

# **Balcrank<sup>®</sup>**

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## **GIANT JET™ SERIES PUMP**

**10:1 Model #1130-008**

**5:1 Model #1130-009**

**10:1 Model #1130-023\***

*\*With EPDM Seals*

Thoroughly read and understand this manual before installing, operating or servicing this equipment.

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**OPERATION, INSTALLATION,  
MAINTENANCE AND REPAIR GUIDE**

# General Safety

Thoroughly read and understand this manual before installing, operating or servicing this equipment.

## Guide to Safety Comments:

**NOTE:** Gives more explanation of a procedure, or a helpful hint.



**CAUTION:** Alerts user to avoid or correct a condition which may or could cause damage and/or destroy the equipment.



**WARNING:** Alerts user to avoid or correct conditions which could cause bodily injury.

Because this Pump can be incorporated into pressurized systems, the following safety precautions should be observed:

- Check equipment regularly and repair or replace worn and damaged parts.
- Release pressures built up in the system before any service or repair is begun. See **Pressure Relief Procedure**.
- Never alter or modify any parts of this pump; doing so may cause damage to the pump and/or personal injury.
- Never aim a dispensing valve at any person. Personal injury may result.
- Do not operate this pump above 150 PSI (10.3 BAR) air inlet pressure, or beyond 300 cycles per minute pump speed.
- Always read and follow fluid manufacturers' recommendations regarding proper use of protective eye wear, clothing, and respirators.
- Read all limitations which apply to the selection of fluids which may be pumped by this product. Do not pump a fluid which is not specified to be compatible on page 3.



**WARNING:** This pump develops 1500 PSI (103.4 BAR) maximum working pressure at 150 PSI (10.3 BAR) maximum inlet air pressure and stall conditions. Be sure that any components or accessories used in the system are rated to withstand this pressure. To determine fluid output pressure at stall conditions, multiply the ratio of the pump by the air pressure being used.

EXAMPLE: 10:1 Pump Ratio x 100 PSI air pressure = 1000 PSI fluid pressure at stall.



**WARNING:** This pump contains aluminum and zinc materials. Do not use 1-1-1 Trichloroethane, methylene chloride or halogenated hydrocarbon solvents or fluids containing such solvents in this pump.

Use of these fluids can result in violent chemical reactions, causing serious bodily harm, property damage or death.

All chemicals used in the pump must be chemically compatible with the wetted parts shown on page 3 of this manual. If there are any doubts, consult your fluid supplier to ensure compatibility.



**WARNING:** Always use the following **Pressure Relief Procedure** whenever shutting off, cleaning, or in any way checking or servicing the pump:

- (1) Disconnect air to the pump.
- (2) Point pump outlet away from your self or others.
- (3) Open dispensing valve until pressure is relieved.



## WARNING

**DANGER:** Not for use with fluids that have a flash point below 100°F (38°C). Examples: gasoline, alcohol. Sparking could

result in an explosion which could result in death.

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## Product Description

The 10:1 ratio Giant Jet™ Pump is suitable for simultaneous fluid distribution to multiple dispense points, or for pumping to distances of up to 1500 feet.

The Giant Jet™ Air Motor features a precision air reversing valve mechanism with dual valve ports for improved high speed breathing. It has a simple yet durable construction with all internal parts lubricated at the factory using a life-tested synthetic grease (Balcrank p/n 826733). This grease coats all internal parts and repels air line moisture to inhibit corrosion.

The Giant Jet™ pumping assembly features a nickel plated steel pump rod, fluid piston and foot valve for superior wear and corrosion resistance. The pump also has high quality Buna-N seals and is packaged in a pump that has proven reliable yet easy to service and maintain. Model #1130-023 is equipped with EPDM seals in place of the Buna-N seals.

## Technical Data

Pressure Ratio.....	10:1, double acting, balanced ratio
Air Motor Bore.....	6.00" (effective diameter 4.2")
Stroke.....	3.25"
Pump Displacement.....	7.45 cubic inches per cycle
Cycles per Gallon.....	31
Maximum Flow Rate.....	10 GPM @ Free Flow
Operating Air Pressure Range.....	0-150 PSI (0-10.3 BAR)
Air Consumption.....	50 CFM @ maximum flow <sup>1</sup>
Fluid Suction Lift.....	18" Mercury; 15 ft. vertical lift maximum
Port Sizes.....	Fluid Inlet 1" NPT, Fluid outlet 3/4" NPT, Air inlet 1/2" NPT
Wetted Parts.....	Ni Plated Steel, Brass, Aluminum, Viton™, Polyurethane (Model #1130-023 Only.....EPDM seals instead of Viton)
Compatible Fluids:	
.....	Machine tool coolants (oil and water base)
.....	Petroleum and synthetic motor oils, gear oil, ATF, hydraulic oil
(Model #1130-023 only.....	Brake Fluid)

1. Air consumption varies with pump speed.

# Pump Installation

After removing the pump from its shipping carton, attach a suitable suction tube or hose to the pump fluid entry port.



**Caution:** Performance will be affected by a suction path seal that is not air tight.

If mounting to a reservoir bung port, thread the pump bung adapter into the bung thread on the fluid reservoir, lower the pump into the mounted bung adapter, then tighten. The suction tube should be submerged in the tank liquid and should reach to within 1 to 2 inches from the bottom of the reservoir.

If mounting onto a wall bracket, place the pump in the bung-mount adapter provided on the bracket, then tighten the adapter clamping threads. Attach a wall mount Suction Assembly Kit to the pump, then lower the suction tube into the reservoir, adjusting height to set the end of the tube 1 to 2 inches above the bottom of the reservoir.



**Caution:** Always tighten pump down securely to avoid damage to the fluid reservoir, the pump, and nearby equipment. Be sure to use only the specified bung adapter.

Provide a drop-tee fitting, 1/2" size or larger, in the nearby air supply pipeline. From that tee, install the following pump air line assembly:

- pipe bushing or adapter (to bring the line drop size to 1/2" male)
- 1/2" pipe drop to pump level
- 1/2" pipe elbow
- 1/2" shutoff ball valve (having an air relief vent when closed)
- 1/2" pipe nipple
- 1/2" F-R-L or filter/regulator assembly
- 1/2" x 3 ft. air hose
- 1/2" air line coupler and nipple.

Attach the air nipple to the air inlet port of the Giant Jet™ Pump. During assembly of the air supply line, be sure to blow out all foreign materials before making connection to the pump.

Balcrank® recommends that an air line lubricator be used with turbine oil (viscosity 150-170 SSU @ 100° F) and set at a maximum oil feed rate of 2 drops per minute of pump operation.

The pump air motor has been coated with a special synthetic grease at initial assembly (available as Balcrank p/n 826733) and does not require additional greasing except during reassembly after a repair.

## Preventive Maintenance

The Giant Jet™ Pump has been designed to operate dependably with little required maintenance. However, to ensure pump longevity, the following should be observed:

- Keep the fluid free of trash and debris. Periodically check the pump inlet for foreign matter and clean when necessary.
- Run the pump at the minimum pressure required to achieve the desired flow rate.
- Ensure the pump receives clean, moisture free air. Check and maintain the system's air filter on a regular basis.
- Although the air motor is coated with synthetic grease upon factory assembly and can run without lubricated air, Balcrank recommends an in-line F-R-L be installed in the pumping system.
- Never let the pump run dry of pumped fluid.

## Pump Operation



**Caution:** Always read and follow fluid manufacturers' recommendations regarding proper use of protective eye wear, clothing and respirators.



**Caution:** Read all limitations which apply to selection of fluids which may be pumped by this product. Do not pump a fluid which is not specified to be compatible.

### To Start Pump:

1. Connect the pump's fluid inlet to a fluid supply.
2. Connect the air coupler to the pump and turn the air regulator to the minimum setting.
3. Direct pump outlet hose into an approved waste oil container.
4. Slowly adjust the air regulator until the pump is primed and running smoothly. Be sure all air has been purged from the system. The pump should prime in 1 to 2 minutes.
5. Use the air regulator to control the pump's speed and cycle rate. Always use the lowest pressure required to obtain the desired flow rate. This will increase pump and seal life.
6. Never allow a pump to be run dry of the fluid being pumped. A dry pump quickly speeds up, which could damage the air motor. If the pump suddenly speeds up, cut off the air supply as soon as possible and refill the reservoir with fluid and reprime the system.
7. Read and follow the instructions for each component in your system.
8. If the pump will be unattended for any period of time, or to shut off the system at the end of a work shift, *always* follow the **Pressure Relief Procedure** on page 2 of this manual.

## Pump Repair/Service



**Warning:** Before beginning pump repair, all internal pressure must be relieved. To reduce risk of personal injury, follow the **Pressure Relief Procedure** shown on page 2.

### **Model #1130-008 & 1130-023**

**Pump Disassembly / Reassembly:** Using a soft jaw vise or a suitable fixture, clamp the pump horizontally on the small diameter of the housing (10). Refer to illustrations on pages 9 and 10 to aid in servicing the pump.

**Removing the Air Motor:** Remove nut (3) and u-washer (5) from cap (7). Remove cap (7) from housing (10). Remove foot valve (24) from pump tube (21). Remove pump tube (21) from adapter (17) and slide off. Remove six socket head cap screws (19) from housing (10). Slide plate (18) off over rod (30). Grip rod (30) on knurl, then use a spanner wrench to remove fluid piston nut (32). Grip rod (30), pull air motor assembly downward until the rod can be slid out of the "saddle" stem (26) (See graphic at bottom of page 6). Reach into the top of the housing and remove the air motor. The air motor and the housing o-ring (11) can now be serviced. Reassemble in reverse order, *being sure to use grease (Balcrank p/n 826733) on all seals and o-rings.*

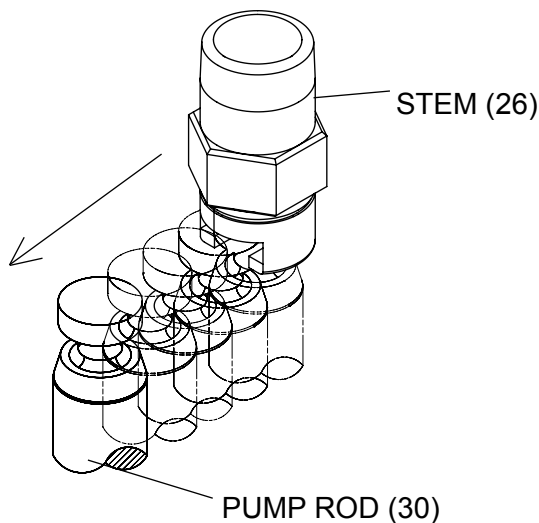
**Replacing the Air Motor Seals:** Place air motor on clean work surface with the air valve mechanism up. Remove eight screws (45), four posts (51) and the rest of tripping assembly (48, 49, 50, and 52). *Take care not to lose small parts.* Unscrew flange nuts (40) and remove. Remove plastic washers (37) and valve bar (42), replace plastic washers (37) as needed. Replace o-rings (43) on valve stems (39 and 46) as needed. To remove top spring (35), remove plastic washer (54) and rod (36) will slide out of valve bar (42). Snap lower spring (35) off sleeve (55) and slide off rod (36). Reassemble in reverse order, *being sure to use grease (Balcrank p/n 826733) on all seals and o-rings.*

# Pump Repair/Service

**Replace the Pump Rod Seals:** Remove foot valve (24) from pump tube (21). Remove pump tube (21) from adapter (17) and slide off. Grip rod (30) on knurl, then use a spanner wrench to remove fluid piston nut (32). Remove the six socket head cap screws (19) from housing (10). Slide plate (18) off over rod (30). Slide adapter (17) off over rod (30). Now, in a soft jaw vice of a suitable fixture, clamp the adapter (17) horizontally. With a spanner wrench, remove the floating seal nut (12) from the adapter (17). Now seals (13, 15, and 16) are accessible. Change as required. Reassemble in reverse order, *being sure to use grease (Balcrank p/n 826733) on seal (15) to ease reassembly.*

**Replacing Fluid Piston Components:** With a pipe wrench, clamp on the knurl of the fluid rod (30) and remove the fluid piston nut (32) using a spanner wrench. Inspect the fluid piston ball (22), spring (31), and the ball seat for wear and replace as needed. Remove quad ring (33) and wear band (34) from the fluid piston nut (32). Inspect and replace as required. Reassemble in reverse order, *being sure to use grease (Balcrank p/n 826733) on all seals.*

**Foot Valve:** With a pipe wrench, clamp to the knurl on tube (21). Now remove foot valve (24). Remove and inspect pin (25) for wear, straightness, etc. Replace if required. Remove foot valve ball (22) and o-ring (23), inspect, and replace if required. Reassemble in reverse order.



**Caution:** Before servicing, reduce fluid pressure to zero. For safe handling, use the recommended **Pressure Relief Procedure** listed below.

## Pressure Relief Procedure:

To reduce the risk of serious bodily injury, including fluid injection or splashing into the eyes and /or onto skin, follow the procedure below before maintaining or repairing the pump, the solenoid, or any part of the system.

1. Disconnect the air supply from the pump.
2. Open the dispensing valve into an approved waste container to relieve pressure on the system.
3. Leave any bleed-type drain valves open until you are ready to use the system again.

**Note:** The air motor is lubricated with a life-tested synthetic grease (Balcrank p/n 826733) at the factory. This grease coats all parts and repels air line moisture to inhibit corrosion. It is imperative that any grease removed during maintenance be replaced afterwards. Contact your local Balcrank® distributor, using the above part number, for replacement grease.

# Troubleshooting Guide

**NOTE:** Check all other possible causes before disassembling pump.



**CAUTION:** Before servicing, reduce fluid supply pressure to zero.

TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION
Pump does not operate	Inadequate air supply pressure or restricted air line Clogged lines, hoses, valves, etc. Damaged air motor Empty fluid supply	Increase or clear air supply (1) Open; clear (1) Service/replace air motor Refill, reprime and/or flush
Air motor is not tripping over	Air motor o-rings are worn/damaged	Service/replace air motor
Air is leaking from exhaust and or seal damage, etc.	Air motor o-rings are worn/damaged	Service/replace air motor
Fluid is leaking from the exhaust	Seal (16) is worn/damaged	Replace
Erratic pump operation	Air entering suction line Fluid level too low Air motor icing	Check for loose connections Refill, reprime or flush Run pump at lower pressure; run at lower cycles per minute; clean muffler (27)
Pump runs continuously	Empty fluid supply Blockage in pump tube or foot valve Lower bell (22) is stuck in foot valve Lower seal (33) is worn or damaged	Refill, reprime or flush Remove pump tube, clear blockage Replace ball and reseal foot valve Replace
Fluid output on one stroke only or continue to operate when dispensing valve is closed	Retainer (25) is broken Upper ball (22) is stuck in fluid piston (32)	Replace Replace ball and reseal
Pump operates, but pump output on both strokes is low	Inadequate air supply pressure or restricted air line Closed or clogged solenoid valve, meter, dispensing valve, etc. Empty fluid supply Air inlet strainer/filter clogged	Increase air supply; increase air supply size Clear (1) Refill, reprime or flush Clear (1)

# Parts List

Giant Jet™ Stub Pump, 10:1 Ratio

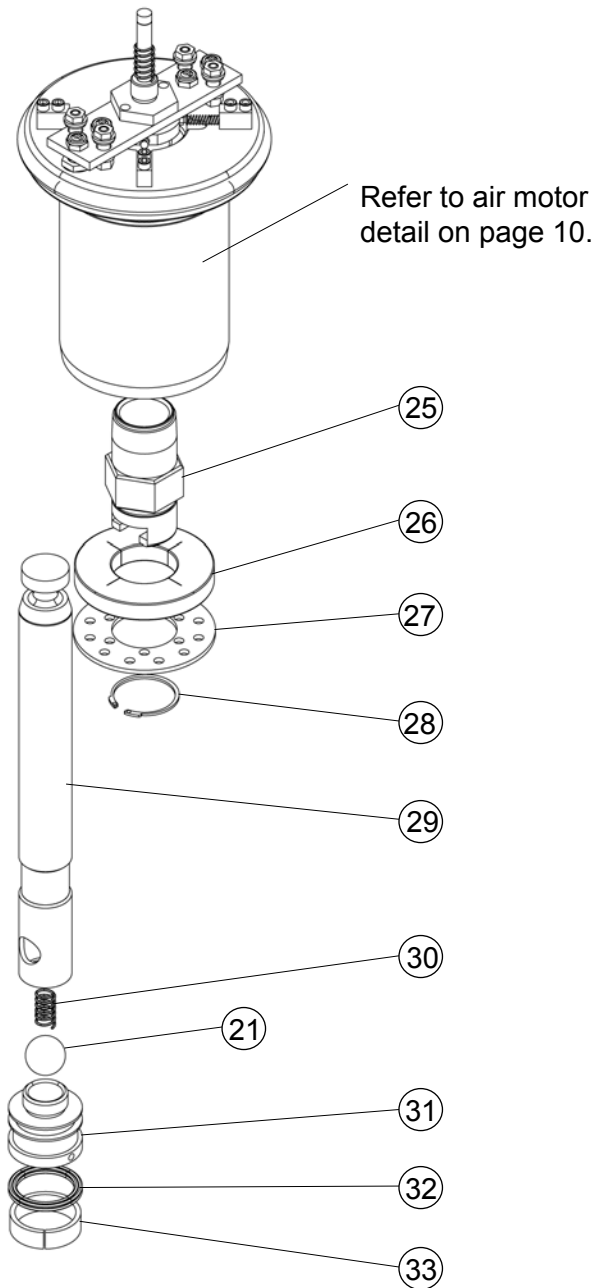
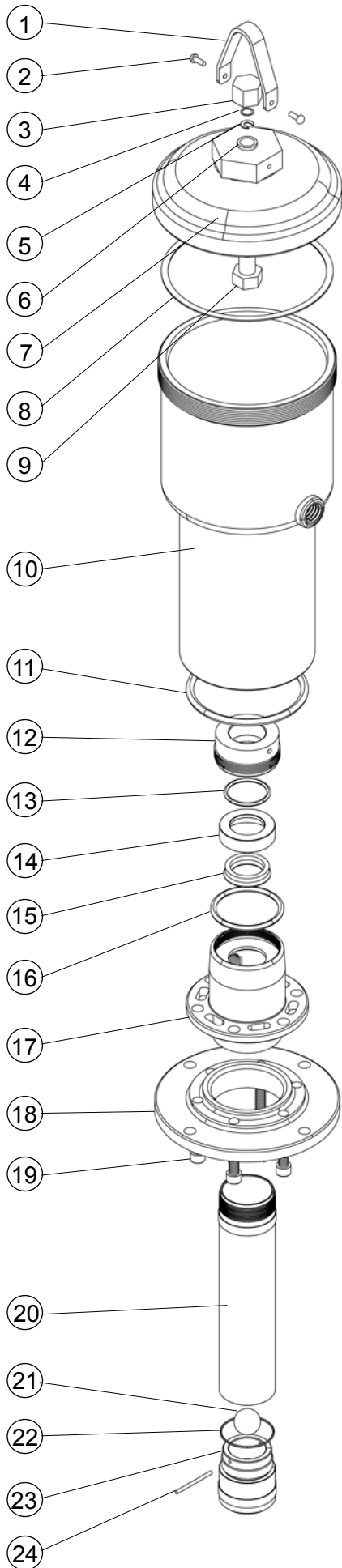
Model 1130-008

(\* is for Model 1130-023 only)

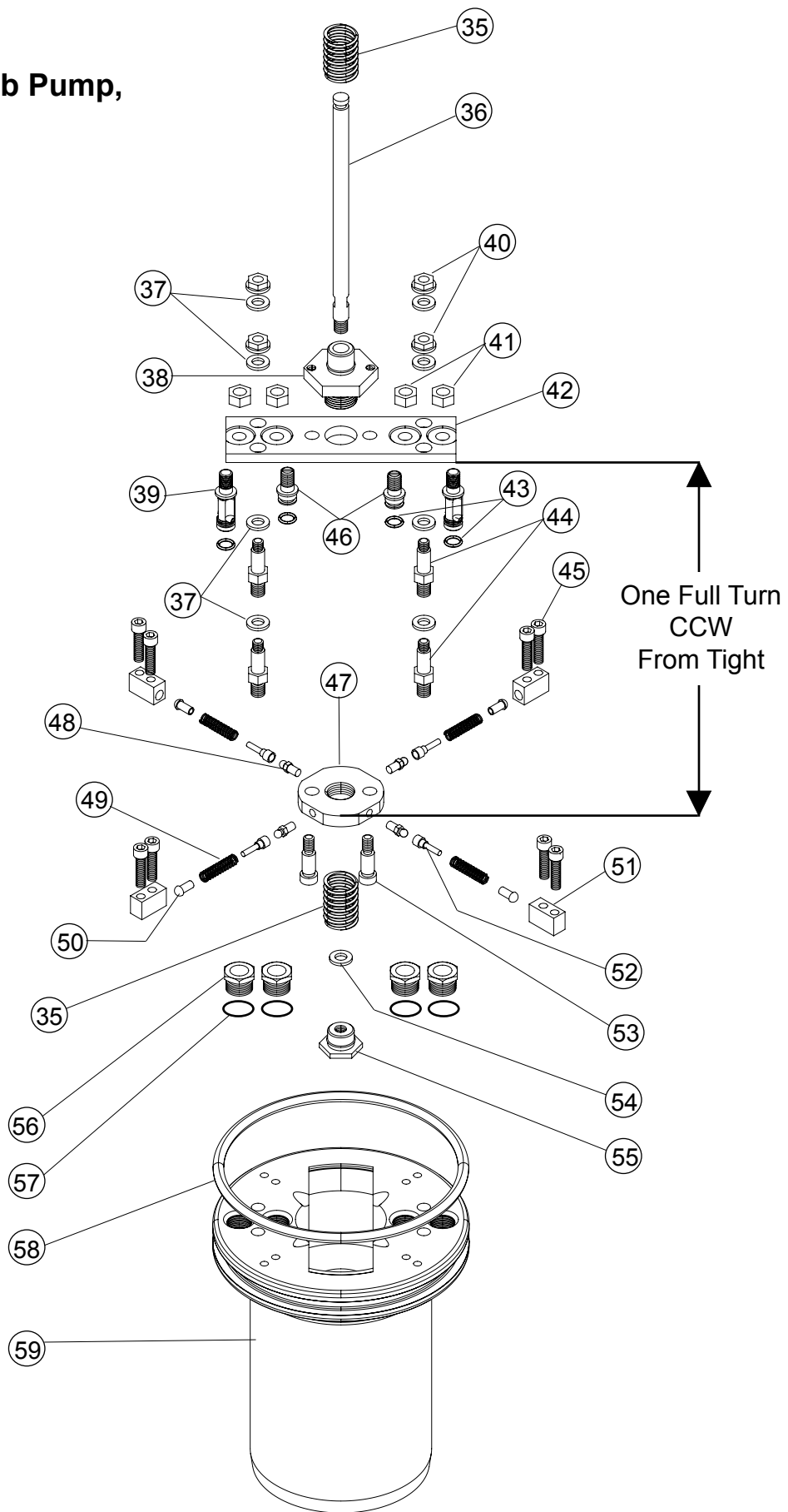
ITEM	PART #	DESCRIPTION	PART PAK MODEL	PUMP	KIT QTY		PART PAK QTY
					900001	900002	
1	820234	Bale Hook Lift		1	0	0	
2	820235	Drive Screw	90001Q12	2	0	0	12
3	819514	Nut		1	0	0	
4	817308	Packing	90002Q09	1	1	0	9
5	819513	U-Washer		1	1	0	
6	819512	Nylon Washer	90003Q20	1	1	0	20
7	819487	Cap		1	0	0	
8	808667	Gasket	90004Q05	1	1	0	5
9	819511	Stop		1	0	0	
10	808663	Housing		1	0	0	
11	806907	O-Ring	90005Q05	1	1	0	5
12	826747	Seal Body		1	0	0	
13	828418	O-Ring, Viton, -222		1	0	1	
	831735	O-Ring, EPDM, -222*		1	0	0	
14	826748	Holder Ring		1	0	0	
15	820095	Floating Seal, U-Cup		1	0	1	
	831743	Floating Seal, U-Cup, EPDM*		1	0	0	
16	828416	O-Ring, Viton, -142		1	0	1	
	831736	O-Ring, EPDM, -142*		1	0	0	
17	826749	Adapter		1	0	0	
18	809288	Plate, Mounting		1	0	0	
19	809302	Screw, 3/8" - 16	90006Q06	6	0	0	6
20	828399	Pump Tube		1	0	0	
21	800971	Ball, 1" Diameter		2	0	0	
22	826679	O-Ring, Viton, -132	90008Q05	1	0	1	10
	831737	O-Ring, EPDM, -132*		1	0	0	
23	828235	Footvalve		1	0	0	
24	827427	Retainer	90009Q10	1	0	1	10
25	828402	Stem		1	0	0	
26	820189	Muffler		1	1	0	
27	828403	Muffler Plate		1	0	0	
28	827426	Snap Ring	90010Q10	1	0	1	10
29	828401	Pump Rod		1	0	0	
30	807511	Spring	90011Q05	1	0	1	5
31	828431	Fluid Piston Nut		1	0	0	
32	827065	Quad Ring, Viton, -325		1	0	1	
	831738	Quad Ring, EPDM, -325*		1	0	0	
33	828419	Wear Band, Teflon		1	0	1	



**Exploded View  
Giant Jet™ Stub Pump,  
10:1 Ratio  
Model 1130-008**



# Air Motor Giant Jet™ Stub Pump, All Models



# Parts List

## Air Motor

### Giant Jet™ Stub Pump,

### All Models

ITEM	PART #	DESCRIPTION	PART PAK MODEL	PUMP QTY	KIT QTY		PART PAK QTY
					900001	900002	
35	819508	Spring	90012Q04	2	2	0	4
36	819510	Rod		1	0	0	
37	817308	Packing	90002Q09	8	7	0	9
38	825749	Sleeve		1	0	0	
39	819503	Stem		2	0	0	
40	819496	Flange Nut	90013Q04	4	4	0	4
41	812433	Stop Nut	90014Q04	4	0	0	4
42	825587	Valve Bar		1	0	0	
43	806908	O-Ring, Buna-N	90015Q40	4	4	0	40
44	819497	Post		4	0	0	
45	826982	Screw	90016Q04	8	0	0	4
46	819502	Stem		2	0	0	
47	825748	Post		1	0	0	
48	819491	Pivot		4	0	0	
49	819517	Spring	90017Q08	4	4	0	
50	819495	Pivot		4	0	0	
51	825886	Post		4	0	0	
52	819489	Guide		4	0	0	
53	825738	Shoulder Bolt		2	0	0	
54	819515	Packing		2	2	0	
55	825747	Stop		1	0	0	
56	819504	Seat		4	0	0	
57	819499	O-Ring, Buna-N	90018Q20	4	4	0	20
58	806909	O-Ring, Buna-N	90019Q05	1	1	0	5
59	825588	Piston		1	0	0	



## WARNING

Always use the following Pressure Relief Procedure whenever shutting off, cleaning,

or in any way checking or servicing the control handle:

- 1) Disconnect compressed air line or turn off power supply at the fluid pump.
- 2) Point the control handle outlet into a waste container and open trigger to relieve pressure.
- 3) Open any bleed-type supply air valves and fluid drain valves in the system.
- 4) Leave the drain valves open until you are ready to re-pressurize the system.

**Note:** The air motor is lubricated with a life-tested synthetic grease (#826733) at the factory. This grease coats all parts and repels air line moisture to inhibit corrosion. It is imperative that any grease removed during maintenance be replaced afterwards. Contact your local Balcrank® distributor, using the above part number, for replacement grease.

## Pump Repair/Service

### Model #1130-009:

**Pump Disassembly / Reassembly:** Using a soft jaw vise or a suitable fixture, clamp the pump horizontally on the small diameter of the housing (22).

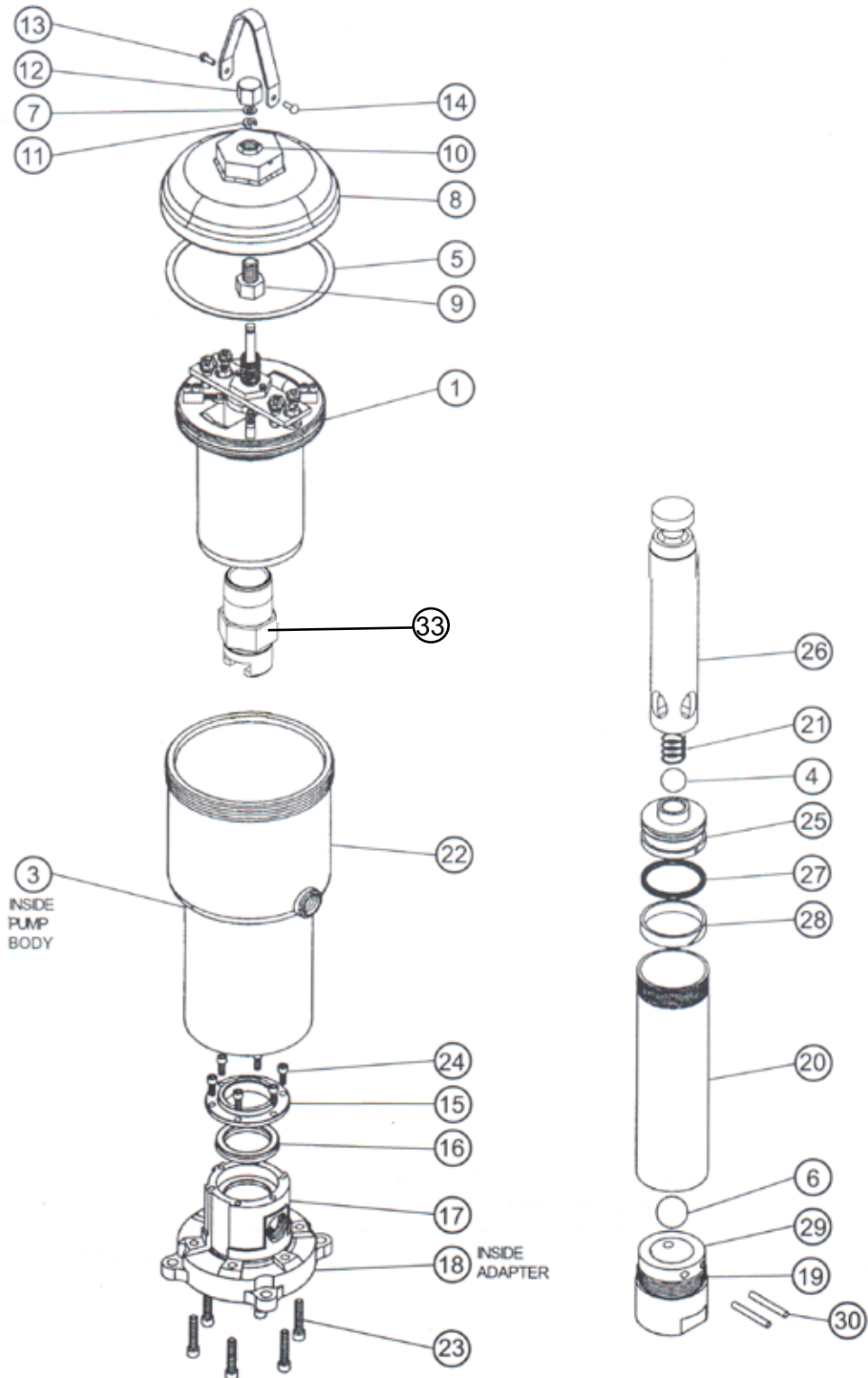
**Removing the Air Motor:** Remove nut (12) and u-washer (11) from cap (8). Remove cap (8) from housing (22). Remove foot valve (29)/ pump tube (20) assembly from adapter (17) and slide off. Remove six socket head screws (23) from housing (22). Grip rod (26) with a spanner wrench then use a spanner wrench to remove fluid piston nut (25). Grip rod (26), pull air motor assembly downward until the rod can be slid out of the "saddle" stem (33). Reach into the top of the housing and remove the air motor. The air motor and the housing o-ring (3) can now be serviced. Reassemble in reverse order, *being sure to use grease (#826733) on all seals and o-rings.*

**Replacing the Air Motor Seals:** Place air motor on clean work surface with the air valve mechanism up. Remove eight screws (58), four posts (57) and the rest of tripping assembly (39, 50, 40, and 38). *Take care not to lose small parts.* Unscrew flange nuts (41) and remove. Remove plastic washers (37) and valve bar (51), replace plastic washers (37) as needed. Replace o-rings (34) on valve stems (44 and 45) as needed. To remove top spring (47), remove plastic washer (49) and rod (48) will slide out of valve bar (51). Snap lower spring (47) off sleeve (54) and slide off rod (48). Reassemble in reverse order, *being sure to use grease (#826733) on all seals and o-rings.*

**Replace the Lower Seals:** Remove foot valve (29) from pump tube (20). Remove and inspect pins (30), foot valve ball (22) and o-ring (23), inspect, and replace if required. Remove pump tube (20) from adapter (17) and slide off. Grip rod (30) with spanner wrench and use a spanner wrench to remove fluid piston nut (25). Inspect the fluid piston ball (4), spring (21), quad ring (27) and wear band (28) on the fluid piston nut (25). Inspect and replace as required. Remove the six socket head screws (23) from housing (22). Slide adapter (17) off over rod (26). Place adapter (17) on bottom and remove six screws (24) on top. Fluid seal (16) is now accessible. Change as required. Reassemble in reverse order, *being sure to use grease (#826733) on seal (16) to ease reassembly. Be sure to insert pump rod (26) from the bottom of the adapter (17) so as not to destroy new seal (16).*

# Exploded View

Giant Jet™ Pump,  
5:1 Ratio  
1130-009



# Parts List

Giant Jet™ Pump,  
5:1 Ratio  
1130-009

Item	Part	Description	Qty
1	827932	Air Motor	1
2		Not Used	
3	806907	O-Ring, Buna-N*	1
4	806962	Ball	1
5	808667	Gasket*	1
6	808691	Ball	1
7	817308	Packing	1
8	819487	Cap	1
9	819511	Stop	1
10	819512	Washer, Nylon*	1
11	819513	Washer	1
12	819514	Nut	1
13	820234	Bale	1
14	820235	Drive Screw	2
15	822365	Bearing*	1
16	828945	Seal*	1
17	822367	Adapter	1
18		NLA	
19	822372	O-Ring, Buna-N*	1
20	822375	Pump Tube	1
21	822402	Spring	1
22	823045	Housing	1
23	823072	Screw, 5/16-18 x 1-1/2	6
24	823101	Screw, 1/4-28 x 5/8	6
25	827925	Fluid Piston	1
26	827926	Pump Rod <sup>(1)</sup> (prior to 1/99)	1
	828447	Pump Rod (after 1/99)	1
27	827927	Quad-Ring, Viton*	1
28	827928	Wear Ring*	7.8"
29	827929	Footvalve	1
30	827931	Pin	2
31		NLA	
32		NLA	
33	825750	Stem (prior to 1/99)	1
	828402	Stem (after 1/99)	1

<sup>(1)</sup> If replacing pump rod 827926, you must order both 828447 and 828402.

\* Included in repair kit 828045 (air motor and fluid seals).

**NOTES:**

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**Quality Checklist**

- Bill of Material checked for current content.
- Pump was tested and met Balcrank® performance standards.

I \_\_\_\_\_ certify that this product meets or exceeds Balcrank's high quality standards.

**Revision Log:**

- Rev. H - added Model 1130-023 & EPDM seals
- Rev. I - added air motor reference

# WARRANTY

All Balcrank® equipment sold by authorized Balcrank® distributors is warranted to their original customer to be free from defects in materials and workmanship for a period of one year from the date the equipment was sold to the original customer. Select equipment carries extended warranty terms as individually noted within the Balcrank® Lubrication Equipment & Accessories User Price List. Any Balcrank® equipment carrying an extended warranty will be warranted for the period indicated; those items carrying a "lifetime" warranty are warranted for a period of thirty years. All Balcrank® equipment determined by Balcrank® to have defective materials or workmanship within the one year warranty period will be repaired or replaced. For equipment carrying extended warranties Balcrank® will repair or replace the product including parts and labor for the first full year and will provide parts only for the remaining period of the specified warranty.

This warranty only covers equipment installed and operated according to applicable Balcrank® Service Bulletins and Installation Instructions. Any equipment claimed to be defective must be returned, freight prepaid, to an Authorized Balcrank® Service Center. If the part(s) or equipment is found to be defective, it will be repaired or replaced, and returned freight prepaid from the Authorized Service Center. If the claimed part(s) or equipment is found not to be defective, the Authorized Balcrank® Service Center will, upon written authorization being received from the original customer, repair them for a reasonable charge to the customer which will include all applicable parts, labor, and return transportation costs. Any equipment returned to Balcrank® must have the Warranty Service Claim number (WSC#) clearly marked on the outside of the carton. Balcrank's sole responsibility is for defects in material and workmanship, and Buyer's sole and exclusive remedy hereunder, shall be limited to repair or replacement of the defective part or equipment.

This warranty does not cover, nor shall Balcrank® be liable for repair or replacement of parts or equipment resulting from general wear and tear through use, or damage or failure caused by improper installation, abuse, misapplication, abrasion, corrosion, insufficient or improper maintenance, negligence, accident, alteration, or substitution of non-Balcrank component parts. Furthermore the Balcrank® Warranty for Lubrication Equipment and Accessories does not cover the following specific conditions:

- Failure or damage to equipment that is caused by dirt or debris in air and fluid lines. This includes, but is not limited to clogged inlet filters, strainers, or regulators; fluid meters; control handles; fluid tips; and valves.
- Failure of normal wear parts including but not limited to: "o"-rings, packings, seals and valves unless originally improperly installed by the factory.
- Products placed in applications for which their use was not intended. Examples include but are not limited to: A lubricant pump being used to pump solvents, or placing a piece of equipment intended strictly for indoor use in an outdoor application.
- Damage to equipment resulting from operation above and beyond Balcrank's recommendations.
- Leaks at air and fluid fittings and connections.
- Damage caused by thermal expansion when adequate pressure relief was not included in the system.
- Loose suction tubes on pumps.
- Reel spring tension adjustment.

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