

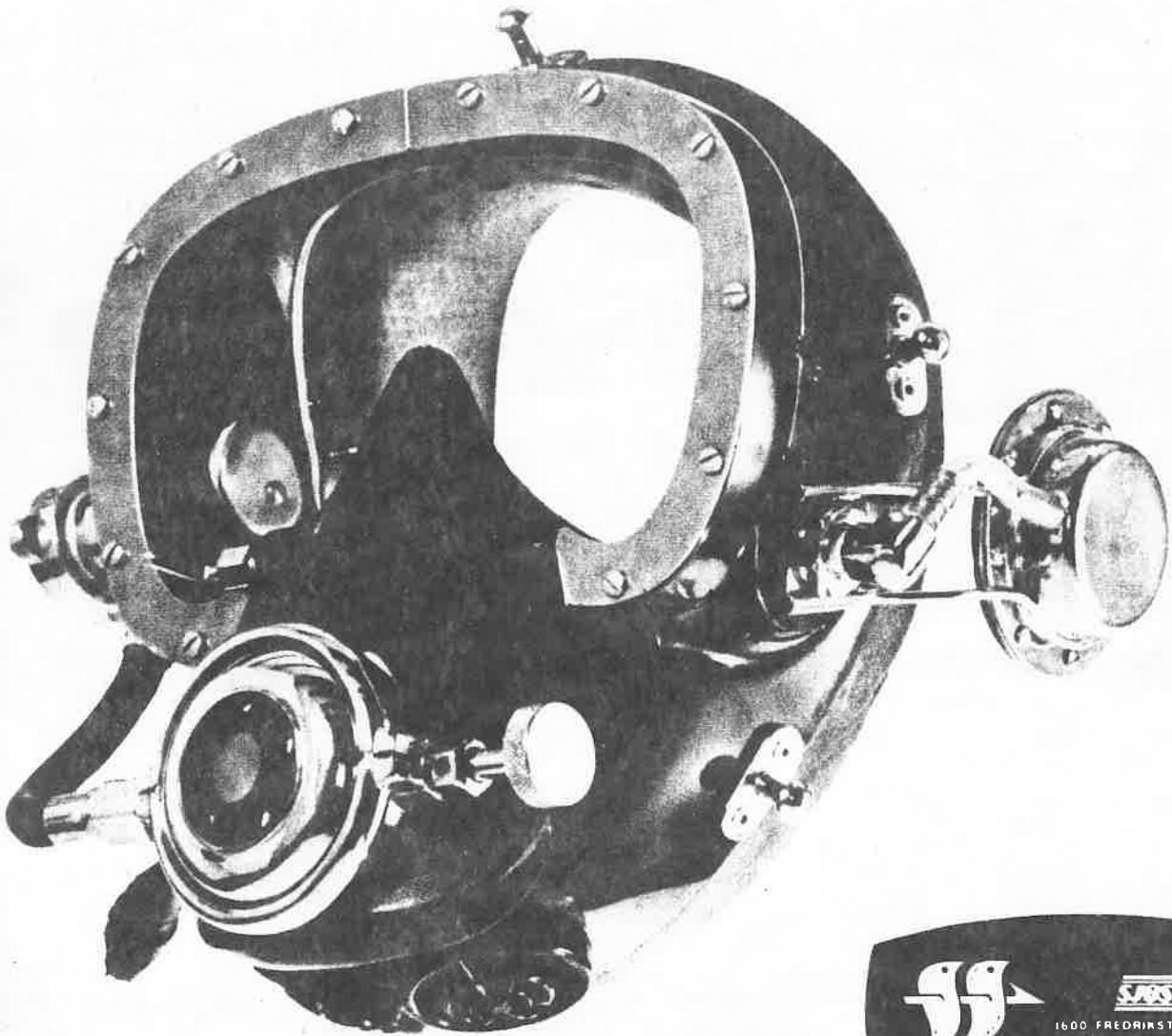


333 EAST HALEY STREET
SANTA BARBARA, CALIFORNIA 93101
(805) 965-2904

LIFE SUPPORT SYSTEMS

MODEL DM-5

SERVICE MANUAL



PREFERRED BY PROFESSIONAL DIVERS AROUND
THE WORLD

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I

PRINCIPLES OF OPERATION

The Aquadyne Mask is designed primarily as a work support system which provides the diver with the necessary life support and communications systems to accomplish this purpose.

Surface supplied air or mixed gas routed to the diver's mask via a diving hose is available to the diver from the demand regulator, freeflow valve, or both, depending on the diver's needs at a given depth and work load.

Two mask exhaust valves supplemented by the regulator exhaust valve provide more than adequate mask ventilation. The large area of these exhaust ports in combination with an extremely easy breathing regulator and the freeflow valve enable the diver to sustain heavy work loads with minimum breathing resistance and CO₂ buildup.

A contoured face seal bonded to the mask opening provides a comfortable padding for the diver's face while at the same time forming the watertight seal so essential to mask operation. Mask comfort and optimum sealing is achieved through proper adjustment of the rubber head harness which secures the mask to the diver's head. Excessive tension on the head harness adjustment straps will only result in discomfort to the diver without improving the face seal.

Provisions for two-way communications are incorporated into the Aquadyne Mask. A microphone is attached inside the mask body and an earphone, contained in a watertight housing is mounted on a boom extending over the diver's left ear. The earphone housing is pressure compensated from within the mask by an equalizer tube which also serves as a conduit for the earphone wiring. Terminal connections between surface wiring and a standard mask is afforded via two binding posts which penetrate the mask body. The microphone and earphone are wired in parallel for maximum reliability.

II

DESCRIPTION

A. MAIN BODY

The main body of the Aquadyne Mask is fabricated from hand laid, fiberglass reinforced, polyester into a one piece shell. This shell, in addition to housing the air to sustain the diver, serves as a base to which all other mask components are attached.

B. METAL COMPONENTS

Except for communications equipment, all Metal Components are manufactured from brass or type 316 stainless steel.

C. FACE PORT

Standard ports are cut from $\frac{1}{4}$ " acrylic plastic (plexiglas). Polycarbonate (lexan) ports are available as an option. The port is bonded into a recess in the mask body with plastic rubber and retained by a stainless steel frame which is held to the mask body by twelve screws.

D. FACE SEAL

The Face Seal is fabricated from open cell polyfoam with a closed cell neoprene cover. Holes are punched in the inside of the neoprene cover to permit pressure equalization of the polyfoam at depth. The Face Seal is bonded into the mask opening with wet suit cement.

E. NOSE CLEARING DEVICE

The Nose Clearing Device in the DM-5 is composed of a packing nut and O-Ring, operating shaft, and adjustable pad. Once the pad has been properly adjusted to the individual, the act of clearing is accomplished by merely rotating the pad under the nose with the operating lever, with sufficient pressure to clear.

F. DEMAND REGULATOR (Ref. Fig. 4)

The Demand Regulator is similar to the commercially available SCUBAPRO adjustable second stage regulators. Certain modifications necessary for mask application have been incorporated. The Demand Regulator adjustment assembly has been lengthened to accommodate the mask installation, the regulator spring is modified to permit adjustment over a wider range of inlet pressure and the face of the adjustable orifice is recontoured and polished to extend the poppet seat efficiency. The regulator will function through a supply pressure range of 50-200 psig over ambient pressure while the breathing sensitivity is maintained by diver's control of the regulator adjustment.

G. FREEFLOW VALVE (Ref. Fig. 3)

The Freeflow Valve consists of three basic parts, a valve body, containing three ports, a valve insert assembly and a valve knob.

The primary purpose of the Freeflow Valve is to provide a means of admitting air directly into the interior of the mask which is completely independent of that furnished by the demand regulator. The Freeflow Valve body also serves as a manifold block for regulator gas.

One port in the valve body receives the oxygen adapter and check valve assembly for incoming gas. From this port, the gas passes unobstructed through the annular passage within the valve body and out through a second port to the demand regulator via a hose.

The freeflow port exits inside the mask and is regulated by the valve. Opening the Freeflow Valve allows a portion of the inlet gas to flow through the freeflow port directly into the mask where a deflector directs it across the face port to the diver.

The demand regulator is in no way affected by operation of the Freeflow Valve.

H. AIR SILENCER

The Air Silencer consists of three basic components, an air duct, two 70 microns UC06 disks and a 4-40 retaining screw. When the freeflow valve is in the open position, the air is diffused by filter disks, thereby reducing the noise level and is directed across the port by the air duct.

I. CHECK VALVE

The Check Valve, made of brass, contains an internal poppet valve, spring loaded in the closed position. The umbilical pressure applied at the high pressure side of the valve overcomes the spring and opens the poppet to permit flow through the valve. When applied from the opposite end, the pressure assists the spring in holding the poppet closed. An arrow stamped on the valve body indicates the direction of flow.

J. EXHAUST VALVE

Large dual Exhaust Valves are used in the DM-5 for two reasons. One, to minimize the exhalation resistance of the breathing cycle and second, to maximize the ability of the valves to purge a large quantity of water quickly and completely.

The two assemblies are located under the face seal exhaust duct at the lowest point of the mask. They function automatically

by differential pressures between the mask interior and ambient pressure.

K. OXYGEN ADAPTER

The adapter is machined from brass bar stock and is chrome plated. It is furnished with a 1/4" NPT female thread on one end and a 9/16" X 18 male oxygen thread on the other.

L. COMMUNICATIONS

Two-way communications are provided for as standard equipment with the Aquadyne Mask. A microphone is attached inside the mask and an earphone, contained in a watertight housing, is mounted on a boom extending over the diver's left ear. The earphone housing is pressure compensated from within the mask by an equalizer tube serving also as a conduit for the earphone wiring. Two binding posts which penetrate the mask wall are located adjacent to the freeflow valve. The external portion of the binding posts provide a connection point for surface communication wiring while the inner ends become the terminal board for the mask wiring.

The earphone and microphone are wired in parallel which prevents the failure of one unit from effecting the performance of the other. The microphone has been installed with quick disconnects for ease of replacement if a failure occurs due to excessive flooding.

M. HEAD HARNESS

The Head Harness is cut from live rubber to a standard Aquadyne pattern. The Harness has five legs to match the five retainer points on the mask body and a flat central area which conforms to the shape of the diver's head when in place.

A series of holes, spaced at one inch intervals, are punched in each leg of the harness and provide an effective means of adjustment.

N. SHIPPING INFORMATION

Shipping weight of the Aquadyne Mask is approximately nine pounds, depending on optional equipment. Container size is 12" X 12" X 12". Special attention should be given to protect the valves and communication components by adding stiffeners of folded cardboard to these areas. A layer of a thick but soft material should be laid over the face seal to assure against being damaged from pressure exerted on it from the filler material. ALL VALVES SHOULD BE IN THE CLOSED POSITION BEFORE PLACING IN SHIPPING CONTAINER.

III

OPERATIONS

A. PRE-DIVE CHECKS

1. Inspect mask for any damage or loose fittings.
2. Open freeflow valve, blow through check valve, then suck back to insure the valve is clear and check valve is shutting off when subjected to reverse flow.
3. Check freeflow valve and regulator adjustment for free movement.
4. Check exhaust valves to see that no foreign matter is lodged under diaphragms.
5. Connect phone wire and test communication to and from diver.
6. Purge diving hose and DM-5 reserve valve hose before connecting to mask to insure system cleanliness.
7. Verify emergency air bottle is filled to rated capacity and connected to DM-5 reserve valve.
8. Prior to connecting umbilical to the DM-5 reserve valve, open emergency bottle valve and air reserve valve. Functionally check freeflow and demand systems. Verify no leakage at primary air inlet, check valve part #509. Close valve on DM-5 reserve valve.
9. Connect diving hose to mask and verify freeflow and demand systems using umbilical pressure.
10. Apply a thin film of antifogging solution or liquid detergent to inside of face port.
11. Place mask on diver's head and secure with head harness.
12. Verify diving hose is secured at diver's belt to prevent hose pull being applied to mask.

B. DIVE PROCEDURES

1. Verify adequate air supply and good communications just prior to dive.
2. Close freeflow valve and adjust demand regulator for desired

sensitivity. Rotate the nose clearing device away from nose and enter water.

3. Descend adjusting regulator or freeflow valve as required for optimum breathing effort. Rotate the nose clearing device against nose to equalize during descent.
4. Partial or complete flooding of mask can be quickly cleared in the following manner:
 - (a) Place the head in the upright position.
 - (b) Open freeflow valve or depress the demand regulator purge button until all water is expelled.

C. EMERGENCY ASCENT

An emergency air supply is a real asset in any type of diving, but, especially recommended where depth of dive exceeds 75 feet, bottom is fouled or when entering tunnels, etc. where direct ascent is prohibited.

It is strongly recommended that the diver be equipped with an emergency air/gas bottle used in conjunction with the Aquadyne Air Reserve Valve for such dives. (Ref. Fig. 1)

Emergency ascent, when equipped with the emergency system recommended above, is very simple. Upon failure of main air supply, open the emergency air reserve valve on the mask, close freeflow valve, and using demand circuit only to conserve air, proceed to first decompression stop or surface. Should the diver's hose be fouled to the point of preventing his ascent, the diver should alert the surface crew of his situation and notify them that he is cutting the hose to make an emergency ascent.

When diving without the emergency air supply, two separate belts should be worn, one weight belt and one belt to which the air hose is attached. Should an air failure occur, the diver may drop his weight belt and swim to the surface without removing mask. This procedure provides the diver with visibility which will enhance his safety during ascent.

In the event that the diver's air is cut off and his hose is fouled preventing him from surfacing with mask on, release weight belt and belt to which hose is attached then using both hands, pull mask forward, up and over head and swim to surface.



Fig. 1 Diver with Air Reserve System
(Optional Safety Equipment)

D. POST DIVE CHECKS AND MAINTENANCE

1. Remove supply hose and communication wire from mask. Insert plug or tape end of supply hose to maintain cleanliness.
2. Using damp rag or sponge with fresh water, rinse out and wipe the mask clean taking care not to wet the microphone and earphone. Do not use inhibisol, or similar type degreasers as they are harmful to the acrylic port.
3. Store face down in a dry place to allow water to drain from face seal.

IV

MAINTENANCE

A. DEMAND REGULATOR

Modifications to SCUBAPRO Regulator

The standard SCUBAPRO adjustable regulator has been modified by Aquadyne to facilitate adjustment over a greater supply pressure range, easier breathing and to fill the requirements of the mask application.

SCUBAPRO parts #638-11 adjustment knob; #538-19 adjustable orifice; #538-14 spring, have been replaced by the manufacturer. The stock SCUBAPRO parts will replace these modified parts BUT WILL REDUCE THE REGULATORS EFFICIENCY FOR MASK APPLICATION. IT IS SUGGESTED that replacement of these parts be ordered from General Aquadyne.

1. Disassembly (Ref. Fig. 4; Page 18)

Note: Disassembly/assembly should be accomplished only by a qualified technician.

Remove screws from diaphragm retainer clamp and lift out cover ring, cover and diaphragm. Unscrew swivel fitting and detach regulator supply hose. Back out adjustment shaft guide fitting (Aquadyne modification). Note: It should be only hand tight as it is not a seal but a guide support for the shaft.

Unscrew and pull out adjustment shaft, being careful not to damage the "O" ring. Tilt regulator to let the spring and pad slide out. Spread the demand valve lever clips where they enter the tube and remove. Tilt regulator to remove poppet. Insert screwdriver in the intake tube and screw out the adjustable orifice. "O" ring friction may necessitate pushing from opposite end to completely remove orifice. A soft material should be used to protect orifice face. Examine regulator exhaust valve diaphragm for deterioration and proper seating. Replacement, if required, is accomplished by gripping both, the valve end and the locking tab end of the valve and stretching it while pulling it out. Lubricate replacement diaphragm valve with a light film of silicone and install in the reverse order.

2. Cleaning and lubrication

Clean regulator body and all parts with soap and water or any

good degreasing fluid, (inhibisol). Dry thoroughly and lubricate with a light film of silicone grease or spray. DO NOT use oil or any other carbon-base lubricant.

3. Assembly (Ref. Fig. 4; Page 18)

Note: Assembly is relatively simple, but care must be taken not to damage the poppet and seat assembly.

- (a) Insert adjustable orifice and screw in until bottomed, back orifice out three turns.
- (b) Install demand valve lever.
- (c) Slide in poppet/seat assembly with the opening behind the seat assembly positioned to clear the tabs on the demand lever. (CUTAWAY SECTION DOWNWARD)
- (d) Insert spring followed by spring pad. Using a clean tool, depress spring and verify lever actuation when spring pressure is applied.
- (e) Screw in adjustment shaft only far enough to make contact with spring pad.
- (f) Screw in shaft guide fitting, hand tight only.
- (g) Turn adjustment counterclockwise until stopped by guide fitting.
- (h) Install diaphragm. (Actuator Plate inside)
- (i) Install cover.
- (j) Install cover ring.
- (k) Install clamps and clamp screws. (Joints to be horizontal with screw heads down)

4. Adjustment

The demand regulator, of necessity, must be in proper adjustment to provide optimum breathing throughout a supply pressure range of 50 to 200 PSIG over ambient water pressure.

The adjustment orifice, having been preset during regulator assembly is now ready for final adjustment. Turning the adjustable orifice clockwise will increase the pressure values at which freeflow occurs. Turning the orifice counterclockwise will lower the freeflow pressure points.

- (a) Connect hose from a regulated air source to the demand regulator inlet.
- (b) Slowly apply air pressure to the demand regulator until a freeflow condition is reached which should occur between 45 and 60 PSIG inlet pressure.
- (c) Turn diver's adjustment on demand regulator fully clockwise until bottomed. Freeflow will stop.
- (d) Slowly increase inlet pressure until a freeflow condition is again reached. The inlet pressure at this point should be between 190 and 210 PSIG.
- (e) If the low and high freeflow pressures are within the tolerances specified, perform breathing test over full range (50-200 PSIG) of supply pressure while maintaining demand regulator sensitivity with the diver adjustment.
- (f) Reduce regulated gas source pressure to zero PSIG and disconnect hose from demand regulator inlet.
Note: To prevent damaging the poppet seat during orifice adjustment, first depress regulator diaphragm to unseat poppet seat from face of orifice. (Ref. Fig.2)
- (g) Adjust orifice either clockwise or counterclockwise as dictated by freeflow test results. Increments of 1/16 turns should not be exceeded since a very minute change in orifice adjustment results in a considerable change in the freeflow setting.
- (h) Subsequent to each change in orifice adjustment, repeat steps (a) thru (f) of section 4.

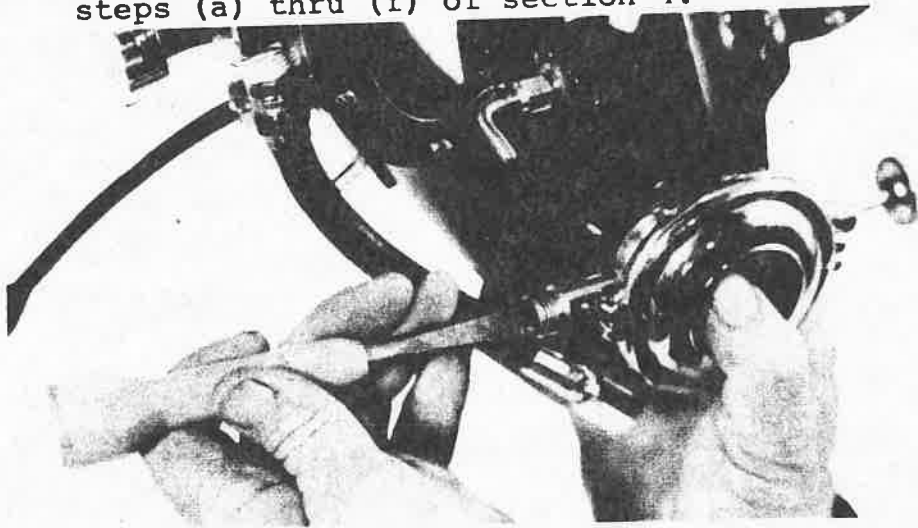


Fig. 2 Orifice Adjustment, Demand Regulator

B. FREEFLOW VALVE (Ref. Fig. 3)

With proper care, particularly regarding system cleanliness, the valve will require little or no maintenance.

1. Disassembly

- (a) Using a 5/64" allen wrench, back out the allen set screws on valve knob. Two set screws are used, one short (outer) and one long (inner).
- (b) Remove valve knob.
- (c) Unscrew valve assembly from valve body.
- (d) Using a 3/32" allen wrench, remove seat retainer.
- (e) Unscrew and pull out valve stem, pulling from the seat end. Take care not to damage "O" ring and teflon stem packing. Note: Do not remove teflon seal, part #505-2-2, unless it is damaged.

2. Cleaning and lubrication

Clean all parts with soapy water or any degreasing fluid. (Trichloroethylene, inhibisol, etc.) Wipe dry, making certain that seat and seat face are free of dirt or foreign material.

Lubricate all seals and threads with silicone grease. Replace any damaged seals or the Kel-F seat if necessary.

3. Assembly (steps)

- (a) Replace stem packing.
- (b) Slide "O" stem seal and teflon back up, ring down over shaft past the threads.
- (c) Insert shaft.
- (d) Push "O" ring down into its seat.
- (e) Push shaft down to contact threads and screw all the way in.
- (f) Replace Kel-F seat and seat retainer.
- (g) Screw valve stem to full open position.
- (h) Screw assembly into valve body and tighten.

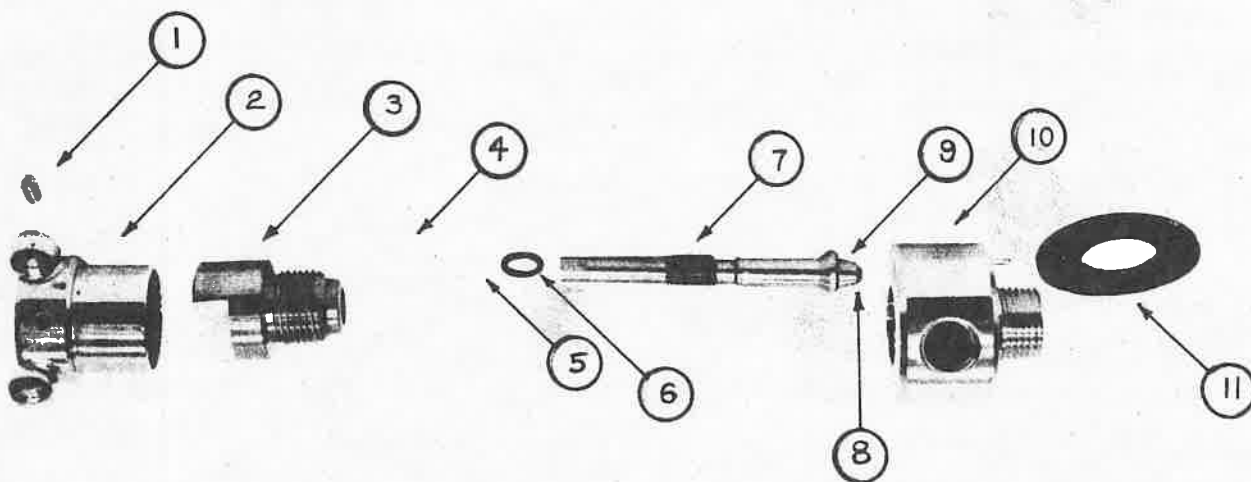


Fig. 3 Freeflow Valve, Exploded View

<u>Ref. No.</u>	<u>Part No.</u>	<u>Part Name</u>
1	505-5	Set Screw, Allen
2	505-4	Knob
3	505-2-1	Block, Valve
4	505-2-2	Seal, Teflon
5	505-2-3	Backup Ring, Teflon
6	505-2-4	"O" Ring
7	505-2-5	Stem, Valve
8	505-2-6	Seat Retainer
9	505-2-7	Seat, Kel-F
10	505-1	Body, Valve
11	508	Gasket, Valve Body

- (i) Place valve knob on valve stem, checking for alignment of set screw hole.
- (j) Install set screws (long screw first).
- (k) Check valve for open and close with pressure on the valve.

C. AIR SILENCER

1. Remove the 4-40 retaining screw.
2. Pull out the air duct and remove the two filter disks.
3. Replace disks, if necessary, and reassemble.

D. CHECK VALVE

1. Remove check valve and inspect for condition.
2. Clean and lubricate with a light film of silicone spray.
3. Functionally test by flowing air through the check valve in the direction of the arrow on hexagon flat. Restriction to flow should be negligible. Verify no flow and no leakage through valve when pressure is applied in the reverse direction. Replace with new check valve if test results are negative.
4. Install check valve, making certain that arrow on check valve body points toward the freeflow valve.

E. EXHAUST VALVES

1. Inspect rubber exhaust valve for deterioration and proper seating. Replace, if required, as follows:
 - (a) Using a screwdriver in the slot provided, remove exhaust valve cover.
 - (b) Remove rubber exhaust valve.
 - (c) Clean exhaust valve seat.
 - (d) Apply, by hand, a light film of silicone lubricant to rubber valve.
 - (e) Install rubber exhaust valve and verify proper seating.

- (f) Install exhaust valve cover.

F. COMMUNICATIONS

1. Microphone replacement.

- (a) The microphone is cemented to the mask. Carefully pull it loose at the cement joint.
- (b) Remove the microphone.
- (c) Cut the shrink tubing which covers the quick disconnects. Disconnect microphone wires and remove.
- (d) Connect a new microphone assembly into the system and cover quick disconnects with shrink tubing or tape.
- (e) Replace microphone assembly in mask using neoprene cement.

2. Earphone replacement.

- (a) Remove the eight #4-40 screws from the earphone housing and remove the retainer ring and diaphragm seal.
- (b) Remove the earphone from the housing only far enough to permit replacement. (An excess length of wire was coiled around the earphone during manufacture to facilitate part replacement)
- (c) Unsolder the wires from the earphone.
- (d) Solder wires on new earphone and replace in housing.
- (e) Coat diaphragm seal with a light film of silicone lubricant on the inner surface.
- (f) Install diaphragm seal, seal retainer ring and the eight #4-40 screws.

G. HEAD HARNESS

1. Replacement

- (a) A new head harness should be ordered from Aquadyne.
- (b) Using the old head harness as a pattern, a temporary replacement may be cut from inner tube rubber or a suitable alternate material.

H. FACE PORT

1. Replacement

- (a) Remove the twelve #6-32 screws and port frame.
- (b) Using a knife, remove as much silicone rubber as possible without damaging the fiberglass body.
- (c) Using a piece of wood and a mallet, tap the face port firmly around the outer edges from inside the mask until loose enough to remove it.
- (d) Remove any silicone rubber from the port recess that hinders installation of the new port.
- (e) Apply bead of silicone rubber in port recess.
- (f) Insert new port into recess.
- (g) Apply small bead of silicone rubber into the joint formed by the port and mask body.
- (h) Lubricate back side of port frame with silicone spray or wax.
- (i) Install port frame and twelve #6-32 screws.

Any cleanup of silicone rubber must be done before it has cured using paint (enamel) thinner.

2. Polishing

- (a) Scratches in plexiglas or lexan ports are best removed using acrylic plastic polishing compounds, however, any fine polishing compounds will give satisfactory results.

3. Repair of stripped threads in fiberglass

- (a) Remove screw from hole having stripped threads.
- (b) Obtain a #6-32 screw with a minimum length of $\frac{1}{2}$ ".
- (c) Coat the screw with a light film of silicone spray lubricant.
- (d) Fill the stripped hole with catalyzed resin and insert the longer screw until bottomed. When the resin is cured,

new threads are formed about the screw. The silicone coating, serving as a release agent, will allow removal of the screw using a screwdriver.

- (e) Install the #6-32 X 3/8" port frame screw.

I. FACE SEAL REPLACEMENT

1. Removal of old seal

- (a) The used face seal can be easily removed by using acetone, or if not available, brush on wet suit cement to soften the old cement. Apply the acetone or wet suit cement to the bonded edges around the skirt of the mask. DO NOT get any acetone or wet suit cement on the PORT.
- (b) As the old cement begins to soften, gently pull the face seal away from the fiberglass, being careful not to tear it. This process is continued until the seal is completely removed.

2. Installation of replacement seal

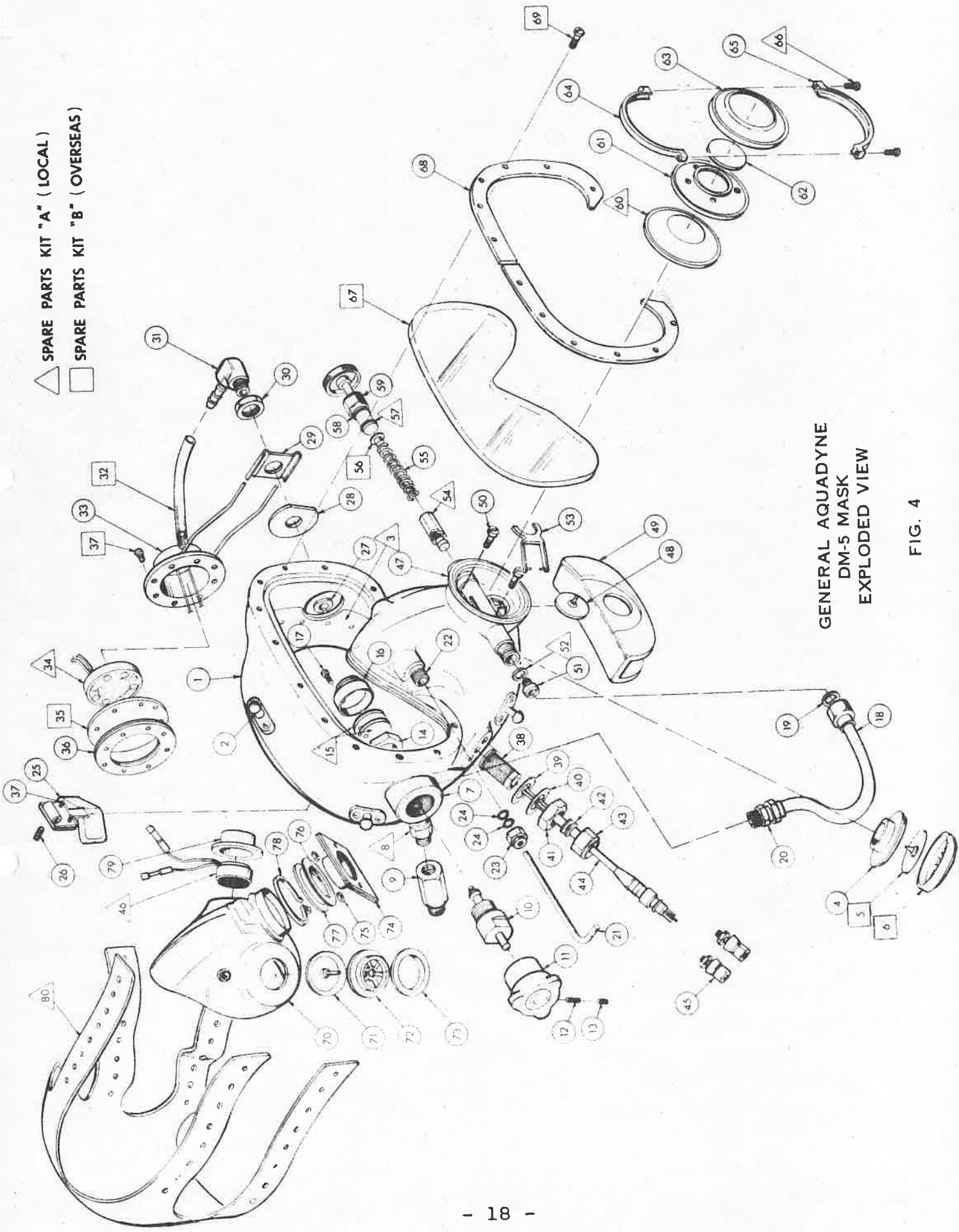
- (a) Before attempting to install the replacement seal, be certain that the inside of the mask has been thoroughly dried. Also, be certain the bonding surfaces are thoroughly oil and dirt free.
- (b) Coat the inside of the mask with wet suit cement using the line from the old seal as a guide.
- (c) Coat the replacement seal with wet suit cement on the outside diameter to the marked guide line and allow several minutes to dry.
- (d) Place the mask on your lap with the chin of the mask to your right. Hold the face seal in your right hand and squeeze the sides so that you contact the marked center line on the face seal with the top spider hook. Use the left hand to apply pressure to assure solid contact.
- (e) Center the chin portion of the seal in lower portion of the mask and apply pressure to assure a good bond.
- (f) Using the line provided on the seal make contact with the fiberglass on both sides.
- (g) Apply an additional coat of cement around the border of

the seal and mask. Allow two or three minutes to dry - then apply pressure.

J. PREVENTIVE MAINTENANCE

Working conditions vary considerably from job to job, so the schedule of maintenance is at the discretion of the individual diver as conditions dictate.

The Aquadyne Mask has been built to the highest standards and is of extremely rugged construction. Proper care will insure realization of the reliability and performance built into the unit.



△ SPARE PARTS KIT "A" (LOCAL)

□ SPARE PARTS KIT "B" (OVERSEAS)

GENERAL AQUADYNE
DM-5 MASK
EXPLODED VIEW

FIG. 4

AQUADYNE DM-5 MASK

Recommended Spare Parts List
(Local Operations)

The DM-5 Mask was manufactured under the strictest specifications and with the highest quality materials available, to assure trouble free operation. However, it is recommended that the following spare parts in Kit A-1 be kept on hand for normal maintenance purposes. Aquadyne carries a large inventory of spare parts and can immediately ship upon request.

Ref. No.	Part No.	Part Name	Quantity
3	633	Face Seal	1
5	536-2	Diaphragm, Purge Valve	2
15	605	Silencer Disc	3
80	537	Head Harness, Spider	1
DM-5 O-Ring Replacement Kit II			1
DM-5 Regulator Repair Kit III			1
DM-5 Communications Repair Kit IV			1

Recommended Spare Parts List
(Foreign Operations)

It is also recommended when working from a foreign port, that the parts in Kit B-1 be kept on hand, due to the normal time delay in receiving shipments in remote areas.

Ref. No.	Part No.	Part Name	Quantity
3	633	Face Seal	1
5	536-2	Diaphragm, Purge Valve	2
8	509	Check Valve	1
15	605	Silencer Discs	3
67	630	Port (Lexan)	1
69	529	Screws, Port Ring	6
80	537	Head Harness, Spider	1
DM-5 Side Valve Repair Kit I			1
DM-5 O-Ring Replacement Kit II			1
DM-5 Regulator Repair Kit III			1
DM-5 Communication Repair Kit IV			1

GENERAL AQUADYNE
DM-5 COMPONENT REPAIR KITS

DM-5 SIDE VALVE REPAIR KIT I
(Refer to page 12 of DM-5 Manual)

Ref.	Part No.	Part Name	Qty.
4	505-2-2	Seal, Teflon	1
5	505-2-3	Backup Ring, Teflon	1
6	505-2-4	O-Ring	1
8	505-2-6	Seat Retainer	1
9	505-2-7	Seat Kel F	1
11	508	Gasket, Valve Body	1
12	505-2-6A	Allen Wrench Seat Retainer	1

DM-5 O-RING REPLACEMENT KIT II
(Refer to exploded view)

19	538-20	O-Ring, Hose Assembly	1
24	531	O-Ring, Clearing Device	2
42	538-12	O-Ring, Marsh Marine Feed Thru	2
52	538-20	O-Ring, Adjustable Orifice	1
57	538-12	O-Ring, Adjustable Shaft	2
76	540-3	O-Ring, Recepticle	1

DM-5 REGULATOR REPAIR KIT III
(Refer to exploded view)


48	538-9	Exhaust Valve	1
52	538-20	O-Ring, Adjustable Orifice	1
54	538-15,16	Poppet and Seat	1
55	538-13	Spring Pad	1
56	538-7	Diaphragm, Regulator	1
61	538-6	Cover, Diaphragm	1
66	538-1	Clamp Screws	2

DM-5 COMMUNICATIONS REPAIR KIT IV
(Refer to exploded view)



32	617	Hose, Equalizer	1
34	512-1	Earphone HC-3	1
35	518-3	Diaphragm Seal, Earphone	1
37	518-2	Screws, 4-40	6
46	512-2	Microphone T-7	1

PARTS LIST DM-5 MASK

MAIN MASK BODY

Ref. No.	Part No.	Part Name
1	632	Fiberglas Body
2	501	Spider Hook
	633	Face Seal
4	536-3	Body, Purge Valve
5	536-2	Diaphragm, Purge Valve
6	536-1	Cover, Purge Valve

FREE FLOW VALVE ASSEMBLY

7	505-1	Body, Free Flow Valve
	509	Check Valve
9	510	Adapter, Check Valve
10	505-2	Free Flow Valve
11	505-4	Knob, Free Flow Valve
12	505-5A	Set Screw 3/8", Knob
13	505-5B	Set Screw 1/4", Knob
14	604	Nut, Free Flow Valve
	605	Silencer Disc
16	606	Deflector, Free Flow
17	607	Machine Screw, Deflector
18	611	Hose Assembly, Regulator
19	538-20	O-Ring, Hose Assembly
20	511-2	Hose Fitting, Hose Assembly

PARTS LIST DM-5 MASK


NOSE CLEARING DEVICE

Ref. No.	Part No.	Part Name
21	634	Lever, Clearing Device
22	634-3	Gland Bushing, Clearing Device
23	528-3	Gland Nut, Clearing Device
24	531	O-Ring, Clearing Device
25	634-1,2	Adjustable Pad & Base, Clearing Device
26	505-53	Set Screw, Adjustable Pad & Base






COMMUNICATIONS

27	613	Feed Thru, Earphone
28	615	Gasket, Earphone
29	616	Clamp, Earphone
30	614	Nut, Earphone
31	615	90° Ell, Equalizer
32	617	Hose Equalizer
33	618	Earphone Cup Assembly
34	512-1	Earphone HC-3
35	518-3	Diaphragm Seal, Earphone
36	518-4	Retainer Ring, Earphone
37	518-2	Screws, 4-40, Earphone & Pad & Base
38	521	Feed Thru, Marsh Marine
39	522	Gasket, Feed Thru Marsh Marine
40	523	Washer, Feed Thru Marsh Marine

PARTS LIST DM-5 MASK

Ref. No.	Part No.	Part Name
41	524	Nut, Feed Thru Marsh Marine
42	538-12	O-Ring, Feed Thru Marsh Marine
43	526	Gland Nut, Feed Thru Marsh Marine
44	527-1	Male Marsh Marine Connector
45	520	Binding Post
 46	512-2	Microphone, T-7

REGULATOR

47	538-18	Case Assembly
48	538-9	Exhaust Valve
49	538-10	Exhaust Tee
50	538-18A	6-32 x 3/4" Machine Screw
51	538-19	Adjustable Orifice
 52	538-20	O-Ring, Adjustable Orifice
53	538-8	Demand Valve Lever
 54	538-15,16	Poppet & Seat
55	538-14	Spring
 56	538-13	Spring Pad
 57	538-12	O-Ring, Adjustable Shaft
58	538-12	O-Ring, Adjustable Shaft Assembly
59	638-11	Adjustment Shaft Assembly
 60	538-7	Diaphragm, Regulator

PARTS LIST DM-5 MASK

Ref. No.	Part No.	Part Name
61	538-6	Cover, Diaphragm
62	538-5	Plate, Diaphragm Cover
63	538-4	Cover Ring
64	538-2	Clamp, Threaded
65	538-3	Clamp, Unthreaded
△66	538-1	Clamp Screws
□67	630	Port
68	628	Port Ring
□69	529	Screws, Port Ring

ORAL NASAL ASSEMBLY

70	540-1	Nose Cup
71	536-2	Diaphragm, Nose Cup
72	540-7	Free Flow Inlet, Nose Cup
73	540-8	Retainer Ring, Nose Cup
74	540-2	Adapter, Nose Cup
75	538-18B	6-32 Nut, Adapter
76	540-3	O-Ring, Receptacle
77	540-5	Receptacle, Nose Cup Adapter
78	540-6	Clamp, Ty-Rap Nylon
79	540-9	Cup, Microphone
△80	537	Head Harness, Spider