



12 TON AIR HYDRAULIC JACK

Model 94487

ASSEMBLY & OPERATING INSTRUCTIONS



**TO PREVENT SERIOUS INJURY,
READ AND UNDERSTAND ALL WARNINGS
AND INSTRUCTIONS BEFORE USE.**

Due to continuing improvement, actual product may differ slightly from the product described herein.



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For technical questions and replacement parts please call 1-800-444-3353.

THANK YOU for choosing a **HARBOR FREIGHT TOOLS** product. For future reference, please complete the owner's record below:

Model _____ Serial No. _____ Purchase Date _____

SAVE THE RECEIPT, WARRANTY AND THESE INSTRUCTIONS. It is important that you read the entire manual to become familiar with the unit BEFORE you begin assembly.

Technical Specifications

Minimum Height	10-1/4"	Inlet Valve	Universal 1/4"-18 NPT
Maximum Height	20-1/8"	Ram Diameter	1-11/16"
Air Flow Required	7 CFM	Ram Travel	6-3/4"
Working PSI	110-120	Air Hose	49" L X 1/2" diameter
Weight	26.5 lb.	Overall Dimensions	8-1/2" L X 5-1/2" W X 10-1/4" H
Weight Capacity	12 T / 24,000 lb.	Base Dimensions	7-3/4" L X 5-1/4" W X 1-1/2" H

GENERAL SAFETY PRECAUTIONS



WARNING!

READ AND UNDERSTAND ALL INSTRUCTIONS

Failure to follow all instructions listed in the following pages may result in electric shock, fire, and/or serious injury.

SAVE THESE INSTRUCTIONS

1. **Keep your work area clean and well lit.** Cluttered work areas invite accidents.
2. **Keep bystanders, children, and visitors away while operating jack.** Distractions can cause you to lose control. Protect others in the work area.
3. **Stay alert. Watch what you are doing, and use common sense when operating a jack. Do not use a jack while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating jacks may result in serious personal injury.
4. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
5. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the jack in unexpected situations.
6. **Use safety equipment. Always wear ANSI-approved safety impact goggles, steel-toed safety shoes/boots, and heavy duty work gloves when using this product.**
7. **Do not force the jack. Use the correct jack for your application.** The correct jack will do the job better and safer at the rate for which it is designed.
8. **Store idle jacks out of reach of children and other untrained persons.** Jacks are dangerous in the hands of untrained users.
9. **Maintain jacks with care.** Do not use a damaged jack. Tag damaged jacks "Do not use" until repaired.
10. **If damaged, have the jack serviced before using.** Check for loose screws, misalignment or binding of moving parts, loose mounting, cracked or broken parts, low hydraulic oil level, and

any other condition that may affect its safe operation. Many accidents are caused by poorly maintained jacks.

11. **Jack service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
12. **When servicing a jack, use only identical replacement parts - refer to the Parts List on page 8 and Assembly Diagram on page 9 of this manual. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.
13. **WARNING! Do not exceed the maximum lift capacity for the Bottle Jack as stated on the product label and the specifications table. Overloading the Jack could cause serious personal injury and/or property damage.**
14. **The Bottle Jack is designed for intermittent use only.** Do not use the Jack to support a vehicle over extended periods of time. The duration of the lifting job should be kept as short as possible. Always use jack stands to support a vehicle over an extended period of time.
15. **Maintain labels and nameplates on the Bottle Jack.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
16. **Prior to using the Bottle Jack, make sure to read and understand all warnings, safety precautions, and instructions as outlined in the manufacturer’s instruction manual for the vehicle (or object) you will lift.**
17. **When lifting only one wheel, make sure to support the load immediately with one jack stand (not included) placed under the side of the vehicle being lifted.** Align the saddle of the jack stand directly under the vehicle’s seam or recommended lifting point.
18. **When lifting the entire front end or rear end of a vehicle, make sure to support the load immediately with two jack stands.** Align the saddles of the jack stands directly under the vehicle’s frame or recommended lifting points. Also make sure the jack stands are adjusted at the same height.
19. **Make sure the Bottle Jack is used only on a dry, oil/grease free, flat, level, solid surface capable of supporting the weight of the vehicle being lifted and any additional tools and equipment.**
20. **WARNING! Do not work under the vehicle without properly supporting the vehicle with jack stands.** Make sure the load and jack stands are stable before getting under a vehicle.
21. **Use the Bottle Jack only on vehicles whose frames have lifting points (on its seam or frame) capable of aligning with the Saddle of the Jack.**
22. **This bottle jack is not intended for roadside use.** This jack requires a flat, stable surface to safely lift a load.
23. **Do not use the Bottle Jack with the vehicle’s engine running.** Make sure to place the vehicle’s transmission in “Park” (if automatic) or “1st Gear” (if manual). Then set the emergency brake, and block the tires opposite the tire being lifted.
24. **Industrial applications must follow OSHA requirements.**
25. **Always keep hands, fingers, and feet away from all moving parts of the Bottle Jack when applying or releasing a load.** Remain clear of the vehicle being raised or lowered. People and animals should be kept at a safe distance when using the Jack.

26. **Use extreme caution when applying or releasing a load.** Never allow the load to suddenly release. Slowly and carefully apply and release the load.
27. **Do not allow anyone in the vehicle while using the Bottle Jack.** Keep all bystanders a safe distance away from the vehicle.
28. **Never leave the Bottle Jack unattended when the Jack is under a load.**
29. **Never support both ends of the vehicle at the same time.**
30. **Before lowering the Bottle Jack, make sure tool trays, jack stands, and all other tools and equipment are removed from under the vehicle.**
31. **Do not stand on the Bottle Jack as it may tip, causing personal injury.**
32. **If changing a damaged tire, make it easier to remove the lug nuts by slightly loosening the lug nuts *before* raising the tire off the ground.**
33. **This Bottle Jack is not to be used for aircraft purposes.** Never modify the Bottle Jack in an attempt to use it for a purpose it was not designed for.
34. **Never adjust the factory set safety valve.**
35. **Compressed air only.** Never use compressed gas as a power source for this item.
36. **WARNING!** The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. The operator must understand that common sense and caution are factors, which cannot be built into this product, but must be supplied by the operator.

Unpacking

When unpacking your 12 Ton Bottle Jack, check to make sure that the parts listed on page 8 are included. If any parts are damaged or broken, please call **HARBOR FREIGHT TOOLS** at: **1-800-444-3353**.

Assembly

It is important that you read the entire manual to become familiar with the product BEFORE you operate the Bottle Jack.

Connect both parts of the Handle (45). Insert it into the Handle Bracket (34) - see Figure 1 on page 5 and the Assembly Diagram on page 9.

Operation

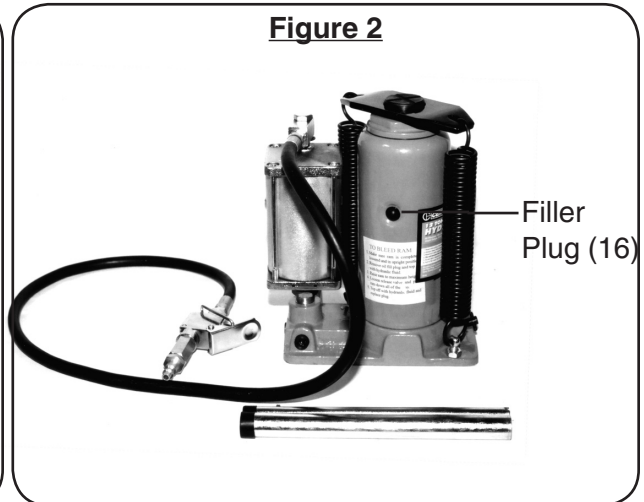
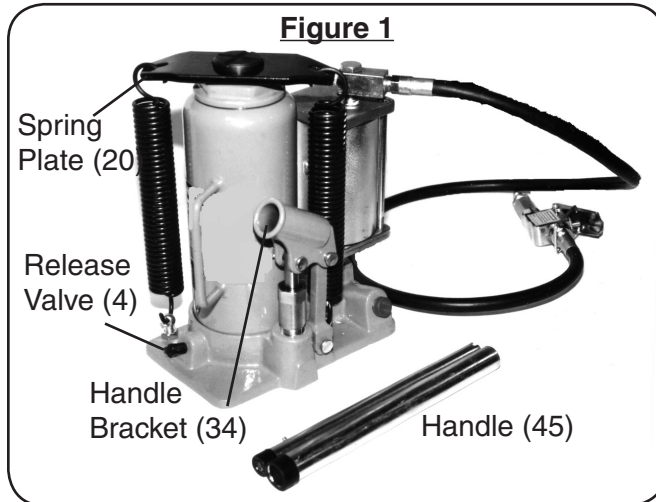
WARNING: Prior to its first use, make sure to check for proper hydraulic oil level in the Bottle Jack. Then thoroughly test the Bottle Jack for proper operation prior to its actual use. If the Bottle Jack appears *not* to be working properly, it may be necessary to *bleed* its hydraulic system of excess air.

Bleeding the System

1. Remove the Filler Plug (16). Insert the slot on the lower portion of the Handle (45) over the Release Valve (4). Turn the Handle Assembly *counterclockwise* to open the Release Valve (4).
2. Insert the Handle Assembly into the Handle Bracket (34). Pump the Handle (45) 10-15 times.
3. Connect the air supply to the air inlet hose. Squeeze the air valve and allow it to operate for one minute. Disconnect the air supply.

Bleeding the System (Cont'd)

4. Once air is bled, check the Oil Fill Hole and, if necessary, top off the Oil Fill Hole with hydraulic oil. Then, replace the Oil Filler Plug.
5. Test the Jack several times for proper operation before attempting to lift a load. **If, after purging, the Jack still does *not* appear to be working properly, do not use the Jack until it has been repaired by a qualified service technician.**



Raising the Jack

WARNING! Make sure the vehicle is parked on a flat, level, solid surface. Turn off the vehicle's engine. Place the vehicle's transmission in "PARK" (if automatic) or in its highest gear (if manual). Set the vehicle's emergency brake. Then, block the wheels that are *not* being lifted.

1. Verify that the vehicle's weight is not more than the weight capacity for this jack.
2. Check to make sure the Jack is fully lowered. If not, insert the lower portion of the Handle into the Valve Release, and turn the Handle *counterclockwise* to lower the Jack. Once the Jack is fully lowered, turn the Handle firmly *clockwise* to close the Valve Release.
3. Adjust the Extension Screw (13-1) as needed to position the it directly underneath the lifting point. Turn it counterclockwise to raise, or clockwise to lower.
4. **Lifting using pressurized air power:**
 - a. Connect the air supply hose lock fitting into the Air Inlet Fitting. The Lock Lever (A-27) should be in the OFF (not locked) position.
 - b. Connect the Air Compressor (compressor not included, must supply at least 7 CFM at 110-120 PSI) to the Air Supply Hose.
 - c. Turn the compressor on and allow it to pressurize, if not already pressurized.
 - d. Press the Lever (A-28) to the ON position and lock it into place using the Lock Lever (A27). This will provide a continuous air supply to the Air Motor (42), raising the jack.

Lifting manually:

Raise the Jack by alternately lifting and lowering the Handle.

Lowering the Jack

Caution: Avoid rapid descent of the load by turning the Release Valve slowly.

1. Make sure the Lock Lever (A27) is released to stop the air flow to the Air Motor (42).
2. If attached, remove the Air Supply Hose (43) from the Air Inlet Fitting.
3. Place the slotted end of the Handle (45) onto the Release Valve.
4. Slowly and carefully lower the load by turning the Release Valve counterclockwise in very small increments. Only use the Handle (45), never use your hand to turn the Release Valve.
5. Lower the Extension Screw (13-1) as needed by turning clockwise.
6. Remove the Jack.

Oil Replacement

1. Place the Jack in an upright position.
2. Completely lower the Ram (13). Remove the Filler Plug (16).
3. Fill with high quality hydraulic jack oil to the lower rim of the fill hole.
4. Purge the air from the hydraulic system as previously described.
5. Top off with hydraulic oil.
6. Replace the Filler Plug (16).

INSPECTION, MAINTENANCE, AND CLEANING

1. **Before each use**, inspect the general condition of the Bottle Jack. Check for broken, cracked, or bent parts, loose or missing parts, and any condition that may affect the proper operation of the product. If a problem occurs, have the problem corrected before further use. **Do not use damaged equipment.**
2. **Before each use, make sure to thoroughly test the Bottle Jack for proper operation prior to its actual use. If the Bottle Jack appears *not* to be working properly, it may be necessary to *bleed* its hydraulic system of excess air.** Refer to pages four and five for complete instructions on bleeding the system.
3. **Change the hydraulic oil at least once every three years.** To do so, with the Bottle Jack fully lowered, remove the Oil Filler Plug on the side of the Housing. Tip the Bottle Jack to allow the old hydraulic oil to drain out of the Housing completely, and dispose of the old hydraulic oil in accordance with local regulations. With the Bottle Jack upright, completely fill the Housing with a high quality hydraulic oil (not included) until the oil just begins to run out of the Oil Fill Hole. Then, reinstall the Oil Filler Plug.
4. **When cleaning**, use a clean cloth with a detergent or mild solvent. Then, store the Bottle Jack in a safe, dry location out of reach of children and other non-authorized people.
5. **WARNING! All maintenance, service, or repairs not listed in this manual are only to be attempted by a qualified service technician.**

Troubleshooting

POSSIBLE SYMPTOMS							PROBABLE SOLUTION (Make certain that the jack is not supporting a load while attempting a solution.)
Jack will not lift at its weight capacity	Saddle lowers under load	Pump stroke feels spongy	Saddle will not lift all the way	Handle moves up when jack is under load	Oil leaking from filler plug		
X	X						Check that Release Valve is closed fully.
X	X			X			Valves may be blocked and may not close fully. To flush the valves: 1. Lower the Saddle and securely close the Release Valve. 2. Manually lift the saddle several inches. 3. Open the release valve and force the saddle down as quickly as possible.
X		X	X				Jack may be low on oil. Check the oil level and refill if needed. Jack may require bleeding - see instructions on page 7.
					X		Unit may have too much hydraulic oil inside, check fluid level and adjust if needed.

WARNING

When trying to troubleshoot a malfunctioning jack, the utmost caution must be exercised. Always stay well clear of all loads that are being supported.

Make certain that all operational problems with the bottle jack are fully resolved before use. If the solutions presented in the Troubleshooting guide do not solve the problem, have a qualified technician inspect and repair the jack before use.

After the jack is repaired: Test it carefully without a load by raising it and lowering it fully, checking for proper operation, BEFORE RETURNING THE JACK TO OPERATION.

NEVER USE A MALFUNCTIONING JACK!

Parts List-Main Body

Part	Description	Q'ty
1	Base	1
2	Ball	6
3	Seal	1
4	Release Valve	1
5	Ball Cup	2
6	Spring	1
7	Spring	1
8	Screw	2
9	Nylon Ring	1
10	Cylinder	1
11	O-Ring	1
12	Cup Seal	1
13	Ram	1
13-1	Extension Screw	1
14	Packing	1
15	Reservoir	1

Part	Description	Q'ty
16	Filler Plug	1
17	Nylon Ring	1
18	Top Nut	1
19	O-Ring	1
20	Spring Plate	1
21	Spring	1
22	Eye Bolt	1
23	Nut	1
24	Lock Washer	1
25	Washer	2
26	Pump Cylinder	1
27	O-Ring	1
28	Nylon Ring	1
29	Backup Ring	1
30	Piston	1
31	Pin	3

Part	Description	Q'ty
32	R-Pin	3
33	Connector	1
34	Handle Bracket	1
35	Ball	1
36	Ball Cup	1
37	Spring	1
38	Screw	1
39	O-Ring	1
40	Screw	1
41	Plastic Cap	1
42	Air Motor	1
43	Air Hose	1
44	Air Valve	1
45	Handle	2

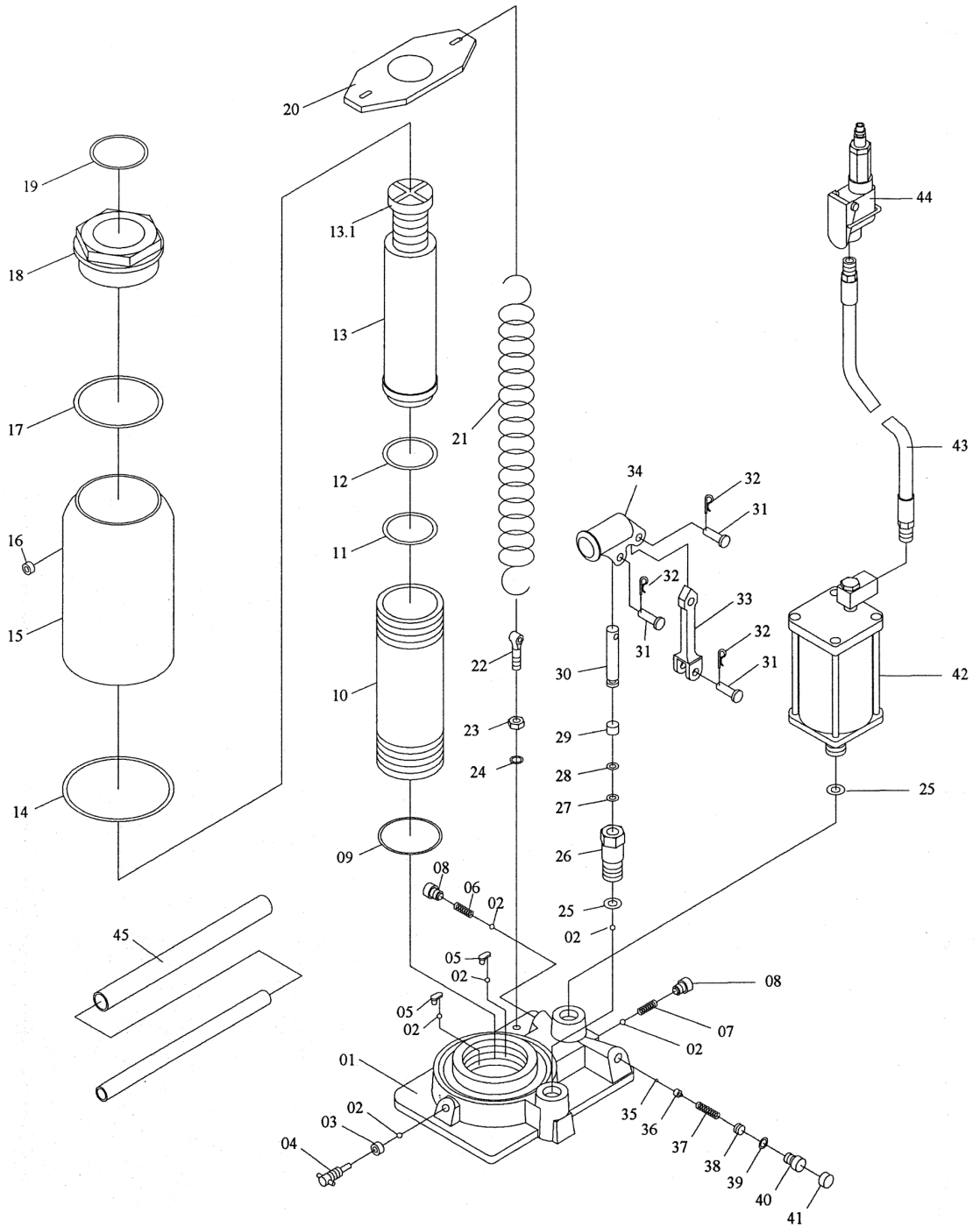
Parts List-Air Motor

Part	Description	Q'ty
A1	Air Pump Cylinder	1
A2	Nut	1
A3	Sealing Ring	1
A4	Nylon Ring	1
A5	Copper Ring	1
A6	Air Cylinder Seat	1
A7	Nut	1
A8	Spring	1
A9	Air Pump Piston	1
A10	O-Ring	1
A11	Sealing Ring	2
A12	Big Piston	1
A13	O-Ring	1
A14	Small Piston	1

Part	Description	Q'ty
A15	O-Ring	1
A16	Big Piston Cap	1
A17	Sealing Ring	1
A18	Nylon Ring	1
A19	Air Cylinder	1
A20	Air Cylinder Cap	1
A21	Bolt	1
A22	Coupler Seat	1
A23	Retaining Ring	1
A24	O-Ring	2
A25	Coupler	1
A26	Air Hose	1
A27	Lock Lever	1
A28	Lever	1

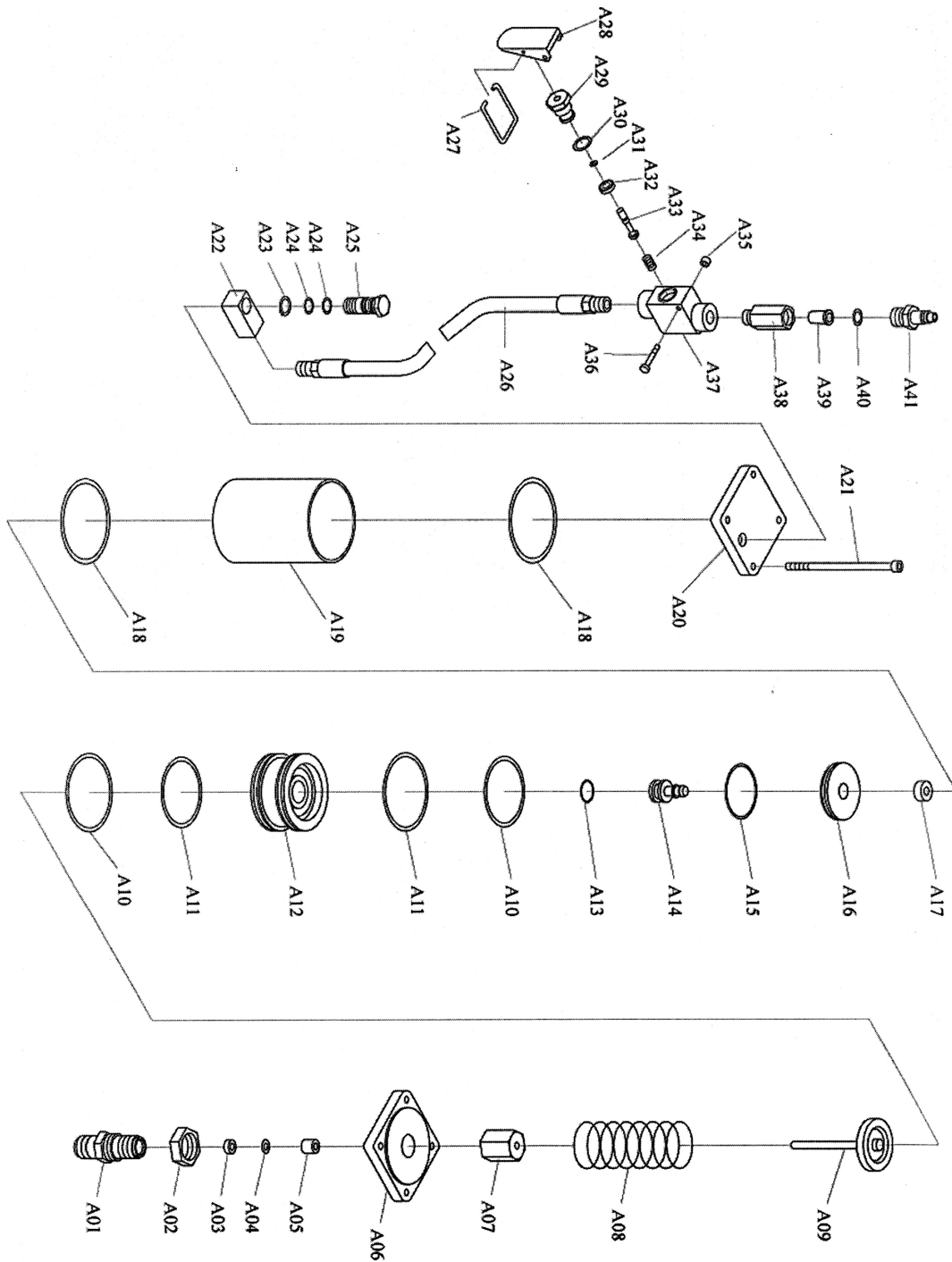
Part	Description	Q'ty
A29	Nut	1
A30	O-Ring	1
A31	O-Ring	1
A32	Packing	1
A33	Throttle	1
A34	Spring	1
A35	Lock Nut	1
A36	Bolt	1
A37	Valve Body	1
A38	Screw	1
A39	Screen	1
A40	O-Ring	1
A41	Quick Coupler-Male	1

Assembly and Parts Diagram-Main Body



Note: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

Assembly and Parts Diagram-Air Motor



PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.



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To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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