



***The following Sherwood Scuba technical bulletins are for reference only.***

***Some of these technical bulletins may be out dated and / or superseded by other bulletins.***

***Some part numbers may have changed and / or may no longer be available.***

***For further information regarding these technical bulletins contact your Sherwood Scuba distributor.***





facturing 200 bar connections and describing them as 300 bar connections. This has been proven not to be the case and will probably soon be corrected. It can, however, be said with assurance that any manufacturer's valve or regulator manufactured to precise DIN 477 standards for 300 bar applications will interface with either the Genesis Valve or Genesis Regulator. With the Sherwood Genesis System being introduced into the marketplace in great numbers we expect normal market forces to result in the elimination of this confusion, even among manufacturers.

**Q. Why won't Sherwood's DIN adaptor fit other makes of regulators?**

A. Unfortunately some of the diving press has mistakenly reported that Sherwood adaptors will mate to other make regulators. The DIN system does not only involve the tank and valve it also includes the regulator. Sherwood has done extensive testing and we are quite confident that all Sherwood regulators to which our DIN adaptor will attach can handle the 3500 psi inlet pressure of the Genesis system. However, it is naturally up to other manufacturers to assure that their regulators can take the added stress. Once that has been established, they will probably outfit their regulators with 300 bar DIN adaptors as well. In the meantime the very nature of the incompatibility between DIN and yoke assures that no regulator, unable to cope with 3500 psi, will be fitted to the higher pressure system.

**Q. Why DIN? Isn't the yoke system o.k.?**

A. The yoke system evolved from the early days of scuba when the 1800 psi oxygen system yokes were adapted to scuba. Since those days, scuba systems have seen ever increasing pressures from 1800 psi all the way up to 3000 psi. With a good added factor of safety the yoke system is quite safe at 3000 psi. However, above that, because of the requirement that the yoke span around the outside of the valve, higher pressures tend to straighten the yoke sides. This results in a release of the o-ring causing a loss of air at the inlet. The DIN system is a much more positive attachment of the regulator to the valve. There is no stretch occurring during use and therefore less possibility of leakage even at much higher pressures. The DIN system opens up great possibilities in diving in the future leading to ever more sophisticated systems which the yoke system cannot manage.

**Q. How can I get my tank filled at all filling stations if they don't yet use DIN?**

A. Sherwood has available to the diver an inexpensive adaptor (P/N SA5301) which screws into the DIN outlet and turns it temporarily into a yoke type fitting. The dive store can then attach their normal filler yoke and fill the Genesis system up to 3000 psi. (See diagram on last page)

**Q. How much of a fill will I get if they can't pump to 3500 psi?**

A. Even at 3000 psi you will get adequate fills with the Genesis cylinder. This is due to the high strength steel construction. Steel allows much thinner walls than aluminum. A Genesis 80 tank holds 72.4 cu. ft. at 3000 psi, 77 cu. ft. at 3200, and 83 cu. ft. at its rated 3500 psi. A Genesis 100 tank holds 90 cu. ft. at 3000, 95 cu. ft. at 3200, and 103 cu. ft. at 3500 psi. Most popular aluminum cylinders hold only 79.6 cu. ft. of air at 3000 psi. Added to this is another advantage of the thin metal walls. The heat created during filling is very quickly transferred out of the tank and into the cooling water. The comparatively thick walls of aluminum cylinders retard this transfer of heat so that it usually occurs after the tank has been removed from the filling station and is sitting at the counter of the dive store. This means that under all equal conditions, the Genesis tanks will cool down more efficiently than aluminum cylinders and give the diver a more efficient fill.

**Q. Is the DIN connection just a fad and will I be left with and obsolete odd-ball fitting in just a few years?**

A. Sherwood is extremely committed to the Genesis system and the DIN connection. Sales have been above the most optimistic projections. It is anticipated that once sales and numbers reach a critical mass, the DIN connection will be well on its way to becoming the most accepted connection of the future. As said earlier, it will allow even further innovations in the future of diving equipment which will make it even more attractive.

**Q. What about all my old aluminum and steel cylinders?**

A. Sherwood will shortly be coming out with a 3/4" inlet version of the 300 bar DIN valve. This will allow older aluminum and steel tanks to be retrofitted with the 300 bar connection. This will

allow you to use your old cylinders at the lower pressures as well as your new Genesis system at the higher pressures.

**Q. With a DIN valve, won't a dive store overfill my aluminum tanks to 4500 psi?**

A. Even with the present yoke system there are tanks which are rated at only 1800 psi, 2000 psi, 2250 psi, all the way up to 3000 psi. The filling of the tank depends on the rated pressure of the tank, not the connection. The filler will still be required to check the top of the tank for the rated pressure of the tank to make sure the filling is done to the proper pressure. As an absolute backup, burst disks are designed to take care of any accidental overfills.

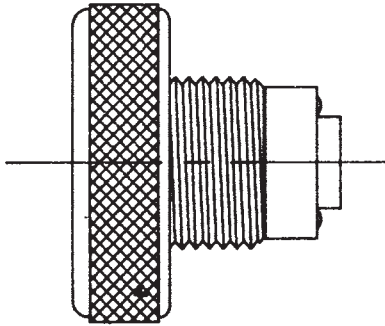
**Q. Will DIN make yoke connection obsolete?**

A. Sherwood sincerely believes that DIN is the connection of the future. In believing that, it has to be assumed that sooner or later DIN will make yokes obsolete, particularly in small pockets and locations where dive stores elect to make the changeover rapidly. The growth curve of DIN acceptance will probably be moderate at first but will get ever steeper as more and more valves and tanks reach the field. However, it should be remembered that there is a tremendous number of yoke valves and regulators out in the field and Sherwood is still the largest manufacturer of yoke valves in the world. The owners of the yoke valve will probably find themselves converted to DIN because of the desire to join this upward technology rather than the result of being pushed into it because of an unavailability of filling stations or servicing facilities.

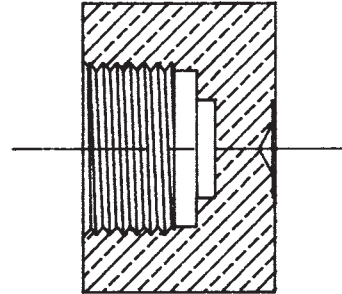
**Q. What is in the future for DIN?**

A. The DIN will become the stepping stone for future, exciting developments in scuba regulators and valves. The current yoke has become a bottleneck which does not allow manufacturers to progress beyond current standards. If DIN is successful, it means that the way is opened up for systems of ever smaller size and increased efficiency. It will be the beginning of an exciting new world of scuba technology.

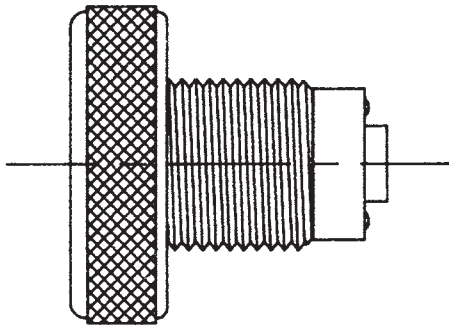
# DIN 477 CONNECTIONS and HOW THEY INTERCONNECT



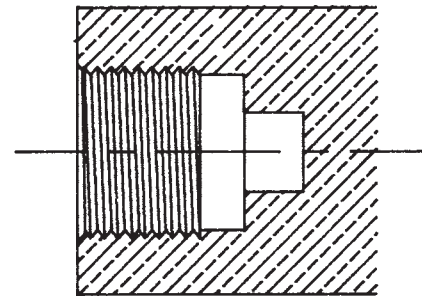
200 BAR @ REGULATOR  
Seals to 200 BAR Valve Only



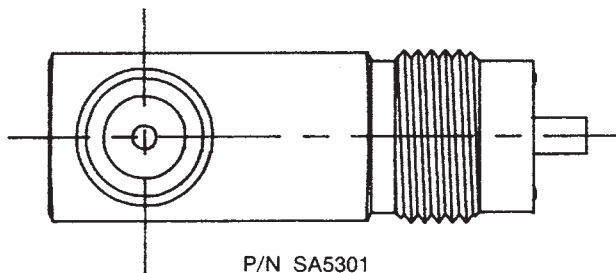
200 BAR @ VALVE  
Seals to 200 or 300 BAR Regulator



300 BAR @ REGULATOR  
Seals to 200 or 300 BAR Valve



300 BAR @ VALVE  
Seals to 300 BAR Regulator Only



P/N SA5301  
YOKE to DIN477  
FILLING ADAPTOR

# SHERWOOD

## TECHNICAL BULLETIN

NO. 102 A  
MARCH, 1989

This Bulletin is supplementary to Sherwood Technical Bulletin 102.

### SHERWOOD RECOMMENDS THAT ITS CGA850 AND CGA855 (YOKE TYPE) CONNECTIONS NOT BE USED ABOVE 3000 PSIG.

- Q. Why is Sherwood opposed to the CGA yoke connections being used above 3000 psig when some other scuba manufacturers are now using yoke connections at 3300 psig?
- A. Sherwood, of course, cannot presume to be able to answer for the action of others, but we can make our position clear. Sherwood feels that the scuba industry should follow the guidelines of the CGA as all other industries do when dealing with compressed gas.
- Q. What is the CGA?
- A. CGA stands for the Compressed Gas Association. Most manufacturing companies of gas or gas control equipment in the United States are members. This 75 year old organization is recognized world wide for developing and listing recommended connection standards for all compressed gases and pressures. The standard scuba yoke for example is rigidly defined as a CGA850 or CGA855 connection and all scuba manufacturers use these dimensions to assure compatibility of their valves and regulators with those of other manufacturers. The DIN in Europe is a similar organization.
- Q. What is Sherwood's experience with the CGA?
- A. Sherwood, as a whole, is much larger than its scuba division and is involved in the manufacture of many different gas and pressure control systems. Sherwood has been an active member of CGA for nearly 30 years and is very familiar with their purpose. Sherwood's staff has chaired numerous committees over the years and was instrumental in writing Pamphlet V-1, (CGA's valve connection guidelines which include scuba) as well as Pamphlets V-5, V-7, S-7, S-1.1, S-1.2, and S-1.3. Sherwood developed,

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tested, and wrote the specifications for extra high pressure connections such as CGA347, CGA680, CGA695, CGA701, CGA702, CGA703, and CGA860. This rather long answer to a short question is just meant to show that Sherwood is very familiar with the wording as well as the intent of Compressed Gas specifications.

- Q. What does the CGA say about the typical scuba yoke connection that makes Sherwood believe yoke connections should not be used beyond 3000 psig?
- A. CGA covers the valve specifications for scuba in Pamphlet V-1. Section 3 covers outlet connection pressure ranges. Paragraph 3.1.2 of this section covers pressure ranges from 0 to 3000 psig. In covering the range of connections in the 0 to 3000 psig category, the paragraph states "These connections shall not be used for pressures exceeding 3000 psig (20,680 kpa) at 120°F (48.9°C)"\* [emphasis added]. Due to historical use, and established procedures in the scuba industry, a subparagraph 3.1.2.1 was added, the intent of which was to allow scuba cylinders to be filled to their rated pressure (3000 psig) at 70°F rather than 120°F. This, in effect, allows a better fill volume. 3.1.2.1 states "Valve outlets falling into this category are: 850 and 855",\* (scuba yoke).
- Q. Are CGA guidelines mandatory?
- A. No, CGA guidelines are just that, guidelines; but they are often cited in the courts as the industry standard. The Compressed Gas industry is deliberately self regulated, and has been successful by continually proving to government agencies that rational standards have been developed, and are being adhered to, to insure public safety. Other government pamphlets, such as OSHA's 29 CFR refers to CGA Pamphlet P-1 and thus V-1. CGA Pamphlet V-1, Section 3 states "A number of pressure ranges have been established to safeguard the selection of the proper cylinder valve outlet connection. These ranges have been chosen to protect downstream regulators and other ancillary equipment from overpressurization conditions. ...It is the user's responsibility when attaching regulators or other ancillary equipment to insure that the regulator or equipment is rated by the manufacturer to operate safely at the maximum range recommended for test connections".
- Q. Why should the dive industry follow standards set by CGA?
- A. Sherwood believes that diving is a safe sport. The dive industry has a responsibility to ensure the safest equipment possible. Since our industry has not set many of its own standards, it has borrowed from many standards already set. This would include CGA standards for connections, ANSI standards for hoses and masks, and DOT regulations limiting tank fill to stamped service pressure, as well as tank inspection requalification. We now have a choice of adhering to existing standards or attempting to function in an industry with no standards at all. Sherwood will continue to follow established guidelines to ensure the safety of the sport.



# SHERWOOD

## TECHNICAL BULLETIN

NO. 103  
DECEMBER, 1988

**SUBJECT: Ultima SRB-3800 Specification Change Notice**

**RECOMMENDATION: Store this bulletin inside your Ultima Repair Manual**

Ultima regulators made after December 1988 have been enhanced with a new locking ring, part number 3404-PS. This locking ring further secures the low pressure sleeve, part number 2836-PS, in position on the sleeve holder, part number 2837-PS. To avoid confusion, Sherwood recommends that the new locking ring be installed on all Ultima Regulators as they come in for regular service. This will bring all Ultimas up to 1989 specifications. Installation tool, part number 3414-PS, is available through your distributor. With care, a twelve point 5/16 socket can be used as an installation tool if the dive store does not yet have a 3414-PS tool.

### INSTALLATION:

- Closely examine the new locking ring, 3404-PS, to determine in which direction the outer lip faces.
- Place the locking ring into the groove on the installation tool or on the top edge of the twelve point 5/16 socket with outer lip facing upwards (Fig. 1).
- Press sleeve holder (with sleeve installed) pointed end first, into the locking ring (Fig. 2).
- A distinct snap or click will indicate that the locking ring is properly in place (Fig. 3).
- Check to see that the locking ring is properly in place and not damaged.

### REMOVAL:

- Turn sleeve inside-out as in normal removal, and pull it off the sleeve holder.
- Discard the used locking ring.

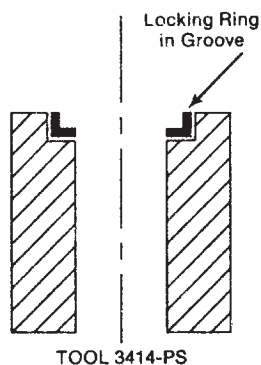


FIG. 1

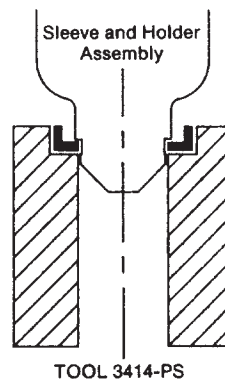
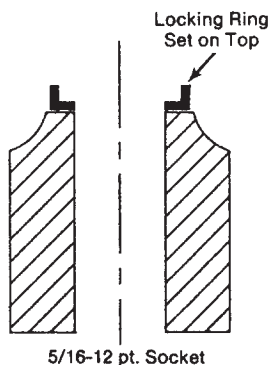


FIG. 2

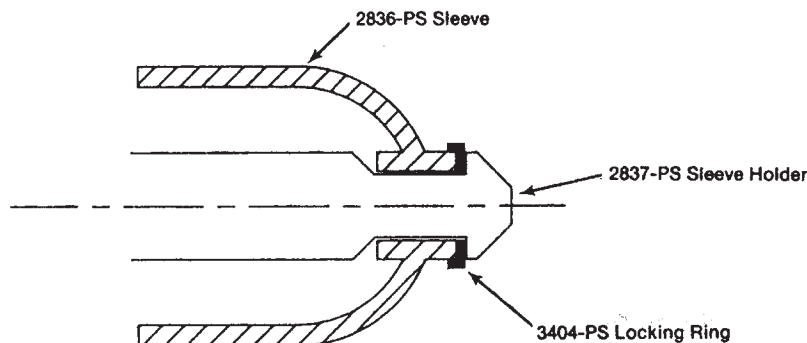
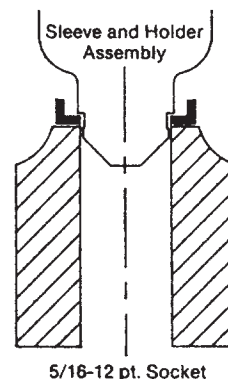


FIG. 3

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## TECHNICAL BULLETIN

NO. 104  
SEPTEMBER, 1989

### SUBJECT: SAA5300 DIN ADAPTOR PRODUCT IMPROVEMENT

As a standard policy, SHERWOOD products undergo a continuous evolution and improvement program. The SAA5300 DIN Adaptor has undergone a product

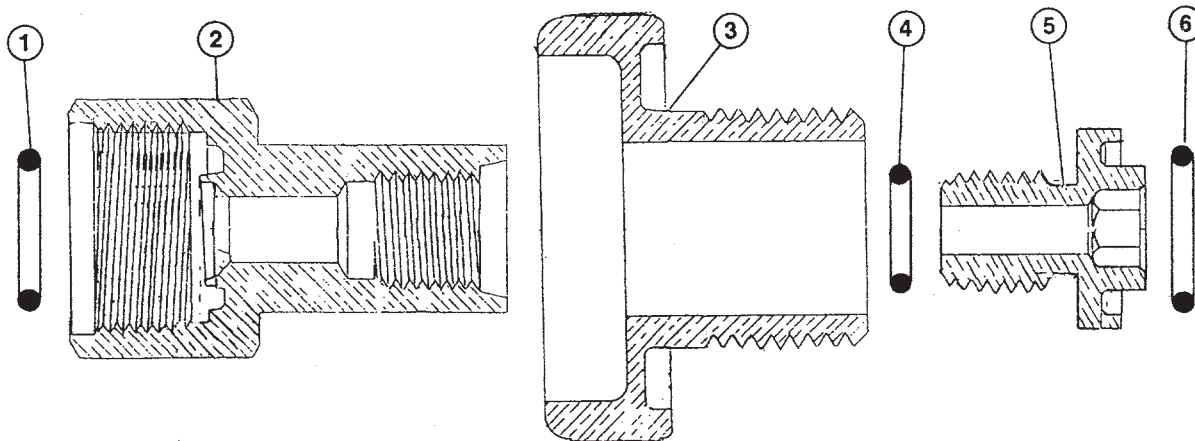
improvement which SHERWOOD recommends SHERWOOD DEALERS incorporate into all their current stock.

#### OVERHAUL PROCEDURE:

- Remove SAA5300 from regulator using 7/8" wrench.
- Fit hex end of SAA5300 into 7/8" socket.
- Fit 1/4" Allen wrench into retainer end. (Item 5)
- Turn Allen wrench counter clockwise until unit is apart.
- Remove all o-rings (Items 1, 4, 6) and discard.
- Clean all residues from parts. (Items 2, 3, 5)
- Install new o-rings. (Items 1, 4, 6)
- Apply two drops of "Hernon 427-02 or Loctite 271" to end three threads of retainer (Item 5) away from o-ring. (Item 4)
- With knob (Item 3) in place, tighten retainer (Item 5) into body (Item 2) with 125 in. lbs. torque.
- Allow "Hernon 427-02 or Loctite 271" to cure for at least 12 hours before using SAA5300 Adaptor.

ITEM NUMBER	CATALOG NUMBER	DESCRIPTION
*1	G014A	O-RING
2	1-5300-1	BODY (300 BAR)
3	1-5300-2	KNOB (HANDWHEEL)
*4	G904A9	O-RING (replaces G904A)
5	1-5300-3	RETAINER
*6	G112L	O-RING
*	5300-5	REPAIR KIT (Includes Items 1, 4, & 6 plus 1/2 c.c. of Hernon 427-02, or Loctite 271.)

NOTE: O-rings G904A9 and G112L are new higher pressure sealing o-rings which replace G904A and G112A.



#### HANDLING RECOMMENDATIONS FOR DIN EQUIPPED REGULATORS

In any mechanical gas connection, pressure helps tighten the fittings. Any rotational movement of the regulator in relation to the valve face when the gas pressure is turned off may loosen the connection, which increases the chance of o-ring extrusion and gas leakage. For this reason SHERWOOD recom-

mends the diver **check** that the DIN handwheel is tightened firmly **just before** the air is turned on. For similar reasons, when carrying or lifting the tank, B.C.D., and regulator system out of the water, **never** use the hoses or regulator as a lift point.

Please pass this information on to your customer.

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# SHERWOOD

## TECHNICAL BULLETIN

NO. 105  
JANUARY, 1990

### SUBJECT: NEW BONNET STEM PACKING

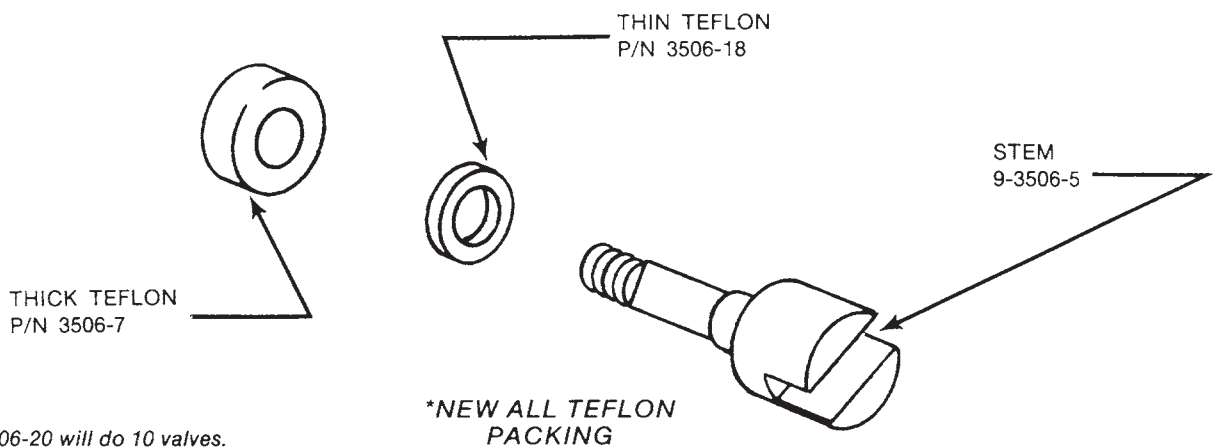
As of January 1990, Sherwood has changed the bonnet stem packing on all standard yoke valve series to improve service, durability, and reduce friction.

The new Teflon packing is compatible with the newest (as of 1990) and oldest Sherwood valves (except 6300 Series DIN valves). This makes the two different bonnet stem packing systems formerly in use obsolete.

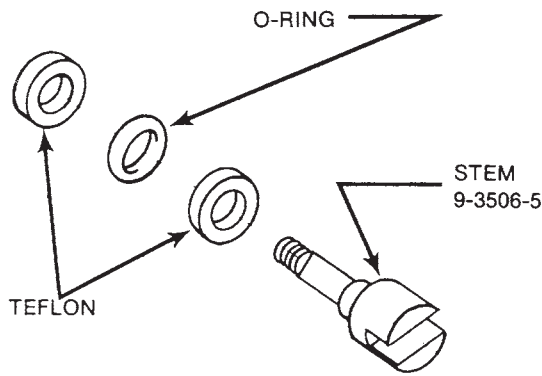
- The new packing consists of a thick Teflon

washer, P/N 3506-7 and a thin Teflon washer P/N 3506-18. The same stem and bonnet nut are used.

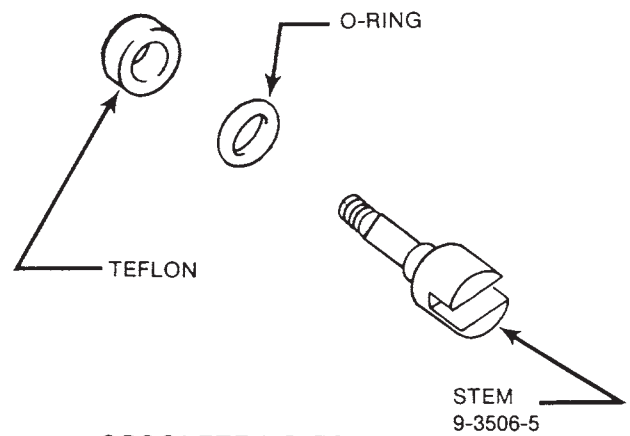
- To install this new packing on the stem, lubricate both generously with DOW III, Parker O-ring Lube, or equivalent, then install the thin washer on stem followed by the thick washer. Install stem and packing into nut and assemble into valve using normal procedures.



\*Kit P/N 3506-20 will do 10 valves.



OBSOLETE 3-PIECE PACKING



OBSOLETE 2-PIECE PACKING

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# SHERWOOD

## TECHNICAL BULLETIN

NO. 107  
JUNE, 1990

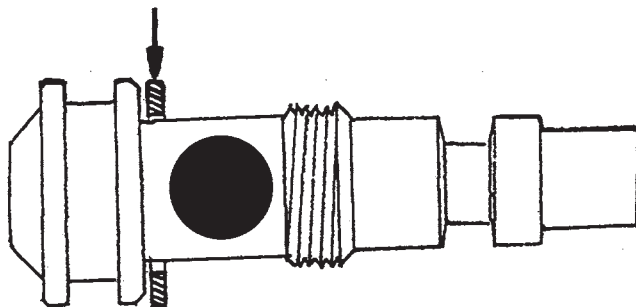
### **SUBJECT: MAXIMUS Second Stage Improvements**

**RECOMMENDATION : Put this Bulletin with your MAXIMUS Repair Manual, and write the new part numbers on the exploded view of the second stage.**

Shortly after it's introduction, the Maximus Regulator's second stage orifice area parts were modified so that when the Adjustment Knob is fully backed out in the long term storage position, there is just a slight hiss of air released, rather than a higher flow.

In all but a few of the earliest Maximus Regulators this was accomplished by installing a spacer p/n 9-3602-31, over the threaded end of the second stage orifice, to a point just behind the o-ring groove flange. ( see fig. 1 ) Please note this new item and part number on the exploded view of the second stage on the back inside cover of the Maximus repair Manual. The new spacer slips onto Item # 8, the " ORIFICE " in this diagram.

SPACER p/n 9-3602-31



ORIFICE p/n 54-3602-12

fig. 1

To determine if a Maximus Regulator is one of the few unmodified early regulators, turn the second stage adjustor knob through it's full adjustment range. If the knob only turns about 3/4 of a turn it is the newer style, and needs no modification. If the adjuster knob rotates about 1 1/2 turns, then it is the early style. The owner then has the option of leaving the regulator as it is, or changing it to the new style. This would be most easily accomplished at the annual service interval.

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**INSTALLATION INSTRUCTIONS :**

First, request enough spacers p/n 9-3602-31 ( no charge ) to cover the number of early ( pre March 1990 ) Maximus regulators your store has sold. At the assembly portion of the regulator's service procedure, slip the spacer onto the threaded end of the orifice p/n 54-3602-12 so that it fits just behind the large o-ring groove flange. Then install the orifice into the orifice housing in the regular fashion. After full assembly of the regulator, check to see that the Breathing Effort Adjuster Knob has a full turn range of about 3/4 of a turn. If the technician attempts to install the spacer in a regulator that already has the new style orifice housing ( p/n 1-3602-13A ), the adjustor knob will not turn at all.

On all Maximus Regulators made after June 1990 the old orifice housing p/n 1-3602-13 has been changed to a new style orifice housing p/n 1-3602-13A, that will limit the travel of the orifice without using the spacer. This new Orifice Housing can be externally identified by a groove cut into the middle of the hex ( see fig. 2 ). This groove is externally visible between the swivel and the black plastic body of the second stage when the regulator is fully assembled. Please note this part number change on the exploded view of the second stage in your Maximus Repair Manual. It is item # 11 " HOUSING " in the diagram.

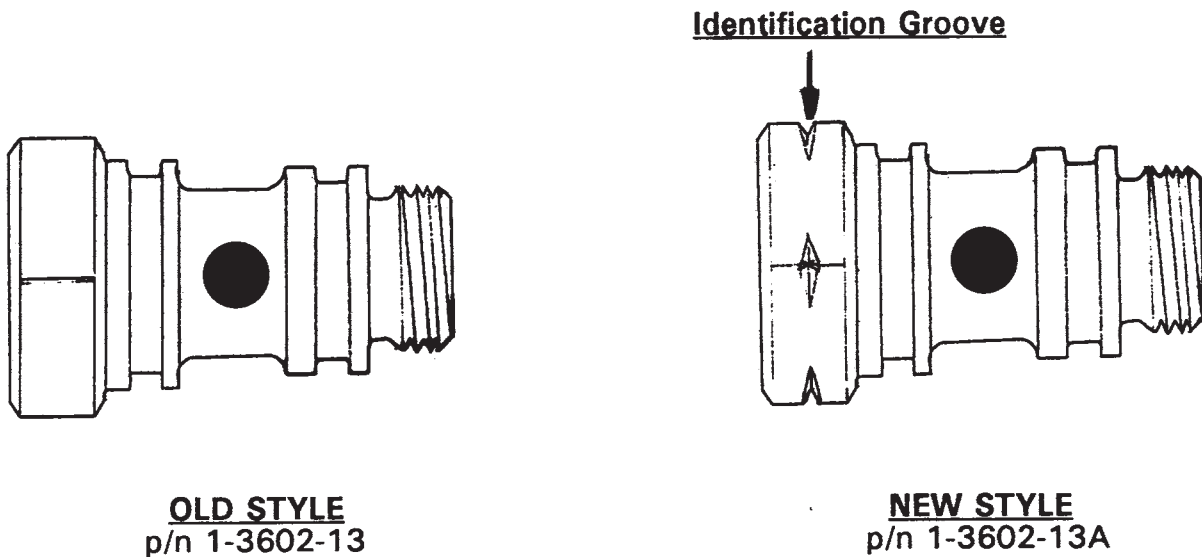


fig. 2

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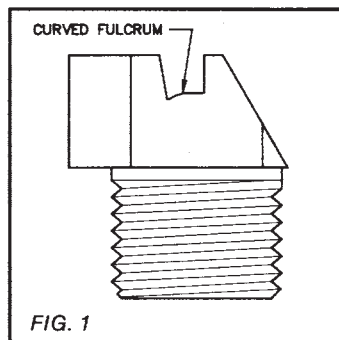
**EXTRA NOTE:** The MAXIMUS heat sink fins in the second stage mouthpiece area are held in place with two 5/32" Hex Head Screw. This fastener will also appear on the SHERWOOD Oasis, and Blizzard models. The technician should get a 5/32" socket, or nut driver for his tool kit.



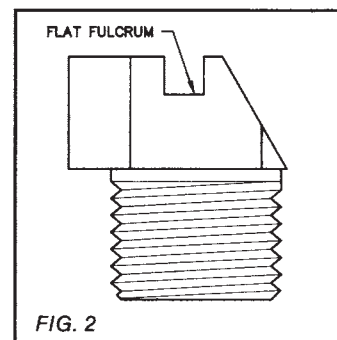
these three extra shims needed must be taken into account. In other words, the maximum number of shims allowed is normally three, but with a Maximus piston in a Blizzard, Brut, or etc., the maximum number would be six. The p/n 3107-10 piston normally used in the Blizzard etc., cannot be used in the MAXIMUS regulator, because the lock up pressure would be too high even with no spacer shims.

### **SUBJECT #3: New Octopus Lever Supports p/n 3004-9RH, and 3004-9LH**

To enable the technician to use the same replacement Lever Assemblies in the Octopus second stage, as in the regular second stage, (and still resist free flow in the Octopus), the lever support in the Octopus second stage has been modified. The difference between the new and old style lever support can be



visually identified, but the two types should be stored separately in well marked trays. The older style lever support (still used on all regular second stages) p/n 3004-8RH, is shown in fig. 1 on the left. When viewed from the side, the curve at the fulcrum contact area can be clearly seen (indicated by arrow). The new style lever support for Octopus regulators is seen in fig. 2. As the arrow indicates, the fulcrum contact area is now flat. This new lever support, (p/n 3004-9LH



for the left side Octopus, and p/n 3004-9RH for the right side Octopus), has been installed in all Octopus units built after August 1990. The serial numbers for the new style lever supports are any number above the following Octopus serial numbers **J 141919**, **S 116001**, **E 102628**, or **F 105944**.

The older style Octopus levers with the identifying hole, or "O" punched near the tip should not be used with this new lever support since the inhalation effort would then be very high.

### **SUBJECT #4: Grease Coated Pistons**

Certainly one of the strongest of SHERWOOD's patented features is the Positive Air Purge (Dry Air Bleed) System, which keeps the interior of the first stage completely clean, and dry. The system is very rugged but does need a bit of forethought on the repair technician's part to insure that it keeps working. When we travel to various Dive Stores world wide, we try to audit a few regulators in each store to see how they are standing up. We are still finding from time to time, entire groups of SHERWOOD regulators with no air coming from the One Way Bleed Valve when the air is turned on. Inevitably, when we open these regulators, we find the Piston coated with a layer of grease which clogs the small stainless steel flow element located in the large piston face. This grease usually gets there due to improper servicing techniques, such as the following:

1. The entire piston is sprayed with silicone grease before installation to "prevent corrosion".
2. The Piston O-Rings and Cap are heavily over lubricated with silicone grease which then squashes down and covers the end of the piston when the piston is inserted into the cap.
3. The Piston is "cleaned" in a dirty, over used cleaning bath, which coats the piston with grease as it is removed from the bath.
4. The Piston is handled with very greasy finger tips during servicing, which covers the Flow Element in the Piston.

An attempt can be made to clean the grease from the flow element. Use a very warm, and fresh batch of cleaning solution in an ultra sonic cleaner. Keep the piston in the bath for a fair length of time. Remove the piston from the fluid, and blow it dry thoroughly with clean dry compressed air. Pay particular attention to drying both sides of the flow control element. Install the piston into the regulator using techniques described in the appropriate SHERWOOD Service Manual, and check the flow rate as per instructions in the manual. If the flow rate is not quite up to minimum level, then a repeated attempt at cleaning should be made.

**If the flow through the piston element has been obstructed due to improper servicing techniques, the replacement of the piston is not covered by warranty.**



Corrosion in the spring chamber, or the back side of the piston face are seldom if ever, the **cause** of diminished flow through the One Way Bleed Valve. Rather, corrosion is usually a **symptom** that the flow element has been clogged, and the system has been made inoperative. Have you checked the flow rate on your rental, and customer's SHERWOOD regulators lately?

#### **SUBJECT #5: Serial Number Labels**

To improve the security of the serial numbers on SHERWOOD SCUBA regulators the position of the serial number has been moved from the chromed second stage Orifice Holder, to the flange on the second stage case where the Exhaust Tee is secured. This was done on all regulators made after September 1990. This number can be accessed easily during the service interval by removing the exhaust tee. When the regulator comes new out of the box, there is a white Quality Assurance Tag attached to the hose near the second stage. This white tag also contains the regulator's serial number, so that the exhaust tee doesn't have to be removed when you help the customer fill out the warranty mail-in card at the time of sale.

On a similar topic, if the serial number label is lost from a customer's regulator, or the case is damaged and a new label is needed, there is a procedure to follow. First of all, only warranty registered regulator's can get replacement serial number labels. Get an imprint of the customer's warranty card onto one of your SHERWOOD Warranty Return Forms. Attach the imprint(s) to some of your dive store's letterhead, and in a short letter state that you need a replacement label. The registration will be confirmed in our computer, and a new label with the **same** number will be sent back to you. This number cannot be assigned to a different owner than the one appearing on the registration card. You would then clean the area of the exhaust flange, and install the new label to the regulator.

#### **SUBJECT #6: Corrosion of Ultima Sleeve Holders**

In Ultima regulators (SRB-3800) manufactured prior to January 1990, the sleeve holder in the second stage (p/n 2837-PS) is made of chrome plated brass, rather than the current plastic material. (See Technical Bulletin #106 to differentiate between the two styles.) If the diver is not careful about keeping all salt contamination out of the inlet filter end of the first stage, there is a possibility of salt induced corrosion building up in the tiny hole in the end of the sleeve holder. You can spot this corrosion by holding the sleeve holder up to a strong light. You should be able to see the light shining through the tiny hole. If you do not see this light, clean the sleeve holder in your hot cleaning solution until the hole is cleared. We have found that many service technicians are not familiar with the fact that the condition of this hole **must** be inspected every time the regulator is serviced, and whenever the customer complains of free flowing. To make sure that your Service Department has the latest information on the servicing of the Ultima regulator, check to see that the Ultima Maintenance Guide you are using has "1990 Edition" printed clearly on the front cover. If it does not, ask your SHERWOOD Distributor for your copy of the latest edition.

#### **SUBJECT #7: Change made to Exhaust Flange on Second Stage Case**

As of November 1990, the exhaust flange on the second stage case used in the Octopus, Shadow, Magnum II, and other SHERWOOD regulators has been modified. This is an evolutionary change in this item, and the part number for the case is still 3004PL-1 for left side Octopus, and 3004PR-1 for the right side hose entry case used on most other models. The older style case had one lip on the exhaust flange facing down. The new style case also has a lip facing upwards on the exhaust flange. This new upper lip greatly increases the grip that the case exerts on the exhaust tee, and will be especially effective in holding the small exhaust shroud in place on the Shadow and other SHERWOOD Octopus regulators. Some of the older style cases will still be in the parts stream for a time.

#### **SUBJECT #8: Handwheel change on SVB-5000, and SVB-4000J Valves**

As of November 1990, the Handwheels installed on the SVB-5000, and SBV-4000J will be the same soft

Tactile Handwheel (p/n 6000-2) currently used on the SHERWOOD DIN type SVB-6000 series valves. The Tactile Handwheel replaces the old style hard plastic handwheel (p/n 4000-2). Using this newer more durable Tactile Handwheel on the SVB-5000, and SVB-4000J valves will require a new slightly shorter valve stem spring. The new springs part number is 3506-11A. Do not attempt to use the old longer spring when the Tactile Handwheel is installed on SVB-5000 or SVB-4000J valves, since premature failure of the teflon stem packing will result.

**SUBJECT #9: Poppet Spring change in Hookah Regulators**

As of January 1991, a new Poppet Spring (p/n 3701-9HK) will be installed in all Hookah regulators manufactured at SHERWOOD instead of the older style spring (p/n 978-10/HK). The new spring enhances the smoothness of the Hookah's operation, and can be visually identified by its blue coloration.

**SUBJECT #10: Piston Seat in the MAXIMUS First Stage**

The part number for the piston seat of the MAXIMUS SRB-3600 regulator is incorrectly listed in the repair manual. The proper number of item #25 PISTON SEAT shown on the inside left cover of the repair manual is 3801-5. This seat is the same one used in all other current SHERWOOD SCUBA regulators. Please be sure to note this proper number in your MAXIMUS repair manual.

# SHERWOOD

## TECHNICAL BULLETIN

NO. 109  
November 1991

**SUBJECT #1:** The use of Loctite™ 442 on the Adjustor Knob screw of the SRB3602 MAXIMUS second stage.

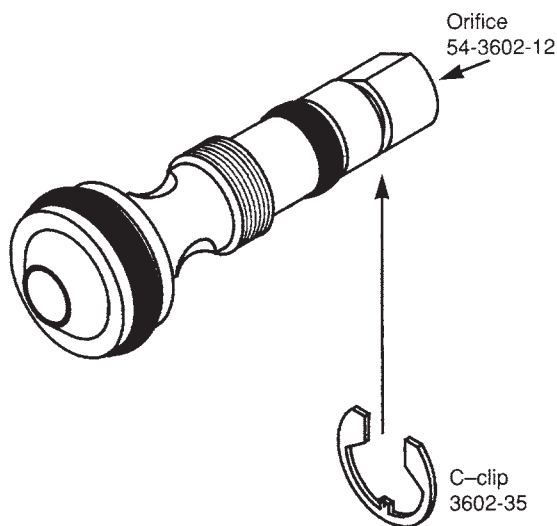
**SUBJECT #2:** The installation of a C-clip on the Orifice Stem of the SRB3602 MAXIMUS second stage.

**SUBJECT #3:** The positioning of the heat transfer fins in the mouthpiece of the MAXIMUS, new BLIZZARD, AND OASIS 2 regulators.

**NOTE THIS INFORMATION IN YOUR MAXIMUS SERVICE MANUAL.**

### LOCTITE™

During the reassembly of the SRB3602 MAXIMUS second stage, a drop of Loctite™ 442 or equivalent must be applied to the Screw p/n 19-4000-9 that holds the Adjustor Knob p/n 3606-16C in place. This is the same mild grade of Loctite™ that is applied to the threads of the Lever Support p/n 3602-7 before the Housing p/n 1-3602-13 is installed.



### C - CLIP

SRB3600 MAXIMUS Regulators manufactured after October 1991, have a C-clip p/n 3602-35 on the Orifice p/n 54-3602-12. During assembly of the SRB3602 this C-clip is installed in a groove on the Orifice just before the Adjustor Knob p/n 3602-16C is placed over the end of the Orifice's stem. During disassembly of the second stage, the clip is removed with a small screwdriver right after the Adjustor Knob is taken off the end of the Orifice. (See figure 1 for placement of C-clip.)

**NOTE:** This C-clip is easily installed on all existing SRB3600 MAXIMUS regulators. Every Orifice p/n 54-3602-12 made, has the stem groove in which this C-clip fits. SHERWOOD recommends that service technicians retrofit all MAXIMUS regulators with this C-clip when they are brought in for their normal annual service inspection. A number of C-clips p/n 3602-35 will be sent to each SHERWOOD dealer at no cost. The free C-clips are intended for installation onto pre-November 1991 SRB3600s, which did not originally have them. After that, normal Warranty procedures apply. If you need more information, or C-clips to cover the number of SRB3600 regulators you service, call your SHERWOOD Distributor.

## HEAT-SINK FIN POSITIONING

On the SRB3600 MAXIMUS, SRB3700 OASIS 2, and SRB3900 (new) BLIZZARD regulators, the positioning of the heat sink fins has been changed from that found in MAXIMUS regulators manufactured before November 1991.

When looking into the mouthpiece from the outside (as though you were going to place it in your mouth) two plastic tabs can be seen in the mouthtube at the top and bottom. In pre-November 1991 Maximus regulators, the fins are located on the left side of the top and bottom tabs. On MAXIMUS regulators made after November 1991, and on all OASIS 2 and (new) BLIZZARD regulators, the fins are located on the right side of the tabs. To make servicing procedures more uniform, relocate the fins to the right side of the tabs when servicing pre-November 1991 MAXIMUS regulators.

Please make a note of this in your MAXIMUS service manual. On page 10, section 6 of the manual, change " note that the fins rest on the left side of the tabs " to read " note that the fins rest on the right side of the tabs ".



a division of HARSCO corporation  
120 Church Street  
Lockport, NY 14094  
716-433-3891

T-SH-SS-11B91A



No. 110  
August 1992

# TECHNICAL BULLETIN

THE FOLLOWING ITEMS ARE COVERED IN THIS BULLETIN:

1. New colored disc springs for the moving orifice
2. Intermediate pressure setting for SRB3900 – new Blizzard® regulator
3. New exhaust valves and diaphragms
4. Changing the colored purge button emblem on the new Oasis® 2 /Blizzard® regulator second stages
5. New exhaust tee Torx® screws for the new Oasis 2/Blizzard regulators
6. Part number corrections in new Oasis 2/Blizzard service manual
7. New servicing tools available
8. Tightening the center isolator valve of the double DIN manifold

PLEASE NOTE ALL INFORMATION IN THE APPROPRIATE SERVICE MANUAL.

## 1. NEW COLORED DISC SPRINGS

Sherwood has developed a new disc spring (part number 64-8010-8) with improved corrosion resistance and better flexibility that will replace the older silver disc spring (part number 19-8010-8). These disc springs are located in the first stage on the moving orifice assembly. Current balanced Sherwood first stages contain five of these springs; some of the older models contain four. All balanced Sherwood regulators made after July 1992 contain the NEW disc spring, which is black in color. We would like to upgrade all regulators in the field to contain this new spring. This change can be made at the customer's regular warranty servicing; it is not necessary to call in the customer specifically to change these springs. THIS IS MERELY A PRODUCT IMPROVEMENT. During servicing, simply remove the silver springs and replace them with the new black springs. These are available free of charge from your Sherwood distributor, who can also advise you when and how to obtain these springs. Please change the OLD part number for these springs to the NEW part number (64-8010-8) in your catalog.

NOTE: Some of the first IMPROVED springs installed in production regulators are red in color. THESE ARE THE SAME IMPROVED SPRINGS. Leave any red or black springs in service. CHANGE ONLY SILVER SPRINGS.



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## 2. INTERMEDIATE PRESSURE SETTING FOR SRB3900 BLIZZARD

Extensive testing of the new SRB3900 Blizzard regulator has confirmed that the new exhaust heat sink found in the SRB3900 is extremely effective in providing freeze resistance under a wide variety of intermediate pressures. For this reason, the interstage pressures of the Blizzard and Oasis 2 regulators have been standardized to 135–150 psig. This will also simplify the servicing of these regulators. Please note this information in your SRB3700/SRB3900 Oasis2/Blizzard Regulator Assembly and Maintenance Guide.

## 3. NEW EXHAUST VALVES AND DIAPHRAGMS

The materials used in all Sherwood exhaust valves and diaphragms have been changed to improve tear resistance, flexibility, and resistance to sunlight and ozone. The diaphragms are now clear white and the exhaust valves are blue. These new valves and diaphragms have been installed in new Sherwood regulators since March 1992. The part numbers have not been changed. Replacement parts will now include the new materials.

## 4. CHANGING THE PURGE BUTTON EMBLEM

The colored emblems on the purge buttons of the Oasis 2 and Blizzard regulators can be changed without removing the purge button and spring from the front cover assembly. From the back side of the cover assembly, use a slotted pocket screwdriver to loosen the colored emblem locking tab from the purge button and push the emblem out. Push the new colored emblem in from the front (it only aligns one way) until the tabs lock securely.

## 5. NEW EXHAUST TEE HOLDING SCREWS FOR OASIS 2 AND BLIZZARD

The screw holding the exhaust tee of the Oasis 2 and Blizzard regulators has been changed to a combination slotted #10 Torx drive screw (part number 3702–5). This screw firmly fits onto the end of a Torx screwdriver so the technician can more easily place the screw into the hole of the exhaust tee. The Torx screwdriver is available at most hardware and automotive stores. Dealers can also get a #10 Torx screwdriver bit by ordering Sherwood tool #TL117 from their Sherwood distributor.

The #10 screw can also be tightened or removed with an ordinary slotted screwdriver, although the screw may not stay firmly on the end of the tool.

## 6. PART NUMBER CORRECTIONS IN NEW OASIS 2/BLIZZARD SERVICE MANUAL

Several printing errors were made on the exploded view parts list on the inside right cover of the white Oasis 2 SRB3700/Blizzard SRB3900 Assembly and Maintenance Guide. Please make these corrections in your copy of the guide. **NOTE:** Parts and part numbers change from time to time. The best source of current numbers is your Sherwood distributor's Parts Price Guide.

ITEM #	INCORRECT PART NUMBER	CHANGE TO THIS PART NUMBER
--	SR3701	SR3702
13	19–3602–20	3602–20
14	23–3602–7	9–3607–7
15	978–12	19–3602–29
16	3602–18	29–3602–18
27	3406–20–31HF	3406–20–31HFB

The heading at the top of this page should be changed to read "Second Stage."

## 7. NEW SERVICING TOOLS AVAILABLE

A number of new tools have been developed to make the servicing of Sherwood regulators simpler and quicker. The list below outlines the part numbers and a brief description of the tool. A manual is forthcoming which describes the tools and their use in greater detail. Until this manual is released, check with your Sherwood distributor for prices and information.

<b>PART NUMBER</b>	<b>DESCRIPTION OF TOOL &amp; USE</b>
9-TL101	Combination wrench for removing first stage yoke nut, cap and DIN adaptor
TL102	Balanced in-line adjusting tool for 2nd stage orifices on Magnum® and Brut™ regulators
TL103	Modified 5/32" x 1/4" drive socket for removing the 5/32" hex screws holding the 2nd stage mouth-tube heat transfer fins in Oasis 2 and Blizzard regulators
TL104	1/4" nut driver for adjusting 2nd stage poppet nut on Maximus, Oasis 2 and Blizzard
TL106	Cone for installing the O-ring on the 1st stage piston tip
38-TL107	Cone for installing the O-ring on the 1st stage moving orifice top groove
29-TL108	Cone for installing the O-ring on the 1st stage moving orifice bottom groove
TL110	50cc graduated cylinder
TL111	Soft nosed orifice removal tool
TL112	1st stage piston seat removal tool
TL113	1st stage regulator support handle
TL114	Hose protector installation tool
TL115	1st stage inlet filter and star washer installation tool
TL116	3/32" Allen wrench for SRB3601 1st stage adjustment lock screw
TL117	#10 Torx screwdriver for removing exhaust tee screws from Oasis 2 and Blizzard
TL118	Modified 3/4" deep socket for 2nd stage lever support removal
TL119	0-300 psi interstage pressure gauge (attaches to inflator hose connection)
TL120	0-3" wc water manometer for measuring inhalation and exhalation resistance
TL121	Adaptor for hooking up gauges or tools to BC inflator hose (1/4" NPT)

## 8. TIGHTENING THE CENTER ISOLATOR VALVE OF THE DOUBLE DIN MANIFOLD

SVB6306 DIN manifold valves have been returned from the field with damage to the valve sections that mount in the tanks. In each case, a deep groove has been cut into the fitting of the valve section where the nipple of the center isolator valve seals. The groove allows air to escape at the nipple no matter how hard the nipple nut is tightened.

This groove is created in two ways:

- 1) If the nipple nut is overtightened, the part of the nipple behind the O-ring will cut the groove.
- 2) The person assembling the double manifold and back pack system will sometimes fail to get all parts aligned while the nipple is still only partially tightened. To bring the isolator valve into alignment, the entire assembly is sometimes turned with a wrench or by hand. If the isolator valve assembly is not completely loose when it is turned, the action cuts grooves into the nipple seal area.

The proper installation procedure is outlined on a yellow tag attached to the manifold marked "Installation Instructions for Sherwood SVB6306D & SVB6307D Manifold Valves." The tag describes the proper installation procedure and torque (25-28 ft. lbs.). Please contact your Sherwood distributor for extra copies of this instruction tag. The groove damage is not covered under warranty.

*Blizzard, Oasis 2 and Magnum are registered trademarks of Sherwood, Harsco Corporation®. Brut is a trademark of Sherwood, Harsco Corporation®. Torx is a registered trademark of Camcar, a division of Textron, Inc.*



## TECHNICAL BULLETIN #111 NOVEMBER 1992

T SC10B92

### CHANGE IN THE DESIGN OF THE FRONT COVER AND PURGE BUTTON OF THE SRB3700 OASIS 2 AND SRB3700 BLIZZARD REGULATORS TO INCREASE PURGE FLOW RATE

As of November 1992 the front cover and purge button of the OASIS 2 and BLIZZARD have slightly altered dimensions to lengthen the travel of the purge button when depressed. This allows the diver to create a higher air flow during purging if desired.

These two parts are totally interchangeable with the old style cover and button. If either new part is combined with an old style part ( eg. old style cover, new style button ) the regulator will still work safely. A new button with an old style cover will give the full increase in purge flow but the button will protrude more from the cover. Purchasing a new 3702-6 button is the best way for a customer to get increased purge flow from an older Oasis 2 or Blizzard. A new cover with an old style button will not increase or decrease the purge flow, but the button will be slightly sunk into the cover.

Call your Sherwood Distributor to make arrangements to return any OASIS or BLIZZARD covers or purge buttons if you have any in your spare parts inventory (this means loose separate parts in your inventory, not whole cover assemblies containing springs or colored emblems). They will be exchanged for new style units.

The part number for these units will remain the same. The cover is p/n 3702-3. The purge button is p/n 3702-6.

The parts can be visually distinguished. The new style parts have the features indicated in Figures 1 & 2. The old style units do not have these features.

### HOW TO RECOGNIZE THE NEW PARTS

Center Post  
In Back of  
Purge Button

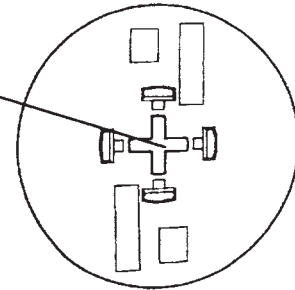


Fig. 1 - Purge Button  
p/n 3702-6

Cross (+) Stamped  
In Back of Cover

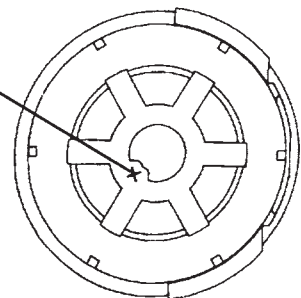


Fig. 2 - Front Cover  
p/n 3702-3

For more information, please contact your Sherwood distributor.





## TECHNICAL BULLETIN #112 DECEMBER 1992

TSC11G92

### MANAGING THE NEW SHERWOOD TWO YEAR WARRANTY

#### HOW TO IDENTIFY A REGULATOR THAT IS COVERED BY THIS NEW WARRANTY:

1. Serial number is higher than 500,000.
2. One or two colored rings will be attached to the regulator hose protector.
3. One ring will be removed after each annual servicing, so when no rings are left on the hose, the warranty will have expired.
4. Each regulator model in a group requiring the same Annual Service Kit will have rings of an identical color. This ring will determine the proper kit you will receive after you return the ring.

MODEL	RING COLOR
SRB2100 - Brut	Blue
SRB3300 - Mag II	Red
SRB3700 - Oasis II	Green
SRB3900 - Blizzard	Green
SRB3600 - Maximus	White
SR3107 - Octopus	Yellow
SR3107HK - Hookah	Yellow
SR3108 - Octopus	Yellow
SR3208 - Shadow	Yellow

#### PLEASE FOLLOW THIS PROCEDURE FOR SERVICING:

A. When one or two colored rings are still attached to the regulator hose protector, the regulator is covered under the new warranty.

1. Perform the annual service and remove one ring from the hose protector (rings can easily be pried off

with a small screwdriver). Attach the Two Year Warranty hang tag to the hose (supplied by your distributor).

2. If you replace only those parts included in the Annual Service Kit, do NOT fill out the Warranty Replacement Parts Form. Simply return the colored rings to your Sherwood distributor to obtain your Annual Service Kit replacement. You may accumulate several rings and send them all back at the same time, if it is more convenient.

3. During an annual servicing, if you replace parts that are NOT included in the Annual Service Kit, fill out Parts 1 through 6 on the Warranty Replacement Parts Form. Return the following items to your Sherwood distributor:

- a. Colored ring clipped from hose
- b. Completed Warranty Parts Replacement Form
- c. Defective parts as described in Part 5 of the form

Take care to package each set of defective parts, rings and forms in separate bags.

B. When no rings are on the regulator hose protector, and the regulator serial number is above 500,000, the regulator is no longer covered under the Two Year Warranty.

1. Perform the annual service.
2. Do NOT fill out the Warranty Replacement Parts Form.
3. Render the worn parts unusable before returning them to the customer.
3. Charge the customer for all parts used.

(OVER)

## QUESTIONS AND ANSWERS REGARDING THE TWO YEAR WARRANTY

Q: Does the customer get a warranty card?

A: No. We've tried to keep this program as simple as possible so no warranty card is necessary.

Q: How can I identify a Sherwood Scuba regulator that is or was covered by the Two Year Warranty?

A: If still under warranty, the regulator will have one or two colored plastic rings on the regulator hose protector. If the hose protector has no plastic rings, it is still possible to determine that the regulator was under the Two Year Warranty Plan by checking to see if the serial number is 500,000 or higher.

Q: What if the regulator needs repair between annual service intervals?

A: This is a rare situation, but just fill out the Warranty Replacement Parts Form, noting the defective parts in Part 5 of the form, and send the form and the parts to your Sherwood distributor. Do not clip any rings. Remember that the Two Year Warranty covers parts only, not adjustments or labor charges.

Q: What is more important in determining if the Two Year Warranty is still active: the plastic warranty rings, or the customer's sales receipts?

A: If there is a conflict between the number of rings and the age of the regulator as indicated on the sales receipt, the sales receipts are the determining factor. You should remove the plastic warranty rings and charge the customer for parts required on any regulator known to be more than two years old.

Q: What if the customer doesn't bring in his regulator for annual servicing and there are still rings on the hose, even though the regulator has been in use for more than two years?

A: Again, the determining factor is the original sales receipt. When the customer originally purchased the regulator, a booklet in the package advised the customer to save this receipt for proof of warranty. If the receipt shows that the regulator is more than two

years old, you should remove the plastic warranty rings before returning the regulator to the customer. The customer must then pay for all parts required.

Q: If all I send in are the warranty rings, how will my distributor know which Annual Service Kits to send me?

A: The rings are color coded to the model they came from, and the distributor will send the parts or issue credit accordingly. This bulletin contains a list of the color codes. Other than the name of your store and your preference of parts or credit, we don't need any more information.

Q: What if the low pressure hose needs changing under warranty, and the hose protector still has one or two valid warranty rings on it?

A: Before you send in the defective hose, remove the remaining warranty rings from the hose protector. If the regulator is less than two years old, replace the appropriate number of rings on the new hose protector of the new hose.

Q: What forms do I use for the Two Year Warranty?

A: There is now only one form, no matter what type of warranty is in effect. This is the Warranty Replacement Parts Form. For regulators under the Two Year Warranty, you should fill out this form and send it to your Sherwood distributor ONLY if the regulator needs replacement parts that are NOT included in the Annual Service Kit.

Q: Does this new Two Year Warranty affect customers who have the old Lifetime Warranty?

A: Not at all. Customers with the Lifetime Warranty still have all the rights and responsibilities as always. Dive stores will get all the materials they need to service the old warranty properly. We'll provide hang tags to attach to recently serviced regulators that explain the old Lifetime Warranty and how it works.

**SEE TECHNICAL BULLETIN #113 FOR MORE INFORMATION ON THE LIFETIME WARRANTY!**

**IF YOU HAVE ADDITIONAL QUESTIONS, PLEASE CONTACT YOUR SHERWOOD DISTRIBUTOR.**



**TECHNICAL BULLETIN #113  
DECEMBER 1992**

**TSC11H92**

**MANAGING THE SHERWOOD  
LIFETIME WARRANTY**

**HOW TO IDENTIFY A REGULATOR THAT  
IS COVERED BY THE LIFETIME  
WARRANTY:**

1. Serial number is lower than 400,000.
2. No colored rings appear on the regulator hose protector.
3. Dealer can confirm that the regulator has been serviced annually by asking for receipts, or from personal knowledge of the customer.
4. Dealer can confirm that the regulator is owned by the original purchaser by asking for receipts, or from personal knowledge of the customer.

**IMPORTANT INFORMATION REGARDING  
THE LIFETIME WARRANTY**

It is very important that the Lifetime Warranty be managed fairly to ensure that every Sherwood dealer and retail customer enjoys the full advantages and services that were in effect when the warranty was first activated. The following guidelines and suggestions will help you manage the program and help you weed out all regulators not entitled to the benefits of the Lifetime Warranty.

1. Beginning on January 1, 1993, no Lifetime Warranty claim will be accepted by Sherwood without a Warranty Replacement

Parts Form filled out by the dive store. This form should be filled out clearly in pen and must contain the owner's name, the regulator model number, the serial number and the date of purchase, plus the name of the authorized Sherwood dealership that performed the warranty service.

2. The dealer must confirm that the regulator is still under warranty. The dealer must be confident that the regulator is still owned by the original purchaser, and that the regulator has been serviced annually at an authorized Sherwood dealer. Personal knowledge of the customer or receipts that prove ownership and servicing should be adequate to confirm the warranty.

**NOTE:** The plastic customer warranty card is NOT an indication of the regulator's validity under the terms of the warranty. It is used for information purposes only and is NOT needed for warranty service.

3. The Warranty Replacement Parts Form used at servicing will be sent to the distributor together with the parts to be replaced. All forms will then be forwarded to Sherwood where every serial number will be entered into a data base.
4. The data base will monitor the entry date of each serial number. After about a year, this number will go on inactive status if it is not entered again. If the inactive number comes up again when a form is returned to Sherwood, it will be flagged and that slip will be put aside. We will contact the distributor who will, in turn, contact the dealer to explain what has happened. At first, Sherwood will be lenient, but dealers will

eventually lose credit for parts on Warranty Replacement Parts Forms with expired numbers.

5. Customers may object to this procedure at first, but the dealer should simply ask for their receipts that prove their regulators are still under warranty. We stress again that we will be lenient until the procedure is in place.

6. Through no fault of the owner, a few regulators do not have serial number labels. Through December 31, 1993, Sherwood will issue new serial number labels for those who request them. Forms will be provided to you for this purpose. The labels will have either the same number as the regulator or a completely new number registered to that owner.

7. All authorized Sherwood dealers will receive hang tags for their customers that answer the most common questions about the Lifetime Warranty's provisions. After each servicing, this hang tag should be attached to each Sherwood regulator still covered under the old Lifetime Warranty. In this way, the regulator owner will be reminded of the benefits and requirements of the warranty.

8. By January 1, 1994, all remaining Sherwood Scuba Lifetime Warranty participants should understand the program thoroughly. As long as they continue to service their regulators annually, we will continue to uphold the warranty.

**PLEASE FOLLOW THIS PROCEDURE FOR SERVICING:**

A. Please refer to the Warranty Replacement Parts Form. It contains information concerning eligibility .

B. Fill out Parts 1, 2 and 3 on the Warranty

Replacement Parts Form to determine if the regulator is still covered under the Lifetime Warranty. If the regulator is no longer covered under the Lifetime Warranty, charge the customer for the parts. Do not send in forms for regulators not under warranty.

C. Perform annual service and fill out Part 4 on the Warranty Replacement Parts Form.

1. If you replace parts not included in the Annual Service Kit, fill out Part 5 on the form.

2. If you replace only those parts included in the Annual Service Kit, DO NOT fill out Part 5.

D. Attach Lifetime Warranty hang tag to regulator hose.

E. To receive new replacement parts:

1. Fill out Part 6 on the Warranty Replacement Parts Form.

2. Return the completed form with all defective parts to your Sherwood distributor, only if the regulator is covered under the Lifetime Warranty. Take care to package each set of defective parts and forms in separate bags.

**NOTE: SENDING IN THESE FORMS IS ABSOLUTELY NECESSARY TO ENSURE THAT YOUR CUSTOMER'S WARRANTY REMAINS IN EFFECT!**

## QUESTIONS AND ANSWERS REGARDING THE LIFETIME WARRANTY

Q: How can I identify a Sherwood Scuba Regulator that is or was covered by the old Lifetime Warranty?

A: If the unit is still under warranty, the customer will have receipts showing that the regulator has been serviced at an authorized Sherwood dealer within the last year. Even if the warranty has expired, the regulator can be identified as having been initially covered by the old Lifetime Warranty if its serial number is lower than 400,000.

Q: Does the customer need the plastic warranty card?

A: No. This card does not prove whether or not the regulator is covered under the Lifetime Warranty. Records at the dive store or in the customer's receipt files are used to determine this.

Q: What if the regulator under warranty needs repair between annual checkups?

A: This is a rare situation, but just fill out the Warranty Replacement Parts form, noting the defective parts in Part 5 of the form, and send the form and the parts to your Sherwood distributor. Remember that the Lifetime Warranty covers parts only, not adjustments or labor charges.

Q: How will my distributor know which Annual Service Kits to send me?

A: The information you supply on the Warranty Replacement Parts Form gives the distributor the information necessary to replace parts. PLEASE BE SURE TO FILL OUT THE FORM CLEARLY AND LEGIBLY.

Q: What if the customer doesn't bring in his regulator for annual servicing?

A: If it's been more than 13 1/2 months since a regulator was serviced by an authorized Sherwood dealer, inform the customer that the Lifetime Warranty is no longer in effect and that all parts needed will have to be purchased. Give the customer the hang tag that explains how the Lifetime Warranty works; this should answer any questions he may have.

Q: What forms do I use for the Lifetime Warranty?

A: There is now only one form, no matter what type of warranty is in effect. This is the Warranty Replacement Parts Form. For regulators under the Lifetime Warranty, this form is filled out and sent to your Sherwood distributor EVERY time an annual servicing is completed, no matter what parts are replaced. **IT IS ABSOLUTELY NECESSARY TO RETURN THIS FORM TO KEEP YOUR CUSTOMER'S LIFETIME WARRANTY IN EFFECT.**

Q: Can a regulator covered under a new Two Year Warranty be switched to a Lifetime Warranty?

A: In a word, no.

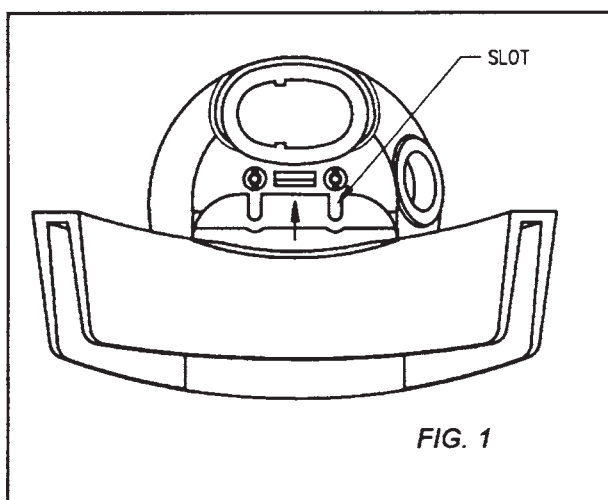
**SEE TECHNICAL BULLETIN #112 FOR MORE INFORMATION ON THE NEW TWO YEAR WARRANTY!**

**IF YOU HAVE ADDITIONAL QUESTIONS, PLEASE CONTACT YOUR SHERWOOD DISTRIBUTOR.**

**CHANGES IN EXHAUST TEE AND CASE  
FOR THE SRB3700 OASIS 2 AND THE  
SRB3900 BLIZZARD**

**NOTE :** Put this Bulletin with your Oasis 2 / Blizzard Repair Manual, and write the new part numbers on the exploded view of the second stage.

To improve the serviceability of the SRB3700 Oasis 2 and SRB3900 Blizzard regulators, the two screw holes in the exhaust tee have been changed to slots (see Fig. 1). These slots allow the service technician to remove the exhaust tee with the screws turned only 1/2 turn out. Since the screws will remain in the case, it should mean much less chance of losing them if the tee and cover have to be removed from the case in less than ideal conditions ( eg. a crowded dive boat ).

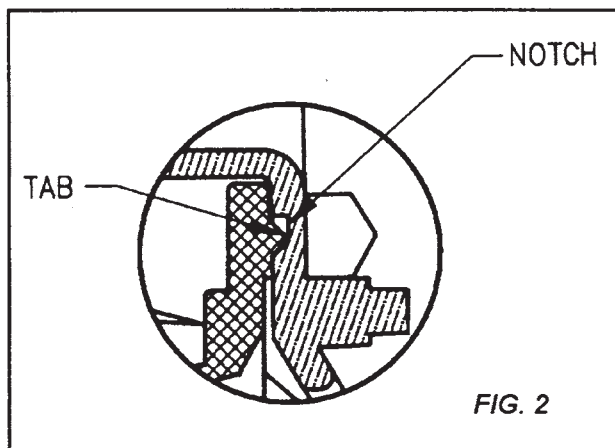

**FIG. 1**

The change will affect all regulators above these serial numbers :

SRB3700 - T504521

SRB3900 - R502589

The new part number for the exhaust tee is 3702-7A, and for the case is 3602-1D. The


**FIG. 2**

new case **must** be used with the new tee because the new case has a recess for the locking tab on the tee ( see Fig. 2 ). Using the new tee on an old case may result in premature loosening of the tee from the case. If someone with an older regulator needs a replacement exhaust tee either make sure he gets the old style tee from your stock, or supply the new tee with a new case. If the regulator is still covered under a valid warranty, the case p/n 3602-1D will be included at no cost even you are only replacing the exhaust tee. The new case can be used with the older style tee if a customer needs only a case replacement.

As with any warranty parts exchange, it is important that the dive store checks to be sure that the regulator is still covered under warranty ( original owner, serviced annually, etc. ). We will cover this exchange under warranty at Sherwood when we receive proper documentation.

Upgrading of regulator to new tee and case will be covered under warranty **ONLY** if either part has failed due to faulty materials or workmanship.

**FOR MORE INFORMATION, CONTACT  
YOUR SHERWOOD DISTRIBUTOR.**

T-SC06A94

**SUBJECT #1** : Colored disc springs for the moving orifice changing back to silver**SUBJECT #2** : New mouthpieces**SUBJECT #3** : New blue 2nd stage seat material**SUBJECT #4** : Disassembly procedure for DIN adapter**SUBJECT #5** : Filler yoke inspection**SUBJECT #6** : Printing errors in new valve manual**SUBJECT #7** : Second stage poppet spring color coding list**NOTE THE FOLLOWING INFORMATION IN THE APPROPRIATE SERVICE MANUAL.**

### **1. NEW COLORED DISC SPRINGS**

In Sherwood Technical Bulletin # 110 dated July 1992 under the heading "New Colored Disc Springs," we informed you that our new disc springs were black, as opposed to the silver color of the old disc springs. In this way, an older disc spring could be easily identified and changed to a new black disc spring during servicing. Since more than enough time has passed for each regulator to have come in for its regular annual servicing and have the disc springs changed if necessary, there is no longer a need for color coding. As of April 1994, the disc spring (p/n 19-8010-8) **will revert to the original silver color**. As previously, replace the disc springs **only if they appear damaged or cracked**. See Fig. 1.

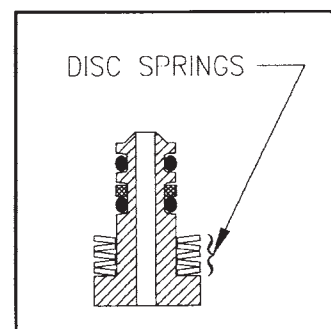


Fig.1

### **2. NEW MOUTHPIECES**

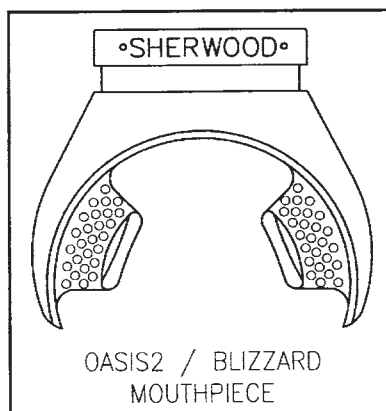


Fig. 2

Sherwood has enhanced the comfort and durability of the mouthpiece on the Oasis 2 and new Blizzard. The new black mouthpieces now being installed on these regulators also have enhanced flow control. If your customer has been experiencing surface freeflowing with these regulators, you may want to recommend the addition of the new mouthpiece, which will eliminate the surface freeflows. The new mouthpiece has the same part number (3602-3) as the old mouthpiece, but can be identified visually because of the addition of a **dot** at either end of the word "SHERWOOD" written on the top edge of the mouthpiece (see Fig. 2).

The SRB3600 Maximus regulator has been upgraded with a totally new mouthpiece that greatly reduces jaw fatigue (see Fig. 3), designed with the help of a University of Buffalo Professor of Oral Medicine. The new mouthpiece (p/n 3602-3LS) has extended tapered mouth-bits that are thinner and stronger than before. It also has a built-in overbite that fits

the teeth more naturally. These improvements allow the diver to carry the regulator in the mouth with less closing force, with the jaw in a more natural semi-closed position. This more relaxed method of holding the regulator improves comfort, and dramatically reduces jaw fatigue.

### 3. NEW BLUE 2ND STAGE SEAT MATERIAL

Sherwood has developed a new seat for the poppets of the second stage. The seat blends the best features of the old black and clear seats (p/n 978-9 B and C) into one unit. The new seat is made of blue liquid silicone and can be easily identified by the blue color. It is as soft as the old black seat, but more resilient, especially at cold temperatures. It also has the durability of the old clear urethane seat, but not the stiffness. This new seat is now being installed in **all** Sherwood Scuba regulators, and **all** parts kits will have only the new blue seat. The old black and clear seats are no longer available, although you can use up your stock of black and clear seats on the proper older regulators as they come in for repair. Once your stock of old seats is exhausted, switch to the new blue seat (p/n 978-9S). Please change the seat part numbers in your service manuals to reflect this change.

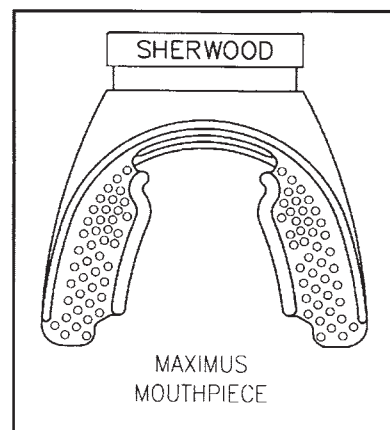


Fig. 3

### 4. DISASSEMBLY PROCEDURE FOR THE DIN ADAPTER

**NOTE:** The following is a **clarification** of information originally contained in Technical Bulletin #104. For the complete and correct service procedure, please refer back to Technical Bulletin #104.

Some technicians are having difficulty disassembling the Sherwood DIN adapters (p/n SAA5200 and SAA5300). These adapters are held together with a high-strength stud locking adhesive. The locking is necessary to counter the torquing action caused when the pressurized scuba assembly is improperly lifted by the hoses (as when lifting tanks and BC's out of the water). This torquing action may loosen the DIN adapter's internal O-ring seal.

The assembly itself does not have to be automatically disassembled at every service interval, but if you determine that the unit has to be disassembled for repair, you must use heat to soften the adhesive. See instructions below.

#### PROPER DISASSEMBLY PROCEDURE FOR DIN ADAPTER (Please refer to Technical Bulletin #104 for complete information):

1. Remove the O-rings from either end of the DIN adapter.
2. Clamp the hex shaped end gently in a bench vise.
3. Insert an Allen wrench into the inlet end of the adapter. Apply counter-clockwise force with the Allen wrench. Use a small (1-lb.) propane torch to apply heat **carefully** by wafting the torch back and forth over the end of the adapter until the adhesive softens (see Fig. 4). **Do not** apply a steady direct heat from the flame tip.

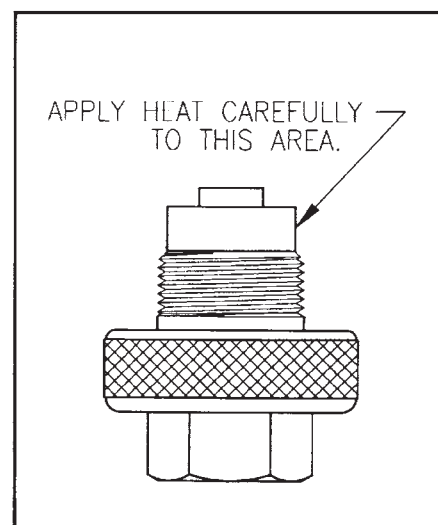


Fig. 4



4. As soon as the locking adhesive reaches 300 ° F. it will become soft. Unscrew the adapter end. Use a wet rag to cool the parts.
5. Replace all O-rings. Reapply adhesive as outlined in Technical Bulletin #104.

## **5. FILLER YOKE INSPECTION**

Have you carefully inspected the yokes at the end of the filler hoses of your air fill station lately? These yokes often see thousands of fill cycles per year with little or no maintenance. Take the time to carefully go over each yoke at the end of the filler hose. Look for cracked or deformed yokes. Carefully inspect the threads of the yoke and knob assembly. If either has worn to the point where the chrome has been worn away, **replace the entire yoke assembly immediately.**

## **6. PRINTING ERRORS IN THE NEW VALVE MANUAL**

There are some typos in your new bright green Cylinder Valves Assembly & Maintenance Guide (T-SC01B94). Please make the following changes in your copy:

**Page 9:** Change Item 5 to Item 6, Item 6 to Item 7 and so on up through Item 11, which should be changed to Item 12.

Eliminate the two items that were previously 12 and 13.

**Page 10:** Change Item 14 to Item 13, Item 15 to Item 14, Item 16 to Item 15, and Item 17 to Item 16.

**Page 10:** In the diagram entitled "Type A Stem Plug Assembly," the washer shown as Item 5 is only used with the soft handwheel shown as Item 4. The part number for this washer is 1413. The part number for the dip tube shown as Item 17 is 25-6530.

## **7. SECOND STAGE POPPET SPRING COLOR CODING LIST**

There are several different poppet springs used in various Sherwood **2nd stage** regulators. Each type of spring is color coded. This chart shows the proper springs for each regulator:

<b><u>SPRING COLOR CODE</u></b>	<b><u>REGULATOR MODEL(S)</u></b>
Plain (uncolored) silver (p/n 978-10)	SRB2100 Brut, SRB3300 Magnum II SRB0050 Classic, SRB3200 Blizzard (old)
Silver middle, black ends (p/n 978-12)	SR3107, SR3107RH, all older style Octopus
Silver middle, blue ends (p/n 3107-9HK)	SR3107HK, All Hookahs
All red (p/n 19-3602-29)	SRB3600 Maximus, SRB3700 Oasis 2 SRB3900 Blizzard (new) SR3108, SR3108L, SR3209 new style Octopus

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PLEASE NOTE THIS INFORMATION IN YOUR **OASIS 2, BLIZZARD AND MAXIMUS** SERVICE MANUALS.

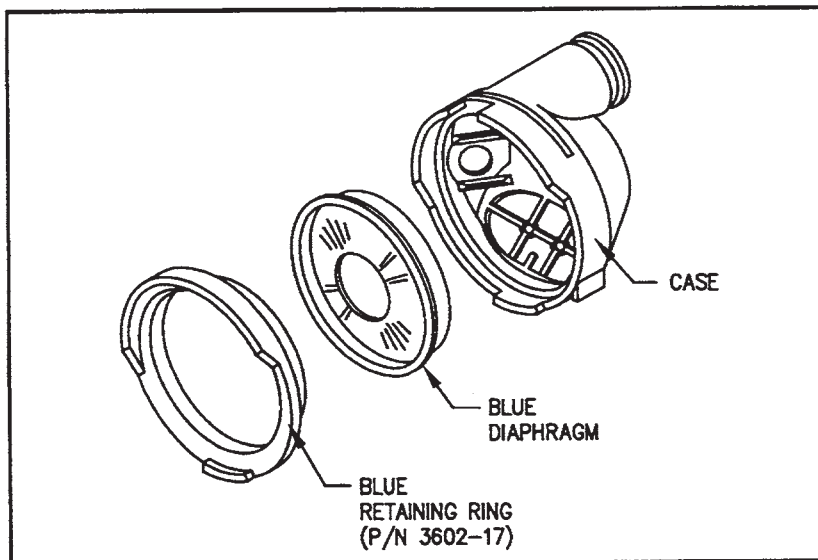
Recently, Sherwood changed the diaphragm material in these regulators from a **white** material to a **blue** material. We have received input from the field that the diaphragm retaining ring (p/n 3602-17) does not fit tightly against this new blue material. Sherwood has therefore modified the material and dimensions of the ring to fit tightly against the diaphragm.

To aid in identification, the new ring is blue. The simple rule for the technician to remember for the SRB3600 Maximus, the SRB3700 Oasis 2, and the SRB3900 Blizzard is:

**A BLUE DIAPHRAGM REQUIRES A BLUE RETENTION RING.**

All authorized Sherwood Scuba dealers will be sent a supply of blue rings. If you are holding any of the above regulators having a blue diaphragm with a black retaining ring, change the black ring to a blue ring. If your supply of blue rings runs out, please contact your Sherwood distributor for more rings.

Any of the above noted regulators with black or white diaphragms do NOT need the rings changed to blue, but you may change them at no cost if desired. There are no warranty requirements for this change.



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## **NEW MAGNUM (SRB5300) AND BRUT (SRB5100) INFORMATION**

### ***PLEASE READ THIS BULLETIN CAREFULLY!!!***

The newest family of Sherwood Scuba regulators is now entering the marketplace. There are a couple of things that you, as a service technician, and the sales staff should know about the **new** SRB5300 Magnum and the **new** SRB5100 Brut. Please note this information in your **new** Magnum/Brut Assembly and Maintenance Guide.

1. Although the shapes of the brass and polymer parts have changed to enhance the performance of these popular models, the standard service parts (o-rings, seats, etc.) have remained the same to keep the number of service technician's parts bins to a minimum. This means that these new models use the same annual service kit (#4000-15) as the older (SRB3300) Magnum. The two warranty kit indicator rings on the hose protector are the same red color as the older (SRB3300) Magnum.

However, because the new models use one small G007A o-ring on the moving orifice, while the older model used two o-rings, there will be one G007A o-ring left over after the service is done. This extra kit o-ring can be discarded when servicing the new Magnum or Brut.

2. A popular feature that has been introduced into the new first stage is ASC (Air Sensing Channel). Some of you will remember the original first stage on the SRB3800 that had a similar system, called the DSS (Downstream Sensing System). By means of special internal porting (patent pending), this feature actually increases hose pressure from the primary port (marked "PRI") during high flow rates. *It is **very important that you and the sales staff understand that there is a sometimes noticeable, but harmless attribute to the ASC System.*** This is described as follows:

When purging the final air from the regulator after the dive, you *may* hear a slight "pop" from the primary second stage, as the fast-acting balancing system of the Magnum first stage reacts to the rapidly lowering regulator inlet pressure. **This popping sound is absolutely harmless to the regulator.** It is simply a feature of our high-flow ASC system, and does **not** indicate malfunction of the regulator! All Sherwood service technicians should familiarize themselves with this occurrence, and then demonstrate it to the sales staff so that everyone thoroughly understands it. If you have any questions, just contact your distributor or your Sherwood sales representative.

3. Several tools are available to assist your technician and sales staff as they become more familiar with the workings of these new regulator models.
  - a. New Owner's Manuals (which include technical specifications)
  - b. New Assembly and Maintenance Guide
  - c. Service videos
  - d. Technical posters (with cutaway illustrations and callouts)

Please take the time to utilize these training aids. Remember that Sherwood sales representatives and distributors are ready to answer any questions you may have on our product line. Feel free to use our resources to increase your technical and sales skills.



TECHNICAL BULLETIN #118  
July 1996

**NEW!!! SHERWOOD SCUBA WARRANTY INFORMATION LINE**

**PLEASE READ THIS BULLETIN CAREFULLY!**

To allow authorized Sherwood Scuba dealers to access Sherwood's Limited Lifetime Warranty data base, Sherwood has established a toll-free number. The number for this service is **1-800-SCUBA-ID** or:

**1-800-728-2243**

**You do NOT need to call this number each time a regulator is brought in for servicing.** This number is for the times when either you or your customer is not sure whether or not the regulator is under warranty.

**Regulators under the new two-year warranty system will not be recorded in this data base. It is for regulators under the Limited Lifetime Warranty program only.**

When you call this number, have a pencil and paper ready to copy down the information. The recorded message will first ask you to enter the regulator's serial number with your touch tone phone's key pad. As you enter the first two digits, several more questions will be asked. This is to compensate for the different types of Sherwood serial numbers, and the fact that the letters "Q" and "Z" are not always located in the same place on all key pads.

All of the information in the Sherwood Warranty Information System comes from the white Warranty Service forms the dive store sends in after servicing a Sherwood regulator. If the store does not send in the forms in a timely manner, the customer can lose the warranty privileges. Also, **only one warranty can exist per serial number.** This is why it is so important that the dealer clearly and accurately fills out the information on the service sheet!

Currently, every Sherwood Scuba regulator that has ever been registered is in the system. After the system has been operational for awhile, we will drop inactive names from the list. If the name of the last service location is currently spelled out as "unknown," it is because we have never received any record of servicing since the regulator was purchased.

In the first few months that this system is on-line, we expect that some of the information within the files will need to be corrected. If you or your customer feels that the information is incorrect, please contact your Sherwood Scuba distributor with the correct information. In the near future, this data base will accurately account for every Sherwood Scuba regulator currently under the Limited Lifetime Warranty system.

We'd like you to give the system a try. An example of a valid serial number is M103456. Please feel free to dial the toll-free number and enter this serial number as a test.