



7 PIECE PORTA-POWER RAM KIT

Model 94681

ASSEMBLY AND OPERATION INSTRUCTIONS



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



3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>

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

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

PRODUCT SPECIFICATIONS

2-Ton Hydraulic Push Ram (With Saddle)	Height: 5.5" (Min.) / 9.5" (Max.) Operating PSI: 5700 / Maximum Capacity: 4400 lb. 1-5/8" Diameter
4-Ton Hydraulic Push Ram	Height: 1.6" (Min.) / 2.2" (Max.) Operating PSI: 5700 / Maximum Capacity: 8800 lb. 2" Diameter
4-Ton Hydraulic Push Ram (With Spring)	Height: 10.8" (Min.) / 16" (Max.) Operating PSI: 8000 / Maximum Capacity: 8800 lb. 1-5/8" Diameter
10-Ton Hydraulic Push Ram (With Saddle & Spring)	Height: 5.2" (Min.) / 7.5" (Max.) Operating PSI: 8800 / Maximum Capacity: 22000 lb. 2-3/16" Diameter
10-Ton Hydraulic Push Ram (With Spring)	Height: 13.7" (Min.) / 19.6" (Max.) Operating PSI: 8800 / Maximum Capacity: 22000 lb. 2-1/8" Diameter
2-Ton Hydraulic Pull Ram (With Spring)	Height: 16.6" (Min.) / 21.6" (Max.) Operating PSI: 7800 / Maximum Capacity: 4400 lb. 1-1/2" Diameter
5-Ton Hydraulic Pull Ram (With Spring)	Height: 20.4" (Min.) / 25.5" (Max.) Operating PSI: 8800 / Maximum Capacity: 11000 lb. 2-3/8" Diameter
Accessories	2-Ton Pull Hooks (1 Set) / 5-Ton Pull Hooks (1 Set) / Metal Carrying Case
Unit Weight	40 Pounds
This equipment requires the addition of a Hydraulic Pump (such as Harbor Freight Sku 40611), hydraulic hoses, and hydraulic fittings to operate properly. None of this equipment is provided, and all of it must be properly rated for use with this kit.	

SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

UNPACKING

When unpacking, check to make sure all the parts shown in the **Parts Lists on pages 8 through 14** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the front cover of this manual as soon as possible.

GENERAL SAFETY RULES



READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may result in
electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered and dark work areas invite accidents.
2. **Keep bystanders, children, and visitors away while using this product.** Distractions can cause you to lose control.

PERSONAL SAFETY

1. **Stay alert.** Watch what you are doing, and use common sense during use. Do not use this product while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.
2. **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.
3. **Do not overreach.** Keep proper footing and balance at all times. Proper footing and balance enables better control in unexpected situations.



4. **Always wear eye and hand protection.** Wear ANSI-approved safety impact goggles, non-skid safety shoes, and heavy duty work gloves when using this product.

TOOL USE AND CARE


1. **Store idle tools and equipment out of reach of children and other untrained people.** Tools and equipment are dangerous in the hands of untrained users.
2. **Maintain this product with care.** Keep this product clean. A properly maintained tool is easier to control. Do not use damaged tools and equipment. Tag damaged tools and equipment “**Do not use**” until repaired.
3. **Check for misalignment or binding of moving parts, loose or broken parts, and any other condition that may affect this product’s operation.** If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools and equipment.
4. **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one product may become hazardous when used on another product.

SERVICE

1. **Tool service must be performed only by qualified service technician.** Service or maintenance performed by unqualified personnel could result in a risk of injury.

2. **When servicing this product, use only identical replacement parts.** 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 electric shock or injury.

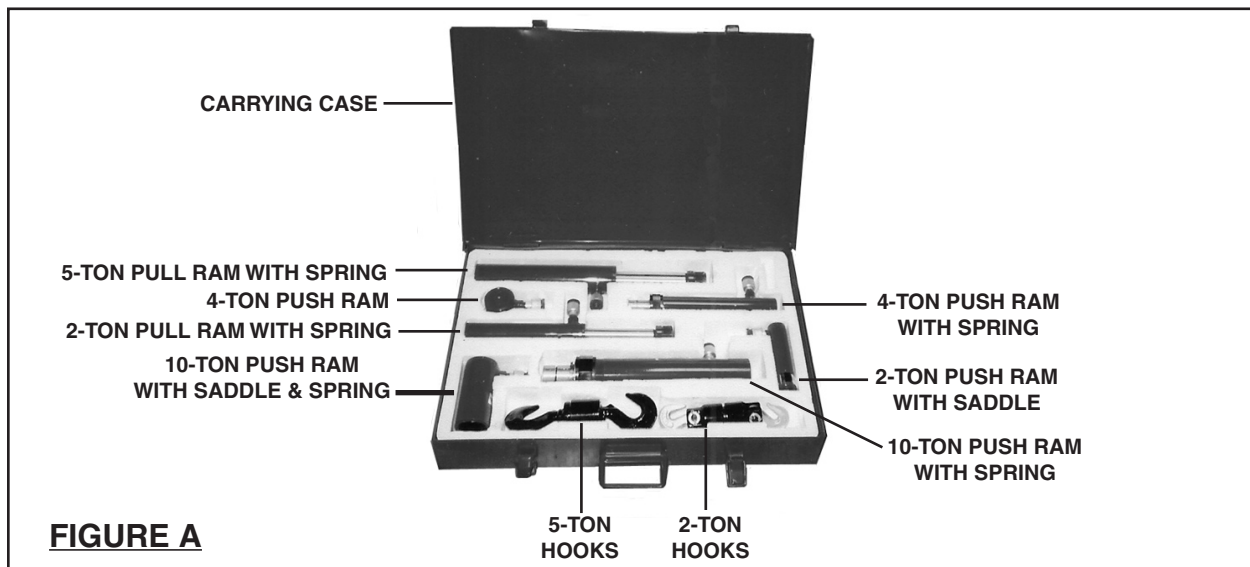
SPECIFIC SAFETY RULES

1. **WARNING!** Do not exceed the maximum PSI capacity of each Hydraulic Ram in this Kit. Also, do not operate a Ram beyond its maximum range of travel. Exceeding the maximum PSI and travel capacity of a Ram can cause personal injury and/or property damage.
IMPORTANT! Refer to the *“Product Specifications”* Table on page 2 of this manual to determine the maximum PSI and range of travel for each Hydraulic Ram included in this Kit.
2.  **Prior to using the Auto Body/Frame Repair Kit, make sure to read and understand all instructions and safety precautions as outlined in the auto manufacturer’s manual.** Make sure the Auto Body/Frame Repair Kit is fully compatible with each specific vehicle. It is beyond the scope of this manual to discuss body/frame repair guidelines, and instead is the responsibility of the product user to consult a body/frame repair technical manual for full instructions.
3. **Maintain labels and nameplates on the Auto Body/Frame Repair Kit.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
4. **Use the right product for the job.** There are certain applications for which this product was designed. Do not use this product for a purpose for which it was not intended. **Never use this item to raise or move a vehicle.**
5. **Stay clear of an Hydraulic Ram when using the tool.** Position your body as far away from the Ram as is practical when the Ram is under a load. It is possible for a Ram to slip under a load, possibly resulting in serious injury and/or property damage.
6. **Industrial applications must follow OSHA requirements.**
7. **Before working on a vehicle, always set the parking brake and block the tires.** Never attempt a repair while the engine is running or the vehicle is moving.
8. **Avoid off-center loads.** If the Hydraulic Pump (not included) unit seems unusually hard to pump, immediately stop the operation. Adjust the Hydraulic Ram unit to eliminate or diminish an off-center load.

9. **Keep the Hose Couplers protected when the Hydraulic Rams are not in use.** Dust Caps are included for all Hose Couplers and should be screwed in when not in use to keep the internal mechanisms of the Rams clean.
10. **⚠️ WARNING!** Prior to using the Auto Body/Frame Repair Kit, make sure to read and understand all instructions and safety precautions as outlined in the Hydraulic Pump (not included) manufacturer's manual.
11. **The results you achieve with these tools will depend upon your skills and experience at using tools of this type. Harbor Freight Tools is not responsible for damage to vehicles caused by misuse of these tools.**
12. **⚠️ WARNING!** This product will exert thousands of pounds of force when in use and can be dangerous. Use extreme caution when using this product.
13. **Use compressed hydraulic fluid only.** Do not use any other power source or fluid to operate this product.
14. **⚠️ WARNING!** The warnings and cautions 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.

SAVE THESE INSTRUCTIONS

TOOLS AND ACCESSORIES



ASSEMBLY INSTRUCTIONS

Refer to instructions provided with pump, hoses, and fittings for proper hydraulic line purging, preparation, and connection procedures.

OPERATING INSTRUCTIONS

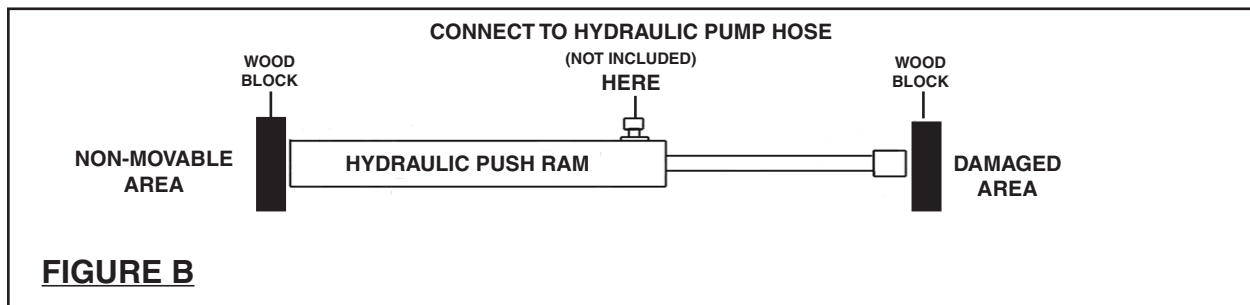
WARNING! Before starting work, read and thoroughly understand all warnings and precautions in this manual and all documentation provided with the hydraulic pump and hoses used.

Product Overview:

The Auto Body/Frame Repair Kit is designed for bending frames and repairing dents in vehicle body panels. In most cases, the Push and Pull Hydraulic Rams in this Kit will only be capable of returning vehicle body and frame parts to their approximate, original position. Additional work may be required to completely repair the vehicle part.

The Hydraulic Push Rams:

1. Included in this Kit are five Hydraulic Push Rams. The larger Push Rams are used in larger spaces where greater force is needed and where there is sufficient room to operate. The smaller Push Rams are used in tighter spaces where less force is required. **(See Figure B.)**
2. The Push Rams require a solid, non-movable base directly across from the damaged area and in line with the direction the damaged area needs to be bent. When positioning the Push Ram, place a block of wood or other material behind the base of the Push Ram and on the side that is to be bent for protection and to spread the Push Ram pressure over a greater area. **(See Figure B.)**



The Hydraulic Pull Rams:

1. Included in this Kit are two Hydraulic Pull Rams. The larger Pull Ram is used in larger spaces where greater force is needed and where there is sufficient room to operate. The smaller Pull Ram is used in tighter spaces where less force is required. **(See Figure C, next page.)**

- The Hydraulic Pull Rams may be used in either horizontal or vertical positions. The Hooks will turn to accept hooking from different angles. Hook one end of the Pull Ram to the object to be moved and the other end of the Pull Ram to a stable, unmovable base. A chain or strap may be used on either end to provide a hooking surface. **Make sure the chain or strap is rated to support the pulling weight. (See Figure C.)**

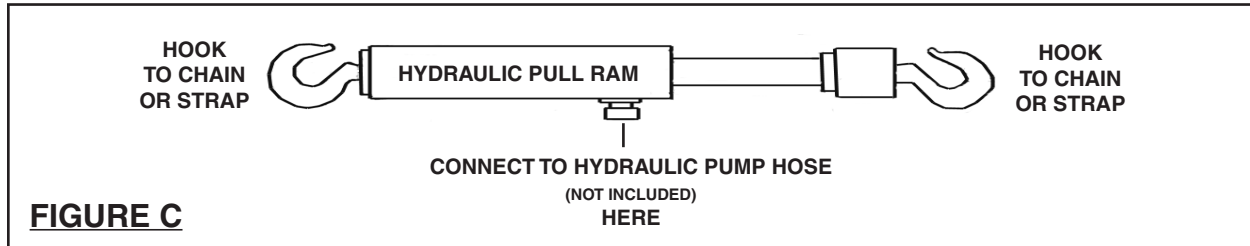


FIGURE C

INSPECTION, MAINTENANCE, AND CLEANING

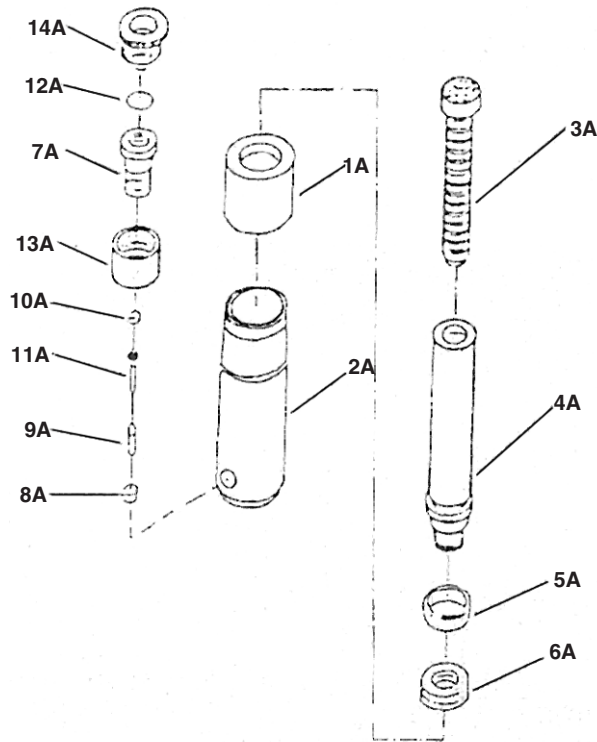
- Before each use, inspect the general condition of the Auto Body/Frame Repair Kit.** Check for bent, cracked, worn or damaged parts, loose or missing parts, and any other condition that may affect the Kit's safe operation. If a problem occurs, have the problem corrected before further use.
Do not use damaged equipment.
- To clean, use a damp cloth and a mild detergent or mild solvent.** Do not use flammable or corrosive agents.
- When storing, keep the Auto Body/Frame Repair Kit in its Carrying Case and in a clean, dry, safe location out of reach of children and other unauthorized people.**
- CAUTION!** All maintenance, service, and repairs not discussed in this manual should only be performed by a qualified service technician.

TROUBLESHOOTING

Problem	Possible Cause	Possible Solution
Hydraulic Ram will not push or pull the load.	<ol style="list-style-type: none"> Release Valve on Hydraulic Pump (not included) not tightly closed. Overload condition. Air trapped in Hydraulic Pump system. Hydraulic Pump oil level low. Loose connection from Hydraulic Pump to Hydraulic Ram. 	<ol style="list-style-type: none"> Close Release Valve tightly. Do not exceed maximum PSI or range of travel for Hydraulic Ram. Purge air from Hydraulic Pump system. Add oil to proper level. Make sure connection from Hydraulic Pump to Hydraulic Ram is secure.
Hydraulic Ram will push or pull, but will not maintain pressure.	<ol style="list-style-type: none"> Release Valve on Hydraulic Pump (not included) not tightly closed. Overload condition. Hydraulic Pump or Hydraulic Ram malfunction. 	<ol style="list-style-type: none"> Close Release Valve tightly. Do not exceed maximum PSI or range of travel for Hydraulic Ram. Have a qualified service technician check out the Hydraulic Pump and/or Hydraulic Ram.

PARTS LIST A - ASSEMBLY DIAGRAM A (2-TON HYDRAULIC PUSH RAM WITH SADDLE)

Part	Description	Qty.	Part	Description	Qty.	Part	Description	Qty.
1A	Nut	1	6A	Cylinder	1	11A	Connection Nut	1
2A	Seal Ring	1	7A	Spindle Screw	1	12A	Hose Coupler	1
3A	O-Ring	1	8A	Spring	1	13A	O-ring	1
4A	Ram	1	9A	Spindle	1	14A	Dust Cap	1
5A	O-Ring	1	10A	Oil Ring	1			



NOTE:

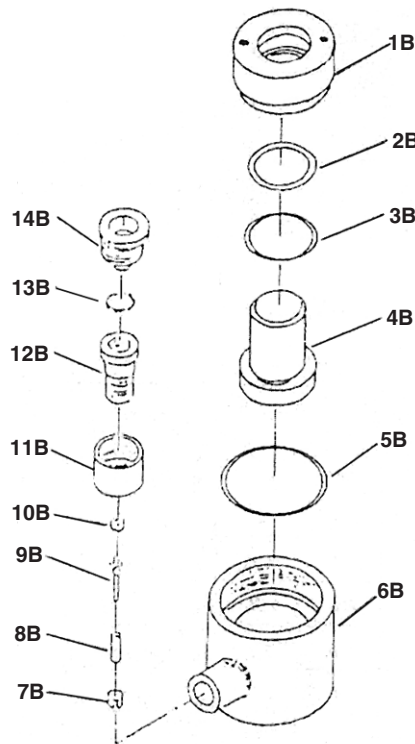
Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL 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 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 RISKS 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 B - ASSEMBLY DIAGRAM B (4-TON HYDRAULIC PUSH RAM)

Part	Description	Qty.	Part	Description	Qty.	Part	Description	Qty.
1B	Nut	1	6B	Cylinder	1	11B	Connection Nut	1
2B	Seal Ring	1	7B	Spindle Screw	1	12B	Hose Coupler	1
3B	O-ring	1	8B	Spring	1	13B	O-ring	1
4B	Ram	1	9B	Spindle	1	14B	Dust Cap	1
5B	O-ring	1	10B	Oil Ring	1			



NOTE:

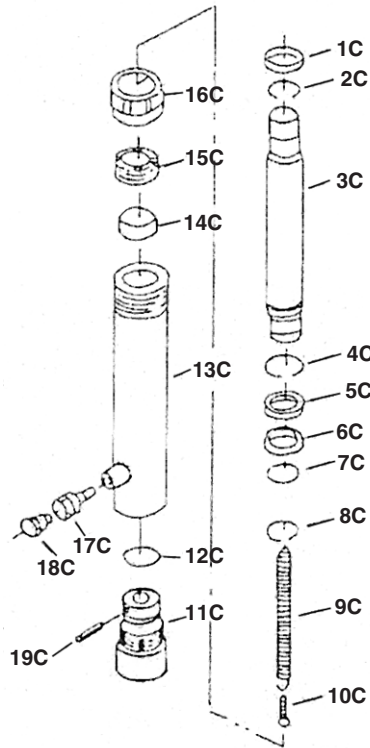
Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.

PARTS LIST C - ASSEMBLY DIAGRAM C (4-TON HYDRAULIC PUSH RAM WITH SPRING)

Part	Description	Qty.
1C	Collar	1
2C	Snap Ring	1
3C	Piston Rod	1
4C	Snap Ring	1
5C	Bushing	1
6C	U-Cup	1
7C	O-ring	1

Part	Description	Qty.
8C	Snap Ring	2
9C	Spring	1
10C	Screw	1
11C	Cylinder Base	1
12C	O-ring	1
13C	Cylinder	1
14C	Cylinder Collar	1

Part	Description	Qty.
15C	Cylinder Screw	1
16C	Thread Protector Ring	1
17C	Hose Coupler	1
18C	Dust Cover	1
19C	Spring Pin	1

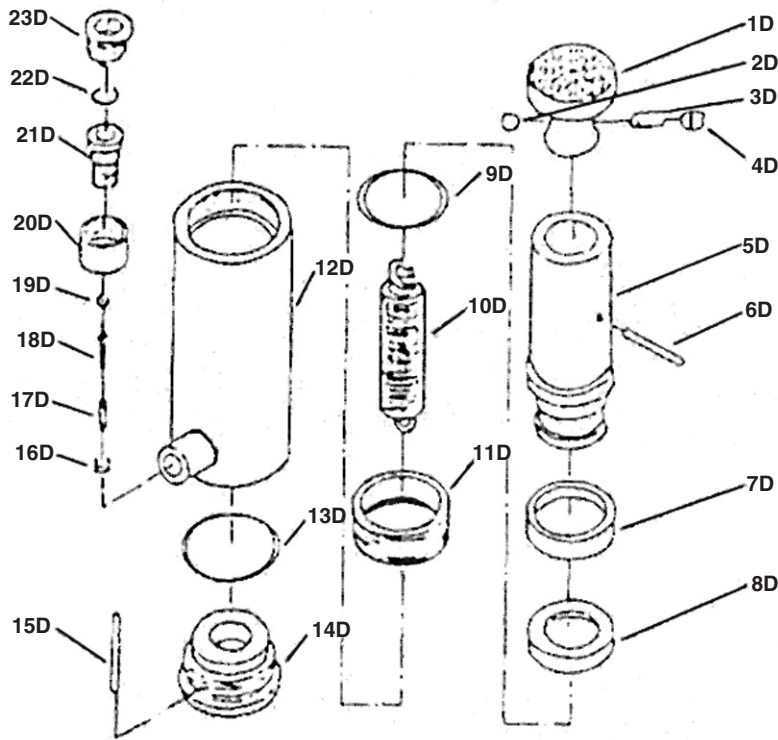


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**PARTS LIST D - ASSEMBLY DIAGRAM D
(10-TON HYDRAULIC PUSH RAM WITH SADDLE & SPRING)**

Part	Description	Qty.	Part	Description	Qty.	Part	Description	Qty.
1D	Saddle	1	9D	O-ring	1	17D	Spring	1
2D	Steel Sphere	1	10D	Spring	1	18D	Spindle	1
3D	Spring	1	11D	Nut	1	19D	Oil Ring	1
4D	Screw	1	12D	Cylinder	1	20D	Connection Nut	1
5D	Ram	1	13D	O-ring	1	21D	Hose Coupler	1
6D	Pin	1	14D	Cover Nut	1	22D	O-ring	1
7D	Guiding Collar	1	15D	Pin	1	23D	Dust Cap	1
8D	Cap (Nylon)	1	16D	Spindle Screw	1			



NOTE:

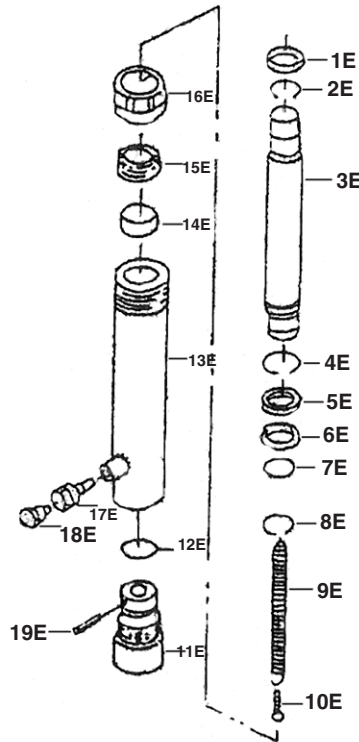
Some parts are listed and shown for illustration purposes only,
and are not available individually as replacement parts.

PARTS LIST E - ASSEMBLY DIAGRAM E (10-TON HYDRAULIC PUSH RAM WITH SPRING)

Part	Description	Qty.
1E	Collar	1
2E	Snap Ring	1
3E	Piston Rod	1
4E	Snap Ring	1
5E	Bushing	2
6E	U-Cup	1
7E	O-ring	1

Part	Description	Qty.
8E	Snap Ring	2
9E	Spring	1
10E	Screw	1
11E	Cylinder Base	1
12E	O-ring	1
13E	Cylinder	1
14E	Cylinder Collar	1

Part	Description	Qty.
15E	Cylinder Screw	1
16E	Thread Protector Ring	1
17E	Hose Coupler	1
18E	Dust Cover	1
19E	Spring Pin	1

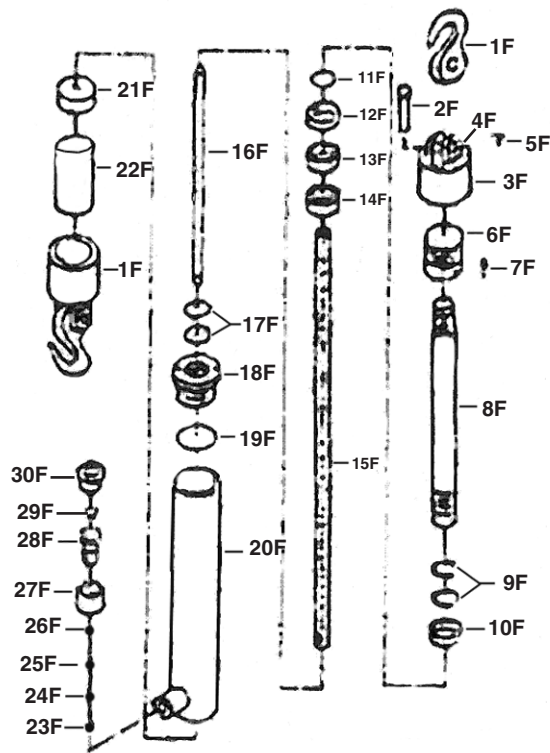


NOTE:

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PARTS LIST F - ASSEMBLY DIAGRAM F (2-TON HYDRAULIC PULL RAM WITH SPRING)

Part	Description	Qty.	Part	Description	Qty.	Part	Description	Qty.
1F	Hook	2	11F	O-ring	1	21F	Nut	1
2F	Axle Pin	2	12F	U-Type Packing	1	22F	Screw Coupler	1
3F	Coupling	2	13F	Guiding Collar	1	23F	Spindle Screw	1
4F	Collar	2	14F	Nut	1	24F	Spring	1
5F	Split Pin	2	15F	Spring	1	25F	Spindle	1
6F	Nut	1	16F	Shaft	1	26F	Oil Ring	1
7F	Screw	1	17F	O-ring	2	27F	Connection Nut	1
8F	Ram	1	18F	Nut	1	28F	Hose Coupler	1
9F	Closing Ring	2	19F	O-ring	1	29F	O-ring	1
10F	Carrier Ring	1	20F	Cylinder	1	30F	Dust Cap	1

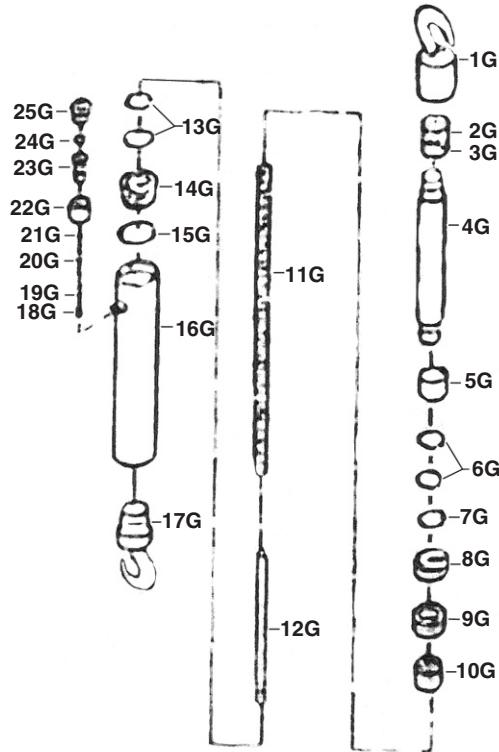


NOTE:

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PARTS LIST G - ASSEMBLY DIAGRAM G (5-TON HYDRAULIC PULL RAM WITH SPRING)

Part	Description	Qty.	Part	Description	Qty.	Part	Description	Qty.
1G	Top Hook	1	10G	Nut	1	19G	Spring	1
2G	Nut	1	11G	Spring	1	20G	Spindle	1
3G	Hex Screw	1	12G	Shaft	1	21G	Oil Ring	1
4G	Ram	1	13G	O-ring	2	22G	Connection Nut	1
5G	Bushing	1	14G	Nut	1	23G	Hose Coupler	1
6G	Closing Ring	2	15G	O-ring	1	24G	O-ring	1
7G	O-ring	1	16G	Cylinder	1	25G	Dust Cap	1
8G	U-Type Packing	1	17G	Bottom Hook	1			
9G	Collar	1	18G	Spindle Screw	1			



NOTE:

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



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 ninety 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, 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.

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