



## RECREATIONAL SCUBA DIVING VALVES

Packed Pressure Seal Technology

SCUBA "K" Valve Connection, CGA850 Yoke Connection  
Straight, Parallel Threads for Aluminum Cylinders

### KEY FEATURES:

- Exceeds CGA V9 standards for cylinder valves for compressed gases.
- Cycle tested 5000 times to exceed all real world applications.
- Engineered with high flow characteristics to maximize regulator performance.
- Valve design allows for easy and comfortable cylinder handling.
- Slant back hand wheel allows easy access.
- Positive hand wheel grip for easy identification of on/off direction.
- Designed with proven and readily available replacement valve parts.
- DOT approved burst disc assembly uses integrated disc and plug design.

### SPECIFICATIONS:

Pressures:

3000PSI Service Pressure, 12,000PSI Test Pressure

Temperature – Storage

Minimum: -65 F

Maximum: 155 F

Temperature – Operating

Minimum: -50 F

Maximum: 120 F

Cycle Tested

Minimum: 5000 Cycles, full pressure Nitrogen

Operating Torque @ 0 PSIG Inlet Pressure 1 – 2 in. lb.

Closing Torque @ 2000 PSIG Inlet Pressure 2 – 3 in. lbs.

### DIMENSIONS:

Overall Height: 3.875

Overall Length Installed height: 2.875

Part Number	Gas Service / Description	CGA	Inlet
HSV-48	Breathing Air, Diving applications	850	3/4" Aluminum Cylinders

All valves are supplied with safety devices as specified by the Compressed Gas Association Standard S1.1

Standard HSV-48 valves are supplied with safeties for 3000PSI service pressure cylinders and supplied with a 5000PSI safety.

Rupture discs rated for other cylinder service pressures are available upon request.

**See rear of specification page for overhaul parts, kits and repair instructions.**

# HARRISON

[www.HarrisonValve.com](http://www.HarrisonValve.com)



# Service Procedure for Harrison Scuba Valve Part # HSV-48

**HARRISON**  
PRECISION VALVE PRODUCTS

Harrison Valves are simply constructed and easy to service. For best performance, all valves should be serviced annually. If the valves are not worn, all parts can be lubricated where needed, and reused. An exception to this is the copper crush gasket beneath the bonnet nut. This copper crush gasket must be replaced when the bonnet is removed from the valve.

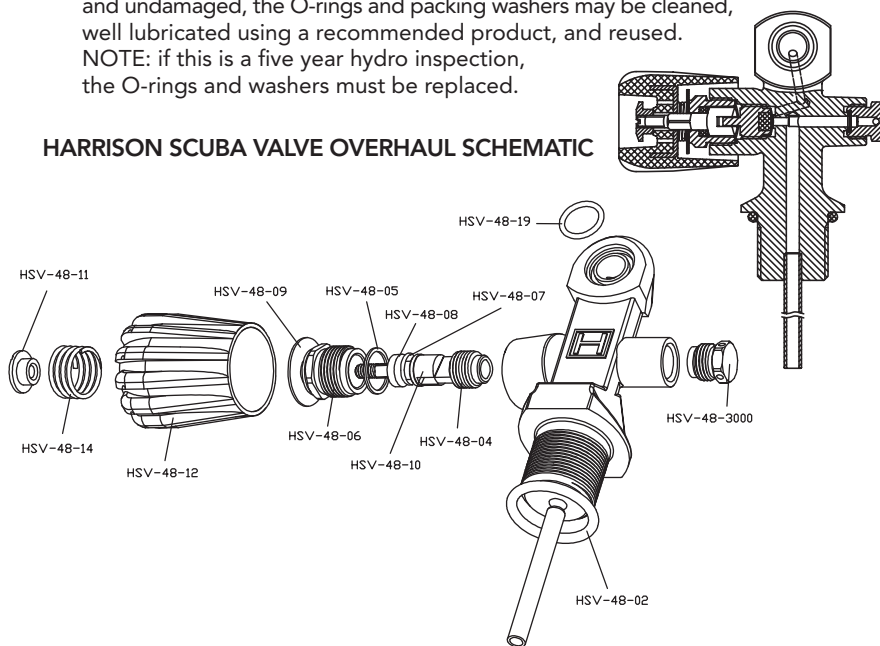
## PRE-TEARDOWN INSPECTION:

1. Start with full working pressure in cylinder and a properly functioning regulator attached to outlet.
2. Slowly turn valve on fully, and then back a quarter-turn.
3. Remove all hand wheels.
4. Apply a non-ammonia soap and water solution to the valve stem area, the inlet neck O-ring area, the safety, and the outlet.
5. Allow the soap solution to settle for at least 15 seconds, and check for signs of leakage. If you find leaks, pay particular attention to these areas during servicing.
6. Turn the valve off with moderate force. Remove the regulator from the valve. Apply a soap solution to the valve outlet and check for leakage.
7. Empty the air from the cylinder and thoroughly rinse the soap solution from the valve with clean, fresh water. Blow or wipe dry.

## DISASSEMBLY

1. If there are no signs of leakage at the burst disc location, do not replace the burst disc at the annual inspection. The burst disc assembly, the plug assembly and washer, and all O-rings must be replaced at each five-year tank hydro interval.
2. To simplify disassembly, loosen bonnet nut while valve is still in tank.
3. Remove valve from tank.
4. Remove bonnet nut assembly and plug assembly.
5. Remove the copper gasket and discard it.
6. Use compressed air to blow the orifice chamber and plug threads clean.
7. The plug assembly can be reused if no outlet leakage was found during the pre-tear-down pressure test (valve turned off with moderate force). At five year interval, the plug assembly must be replaced.
8. If outlet leakage was found, replace the plug assembly and inspect the orifice closely for nicks on the sealing surfaces.
9. Remove the stem from the bonnet nut.
10. If the leakage occurred at the stem, replace the O-ring and the packing washers. Visually inspect the stem for straightness, and replace if it is bent.
11. If there is no leakage at the stem and the O-rings appear unworn and undamaged, the O-rings and packing washers may be cleaned, well lubricated using a recommended product, and reused.  
NOTE: if this is a five year hydro inspection, the O-rings and washers must be replaced.

## HARRISON SCUBA VALVE OVERHAUL SCHEMATIC



## ASSEMBLY

1. Apply a dab of approved grease to the plug assembly at threads.
2. Use the stem to install the plug assembly finger tight into the valve body until it touches the orifice.
3. Install a new copper crush gasket.
4. Reinstall the lubricated stem assembly partway into the bonnet nut.
5. Install the bonnet nut into the body, using the protruding slot of the stem to engage the tang of the plug assembly before tightening.
6. Stem packing nut should turn easily all the way down. If binding occurs, check for proper tang engagement.
7. Remove old tank O-ring from valve. Clean the O-ring groove and the threads of the valve body inlet with a dry cloth.
8. Lightly lubricate a new tank O-ring and install it.
9. Apply a dab of grease to the first three inlet threads of valve, and install the valve into the tank.
10. Tighten the valve into the tank to 40-50 ft. lbs. of torque.
11. If a new burst disc assembly is installed, tighten to 50-55 in. lbs. See burst disc procedures.
12. Apply a dab of grease to the threads of the stem.
13. Install the washer, hand wheel, spring and stem nut.
14. Turn stem nut until the end of the stem is flush with the top of the nut.
15. Refill cylinder and test for leaks.

## VALVE BURST DISC ASSEMBLIES

Safety working pressure is stamped on the hex of safety plug assembly.

Tighten safety burst disc to 50-55 in. lbs. Apply torque rapidly to avoid gasket deformation.

### Important:

1. The entire burst disc assembly **must** be replaced every five year tank hydro interval.
2. **Never** reuse any parts of the burst disc assembly, since used parts may not function properly at pressure.

## HARRISON SCUBA VALVE OVERHAUL PARTS

Harrison Number	Description
HSV-48-11	Stem Nut
HSV-48-14	Spring
HSV-48-12	Handwheel
HSV-48-09 **	Handwheel Gasket
HSV-48-06	Bonnet Nut
HSV-48-05 **	Copper Gasket
HSV-48-08 **	Thick Teflon O-ring
HSV-48-07 **	Thin Teflon O-ring
HSV-48-10	Stem
HSV-48-04 **	Lower Plug
HSV-48-02 **	Inlet O-ring
HSV-48-19 **	Outlet Face Seal O-ring
HSV-48-3000	3000 PSI Service Pressure Safety
HSV-50-3300	3300PSI Service Pressure Safety
<b>HSV-48-KIT-10</b>	<b>Repair kit, "****" items above bagged</b>

Part # HSV-48-KIT-10 contains parts to overhaul ten Harrison Scuba valves.

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