

FIRST STAGE FOR 1070-00 CALYPSO J REGULATOR

A. DISASSEMBLY

Step No.	Key No.	Description	Procedure (Ref exploded view)
1.		Hose	Unscrew from cap (1) with 9/16" wrench.
2.	1	Cap	Unscrew from body (15) with 9/16" wrench.
3.	4	Piston Assembly	Carefully pull back. Remove spring (5). Roll O'ring (2) over end of piston (3). Handle piston carefully, especially small end.
4.	9	Bushing Assembly	Unscrew with 9/16" socket wrench. With small hook tool, remove back-up ring (6) and O'ring (7) from inside of hex end of bushing (8). Remove O'ring (10).
5.	13	Seat Assembly	Place air hose nozzle (low pressure) on surface of seat (12), and apply air pressure. Seat (12) should pop loose. Remove O'ring (11). Their should be no need to disassemble metal tube insert.
6.	14	O'Ring	Remove from body (15).
7.	23	Nut	Unscrew from stem of reserve piston (40). Remove spring (23), lever (21), and washer (20). Remove detent pin (36) and detent spring (35).
8.	19	Bonnet	Unscrew with 13/16" wrench. Remove reserve assembly (43) from body (15). Remove O'ring (16) and gasket (17). Remove O'ring (18) from bonnet (19).
9.	43	Reserve Assembly	Remove washers (42) and (41). (See Inspection and Repair Procedure Step 5.)
10.	31	Plug	Unscrew from body (15) with 1/2" wrench. Remove O'ring (30).
11.	27	Yoke Assembly Screw	Unscrew by hand, and with small tool placed under yoke ring (25), pry up.
12.	34	Cap Assembly	Untie line from body (15). Remove O'ring (32).
13.	28	Retainer Ring	Remove from body with circlip pliers (Ref 1111-00, TOOLS). Remove filter (29) and O'ring (10).

B. INSPECTION AND REPAIR PROCEDURE

1.		All O'rings, back-up rings, gaskets, etc.	Check for nicks, wear, deterioration, etc. Replace if necessary.
2.	3	Piston	Check for nicks, dents, etc. on seat face, stem diameter and O'ring groove. Replace if necessary.
3.	8	Bushing	Check for nicks, wear, etc. on inside diameter. Replace if necessary.
4.	12	Seat	This seat is reversible. Check both ends for nicks, wear, etc. If one end is good, see Step No. 18 in ASSEMBLY section. If not, replace.
5.	43	Reserve Assembly	Reserve assembly may be replaced as a complete factory preset unit, Part No. 1069-01. To inspect and repair existing unit, remove adjustable screw (37) with small screwdriver. Check seat for nicks or wear; replace if necessary. Seat may be polished clean with extra fine polish compound or stick. Remove poppet (38) and check for wear; replace if necessary. Remove spring (39). See Cleaning Procedure No. 1 for piston assembly (4). Replace spring (39), poppet (38). Screw seat into place until edge of seat lines up with leading edges of the four holes in piston body. This is an approximate setting. For precise adjustment, an inlet pressure of 500 psig shall be introduced to the first stage. Slowly reduce inlet pressure by bleeding 2nd stage until reserve poppet reseats and restricts flow. The reserve poppet should reseat at an inlet pressure of

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Step No.	Key No.	Description	Procedure (Ref exploded view)
		Reserve Assembly (Continued)	325 ±50 psig. If pressure is low, adjust with screw (37) by turning inward in 1/4 turn increments. To reduce high pressure, unscrew in 1/4 turn increments. Retest as above for seating pressure of 325 ±50 psig.
6.	29	Filter	Check for excessive foreign matter, dirt or verdigris. Replace if necessary.

C. CLEANING PROCEDURE

- All plastic and rubber parts. (Note: Reserve assembly (43) and filter (29) should be cleaned at this step and not in acid.) Clean in warm, soapy water. Rinse thoroughly and dry with air hose or cloth. Apply very thin coat of silicone grease to all surfaces except filter. Wipe with clean cloth to remove excess silicone or loose dirt.
- All metal parts except as previously noted. (Note: Remove all rubber and plastic parts first.) Clean in mixture of 15-20% nitric acid solution and rinse thoroughly with fast running fresh water. Dry with air hose or cloth.

NOTE: Additional cleaning may be necessary due to extra thick foreign matter. Use extra fine wire brush or equivalent.

D. ASSEMBLY

- 25 Ring Place on yoke screw (26).
- 32 O'Ring Place in cap (33), and tie it to yoke of body (15).
- 30 O'Ring Place on plug (31), and screw it into body (15).
- 10 O'Ring Place inside body (15).
- 29 Filter Place on top of O'ring (10).
- 28 Retainer Ring With circlip pliers (Ref 1111-00, TOOLS), place in groove of body (15).
- 27 Yoke Screw Screw into body (15).
- 18 O'Ring Place on bonnet (19).
- 17 Gasket Place inside bonnet (19).
- 16 O'Ring Place on stem of reserve piston (40).
- 43 Reserve Assembly Lube rubber end of piston (40) lightly with silicone grease. With washers (41) and (42) in place, insert piston (40), rubber end first. Curved shoulder on piston (40) stem to face towards yoke on body (15).
- 19 Bonnet Replace O'ring (18) on outside. Insert O'ring (16) and gasket (17). (Gasket located at large end of bonnet.) Screw into place.
- 20 Washer Place over hex surface of bonnet (19).
- 36 Detent Pin Place detent spring (35) and detent pin (36) in retaining hole in body (15).
- 21 Lever Place over stem. Check for proper location of reserve by blowing air through opposite end of body. If air comes through filter (29) when lever (21) is in "reserve" position, place spring (22) into lever, and secure assembly with nut (23). If air does not come out, set lever (21) in start dive position, then check stem of piston (40) for position of curved shoulder. Curved side must face yoke. Check air flow again with lever (21) in reserve position.
- 14 O'Ring Place on body (15).
- 11 O'Ring Place on seat (12). Check for good end. Push other end all the way into body (15).
- 10 O'Ring Place on bushing (8). Insert small O'ring (7) on inside followed by back-up ring (6). Do not reverse order. Screw assembly into body (15).

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19.	2	O'Ring	Place on piston (3).
20.	5	Spring	Place into body (15).
21.	4	Piston Assembly	Wipe thin coat of silicone grease over seat face, stem, and O'ring (2). Insert through bushing (8). Note: When seat face touches O'ring on inside of bushing, proceed very carefully due to possibility of face cutting O'ring.
22.	1	Cap	Place body (15) in a soft jaw vise. Clamp on flat edges of yoke. Place cap (1) squarely on spring (5), and compress so that cap threads engage body threads and tighten.
23.		Hose	Screw into cap (1).

ADJUSTMENT PROCEDURE

This unit has been designed for a breathing resistance which is agreeable to the majority of users. You may, however, wish to increase the intermediate pressure for easier breathing. To do this, add washer, Part No. 8210-17, to the 1st stage body (15) directly under spring (5).

Standard intermediate pressure is approximately 128 psig at 2000 psig supply. One washer will add approximately 10 psig. This pressure is checked by screwing test gauge (Ref 1116-00, TOOLS) in place of 2nd stage. Note: Before supply pressure is turned on, first open bleed screw on test gauge. After flow begins, close bleed off slowly. Test gauge needle should stop within specified range. If, however, it continues to climb, close supply; 1st stage might have high pressure leak. (Ref TROUBLE SHOOTING.)

Proper ease of breathing can be checked by placing 2nd stage (connected to 1st stage) in a pan of water so that rim of mouthpiece is facing up and slightly above the surface of the water. At this point, a small amount of air should pass through the 2nd stage.

TROUBLE SHOOTING CHART

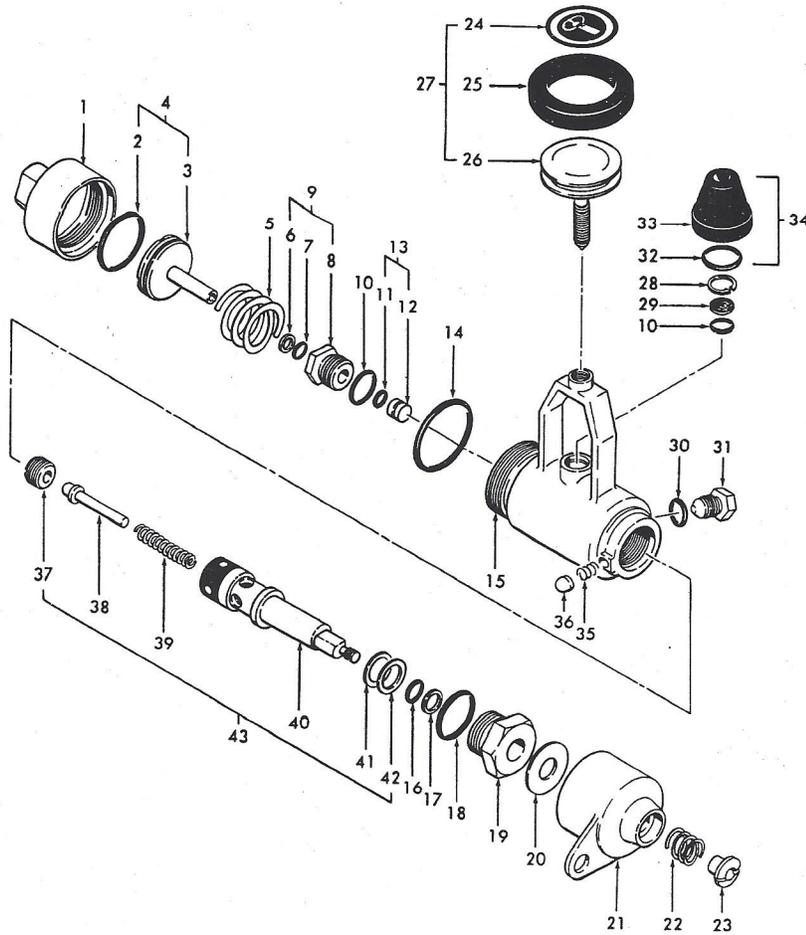
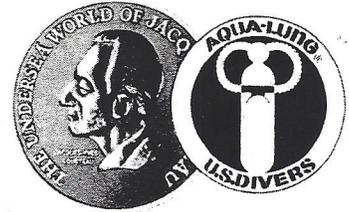
NOTE: Trouble shooting should be done as a complete unit (1st and 2nd stages together).

COMPLAINT	ORIGIN	KEY NO.	CAUSE*	REMEDY (Ref exploded view)
Air leak from 3 drain ports	O'Rings Bushing	2, 7, 10 8	Bushing (8) not tight or O'rings (2, 7, 10) damaged.	Tighten or replace O'rings as necessary.
Air leak from cap	O'Ring Cap	14 1	Cap (1) not tight or O'ring (14) damaged.	Tighten cap or replace O'ring as necessary.
High pressure air leak to 2nd stage	Piston O'Ring Seat	3 11 12	Piston (3) seat, O'ring (11) or seat (12) damaged.	Reverse seat (see Inspection Step No. 4) or replace parts as necessary.
Air leak from reserve lever	O'Rings Bonnet	16, 17 19	Bonnet (19) not tight or O'rings (16, 17) damaged.	Tighten or replace O'rings as necessary.
Reserve operation	Poppet	38	Foreign matter or damage.	Check operation. With supply pressure between 300 and 400 psig, noticeable restriction with average inhalation should be felt. If not, clean and/or replace. See Inspection and Repair Procedure No. 5.

NOTES:

1. *Cause could be due to dirt, sand, wear or verdigris in addition to items already listed.
2. See "Adjustment Procedure" in this and also 2nd stage (1048-00, 1050-00, 1052-00 and 1056-00) section for breathing characteristics.

PARTS LIST
FIRST STAGE FOR 1070-00 CALYPSO J REGULATOR
CALYPSO J 1051-45



Key Order Part	Description	Key Order Part	Description
1 - 1051-07	Cap, Reg. Hose	23 - 0527-16	Nut
2 - 8201-17	O'Ring	24 - ---	Decal
3 - 1051-66	Piston	25 - 1051-05	Ring, Yoke
4 - 1051-67	Piston Assembly	26 - 1051-04	Screw, Yoke
5 - 1051-11	Spring (H.P.)	27 - 1051-03	Screw, Yoke Assy
6 - 8285-01	Backup Ring	28 - 8630-51	Retainer Ring
7 - 8200-08	O'Ring	29 - 1051-06	Filter
8 - 1051-12	Bushing, Piston	30 - 8200-11	O'Ring
9 - 1051-29	Bushing Piston Assy	31 - 9109-12	Plug
10 - 8200-12	O'Ring	32 - 8200-12	O'Ring
11 - 8251-08	O'Ring	33 - ---	Cap
12 - 1051-15	Seat	34 - .1010-12	Cap Assy
13 - 1051-13	Seat Piston Assy	35 - 1069-14	Spring, Detent
14 - 8200-24	O'Ring	36 - 1069-15	Pin, Detent
15 - 1051-71	1st Stage Body	37 - 1069-04	Screw
16 - 8200-11	O'Ring	38 - 1069-03	Poppet
17 - 8280-11	Backup Ring	39 - 1069-02	Spring
18 - 8200-14	O'Ring	40 - 1069-10	Piston, Reserve
19 - 1069-06	Bonnet	41 - 1069-11	Washer
20 - 8450-32	Washer	42 - 1069-19	Washer
21 - 1051-44	Lever	43 - 1069-01	Reserve Assy
22 - 0527-15	Spring		