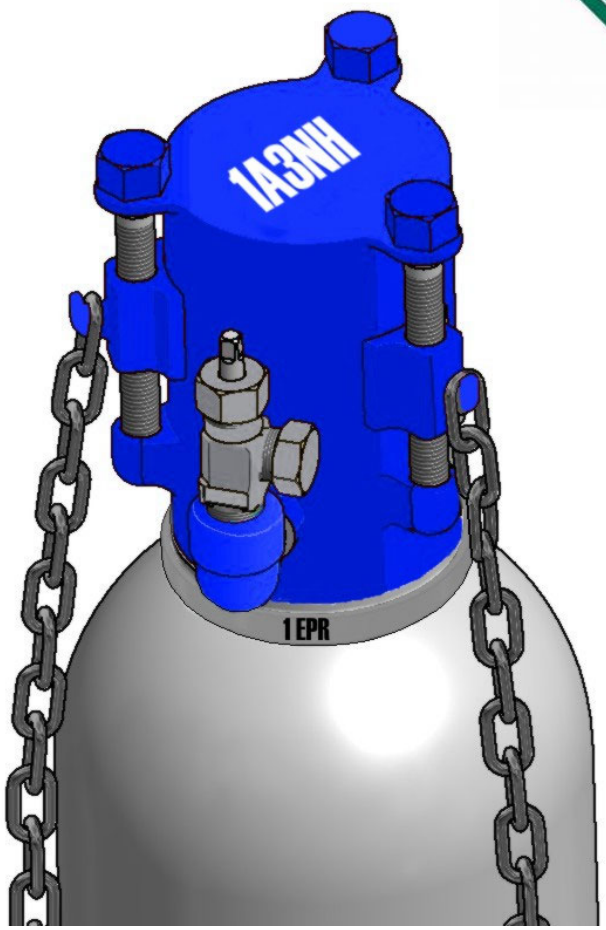
ANHYDROUS AMMONIA EMERGENCY KIT “NH”

FOR AMMONIA CYLINDERS

Edition 6
July 2019



Kits manufactured after Jan. 1, 2013

INSTRUCTION BOOKLET

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1. GENERAL DESCRIPTION

The Ammonia Emergency Kit-NH is designed for use with the standard DOT 3A480 or 3AA480, ammonia cylinders only. The cylinders have a maximum outside diameter of 15" inches and overall height to 60 inches. This kit should not be applied to a cylinder that is liquid full (See Section 7, Kit Limitations).

1.1 TRANING AND SAFEY

Emergency Response and other personnel must be trained in the use of the devices and tools within the Ammonia Emergency Kit-NH. Training must include the use of respiratory equipment and all other safety equipment. Knowledge of the properties of ammonia is a must.

Personnel safety is of primary importance. Emergency response should only be performed by authorized personnel who are trained in the procedures and are equipped with suitable respiratory and personal protective equipment.

1.2 REPIRATORY EQUIPMENT

The type of respiratory equipment required will be determined by the severity of the leak and the potential for exposure to ammonia.

1.3 AMMONIA CYLINDER INSPECTION

Daily inspection of full cylinders is recommended whether or not they are connected to unloading-lines. Through these means a leak usually can be detected in an early stage when it can be corrected or controlled by appropriate procedures.

1.4 LEAK DETECTION

As soon as there is an indication of the presence of ammonia in the air, authorized, trained personnel equipped with suitable personal protective equipment should investigate promptly. All other persons should be kept away from the affected area.

1.5 ASSISTANCE

Ammonia emergency should be handled only by trained personnel at the use site. If assistance is required, promptly notify your supplier. If the supplier cannot be reached or respond immediately, then summon help by calling: CHEMTREC in the US or CANUTEC in Canada.

1.6 REPORTING REQUIREMENTS

There are federal, state and local requirements for the reporting of ammonia releases that must be met.

1.7 EMERGENCY PLAN

It is recommended that users have an emergency plan that complies with federal, state and local government requirements.

2. IDENTIFYING AND STOPPING LEAKS

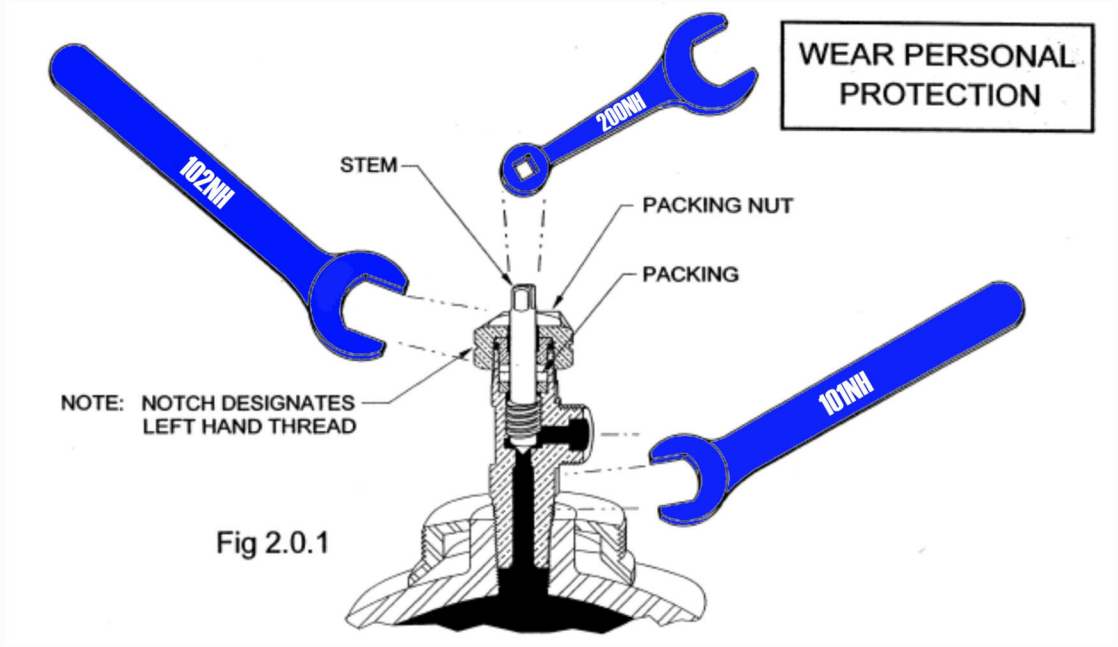


Fig 2.0.1

2.1 LEAK: VALVE STEM PACKING (Fig. 2.0.1)

ACTION:

A) Ensure valve stem is closed with WRENCH 200NH
B) Tighten packing nut with WRENCH 200NH or 101NH

2.2 LEAK: THROUGH VALVE SEAT (WILL NOT COMPLETELY CLOSE)

ACTION:

A) If disconnecting from a process, reconnect and gently open and close valve stem to dislodge foreign matter from seat with WRENCH 200NH , then disconnect and apply outlet cap and GASKET 2B with WRENCH 200NH

-or-

B) If the leak is from an unconnected cylinder, apply outlet cap and GASKET 2B, then tighten with WRENCH 200NH.

2.3 LEAK: VALVE INLET THREADS

ACTION:

A) Tighten valve into cylinder slowly with steady pressure using appropriate wrench

-or-

B) Apply DEVICE 1NH (Hood Assembly) (See Section 3 for instructions).

NOTE: **The all of the above-mentioned leaks can be corrected by applying DEVICE 1NH (Hood Assembly) (See Section 3 for instructions).**

3. IDENTIFYING AND STOPPING LEAKS (CON'T)

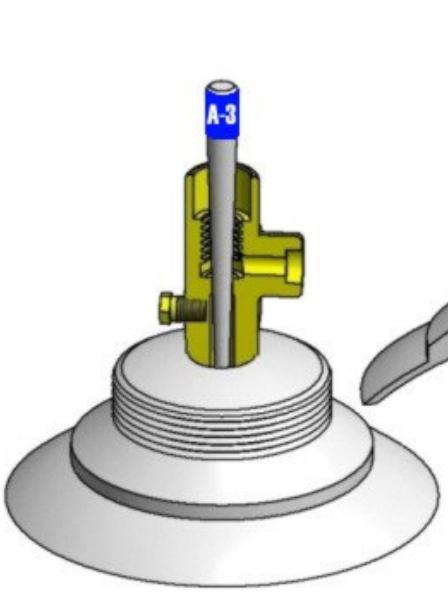


Fig 2.4.1

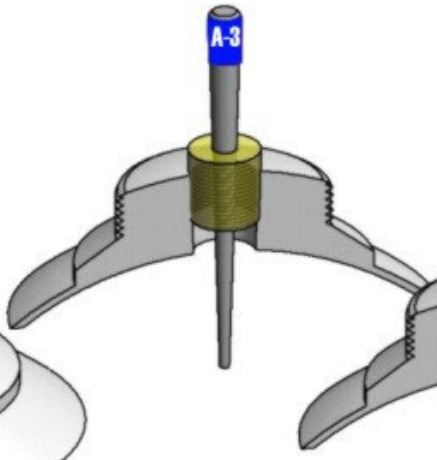


Fig 2.5.1

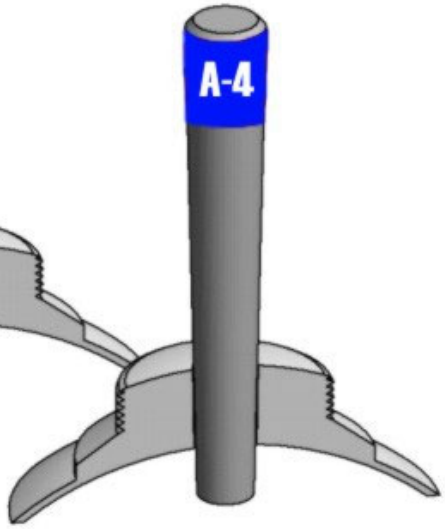


Fig 2.6.1

3.1 LEAK: VALVE STEM ASSEMBLY BLOWN OUT

ACTION:

A) Drive small DRIFT PIN A-3NH (Fig 2.4.1) into valve body.

NOTE: DEVICE 1NH (Hood Assembly) will probably not fit over the DRIFT PIN A-3NH. Secure the cylinder in an isolated area and call your ammonia supplier.

3.2 LEAK: VALVE BROKEN OFF

ACTION:

A) Drive small DRIFT PIN A-3NH (Fig 2.5.1) into valve shank and apply DEVICE 1NH (Hood Assembly) (See Section 3 for instructions).

3.3 LEAK: VALVE BLOWN OUT (DUET TO STRIPPED THREADS)

ACTION:

A) Drive large DRIFT PIN A-4NH (Fig 2.6.1) into valve opening and apply DEVICE 1NH (Hood Assembly) (See Section 3 for instructions).

4. HOOD ASSEMBLY FOR VALVE – DEVICE 1NH

STEPS – SEE FIG 3.1	EQUIPMENT
1. Position cylinder so that the valve is in the uppermost position. Remove valve protective housing if in place.	
- If unable to remove valve protective housing, HOOD (1A3NH) should fit over it.	WRENCH 200NH
2. Remove outlet cap from VENT VALVE (1V) on HOOD (1A3NH) and open VALVE.	BASE ASSEM 1EFP1
3. Prepare BASE ASSEMBLY (1EFP1NH) with CHAINS (1F1) set in outer most position.	
4. Roll upright cylinder and center in position on BASE ASSEMBLY (1EFP1NH).	
5. Clean shoulder of cylinder: Use SCRAPER (A-8NH) if paint is loose or uneven.	SCRAPPER A-8NH
6. Inspect condition of GASKET (1EPR). Place GASKET (1EPR) on HOOD (1A3NH). Center HOOD (1A3NH) with GASKET (1EPR) over leaking valve.	HOOD 1A3NH GASKET 1EPR
7. Attach chains from base (1EFP1) to corresponding hooks on HOOD (1A3NH). Hooks should be in lowest position by turning BOLTS (1K2NH). Ensure that CHAINS (1F1) are straight and not twisted. Attach CHAINS (1F1) to hook with appropriate link to avoid slack in chains. CHAINS (1F1) should be flush with bottom of cylinder.	HOOD 1A3NH BASE ASSEM 1EFP1
8. Hand-tighten CAP SCREWS (1K2NH). Tighten CAP SCREWS (1K2NH) equally, forcing the HOOD (1A3NH) and GASKET (1EPR) against the shoulder of cylinder. ***Do Not Over-tighten. May Damage Gasket***. If leak persists, tighten CAP SCREW (1K2NH) further in area of leak.	
9. Close VENT VALE (1V) on HOOD (1A3NH).	WRENCH 200NH
10. Test for leaks around GASKETS (1EPR). Tighten CAP SCREW(s) (1K2NH) if necessary.	WRENCH 101NH

DEVICE 1NH INCLUDES:

1ANH3	HOOD (INC: BOLTS 1K2NH – 3 PCS)
1EFP1	CHAIN AND BASE ASSEMBLY
1EPR	GASKET

WEAR PERSONAL PROTECTION

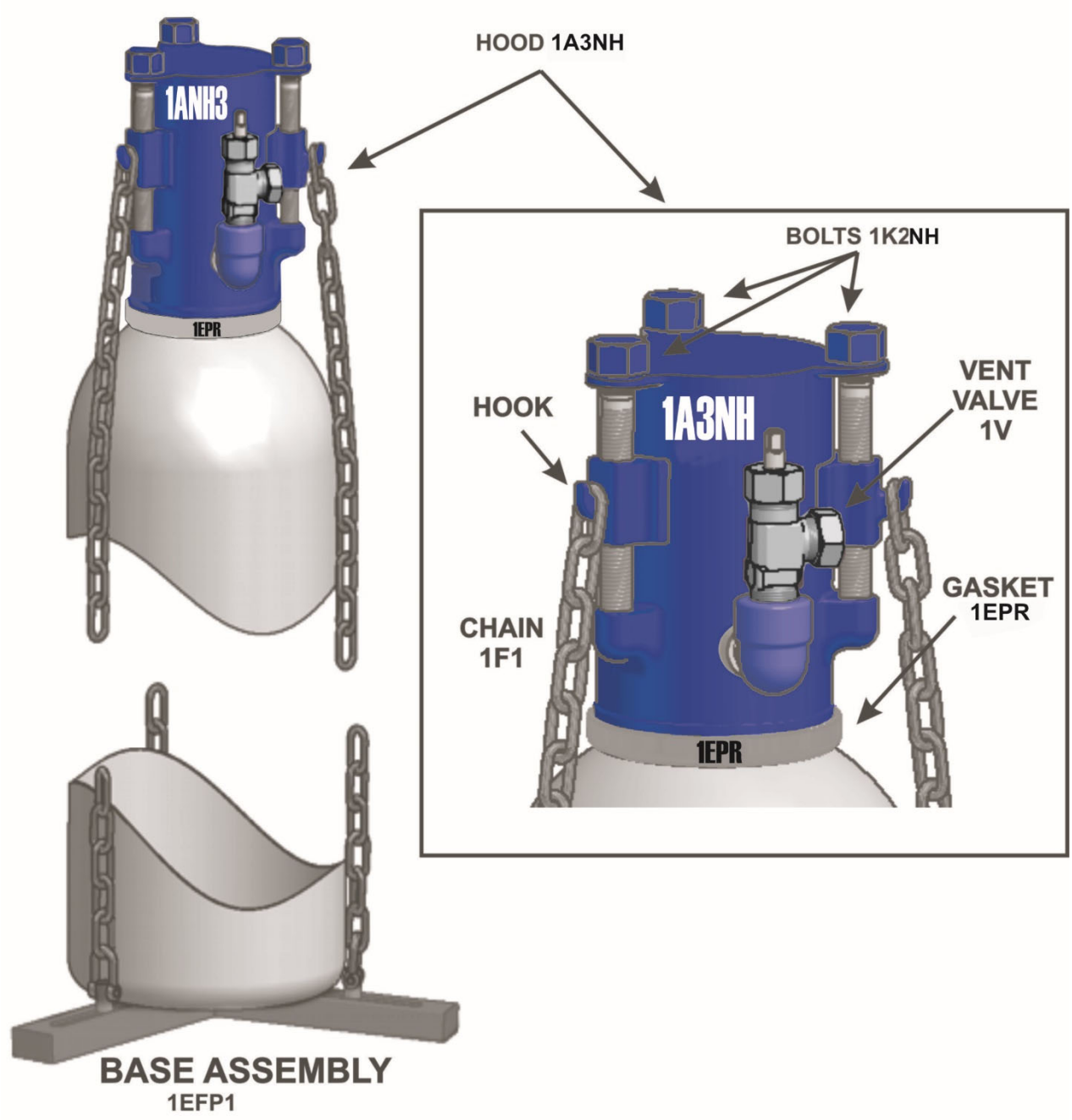


Fig 3.1

DEVICE 1NH

5. PATCH FOR SIDE LEAKS – DEVICE 8NH

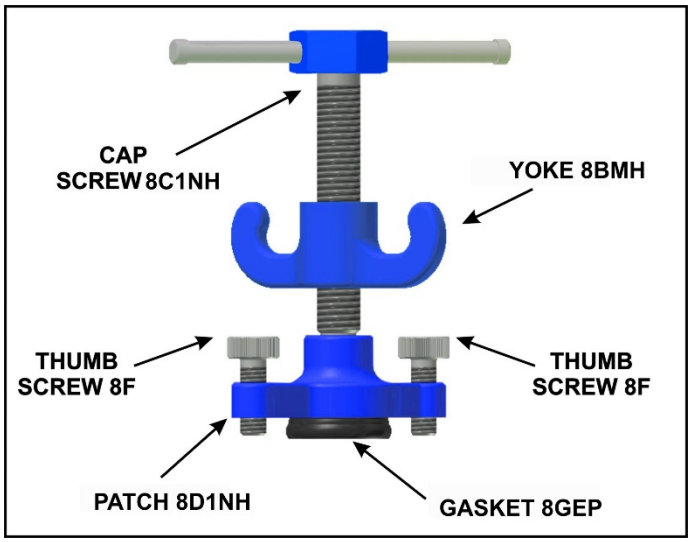
STEPS – See Fig 5.1	**EQUIPMENT**
1. Roll cylinder so that leak is in uppermost position. Be sure cylinder wall around leak is sound before proceeding with application of device.	
2. Adjust CAP SCREW (8C1NH) in YOKE (8BNH) until point of screw extends slightly below YOKE (8BNH) .	YOKE 8BNH & CAP SCREW 8C1NH
3. Slip one end of STRAP (8SNH) under cylinder and pull it through until it reaches the approximate area of leak. Note: inspect strap after each use for wear and replace as necessary.	STRAP 8SNH
4. Place BUTTON GASKET (8GEP) inside of PATCH (8D1). Ensure ADUSTING SCREWS (8F) are fully retracted into PATCH (8D1NH). Center CAP SCREW (C1NH) in YOKE (8BNH) and then into PATCH (8D1NH) depression.	GASKET 8GEP PATCH 8D1NH SCREW 8C1NH
5. Hook free ends of STRAP (8SNH) to ears on each side of YOKE (8BNH).	STRAP 8SNH
6. Use SCRAPER (A-8NH) if paint is loose or uneven. Side PATCH (8D1NH) with GASKET (8GEP) and STRAP (8SNH) over leak.	SCRAPPER A-8NH
7. Hand-tighten CAP SCREW (8C1NH) until leak stops. Tighten THUMB SCREWS (8F) until touching cylinder – do not over tighten.	
CAUTION: If there is any evidence of weakening of the cylinder wall, immediately discontinue tightening CAP SCRW (8C1NH).	
8. Test for leaks. Tighten CAP SCREW (8C1NH) further, if necessary.	
NOTE: THUMB SCRWS (8F) can be adjusted independently to apply pressure on the opposite sides of gasket to stop leak.	

DEVICE 8 INCLUDES;

8BNH	YOKE
8C1NH	CAP SCREW
8D1NH	PATCH & SCRWS 8F
8GEP	GASKET
8SNH	STRAP

WEAR PERSONAL PROTECTION

SIDEWALL PATCH: DEVICE 8NH



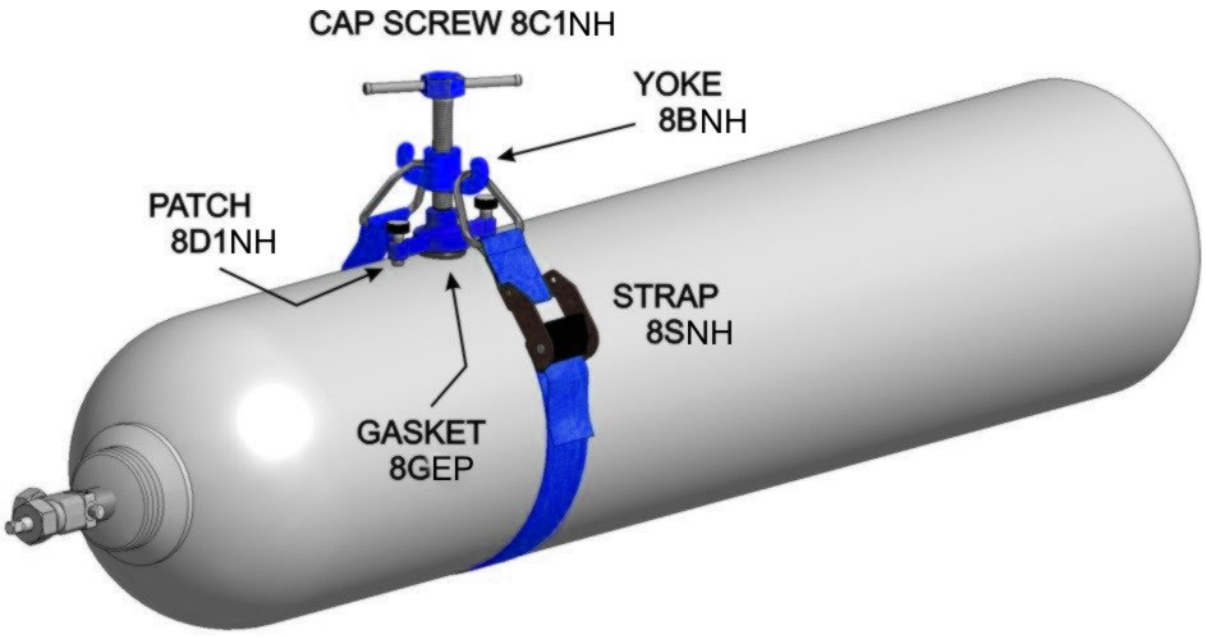


Fig 5.1

DEVICE 8NH

6. HANDLING OF AMMONIA REMAINING IN CYLINDER

The containment of leaks by the Ammonia Emergency Kit-NH is only an interim measure. The cylinders should be safely emptied, and kit removed as soon as possible.

VALVE YOKE (A-9NH) and VALVE ADAPTER (A-10NH) are included in this kit for use in disposing of remaining ammonia in a capped cylinder. This procedure should be attempted by experienced personnel only.

CONSULT WITH THE AMMONIA SUPPLIER IMMEDIATELY AND ARRANGE FOR ULTIMATE DISPOSAL.

If supplier is unknown, see Section 1.5, “Assistance” for instructions.

7. KIT MAINTENANCE

NOTE: All parts of the emergency kit should be maintained in a ready to use condition.

7.1 AFTER USE

Inspect all parts for damage, wear and corrosion. Clean and dry all parts used. Lubricate moveable parts with a lubricant that is non-reactive to ammonia. Replace all gaskets used. Inspect side patch strap after use for wear and replace as necessary.

7.2 ROUTINE

The kit should be frequently inspected by the person responsible for the equipment and checked with the contents list to ensure that equipment is complete and ready for use. The box should be sealed after each inspection and such seals should be broken only by authorized persons or in case of accidents. Many owners coordinate routine inspection with training drills.

All gaskets are stamped with the date of manufacture and should be removed from emergency use after a Five-year shelf-life. For further guidelines concerning the gaskets, consult the manufacturer.

7.3 SPARE PARTS

Spare parts may be purchased by owners of this kit. For information on ordering parts, please contact Indian Springs Manufacturing or the reseller of this kit.

8.0 KIT LIMATIONS

Some ammonia cylinders in current use are of such design that application of the Ammonia Emergency Kit-NH might be difficult or impossible. The kit devices also are unsuitable for stopping leaks around the cylinder neck, based and foot-ring areas.

9.0 PARTS LIST – AMMONIA EMERGENCY KIT

Part Number	Description	Qty. per Kit
1A3NH	Hood Assembly, with (1NH) Vent Valve & 1K2 Screws(3)	**1**
1EPR	Gasket, Molded EPDM, 5-7/8 OD x 4-5/8 ID x 3/16 wall	**2**
1EFP1NH	Base Assembly with Chains	**1**
8SNH	Strap	**1**
8BNH	Yoke	**1**
8C1NH	Cap Screw	**1**
8D1NH	Steel Patch	**1**
8GEP	Gasket, Molded EPDM, 1-1/2” OD x 3/4” thick Button	**2**
200NH	Wrench, 3/8 sq. box, 1-1/4 open end 7-1/4”	**1**
101NH	Wrench, Straight open end, 1-1/4 x 12-1/8	**1**
102NH	Wrench, Straight open end, 1-3/8” x 12”lg.	**1**
A-1NH	Hammer, Machinist 3 lb.	**1**
A-3NH	Drift Pin, 5/32 x 1/2 x 6	**2**
A-4NH	Drift Pin, 7/8 x 1-1/4 x 8	**2**
A-7NH	Gasket/Tool Sack	**1**
A-8NH	Paint Scraper, 1-1/4 blade	**1**
A-9NH	Valve Yoke	**1**
A-10NH	Valve Adapter	**1**
151ANH	Kit Box, 35 x 13-3/4 x 14-1/4	**1**
-	Instruction Booklet	**2**

10. EMERGENCY CONTACTS

AMMONIA SUPPLIER: _____

ADDRESS: _____

PHONE: _____

CHEMTREC / CANUTEC: _____

POLICE DEPT. _____

FIRE DEPT. _____

FIRST AID: _____

NOTES: _____