

IMPORTANT SAFETY INFORMATION

WARNING

Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in serious injury.

Save all warnings and instructions for future reference.

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Work area

1. **Turn off the engine, set the parking brake, and chock the tires before working on a vehicle.**
2. **Keep the work area clean and well lighted.** Cluttered benches and dark areas increase the risk of injury to persons.
3. **Keep bystanders and children away while operating the tool.** Distractions can result in loss of control of the tool.

Personal safety

1. **Stay alert. Watch what you are doing and use common sense when operating the tool. Do not use the tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating the tool increases the risk of injury to persons.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair increases the risk of injury to persons as a result of being caught in moving parts.
3. **Use safety equipment.** Wear ANSI-approved safety goggles and heavy-duty work gloves during use.

Tool use and care

1. **Do not force the tool.** Use the correct tool for the application. The correct tool will do the job better and safer at the rate for which the tool is designed.
2. **Store the tool when it is idle out of reach of children and other untrained persons.** A tool is dangerous in the hands of untrained users.
3. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that affects the tool's operation.** If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.
4. **Use only accessories that are identified by the manufacturer for the specific tool model.** Use of an accessory not intended for use with the specific tool model, increases the risk of injury to persons.
5. **Avoid off-center loads.** If the Pump seems unusually hard to operate, immediately stop. Adjust the Ram to eliminate or diminish an off-center load. The Ram Toe and Plunger Toe must **only** be used together to prevent an off-center load.
6. **Protect the Hose.** Do not drop heavy objects on the Hose. Avoid kinks in the Hose. Maintain proper clearance to avoid damage to the Hose and Couplers.
7. **Inspect repair before using vehicle.** Repairs to structural or frame members must be inspected by a qualified technician to ensure that the structure is still strong enough to safely fulfill its function.


Service

1. **Tool service must be performed only by qualified repair personnel.**
2. **When servicing a tool, use only identical replacement parts. Use only authorized parts.**



SAVE THESE INSTRUCTIONS.

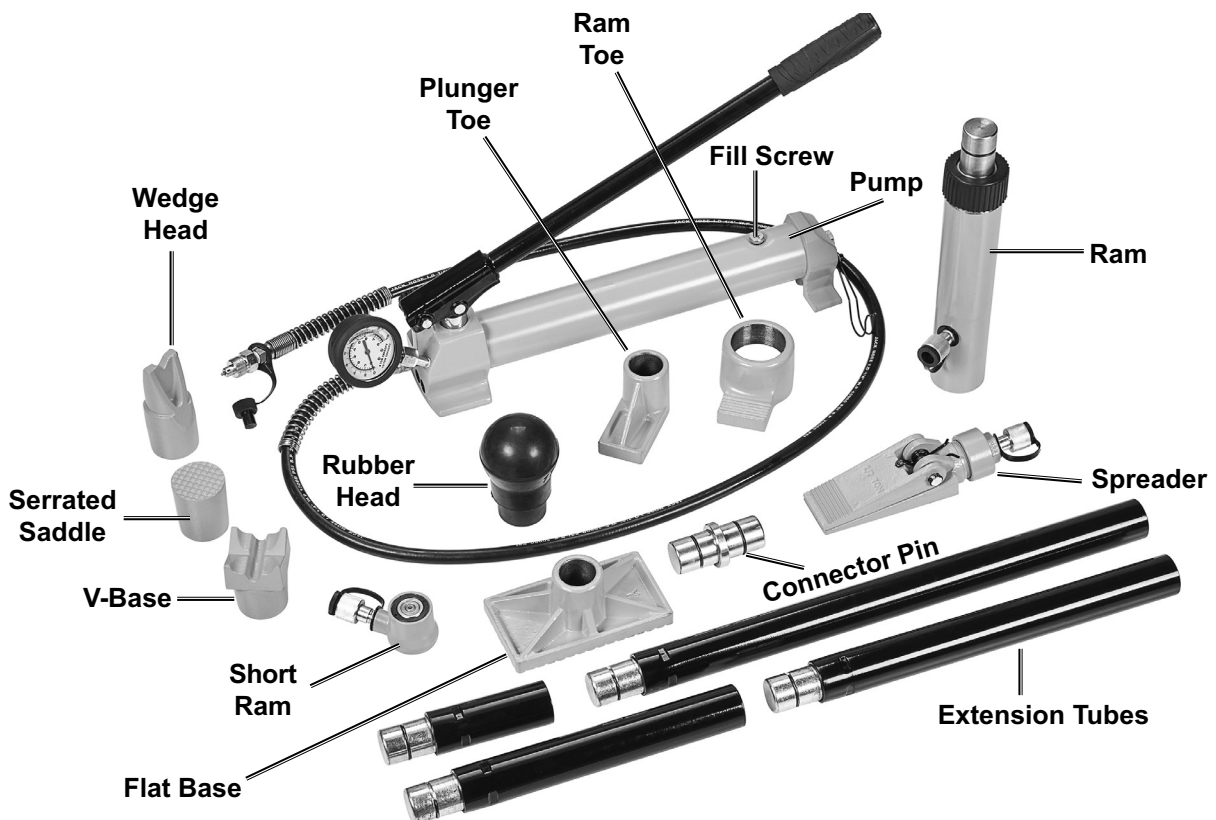
WARNING SYMBOLS AND DEFINITIONS

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

Specifications

Ram Capacity	10 Tons
Ram Travel	5-1/8"
Extension Tubes	4-3/8", 10-1/2", 14-3/8", 20-1/2"
Spreader Capacity	1/2 Ton 3-5/8" Maximum Opening
Plunger/Ram Toe Capacity	5 Tons
Rubber Head Capacity	1 Ton
Short Ram	4 Tons
Hose Length	6'

Functions



Set Up



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

NOTICE: To prevent damage, do not overextend the Ram.

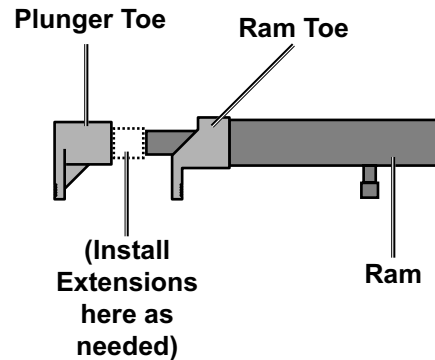
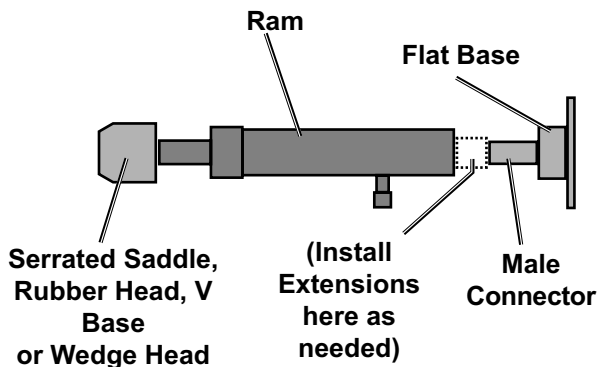
Ram Attachments

1. The Extension Tubes connect in different combinations to reach desired lengths.
 2. The Connector Pin is used to connect the female end of the Ram to a Base.
 3. The Flat Base is used on the stationary side to spread out the force of the Ram.
 4. The V Base is used to spread out force on curved surfaces.
 5. The Serrated Saddle is used on the pushing end to prevent slipping.
 6. The Rubber Head is used for popping dents out of sheet metal such as doors or body panels and to minimize damage to the work surface.
 7. The Wedge Head is used to repair small dents and areas located in angles and tight spaces.
 8. The Ram Toe and Plunger Toe are used together to allow spreading in areas that the Ram cannot fit into.
- Note:** The Ram Toe and Plunger Toe must **only** be used together to prevent an off-center load.

Ram Setup

Note: When positioning the Ram use a smaller attachment on the side that is to be bent instead of the stationary side. If the stationary side is in danger of being bent or damaged, place a block of wood or other material behind the Flat Base to distribute pressure over a greater area.

1. Unscrew the End Plugs located on the end of the Hose and Ram. Clean the end of the Hose and the inlet on the Ram with a clean cloth.
2. Attach the Hose to the Ram.
3. Assemble attachments as shown below:



Note: If using the Ram Toe and Plunger Toe, thread the Ram Toe onto the Ram completely and align the Plunger Toe to it. The Ram Toe and Plunger Toe must only be used together to prevent off-center load.

4. Use the Short Ram in any instance when the Ram is too large for the work. Short Ram can **ONLY** be used with the Pump, not with any other components of the Kit.

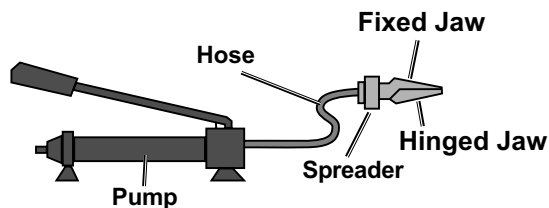
Note: When repairing larger body panel dents such as a dented door, fender or quarter-panel use the Rubber Head on the pushing end.

Spreader Setup

The *Spreader* is used when the Ram is too long to fit between the stationary side and the damaged area.

1. Clean the end of the Hose and the inlet on the Spreader with a clean cloth.
2. Unscrew and save the End Plugs located on the end of the Hose and Spreader.

3. Attach the Hose to the Spreader, as shown below:



Ram Capacity Using Kit Components

Ram Capacity	
Using V-Base, Serrated Saddle, or Wedge Head	100% of Capacity
If Extension Tube Qty = 1	50% of Capacity
If Extension Tube Qty = 2	25% of Capacity
If Extension Tube Qty = 3	12% of Capacity
If Extension Tube Qty = 4	6% of Capacity
If Extension Tube Qty = 5	3% of Capacity

Plunger Toe Capacity	
Using ONLY Plunger Toe with Ram	100% of Capacity
If Extension Tube Qty = 1	50% of Capacity
If Extension Tube Qty = 2	25% of Capacity
If Extension Tube Qty = 3	12% of Capacity
If Extension Tube Qty = 4	6% of Capacity
If Extension Tube Qty = 5	3% of Capacity

Rubber Head Capacity	
If Ext Tube Qty = 1, 2, or 3	100% of Capacity
If Extension Tube Qty = 4	50% of Capacity
If Extension Tube Qty = 5	25% of Capacity

Operation



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

WARNING! TO PREVENT SERIOUS INJURY: Keep hands away from contact areas and tight spaces. The tool may slip and cause injury.

NOTICE: To prevent damage, do not overextend the Ram.

1. **IMPORTANT!** Check the Hydraulic Fluid level, following the instructions in the Cleaning and Maintenance section.
2. Remove any obstructions that could be damaged or are in the way.
3. Check that the Pressure Gauge is functioning properly. The Gauge will help ensure that the system is not under load when disconnecting hoses or equipment, as well as estimate the force being placed on the Rams.

Using Ram:

1. Position the Ram so that the Base is resting against a frame member opposite the damaged area. It must also be in line with the direction in which the damaged area needs to be pushed. The vehicle body part must be stronger than the area to be bent or it may be damaged. A block of wood or a towel may be used to protect the body part.
2. Aim the pushing end towards the area that needs to be repaired, and slowly apply pressure with the Pump.
3. When the damaged area has been bent to the desired position, slowly turn the Release Valve counterclockwise to release the hydraulic pressure and remove the Ram or Spreader.



4. Clean all hydraulic ports and cover them with clean End Plugs.

Using Spreader:

1. Place the Spreader so that the hinged (pushing) jaw is resting against the part to be moved and the stationary jaw is resting against a non-movable base.
2. Carefully hold the Spreader in position and apply pressure with the Pump.
3. Once both ends have made contact, move as far away as possible and continue to slowly apply pressure to the damaged area until the desired bend has been made.
4. When the damaged area has been bent to the desired position, slowly turn the Relief Valve counterclockwise to release the hydraulic pressure and remove the Ram or Spreader.
5. Clean all hydraulic ports and cover them with clean End Plugs.

Maintenance and Servicing



Procedures not specifically explained in this manual must be performed only by a qualified technician.

WARNING

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE: Do not use damaged equipment.

If abnormal noise or vibration occurs, have the problem corrected before further use.

1. **BEFORE EACH USE**, inspect the general condition of the tool. Check for:
 - leaking hydraulic fluid,
 - loose hardware or parts,
 - misalignment or binding of moving parts,
 - cracked, bent or broken parts, and
 - any other condition that may affect its safe operation.
2. Keep the surface of this tool and its accessories free of hydraulic fluid and grease. Use only a mild detergent and damp cloth when cleaning. Do not use a flammable or combustible solvent to clean this tool or its accessories.
3. Keep hydraulic connections clean. Clean all hydraulic ports and replace End Plugs immediately after use.
4. Store the Pump with the Relief Valve open.
5. **AFTER USE**, wipe dry with a clean cloth. Then, store the Kit in a safe, dry location out of reach of children and other non-authorized people.

Filling Hydraulic Fluid

IMPORTANT! Before first use, check for proper hydraulic fluid level and thoroughly test the equipment. If the equipment does not perform properly after filling to the correct fluid level, bleed excess air from the hydraulic system following the Bleeding Air instructions in this manual.

1. Close the Relief Valve.
2. Turn Pump upside down so that the hose outlet faces downward.
3. Lift Pump Handle to its highest position.
4. Place Pump on a flat surface.
5. Remove the Fill Screw.
6. The fluid level should be near the bottom of the opening. If required, add high grade hydraulic fluid.
7. Replace the Fill Screw. Tighten securely.
8. Open the Relief Valve.
9. Move Handle back down to its lowest position.

Changing Hydraulic Fluid

1. Change the hydraulic fluid yearly.
2. Remove the Fill Screw and tilt the Pump to drain out the old fluid.
3. Refill the hydraulic fluid, replace the Fill Screw, and bleed the system several times to ensure all air is out of the system.

Bleeding Air

Bleeding Air from Pump Piston

1. Position Pump vertically so that the Hose extends downward.
2. Open the Relief Valve.
3. Pump the Handle 10 to 15 times to eliminate air in the Piston.
4. Close the Relief Valve.
5. If air remains in the Piston, repeat above.

Bleeding Air from Pump Reservoir

1. Place Pump on a flat surface so that Fill Screw is facing upward.
2. Make sure the Relief Valve is closed.
3. Lift Handle to its highest position.
4. Loosen the Fill Screw. Air will bleed out after loosening.
5. Tighten the Fill Screw.
6. Open the Relief Valve.
7. Move Handle to its lowest position.
8. Close the Relief Valve.
9. If air remains in the Reservoir, repeat above.

Bleeding Air from Ram

1. Place Pump on a flat surface so that Fill Screw is facing upward.
2. Connect the Pump to the Ram.
3. Pump the Handle until the Ram is extended out by at least 50 percent.
4. Position Ram below both Pump and Hose. Keep Hose pointed downward across its whole length.
5. Position Ram so that the Piston Rod faces downward.
6. Open Relief Valve on the Pump and fully retract the Ram.
7. If air remains in the Ram, repeat above.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS DOCUMENT AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR 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.

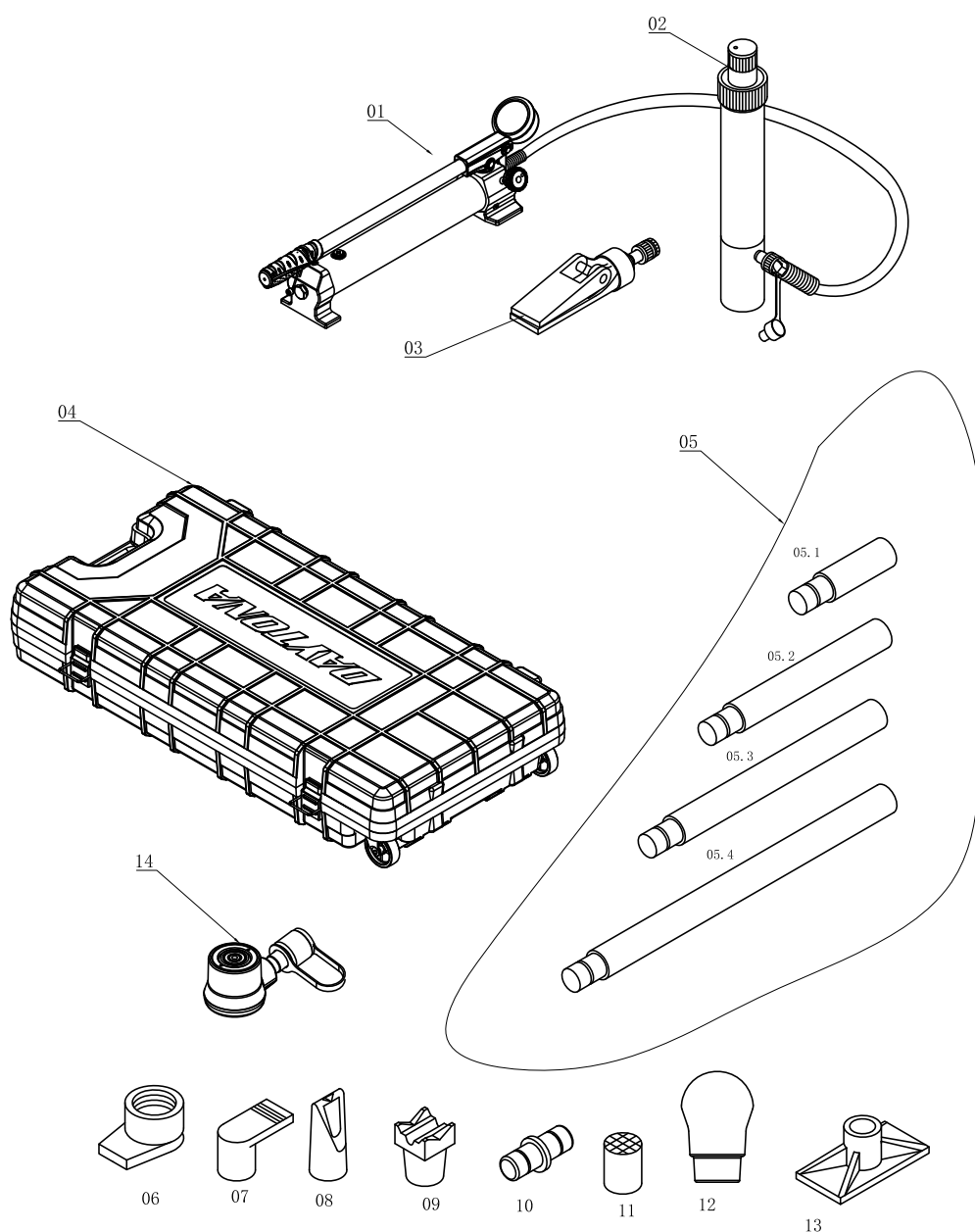
Parts List and Diagram

Parts List - Full Kit

Part	Description	Qty.
1	Pump	1
2	Ram	1
3	Spreader	1
4	Case	1
5	Extension Tube	4
6	Ram Toe	1
7	Plunger Toe	1

Part	Description	Qty.
8	Wedge Head	1
9	V Base	1
10	Connector Pin	1
11	Serrated Saddle	1
12	Rubber Head	1
13	Flat Base	1
14	Short Ram	1

Assembly Diagram - Full Kit

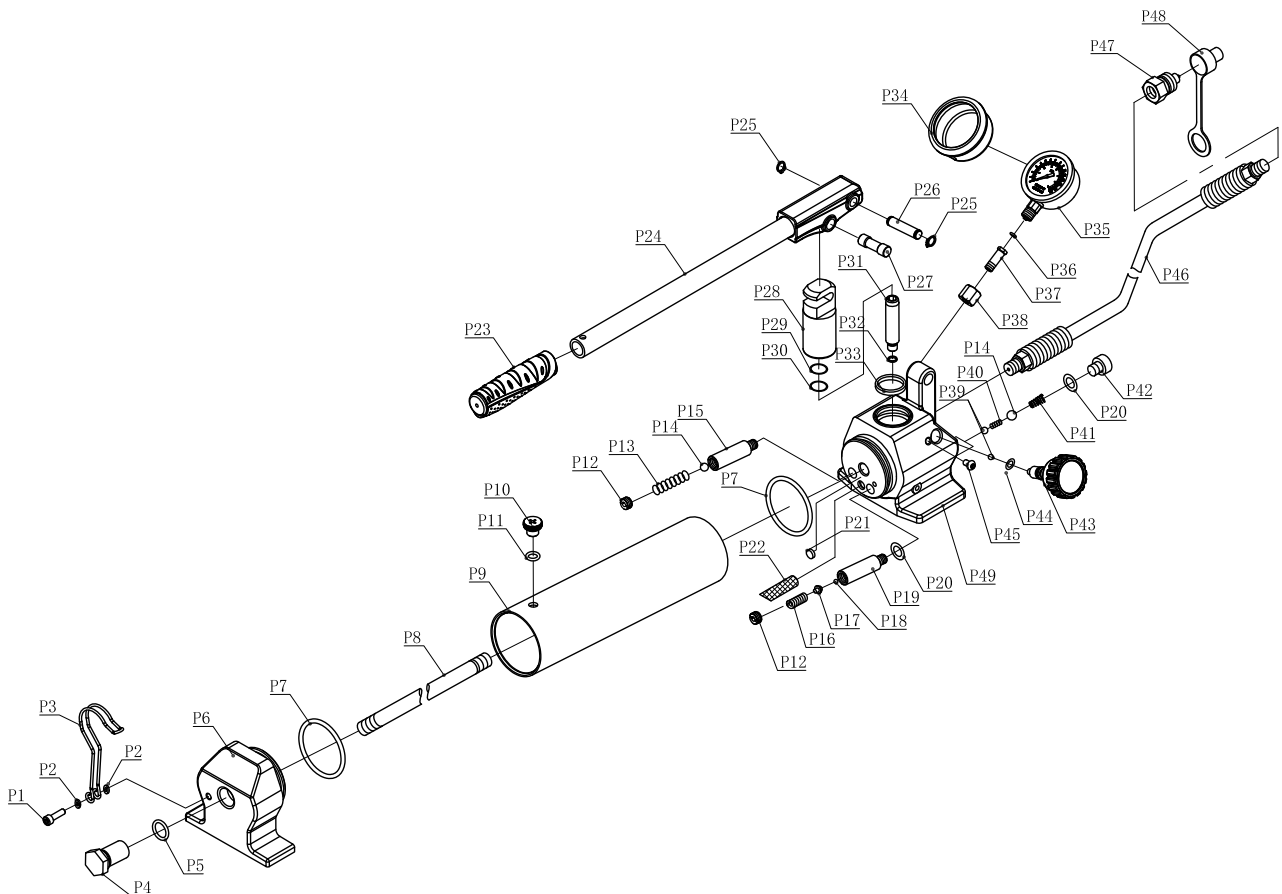


Parts List - Pump

Part	Description	Qty.
P1	Screw	1
P2	Washer	2
P3	Hook	1
P4	Screw	1
P5	O-Ring	1
P6	End Cover	1
P7	O-Ring	2
P8	Bar	1
P9	Oil Barrel	1
P10	Fill Screw	1
P11	O-Ring	1
P12	Screw	2
P13	Spring	1
P14	Steel Ball	2
P15	Seat	1
P16	Spring	1
P17	Steel Ball Seat	1
P18	Valve Ball	1
P19	Overflow Valve	1
P20	Copper Washer	3
P21	Magnetic Steel	1
P22	Filter	1
P23	Handle Grip	1
P24	Handle Socket	1

Part	Description	Qty.
P25	Retainer Ring	2
P26	Pin	1
P27	Pin	1
P28	Large Piston	1
P29	O-Ring	1
P30	Seal Ring	1
P31	Small Piston	1
P32	Seal Ring	1
P33	Seal Ring	1
P34	Gauge Cover	1
P35	Gauge	1
P36	O-Ring	1
P37	Connector	1
P38	Nut	1
P39	Steel Ball	3
P40	Spring	2
P41	Spring	2
P42	Screw	2
P43	Relief Valve Knob	1
P44	O-Ring	1
P45	Screw	1
P46	Hose	1
P47	Cap Connector	1
P48	Dust Cap	1
P49	Pump	1

Assembly Diagram - Pump

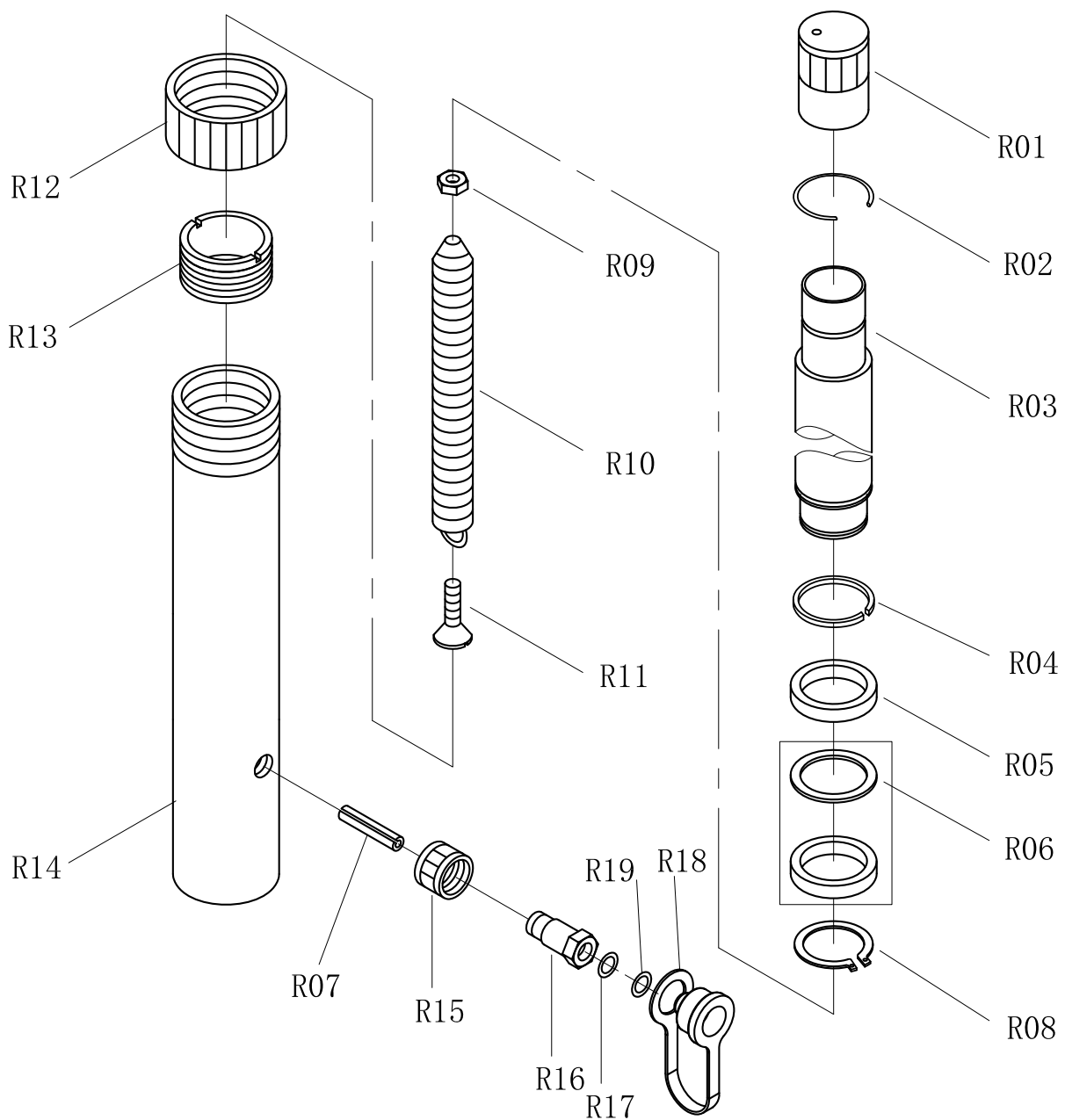


Parts List - Ram

Part	Description	Qty.
R01	Protective Cover	1
R02	Retainer Ring	1
R03	Piston Rod	1
R04	Limit Ring	1
R05	Washer	1
R06	U Ring	1
R07	Pin	1
R08	Retainer Ring	1
R09	Nut	1

Part	Description	Qty.
R10	Spring	1
R11	Screw	1
R12	Cover	1
R13	Limit Ring	1
R14	Cylinder	1
R15	Nut	1
R16	Connector	1
R17	O-Ring	1
R18	Dust Cap	1
R19	Seal Ring	1

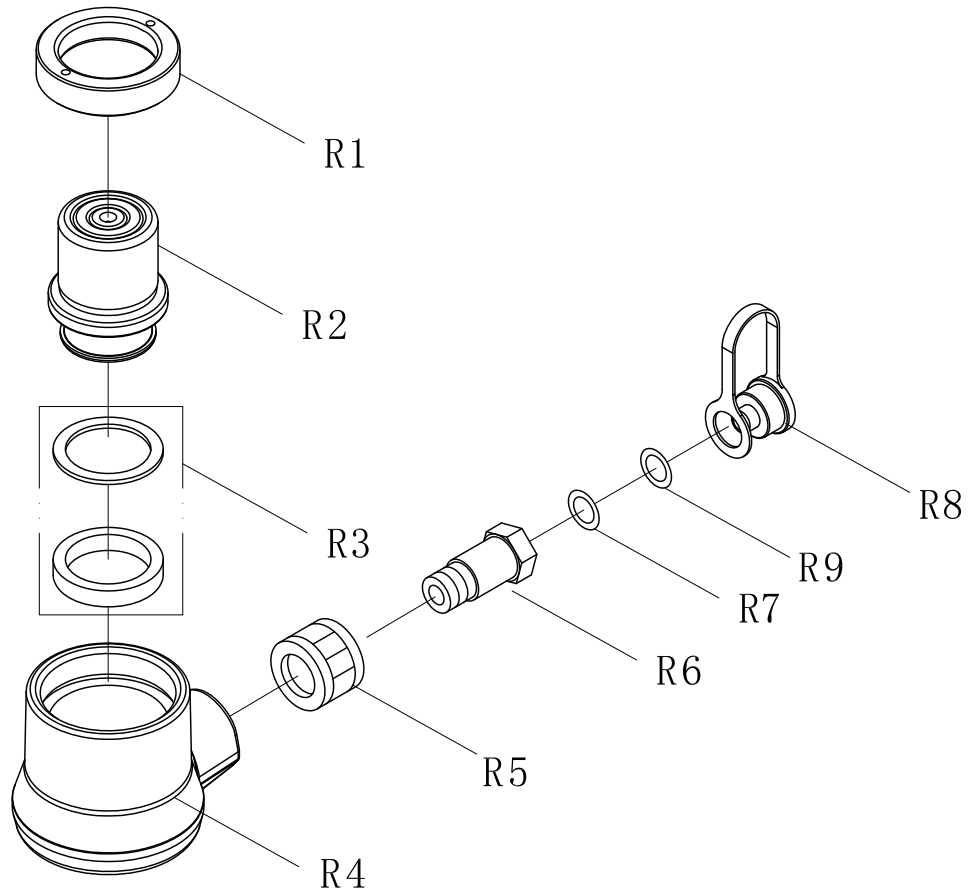
Assembly Diagram - Ram



Parts List - Short Ram

Part	Description	Qty.
R1	Limit Ring	1
R2	Piston Rod	1
R3	U Ring	1
R4	Cylinder	1
R5	Nut	1
R6	Connector	1
R7	O Ring	1
R8	Dust Cap	1
R9	Seal Ring	1

Assembly Diagram - Short Ram

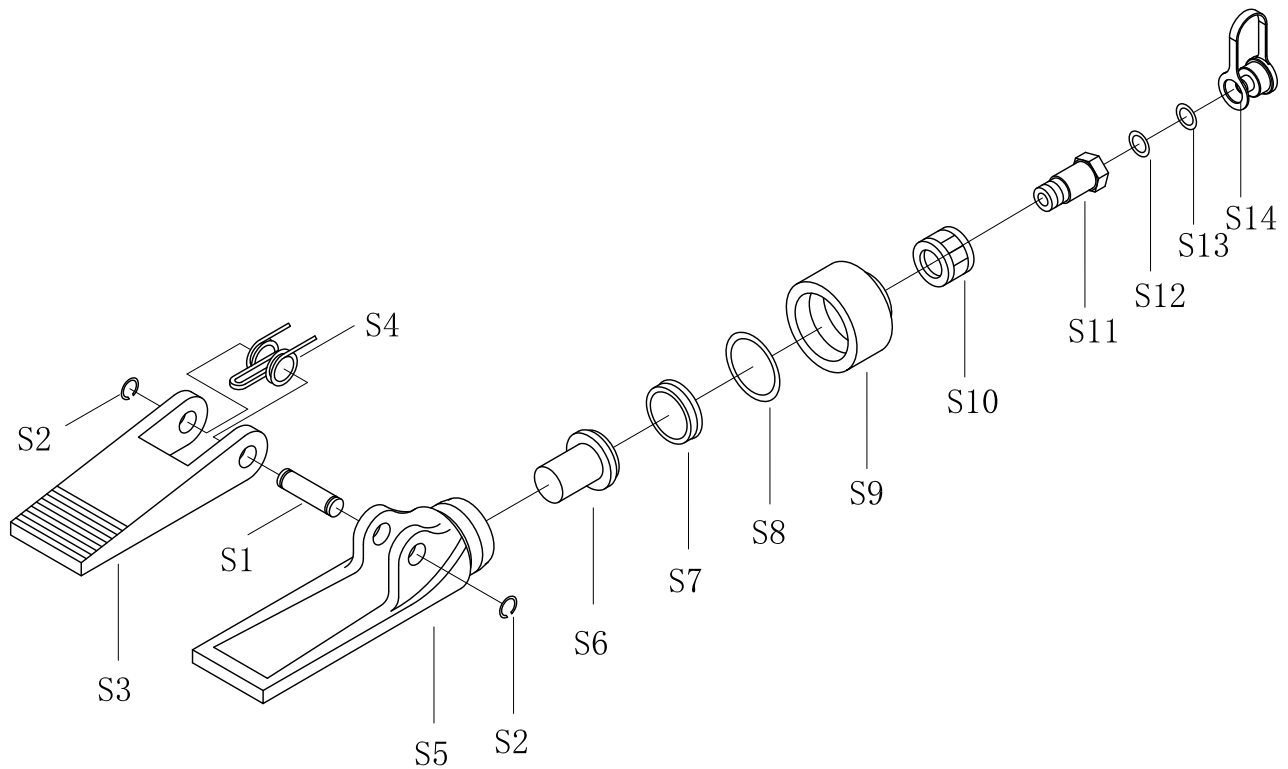


Parts List - Spreader

Part	Description	Qty.
S1	Pin	1
S2	Circlip	2
S3	Movable Jaw	1
S4	Spring	1
S5	Fixed Jaw	1
S6	Small Piston	1
S7	Piston Ring	1

Part	Description	Qty.
S8	O Ring	1
S9	End Cap	1
S10	Nut	1
S11	Cylinder Connector	1
S12	O-Ring	1
S13	Washer	1
S14	Dust Cap	1

Assembly Diagram - Spreader



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

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.

Record Product's Serial Number Here:

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175443564 when ordering parts.

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