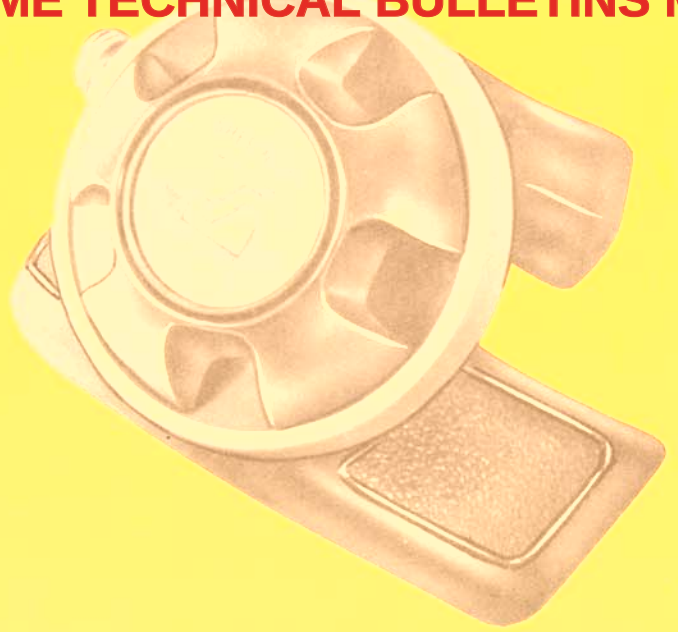
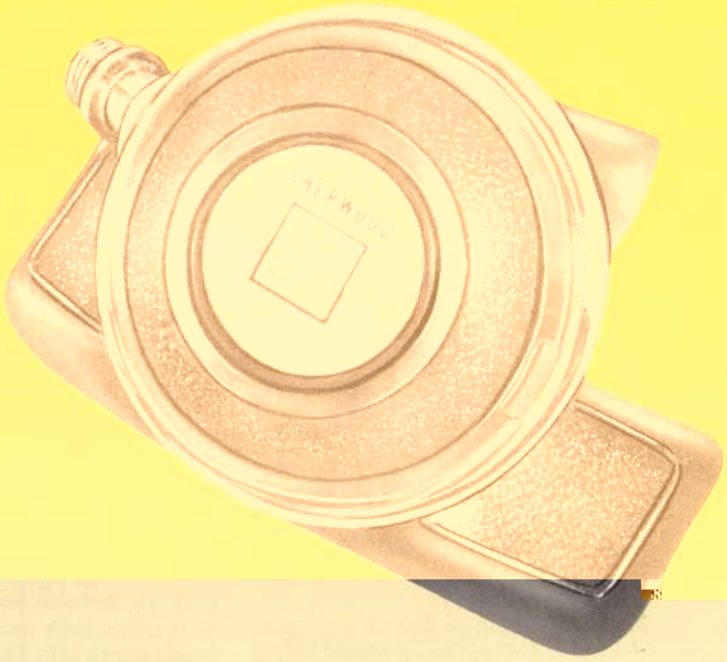
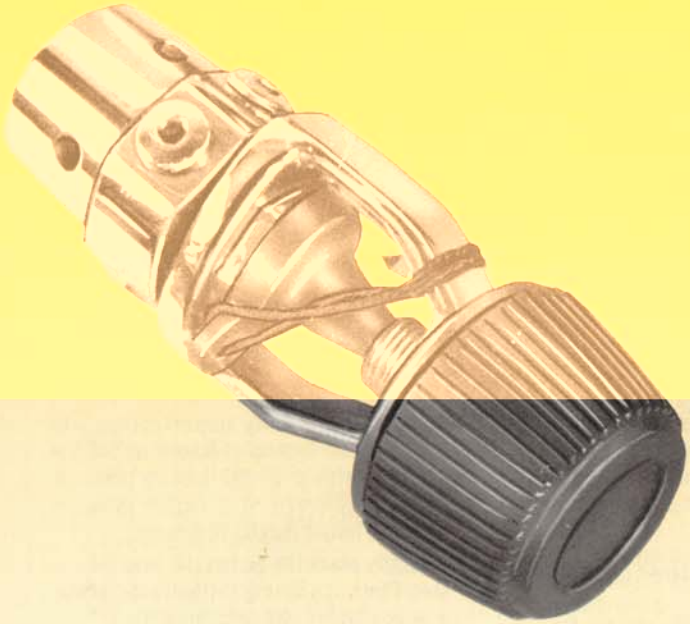
ASSEMBLY AND MAINTENANCE GUIDE

FOR REFERENCE ONLY
SOME PARTS MAY NO LONGER BE AVAILABLE
SOME TECHNICAL BULLETINS MAY APPLY TO THIS REGULATOR





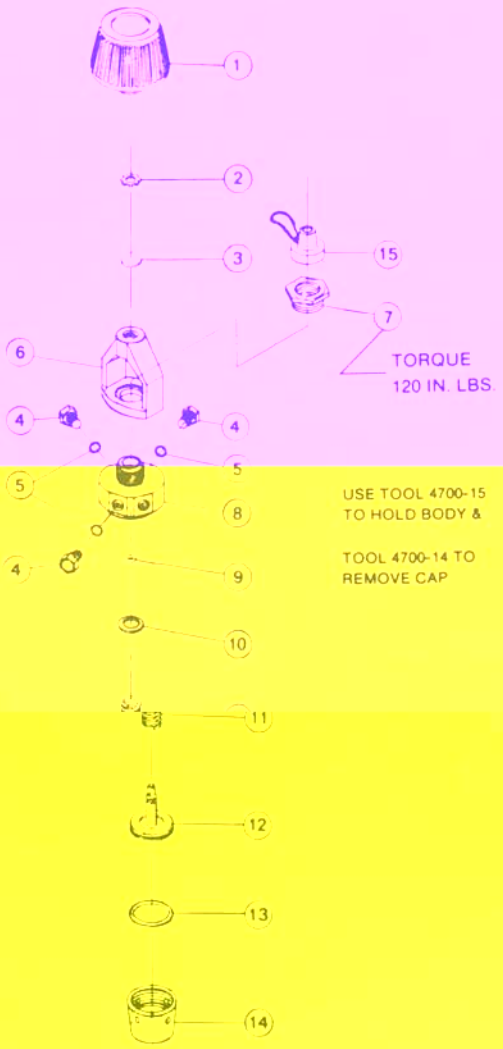


SHERWOOD

SRB 2000 REGULATOR

SRB 2005 FIRST STAGE REGULATOR

NO.	CAT. NO. SRB 2005	DESCRIPTION REGULATOR 1ST STAGE
1	1-4005-30	KNOB ASS'Y (MOLDED)
2	3504	RETAINER RING
3	1390-7	FILTER
4	1-3105-6	PLUG
5	G011B	O-RING (Was 3329-6)
6	2-2005-10	YOKE
7	1-1665-17	RETAINING NUT
8	2-3348-10	BODY
9	G007A	O-RING (Was 3348-7)
10	6526	SHIM
11	3529-3	SPRING
12	25-3505-170	PISTON ASS'Y
13	G022A	O-RING (Was 3505-18)
14	2-3505A-16	CAP
15	3529-6A	CAP & CORD ASS'Y



ASSEMBLY AND MAINTENANCE
SRB 2005 FIRST STAGE REGULATOR

DISASSEMBLY

NOTE: Standard inspection of components shall be performed during disassembly of the regulator.

1. Remove knob (1) retaining nut (7) and yoke (6) from body.
2. Remove the end cap (14).
3. Remove the piston (12) from the end cap.
4. Remove the spring (11) any shims (10) from the regulator body (8).
5. Remove the star washer (2) filter (3) and **discard.**

NOTE: Clean all metal parts in a suitable solution such as white vinegar in an ultrasonic bath. Rinse in clear water and dry.

ASSEMBLY

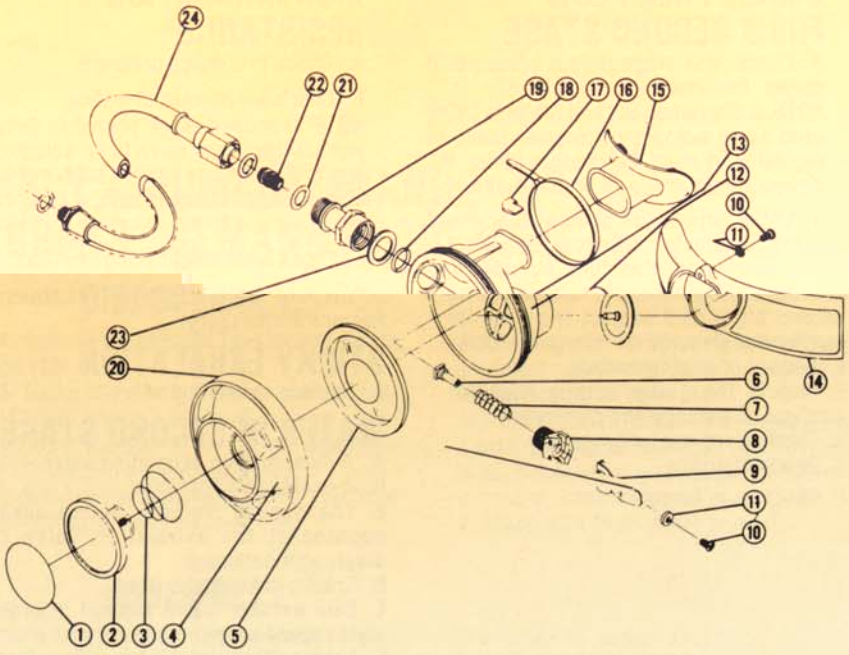
1. Install a new star washer (2) and filter (3).
2. Lubricate o-rings (13) and (9) for the piston (12) and install.

NOTE: Be sure the teflon seat in the piston (12) is free of nicks, scratches, and imperfections. Any imperfection will increase the lockup pressure above the desired setting, or the lockup pressure will slowly creep to a higher pressure after the initial lockup is attained.

3. Gently place the piston (12) into the cap (14). Place the spring (11) onto the piston and any shims (10) onto the spring.
4. Assemble the cap (with piston, spring, and shims), onto the body (8), and secure snugly.

LEXAN DEMAND REGULATOR

NO.	CAT. NO.	DESCRIPTION
1	2004-3	Decal
2	3004-1	Purge button
3	19-4006-12	Spring, purge button
4	3004P-2	Bezel
5	4006-13	Diaphragm
6	4006-21	Poppet Assy
7	19-978-10	Spring, low pressure
8	1-3004-8RH	Lever support
9	19-4006-9	Lever, demand valve
10	19-4000-9	Screw
11	19-4006-17	Washer
12	4006-15	Valve, exhalation
13	3004P-1	Case
14	4006-8	Exhaust Tee
15	3786-7	Mouthbit
16	3786-9	Tie
17	19-3004-9	Lock
18	G907A	O-ring (was 3004-6)
19	1-3004-4	Housing, demand valve
20	19-3004-5	Ring, reinforcing
21	G010D	O-ring (was 1322-21)
22	29-4006-20	Adjustable orifice
23	1-3004-12	Washer
24	3809-50-31	Hose assembly, includes o-rings



SHERWOOD

SR 2004P/SRB 2005 REGULATOR

LEXAN SECOND STAGE DEMAND REGULATORS FOR SRB 2004P

DISASSEMBLY

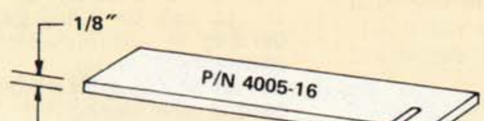
Any time hose fittings are loosened or tightened, two wrenches should be used to prevent cracking the plastic housing.
1. Remove the protecting lock (17).
2. Remove the bezel (4) and the diaphragm (5).
3. Remove screw (10) and the exhaust tee (14).
4. With a 3/4 inch wrench on the lever support (8) in the interior of lexan case (13), remove the demand valve housing (19) using a 13/16 inch wrench. NOTE: Do not put any strain on lexan body during this operation.
5. Remove the adjustable orifice (22) from demand valve housing (19) by unscrewing orifice and pushing out.
6. To remove worn low pressure poppet assembly (6), place socket (4705-6) over square head of assembly (6). While holding socket firmly in hand, remove phillips screw (15). Discard worn assembly (6) and save all other parts.
7. Clean all metal parts in white vinegar.
8. Inspect all parts for damage or cracking. Pay special attention to case in area of hose penetration.

ASSEMBLY

1. Using self tapping screw (15), prethread the new low pressure seat stem assembly (6) two or three turns.
2. Place the low pressure spring (7) over the poppet assembly (6) and place it seat side down on a clean workbench.
3. Place washer (11) over self tapping screw (15) and place the screw in the hole in the lever support (8).
4. Lower the lever support (8) onto the spring (7) and poppet assembly (6) and start the screw into the stem. Turn it one or two turns.
5. Compare the lever (9) to a new lever. If the lever is deformed, replace it.
6. Turn the resulting assembly up side down and slip the demand valve lever (9) under the washer.
7. Tighten the screw (15) down tight, holding the stem assembly with the demand valve stem socket (4705-6).
8. Place the resulting assembly in the recess in the second stage case (13).
9. Install the o-ring (18) from the outside of the case, over the threads of the lever support assembly.
10. Place the washer (20) with outer flange cupped outwards around the o-ring (18).
11. Install the demand valve housing (19) onto the lever support assembly.
12. Holding the lever support assembly with a 3/4 inch socket from the inside, torque the demand valve housing to 70 in. lbs. max. Be sure no strain is placed on lexan body during torquing.
13. Lubricate the o-ring (21) and install it on the adjustable orifice (22).
14. Screw the adjustable orifice (22) into the demand valve housing. Depress lever (9), while turning orifice to avoid cutting seat.
15. Alternately screw the adjustable orifice into the housing and blow into the housing until you can no longer blow through the second stage. This tells you that the poppet is just touching the orifice.
16. Place a properly adjusted first stage on a tank containing a minimum of 2700 PSI. You are now ready to do the final adjustments on the second stage.

ADJUSTING

NOTE: The finest adjustments can be made using a pail of water on the repair bench and adjusting the second stage using bubbles as a visual air flow indicator at the lever support assembly (8).
1. Using second stage adjusting tool (P/N SYA 4701), adjust the second stage adjustable orifice inward until no air escapes from the second stage. How far in the orifice is adjusted depends on second stage use. Just barely stop the bubbles for a primary regulator, but adjust further in on an octopus second stage to prevent free flows.
NOTE: Adjustable orifice (22) should be turned only when lever (9) is depressed to prevent damaging the poppet face (6) with the sharp cutting edge of the orifice (22).
2. After setting the spring tension, the lever should be set so that it just touches the diaphragm when assembly of the second stage is completed. If the lever is too high, a potential free flow problem exists. If the lever is too low, there will be a hesitation in the breathing performance of the regulator and an increase in breathing resistance.
3. Use tool 4005-16 to check the lever height. (See figure 1).
4. To change the lever height, insert the slot on the tool onto the lever just below the bend point. (See figure 2).
5. Move the lever off of the stop ears of the lever support and bend the lever with the thumb using the adjusting tool to hold the lever. Apply all bending force on the lever outboard of the adjusting tool towards lever tip. Never bend lever at the pivot support.
6. Check the lever height.
7. Continue to bend with the thumb and check the lever height until the lever is the same height as the tool thickness.
8. Insert new exhaust valve (12) from the outside of second stage body.
9. Install the diaphragm (5), the bezel (4) and the lock (17).
10. Place your thumb in the opening in the exhaust tee (14) and stretch it over the boss on the second stage body. Secure it with a screw (10) and washer (11).
11. Check the inhalation resistance of the regulator by slowly submerging it in water, purge downward. Air should start to flow before water level reaches the mouth piece.
12. Turn off the air and purge the regulator.
13. With the regulator still on the tank, try to inhale on the regulator. No air should enter the second stage.
14. If air enters the second stage, check for leaks around the exhaust valve and diaphragm.



ADJUSTING TOOL AND GAUGE

FIGURE 1

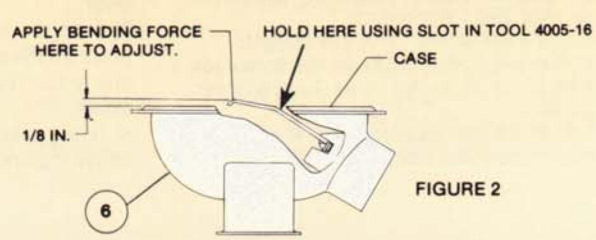
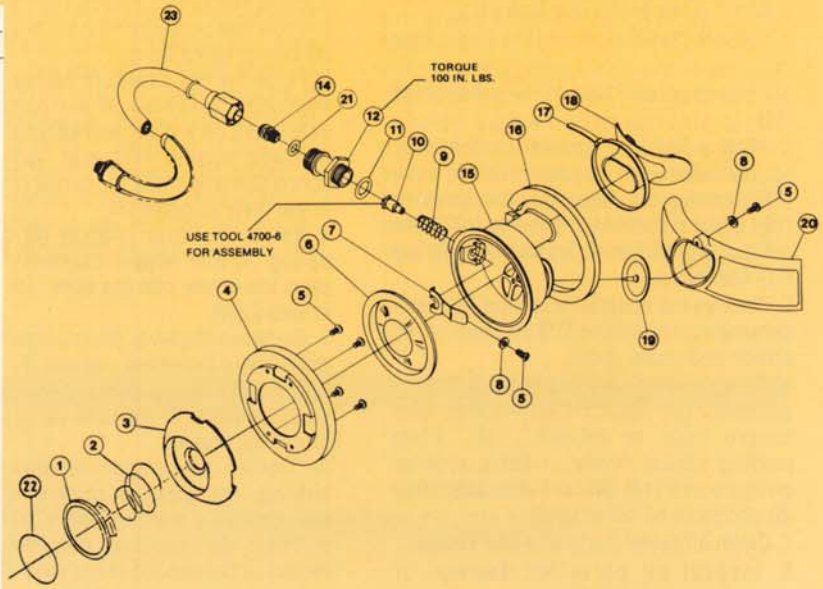


FIGURE 2

SHERWOOD

SRB 2004P REGULATOR

NO.	CAT. NO.	DESCRIPTION
	SRB 2004	DEMAND REGULATOR
1	3004-1	PURGE BUTTON
2	4006-12	SPRING, PURGE BUTTON
3	3004-2	BEZEL, PURGE BUTTON
4	2-4006-1	COVER
5	4000-9	SCREW
6	4006-13	DIAPHRAGM
7	19-4006-9	LEVER, DEMAND VALVE
8	9-4006-17	WASHER
9	978-10	SPRING
10	4006-21	STEM ASS'Y.
11	G906A	O-RING (Was 4006-14)
12	1-4006-19	HOUSING, DEMAND VALVE
13	G011B	O-RING (Was 3329-6)
14	29-4006-20	VALVE SEAT
15	2-4006-5	CASE, ASS'Y.
16	3840-3B	RING, RETAINING
17	3786-9	CLIP
18	3786-7	MOUTH BIT
19	4006-15	VALVE, EXHALATION
20	4006-8	EXHAUST TEE
21	G010D	O-RING (Was 1322-21)
22	2004-3	DECAL
23	3809-50-3	HOSE ASS'Y, INCLUDES O-RINGS



ASSEMBLY AND MAINTENANCE
SRB 2004 "BRASS" DEMAND REGULATOR

DISASSEMBLY...

1. Remove the bezel retaining ring (16) by inserting a screw driver in the groove provided and gently prying down and out.

2. Remove the front cover (4) and the diaphragm (6).

3. While depressing the lever (7) unscrew the demand valve housing (12).

4. Remove the exhaust Tee (20) and mouth bit (18).
5. Using the demand valve stem socket (4700-6), remove the Phillips head screw (5) from the end of the poppet assembly (10). Discard poppet assembly.
6. Remove the adjustable orifice (14) from the demand valve housing (12).

7. Clean all the metal components in the ultrasonic bath with a mild solution of white vinegar or equivalent.
NOTE: Excessive time in white vinegar can cause peeling of chrome. Use the mild acid solution only enough to remove corrosion from the parts.
8. Wash with fresh water and dry.

ASSEMBLY...

1. Pre-thread the poppet stem assembly (10) two or three threads using the self-tapping screw (5), then remove screw.
2. Place the poppet assembly face down on your clean workbench.
3. Place the spring (9) on the poppet.
4. Place the washer (8) on the screw (5) and place it in the hole in the lever support.
5. Push the entire assembly down over the poppet stem and start to screw a couple of turns into the shaft of the poppet.
6. Compare the lever with a known good lever. If the geometry is bad, replace the lever.
7. Turn the assembly upside down and press on the poppet (10) with your thumb, insert the lever under the washer and screw.
8. Using tool 4700-6 and Phillips screw driver, completely tighten screw (5) until it bottoms on poppet assembly.
9. Lubricate and install O-ring (11) onto the demand valve housing (12).
10. Install the demand valve housing (12) onto the case assembly (15).
11. Lubricate the O-ring (24) with Dow Corning III and install it onto the adjustable orifice (14).
12. Push the adjustable orifice (14) into the demand valve housing (12).
NOTE: At this point, do not engage threads.

[redacted]

[redacted]

TROUBLE SHOOTING FIRST AID GUIDE

SMALL FREE FLOW FROM SECOND STAGE

A. Check first stage output pressure; if proper, continue.
NOTE: If Sherwood Second Stage is being used as an octopus on another make of regulator, it must be readjusted for the different hose pressure of that make.

B. Check adjustment of the second stage using adjustable orifice tool (SYA4701).
1. If unable to stop flow by adjusting orifice spring tension, disassemble second stage and inspect the seat for mechanical damage or foreign particles embedded in sealing surface.
2. Inspect the orifice cutting edge for mechanical damage and corrosion.
3. Clean or replace as necessary.
4. Readjust orifice.

C. Check lever height.

HIGH INHALATION RESISTANCE

A. Check first stage pressure.

B. Check adjustment of orifice.
NOTE: If second stage poppet is dirty or worn, orifice may have to be adjusted to such a point to stop bubbling that inhalation resistance is beyond acceptable range.

C. Check lever height using tool (4005-16).

D. Inspect diaphragm for stiffness. Replace if necessary.

STICKY EXHALATION

A. Replace exhalation valve.

WATER IN SECOND STAGE

A. A deteriorating exhalation valve.
B. A damaged diaphragm.
C. The sealing surface in the lexan housing at the exhalation valve or diaphragm damaged.
D. Cracks in Lexan housing.
E. Bent exhaust valve support in brass style second stage.
F. Leaking braze joint in brass 2nd stage.

HIGH INHALATION RESISTANCE ONLY AT GREATER DEPTHS OR LOW TANK PRESSURE.

A. Replace first stage inlet filter.

NOISY INHALATION (HUMMING OR BUZZING)

Caused by spring mass resonance. Depending on what parts are resonating **one or more** of the following actions will stop the buzzing.
A. If in first stage — Rotate main spring end to end and reinstall.
— Install a new piston.
— Install new spring.
B. If in second stage — Rotate poppet spring end to end.
— Install new poppet and orifice.
— Install new spring.

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SRB 2004 REGULATOR

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