

INSTRUCTION MANUAL REPAIR PARTS LIST

10,000 PSI MAX PRESSURE**Capacity 60 Tons****5" Stroke****MODEL NO. H 48688**

⚠ WARNING

1. READ, STUDY AND UNDERSTAND ALL WARNING LABELS AND OPERATING INSTRUCTIONS FURNISHED WITH THIS EQUIPMENT PRIOR TO USE. IF ANY PORTION OF THIS MATERIAL IS UNCLEAR, CONTACT YOUR REPRESENTATIVE FOR CLARIFICATION.
2. NEVER ALLOW UNSKILLED OR IMPROPERLY TRAINED PERSONNEL TO OPERATE THIS EQUIPMENT.
3. CENTER LOADS ON SADDLE. OFF CENTER LOADS MAY CAUSE DAMAGE TO THE RAM AND/OR LOSS OF LOAD.
4. DO NOT OVERLOAD RAM. OVERLOADING IS OFTEN INDICATED BY BOWING EXTENSION TUBES OR SLIPPING ATTACHMENTS AND CAN RESULT IN PERSONAL INJURY OR DAMAGE TO THE EQUIPMENT.
5. WHEN OFFSET ATTACHMENTS ARE USED, THE RATED CAPACITY IS ALWAYS REDUCED BY 50%. FOR EACH EXTENSION TUBE IN THE SETUP, THE OVERALL CAPACITY IS REDUCED AN ADDITIONAL 50%. REFER TO THE OPERATING INSTRUCTIONS PROVIDED FOR TYPICAL SETUPS AND CORRESPONDING LOAD CAPACITIES.
6. PRIOR TO APPLYING A LOAD, INSURE THAT ALL ATTACHMENTS AND EXTENSION TUBES ARE FULLY ENGAGED.
7. INSURE LOAD IS CENTRALLY APPLIED TO ATTACHMENTS AND RAM SADDLE TO MINIMIZE AN OFF CENTER LOAD CONDITION.
8. ALWAYS USE A PRESSURE GAUGE IN-LINE WITH PUMP AND RAM TO MONITOR THE WORKING PRESSURE WITHIN THE RAM.
9. DO NOT USE THE RAM TO SUPPORT A LOAD. THE LOAD MUST BE SUPPORTED IMMEDIATELY BY OTHER APPROPRIATE MEANS.
10. USE ONLY ON HARD LEVEL SURFACE CAPABLE OF SUSTAINING THE LOAD.
11. DO NOT CONTINUE TO PUMP WHEN RAM IS FULLY EXTENDED.
12. NEVER USE A PUMP WITH AN OPERATING CAPACITY GREATER THAN THE RATED CAPACITY OF THE RAM.
13. USE ONLY HYDRAULIC HOSE OR PLUMBING WITH A MINIMUM WORKING PRESSURE OF 10,000 PSI.
14. BE CERTAIN THAT ALL HYDRAULIC CONNECTORS AND FITTINGS IN THE SYSTEM HAVE A MINIMUM WORKING PRESSURE OF 10,000 PSI.
15. RELEASE ALL HYDRAULIC PRESSURE BEFORE DISCONNECTING HOSES OR ACCESSORIES.
16. USE ONLY HYDRAULIC OIL RECOMMENDED BY THE RAM MANUFACTURER. DO NOT USE BRAKE, TRANSMISSION, OR FIRE RESISTANT OILS OR AUTOMOTIVE FLUIDS.
17. IT IS THE OWNER'S RESPONSIBILITY TO KEEP ALL WARNING LABELS AND INSTRUCTIONAL LITERATURE LEGIBLE AND INTACT. REPLACEMENT LABELS AND LITERATURE LEGIBLE AND INTACT. REPLACEMENT LABELS AND LITERATURE ARE AVAILABLE FROM THE FACTORY.
18. FAILURE TO HEED THESE WARNINGS MAY RESULT IN EQUIPMENT AND/OR PROPERTY DAMAGE AND/OR PERSONAL OR FATAL INJURY.

OWNER'S RESPONSIBILITY

Operation. The owner and/or operator shall have an understanding of these operating instructions and warnings before operating the ram. Warning information shall be emphasized and understood. If the user is not fluent in English, the instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/owner, making sure that the operator comprehends its contents.

Maintenance. The ram shall be maintained in accordance with instructions listed under "Maintenance."

Inspection

1. Visual inspection shall be made before each use of the ram, checking for leaking hydraulic fluid, and damaged, loose or missing parts.
2. Each ram shall be inspected by an authorized Hein-Werner service center immediately, if subjected to an abnormal load or shock.
3. Owners and/or users should be aware that repair of this equipment may require specialized knowledge and facilities. It is recommended that an annual inspection of the ram be made by an authorized Hein-Werner service center and that any defective parts, decals or warning labels be replaced with genuine Hein-Werner

parts. A list of authorized service centers is available from Hein-Werner.

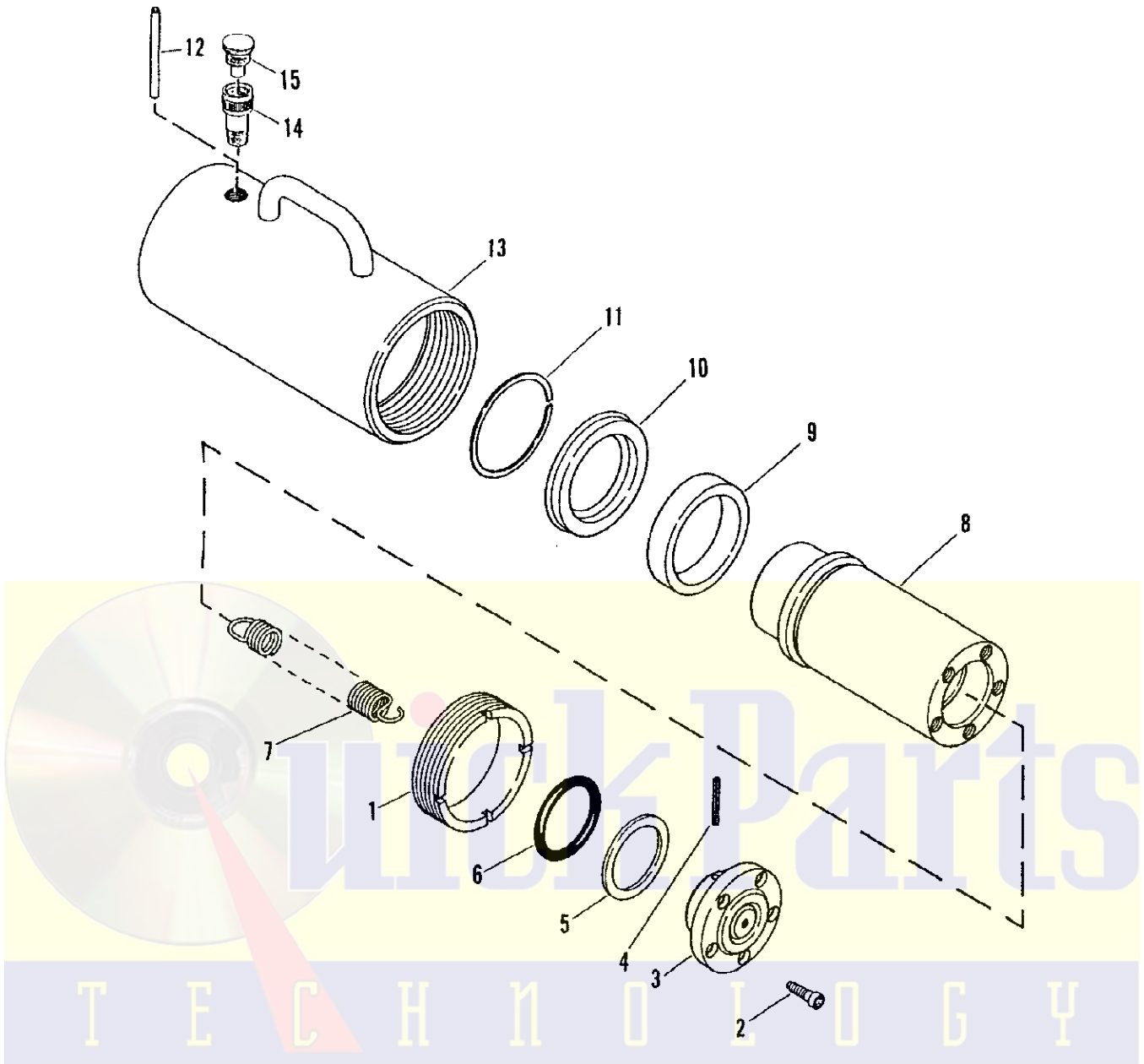
Damaged Ram. Any ram which appears to be damaged in any way, is found to be badly worn, or operates abnormally **SHALL BE REMOVED FROM SERVICE** until necessary repairs are made by an authorized Hein-Werner service center.

OPERATION

1. Always tighten attachments and extension tubes the full thread provided.
Use ram for lifting only. Always support load by appropriate means.
2. Center the load on the ram. Off center loads and loads lifted while ram is not level may damage the ram or cause personal injury.

MAINTENANCE

1. Use only Hein-Werner jack oil. Never use alcohol or hydraulic brake fluid.
2. Always keep your ram clean.
3. Keep ram fully retracted.



MODEL FR-60

**PUSHMASTER HYDRAULIC RAM
REPAIR PARTS LIST
Capacity 60 Tons
5" Stroke**

MODEL NO. H 48688

10,000 PSI MAX PRESSURE

Item No.	Part Code	Description	Qty. Required
1	H2028500	Guide-Plunger	1
2	H2618000	SCS 3/8-16 x 1.00	5
3	H2058000	Saddle	1
4	H2578000	Rollpin 0.250 x 2.25	1
5	H1637000	Back-up 2.125 x 2.375	1
6	H1636500	O-ring-2.125 x 2.375	1
7	H2082000	Spring-Extension	1
8	H2011000	Plunger-Ram	1
9	H6447500	Bearing	1
10	H6447400	U-cup 3.25 ID x 4.00 OD	1

Item No.	Part Code	Description	Qty. Required
11	H2351500	Ret-Ring-Ext Spiro US3	1
12	H1982000	Pin	1
13	H0579500	Cyl-Ram *Weldment*	1
14	H0563000	Quick Coupler Ram Half	1
15	H4624500	Cover-Dust	1
16	H5517400	Decal-FR-60 (Not Shown)	1
17	H3113000	Warning Decal (Not Shown)	1
18	H8081200	Repair Kit (Not Shown)	1