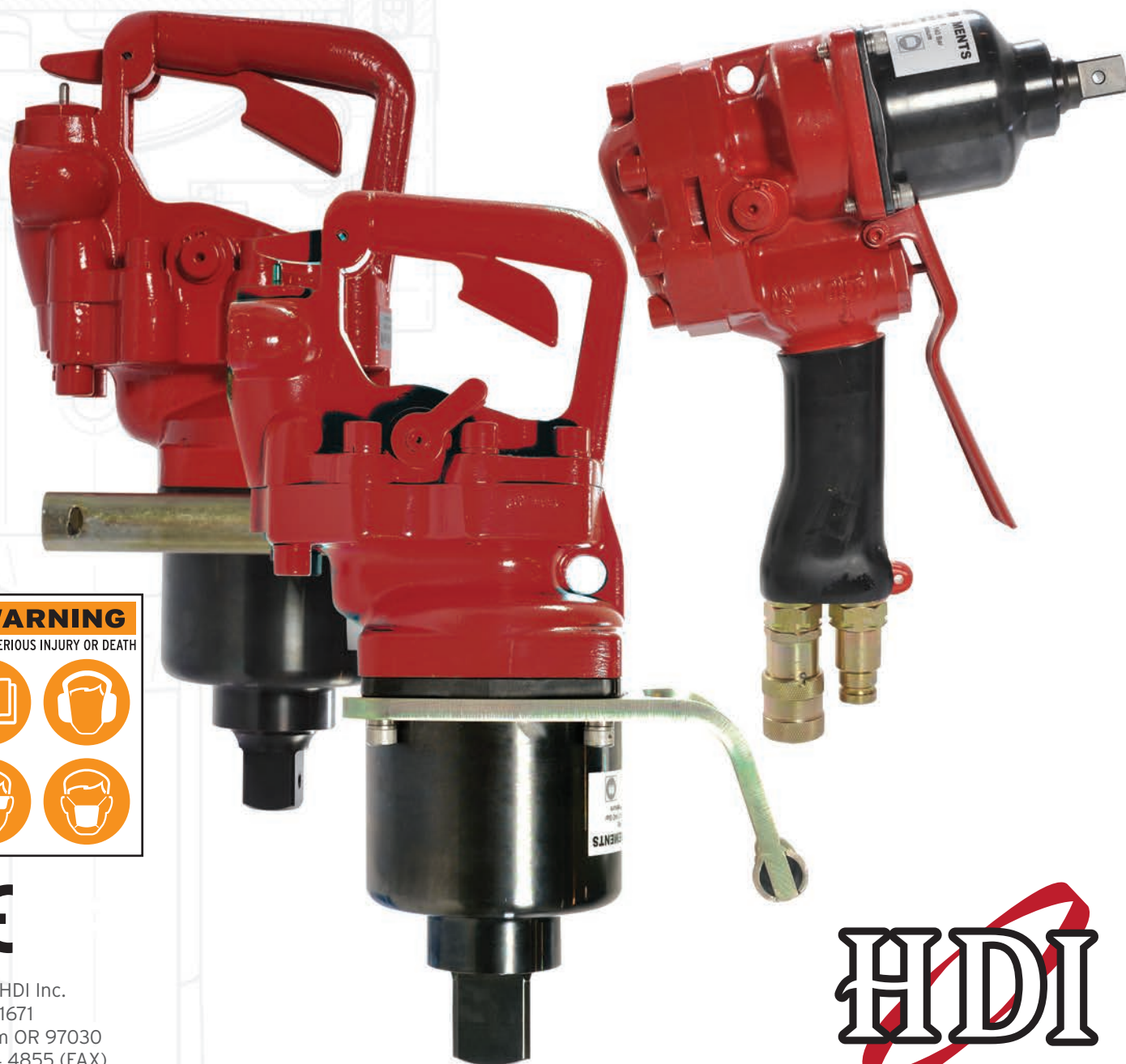


# HDI-IPW

## HYDRAULIC IMPACT WRENCHES

### Operators' Guide



CE

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PO Box 1671  
Gresham OR 97030  
206 274 4855 (FAX)

HDI

# SAFETY PRECAUTIONS

## INTRODUCTION

READ THESE INSTRUCTIONS COMPLETELY BEFORE USING THIS TOOL.

The operator **MUST** read and understand these instructions and precautions before using or conducting any maintenance and/or repairs with the tool. Failure to do so may result in injury to the operator and/or damage to the equipment.

Users insufficiently informed on safe usage put themselves and others at risk.

The safety precautions noted in this manual and on any stickers, tags, or labels attached to the tool are for the safety of the operator and maintenance personnel. They must be complied with at all times.

Operators should heed any and all safety measures relating to local regulations and the particular work area. Please list any applicable measures in the area provided on page 6.

## SAFETY RULES

- 1.** DO NOT use the tool if unfamiliar with the safe operation and handling of the tool
- 2.** DO NOT use the tool while under the influence of alcohol, drugs, medication, or other substances that may impair concentration, vision, or dexterity.
- 3.** The tool is engineered to provide safe and reliable service when operated as recommended in this manual.
- 4.** DO NOT use the tool unless experienced in the use of hydraulic impact wrenches. First time users should be thoroughly trained and guided under the supervision of an experienced and responsible user. It is strongly recommended that a proper training program be implemented for all first-time users.
- 5.** DO NOT use the tool unless the working site is clear of other workers or personnel. Anyone in the vicinity or approaching the working site must wear proper safety equipment. Flying parts may cause serious injury or death.

- 7.** PROPER SAFETY EQUIPMENT is essential at all times when using the tool. This includes, but is not limited to, safety goggles, ear and head protection, safety shoes or boots with steel toes and non-skid soles, gloves and aprons.
- 8.** DO NOT use the tool in restricted or prohibited work areas, including extreme grades or unstable ground. The user must maintain proper balance and stability at all times.
- 9.** DO NOT clean or inspect the tool unless the hydraulic power source is disconnected. Serious injury can occur with accidental activation.
- 10.** BEFORE ACTIVATING the hydraulic power source, be certain all hoses are connected to the tool hose couplers. Also be certain every hose connection is secure and in proper condition.
- 11.** DO NOT use the tool if it is damaged, improperly adjusted, improperly maintained, or improperly assembled.
- 12.** DO NOT use the tool if oil temperatures exceed 140 degrees Fahrenheit/60 degrees Celsius. Activating the tool at temperatures exceeding these limits can cause user discomfort.
- 13.** DO NOT allow loose clothing or long hair near the tool. They can become tangled with parts rotating at high velocity and cause serious injury.
- 14.** ONLY use parts and accessories that conform to the standards of the tool as specified in these instructions.
- 15.** IMPORTANT: If the power supply is interrupted, immediately release the trigger.
- 16.** DO NOT change the fluid flow direction to reverse the rotation of the tool.
- 17.** USE EXTREME CAUTION when working near electrical conductors. Under all circumstances assume that conductors are live and that insulation, clothing, and hoses can transmit electricity. Only use certified hoses bearing a label stating that they are non-conductive.

ONLY AUTHORIZED AND TRAINED PERSONNEL MAY REPAIR, MAINTAIN, OR SERVICE THE TOOL. PERSONAL INJURY OR EQUIPMENT DAMAGE MAY OCCUR OTHERWISE.

# OPERATION

## BEFORE OPERATION

### CHECK POWER SOURCE

1. Make certain that the hydraulic power source is equipped with a relief valve set to 2000 PSI.
2. Check that the hydraulic power source with a calibrated flow meter and pressure gauge.
3. Confirm that the hydraulic circuit matches the tool for open-center (oc) operation.
4. FOR UNDERWATER TOOLS: After each use, be sure to lubricate with waterproof grease and to clean the wrench impact mechanism.

### CONNECT HOSES

1. Always use a clean, lint-free cloth to clean the couplers before making a connection.
2. Connect hoses to the hydraulic power source first, then to the tool's fittings or quick disconnects. Connecting the return hose first and disconnecting it last will reduce trapped pressure within the tool.
3. Be sure that the flow is going in the proper direction by inspecting the flow indicators on the body of the tool and the hose couplers. The inlet coupler is the female couple on the "IN" port.

## OPERATION

1. IMPORTANT: Observe all Safety Precautions.
2. Always use approved sockets and accessories designed for impact type applications. DO NOT USE STANDARD SOCKETS OR ACCESSORIES. THESE CAN CRACK OR FRACTURE DURING OPERATION.
3. Using the reversing valve on the side of the tool, choose the upper position for clockwise and the downward position for counter-clockwise.

*Note: To more accurately tighten bolts, lubricate threads, check with a torque wrench and duplicate time of impacting for other bolts of the same length and thread size.*

4. Squeeze the trigger to start.
5. Release the trigger to stop.

### *COLD WEATHER USE*

Be sure to preheat the hydraulic fluid in cold weather at low engine speed. Fluids should be at or above 50° Fahrenheit/10° Celsius (400 ssu/82 centistokes) before operating the wrench. Hydraulic fluid that is too viscous or thick can damage the tool and/or hydraulic system.

### **CARE AND PROTECTION**

- 1.** Keep all warning labels, stickers and tags clearly visible.
- 2.** Wipe clean all couplers before any connections are made.
- 3.** The hydraulic circuit control valve must be in the "OFF" position when coupling or uncoupling hydraulic tools. Damage to the quick couplers and/or overheating of the hydraulic system may otherwise occur.
- 4.** Store the tool in a clean dry space.
- 5.** Make sure that all ports are properly connected. The circuit pressure hose must always be connected to the "IN" port. The circuit return hose must always be connected to the opposite port. Reversing circuit flow can cause failure of internal seals.
- 6.** Always maintain the correct flow rate. Exceeding the rated flow can result in failure of internal seals.
- 7.** Make sure that all recommended pressure relief valves are connected.
- 7.** Always check back pressure at tool return port. Maximum back pressure is 250 PSI. Exceeding 250 PSI will cause premature shaft seal failure

ONLY TRAINED AND EXPERIENCED PERSONNEL SHOULD PERFORM ANY NECESSARY MAINTENANCE AND/OR REPAIR.



# IPW12M

## 3/4" DRIVE HYDRAULIC IMPACT WRENCH



The IPW12M heavy duty impact wrench produces up to 1200 ft/lbs of impact torque

### IPW12M 3/4" DRIVE IMPACT WRENCH SPECIFICATIONS

Drive	3/4 in Square Drive	1.9 cm
Output Energy	250-1200 ft lb	350-1625 Nm
System	Open Center	
Hydraulic Flow Range	5-12 gpm	20-45 lpm
Weight	14 lb	6.4 kg
Length	9.5 in	241 mm
Width	4 in	100 mm
Maximum Pressure	2000 psi	138 bar
Maximum Back Pressure	250 psi	17 bar
Porting	-8 SAE O-ring	



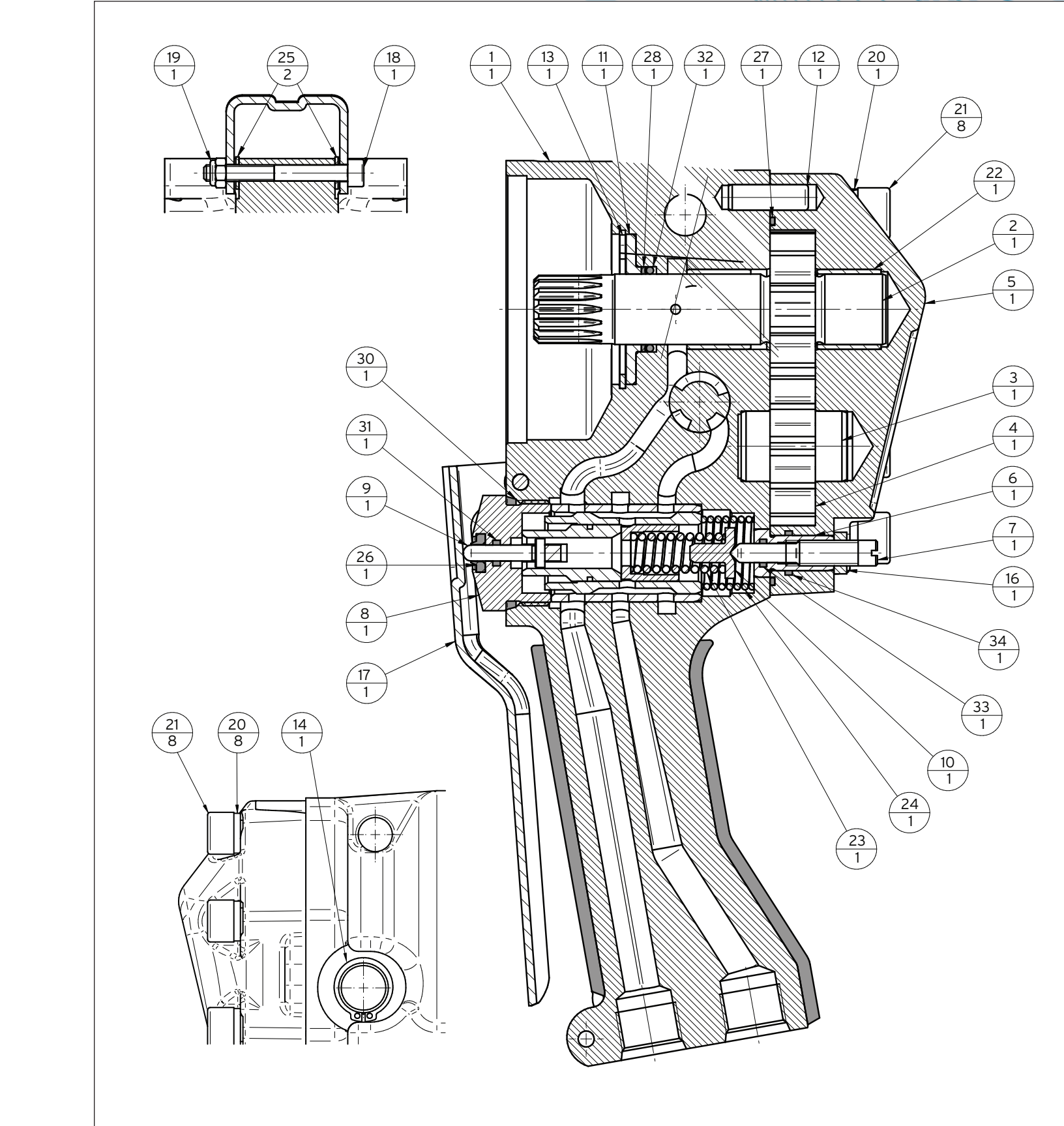
## PART NUMBERS AND REPAIR KITS

ONLY TRAINED AND EXPERIENCED PERSONNEL SHOULD PERFORM ANY NECESSARY MAINTENANCE AND/OR REPAIR.

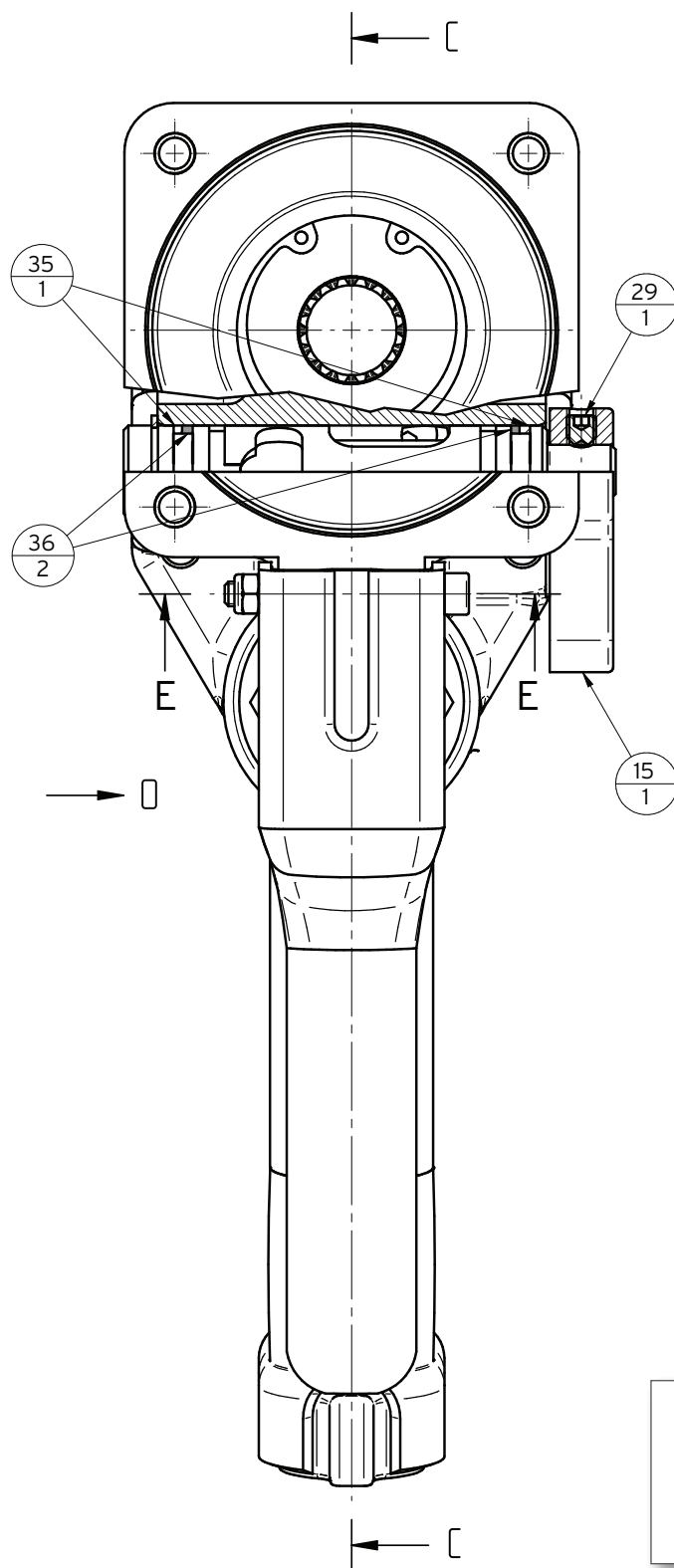
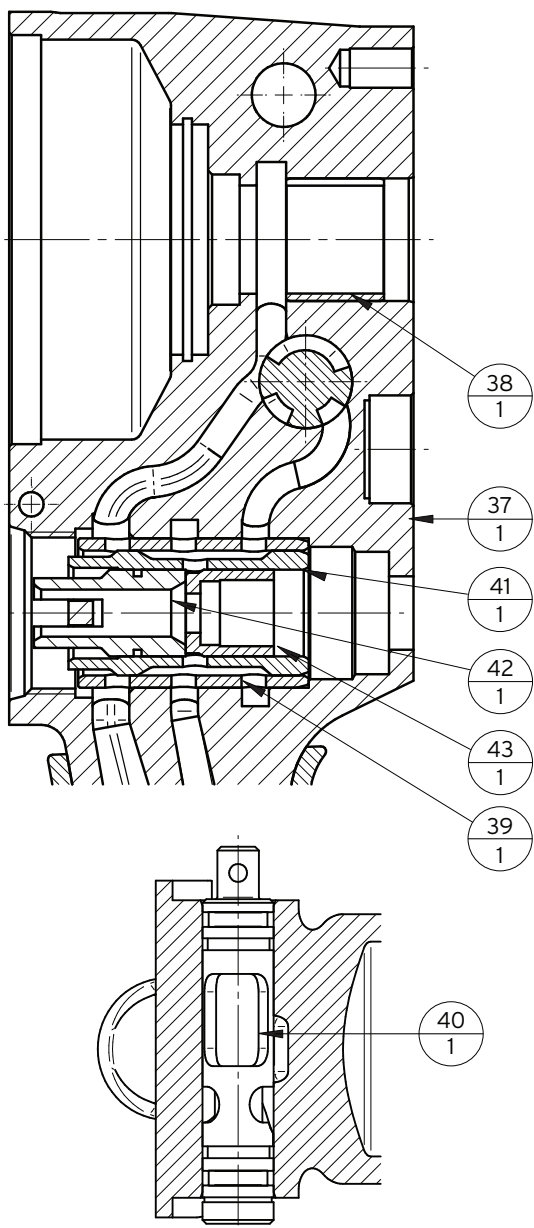
Item #	Description	Qty	P/N			
1	Full Body Handle Assembly	1	1898006			
2	Drive Gear	1	1891025			
3	Stud Driven Gear	1	1891024			
4	Full Driven Gear	1	1898008			
5	Cover	1	1891015			***
6	Bush Adjusting Screw	1	1891020			
7	Adjusting Screw	1	1891019			
8	Nut Valve	1	1891017	*		
9	Trigger Pin	1	1891018	*		
10	Support Spring	1	1891021			
11	Cover Shaft Seal	1	1891023		**	***
12	Pin	1	1891022			
13	Retaining Ring 47	1	4550430			
14	Retaining Ring 19	1	1891035			
15	Reverse Lever	1	0009039			
16	Nut 8nn	1	1891026			
17	Trigger	1	1891002			
18	Screw M5 X 45	1	1891041			
19	Nut M5	1	1891043			
20	Washer 10	8	1891040			
21	Screw M10 X 40	8	1891039			
22	Bushing 2220 DU	1	1891006			***
23	Spring	1	1891001			
24	Spring	1	1891000			
25	Washer 5.3	2	1891042			
26	Wiper PW5/S	1	1891032	*	**	
27	O-Ring 86 X 2	1	1891030		**	***
28	Back Up Ring 22,68 X 2.18 X 1.4	1	1891029		**	***

Item #	Description	Qty	P/N			
29	Screw 1/4-20 X 1/4	1	1891038			
30	O-Ring 29.6 X 2.9	1	1891033	*	**	
31	O-Ring 4.5 X 1.8	1	1891034	*	**	
32	O-Ring 22 X 2.5	1	1891028		**	***
33	O-Ring 6 X 1.8	1	1891027		**	***
34	O-Ring 11 X 1.8	1	1891031		**	***
35	Back Up Ring 16 X 19 X 1.4	2	1891037		**	***
36	O-Ring 15 X 2	2	1891036		**	***
37	Pistol Grip Handle Dipped	1	1898005			
38	DU Bushing	1	1891006			***
39	Valve Sleeve	1	1891009			
40	Reverse Spool	1	1891008			
41	Valve Spool	1	1891007			
42	Relief Seat	1	1891012			
43	Relief Poppet	1	1891013			
REPAIR KITS						
	O-RING 28,3x1,78 (-025 AS568)	1				
	O-RING 75,92x1,78 (-042 AS568)					
	Rebuild Kit		1899507			***
	Seal Kit		1899504		**	
	Trigger Nut Kit		1899505	*		***
	Assist Handle					
	Couplers					
	Impact Mech					

## PART NUMBERS



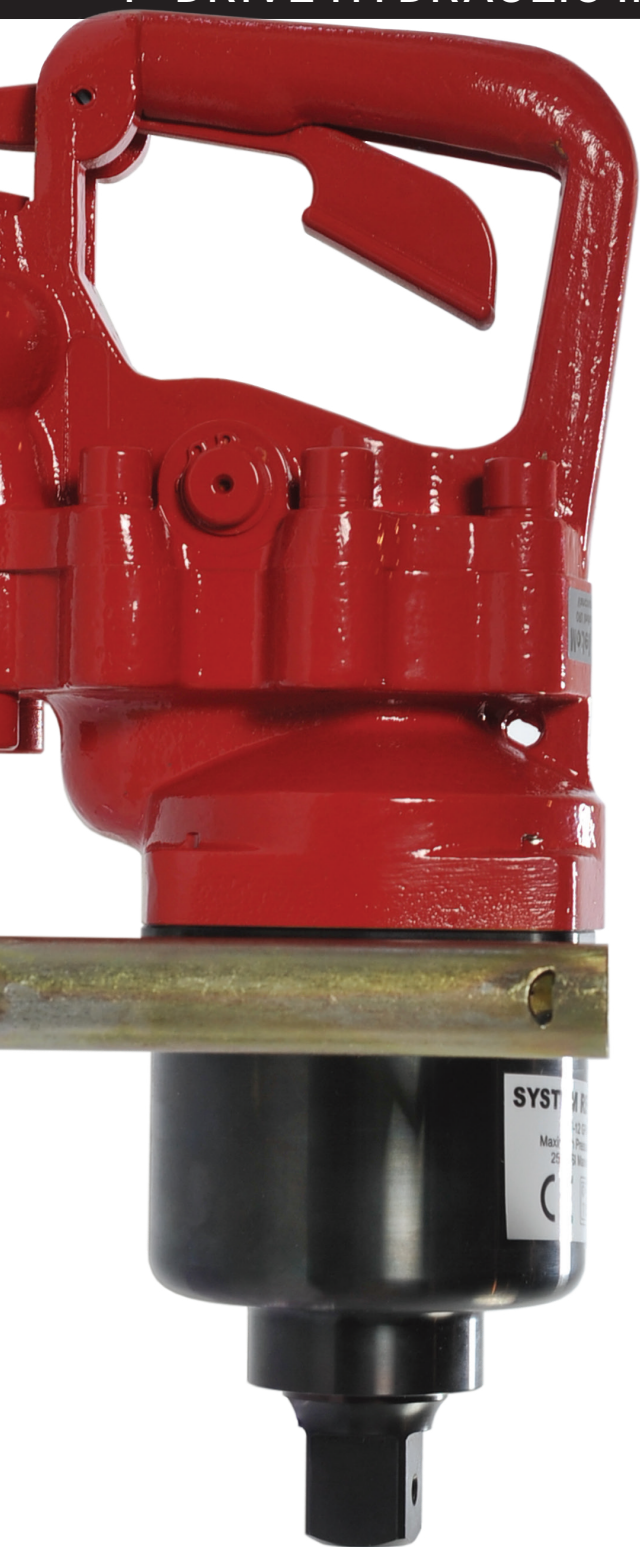




IPW12M  
3/4" DRIVE  
HYDRAULIC  
GRINDER

# IPW16M

## 1" DRIVE HYDRAULIC IMPACT WRENCH



The IPW16M heavy duty impact wrench produces up to 2500 ft/lbs of impact torque

### IPW16M 1" DRIVE IMPACT WRENCH SPECIFICATIONS

Drive	1 in Square Drive*	1.9 cm
Output Energy	500-2500 ft lb	675-3400 Nm
System	Open Center	
Hydraulic Flow Range	7-12 gpm	25-45 lpm
Weight	26 lb	12 kg
Length	14.5 in	370 mm
Width	4.5 in	110 mm
Maximum Pressure	2000 psi	138 bar
Maximum Back Pressure	250 psi	17 bar
Porting	-8 SAE O-ring	



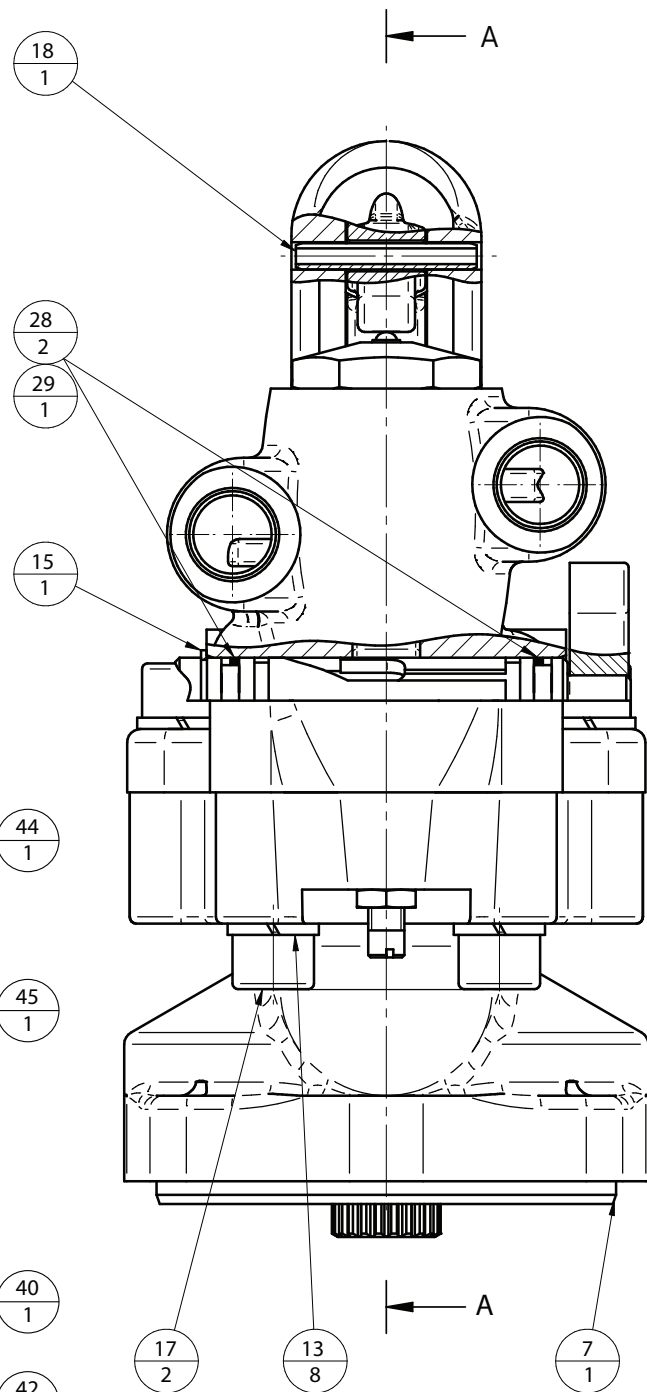
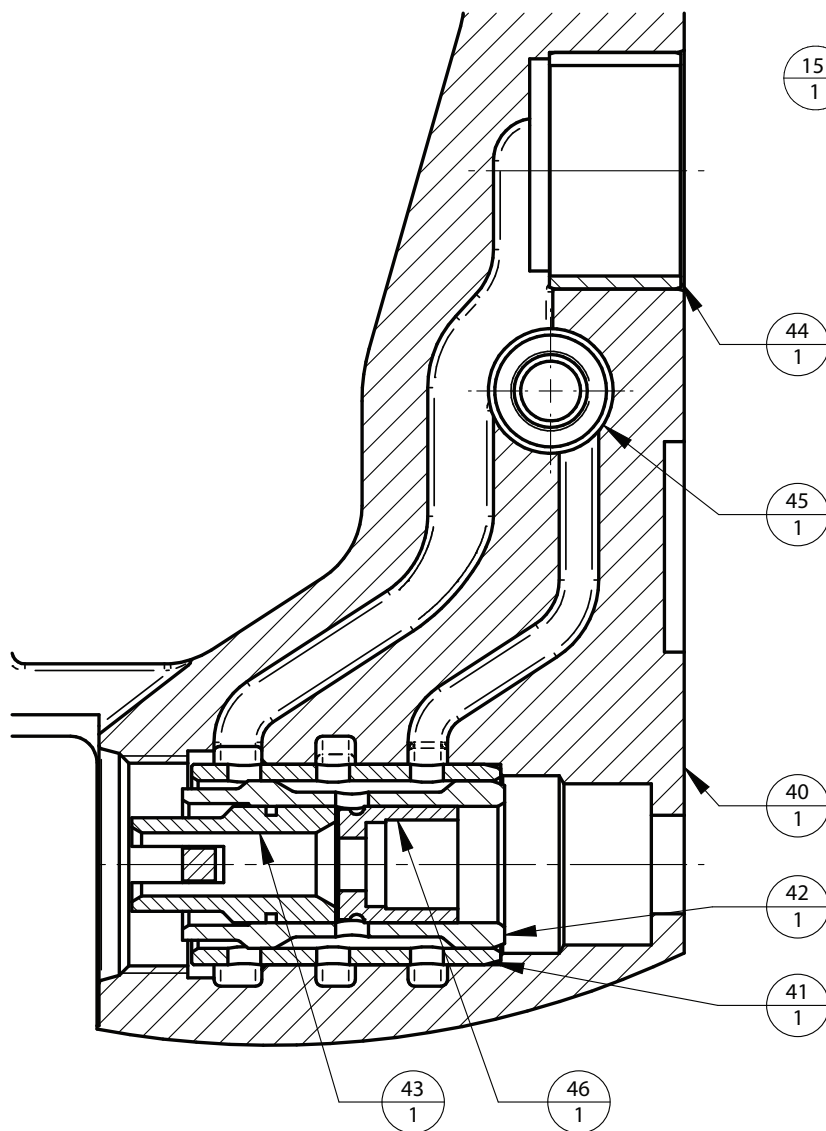
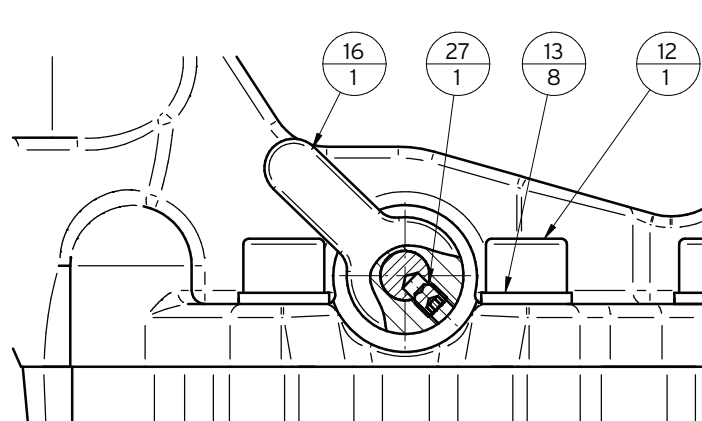
## PART NUMBERS AND REPAIR KITS

ONLY TRAINED AND EXPERIENCED PERSONNEL SHOULD PERFORM ANY NECESSARY MAINTENANCE AND/OR REPAIR.

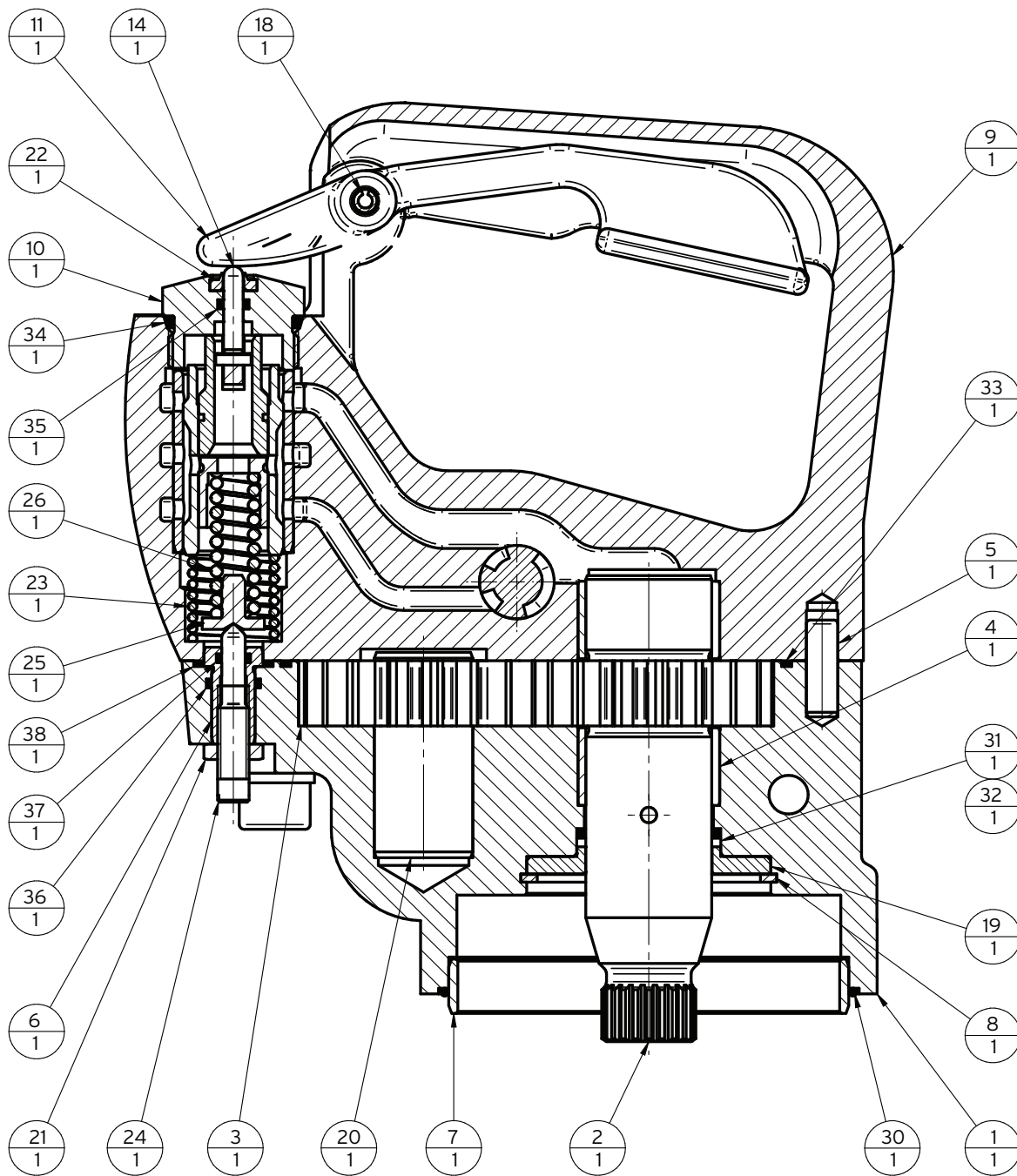
Item #	Description	Qty	P/N			
1	Motor Housing	1	1891064			
2	Drive Gear	1	1891065			
3	Full Driven Gear	1	1898013			
4	BUSHING	1	1891022			
5	PIN	1	1891015			
6	Bush Adjusting Screw	1	1891020			
7	Hollow Dowel	1	1891066			
8	Retaining Ring 62	1	4550240			
9	Handle Assy	1	1898012			
10	Nut Valve	1	1891017			
11	Trigger	1	0009014			
12	Screw M12x45	6	1891072			
13	Washer 12	8	1891070			
14	Trigger Pin	1	1891018			
15	Retaining Ring 19	1	1891035			
16	Reverse Lever	1	0009039			
17	Screw M12x55	2	1891071			
18	Roll Pin	1	1891069			
19	Cover Shaft Seal	1	1891067			
20	Stud Driven Gear	1	1891068			
21	Nut M8	1	1891026			
22	Wiper PW5/S	1	1891032			
23	Spring	1	1891056			
24	Adjusting Screw	1	1891019			
25	Support Spring	1	1891021			
26	Spring	1	1891057			
27	Screw 1/4-20UNCx1/4	1	1891038			
28	O-Ring 15X2	2	1891036			

Item #	Description	Qty	P/N			
29	Back-Up Ring 16X19x1,4	2	1891037			
30	O-Ring 103X2	1	1891073			
31	O-Ring 32X2,5	1	1891074			
32	Back-Up Ring 32,21X2,18x1,4	1	1891075			
33	O-Ring 105X2	1	1891076			
34	O-Ring 29,6X2,9	1	1891033			
35	O-Ring 4,5X1,8	1	1891034			
36	O-Ring 11X1,8	1	1891031			
37	O-Ring 6X1,8	1	1891027			
38	O-Ring 16,5X2	1	1891077			
39	Helicoil Screw-Lock	4	1891078			
40	Valve Handle	1	1891058			
41	Valve Sleeve	1	1891009			
42	Valve Spool-Open	1	1898007			
43	Relief Seat	1	1891012			
44	Bushing	1	1891061			
45	Reversing Spool	1	1891060			
46	Relief Poppet	1	1891059			
REPAIR KITS						

# PART NUMBERS







**IPW16M  
1" DRIVE  
HYDRAULIC  
GRINDER**

# IPW24M

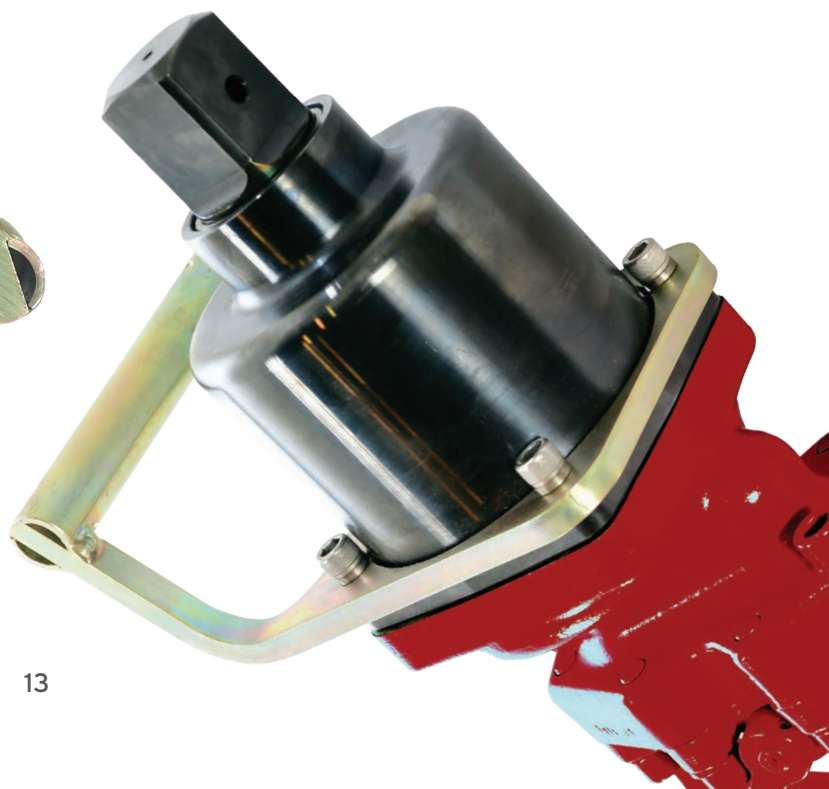
## 1 1/2" DRIVE HYDRAULIC IMPACT WRENCH



The IPW24M heavy duty impact wrench produces up to 3500 ft/lbs of impact torque

### IPW24M 1 1/2" DRIVE IMPACT WRENCH SPECIFICATIONS

Drive	1 1/2in Square Drive*	1.9 cm
Output Energy	750-3500 ft lb	1000-4750 Nm
System	Open Center	
Hydraulic Flow Range	7-12 gpm	25-45 lpm
Weight	26 lb	12 kg
Length	14.5 in	370 mm
Width	4.5 in	110 mm
Maximum Pressure	2000 psi	138 bar
Maximum Back Pressure	250 psi	17 bar
Porting	-8 SAE O-ring	

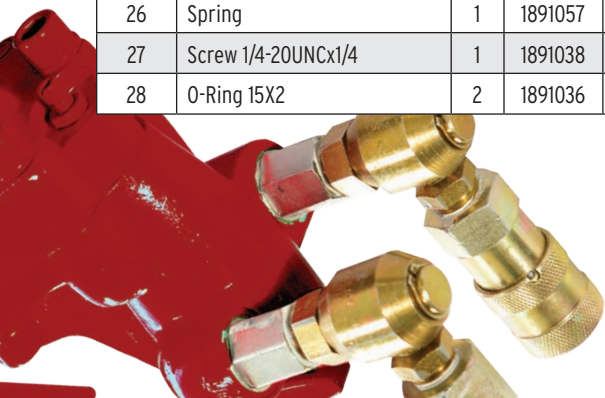


## PART NUMBERS AND REPAIR KITS

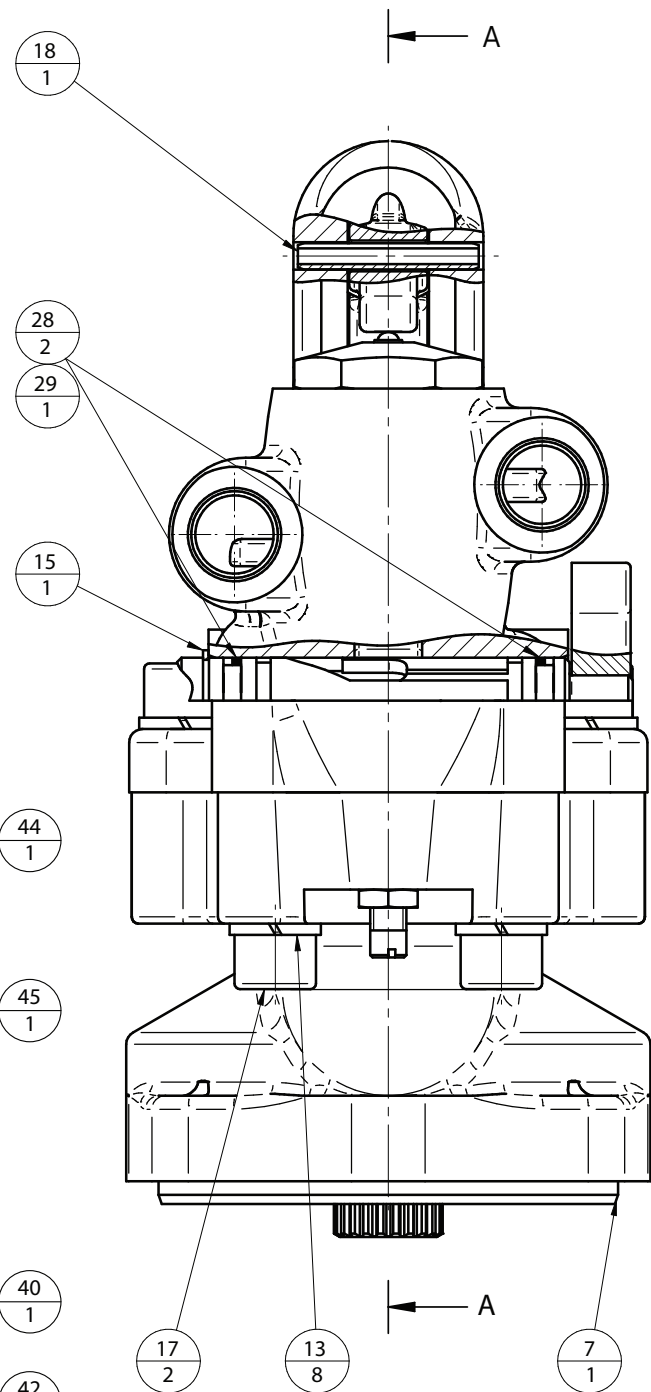
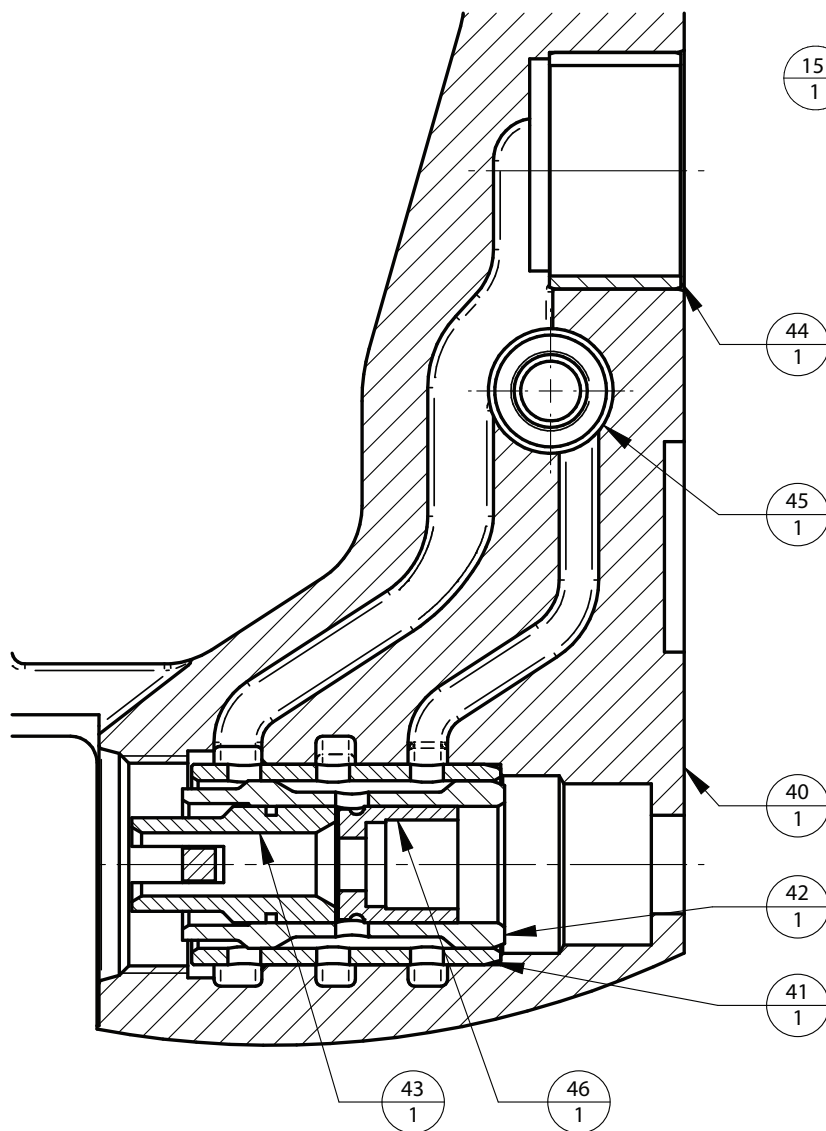
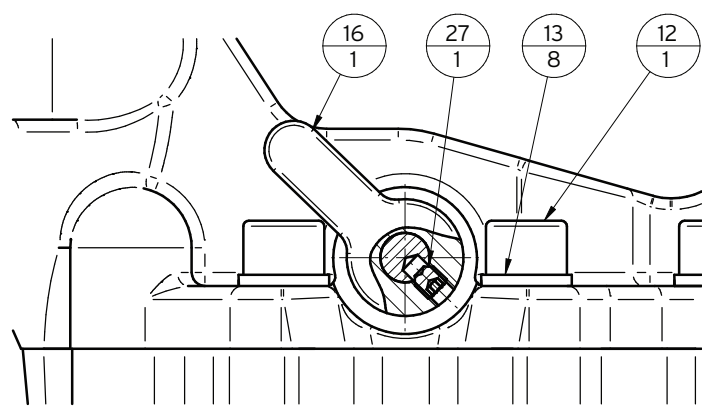
ONLY TRAINED AND EXPERIENCED PERSONNEL SHOULD PERFORM ANY NECESSARY MAINTENANCE AND/OR REPAIR.

Item #	Description	Qty	P/N			
1	Motor Housing	1	1891064			
2	Drive Gear	1	1891065			
3	Full Driven Gear	1	1898013			
4	BUSHING	1	1891022			
5	PIN	1	1891015			
6	Bush Adjusting Screw	1	1891020			
7	Hollow Dowel	1	1891066			
8	Retaining Ring 62	1	4550240			
9	Handle Assy	1	1898012			
10	Nut Valve	1	1891017			
11	Trigger	1	0009014			
12	Screw M12x45	6	1891072			
13	Washer 12	8	1891070			
14	Trigger Pin	1	1891018			
15	Retaining Ring 19	1	1891035			
16	Reverse Lever	1	0009039			
17	Screw M12x55	2	1891071			
18	Roll Pin	1	1891069			
19	Cover Shaft Seal	1	1891067			
20	Stud Driven Gear	1	1891068			
21	Nut M8	1	1891026			
22	Wiper PW5/S	1	1891032			
23	Spring	1	1891056			
24	Adjusting Screw	1	1891019			
25	Support Spring	1	1891021			
26	Spring	1	1891057			
27	Screw 1/4-20UNCx1/4	1	1891038			
28	O-Ring 15X2	2	1891036			

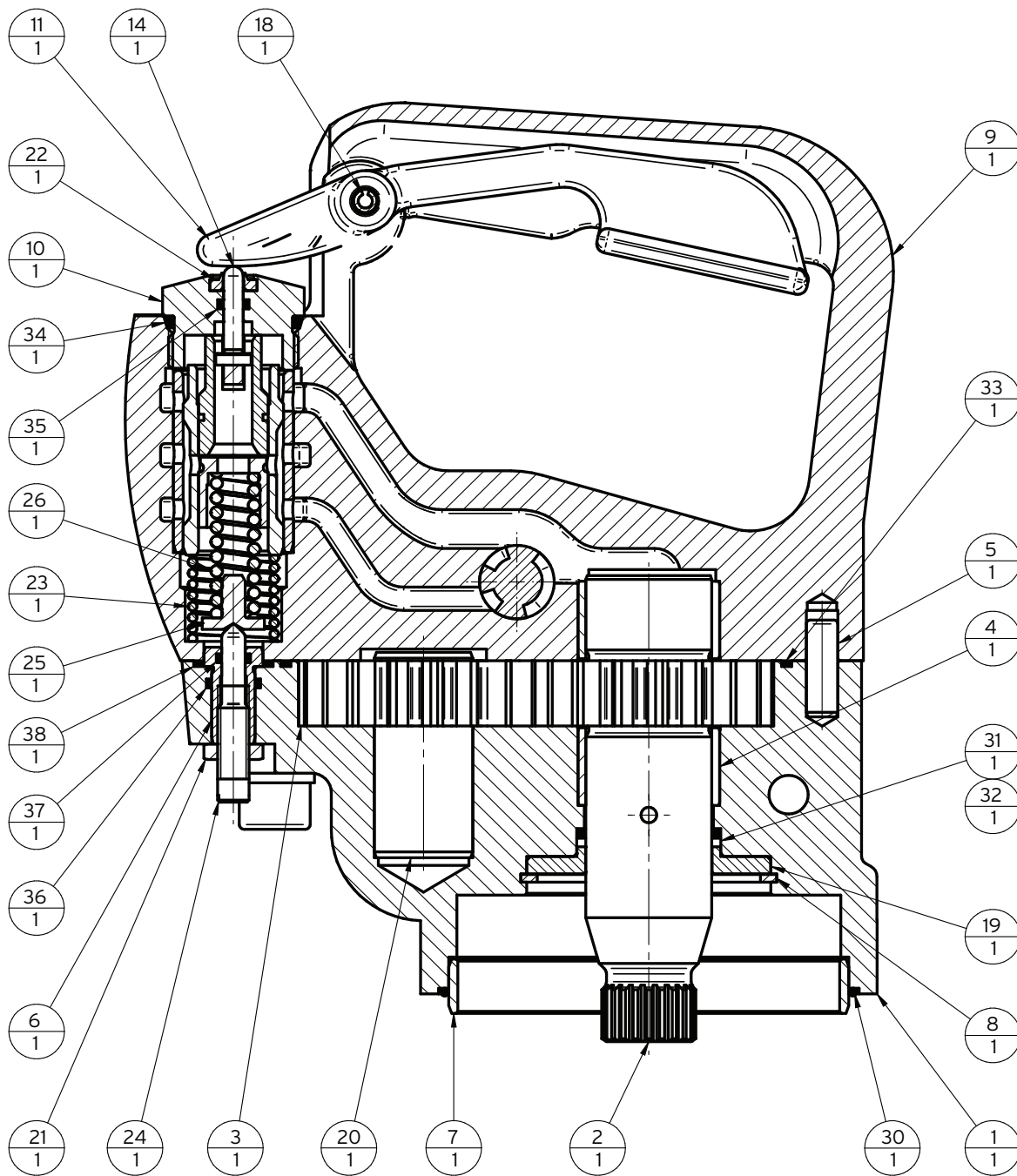
Item #	Description	Qty	P/N			
29	Back-Up Ring 16X19x1,4	2	1891037			
30	O-Ring 103X2	1	1891073			
31	O-Ring 32X2,5	1	1891074			
32	Back-Up Ring 32,21X2,18x1,4	1	1891075			
33	O-Ring 105X2	1	1891076			
34	O-Ring 29,6X2,9	1	1891033			
35	O-Ring 4,5X1,8	1	1891034			
36	O-Ring 11X1,8	1	1891031			
37	O-Ring 6X1,8	1	1891027			
38	O-Ring 16,5X2	1	1891077			
39	Helicoil Screw-Lock	4	1891078			
40	Valve Handle	1	1891058			
41	Valve Sleeve	1	1891009			
42	Valve Spool-Open	1	1898007			
43	Relief Seat	1	1891012			
44	Bushing	1	1891061			
45	Reversing Spool	1	1891060			
46	Relief Poppet	1	1891059			
REPAIR KITS						



# PART NUMBERS







**IPW24M  
1.5" DRIVE  
HYDRAULIC  
GRINDER**

# WARRANTY

## LIMITED PRODUCT WARRANTY

Manufacturer warrants to the original purchaser that all products shall be free of defects in material and workmanship for a period of one year from the original date of sale. In no event shall the manufacturer be liable to the buyer or any other person or interest for any indirect, incidental or consequential damage or losses connected with the use or transportation of this product. Warranty is strictly limited to replacement or repair of the product only and is always at the sole discretion of the manufacturer.

## MANUFACTURER'S OBLIGATIONS

The manufacturer's sale obligation under this limited warranty is to repair and or replace parts deemed to be defective by the manufacturer. Parts and equipment cannot be returned without a returned goods authorization from the manufacturer. Shipping costs are not part of the warranty policy as most all warranty issues can be settled via electronic communications not limited to but including detailed photos.

## PARTS MANUFACTURED BY OTHERS

This warranty does not cover components manufactured by others. These parts are subject to the warranty of the specific manufacturer.

## WARRANTY EXCEPTIONS

The limited warranty does not include the following:

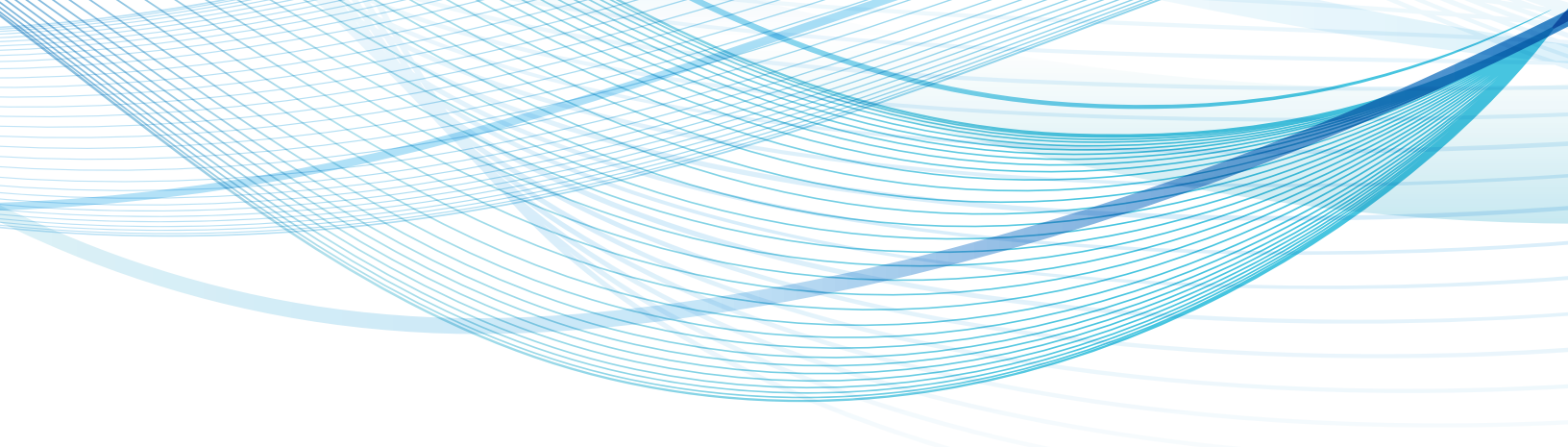
1. Equipment which has been abused, damaged, or used beyond its rated capacity or previously repaired by persons other than authorized service personnel.
2. Lost time or any other costs related directly or indirectly to the pumps performance or failure.
3. Any failure or performance deficiency attributed to misuse. Misuse is defined as any use of the product outside of its designed intent.
4. Costs of repairing damage caused by poor or improper maintenance.
5. Warranty of product that has been modified.
6. Transportation costs.
7. Any costs that exceed the value of a complete tool replacement.

# TROUBLESHOOTING

## TROUBLESHOOTING TIPS AND FIELD SOLUTIONS

If a performance problem occurs, consult the chart below for diagnoses and possible solutions. Before consulting the chart, ensure the tool is receiving the proper pressure and flow. Measure back pressure in hydraulic return line at power source during maximum recommended flow.

PROBLEM	CAUSE	SOLUTION
Low performance or impact.	Incorrect hydraulic flow.	Check that the hydraulic power source is producing the proper flow per the tool specifications
	Defective quick disconnects.	Check each quick disconnect.
	Worn impact mechanism.	Repair or replace the impact mechanism.
	Hammer pins broken.	Replace with integral frame (with pins). Check relief adjustment screw setting. Job may require a larger wrench.
	Spools incorrectly installed.	Valve(s) incorrectly reassembled. See Service Instructions.
	Sockets or adapters too heavy or loose.	Use the correct impact type sockets or adapters.
Wrench runs too fast. Impact mechanism or screws broken.	Long bolt with lubricated head.	Lubricate threads only.
	Incorrect hydraulic flow (too high).	Check that the hydraulic power source is producing the proper flow per the tool specifications
	Supply and return hoses reversed	Install hoses correctly.
	Relief sleeve or spring damaged	Remove and replace spool assembly.
Anvil busing leak, wrench warm	Adjusting screw is in too far.	Adjust correctly.
	Hard duty cycle and heat forces grease out.	Normal unless greasing instructions in Service Instructions are not followed.
Anvil busing leak, wrench cold.	Main shaft O-ring leaking.	Replace as required.
Oil leak at motor cap face.	Fasteners loose.	Tighten to recommended torque.
	Face O-ring worn or missing.	Replace as required.
	Motor cap/main housing damaged	Replace as required.
Oil leaks at reversing spool.	Damaged O-rings.	Replace as required.
	Wrong hydraulic fluid. Circuit too hot.	Refer to Operation Instructions for correct fluid/circuit specifications.



Assembled and Tested in USA using Global Materials

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