

# OWNER'S SERVICE MANUAL

## INSTALLATION, OPERATING & SERVICING INSTRUCTIONS



**MANUAL PN 05619**

**CLASS D COPPER PORTABLE EXTINGUISHER**

**MODEL B571/C571**

All fire extinguishers shall be installed, inspected and maintained in accordance with the National Fire Protection Association standard titled "Portable Fire Extinguishers", NFPA 10 or the National Fire Code of Canada and the requirements of local authorities having jurisdiction.

When maintenance is indicated, it shall be performed by trained persons having proper equipment. Fire extinguishers are pressure vessels and must be treated with respect and handled with care. They are mechanical devices and require periodic maintenance to be sure that they are ready to operate properly and safely. Amerex strongly recommends that the maintenance of portable fire extinguishers be done by a trained professional – your local authorized Amerex Distributor.

Amerex Corporation makes original factory parts available to insure proper maintenance – USE OF SUBSTITUTE PARTS RELEASES AMEREX OF ITS WARRANTY OBLIGATIONS. Amerex parts have machined surfaces and threads which are manufactured to exacting tolerances. All parts meet precise specifications and are subjected to multiple in-house inspections and tests for acceptability. There are substitute parts available which are incorrectly labeled as U/L component parts, some are advertised as Amerex type. None of these meet U/L requirements and all of them void the Amerex extinguisher warranty and U/L listing. **DO NOT SUBSTITUTE.**

REFERENCES IN THIS MAUNUAL:

**NFPA 10** Portable Fire Extinguishers

**CGA C-1** Methods for Pressure Testing Compressed Gas Cylinders

**CGA C-6** Standard for Visual Inspection of Steel Compressed Gas Cylinders.

**National Fire Code of Canada**

AVAILABLE FROM:

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471

Compressed Gas Association, 14501 George Carter Way, Chantilly, VA 20151-2923

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National Research Council Canada, 1200 Montreal Road,

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## INTRODUCTION

The Amerex Model 571/B571/C571 30 lb. Stored Pressure Class D fire extinguisher contains a specially formulated copper powder developed by and for the U. S. Navy specifically for combating LITHIUM and LITHIUM ALLOY fires. The heavy duty cylinder, valve assembly and hose/extension wand have been designed with innovative and dependable fire fighting capabilities as well as long life and ease of service. The unique soft flow extension applicator allows a continuous, even distribution of the dry powder agent while the operator stands four to five feet from the burning material. Easy to read instruction labels provide a quick and convenient guide to proper use. To provide optimum extinguisher reliability, recharging shall be performed by persons trained in fire extinguisher maintenance and servicing. This manual shall be used as a guide for installing, servicing and operating these Amerex extinguishers. The best place to have your extinguishers serviced and recharged is your "Authorized Amerex Distributor" who has the professional experience and equipment to do it properly.

## WARNINGS

USE THIS EXTINGUISHER ONLY ON CLASS D BURNING METALS. (At the date of this printing, the Model 571/B571/C571 has been laboratory tested and approved for molten LITHIUM fires only.)

CLASS D FIRES NORMALLY GENERATE EXTREMELY HIGH HEAT. AMEREX RECOMMENDS THE USE OF PROTECTIVE CLOTHING AND SELF CONTAINED BREATHING APPARATUS WHILE OPERATING THIS EXTINGUISHER.

TO AVOID REIGNITION AFTER A METAL FIRE HAS BEEN EXTINGUISHED, DO NOT MOVE THE REMAINS UNTIL THE METAL HAS COOLED.

NEVER USE WATER ON A COMBUSTIBLE METAL FIRE. CHEMICAL AND PRESSURIZING GAS MUST BE MOISTURE FREE.

THIS EXTINGUISHER SHALL BE PRESSURIZED WITH DRY ARGON ONLY.

## PREPARING YOUR NEW EXTINGUISHER FOR USE

THIS MANUAL IS PACKAGED WITH EVERY NEW EXTINGUISHER SHIPPED FROM THE FACTORY. IT CONTAINS VALUABLE INFORMATION THAT SHALL BE STUDIED BY EVERYONE WHO WILL USE OR SERVICE THE EXTINGUISHER. THE MANUAL SHALL BE STORED IN A CONVENIENT LOCATION FOR EASY REFERENCE.

1. Remove the Model 571/B571/C571 and discharge hose assembly from the shipping carton. Examine both for shipping damage.
2. Connect the wand assembly to the extinguisher hose male connector by retracting the locking sleeve on the wand female swivel coupling. Push the female coupling firmly onto the male swivel adapter and release the locking sleeve. Tug firmly on the wand to verify that the swivel coupling is completely engaged.
3. Arrange the discharge hose and extension applicator assembly in the retaining clips as shown in the installation diagrams on Page 9.
4. Install your extinguisher in an accessible location with the top of the handle no more than 3½ feet (6 m) above the floor, the base at least 4 inches (.1m) above the floor, and near a doorway. DO NOT INSTALL THE EXTINGUISHER WHERE YOU WOULD HAVE TO WALK THROUGH A POTENTIAL FIRE LOCATION TO REACH IT.
5. Do not place this extinguisher close to a potential fire hazard. Amerex recommends location no less than a fifty (50) feet from the hazard, leaving unobstructed access. Avoid placing it in an extremely hot or cold place. The operational temperature range is -40° to + 120°F (-40° to + 49°C). Adequately protect the extinguisher if temperatures outside this range are anticipated. Keep the extinguisher clean and free from dirt, ice, chemicals and any contaminants that may interfere with its proper operation. DO NOT FUNCTIONALLY TEST THIS FIRE EXTINGUISHER – testing or any use may cause it to gradually lose pressure and become ineffective. Never throw any extinguisher in a fire as it could explode from heat/pressure buildup.

**NOTE: Slight pressure variances in the gauge reading may be found if the extinguisher has been subjected to extremes of heat or cold. High temperatures can cause high gauge readings and low temperatures, low readings. When in doubt, condition the extinguisher to 70°F (21° C) for several hours to obtain more accurate pressure gauge reading.**

6. Record the date the extinguisher is placed into service on the inspection tag and attach it to the extinguisher.

## **OPERATION**

**CAUTION: Persons expected to use this extinguisher shall be trained in initiating its operation and in the proper fire fighting technique. "Hands on" training will prepare personnel with the feel for this stored pressure extinguisher so that the most effective application can be utilized in an emergency situation. The basic operating instructions are contained in the pictogram portion of every extinguisher nameplate (label). The following elaborates on these instructions.**

1. Hold the extinguisher upright. Twist and pull the pull pin snapping the tamper seal.
2. Extend the bell shaped nozzle over the fire.
3. Keep the extinguisher upright. Squeeze the lever to discharge the extinguisher. Cover all burning metal with dry powder until the fire is extinguished. NOTE: If greater range is required, disconnect the wand assembly at the quick-connect and use the hose to lob the chemical onto the fire. Be careful not to spread the fire surface when using this technique.
4. Reapply powder to visible hot spots.
5. To avoid reignition, allow metal to cool before cleanup.
6. Evacuate and ventilate the area immediately after use. The fumes and smoke from any fire may be hazardous and can be deadly.

### **Model 571/B571/C571**

**Discharge time (approximate): 24 seconds**

**Effective range of the extinguisher: 3-6 feet (with applicator)**

**8-10 feet (with nozzle / quick-connect)**

## **INSPECTION**

NFPA 10 is a "quick check intended to give reasonable assurance that the extinguisher is fully charged and operable. This is done by seeing that it 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.

### **PERIODIC INSPECTION PROCEDURES**

**(Monthly or more often if circumstances dictate)**

NFPA 10 A "quick check" shall be made of the extinguisher for the following:

1. Located in designated place.
2. No obstructions to access or visibility.
3. Operating instructions on nameplate and facing outward.
4. Tamper seal not broken or missing.
5. Determine fullness by weighing or "hefting".
6. Examine for obvious physical damage, corrosion, leakage or clogged nozzle.
7. Pressure gauge reading in the operable area.

## MAINTENANCE

**MAINTENANCE** NFPA 10 At least once a year (or more frequently if indicated by any inspection), Maintenance is a "thorough check" of an extinguisher. It is intended to give maximum assurance that an extinguisher will operate effectively and safely. It includes a thorough examination and any unnecessary repair or replacement. It will normally reveal the need for hydrostatic testing.

### MAINTENANCE PROCEDURE

1. Clean extinguisher to remove dirt, grease or foreign material. Check to make sure that the instruction nameplate and FM manifest are securely fastened and legible. Inspect the cylinder for corrosion, abrasion, dents or weld damage. If any of these conditions are found and you doubt the integrity of the cylinder, hydrostatically test to factory test pressure (585 psi [4035 kPa]), using the proof pressure method, in accordance with CGA Pamphlet C-6 and NFPA 10. See proper method of depressurizing and reclaiming chemical in "Recharge Procedures". NOTE: When cleaning avoid use of solvents around the pressure gauge. They could seriously damage the plastic gauge face.
2. Inspect the extinguisher for damaged, missing or substitute parts. Only factory replacement parts are approved for use on Amerex fire extinguishers.
3. Weigh extinguisher and compare with weight printed in the "Weight block" section on the nameplate (label). Recharge the extinguisher if weight is not within indicated allowable tolerances. (See instructions in "Recharge Procedure").
4. Check the date of manufacture stamped on the bottom of the extinguisher for Model B571/C571 and on the wall hanger loop for Model 571. Cylinder must be hydrostatically (proof pressure) tested every 12 years to the test pressure indicated on the nameplate (585 psi [4035 kPa]).
5. Visually inspect the pressure gauge: a. if bent, damaged or improper gauge, depressurize and replace b. if pressure is low, check for leaks c. if over pressurized (overcharged), depressurize the extinguisher and follow recharge instructions.
6. Remove and check pull pin for freedom of movement. Replace if bent or if removal appears difficult.
7. Inspect the discharge lever for dirt or corrosion that might impair free movement. Inspect carrying handle for proper installation. If lever, handle or rivets are damaged, replace with proper Amerex parts.
8. Remove the hose and extension applicator by detaching the female swivel adapter from the hose and hose from the discharge valve. Inspect the hose, female swivel and extension applicator for damage. Make sure that the rubber O-ring inside the female swivel coupling is in place and in good condition. Replace damaged parts as necessary. Blow air through the hose and extension applicator assembly to insure that the passage is clear of foreign material and powder residue. Inspect the diffuser in the extension applicator horn - it must be tight to allow proper discharge characteristics.
9. Visually inspect the inside of the valve body (through the hose connection orifice). Appearance of powder in the valve may indicate that the extinguisher has been partially discharged and shall be recharged.
10. Inspect the valve body for signs of corrosion or damage to the hose thread connection. Replace valve assembly as necessary following the depressurizing and recharge procedures. If valve removal is required, complete all steps in the "Recharge Procedure".

11. Reconnect the extension applicator to the discharge hose male swivel coupling. Rotate the hose assembly several times to verify that the swivel operates freely (disconnect again and clean the inside of the female swivel with a small brush and compressed air if the rotation is impeded). Arrange the hose and extension applicator assembly according to the installation instructions on page 10.
12. Install new tamper seal and record service data on the extinguisher inspection tag. 13. Return to its proper location. Install on/in wall hanger bracket, vehicle bracket or dolly cart making sure it fits properly. Replace mounting bracket if necessary.

## RECHARGE

**Recharging** NFPA 10 is the replacement of the extinguishing agent and also includes the expellant for this type of extinguisher.

### WARNING:

1. Before attempting to recharge be sure the extinguisher is completely depressurized.
2. Never have any part of your body over the extinguisher while removing the valve assembly.
3. Use a protective shield between you and the pressure gauge while charging an extinguisher. Do not stand in front of the gauge if a shield is not available.
4. Use a regulated pressurizing source of **ARGON ONLY**. Set the regulator to not more than 220 psi (1520 kPa).
5. Check and calibrate regulator gauge at frequent intervals. The regulator gauge shall be used to determine when the intended charging pressure has been reached. Do not use the extinguisher gauge for this purpose.
6. Never leave an extinguisher connected to a regulator of a high pressure source for an extended period of time. A defective regulator could cause the cylinder to rupture due to excessive pressure.
7. Do not mix types of chemicals in extinguishers, recharge or recovery systems. Mixing ABC, regular, Purple-K, Super-K or Monnex dry chemicals with a dry powder agent could cause a serious flare up or explosion if the dry chemical were to contact a combustible metal fire.

## RECHARGE PROCEDURE

1. Perform steps 1 through 4 of the "Complete Maintenance (Six Year Teardown)" section including those required in the "Maintenance Procedure".
2. Thoroughly clean all parts with a soft bristle brush or soft cloth. Blow the valve and downtube out with air or argon. Inspect the collar O-ring, valve stem, spring and downtube assembly – replace parts if worn or damaged. Lubricate the collar O-ring and small O-ring on the valve stem with V-711. **DO NOT LUBRICATE THE VALVE STEM SEAL.**
3. Reassemble the valve assembly, including downtube and set aside.
4. Remove any dry powder remaining in the cylinder. Properly dispose of any dry powder that is contaminated or caked.
5. Inspect the cylinder interior following CGA Visual Inspection Standard, Pamphlet C-6.
6. For Model 571 and B571, fill the cylinder with 30 pounds (13.6 kg) of Amerex Copper Powder, which has been kept free of moisture and contamination. For Model C571, fill the cylinder with 41.5 pounds (18.8 kg) of Amerex Copper Powder, which has been kept free of moisture and contamination.

- Clean cylinder O-ring seat and threads inside of cylinder collar with a small brush and wipe surfaces with a clean damp cloth to remove dust. Lightly brush the collar O-ring seat with V-711. Install the operating valve/downtube assembly hand tight.
- Attach the charging adapter to the valve discharge port.

**WARNING: THIS EXTINGUISHER IS FACTORY PRESSURIZED USING ARGON. ARGON IS AN INERT GAS THAT WILL NOT ADVERSELY REACT WITH COMBUSTIBLE METALS. NITROGEN PRESSURIZING GAS COULD CAUSE A REACTION WHEN USED ON CERTAIN TYPES OF COMBUSTIBLE METAL FIRES. DRY AIR PRESSURIZATION SHALL NEVER BE USED AS EVEN THE SLIGHTEST AMOUNT OF MOISTURE WILL CAUSE A VIOLENT REACTION WITH CLASS D METALS.**

- With the extinguisher properly secured in an upright position connect your Argon pressurizing line with a quick-connect to the charging adapter. Set the Argon supply cylinder regulator to no more than 220 psi (1520 kPa). Depress the extinguisher operating valve lever and pressurize the extinguisher with Argon to 195 psi (1345 kPa). When the desired pressure has been reached, release the operating lever. Shut off Argon supply and remove the quick-connect.
- Remove the charging adapter. Check extinguisher for leaks by applying leak detecting fluid or a solution of soapy water to the valve discharge orifice, around the collar O-ring sealing area, cylinder welds and gauge. Remove leak detecting fluid from valve assembly by blowing out with air or Argon. Wipe exterior of extinguisher to remove any remaining residue.
- Install the hose assembly to the operating valve. Reconnect the female swivel on the extension applicator to the male swivel on the hose. Rotate the hose assembly several times to verify that the swivel operates freely. Disconnect and clean the inside of the female swivel with a small brush and compressed air if rotation is impeded. Install hose and extension applicator according to instructions on page 10.
- Install ring pin and tamper seal. Record recharge date and attach new recharge tag.
- Weigh assembled extinguisher and confirm that the total weight is within the allowable tolerances indicated in the "Maintenance" section of the nameplate (label).

## **COMPLETE MAINTENANCE (SIX YEAR TEARDOWN)**

**COMPLETE MAINTENANCE** (Six Year Teardown) NFPA 10 Every six years, stored pressure extinguishers shall be emptied and subjected to the applicable maintenance procedures. When the applicable maintenance procedures are performed during periodic recharging, the six year requirement shall begin from that date.

**NOTE: Some states require Complete Maintenance on an Annual Basis. Check with your Amerex servicing distributor to see if this applies to you. NFPA 10 requires that a "verification of service" external collar tag be installed on the extinguisher whenever "Six Year Maintenance" is performed. The "verification of service" tag can only be installed if the operating valve has been removed. A "Six Year Maintenance" service decal must also be attached to the extinguisher cylinder.**

## **COMPLETE MAINTENANCE (SIX YEAR TEARDOWN) PROCEDURE**

- Discharge powder and pressure into a "closed" dry powder recovery system (several are commercially available). Make sure that the extinguisher is completely empty and depressurized.

**CAUTION: DO NOT CONTAMINATE BY MIXING WITH OTHER TYPES OF DRY POWDER OR DRY CHEMICAL.**

2. Perform all required maintenance in Steps 1 through 8 of "Maintenance Procedure" (Annual).
3. VERIFY THAT NO PRESSURE REMAINS IN THE EXTINGUISHER (slowly squeeze discharge lever, aiming away from persons or objects which might be injured or damaged). Remove the valve assembly from the cylinder and inspect it for signs of corrosion or damage to the threads. Replace parts as necessary.
4. Disassemble valve assembly by removing the downtube, spring and valve stem assembly. Remove the collar O-ring from the valve assembly.
5. Complete steps 2 through 13 of Recharge Procedure.

## TROUBLESHOOTING GUIDE

**WARNING: CHECK TO DETERMINE THE SOURCE OF A LEAK BEFORE THE EXTINGUISHER IS DEPRESSURIZED. LEAKAGE REPAIRS WILL REQUIRE DEPRESSURIZATION OF THE EXTINGUISHER AND REMOVAL OF THE VALVE ASSEMBLY. DEPRESSURIZE BY HOLDING THE EXTINGUISHER IN AN INVERTED POSITION AND SLOWLY SQUEEZING THE DISCHARGE LEVER. SOME POWDER REMAINING IN THE DOWNTUBE WILL BE EXPELLED SO CARE SHALL BE TAKEN IN THE AREA BEING USED FOR DEPRESSURIZING. DO NOT DIRECT DISCHARGE TOWARD ANY PERSON OR OBJECT WHICH COULD BE INJURED OR DAMAGED. THOROUGHLY CLEAN ALL VALVE PARTS AFTER DEPRESSURIZATION AND VALVE REMOVAL.**

Problem	Corrective action
1. Leak at operating valve collar O-ring.	Remove valve assembly, clean collar thoroughly and install new collar O-ring. Lubricate with Bluestar V-711.
2. Leak through valve.	Check valve seat for stretches or foreign matter. Install new valve stem assembly.
3. Leak around gauge threads.	Remove gauge* and reinstall using Teflon tape on the gauge threads.
4. Defective gauge.	Remove defective gauge* and install new PN 03965 195 psi (1345 kPa) gauge using Teflon tape on the gauge threads.
5. Leak in cylinder.	Contact Amerex if under warranty, otherwise—mark "Rejected" and remove from service or return to owner.

\* Pressure gauge threads are coated with a special epoxy at the factory. For easy removal soak the valve assembly in hot water (180°F [82°C]) for two to four minutes. Remove gauge with a 1/16" open end wrench.

**FOR REPLACEMENT PARTS SEE THE AMEREX PORTABLE AND WHEELED PARTS BOOK PN 27277 AVAILABLE AT <http://www.amerex-fire.com> UNDER MANUALS OF THE RESOURCE SECTION.**

# HOSE ASSEMBLY ROUTING AND WAND ASSEMBLY INSTALLATION



FRONT VIEW



TOP ISOMETRIC VIEW



STRAP CLIP VIEW