Before proceeding with removal of seal and retaining ring, make certain eyes are protected with proper safety glasses. Retaining ring can pop out during removal and fly several feet causing eye injury.

24. Squeeze the operating nozzle handle and blow dry air or nitrogen back through the nozzle.

⚠️ CAUTION
Do not leave open end of hose unattended unless adequately restrained to prevent whipping, endangering life/safety. Use a regulated pressure source set to less than 50 psi (3.45 bar). If the hose is obstructed, manipulate (flex) hose manually until free of dry chemical.

25. Examine the o-ring on the hose coupling. Replace if brittle, cracked, cut or missing.

26. Ensure the extinguisher elbow is free of dry chemical and then reinstall the hose to the elbow. Wrench tighten. Note: If extinguisher contains a hose seal, install seal at this time by following the procedures listed below.

a. Place a new hose seal in end of hose.

b. Place a new retaining ring (or reuse old one) on the hose coupling and press it into the retaining ring groove. The easiest way to do this is start the side of the retaining ring opposite the gap in the ring into groove and work the ring into the hose coupling groove with both thumbnails.

c. Recheck the new hose seal to make certain it has not been ruptured during installation.

d. Reinstall hose on extinguisher.
MAINTENANCE (Continued)

27. Return the extinguisher to the upright position, remove the fill cap, examine the fill opening threads for nicks, cross-threading, corrosion or wear; and check the gasket seating surface for nicks, gouges, corrosion or dirt deposits. Then, check the pressure relief vent for obstruction. (The pressure relief vent may be a small hole or a set of grooves in the collar. One of either type of pressure relief vents must be present in each extinguisher.)

NOTICE

Normal Johnson Controls maintenance procedures do not require the removal of dry chemical from the cartridge operated extinguishers, however, some states require that the dry chemical be removed, examined and returned to the extinguisher on an annual basis.

28. If the dry chemical agent is removed from the extinguisher, maintenance personnel should then visually examine the gas tube and rubber sleeves for discrepancies through the fill cap opening. If cracked, damaged, or missing, a new gas tube assembly should be installed. (If internal tagging is required, it is recommended that it be attached to the upper portion of the gas tube.)

29. Once the dry chemical has settled, make certain the tank is filled to rated capacity indicated on the nameplate. (An approximate visual indication of 1 in. to 3 in. (25 mm to 76 mm) from the bottom of fill opening is acceptable.) Ensure that the extinguisher is filled with free-flowing ANSUL dry chemical of the type specified on the extinguisher nameplate.

30. Remove the flat gasket and quad ring from the fill cap. Then thoroughly clean the fill cap threads and gasket seating surface with a stiff bristle brush. (If the fill cap has pressure relief vent grooves, be sure they are unobstructed.)

31. Examine the fill cap for abrasions, cracks or corrosion and the fill cap threads for nicks, burrs, cross-threading, rough or feathered edges. If the fill cap is the ANSUL indicator type, grasp the indicator stem and gently move the stem up and down to check for free movement. Refer to the "Fill Cap" Service Instructions in the Service and Repair Section of this manual for corrective action.

32. Examine the fill cap gasket and quad ring for cuts, checks, deformities and wear and then stretch them to determine elasticity.
MAINTENANCE (Continued)

33. Clean the gasket and quad ring thoroughly with a clean, dry rag. Do not return the gasket and quad ring to the fill cap in a completely dry state. Instead, apply a coat of silicone grease. Spread the grease lightly and evenly on the gasket surfaces. A thin coating is all that is required to eliminate seizing and stretching which could be experienced with a dry gasket.

34. Return the gasket and quad ring to fill cap, taking care not to twist the quad ring as it is returned to its recess in the cap.

35. Use a stiff bristle brush to clean dry chemical from the threads or top collar gasket seating surface of the shell.

36. Reinstall and retighten the fill cap, until flat gasket makes contact with the cover. Over-tightening using a bar or similar leverage may result in mechanical injury to the fill cap, especially to the threads.

37. Lift the puncture lever, place the hose behind the lever. With the puncture pin fully retracted and the hose in place to prevent the lever from being depressed, the cartridge may now be installed.

38. Apply silicone grease to external threads of ANSUL cartridge and install in the receiver (hand tighten) and carefully engage the cartridge guard.

"E" Model (Metal cartridge guard) – Align the guide fork with the recess in the cartridge receiver body and push straight on. Secure the nozzle in the holder. Proper alignment is especially important on ring pin models where the pin is inserted through the cartridge guard and puncture lever link located immediately below the puncture lever.

"G" Model (Composite cartridge guard) – On extinguishers with the composite guard, the hose must be carefully lifted from the area behind the puncture lever, the guard pushed into place, and then the hose repositioned again behind the puncture lever. Hold the puncture lever up while replacing hose behind lever. Make certain puncture lever is not accidentally pushed. Secure nozzle in holder.
MAINTENANCE (Continued)

39. After cleaning the extinguisher to remove all dry chemical traces and foreign deposits, insert and secure visual seal, Part No. 15999, through puncture lever (over hose) and hose confiner attachment on the shell. Note: If extinguisher has a composite cartridge guard, insert visual seal through puncture lever and then through hole in guard. If provided, attach tamper-proof seal (Part No. 15999) through puncture lever, through hole in fill cap, and back around to connect this seal. On ring pin models, a second visual seal is required for insertion through the first link of the chain on the guard and around through the ring of the pin.

40. Return the extinguisher to its designated location.

41. Personnel making maintenance checks are usually required to keep records by way of marking a tag attached or affixed to the extinguisher and/or in a permanent file. Your precise guide to record keeping requirements should be the applicable company, local, state or federal authority having jurisdiction.
BRACKET INTRODUCTION

Brackets are available for each ANSUL cartridge-operated hand portable extinguisher. Certain regulatory agencies, such as the Coast Guard, often require extinguishers to be mounted in brackets for restraint.

ANSUL offers both standard and heavy duty type brackets for those extinguishers. Brackets may be mounted in a vertical, horizontal, or sloping position on sufficiently strong, stationary, supporting surfaces, or within suitable vehicle compartments. However, for external vehicle and high-stress requirements, the heavy duty/vehicle bracket is recommended. The heavy duty construction of this bracket makes it suitable wherever vibration or other abuse might ruin other brackets.

CAPABILITIES AND LIMITATIONS

The ANSUL extinguisher brackets are designed to withstand specified vibration and shock loads which correspond to those indicated by transportation industries (vehicle manufacturers, etc.) as the maximum that the vehicles are designed to withstand. These loads are the acceptable loads for a bracket with extinguisher.

The load ratings shown above apply only to properly mounted brackets. The illustrations to the right show acceptable and unacceptable mounting of the brackets. When mounting a bracket, refer to them and use only the approved mounting positions.
HEAVY DUTY/VEHICLE BRACKET

BRACKET INSTALLATION AND MOUNTING

Make certain that the mounting location and position meet NFPA 10 requirements and ANSUL limitation requirements.

The brackets are provided with four mounting holes in the back plate (frame) and four mounting holes in the base. The mounting surface will usually dictate that either the back or the base holes be used, but in some instances both sets may be used to improve the stress distribution. Use good quality 3/8 inch fasteners, one in each mounting hole. Fasteners should be tightened as is recommended for the specific type and grade of fastener being used.

Even though welding is an effective method of securing the bracket in place, it is NOT recommended. This is because ANSUL has no control over the placement and quality of the welds.

After the bracket is properly installed, refer to the Adjustment Section. Proper adjustment is vital if the extinguisher is to be held firmly and not damaged.

MOUNTING LOCATION

Two basic areas of consideration will affect the choice of bracket mounting location.

The first considerations are fire protection needs.

1. The extinguisher must be visible, not hidden in an out-of-the-way spot.
2. The extinguisher must be easily reached, even from the ground.
3. It should not be placed where a vehicle fire is likely to make it inaccessible.

The second set of considerations deal with keeping the extinguisher safe and secure.

1. Choose a place that is relatively safe from falling rocks and tools, and where the brushing of tree limbs, or minor collisions are not likely to cause damage. Often the best place is at the rear, a few feet from the ground.
2. Avoid locations where grease or oil could build up on the extinguisher and bracket.
3. Select a mounting surface which is strong enough to support the weight of the extinguisher and bracket during vehicle operation, and is relatively flat to avoid stress on the bracket.
4. Avoid surfaces which may flex enough to cause metal fatigue in the member supporting the bracket.
5. Be sure there is enough space to allow proper mounting of the bracket and easy access to the extinguisher.
6. Avoid locations that may expose the extinguisher to temperatures which are detrimental to its operation such as too near a motor or manifold.
INSPECTION

Inspection of the bracket should be performed whenever extinguisher inspection is performed.

1. Check for looseness between extinguisher and bracket. The band clamp should shut tightly, compressing the band grommet.
2. Inspect the extinguisher and the bracket for wear caused by movement of the extinguisher within the bracket.
3. Examine entire bracket closely for loose or worn hinges or hinge-pins, bent or cracked bands, and worn or missing grommets. Clean any pads that are oily or greasy.

Avoid future damage by replacing or repairing all components that are missing, worn or damaged.

MAINTENANCE

Maintenance is a very important factor in the lifespan and reliability of a bracket. Maintenance of the bracket should be performed whenever extinguisher maintenance is performed.

1. Clean any dirt, ice, or other foreign material from the extinguisher and bracket using a bristle brush, cleaning cloths, or soap and water.
2. Remove the extinguisher from the bracket and clean the extinguisher surface where the bracket pads contact it.
3. Examine the bracket pads which hold the extinguisher in place. Clean the pad surfaces to maintain their gripping power on the extinguisher. Check the pads for resiliency, and replace if necessary. For heavy duty bracket pad replacement, refer to the Service and Repair Section of this manual.
4. Inspect the bracket. If it has been bent, replace it. If it has been cracked, repair or replace it.

**NOTICE**

If any welding is performed, take steps to protect the bracket pads from excessive heat.

5. Grease each moving part of the bracket arm and test its action. The bracket must be able to hold the extinguisher firmly, but release easily when necessary.
6. Check to see that the bracket is firmly mounted. Tighten or replace mounting fasteners, or re-weld connections as needed.
7. Avoid possible rust damage by cleaning and painting wherever bare steel is exposed.
8. Following extinguisher maintenance, secure the extinguisher in its bracket. If the bracket does not hold the extinguisher securely or the bracket is difficult to close, replace the affected part and/or bracket. For heavy duty brackets, refer to the adjustment procedures which may correct extinguisher securement.
ADJUSTMENT

If a bracket is not properly adjusted, the bracket may be damaged, and the extinguisher may be damaged or lost. Readjustment of a bracket may be required periodically due to physical abuse of the bracket and/or the aging of the neoprene pads. This procedure covers both initial adjustment and later re-adjustment of heavy duty type brackets.

1. Place the extinguisher in the bracket as shown, making sure that it is firmly in the bracket base.

2. Hold the clamp arm level as you place it around the extinguisher. Arrange the arm, the extinguisher and the hose for the best fit.

3. Swing the handle open as shown. The handles on the two larger brackets (for the Model 20 and 30 extinguishers) have mechanical stops which prevent the handles from being opened too far. The smallest bracket (for the Model 10 extinguishers) does not have this stop. Open the handle only as wide as is shown in the figure. (The Model 10 bracket has a small mark on the handle to serve as a reference point.)

4. Adjust the length of the T-bolt so that it just fits into the notches on the bracket handle when the handle is properly opened. Be certain that the T-bolt retaining nut is properly positioned as indicated in the figure. (The T-bolt length is adjusted by turning it.)

5. Place the T-bolt in the handle notches. Check carefully to see the T-bolt is properly seated in the handle and is square to the bracket back. If necessary, reposition the bracket arm to obtain a good square fit.

6. With the T-bolt properly seated in the handle notches, carefully close the handle, clamping the extinguisher into the bracket. Take care to avoid being pinched as the handle snaps closed.

7. Check the adjustment. If the extinguisher or the bracket arm has play in them, or if the bracket handle opens and closes too easily, the bracket needs tightening. If the tension makes it difficult to open or close the bracket handle, the bracket is too tight and should be loosened. Remember that either too tight or loose a bracket may cause damage. Maintain a snug, but not over-tight bracket.
SERVICING MATERIALS

The following are some additional materials and equipment which will be necessary to properly service ANSUL cartridge-operated extinguishers in the field.

Special Tools
- Agent funnels Part No. 699
- Cartridge strap wrench Part No. 6380
- Cartridge receiver wrench assembly Part No. 13133
  - Handle only Part No. 2609
  - Head only Part No. 10852
- Portable cartridge spring scale Part No. 3923

Lubricants
- Silicone grease for o-rings, quad rings and gaskets
  "Dow Corning 33" 2 oz tube Part No. 9030
- Steel to aluminum lubricant for installation of cartridge receiver to shell
  Pro-dope 6 lb can Part No. 9071

Touch-Up Paint
- Standard unit red, requires no primer (pint can) Part No. 77601
- 9.0 oz spray can – red enamel Part No. 79730
- 9.0 oz spray can – red epoxy-CR Part No. 79731
- 12.0 oz spray can – primer Part No. 79729

Labels
- Hydrostatic test (order these through Johnson Controls Marketing Communications) Part No. 11790
- Metal inspection tags Part No. 4111
- Paper inspection tags Part No. 2364

Nameplate adhesive
- Pint Part No. 59321
- 3M #10 contact adhesive Part No. 59348
GAS TUBE REPLACEMENT PROCEDURES

1. Ensure cartridge and agent are removed from extinguisher.

2. Secure extinguisher and using cartridge receiver wrench rotate receiver counterclockwise from shell.

3. Once free from shell, rotate an additional counterclockwise turn to disconnect gas tube.

4. Remove old gas tube through fill opening and insert new replacement gas tube.

5. Lightly apply “Pro-dope” (Part No. 9071) to both the new gas tube threads and the external cartridge receiver threads.

   **NOTICE**
   
   Ensure that the threads are not damaged before reassembly.

6. Extend gas tube through shell receiver opening. Then, screw the cartridge receiver 1 to 1 1/2 turns unto the gas tube.

7. Turn the cartridge receiver clockwise into the shell and tighten.

8. Ensure the cartridge receiver and gas tube are both orientated to the vertical position.
NOTES:
NOZZLE PLUNGER REPLACEMENT PROCEDURE

1. Depress nozzle handle and remove nozzle tip.
2. Remove the handle rivet head by using a 3/8 inch drill bit.
3. Remove handle, cap plugs, and spring.
4. Remove old plunger and replace with new plunger.
5. Reassemble handle, cap plugs and spring onto nozzle body, ensuring plunger stem fits into groove in handle.
6. Install new rivet through handle and nozzle body, then peen rivet.
7. Operate nozzle handle to ensure free movement of plunger assembly.
8. Squeeze nozzle handle and thread nozzle tip into nozzle body. Screw the nozzle tip until it seats against the plunger. Depress the handle and continue to turn clockwise for 1/2 to 3/4 turn.
NOZZLE PLUNGER REPLACEMENT PROCEDURE

(Continued)

9. Install nozzle assembly onto agent hose and pressure test to 250 psi (17.24 bar).
CARTRIDGE RECEIVER PUNCTURE PIN REPLACEMENT

PROCEDURE

1. Ensure cartridge is removed from extinguisher.
2. Remove retaining roll pin from lever as shown.
3. Remove old puncture pin by pushing downward.
4. Install new puncture pin and roll pin in reverse procedure.
5. Ensure the puncture pin travels freely by operating the lever.
NAMEPLATE REPLACEMENT

If the maintenance nameplate becomes missing or unreadable, it can be replaced with a replacement nameplate from Johnson Controls. When using this replacement plate, the only extinguishers that will retain their UL and Coast Guard approval will be extinguishers that have been manufactured since 1993 with the approved collar stamping on them.

NOTICE

Extinguisher will not retain its FM Global Approval when using replacement nameplate.

To replace the maintenance nameplate:

1. The replacement nameplate must be positioned on the backside of the extinguisher. The distance from the top of the nameplate to the bottom of the extinguisher should be approximately as follows:
   - 10 lb extinguisher – 11 in. (79 mm)
   - 20 lb extinguisher – 13 in. (330 mm)
   - 30 lb extinguisher – 14 in. (356 mm)

2. Clean the area thoroughly where the new nameplate is to be applied. Use a mild abrasive (scouring power) or if necessary, use a stiff wire brush to remove any loose paint or rust. If rusty, refer to Service and Repair Section (Suppressing Agent Shell), page 7.

3. Before applying the nameplate to the extinguisher, the correct fill weight, type of cartridge, and model must be indicated on the nameplate. This is accomplished by punching a hole in the correct location.

4. After all holes have been correctly punched, remove the paper from the back of the nameplate and apply nameplate in the correct location on the extinguisher. Press it down firmly.
RECHARGE

Before proceeding to recharge any extinguisher, visually examine the unit for any physical damage or impairment which may further dictate the need for maintenance.

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NOTICE

Extinguishers out of service for maintenance or recharge shall be replaced by spare extinguishers of the same type and at least equal rating.

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To return the extinguisher to service after use:

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NOTICE

If dry chemical is found on cartridge, this indicates a bad gas tube. For gas tube replacement instructions, refer to Gas Tube Replacement Procedures on page 23.

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1. Invert the extinguisher and open nozzle to clear dry chemical from hose and to relieve all pressure remaining in shell.
2. Return the extinguisher to the upright position.
   - **“E” Models (Metal cartridge guard)** – Place the hose behind the push lever and insert the nozzle in the holder.
   - **“G” Models (Composite cartridge guard)** – Do not place hose in nozzle holder or behind push lever as hose must be free to remove guard.
3. Remove the cartridge guard and spent cartridge.
   - **“E” Models (Metal cartridge guard)** – Pull guard straight out.
   - **“G” Models (Composite cartridge guard)** – Pull guard out from the top until clip disengages from the cartridge and then lift up guard to allow the bottom fork to clear the hose elbow.
   
   To remove cartridge, turn in direction of arrow printed on cartridge. Install a safety shipping cap (Part No. 77250) for left-hand and Part No. 77251 for right-hand threaded cartridges.

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**CAUTION**

Do not install cartridge onto extinguisher at this time.

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4. Remove fill cap slowly and deliberately. If there is any residual pressure in the shell, it will be relieved through pressure relief vent hole or grooves in fill cap while 31/2 threads are still engaged.
RECHARGE (Continued)

5. If extinguisher contains optional hose seal, install a new seal per following steps:
   a. Lay unit down with outlet elbow up and remove hose.

   **CAUTION**
   Before proceeding with removal of seal and retaining ring, make certain eyes are protected with proper safety glasses. Retaining ring can pop out during removal and fly several feet causing eye injury.

   b. With a very small, flat bladed screwdriver (approximately the size used for eye glass screws), pry retaining ring out of groove in hose coupling. There is a small cutout area in one end of the retaining ring for this purpose. The ring can be prevented from flying out of groove by placing thumb over a portion of inlet end of hose during removal.
   c. Remove retaining ring and the used metal bordered hose seal. Discard both.
   d. Place a new hose seal in end of hose.
   e. Place a new retaining ring on hose coupling and press it into retaining ring groove. The easiest way to do this is start the side of the retaining ring opposite the gap in the ring into groove and work ring into hose coupling groove with both thumbnails.
   f. Recheck the new hose seal to make certain it has not been ruptured during installation.
   g. Reinstall hose on extinguisher.

6. Place the funnel (Part No. 699) in the fill opening and fill the extinguisher to the rated capacity with only the type of ANSUL dry chemical specified on the nameplate.

7. Clean the fill opening threads and the gasket seating surface of the shell. If pressure vents are cut in the threads, be sure they are clean and unobstructed.
RECHARGE (Continued)

8. Remove the gasket and quad ring from the fill cap and examine them for elasticity, cuts, cracks, or abrasions.

9. Remove all surface deposits from the gaskets using a clean, dry rag and lubricate with a good grade of silicone grease (Part No. 9030) capable of withstanding both low and high temperature without a change in consistency. Spread the grease by hand to effect a light coating of all surfaces.

10. Clean the fill cap threads and gasket seating surface with a stiff bristle brush before returning the gaskets to the cap. If pressure vents are cut in the threads, be sure they are clean and unobstructed. Reinstall the gaskets on the fill cap, making sure not to twist the quad-ring.

11. Reinstall the fill cap and hand tighten, firmly.

**NOTICE**

If the fill cap is an indicator model, first pull the red indicator stem down to reset the indicator.

12. Operate the puncture lever to make sure the lever works freely. Inspect the cutting edge for sharpness — a bent or dull puncture pin may hang up and not puncture the cartridge seal disc cleanly.

13. Inspect the cartridge receiver to verify that the pressure relief vent (indicated in the figure) is clear.
RECHARGE

14. Remove the safety shipping cap from the replacement cartridge assembly and weigh the cartridge. If weight is 1/4 oz (7.1 g) (Model 10) or 1/2 oz (14.2 g) (Model 20 or 30) less than stamped on the cartridge, replace with a fully charged cartridge. Cartridges which weigh more than 1/4 oz (7.1 g) over stamped weight should also be replaced.

15. Make certain puncture pin is fully retracted with hose installed behind the puncture lever to assure safe cartridge installation. Lightly coat with silicone grease or Dow Corning 33, the external cartridge threads and screw the full cartridge into the receiver, hand tighten, firmly.

16. Replace the cartridge guard, making certain the guide fork inside the guard fits into the recessed groove in the cartridge receiver body.

"E" Models (Metal cartridge guard) – Push the guard straight onto the cartridge until the guard clip snaps around the cartridge.

"G" Models (Composite cartridge guard) – On extinguishers with the composite guard, the hose must be carefully lifted from the area behind the puncture lever, the guard pushed into place, and then the hose repositioned again behind the puncture lever. Hold the puncture lever up while replacing hose behind lever. Make certain puncture lever is not accidentally pushed.

17. Attach visual seal (Part No. 15999) through the puncture lever, over the hose, under the hose confiner attachment and back around to connect the seal.

Note: If extinguisher contains a composite guard, attach seal through hole in guard tab. If provided, attach tamper-proof seal (Part No. 15999) through puncture lever, through hole in fill cap, and back around to connect the seal.

NOTICE

On ring pin models, insert pin through hole in the cartridge guard and linkage assembly. Attach the visual seal.

18. Clean all dry chemical and foreign deposits from the shell and other components.

19. Record the date of recharge on the tag (Part No. 2364) affixed or attached to the extinguisher and in your permanent file record in accordance with company, local, state or federal codes, regulations or standards.