



**OPERATION MANUAL
FOR
LEAK SEALING SYSTEMS**

04 FEB 2016
PN 22-891709

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VALIDATION CERTIFICATE

TECHNICAL MANUAL TITLE

OPERATION MANUAL FOR LEAK SEALING SYSTEMS

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CONTRACT/NO.

I-VALIDATION

Except as stated in II, the technical manual identified above has been satisfactorily validated in accordance with all requirements of the applicable contract. The technical manual is hereby certified to be accurate and complete, and the information, instructions, text, and illustrations conform in all respects to the applicable general and detailed specifications.

II - EXCEPTIONS**EXCEPTIONS**

NONE

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Change Record

Change No.	Date	Title or Brief Description	Signature of Validating Officer
1	23 SEP 2013	Added New G2 Dual Deadman Controller, Warranty, Text, Page Numbers	SIGNATURE ON FILE
2	04 FEB 2016	Updated: Installation Procedure and Images. Added: Component Disconnection, Post Operation Preventative Maintenance, Inspection, and Storage.	SIGNATURE ON FILE

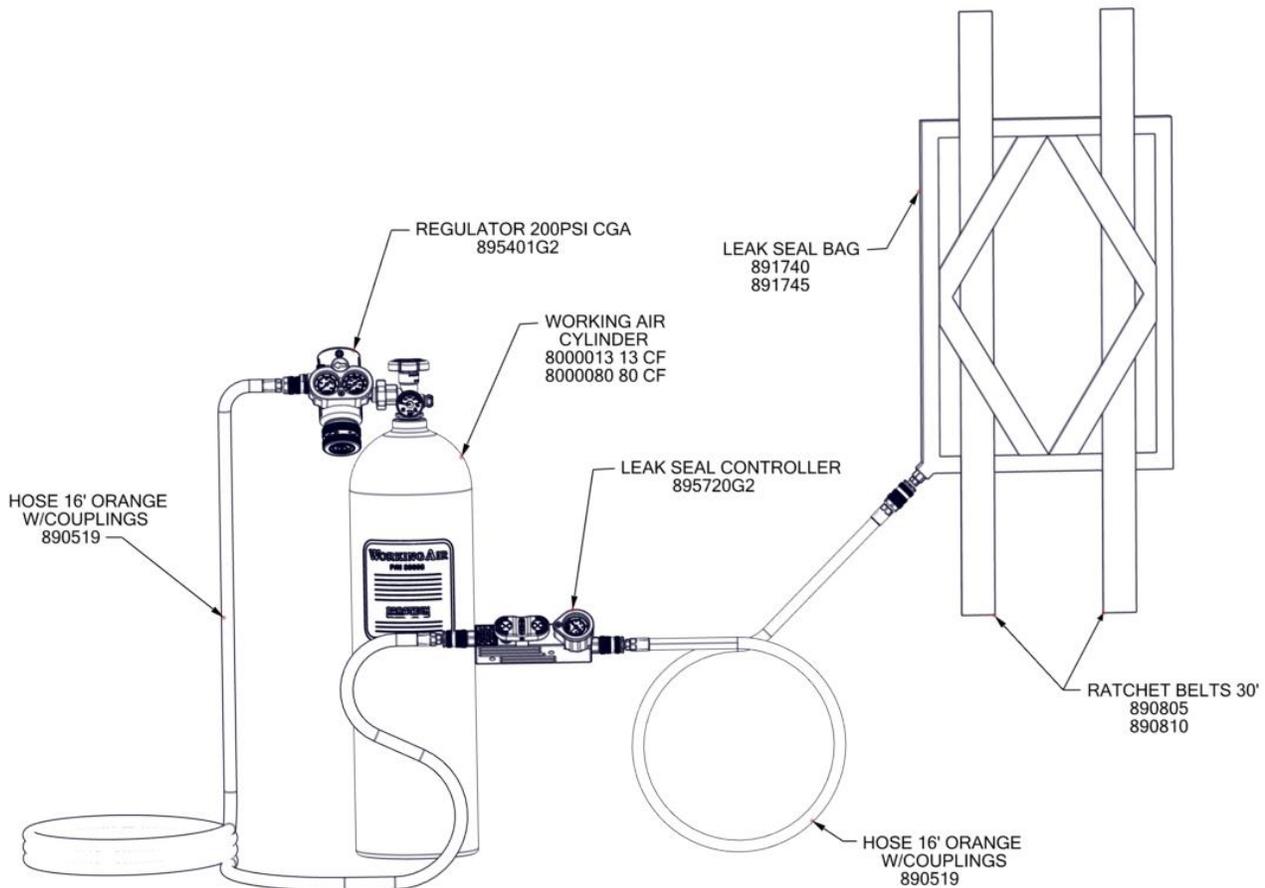
LEAK SEALING SYSTEMS

When Speed counts!

- Tank, pipe and Drum Sealing Kits
 - Leak Sealing Plugs
 - Shut Down Liquid Leaks on Pipes, Tankers and Railroad Cars Simply, Quickly and Safely
-
1. Center a Chemical Resistant Reinforced Neoprene Bag Over The Leak
 2. Adjust and Tighten the Bag into Place Using Ratchet Belts or Velcro Straps
 3. Inflate the Bag with up to 22 psi (1.5 bar) to Stem the Flow, Seal the Leak and Reduce Contamination.....**Fast!**

LEAK SEAL BAG INSTRUCTION

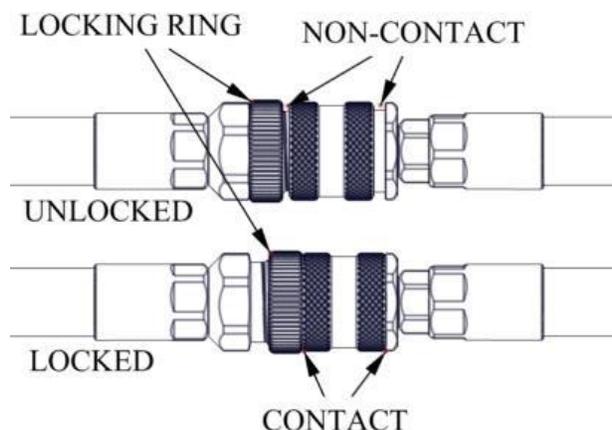
ATTACHMENT TO HIGH PRESSURE CYLINDER



INSTALLATION:

1. Select a leak seal bag that best covers the damaged area. For bags without a molded harness go to step 3.
2. For leak seal bags with a molded harness, place ratchet belt straps through the harness loops as shown above.
3. Position leak seal bag centrally over leak area and secure it into place using wrap around Velcro straps or the prepositioned ratchet belt from step 2.
4. Connect the control equipment as show above:
 - a. Attach the high pressure inlet of the G2 pressure regulator to the working air supply. Tighten connection to prevent air leakage. Do not over tighten.
 - b. Check that the G2 pressure regulator shut-off valve is closed (full clockwise). Check that the G2 pressure regulator knob is turned fully counterclockwise to close internal needle valve (no flow through the G2 pressure regulator).
 - c. Attach the air hose quick connect coupling to the G2 pressure regulator air delivery nipple.
 - d. Attach the inlet quick connect coupling on the G2 leak seal controller to the air hose quick connect nipple.
 - e. Attach the air hose quick connect nipple to the G2 leak seal controller.
 - f. Attach the air hose quick connect coupling to the leak seal bag.

- g. Check that all quick connect couplings are fully engaged and locked into position to assure a leak free connection. Be sure to turn the safety locking ring on all quick connect couplings to the locked position as shown below.



5. Slowly open (turn counter-clockwise) the air supply to the G2 pressure regulator. The supply pressure will be indicated on the air supply pressure gauge as well as the G2 pressure regulator supply gauge. The delivery pressure gauge on the G2 pressure regulator should read 0 psi.
6. Adjust the G2 pressure regulator pressure adjustment knob (turn clockwise) to increase the pressure delivery from 0 psi to 30 psi (2.1 bar).
7. Slowly open (turn counter-clockwise) the G2 pressure regulator shut-off valve. The delivery pressure should remain at 30 psi (2.1 bar).
8. Press the inflate side of the rocker lever on the G2 leak seal control until the leak is controlled or its relief valve opens at 22 psi (1.5 bar).

COMPONENT DISCONNECTION:

1. After the leak seal bag has been deflated and removed from its service position, turn off the working air supply.
2. Relieve residual pressure through the controller by toggling the rocker buttons up and down until remaining air is exhausted. Both pressure gauges on the G2 regulator and the pressure gauge on the G2 leak seal controller should read 0 psi.
3. Unscrew the high pressure inlet of the G2 pressure regulator from the working air supply.
4. Disconnect all remaining components and perform post operation maintenance, inspection, and storage.

POST OPERATION PREVENTIVE MAINTENCE:

Keep the exterior of all components clean of all dirt, grit, oil and grease accumulations. Except for the Leak Seal Bag(s), wipe the exterior surfaces with a lint free cotton machinery wiping towel **LIGHTLY** dampened with soap and warm water solution. Be particularly careful to remove all dirt, sand, grit, etc. from quick connect couplings and nipples. Swirl in a bucket with the soap and water solution until clean. Rinse with a wiping towel **LIGHTLY** dampened with clean water. Then dry the surfaces thoroughly with a clean, dry wiping towel or low pressure compressed air. Also clean the Leak Seal Bag(s) with a soap and warm water solution, but scrub the Leak Seal Bag with a stiff bristle broom or brush and rinse by spraying with cold water. If the cleaning solution or rinse water gets into the Leak Seal Bag(s) through the nipple, allow the bag(s) to dry thoroughly before their next use.

INSPECTION:

While the Leak Seal Bag is still wet with the cleaning solution, inflate to 15 psi (1 bar) and check for air bubbles denoting a leak(s). Except for air leakage from between the air inlet fitting and the male nipple, replace rather than attempt to repair a leaking Leak Seal Bag. If air leakage is detected from around the male nipple threads, proceed as follows:

1. Deflate the Leak Seal Bag.
2. Disconnect the quick connect coupling from the Leak Seal Bag male nipple.
3. Unscrew the Leak Seal Bag male nipple while holding the inlet fitting stationary.
4. Clean the interfacing threads and inspect the male nipple for visual damage. If damaged, discard. If not damaged, wrap Teflon tape (two wraps) around the male nipple threads and tighten back into the fitting.
5. Reconnect the Leak Seal Bag to an air source, re-inflate to 15 psi (1 bar) and recheck for leaks.

After a lift bag is clean and dry, all surfaces should be thoroughly inspected for cuts, abrasion, air bubbles, bulges, chemical damage and deformation. Leak Seal Bags with damage that exposes the reinforcement layer should be removed from service.

Inspect hose assemblies for cuts, cracks, crimps, and brittleness. Inspect the hose quick connect coupling for secureness of attachment and burrs, nicks, corrosion or other similar damage that would prevent a leak proof interconnection. To inspect the G2 Regulator and Controller refer to separate instruction manuals provided.

STORAGE:

The Leak Seal Bags and system components should be protected from any extreme environmental conditions where blowing dust, sand, grit and other similar materials could cause damage. Regardless if the Leak Seal Bags are stored flat or upright, the inlet nipple should be covered with a protective cap. If stored upright, be sure the inlet nipple is upright where it will not rub on the floor or sides of its storage container.

System components (G2 Pressure Regulator, G2 Controller, and hoses) that are stored on a truck, which will subject them to constant bumping during transport, will eventually be damaged. It is strongly recommended that these components be stored in their cartons and strapped down.

LSS LIMITED WARRANTY

Each LSS or component thereof, manufactured by Paratech Incorporated, has been thoroughly inspected and properly adjusted before shipment to insure the highest quality and the greatest possible reliability.

Paratech Incorporated (hereinafter referred to as "Seller") hereby warrants the LSS or component thereof to the original retail buyer only against defects in material and workmanship under normal use and service for a period of three years from the date of purchase. This warranty shall constitute the sole warranty of the Seller with respect to the LSS or component thereof. **THE SELLER HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** The Seller neither assumes nor authorizes any other person to assume for it any other obligations or liabilities in connection with the sale or use of this product.

Should there be any defects in the material or workmanship of the LSS, buyer should return the defective product to the factory for inspection with shipping prepaid within one year from the date of purchase. If inspection shows that the LSS or a component thereof is defective and that such defects were not caused by negligence, misuse, accident or unauthorized service, the product sold hereunder will be repaired or replaced at the option of the Seller, without charge, FOB at the factory, Frankfort, Illinois.

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