

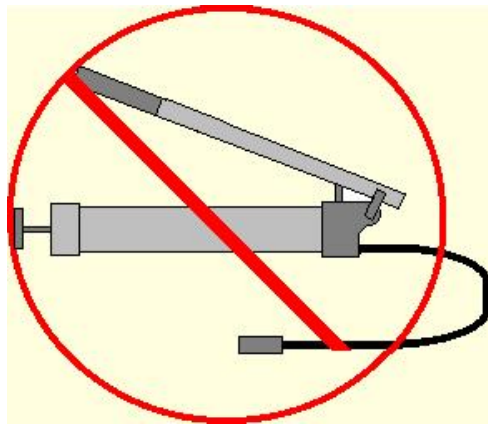
# Chapter 3

---

## Power Pumping Equipment

Our field experience since 1969, has taught us that if you want the job done properly, you have to provide reliable and effective lubricant / sealant pumping equipment.

Most of the equipment used for servicing high-pressure valves is designed to build either 10,000 PSI or 15,000 PSI and can take a kick (flow back of line pressure due to sealant fitting failure). A simple automotive type grease gun can build-up to 8,000 PSI, but is not designed to take any flow back or kick of product. Because of this, low-pressure guns are not recommended for use on pressurized valves.



---

*DO NOT USE LOW-PRESSURE GREASE GUNS FOR INJECTING SEAT SEALANT.*

---

Low-pressure grease guns are used for greasing gearbox bearings only.

For best results use Sealweld® Eterna-Lube 1000 anti-seize and bearing lubricant compound.

DO NOT use in valve seat systems.

These guns are not designed to contain pipeline pressures in the event of fitting check valve failure.

## Sealweld® ACTIV-8®

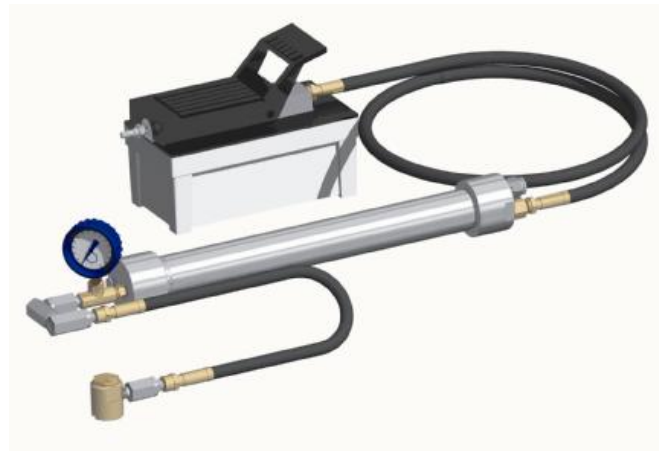
The Sealweld® ACTIV-8® sealant injection pump is one of the most effective tools for servicing large diameter pipeline ball, gate and plug valves. It offers a very simple field repairable design. It is powered by compressed air, bottled breathing air or natural gas which is utilized to generate up to 10,000 PSI injection pressure instantly.

One of the more common problems with the old style Air Ram Bucket Gun was that because it has so many wearable parts, it is very difficult to repair and keep running in the field. The Air Ram Bucket Gun's slower pumping speed usually meant the valve technician would start the pump and then go on to other tasks while the lubricant / sealant was being injected. In many cases the valve would be over-lubricated because the pump was left running too long or the valve was under-lubricated because there was a pocket of air in the can of lubricant / sealant and the pump air locked.

The ACTIV-8® has proven to be extremely effective on large diameter plug valves where hydraulic force is required to physically jack the tapered plug from its seat. A short quick shot of lubricant / sealant can often pop the plug from its seat. The high speed action can also wash contaminants from critical seal faces and will cut hours from the time spent when completely cleaning and re-lubricating large diameter valves.



## Uni-Seal Pump



The Uni-Seal Pump is a high speed hand-held pump that uses the same air / hydraulic motor as the Sealweld® ACTIV-8®. It is extremely effective for quickly servicing valves in hard to reach areas such as on towers or in tunnels. Its light weight makes it ideal for heli-portable work. Many operators power the pump with 125 PSI (maximum) natural gas.

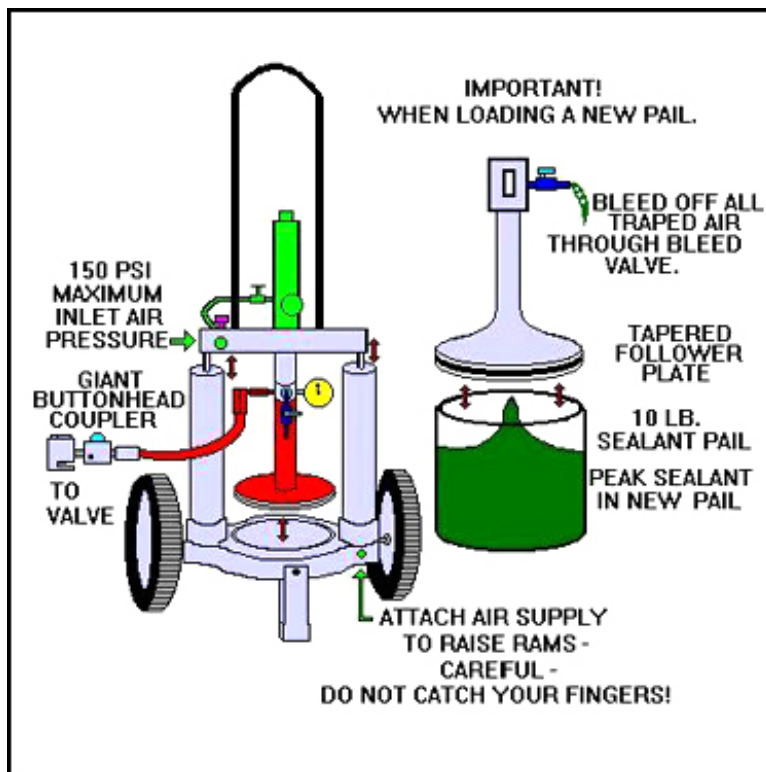
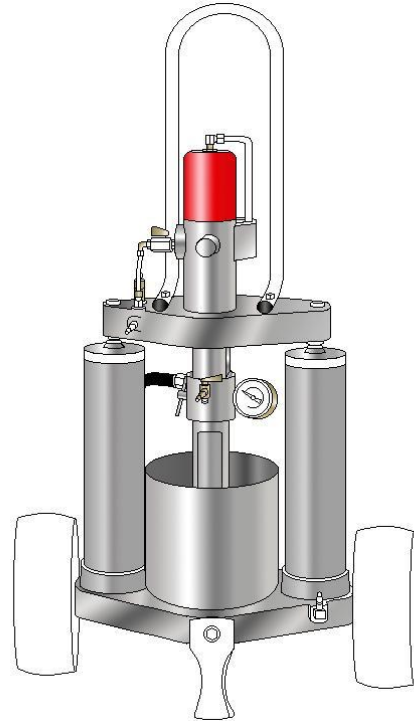
ALWAYS use a filter and lubricator when utilizing natural gas as your power source.

The Uni-Seal will discharge sealant at up to 10,000 PSI and can empty a (1) one pound cartridge of sealant in less than (2) two minutes. In comparison, a hydraulic hand gun would require over 800 strokes and would need to be refilled once to discharge the same pound of sealant. A Sealweld® SuperGun® would require over 300 strokes to discharge a pound of sealant. It is easy to see why valves seldom receive sufficient quantities of lubricant / sealant.

## Air Ram Bucket Gun

The Air Ram Bucket Gun was developed over (30) thirty years ago and is capable of generating up to 15,000 PSI sealant injection pressure. It pumps directly from a (10 lb.= 5 quart) ten pound pail and the gun is wheel-mounted for easy transportation. It has a 100 to 1 ratio pump which uses air pressure to drive a reciprocating motor. The downtube assembly is a series of valve seats and ball checks which push the sealant through narrowing passages. As the passages narrow, the sealant pressure increases proportionally, up to 15,000 PSI. Any damage caused to the valve seats from dirt or grit in the grease pail will prevent the pump from building pressure. Care must be taken to keep the gun and sealant from becoming contaminated by dirt or sand.

One of the most common problems with the gun caused by trapped air in the downtube assembly. Care must be taken to expel all air from the top of a new pail when re-loading the gun. Peak the sealant in the center of the pail. Open the vent valve to expel the air as the follower plate moves down into the pail.



## Operating Instructions

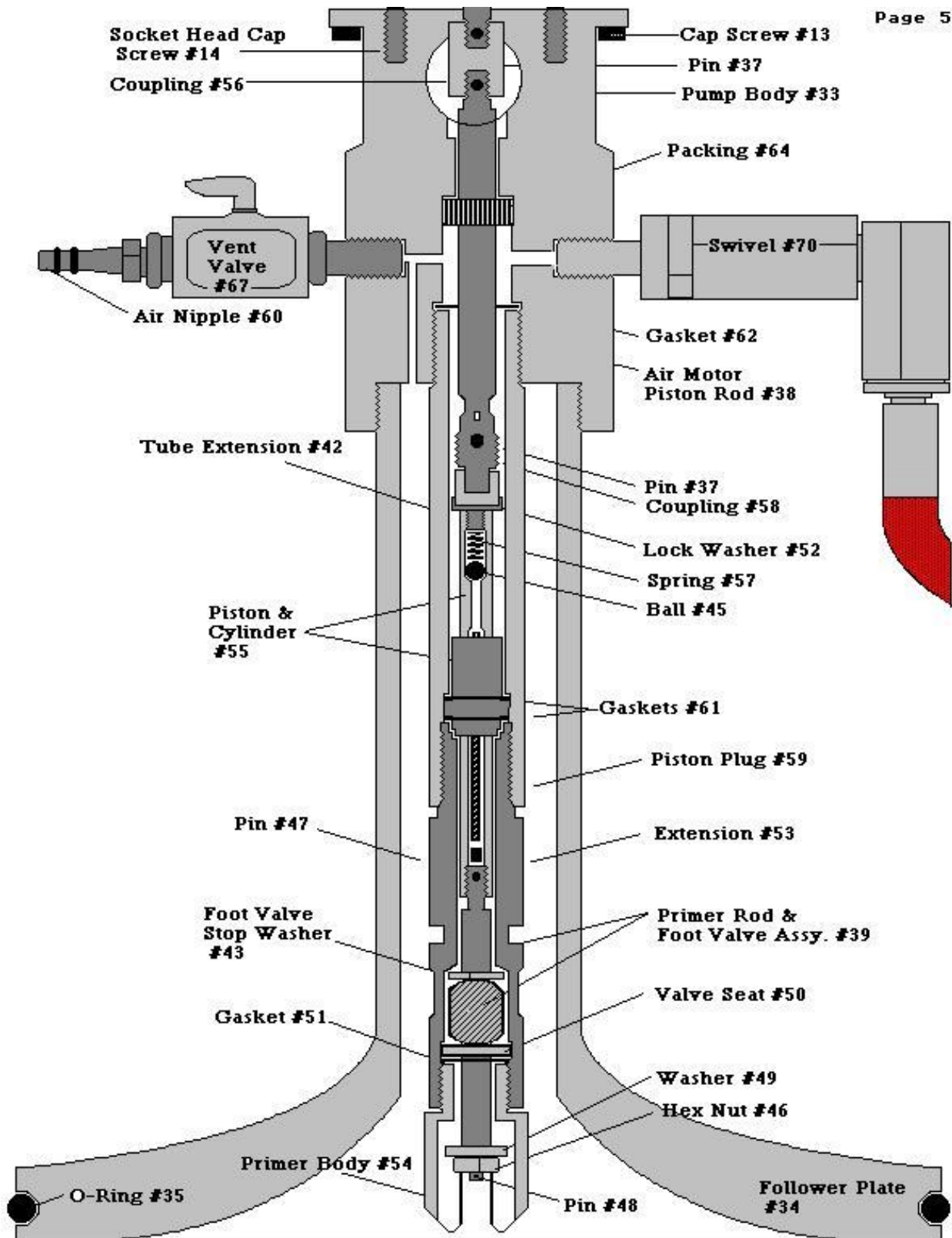
1. Open ram pull down valve # 1. This will allow compressed air to escape the upper assembly.
2. Attach air hose to lower ram elevating fitting # 2 (keep clear of upper assembly of pump because it **will** rise rapidly).
3. After upper assembly has been raised, close valve # 1. This will allow the upper assembly to remain in the raised position. Detach air supply.
4. Attach container shield # 8 to (5) five quart = (10) ten pound pail # 9.
5. Remove the lid from can and peak the sealant to reduce trapped air.
6. Attach pail by tipping it approximately 45° while lifting it onto the follower plate to reduce trapped air.
7. Open pull down valve # 1. The pump assembly and pail will begin to lower. Watch that fingers do not get caught as the pail settles on the pump base and align pail in groove.
8. Make sure the groove which the pail rests in is clean and without buildup. The pail may rupture if it does not sit properly in the groove.
9. Open vent valve # 4 and by-pass valve # 5. This will allow air to escape as the pump assembly settles into the pail.
10. With ram pull down valve #1 open and throttle valve # 6 closed, attach air supply at air inlet nipple # 3. The upper assembly will begin to lower itself.
11. Once the pail has settled onto the base and follower plate has settled into the pail of sealant, open the throttle valve # 6 slightly and allow motor to run slowly. Sealant will begin to escape out vent valve # 4. Catch the escaping sealant on the pail lid or similar object.
12. Close both vent valve # 4 and valve screw # 5. Pressure should begin to move. Close release valve # 7, pressure should again begin to climb.
13. Open throttle valve # 6. Pump pressure should continue building to 100 times the inlet pressure. The motor will stall at this point. Discharge pressure will remain steady until release valve # 7 is opened.
14. To remove empty pail, elevate the pump assembly as in steps 1, 2 & 3 and tip pail until it breaks free of follower plate. If pail will not break free, remove as follows: Open vent valve # 4 and valve screw # 5. Connect air supply to the air nipple on vent valve # 4, the compressed air will blow the pail off the follower plate.

---

*For repairs to this and any make of hand or power-operated lubricating equipment, contact:  
Sealweld Corporation in Calgary or Houston*

---

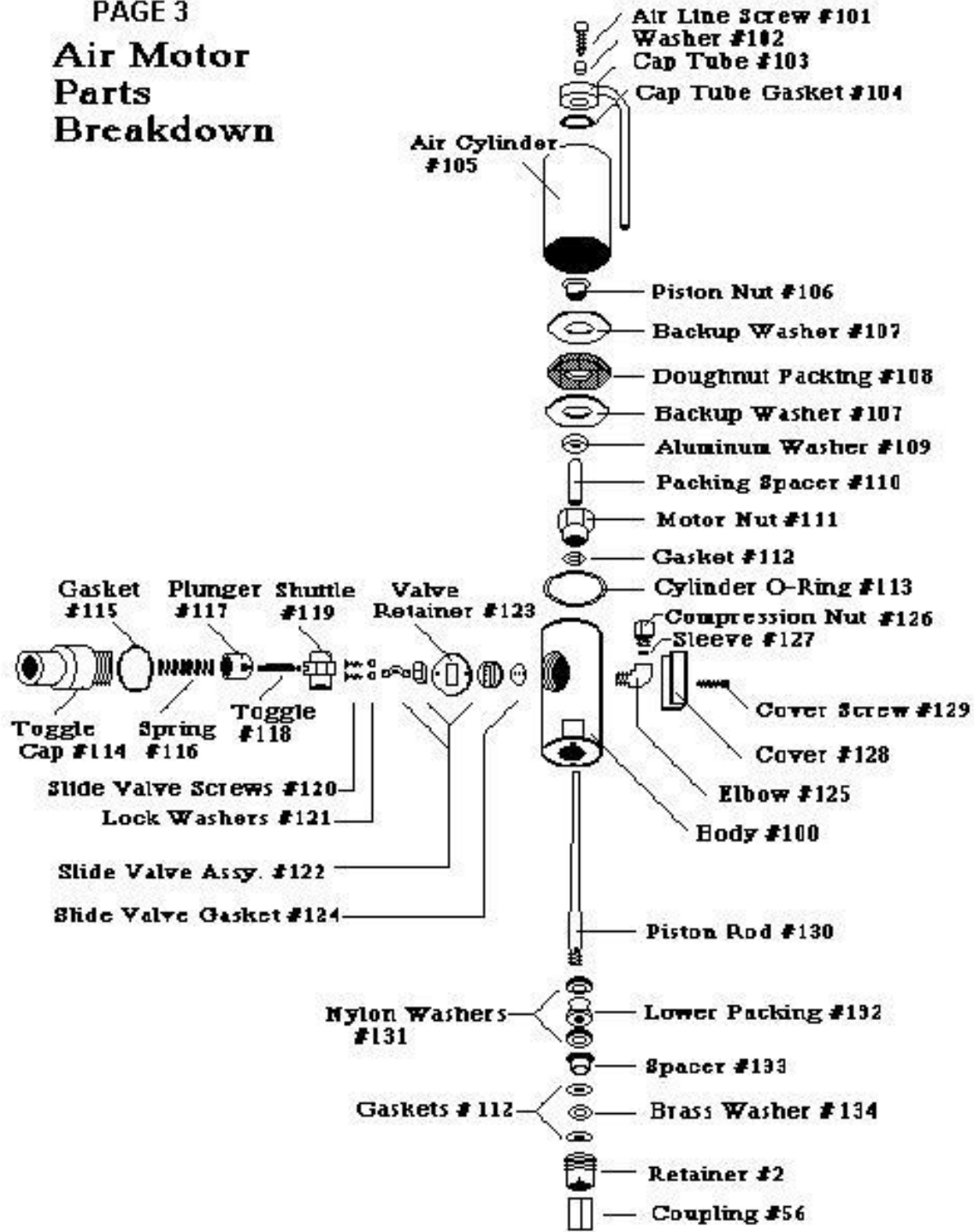
# Air Ram Bucket Gun Cut-Away View



Air Ram Bucket Gun Cut-Away View

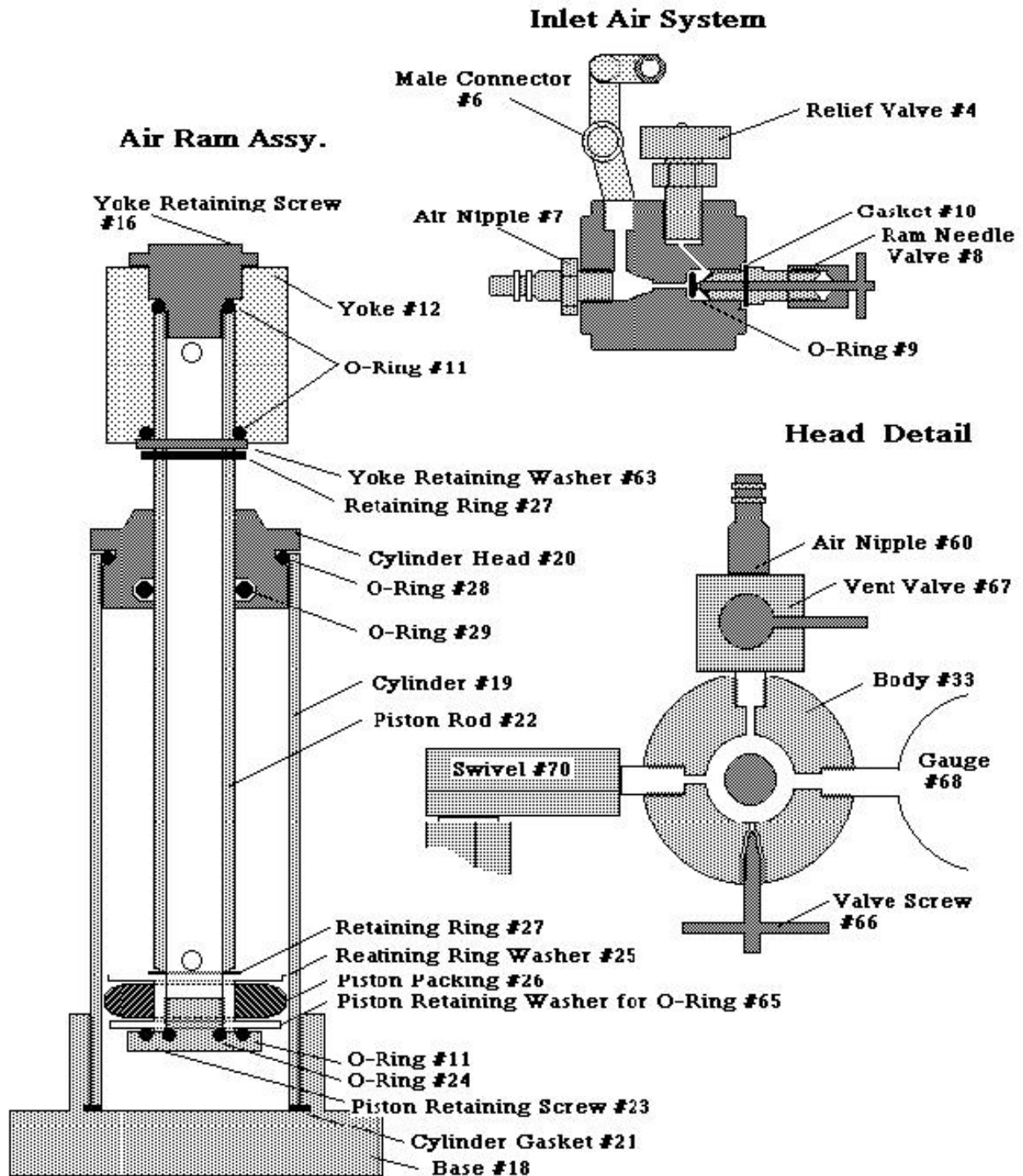
# Air Motor Parts Breakdown

PAGE 3  
**Air Motor  
 Parts  
 Breakdown**



*Air Motor Parts Breakdown*

# Air Ram Bucket Gun Assembly



*Air Ram Bucket Gun Assembly*

## Air Ram Bucket Gun Parts List

Item #	Description	Part #	KIT #	Qty Req'd
1	Air Motor Complete	R-RG-01		1
2	Retainer	R-RG-02		1
3	Throttle Valve	R-RG-03		1
4	Relief Valve	R-RG-04		1
5	Air Tube	R-RG-05		1
6	Male Connector	R-RG-06		1
7	Air Nipple	R-A8-15A		1
8	Ram Needle Valve	R-RG-08	K-4	1
9	O-RING	R-RG-09	K-4	1
10	Gasket	R-RG-10	K-4	1
11	O-RING	R-RG-11	K-4	6
12	Yoke	R-RG-12		1
13	Hex Head Cap Screw	R-RG-13		2
14	Socket Head Cap Screw	R-RG-14		4
15	Lock Washer	R-RG-15		3
16	Yoke Retain Screw	R-RG-16		2
17	Air Coupler	R-A8-14H		
18	Base	R-RG-18		1
19	Cylinder	R-RG-19		2
20	Cylinder Head	R-RG-20		2
21	Cylinder Gasket	R-RG-21	K-4	2
22	Piston Rod	R-RG-22		2
23	Piston Retaining Screw	R-RG-23		
24	O-RING	R-RG-24	K-4	2
25	Piston Retaining Washer	R-RG-25		2
26	Piston Packing	R-RG-26	K-4	2
27	Retaining Ring	R-RG-27	K-4	4
28	O-RING	R-RG-28	K-4	2
29	O-RING	R-RG-29	K-4	2
30	Restrictor Ell Assembly	R-RG-30		1
33	Pump Body	R-RG-33		1
34	Follower Plate	R-RG-34		1
35	Follower O-ring	R-RG-35	K-4	1
36	Down Tube Assembly	R-RG-36		1
37	Roll Pin	R-RG-37	K-5	3
38	Piston Rod	R-RG-38		1
39	Rod / Valve Assembly	R-RG-39	K-5	1
42	Tube Extension	R-RG-42		1
43	Stop Washer	R-RG-43	K-5	1
45	Steel Ball	R-RG-45	K-5	1
46	Hex Nut	R-RG-46	K-5	1

Item #	Description	Part #	KIT #	Qty Req'd
47	Primer Rod Pin	R-RG-47	K-5	1
48	Cotter Pin	R-RG-48	K-5	1
49	Steel Washer	R-RG-49	K-5	1
50	Valve Seat	R-RG-50	K-5	1
51	Gasket	R-RG-51	K-5	1
52	Lock Washer	R-RG-52	K-5	1
53	Extension	R-RG-53	K-5	1
54	Primer Body	R-RG-54		1
55	Piston & Cylinder	R-RG-55		1
56	Coupling	R-RG-56	K-5	1
57	Spring	R-RG-57		1
58	Coupling	R-RG-58	K-5	1
59	Piston Plug	R-RG-59		1
60	Nipple	R-A8-15A	K-5	2
61	Gasket	R-RG-61		2
62	Gasket	R-RG-62	K-5	1
63	Yoke Retaining Washer	R-RG-63	K-5	1
64	Piston Rod Packing	R-RG-64		1
65	Piston Retaining Washer	R-RG-65	K-5	2
66	Valve Screw	R-RG-66		1
67	Vent Valve	R-RG-67	K-4	1
68	Pressure Gauge	R-RG-68		1
69	High-Pressure Hose	S-120XHP		1
70	"L" Swivel	H-SV-L1		1
71	Straight Swivel	H-SV-ST1		1
72	Giant Buttonhead Coupler	H-CPSG-2		1
75	Handle	R-RG-75		1
76	Can Shield	R-RG-76		1
78	Kick Stand	R-RG-78		2
79	Axle	R-RG-79	K-1	2
81	Spring	R-RG-81	K-2	1
82	Retaining Ring	R-RG-82	K-1	2
83	Release Valve	H-RVAB	K-2	1
84	Wheel	R-RG-84		2
85	1/2" Lock Washer	R-RG-85	K-2	2
86	3/8" - 16 x 1/2" Screw	R-RG-86	K-2	2
87	5/16" Washer	R-RG-87	K-2	1
88	3/8" Lock Washer	R-RG-88	K-1	1
89	3/8" - 16 x 2" Screw	R-RG-89	K-1	1
90	3/8" - 16 Nut	R-RG-90	K-1	1
92	5/16" Lock Washer	R-RG-92	K-1	3
94	5/16" - 18 Screw	R-RG-94	K-1	1
100	Air Motor Body	R-RG-100		1

Item #	Description	Part #	KIT #	Qty Req'd
101	Air Line Screw	R-RG-101	K-1	1
102	Flat Washer	R-RG-102		1
103	Cap Tube	R-RG-103		1
104	Cap Tube Gasket	R-RG-104	K-3	1
105	Air Cylinder	R-RG-105		1
106	Piston Nut	R-RG-106	K-3	1
107	Back-Up Washer	R-RG-107		2
108	Doughnut Packing	R-RG-108		1
109	Aluminum Washer	R-RG-109		1
110	Packing Spacer	R-RG-110	K-3	1
111	Motor Nut	R-RG-111		1
112	Gasket	R-RG-112		3
113	Cylinder O-RING	R-RG-113	K-3	1
114	Toggle Cap	R-RG-114	K-3	1
115	Toggle Cap Gasket	R-RG-115	K-3	1
116	Toggle Spring	R-RG-116		1
117	Plunger	R-RG-117	K-3	1
118	Toggle	R-RG-118	K-3	1
119	Shuttle	R-RG-119		1
120	Slide Valve Screw	R-RG-120		2
121	Lock Washers	R-RG-121		2
122	Slide Valve Assembly	R-RG-122	K-3	1
123	Valve Retainer	R-RG-123	K-3	1
124	Slide Valve Gasket	R-RG-124	K-3	1
125	Elbow	R-RG-125		1
126	Compression Nut	R-RG-126	K-3	1
127	Compression Sleeve	R-RG-127		1
128	Cover	R-RG-128		1
129	Cover Screw	R-RG-129		1
130	Piston Rod	R-RG-130		1
131	Nylon Washers	R-RG-131		2
132	Lower Packing	R-RG-132		1
133	Spacer	R-RG-133	K-3	1
134	Brass Washer	R-RG-134	K-3	1
K-1	Kick Stand Kit	R-RG-K1		1
K-2	Wheel Repair Kit	R-RG-K2		1
K-3	Air Motor Kit	R-RG-K3		1
K-4	Minor Repair Kit	R-RG-K4	K-6	1
K-5	Downtube Repair Kit	R-RG-K5	K-6	1
K-6	Major Repair Kit	R-RG-K6	K-6	1

*Air Ram Bucket Gun Parts*