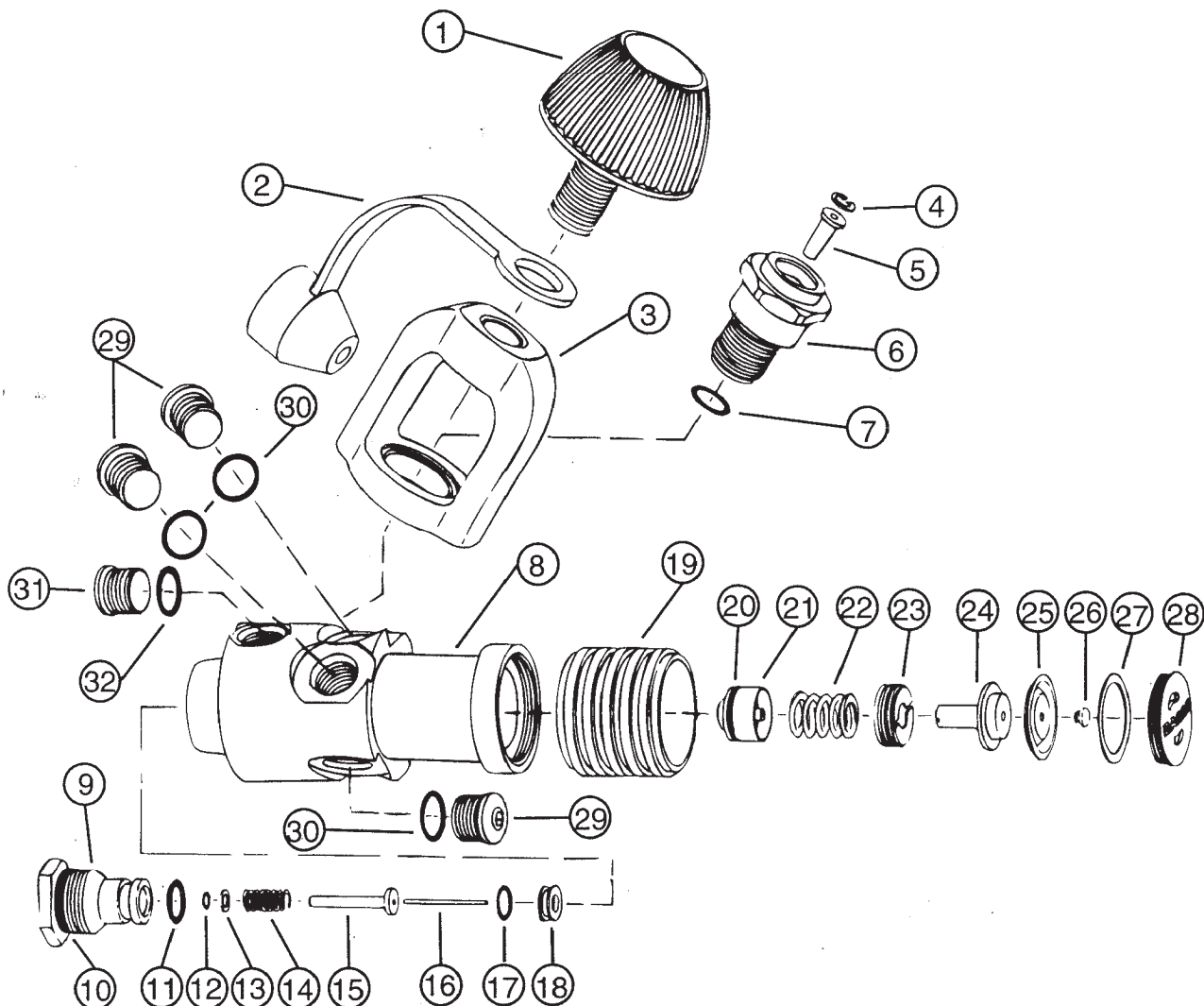


#	QTY	PART #	KEY	DESCRIPTION	#	QTY	PART #	KEY	DESCRIPTION
1	1	0200-24		YOKE SCREW	26	1	0240-13		UMBRELLA VALVE
2	1	0510-42		DUST CAP	27	1	0120-99		WASHER
3	1	0390-08		YOKE- CHROME	28	1	0625-65		PLUG
4	1	0250-19	①②	RETAINING CLIP	29	3	0410-24		L.P. PLUG
5	1	0110-08	①②	FILTER	30	4	0060-51	①	O-RING
6	1	0182-65		YOKE SUPPORT	31	1	0410-20		H.P. PLUG
7	1	0060-01	①	O-RING	32	1	0060-43	①	O-RING
8	1	0031-33		BODY- CHROME					
9	1	0227-60		CAP ASSEMBLY- CHROME					
10	1	0060-53	①	O-RING					
11	2	0060-05	①	O-RING					
12	1	0060-90	①②	O-RING					
13	1	0170-82		WASHER					
14	2	0040-76		H.P. SPRING					
15	1	0182-73	①	H.P. SEAT					
16	1	0350-38		PUSH ROD					
17	1	0060-05		O-RING					
18	1	0182-74		CONE MODULE					
19	1	0513-98		RIBBED SLEEVE					
20	1	0060-54	①②	O-RING					
21	1	0830-06		PISTON					
22	1	0040-75		SPRING, AMBIENT					
23	1	0182-76		ADJUSTING SCREW					
24	1	0830-08		BOOST PISTON					
25	1	0050-20		DIAPHRAGM					



ENDURO
FIRST STAGE

9/93

First Stage
Regulators

PAGE

1-49

KEY

① Included in annual overhaul kit #9680-20
② Included in annual service kit #9680-16

ENDURO FIRST STAGE**Custom Tools Supplied by Dacor**

1. 0980-61 O-Ring Tool Kit
2. 9508-00 Polishing Stick
3. 0980-56 Piston/Cone Removal Tool
4. 9550-00 Intermediate Pressure Gauge
5. 9501-00 Light Silicone Spray
6. 0980-33 Threaded Rod
7. 0980-19 5/32" Allen Wrench
8. 0980-62 Spanner Wrench
9. 0980-13 Cap Wrench

Standard Tools Needed:

1. Vise
2. Socket Wrench
3. Wide-Blade Screwdriver or Drag Link Tool
4. Retaining Clip Pliers
5. 1" Open-End Wrench or Adjustable Wrench

Disassembly:

Step 1: Remove all hoses and port plugs from the first stage. Remove all o-rings from hose fittings and port plugs using the o-ring removal tool.

Step 2: Install the threaded rod into the high pressure port of the first stage. Securely place the rod in a vise - creating a steady platform for servicing the unit.

Step 3: Remove the yoke support screw (6) using an open-end or adjustable wrench. If there is a D.I.N. adaptor, use an adjustable wrench. Remove the sealing o-ring (7) from the yoke support or D.I.N. adaptor.

Step 4: Remove the retaining clip (4) using internal retaining ring pliers. Remove the filter (5).

Step 5: At this point, you are ready to disassemble the body of the regulator. Remember, the Enduro does not have a removable module.

A. Remove the plastic plug (28) using the cap wrench (P/N 0980-13).

B. Remove the plastic washer (27), relief plug (26), sealing diaphragm (25) and the boost piston (24).

C. Remove the adjusting screw (23) using a wide blade screw driver or drag link socket. Remove the ambient spring (22).

D. Remove the balance chamber assembly using a spanner wrench (or 7/8" socket wrench on early units). This assembly includes the balance chamber (9), Balance chamber o-ring (12), washer (13), high pressure spring (14), high pressure seat (15), and push rod (16). Remove the o-rings (10 & 11) from the balance chamber.

E. Disassemble the seat, high pressure spring, washer and o-ring from the balance chamber.

F. Remove the ambient piston (21) by using the piston removal tool. Then remove the o-ring (20).

G. Remove the stainless steel cone module (18) with two pushes of the cone removal tool, making sure to catch the cone in your hand. This sensitive part must not be nicked or damaged. Remove the o-ring (17).

Step 6: After removing the body from the threaded rod and removing the decorative sleeve (19) from the Enduro, the disassembly phase is complete.

Cleaning:

Step 1: The next phase is cleaning and inspection. All metal parts should be cleaned using a solution made from 1 gallon of white vinegar (with 5% acid content) and a quart of any general purpose household cleaner. If you need less solution, use a 4:1 ratio of vinegar to household cleaner. Soak the parts no longer than 15 minutes or 5 minutes if using an ultrasonic cleaner. All plastic and rubber items (including o-rings) should be cleaned with fresh water only. Then air dry all parts, preferably using an air gun.

Step 2: Discard the old internal balance chamber o-ring (12), ambient piston o-ring (20), filter (5), and retaining clip (4). Replacements for these parts are included in the annual service kit. Replace the high pressure seat and o-rings included in the annual overhaul kit if used.

Step 3: Clean and inspect all other o-rings and lubricate them with a light silicone spray. Replace any questionable o-rings.

Step 4: Visually inspect the seat's sealing surface and cone module sealing surface for cuts and nicks. Also inspect the sealing diaphragm, and relief plug for damage. Replace any of these parts if necessary. If mild corrosion or mildew is evident on the cone module, use a polishing stick to remove it.

Assembly:

Step 1: Now you are ready to re-assemble the regulator body. Insert the cone module assembly into the narrow end of the of the Enduro body using the cone installation tool. The sharp edge of the cone should be facing out. Visually check to make sure the cone is properly seated.

Step 2: Lubricate and install the new ambient piston



o-ring (20) onto the ambient piston (21). Insert the assembly into the wide end of the Enduro body with the "cone" side facing in.

Step 3: Insert the ambient spring (22) and the adjusting screw (23) into the body using a wide blade screwdriver or drag link socket. Turn the adjusting screw clockwise until the top of the screw is flush with the start of the threaded area within the module.

Step 4: Next reassemble the balance chamber assembly. This consists of the external o-rings (10&11), the seat (15), high pressure spring (14), washer (13), and a new internal balance chamber o-ring (12).

Step 5: While holding the balance chamber vertically, install the push rod (16) into the seat (15). Vertically screw the balance chamber assembly into the body by hand - until you feel a positive engagement. Then fully tighten to a torque specification of 16-18 ft. pounds with a spanner wrench (or 7/8" socket wrench on early models).

Step 6: Install the assembled Enduro body onto the vise secured threaded rod, using the high pressure port.

Step 7: Install a new filter (5) and retaining clip (4) into the yoke support (6) or D.I.N. adaptor, making sure that the sharp side of the clip is up. Install the sealing o-ring (7).

Step 8: Install the yoke support assembly (6), yoke (3), dust cap (2), and yoke screw (1) or equivalent D.I.N. components into body. Apply one drop Blue Loctite® 242 to yoke support threads. Tighten the assembly with an open end or adjustable wrench to a torque specification of 16-18 foot pounds. At this point, the Enduro body has been re-assembled.

Step 9: The next step is to install this intermediate pressure gauge into a low-pressure port.

On the Enduro, use the front right port. Plug all the remaining ports with their corresponding port plugs. The assembled regulator can now be removed from the threaded rod. It's ready for set-up.

Step 10: Place regulator on a tank or set-up board.

A. Slowly introduce high pressure air, preferably 3000 psi.

B. Set-up the intermediate pressure to 140 psi (+/- 4 psi) by turning the adjusting screw clockwise to increase pressure or counter-clockwise to reduce the pressure setting. During this process, purge the intermediate pressure. If you are not using a set-up board, open and

close the bleeder knob on the intermediate pressure gauge to simulate second stage purging and ensure a proper reading.

Step 11: Once a consistent 140 psi intermediate pressure had been established...

A. Assemble the components of the sealing and boosting mechanism: the relief plug, sealing diaphragm, and boost piston. Install the small end of the relief plug (26) through the hole on the raised center surface of the diaphragm (25). Install this assembly - bellows side down - onto the boost piston (24) by pushing the small end of the relief plug through the center hole of the piston head. Rotating the piston while installing the plug will ease installation.

B. Install the boost piston assembly into the body through the center of the adjusting screw. The stem of the boost piston will bottom out on the ambient piston*.


C. Install the plastic washer (27) and plastic plug (28). Torque the plug to a specification of 45-50 inch pounds.

D. Re-check the intermediate pressure for consistency.

E. Finally, install the decorative sleeve (19).

F. Bleed the system once more, and service of the first stage is complete.

* Refer to Repair Manual page on Boost Testing for instructions on testing regulator pressure boost feature.

	ENDURO FIRST STAGE		PAGE	REPAIR PROCEDURE
	9/93	First Stage Regulators	1-51	