

HEIN-WERNER AUTOMOTIVE

INSTRUCTION MANUAL / REPAIR PARTS LIST

MODEL FR-20
MODEL FR-20.19

CAPACITY 20 TON 5" STROKE PART CODE H48659
CAPACITY 20 TON 13" STROKE PART CODE H48665

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 YOUR 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.

H 311X000

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 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 service center and that any defective parts, decals or warning labels be replaced with genuine factory parts. A list of authorized service centers is available from the factory.

Damaged Rams. 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 service center.

Operation.

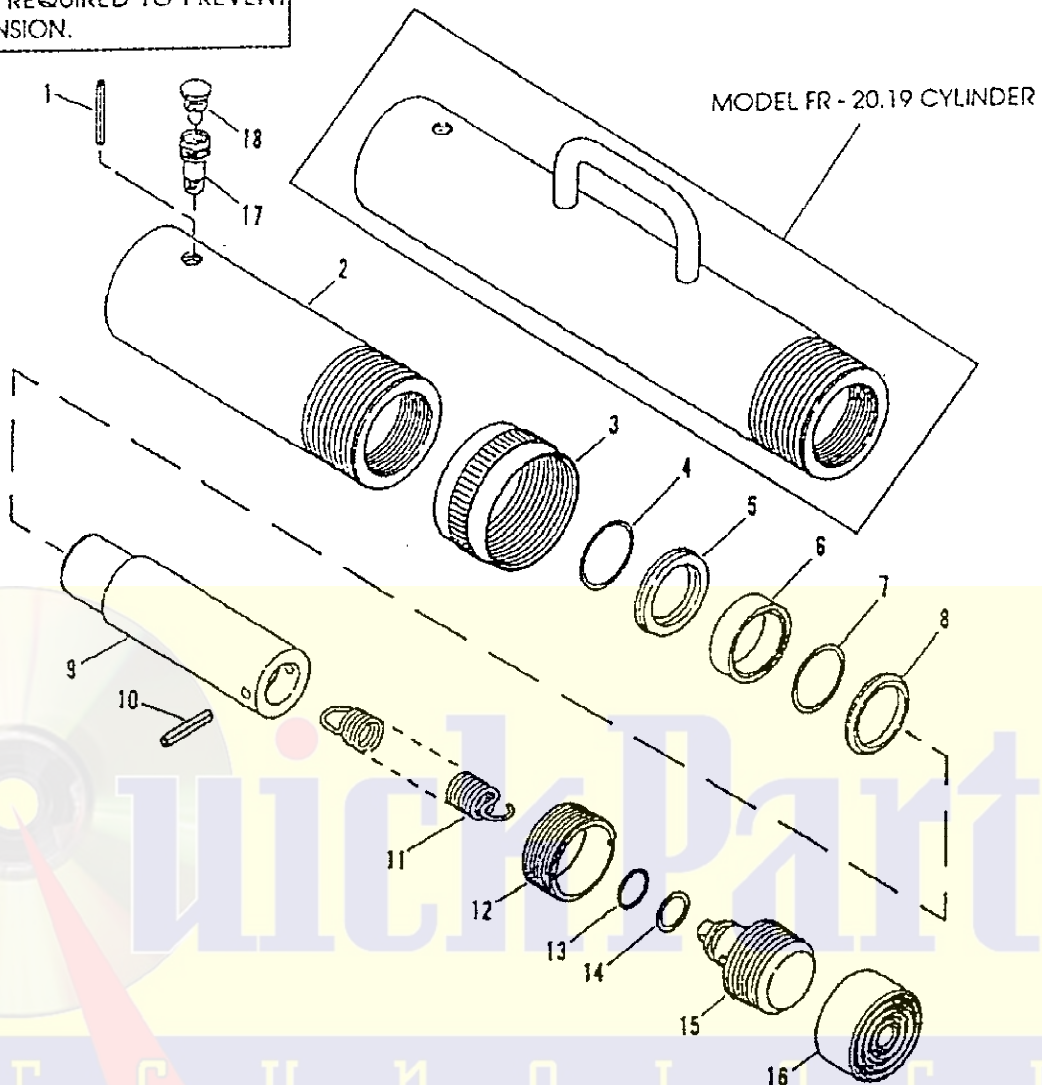
1. Always tighten attachments and extension tubes the full thread provided. Use ram for lifting only. Always support load by appropriate means.
2. Center the load on the ram. Off center loads and loads lifted while ram is not level may damage the ram or cause personal injury.

MAINTENANCE

1. Use only hydraulic jack oil. Never use alcohol or hydraulic brake fluid.
2. Always keep your ram clean.
3. Keep ram fully retracted when not in use.

WARNING

DO NOT LOAD AGAINST INTERNAL STOP.
EXTERNAL STOP REQUIRED TO PREVENT
RAM OVER EXTENSION.



PUSHMASTER HYDRAULIC RAM REPAIR PARTS LIST

ITEM NO.	PART CODE	PART CODE	DESCRIPTION	QTY. REQUIRED
	48659	48665		
1	H2576500	H2576500	Roll Pin	1
2	H0584000	H0585500	Cylinder Weldment	1
3	H6393400	H6393400	Collar Thread Protector	1
4	H2347500	H2347500	Retaining Ring	1
5*	H6482000	H6482000	U - Cup	1
6*	H6481700	H6481700	Back - Up	1
7	H6192000	H6192000	Retaining Ring	1
8	H1987500	H1987500	Stop Ring	1
9	H2012000	H2013500	Ram Plunger	1
10	H6536500	H6536500	Roll Pin	1
11	H2082500	H1987500	Extension Spring	1
12	H2031000	H2031000	Plunger Guide	1
13*	H1629000	H1629000	O - Ring	1
14*	H1630500	H1630500	Back - Up	1
15	H2059500	H2059500	Head Threaded Ram	1
16	H1984500	H1984500	Saddle	1
17	H0563000	H0563000	Quick Coupler	1
18	H4624500	H4624500	Dust Cover	1
19	H3234600	H3234700	Product Decal (not shown)	1
20	H3113000	H3113000	Warning Decal (not shown)	1
21	H6439200	H6439200	Warning Decal (not shown)	1
22	H8080900	H8080900	Repair Kit (not shown)	1

* Included In Repair Kit # H8080900