



**POSI
LOCK®**
PULLER, INC.

POSI LOCK® Hydraulic Puller Systems

INSTRUCTION & PARTS SHEET FOR ALL MODELS

IMPORTANT: READ CAREFULLY!

IMPORTANT RECEIVING INSTRUCTIONS:

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found notify the carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

SAFETY FIRST:

It is impossible to predict the exact force needed for every pulling situation. The amount of press-fit and force of removal can vary greatly between jobs. The set-up requirements along with the size, shape and condition of the parts being pulled are all variables which must be considered. Remember that a significant amount of force can be exerted with a puller. Respect this force and always observe safety precautions. Failure to comply with the following cautions and warnings could cause equipment damage or personal injury.

 **WARNING:** To avoid personal injury and equipment damage, make sure all hydraulic components withstand the maximum hydraulic pressure of 700 bar (10,000 psi).

DO NOT touch or handle hydraulic hoses or fittings with pressure in the system. Escaping oil under pressure may cause serious injury. If oil is injected under the skin see a doctor immediately.

DO NOT make any electrical adjustments with electrical power active in the system.

DO NOT make or break any hydraulic connections with pressure in the system.

DO NOT overload the equipment. Use the right size puller.

DO NOT use this equipment in circumstances where a sudden release of pressure can result in loss of balance or injury.

Make sure all system components are protected from external sources of damage, such as excessive heat, flame, moving machine parts, sharp edges and corrosive chemicals.

 **CAUTION:** Make sure that all items being pulled are supported by a means other than the puller. When using a puller in excess of 50 pounds, support puller by other means than a single person. Do not use the puller for lifting or supporting objects.

Avoid sharp bends and kinks in hoses as they may lead to premature hose failure. Inspect hoses and fittings for leaks or damaged areas. Immediately discard and replace damaged components.



IMPORTANT: Inspect puller for dents, cracks, or excessive wear before each use. Immediately replace worn or damaged parts.

It is recommended to use 3-jaw puller whenever possible for a more secure grip, a more even pulling force and better stability.

Cover application with a protective blanket before applying force. Since high force is applied on the part being pulled, breakage may occur and user may be exposed to flying debris.

Use hydraulic gauges in each hydraulic system to indicate safe operating loads.

Apply force gradually. Be sure the puller is square with the component to be pulled.

Wear safety glasses or other approved eye protection.

Keep hands away from possible pinching points.



OPERATION IMPORTANT: Hydraulic power is one of the safest methods for applying force when used correctly. Be sure to read all instructions, warnings and cautions carefully.

Follow all safety precautions to avoid personal injury or property damage during system operation. Posi Lock cannot be responsible for damage or injury resulting from unsafe use of product, lack of maintenance or incorrect product and/or system operation.

It is important that the operator has a full understanding of all the instructions, warnings, cautions and safety regulations before starting to operate equipment.



MAINTENANCE: Always clean the puller after use and store in a clean, dry place.

Refer to the pump and cylinder instructions for safety connections and operation of the hydraulic components. When in doubt contact Posi Lock at +1-701-797-2600.

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Instructions and parts are applicable to model numbers described below:

Model Number	Capacity Tons (kN)	Number of Jaws
PH-206	5 tons (44 kN)	2
PH-106	5 tons (44 kN)	3
PH-208	10 tons (89 kN)	2
PH-108	10 tons (89 kN)	3
PH-210	15 tons (133 kN)	2
PH-110	15 tons (133 kN)	3
PH-213	25 tons (222 kN)	2
PH-113	25 tons (222 kN)	3
PH-216	50 tons (445 kN)	2
PH-116	50 tons (445 kN)	3

SELECTING THE PROPER PULLER

When choosing the proper hydraulic puller for a specific application, several points must be considered. By following these guidelines, the removal of gears and bearings will be made easier and safer.

1. REACH: This is the distance from the Safety Cage® base to the pulling surface of the jaws. This distance decreases as the jaw spread increases.
2. SPREAD RANGE: The spread range is twice the distance from the cylinder to the pulling surface of the jaw. Spread range will increase as the Cage® moves back and decrease as it moves forward. It is important to note that puller reach decreases as spread increases.
3. TONNAGE: The maximum force exerted in tons should be 8 to 10 times the diameter of the shaft in inches.

FOR EXAMPLE:

SHAFT DIAMETER	MAXIMUM RAM CAPACITY
2"	20 TON
3"	30 TON
5"	50 TON

ASSEMBLY INSTRUCTIONS:

1. Remove the plastic thread protector.
2. Attach hydraulic cylinder to puller by threading collar threads clockwise into jaw head assembly. Make sure hydraulic cylinder collar threads are fully engaged in puller. **Before each use**, make certain hydraulic cylinder is fully tightened clockwise in puller.
3. Attach lift plate to coupler end of cylinder with provided bolts.
4. Remove the saddle (L) from the cylinder and insert the ram point (M) into the plunger.
5. Select ram point that will provide maximum contact with the shaft end.
6. Attach gauge adapter to pump.
7. Attach gauge to gauge adapter.
8. Attach male hydraulic hose ends to gauge and cylinder.

NOTE: Use sealing tape when connecting the gauge adapter and pump to help avoid leakage.

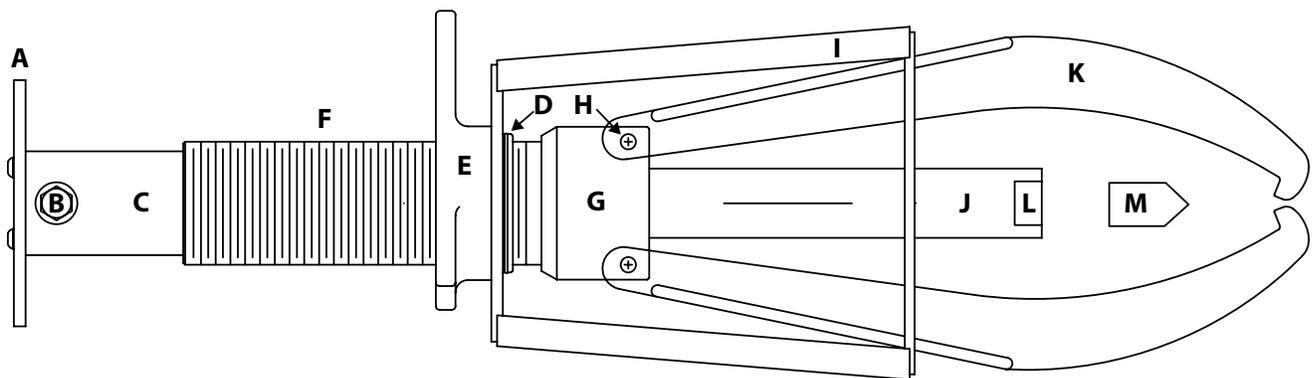
OPERATION:

1. To operate puller, support the puller and turn the T-handle (E) counterclockwise until the jaw opening is big enough to fit the component to be pulled.

DO NOT PINCH YOUR FINGERS DURING THIS PROCESS.

2. Clean the shaft of debris. Place the puller over the component to be pulled. Retightening the T-handle may be necessary when the puller is new to get the jaws to properly seat in the cage.
3. Turn the T-handle clockwise to tighten the jaws firmly onto the component. Make sure the puller is square with the component being pulled.
4. Advance the plunger until the ram point contacts the shaft to ensure correct alignment. The center of the ram point should be aligned with the center of the shaft. Continue to advance the plunger slowly to pull the component off of the shaft. Do not retighten the T-handle during the pulling operation. Never exceed the maximum torque rating of the pullers.

Refer to the pump and cylinder instructions for safety connections and operation of the hydraulic components. When in doubt contact Posi Lock at +1-701-797-2600.

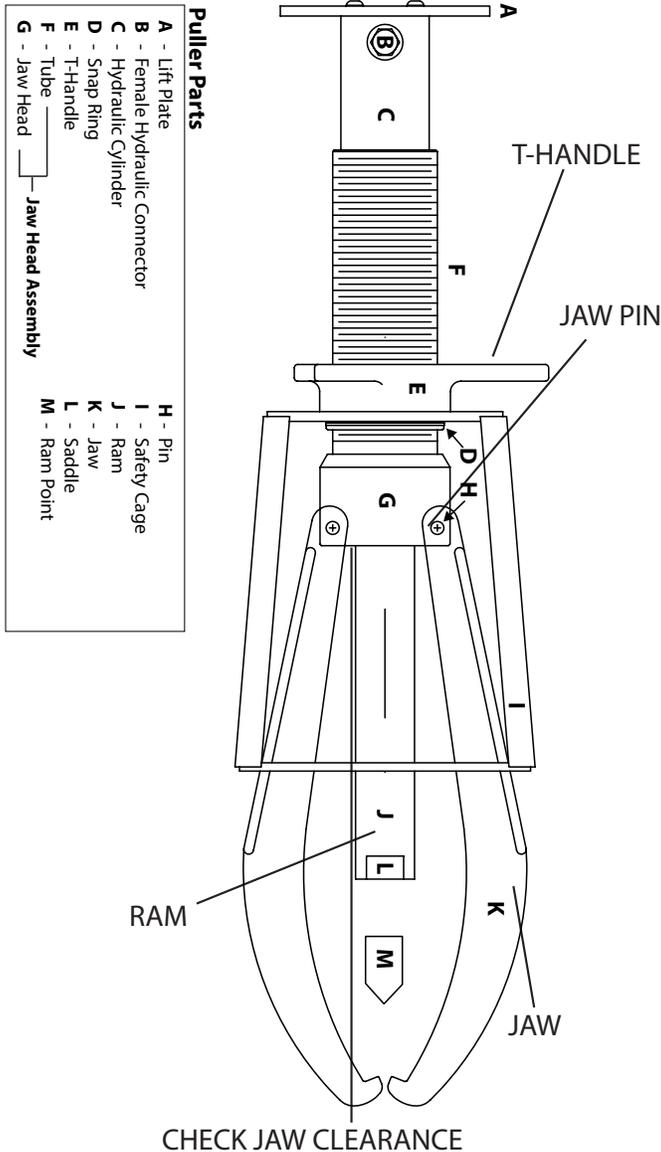


Puller Parts

A - Lift Plate	H - Pin
B - Female Hydraulic Connector	I - Safety Cage
C - Hydraulic Cylinder	J - Ram
D - Snap Ring	K - Jaw
E - T-Handle	L - Saddle
F - Tube	M - Ram Point
G - Jaw Head	

Jaw Head Assembly

WHEN CHANGING HYDRAULIC PULLER JAWS, ALWAYS CHECK JAWS FOR PROPER CLEARANCE



DUE TO VARIANCES IN JAW FORGINGS, IT IS ADVISABLE TO CHECK JAW CLEARANCE BETWEEN RAM AND JAW NEAR THE JAW PIN AREA WHEN CHANGING JAWS.

INSTRUCTIONS:

1. Remove pin and jaw
2. Extend ram
3. Insert new jaws and reusable pin
4. Check for proper jaw clearance between the ram and the jaw by turning the T-handle to completely open and close the jaws

NOTE: Jaws should not come in contact with cylinder or ram at any time.

If adequate clearance is not available, please call +1-701-797-2600 and ask for technical support.

Warranty Statement

All Posi Lock forged parts carry a lifetime warranty with the exception of transmission jaws. All other Posi Lock parts and components are guaranteed for one year against defects in materials and workmanship to meet the exacting standards and requirements of professional maintenance. Every product manufactured by Posi Lock and found to be defective (by the factory) in either material or workmanship, will be repaired or replaced. This warranty applies to the original purchaser (end user) only and is nontransferable.

This warranty does not cover any product or part that has been abused, worn out, heated, ground or otherwise altered, used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use. Use of an impact wrench voids the warranty.

Damaged components, including bent rams, dented or crushed cylinder walls are the result of misuse, misapplication or a combination of both and will not be considered under warranty. Normal wear such as worn out seals, couplers, O-rings and springs does not constitute a defect and will not be considered for warranty credit. The foregoing constitutes the only warranty made by the company.

In the unlikely event that product fails due to material or workmanship defect, you are instructed to contact the Posi Lock warranty division at +1-701-797-2600 or info@posilock.com. Except where such limitations and exclusions are specifically prohibited by law, the consumer's sole and exclusive remedy shall be the repair or replacement of the defective product.

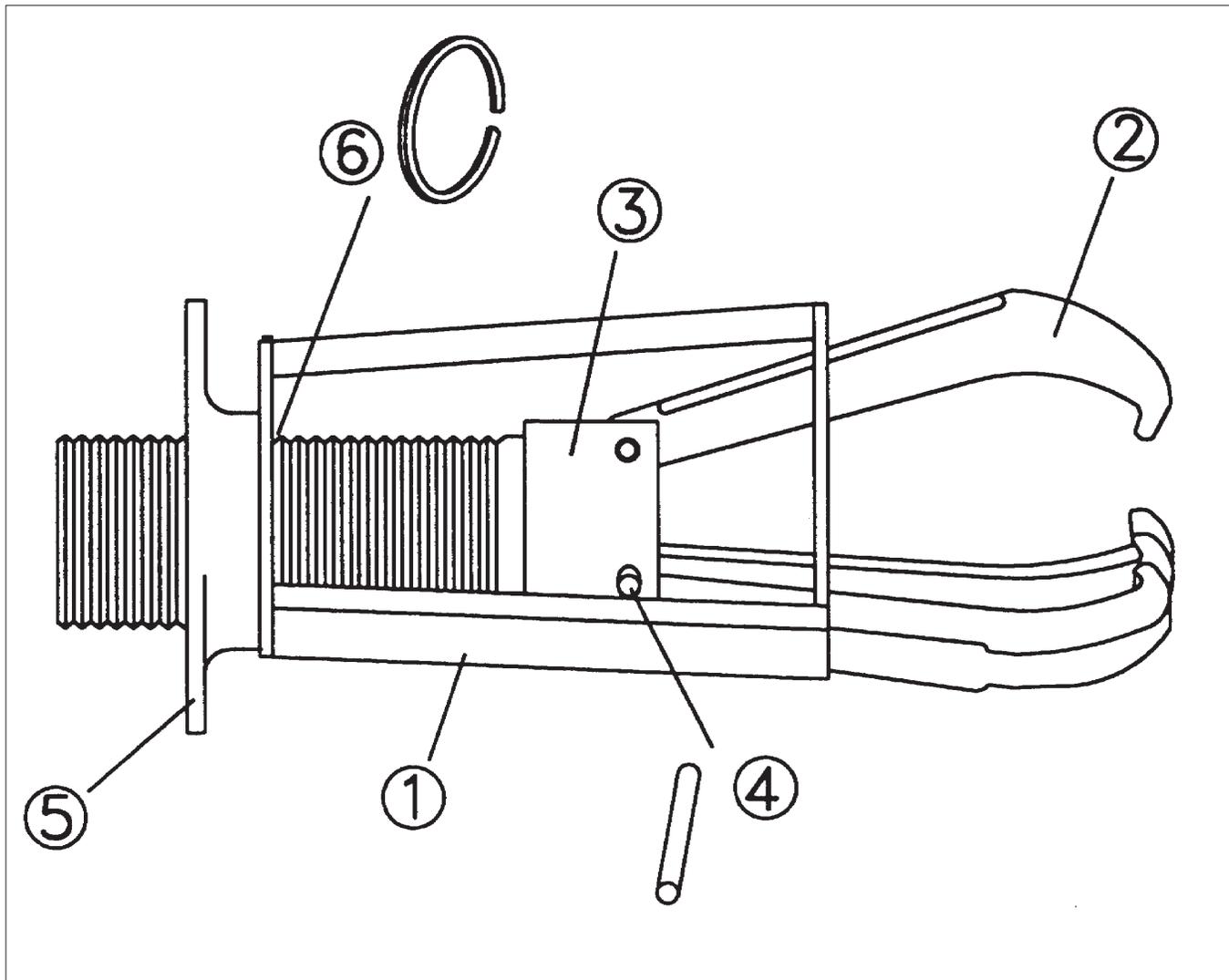
Posi Lock shall not be liable for any consequential or incidental damage or loss whatsoever. Any and all expressed and implied warranties, including without limitation, any warranties of merchantability and fitness for a particular purpose, are limited to the original purchaser. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Hydraulic components not manufactured by Posi Lock Puller: please refer to the original manufacturer's warranty statement.

Notice: Posi Lock reserves the right to make changes in design or construction of tools and equipment without obligation to incorporate such changes in tools and equipment previously sold.

Hydraulic Puller Parts & Accessories

Components	PH-106/206	PH-108/208	PH-110/210	PH-113/213	PH-116/216	PHS-108/208
1. Cage® - 3 Jaw	PH-10653	PH-10853	PH-11053	PH-11353	PH-11653	PH-10853
1. Cage® - 2 Jaw	PH-20653	PH-20853	PH-21053	PH-21353	PH-21653	PH-20853
2. Jaw	10654	10854	PH-11054	11354	PH-11654/PH-21654	10854
3. Jaw Head Assembly - 3 Jaw	PH-10655	PH-10855	PH-11055	PH-11355	PH-11655	PH-10855
3. Jaw Head Assembly - 2 Jaw	PH-20655	PH-20855	PH-21055	PH-21355	PH-21655	PH-20855
4. Pin	11056	PH-10856	PH-11056	11356	PH-11656/PH-21656	PH-10856
5. T-Handle	PH-10657	PH-10857	PH-11057	PH-11357	PH-11657	PH-10857
6. Snap Ring	11659	PH-10859	PH-11059	PH-11359	PH-11659	PH-10859
Optional Accessories	PH-106/206	PH-108/208	PH-110/210	PH-113/213	PH-116/216	PHS-108/208
Interchangeable Ram Point Sets	PH-5-3	PH-15-5	PH-15-5	PH-25-7	PH-50-8	—
Guard Lift Plate	PH-10652	PH-11052	PH-11052	PH-11352	PH-11652	—
Long Jaw	—	11054	PH-11054L	11354L	PH-11654L/PH-21654L	11054
Extra Long Jaw	—	11054L	—	—	—	11054L
Leveling Arm & Bracket Set	—	—	PH-1110/PH-1210 (Brackets only)	PH-1113/PH-1213	PH-1116/PH-1216	—
Hydraulic Lift Cart	—	—	—	PT-3050	PT-3050	—
Storage Transport Cart	—	—	—	PT-2550	PT-2550	—



Posi Lock Puller, Inc.

805 Sunflower Avenue | PO Box 246 | Cooperstown, North Dakota | USA | 58425

Phone: +1-701-797-2600 | Fax: +1-701-797-2706

info@posilock.com | www.posilock.com

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