

## C.W.D. KIT INSTALLATION



### WARNING!

FOR REFERENCES USED IN THIS MANUAL CONSULT THE TABLES FOR THE APPROPRIATE MODELS



IT IS RECOMMENDED THAT YOU REMOVE ALL HOSES CONNECTED TO THE 1<sup>ST</sup> STAGE.

1. Insert the disassembly tool for the first stage (B5) in an LP port.
2. Remove the dust cap (110). (Version 16)
3. Remove the first stage cap (70). (Version 12)
4. Unscrew the adjusting nut (18) using the wrench (B13) and remove the diaphragm spring (16).
5. Remove the retaining nut (17) and the shock ring (69) (Version 32-Ruby-Abyss-22) and the spring base plate (15).
6. If the C.W.D. kit is not installed on the regulator, clean the first stage diaphragm with a damp cloth and dry it. Clean the diaphragm spring and the base plate following the instruction in the "Cleaning" section of this manual.
7. Oil both sides of the base plate (15) with the silicone oil supplied with the C.W.D. kit, and position it on the diaphragm.
8. Lightly oil the edge of the C.W.D. body (57) with the silicone oil provided in the C.W.D. kit and screw it to the first stage body until it is fastened correctly (see load in N/m for diaphragm retaining nut).
9. Oil the diaphragm spring (16) with the silicone oil and place it on the spring base plate.
10. Arrange the nut (18) over the spring. Using the tool (B13), tighten the nut until it is positioned over the internal edge of the C.W.D. body (57).
11. Remove the disassembly tool for the first stage (B5) from the LP port and screw on the closure cap.
12. Connect a submersible pressure gauge to check the intermediate pressure to an LP port on the first stage and the second stage to the DFC port.



DO NOT SUBMERGE THE PRESSURE GAUGE WHEN CALIBRATING THE INTERMEDIATE PRESSURE. THIS CAN AFFECT ITS PRECISION AND/OR DAMAGE IT.



**DANGER ! RISK OF EXPLOSION**

DO NOT CONNECT AN INTERMEDIATE PRESSURE GAUGE TO AN HG PRESSURE PORT ON THE FIRST STAGE. THIS WILL CAUSE THE HOSE AND/OR GAUGE TO EXPLODE AND POSSIBLY CAUSE GRAVE INJURY.

13. Connect the first stage to a full tank (2600 - 3000 psi / 185 - 210 bar) (Fig. 2).
14. Read the intermediate pressure indicated on the submersible pressure gauge and adjust it, following the instructions shown in the table in the "First Stage Adjustment" section, C.W.D. version.



**WARNING!**

AFTER CALIBRATING THE FIRST STAGE IT MAY BE NECESSARY TO ADJUST THE SECOND STAGE DEMAND LEVER. PERFORM ANY ADJUSTMENTS OR TESTS REQUIRED FOLLOWING THE PROCEDURES INDICATED IN THE MAINTENANCE MANUAL IN THE SECTION CONCERNING YOUR SECOND STAGE MODEL.

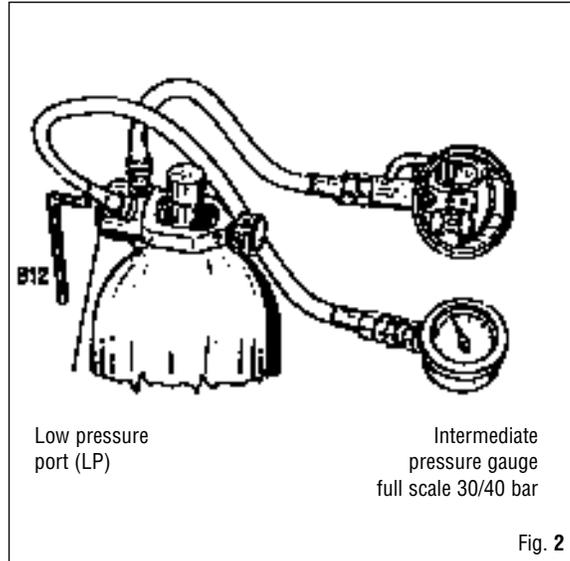
15. After adjusting the second stage if required, close the tank valve, release the air using the second stage purge button, and remove the pressure gauge and the second stage.
16. Set the first stage in an inclined position (5-10 degrees) with the open end of the retaining nut facing upward.
17. Fill the C.W.D. unit and adjusting nut almost entirely full with the silicone oil supplied with the kit.
18. Turn the first stage unit counter-clockwise, lightly tapping the sides of the C.W.D. unit with a plastic or wooden object (e.g. a screwdriver handle) to eliminate any bubbles in the silicone oil.
19. Install the diaphragm (58) with the rectangular edge facing upward (Fig. 1).
  - a. Lift the upper end of the diaphragm, pressing lightly on the center to allow air to escape.
  - b. The diaphragm should be completely submerged in the oil.



**WARNING!**

PAY STRICT ATTENTION AND MAKE SURE THAT THERE IS ABSOLUTELY NO AIR UNDER THE DIAPHRAGM. IN THE EVENT THAT AIR REMAINS, REPEAT STEPS **a.** AND **b.**

20. Install the C.W.D ring (59) and tighten it with the tool provided in the kit. The edge of the ring must touch the adjusting nut (18).



21. Pour surplus oil into a special container. Eliminate residual oil from the first stage with water. Ensure that the first stage protection cap is in place and is correctly tightened before rinsing.
22. Install the C.W.D. protection cap (108). (Version 16).



DO NOT TOUCH THE C.W.D. KIT DIAPHRAGM WITH SHARP INSTRUMENTS OR WITH THE FINGERS, AND DO NOT DIRECT ANY POWERFUL JETS OF WATER ONTO IT (e.g.: FROM A HOSE). PERFORATION OR MOVEMENT OF THE DIAPHRAGM MAY CAUSE OIL TO LEAK AND ALLOW INFILTRATION OF WATER.

23. Screw the 1<sup>st</sup> stage to the DFC port and the submersible pressure gauge to check the intermediate pressure.
24. Connect the first stage to a full tank (2600 - 3000 psi / 185 - 210 bar) (Fig. 2).

**WARNING!**

IF THE CHANGE IN INTERMEDIATE PRESSURE IS GREATER THAN + 0.4 BAR COMPARED TO THAT SET PREVIOUSLY, REPEAT THE INSTALLATION OF THE CWD KIT.

25. Remove the LP pressure gauge.