

TECHNICAL MANUAL
OPERATOR'S ORGANIZATIONAL DIRECT SUPPORT AND
GENERAL SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS LIST
FOR

JACK, DOLLY TYPE, HYDRAULIC

MODEL GH-G

[HEIN-WERNER CORP.]

(NSN 4910-00-516-5806)

HEADQUARTERS, DEPARTMENT OF THE ARMY

JUNE 1981

WARNINGS

1. Do not use Hydraulic Brake Fluid. Use only Hydraulic Fluid NSN 9150-00-252-6378.
2. Use as a lifting unit only. Place safety stands (trestles, motor vehicle) under vehicle before starting work.

**TECHNICAL MANUAL }
NO. 9-4910-701-14&P }**

**HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 19 June 1981**

Operator's, Organizational, Direct Support
and General Support Maintenance Manual
Including Repair Parts List
For
**JACK, DOLLY TYPE, HYDRAULIC
MODEL GH-G
(HEIN-WERNER CORP.)
(NSN 4910-00-516-5806)**

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2, located in the back of this manual direct to: Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished direct to you.

NOTE

This manual is published for the purpose of identifying an authorized commercial manual for the use of the personnel to whom this hydraulic jack is issued.

**Manufactured by: Hein-Warner Corp.
1200 National Ave.
Waukesha, WI 53186**

Procured under Contract No. DAAA09-78-C-5092

This technical manual is an authentication of the manufacturers' commercial literature and does not conform with the format and content specified in AR310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

INSTRUCTIONS FOR REQUISITIONING PARTS

NOT IDENTIFIED BY NSN

When requisitioning parts not identified by National Stock Number, it is mandatory that the following information be furnished the supply officer.

- 1 - Manufacturer's Federal Supply Code Number - 28047
- 2 - Manufacturer's Part Number exactly as listed herein.
- 3 - Nomenclature exactly as listed herein, including dimensions, if necessary.
- 4 - Manufacturer's Model Number - Model GH-G
- 5 - Manufacturer's Serial Number (End Item)
- 6 - Any other information such as Type, Frame Number, and Electrical Characteristics, if applicable.
- 7 - If OO Form 1348 is used, fill in all blocks except 4, 5, 6, and Remarks field in accordance with AR 725-50.

Complete Form as Follows:

(a) In blocks 4, 5, 6, list manufacturer's Federal Supply Code Number - 28047 followed by a colon and manufacturer's Part Number for the repair part.

(b) Complete Remarks field as follows:

Noun: (nomenclature of repair part)
For: NSN: 4910-00-516-5806
Manufacturer: Hein-Werner Corp.

Model: GH-G
Serial: (of end item)

Any other pertinent information such as Frame Number, Type, Dimensions, etc.

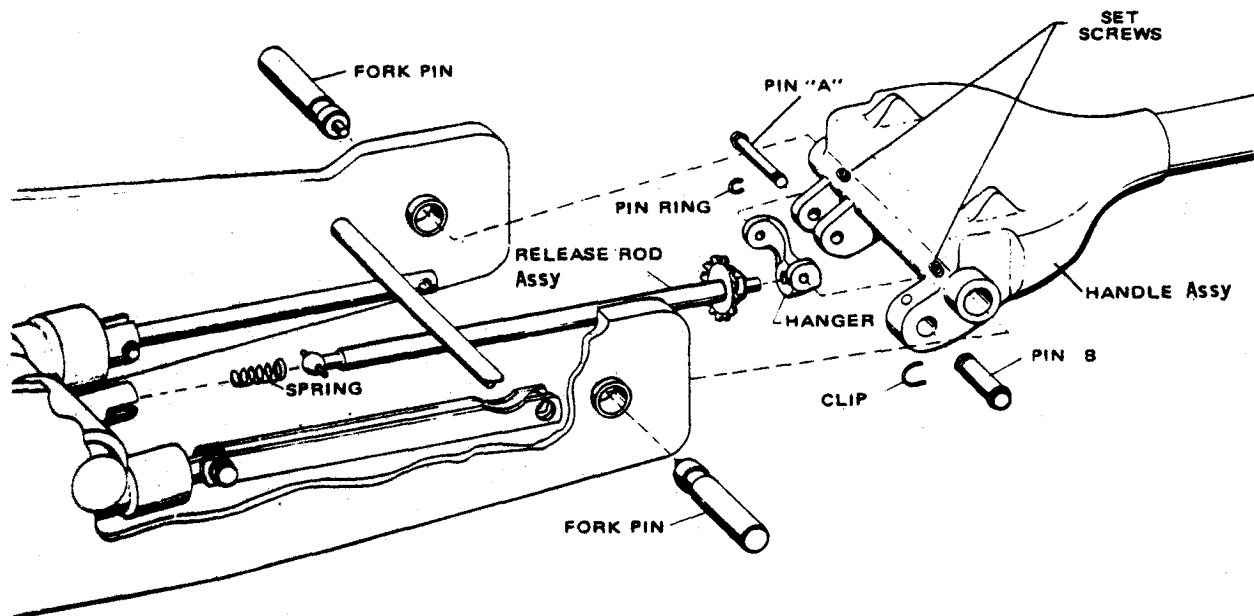
INTRODUCTION

The model GH-G hydraulic dolly type jack is a lifting device with a capacity of 4 ton (8000 lbs.). Designed for maintenance operations on medium heavy equipment, the jack is equipped with dual pistons to enable the operator to reach the load quickly. The handle locks in two separate positions, operates in a full 90° arc, and has all controls located at the handle end for convenient operation.

DIMENSIONAL DATA

Overall width.....	15-7/8"	Frame height.....	7"
Saddle low point.....	5-1/16"	Saddle diameter.....	7-3/8"
Saddle high point.....	95-9/16"	Front wheel diameter.....	4"
Length of chassis.....	18-1/4"	Caster wheel diameter.....	2-16"16"
Length of handle.....	46"	Net weight.....	204 lbs.
Overall length.....	92"°		

HANDLE INSTALLATION INSTRUCTIONS



1. Place handle assembly in position.
2. Insert fork pins, halfway into position.
3. Insert spring, release rod assembly, and hanger.
4. Push fork pins until they engage in holes in hanger.
5. Tighten set screw in handle to lock fork pins in position.
6. Insert pin A and fasten pin rings.
7. Insert pin B and fasten clip.

LUBRICATION INSTRUCTIONS

1. Keep your jack clean and well lubricated. Every part of your jack has been accurately machined and assembled, but frequent lubrication is necessary if you are to obtain the benefit of this quality workmanship. Raise the saddle to full height and oil the surface of the ram often, as well as all moving parts in the handle, the pump piston and the-lifting mechanism.
2. Grease lift arm (4 fittings), handle pivot (1 fitting), wheels and casters (1 fitting each), monthly or more frequently under adverse working conditions.

OPERATING INSTRUCTIONS

WARNING

1. Do NOT USE HYDRAULIC BRAKE FLUID. USE ONLY HYDRAULIC FLUID NSN 9150-00-252-6378,
2. USE AS A LIFTING UNIT ONLY., PLACE SAFETY STANDS (TRESTLES, MOTOR VEHICLE) UNDER VEHICLE BEFORE STARTING WORK,

CAUTION

- 1- DO NOT LOAD JACK BEYOND ITS RATED CAPACITY,
2. USE ON HARD LEVEL SURFACES ONLY,
3. ALWAYS CENTER LOAD ON LIFT SADDLE,

FAILURE TO HEED THESE WARNINGS AND CAUTIONS MAY RESULT IN LOSS OF LOAD, DAMAGE TO EQUIPMENT AND/OR FAILURE RESULTING IN PERSONAL INJURY OR PROPERTY DAMAGE

TO RAISE LOAD

Turn knob at end of handle clockwise to close release valve. Center lift saddle under load and pump handle.

TO RELEASE LOAD

Slowly turn release knob counterclockwise. When not in use, always store jack with ram fully retracted and release valve fully closed.

TROUBLESHOOTING AND REPAIRI. JACK WILL NOT LIFT OR RAISE LOAD

1. Be sure release valve is closed.
2. Sometimes hydraulic jacks become airbound. To correct, place front wheels on 3" block, open the release valve and pump handle eight full 90 strokes.
3. Your jack may be low on oil. See refilling instructions
4. The pump valves may be held open by a foreign particle. To flush valves, open release valve partially (about 1/2 turn of knob), and pump handle several strokes. If this does not clear them, remove the oil filler screw in reservoir to relieve any pressure. Be sure release valve is open. Refer to illustrations on parts page to identify pump valves. Remove pump valves for a thorough cleaning. Also inspect and clean seats. When replacing valves, insert a new No. 11520 Seal, using Seal Tool SS-12 for this purpose.
5. Pump Piston V packings may be worn. If so, oil will leak around one or both pistons. To inspect, remove hydraulic unit as follows. First, remove pins to disconnect both piston links from handle fork. Loosen Allen set screws holding handle pins and slide pins outward sufficiently to remove release hanger, release extension rod and tension spring from release collar. Remove screw and clip from end of ram, and take out unit.

Pull out pistons, keeping piston end of unit up so oil is not lost. Remove packing nuts and inspect "V" packings. If worn, dip new V packings in oil and insert hard ring with flat side down, followed by soft rings with grooved side down, being careful not to damage lips on machined threads. Turn down packing nuts sufficiently to hold "V" packings in position. Dip pistons in oil and insert. Tighten packing nuts to medium pressure.

6. The Release Valve may be held off its seat by a foreign particle. Flush by opening release valve and pumping handle several full strokes. If necessary to clean or inspect release valve, first remove hydraulic unit as described in Instruction 5. Place unit in vise with release valve end up and jaws of vise resting on unit casting. Take out oil level screw at top of unit casting to relieve any pressure in the unit. Turn out release valve by the large hex packing nut. Clean and inspect release seat and tip of release screw. A slight ring on tip of screw is not harmful. A nicked screw should be replaced.

II. IF JACK LOWERS UNDER LOAD

1. The release valve and seat should be flushed and inspected as described in Instruction 6 of Section 1.

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2. There may be dirt under the discharge ball in one of the pump valves. These should be flushed or cleaned as suggested in Instruction 4 of Section 1. When this condition exists, the handle raises as the saddle lowers.
3. The ram leather cup may be worn. This is likely only in jacks given very heavy service. To inspect this cup, first remove hydraulic unit from chassis (see Instruction 5). Place unit in vise so ram end is up and jaws of vise rest on unit casting. Remove 18335 Ram Packing Nut. Remove 18285 End Nut Casting and pull out ram by hand. Inspect ram cup and install new one if worn. Dip new cup in oil before inserting ram into cylinder, taking care not to damage leather. When reassembling, place a thin coat of shellac on end of reservoir tube and firmly tighten down end nut. Inspect ram packings and replace if worn. Tighten down packing nut to medium pressure.

III. IF JACK WILL NOT LIFT FULL FOUR TON CAPACITY

1. Release screw may be worn. See instruction 6 of Section 1.
2. Ram cup leather may be worn. See Instruction 3 of Section II.
3. Discharge ball in high pressure pump valve may not be seating properly. See Instruction 4 of Section 1.

IV. SAFETY VALVE SETTING

1. The Model GH-G is protected by a safety valve against damage through overloading. This valve is carefully set before leaving the factory and no further adjustment should be necessary.

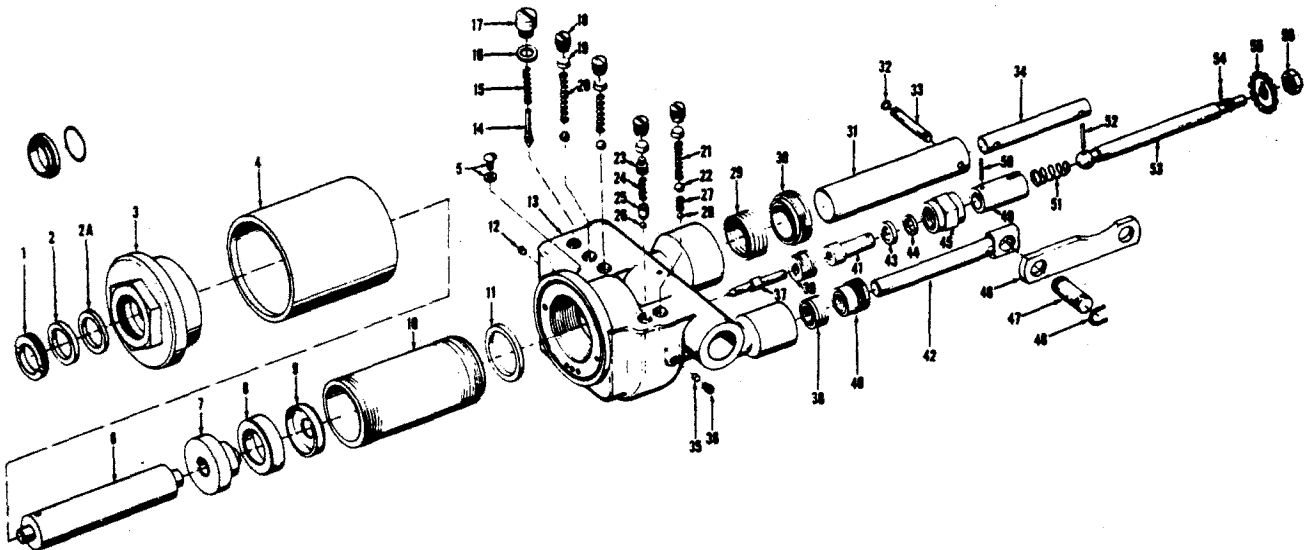
V. REFILLING INSTRUCTIONS

1. If your jack does not raise to full height, it is probably low on oil. Be sure release valve is open and saddle down ; then slowly remove the filler screw from unit marked Oil Level . Refill through filler hole until oil reaches top of oil level hole. Use only specified hydraulic fluid and be sure no dirt enters the unit.

MODEL GH-G HYDRAULIC JACK REPAIR PARTS LIST

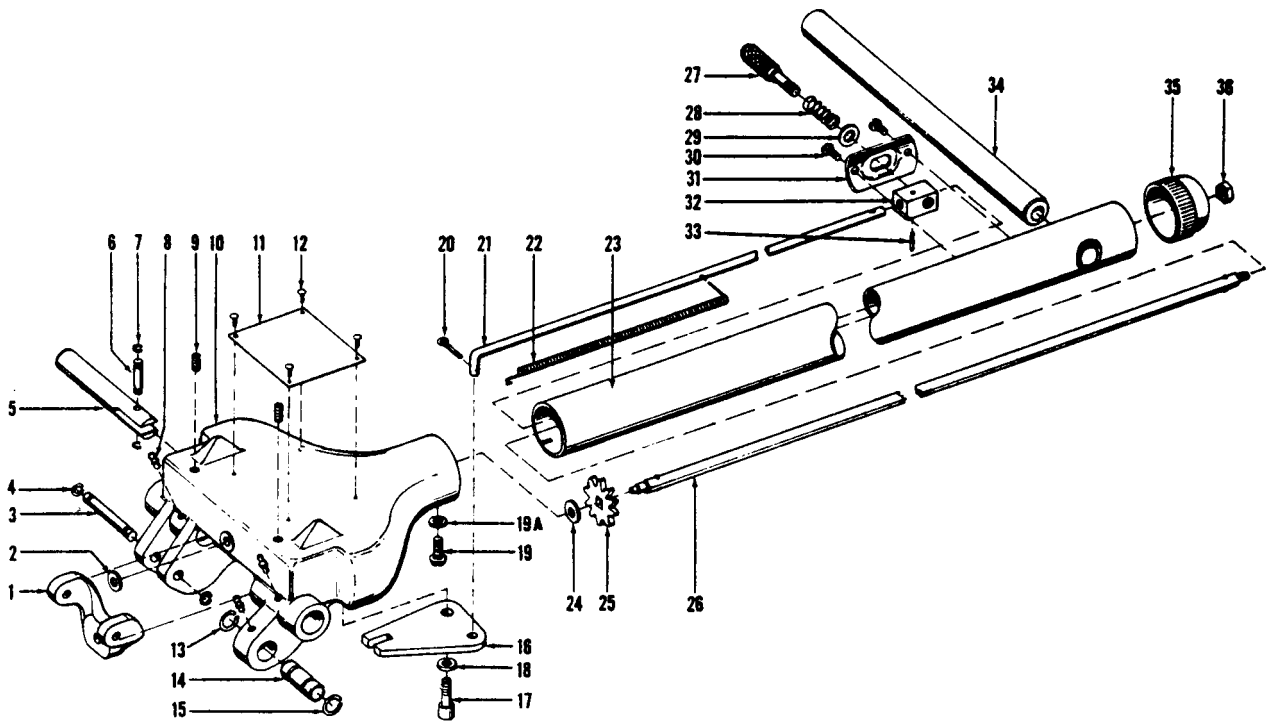
UNIT ASSEMBLY

ITEM NO.	DESCRIPTION	ITEM NO.	PART NO.	Description
1	Ram Packing Nut	27	2185	Spring
2	Ram Packing	28	2675	Ball
2A	Ram Packing	29	18015	V Packing
3	End Nut	30	18110	Packing Nut
4	Reservoir Tube	31	18020	Piston
5	4605 Filler Screw w/Washer	32	12415	Pin Ring
	Ram Assembly	33	9285	Pin
6	Ram	34	18080	Piston Link
7	Spacer	35	7345	Seal
8	U Cup	36	3580	Plug
9	Cup Retainer	37	25135	Release Valve
10	Cylinder	38	18055	V Packing
11	Seal	39	24865	Release Valve Stop
12	1/8-27 Allen Pipe Plug	40	18125	Packing Nut for 11/16" Piston
13	Unit Body	41	17950	Release Valve Stud
14	Cut-Out Valve	42	18065	Piston 11/16" Diameter
15	Spring	43	24795	Thrust Washer
16	Washer	44	24540	Release Valve Packing
17	Cut-Out Valve Plug	45	24715	Release Valve Box
	HS Pump Valves	46	80	Link - Set of 2
	HP Pump Valves	47	17465	Pin - Set of 2
18	Plug	48	16810	Clip
19	Seal	49	18205	Collar w/170-2 Pin
20	Spring	50	6665	5/32" Diameter x 1-1/8" Lg. Pin
21	Spring	51	16020	Spring
22	Ball	52	25965	3/16" Diameter x 1" Lg. Roll Pin
23	Adjusting Screw	53	18330	Release Rod Extension
24	Safety Valve Spring	54	17835	Pin
25	Spring Cap	55	23675	Gear w/GA466 Pin
26	Ball	56	26855	9/16-18 Reg. Hex Jam Nut



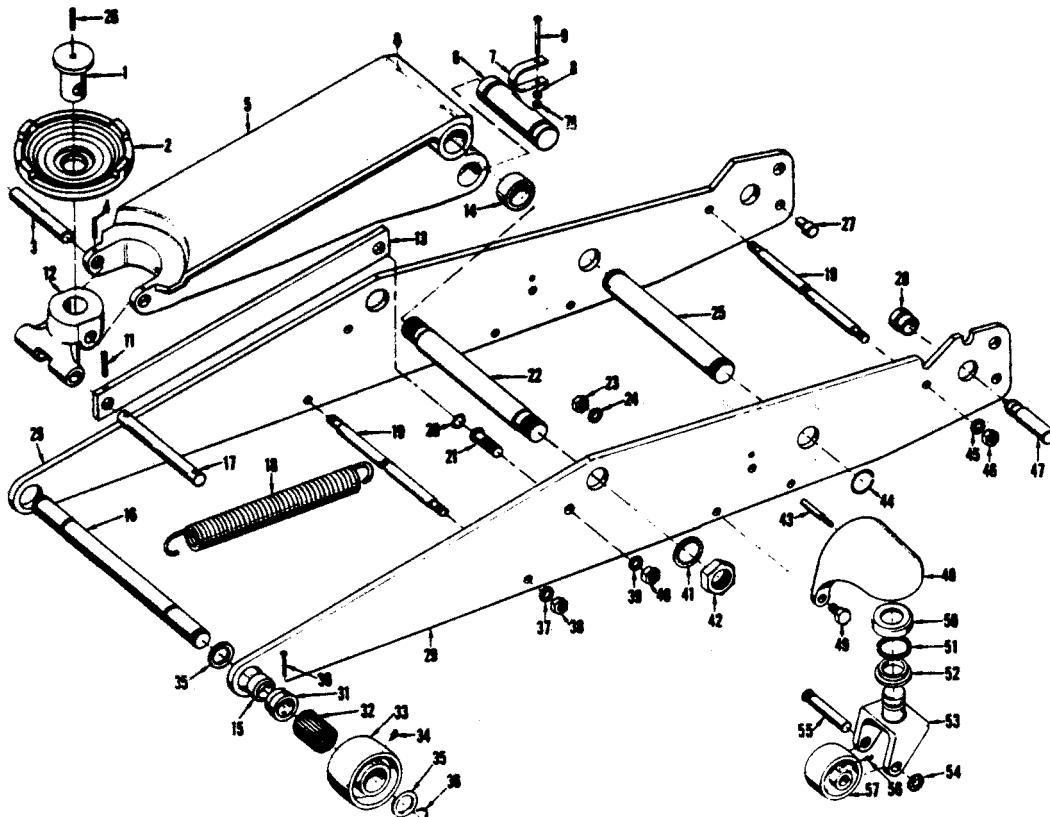
HANDLE ASSEMBLY FOR MODEL GH-G

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
	5243	Handle Assembly Complete	19	26524	5/16-18 x 1/2 Rd. Hd. Screw
1	17985	Release Rod Hanger	19A	26632	5/16 SAE Lockwasher
2	23715	7/32 x 1/2 x 1/16 Washer	20	25290	1/16 x 1/2 Cotter Pin
3	9285	Pin w/2-3898 Pin Rings	21	18170	Quadrant Rod
4	12415	Pin Ring	22	17810	Control Spring
5	18090	Quadrant Lock	23	5220	Handle Pipe w/Grip
6	1745	Pin w/389 Rings	24	23865	Washer
7	12165	Pin Ring	25	23625	Release Gear
8	9750	Drive Fitting	26	18210	Release Rod
9	26470	5/16-18 x 3/8 Socket Hd. SS	27	17715	Control Knob
10	18140	Handle Fork	28	17765	Spring
11	61171	Name Plate	29	23865	Washer
12	14945	No. 6 x 1/4 Type U Drive Screw	30	60153	No. 10 x 1/4 Sheet Metal Screw
13	16810	Clip	31	17430	Latch Plate
14	17465	Pump Link Pin w/Clip (Set of 2)	32	17690	Catch Block
15	16810	Clip	33	17735	Rivet
16	17450	Quadrant Lever	34	17850	Grip
17	18185	Screw	35	17920	Release Knob
18	2095	3/8-1220 Shakeproof Washer	36	25480	1/4-28 Hex Jam Nut



CHASSIS ASSEMBLY FOR MODEL GH-G

ITEM NO.	PART NO.	DESCRIPTION	ITEM NO.	PART NO.	DESCRIPTION
1	64146	Saddle Pin	30	0955	Rivets
2	8630	Saddle	31	61166	Front Axle Bushing
3	64141	Pin	32	17385	Rollers - Set of 24
4	25960	1/8 Diameter x 1-1/4 Lg. Roll Pin	33	6905	Front Wheels (2) w/Rollers & Washers
5	64145	Lift Arm w/4 Grease Fittings	34	9750	Drive Fitting
6	17955	Pin	35	17755	Washers
7	17886	Clip	36	17670	Retaining Rings
7A	25540	1/4-28 Hex Nut	37	2166	Shakeproof Lockwashers
8	25790	Washer	38	26335	1/2-13 Reg. Hex Jam Nuts
9	25516	1/4-28 Round Head Machine Straw	39	64136	Shakeproof Lockwasher
11	64129	Roll Pin	40	64135	7/8-14 Rag. Hex Jam Nut
12	64143	Saddle Holder	41	27066	Shakeproof Lockwashers
13	64134	Parallel Link	42	26895	1-3/8-12 Reg. Hex Jam Nuts
14	18310	Spacer	43	17870	Retaining Pin
15	64132	Spacer (2 Req'd)	44	17670	Retaining Rings
16	64130	Front Axle	45	2166	Shakeproof Lockwashers
17	64131	Pin	46	25335	1/2-13 Rag. Hex Jam Nuts
18	17640	Return Spring	47	18630	Fork Pins
19	64137	Tie Rod		6235	Caster Assembly
20	21760	Snap Rings	48	18135	Caster Bracket
21	64138	Studs	49	64127	Hex Hd. Cap Screw
22	61164	Main Pin	50	17660	Outer Race
23	25335	1/2-1 3 Rag. Hex Jam Nuts	51	2630	Ball for Caster (Sat of 22)
24	2156	Shakeproof Lockwashers	52	17875	Inner Race
25	64140	Unit Shaft	53	16075	Caster Fork
	25960	Roll Pin	54	25447	Push Nut
	64138	Handle Stop	55	18225	Caster Axle
	19610	Handle Bushing	56	9750	Drive Fitting
	64133	Side Bar (2 Req'd)	57	17980	Caster Wheel
			58	55313	Safety Decal (Not Shown)



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Maintenance Manual for Hydraulic Jack-Model GH-G

BE EXACT. PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.
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3

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

Does not instruct to replace pin C removed during disassembly p. 14, paragraph 2.

SAMPLE

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