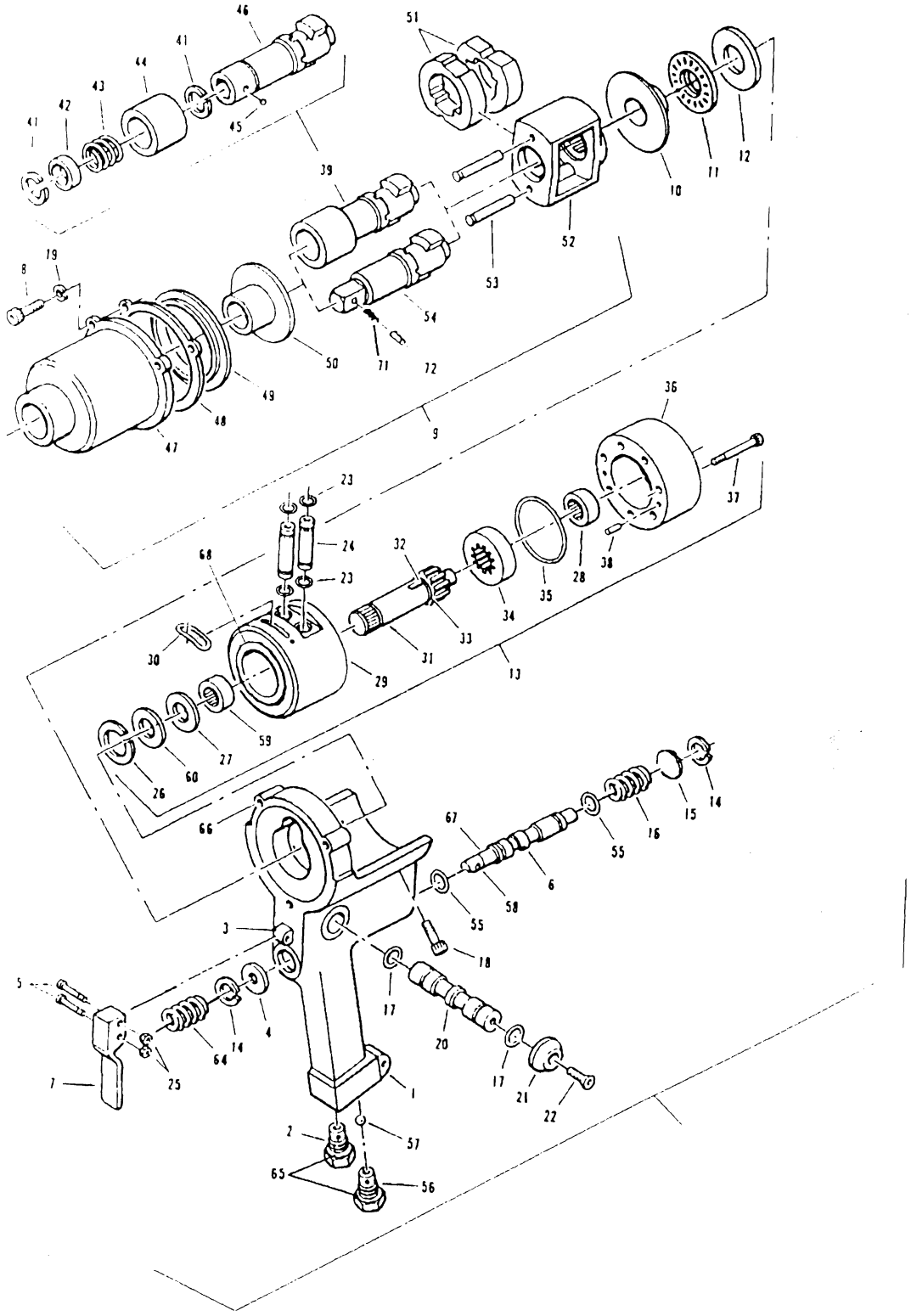
RACINE RAILROAD PRODUCTS
1524 FREDERICK STREET
RACINE, WI 53404 (262) 637-9681

910096-M Hydraulic Impact Wrench – 7/16"

EXPLODED VIEW OF THE HYDRAULIC IMPACT WRENCH – 7/16"



Section 4 Parts Lists and Illustrations

The following parts lists are sorted by description, in alphabetical order, and grouped by the assembly that the individual parts are used on. The lists provide the part description, quantity used / required and part number for each part, as well as the part number of the assembly that the part is used on. A **"List"** in the **"Dwg"** column indicates that a parts list for the assembly is included in Sections 5.2 or 5.3 of this manual. A **"Dwg"** in the **"Dwg"** column indicates that a drawing of the part (with parts list) is included in Section 5.4 of this manual.

4.1 Recommended Spare Parts List

The following parts are commonly used consumable, wear and / or routine maintenance items. We recommend that these parts be stocked in the quantities indicated below to maintain your machine at peak performance.

Hydraulic Impact Wrench-7/16" Recommended Spare Parts List				
Description	**Qty**	**Part No.**	**Item No.**	**Used on**
			-	
			-	

4.2 Standard Parts List

This list includes all serviceable parts used on a standard model machine that has no customer options installed. See Section 5.3 for parts used on optional features that are added to the standard model.

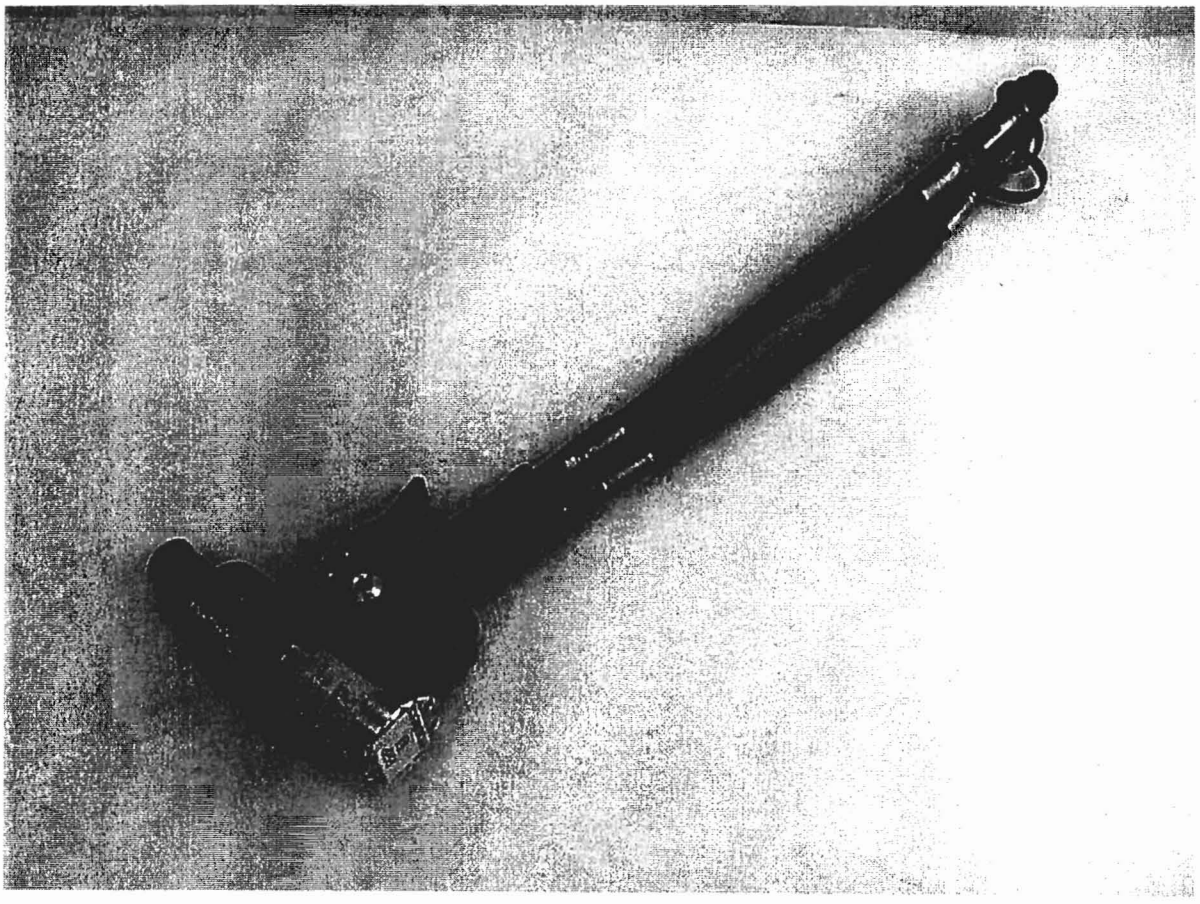
NOTE: SEE EXPLODED VIEW DWG. OF HYD. IMPACT WRENCH-7/16" B.O.M. FOR PARTS.

	P/N:	**910096**		
Description	**Qty**	**Part #**	**Item No.**	**Used On**
VALVE HOUSING	1	10001109	1	910096
FITTING	1	10002835	2	
PIVOT BOLT	1		3	-
COVER	1		4	-
CAP SCREW, 8-32	2		5	-
SPOOL	1		6	
TRIGGER	1	10002833	7	-
CAP SCREW, 10-24	3		8	-
7/16" IMPACT MECHANISM ASSEMBLY	1		9	-
SPACER	1		10	-
THRUST BEARING	1	10002810	11	-
THRUST BEARING WASHER	1	10002809	12	-
HYDRAULIC MOTOR ASSEMBLY	1		13	-
SNAP RING	2		14	-

COVER	1		15	
SPRING	1		16	-
O-RING (.56" O.D. X .44" I.D.)	2	10002832	17	-
CAP SCREW, .25-20 NC	4	400781	18	-
LOCKWASHER	3	400906	19	-
DIRECTION SPOOL	1		20	-
BUTTON	2		21	-
FLATHEAD CAP SCREW	2	400785	22	-
O-RING	4	10002815	23	-
FLUIDIC TUBE	2		24	-
NUT, (8-32)	2		25	
RETAINING RING	1		26	
SHAFT SEAL	1	25015036	27	
BEARING	1		28	
HOUSING	1		29	
O-RING	1	10002813	30	
SHAFT	1		31	
KEY	1		32	
SPIRAL CLIP	1	25004149	33	
RETAINING RING	1		34	
GEROTOR	1		35	
O-RING	1	10002819	36	
CAP SCREW	7		37	
ROLL PIN	2		38	
7/16" HEX ANVIL ASSEMBLY	1	25017064	39	
			40	
THRUST LOCK	2	25018004	41	
THRUST RING	2	466514	42	
SPRING	1		43	
RETAINING SLEEVE	1		44	
BALLS – ANVIL	3		45	
ANVIL	1		46	
HAMMER CASE (INCLUDES ITEM 50)	1		47	
HAMMER CASE GASKET	1	10002805	48	
GASKET RETAINER	1		49	
HAMMER BUSHING	1		50	
HAMMER	2		51	
HAMMER FRAME	1		52	
HAMMER PIN	2		53	
			54	
QUAD RING	2	25019815	55	
FITTING	1	25019706	56	
3/8 INCH DIAMETER BALL	1		57	
BEARING	1		59	
WASHER	1		60	
HANDLE SUB ASSEMBLY	1		62	
SPRING	1		64	
O-RING	2		65	
HELI COIL	3		66	
LEE PLUG	1 SET		67	
O-RING	1		68	

ORing Kit - 466513 -

Operating and Service Manual



Hydraulic Impact Wrench – 7/16”

(Reference Serial Number Plate)

465392

Racine Railroad Products
1524 Frederick Street
Racine, WI 53404-7577
Phone: (262) 637 - 9681
Fax: (262) 637 - 9069

910096-M Rev1 Draft 21 Feb 03.doc

Record of Changes

Use this page to record changes, updates and corrections made to this manual.

Rev. / Chg. / Bulletin No:	Date	Description of Changes	Initials
Rev 1	16JAN03	Initial Release	RA

Table of Contents

Table of Contents

This list identifies where photos, tables and other figures are located within the text of this manual. All parts lists and drawings are provided in Section 5.

Figures

Section 1 General Information and Over view

1.1 Purpose

This manual provides general instructions for operating and maintaining the Racine Railroad Products Hydraulic Impact Wrench-7/16".

1.2 Cancellation

Not Applicable, Initial Release. Record subsequent changes made to this manual on page i.

1.3 Scope

This Bulletin applies to all Racine Railroad Products Hydraulic Impact Wrench-7/16" power tool Reference Serial Number Plate.

1.4 Definitions

This manual uses the following standard terms for clarity:

1.4.1 ***DANGER!*** An operating procedure, practice, or condition, etc., which WILL RESULT IN INJURY OR DEATH if not carefully observed or followed.

1.4.2 ***WARNING!*** An operating procedure, practice, or condition, etc., which may result in injury or death if not carefully observed or followed.

1.4.3 *Caution!* An operating procedure, practice, or condition, etc., which may result in damage to equipment if not carefully observed or followed.

1.4.4 ***Note:*** An essential operating procedure, practice, or condition, etc.

1.5 General Safety Precautions and Devices

WARNING! Failure to follow safety precautions when operating this equipment can result in serious injury or death to the operator or other persons in the area. Observe the following precautions whenever you are operating, working on or near this equipment.
Always wear appropriate work clothing when operating this equipment. DO NOT WEAR loose clothing, jewelry, radio belts, etc., when you are operating, working on or near this equipment.

1.5.1 Always wear appropriate personal protective clothing when operating this equipment: (e.g. Orange safety vest, hard hat, safety glasses with side shields, full-face shield, hearing protection, steel-toed safety boots, leather gloves, dust respirator, leggings, etc.).

1.5.2 Always lift heavy objects with the knees and legs (not the arms and back). Always use care when carrying the Hydraulic Impact Wrench and ensure proper footing and crew coordination when carrying or positioning the Hydraulic Impact Wrench.

1.5.3 This equipment may be operated from either side of the rail. Remove ballast that may hinder the proper placing of the Hydraulic Impact Wrench verses the rail work area.

1.5.4 Keep your hands, arms, feet, head, clothing, etc., out of the operating area and away from all rotating or moving components when you are operating, working on or near this equipment.

1.5.5 Ensure that all guards, covers, hoses and operating components are in good working order and that all controls are in the appropriate position before starting the engine. Ensure that installed safety equipment (e.g. fire extinguishers, first aid kits, locking and safety devices) are installed properly and are in good working order. DO NOT OPERATE the machine until unsafe conditions have been corrected.

1.5.6 Operate the POWER SOURCE ENGINE only in a well-ventilated area and ensure that the air filter(s), air filter cover(s), muffler are in good condition. DO NOT crank the engine with the spark plug removed.

1.5.7 Keep the machine clean and free of debris. Operate the machine in a safe and responsible manner. Exercise caution when working on or near rotating or moving components, hot components and fuel systems. Be aware of potential fire hazards and prevent sparks, , etc., from starting fires on right-of way.

1.5.8 Comply with all instructions provided on any decals or placards installed on the machine and with any relevant amplifying information provided in this manual or other general operating procedures.

1.5.9 When you leave this equipment, even for a short time, shut off the hydraulic motor and disengage the hydraulic supply hoses.

1.5.10 Shut off the power source engine, ensure that all controls are in a safe position and install all appropriate locking and safety devices before doing any of the following:

- Lubricating
- Adjusting
- Making Repairs
- Performing Service

1.5.11 Comply with all Lock Out / Tag Out Procedures and other safety procedures established for your work environment.

1.6 Machine Description and Specifications

The Racine Railroad Products Hydraulic Impact Wrench-7/16" is a portable, remotely powered, hand held power tool designed for drilling holes in wood cross-ties, trestle-work and

road crossings for lag screw or structural fastener installation. The Racine Railroad Products Hydraulic Impact Wrench-7/16" accommodates light impact auger bits.

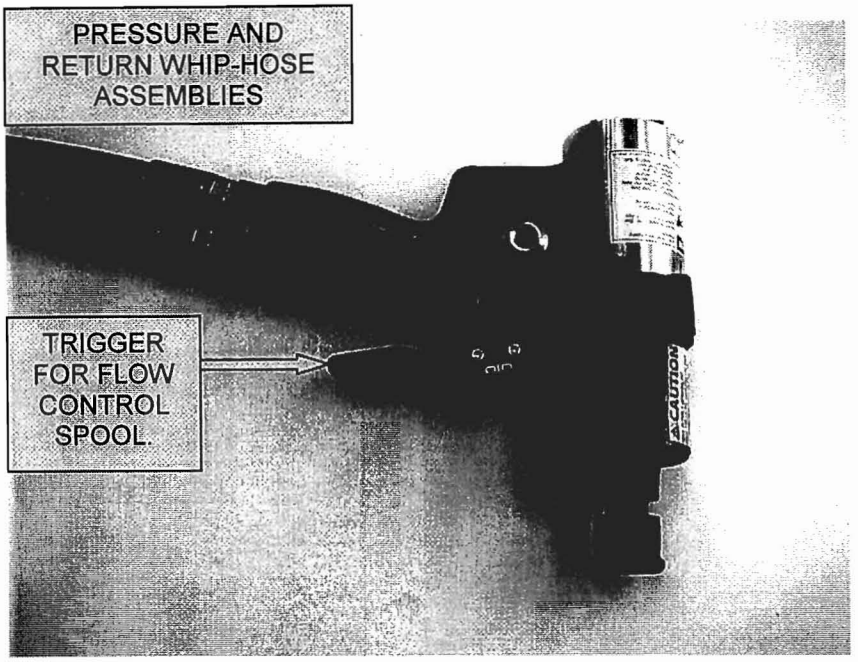


Figure 2 Hydraulic Impact Wrench-7/16 Right Hand View.

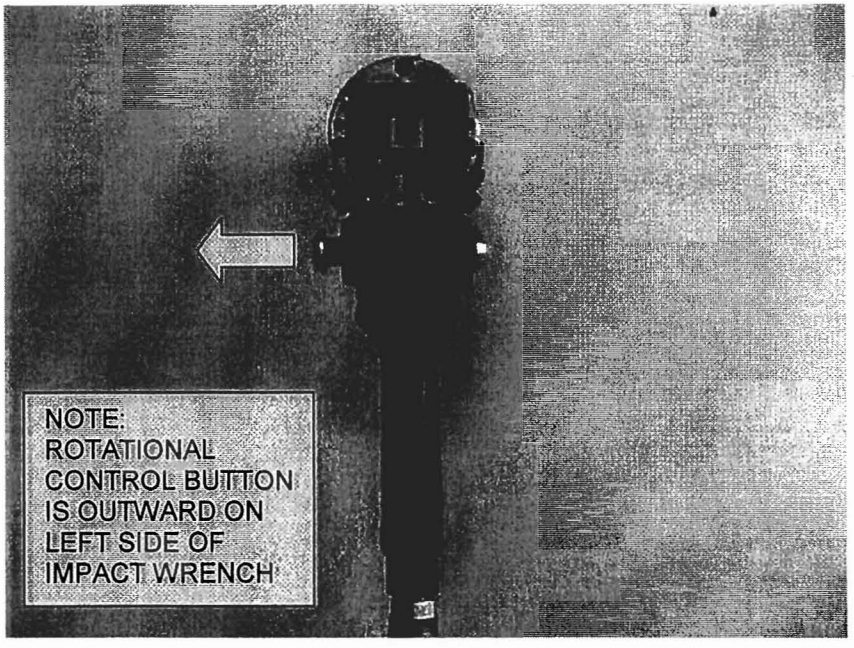


Figure 3 Hydraulic Impact Wrench-7/16" Operators View.

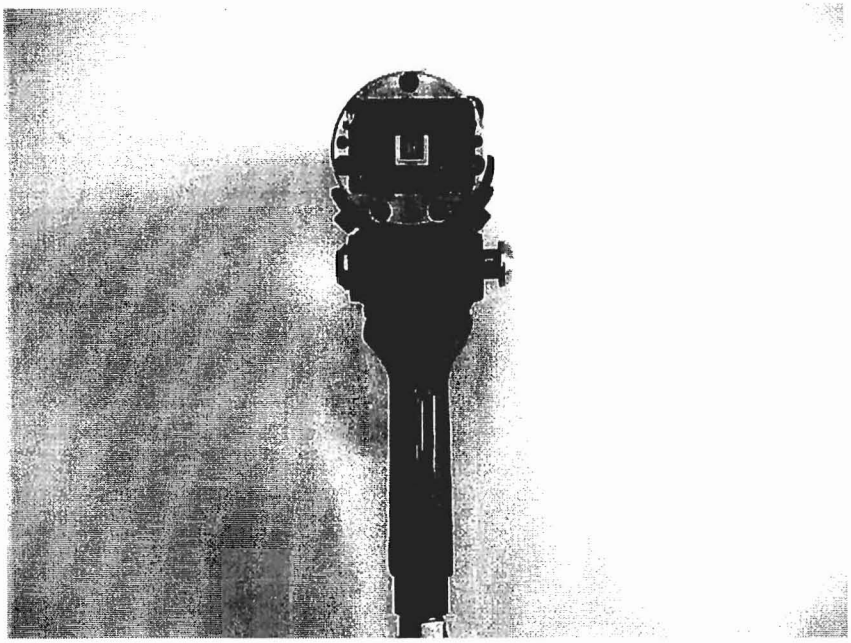


Figure 4 Hydraulic Impact Wrench Operator's View.

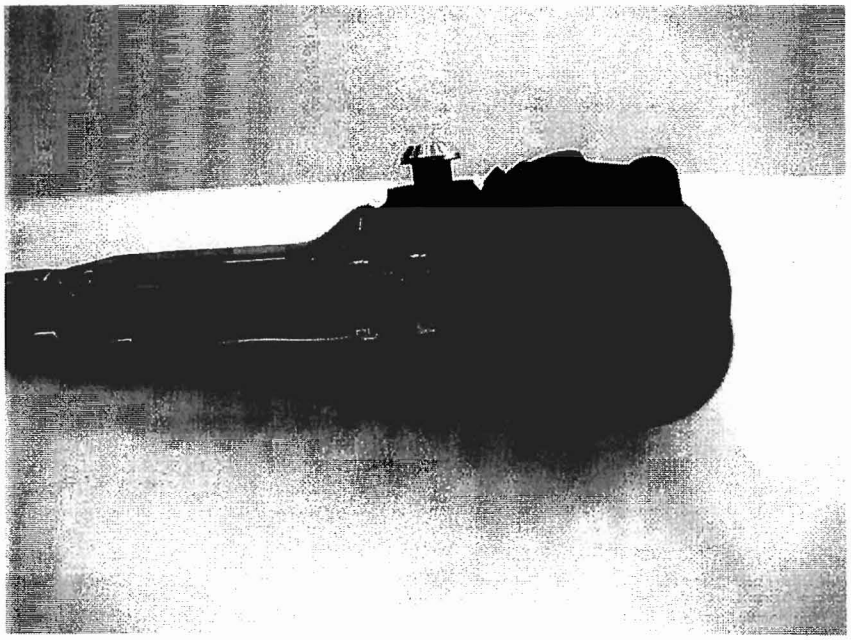


Figure 5 Hydraulic Impact Wrench-7/16" Drive Socket View.

1.6.1 Manufacturer:

Racine Railroad Products, Inc.
1524 Frederick Street
P.O. Box 044577
Racine, WI 53404-7577

Phone: (262) 637-9681
E-mail: custserv@racinerailroad.com
Website: http:\\www.racinerailroad.com

1.6.1 Physical Data:

Tool Specifications: 7/16" Quick Change

Hydraulic System:	Open-center or Closed-center	
Length:	9.00 in.	(~23.0 cm)
Width:	3.00 in.	(~7.60 cm)
Height, Work Mode:	9.00 in.	(~23.0 cm)
Weight: (less tools)	7.25 lbs.	(~3.29kg)

Options and Accessories: Contact: Racine Railroad Products
1524 Frederick Street
P.O. Box 044577
Racine, WI 53404-7577
Sockets and adapters Phone: (262) 637-9681
(262) 637-9669

Mechanical Data

Hydraulic Motor:	Gerotor type	
Maximum Flow:	4-7 gpm	(~15-27 lpm)
Maximum Pressure:	1000-2000 psi	(~6.9-13.8 MPa)
Maximum Impact Time:	10 seconds	
Drive Size:	7/16" socket	(~1.11 cm)
Torque	450 ft/lbs @ 5 GPM	(610 NM @ 19 LPM)
Setting at tool:	2000 psi	(13.8 Mpa)
Back Pressure	200 psi	(1.38 Mpa)
Filtration:	25 Micron (Nominal)	
Pressure & Return Ports:	No. 6 (9/16"-18 UNF) SAE O-Ring	

1.6.2 Performance Data:

Production Rate:

1.7Machine Identification:

The Manufacturer's data plate is located on the side of the assembly. Please provide the Racine Railroad Products Model and Serial Number, and any locally assigned identification number, to our customer service personnel when contacting the factory for parts, service or warranty support.

Figure 6 Manufacturer's Data Decal.

1.7 Machine Components and Major Assemblies

1.7.1 The Socket spindle and impacting mechanism assembly.
1.7.2 The Hydraulic motor and adapter assembly.
1.7.3 The Hydraulic control valve/trigger group with housing.
1.7.4 The Handle group with hydraulie porting.
1.7.5 The Hydraulic whip hose assemblies.

1.8 Operator Controls

Refer to Figures 1 through 5 to identify and locate the controls and major components of the Hydraulic Impact Wrench-7/16".

1.8.1

1.9 Service Manuals and Tools

1.9.1 Operating and Service Manuals: One Operating and Service Manual is provided with each machine. Manuals are shipped with each machine.

1.9.2 Operating and Service Manual Changes: The Operating and Service Manual may be updated to reflect product development and/or revised operating and maintenance procedures. If appropriate, Service Bulletins may be released to provide additional operational, maintenance and/or safety information. Record all changes made to this Manual in the ***Record of Changes*** on page i. Submit recommendations and requests for Operating and Service Manual Changes to:

Racine Railroad Products, Inc.
Attn: Technical Service Manager
1524 Frederick Street
P.O. Box 044577
Racine, WI 53404-7577
Phone: (262) 637-9681
E-mail: techserv@racinerailroad.com
Website: http:\\www.racinerailroad.com

1.10 Warranty Terms and Conditions

1.10.1 Warranty Period: Each new machine, and new parts of our manufacture, are warranted against defects in material and workmanship for one year from the date of shipment from our factory. When contacting the factory for parts, service or warranty support, please provide the Racine Railroad Products Model and Serial Number and any locally assigned identification number to our customer service personnel to help them identify your machine and better serve you.

1.10.2 Vendor Parts Warranty Period: Other equipment and parts used, but not manufactured by Racine Railroad Products, Inc., are covered directly by the manufacturer's warranty for their products.

1.10.3 Warranty Parts and Service: We will repair or replace, without charge, F.O.B. factory, Racine, Wisconsin, USA, any part of our manufacture which is proven to be defective during the warranty period.

Material claimed defective must be returned, if requested, to the factory within 30 days from the date of the claim for replacement. Ordinary wear and tear, abuse, misuse and neglect are not covered by this warranty.

Depending upon the circumstances, we may provide technical assistance and/or technical service support, without charge, to assist in the correction of warranty related problem.

1.10.4 Non-Warranty Parts and Service: Material damaged through normal wear and tear, abuse, misuse and/or neglect are not covered by this warranty. Non-Warranty Parts and Technical Service policies and procedures are provided in Section 6 of this manual.

Section 2 Initial Set-up and Adjustment

2.1 Inspection and Warranty Registration

The Hydraulic Impact Wrench –7/16" is normally shipped via common carrier in a cardboard carton. The warranty period begins on the date of shipment from our factory. Upon delivery by the carrier, inspect the Hydraulic Impact Wrench and shipping materials for damage. Ensure that all items indicated on the packing list have been received. Address items lost or damaged in shipment with the freight carrier.

2.1.1 Removing Packing Materials / Delivery Inspection: Remove the packing materials and inventory the contents of the packing list. Ensure that Operating and Service Manuals, tool kits and any other materials sent with the machine are in good condition.

2.1.2 Product Registration Card: Please fill out and return the Product Registration Card to help us better serve you. Your feedback on the Product Registration Card helps us improve our products and service.

Note: Unless otherwise indicated, the address and contact name provided on the Product Registration Card will be the mailing address for future Service Bulletins and Customer Service Information.

Note: Please contact our Service Department at the address provided in Section 6 of this manual if you have any problems with or questions about your new machine.

2.2 Initial Assembly and In-Service Maintenance

The Hydraulic Impact Wrench-7/16" was tested after assembly at our factory. After assembly, the machine should receive a thorough In-Service inspection before initial operation. If you do not feel qualified to perform this In-Service work yourself, contact a competent mechanic or the Racine Railroad Products Service Department for technical support.

2.2.1 Uncrating a new machine: Support the Hydraulic Impact Wrench-7/16"and cut the banding (if any) to release the machine from the shipping carton. Manually lift the Hydraulic Impact Wrench-7/16", options and accessories separately and clear of the carton and place on a safe surface.

2.2.2 Initial Assembly: After unpacking and inspecting the Hydraulic Impact Wrench-7/16" ,options and accessories prepare the unit for service by doing the following:

Hydraulic Systems:

Use a calibrated flow meter and pressure gauge to check the hydraulic power source for 5 -10 gpm/20-38 lpm at 1500-2000 psi/100-400 bar.

- A relief valve setting between 2100-2250psi/145-155 bar is required for the operation.
- The hydraulic system's back pressure should be less than 250 psi/17 bar, measured at the tool end of the operating hoses. All system's checks should be made at minimum operating temperatures (maximum fluid viscosity of 400 ssu/82 centistokes.
- The hydraulic fluid cooling system should limit maximum fluid temperature to 140° F/60° C at the maximum expected ambient temperature. The minimum cool capacity

should be 5 hp/3.73kW at a 40° F/22° C difference between ambient temperature and fluid temperature.

- A minimum of 25 micron filtration is required for the hydraulic system. For cold weather startup and maximum dirt holding capacity a filter element sized for 30 gpm/14 l cpm is recommended.
- Hydraulic fluid requirements:

Viscosity (Fluid Thickness)

U.S.A.	**METRIC**
50° F 450 SSU Max.	10° C 95 Centistokes
100° F 130-200 SSU	38° C 27-42 C.S.
140° F 85 SSU Min.	60° C 16.5 C.S., Min.

Pour Point 10° F/23° C Minimum (for cold startup)
Viscosity Index (ASTM D 2220) 140° F Minimum
Demulsibility (ASTM D-1401) 30 Minutes Maximum
Flash Point (ASTM D-92) 340° F/171° C Minimum
Rust Inhibition (ASTM D-665 A & B) Pass
Oxidation (ASTM D943) 1000 Hours Minimum
Pump Wear Test (ASTM D2882) 60 mg Maximum

- **Recommended hose size: .500 inch/12mm I.D. up to 50 ft./15m long**
- **Recommended hose size: .625 inch/16 mm I>D> up to 100 ft/30 m long**
- The Racine Hydraulic 910098 power unit is recommended for hydraulic supply. This unit is equipped with two 5 gpm/20 lpm circuits that can be combined for one 10 gpm/40 lpm circuit.
- If the tool is used in cold weather, preheat the hydraulic fluid by running power source at low engine speed. Fluid temperature should be at or above 50° F/10° C (400 ssu/82 centistokes) before use, when using recommended fluids. Using too thick of fluid may result in tool damage.
- CHECK THE POWER SYSTEM TYPE: THE HYDRAULIC IMPACT-7/16" MAY BE USED WITH OPEN OR CLOSED CENTER SYSTEMS.
- Check hydraulic hosed for cracks, leakage and damage. If the hoses or couplers show any of these wear characteristics, replace them before operating the tool. **NEVER** attempt to locate leaks with your hands, personal injury may occur from pressure system.

Tool Trigger

- Check that trigger presses toward handle easily and returns to the "OFF" position when released.
- If trigger sticks or does not operate easily check for obstructions. If trigger does not return to "Off" position when released, check the return springs. **DO NOT OPERATE A TOOL IF THE TRIGGER IS NOT WORKING!**

Hose Connecting

- Wipe quick couplers with a clean lint free cloth before connecting them.
- Connect hoses from power source to the tool. It is recommended that you connect the return hoses first and disconnect last to minimize or avoid trapping pressure within the tool.
- When connecting the quick couplers, the flow should run from male coupler to female coupler. The female coupler on the tool is the inlet. Quick couplers are marked with an arrow to show flow direction.
- Turn on the hydraulic circuit at your power source.

Note: *When possible, connect the free ends of uncoupled hoses to prevent pressure build up in the hoses. The sun can also increase pressure in the hoses and make connecting difficult*

- Be sure the pressure hose is connected to the pressure port and the return hose connected to the return port. Pressure port is at the position and return port is at the position. See parts view if uncertain.
- Do not attempt to reverse the tool by hooking the pressure hose to return port of the tool. The wrench is equipped with a spool to reverse the direction of rotation. Reversing the hoses can cause severe damage to the wrench.

Sockets and Accessories

- Do not use drills bits or accessories which are not intended for impact type applications. They may crack or fracture during use. Use only impact rated sockets and accessories.
- If adapters are required, use components which are in good condition only. Loose, multiple adapters and excess weight between the wrench and socket can reduce the intensity of the impact to the nut or bolt head.

2.3 Setup and Adjustments

The Hydraulic Impact Wrench-7/16" is a power tool that requires familiarization by the end user. It is highly recommended that this manual be referred to before attempting a testing exercise with the Impact Wrench.

Section 3 Operating Procedures

3.1 Safety Precautions and Devices

Before operating the Hydraulic Impact Wrench –7/16", perform a daily inspection of the tool as described in Section 4.2. Ensure that all general safety precautions are observed and that proper personal protective clothing is worn as described below.

Figure 3.1–1 Personal Protective Equipment: At a minimum, the following Personal Protective Equipment should be worn by the operator:

- Safety Glasses
- Hearing Protection
- Safety Helmet
- High Visibility Safety Vest
- Leather Work Gloves
- Steel Toed Safety Shoes

3.2 Transportation & Handling

The Hydraulic Impact Wrench – 7/16" is typically transported to the job site by truck or rail. Upon arrival at the job site, the Hydraulic Impact Wrench is lifted into position manually.

3.3 Normal Operating Parameters

3.3.1 Motor: 4-7 GPM

Maximum Speed: 620 RPM

3.3.2 Performance Data: MAX IMUM 450 FT./LBS. OF TORQUE AT 2000 PSI

Production Rate:.RECOMMENDED 10 SECOND INTERVAL PER APPLICATION

3.4 Normal Start-up Procedures

Before starting the Hydraulic Impact Wrench-7/16", perform a daily inspection as described in Section 4.2.

Caution! DO NOT OPERATE IMPACT WRENCH WHEN BYSTANDERS ARE NEAR THE WORK AREA

Note: Depending on temperature, let the hydraulic motor warm up before applying full load.

Caution! DO NOT OPERATE IMPACT WRENCH NEAR FLAMMABLE MATERIALS OR ENERGIZED TRANSMISSION LINES.

Normal Operating Procedures:

- The Racine Railroad Products Hydraulic Impact Wrench – 7/16" is designed to efficiently drill holes and loosen nuts and bolts. The tool uses a 7/16" inch socket drive and requires high impact drill bits. The wrench may be used for other applications where impacts are typically used.
- The wrench is equipped with a spool which reverses the drive direction. Insulated handles reduce vibration and operator fatigue. The safety lock on the trigger helps prevent accidental starting of the tool. A rotating front handle allows comfortable operation in both the vertical and horizontal positions.

Operation

- With hydraulic power source connected to the tool, shift the spool to the direction of rotation desired. When standing behind the tool (the hose end) pushing the spool to the right rotates the socket clockwise, and to the left rotates counterclockwise. Do not shift the spool while the tool is operating, damage to internal components may occur.
- Grasp both handles firmly, place socket on fastener, squeeze the trigger lock to the handle and pull the trigger toward the handle grip activating the tool. Always hold the tool with both hands to maintain control.
- To stop the Impact Wrench-7/16" just release the trigger.
- When the fastener contacts the surface of the material being fastened, limit impact time to 10 seconds. Excessive wear will occur to the hammer mechanism due to the heat build up.
-

Shut-Down Procedures

To safely transport and store the Hydraulic Impact Wrench-7/16" perform a normal shut down as follows:

1. Stop the Hydraulic Impact with the spring loaded trigger release valve. .
2. Shut down the hydraulic power source.
3. Disconnect the hydraulic hoses from Hydraulic Impact Wrench..
4. Remove the socket or adapter tool.
4. Prepare the unit for transport as outlined in Section 3.2 above.

Note: A photo and detailed discussion regarding the operation of the Controls are provided in Section 1.9.

3.5 Emergency Procedures

In the event of any malfunction, IMMEDIATELY SHUT-OFF THE HYDRAULIC POWER SOURCE and correct the problem.

WARNING! DO NOT PERFORM MAINTENANCE ON THE HYDRAULIC IMPACT WRENCH WHILE THE POWER SOURCE OR HYDRAULIC IMPACT WRENCH MOTOR ARE RUNNING.

Section 4 Maintenance Procedures

3.6 Safety Precautions and Devices

Normal maintenance of the Hydraulic Impact Wrench can be performed without any special maintenance related safety devices. Before operating the Hydraulic Impact Wrench-7/16", perform a daily inspection of the power tool as described in Section 4.2. Ensure that all general safety precautions are observed and that proper personal protective clothing is worn as described in Sections 1.5 and 3.1.

WARNING! DO NOT PERFORM MAINTENANCE ON THE HYDRAULIC WRENCH WHILE THE MOTOR IS RUNNING OR HOSES ARE CONNECTED.

3.6.1 Safety Devices: Upon completion of maintenance, ensure that the following Safety Devices are installed on the Hydraulic Impact Wrench-7/16":

- The Impact Wrench is working properly.
- The handles and trigger/trigger locks are secured.
- Lubrication of the wrench is in order.
- Hydraulic hoses are safe to use and connected securely.
- The sockets and accessories are in good condition.

3.6.2 No Special Procedures Required, See Local Requirements.

3.7 Daily Inspection and Lubrication

At a minimum, perform the following routine daily maintenance on the Hydraulic Impact Wrench –7/16" to keep it in good working condition.

3.7.1 Daily Inspection: Before operating the Hydraulic Impact Wrench-7/16", inspect the following and correct any problems as necessary:

- General Condition of the tool.
- All Guards and Safety Devices are Installed and Operable.
- All Controls are Operable.
- Hose Condition

- Grease Type and Locations: Bearing and bushings are used on the Hydraulic Impact Wrench to reduce daily maintenance. Ensure that all bearings and moving parts are properly lubricated with on weekly intervals. Semi-annually remove the impact head and clean the grease off the impact components. Also remove the grease from the impact housing Remove the thrust washers and thrust bearing and wipe clean. Before reinstalling them, check for damage and replace if in poor condition. Mount the impact head to the motor adapter after placing the assembled hammer mechanism in the impact head. Make sure all parts are in proper position before mounting the impact head. Apply grease prior to re-assembly..

3.7.1.1 Lubricating Grease Type: Mobile HP 53019-6 or equivalent

3.8 Routine Adjustments and Maintenance

This section outlines basic adjustments and maintenance required for daily operation of the Hydraulic Impact Wrench-7/16". These instructions are intended for operator level, field maintenance and not repair shop or overhaul level procedures.

3.9 Trouble Shooting

The following chart can be used as guide to correct any problem you may be experience with the Hydraulic Impact Wrench – 7/16"".
To determine the problem in operation of the impact wrench, always check that the hydraulic power source is supplying the correct hydraulic flow and pressure to the tool as listed in the table. Be sure you are using an accurate flow-meter. Check the flow with the hydraulic fluid temperature at least 80° F/27° C. Always check the power source and hoses before disassembling the impact wrench.

Problem	Possible Cause	Remedy
Tool will not operate.	Tool not properly connected. Low oil volume and/or pressure.	Check pressure and return connections and disconnects. Check hydraulic power source. Tool will not operate if inlet pressure is below 1000 PSI or flow is less than 4 GPM.
Tool runs at low speed	Low oil volume and/or pressure Contaminated hydraulic system.	Check hydraulic power source for recommended flow, pressure and proper conditions. Remove contamination and clean hydraulic system.
Tool runs too fast	Relief valve blocked or contaminated Excessive pressure or flow.	Check relief valve. Clean or replace as necessary. Verify correct hydraulic power source is being used Adjust hydraulic power supply
Oil leakage from trigger area.	Damaged O-rings in spool	Replace O-rings. Factory Service Required.
Actuation Trigger sticks	Excessive flow Broken spring Contamination	Factory Service Required Check trigger, sleeve spool for binding. Replace spring. Clean sleeve and spool. Check hydraulic system
Tool Trigger plunger sticks or works hard	Check for dirt or deposits Trigger binding (trigger bent, trigger pivot pin too tight, etc.	Clean conponents. Inspect, adjst trigger where binding occurs.
Systems overheats.	Excessive flow Inefficient cooling.	Reduce RPM of engine. Increase reservoir size and/or add oil cooler.
Hydraulic oil leakage from trigger area. ***WARNING!*** **Do not use tool. Tool with leak may cause severe bodily injury.**	Tool components loose. Damaged O-rings or gaskets. Tool components worn or damaged.	Factory service may be required. Replace worn or damaged O-rings or gaskets. Disassemble tool. Replace worn or damaged components..

Power source works but tool lacks power or does not operate.	Inappropriate hydraulic system.	Check type of hydraulic power source: open –center or closed-center.

3.10 Special Tools: None specified

Figure 7 Caution Decal

Placard List, Hydraulic Impact Wrench	P/N:		910096
Description	**Qty**	**Part #**	**Used On**
PLATE, SERIAL NUMBER	1		
DECAL, LOGO	1	465474	

4.3 Customer Options Lists by Serial Number

These lists include all parts that are specified as customer options and not included in a base-model. These lists are sorted by customer / option.

RRP Ser. No:	RRP Part No:			
HIW-	910096			

Customer Options Parts List				
Description	**Qty**	**Part No.**	**Dwg**	**Used on**
STANDARD MODEL : NOT APPLICABLE	-	-	-	-

End cap not avail seperatly

Section 5 Parts and Service Support

5.1 Non-Warranty Parts Sales

Material damaged through normal wear and tear, abuse, misuse and/or neglect are not covered by our warranty and should be ordered directly from our Customer Service Department. Parts for models that are no longer in production may not be available.

5.1.1 Parts & Customer Service Address: Please contact us at the following address for parts and customer service support:

Racine Railroad Products, Inc.
Attn: Customer Service
1524 Frederick Street
P.O. Box 044577
Racine, WI 53404-7577

Phone: 262-637-9681 Extension: 105
E-mail: custserv@racinerailroad.com
Website: http:\\www.racinerailroad.com

5.1.2 Non-Warranty Parts Orders: When placing a parts order please provide the following information:

- Company Name and Billing Address
- Purchase Order Number and Issuing Authority
- Shipping Address
- Special Handling Instructions
- Contact Phone Number
- Machine Model and Serial Number
- Part Numbers and Quantities Being Ordered

Note: Please use Racine Railroad Products part numbers when ordering parts. Racine Railroad Products part numbers are shown on the parts lists and drawings in Section 5 of this manual and have only six (6) numbers. Any part number with other than six numbers (e.g. contains alpha-numeric characters) is a Vendor Part Number and NOT a Racine Railroad Products part number.

5.2 Technical Support & Service

Telephone and web-based technical support is available for current production models through our Technical Service Department. Service Manuals and limited technical support may be available for models that are no longer in production. In the future, Technical Support features will be expanded on our home page on the world-wide-web.

5.2.1 Telephone and E-mail Technical Support: Telephone and E-mail technical support is available on normal U.S. business days from 8:00 AM to 5:00 PM U.S. Central Time Zone (GMT +6 (+5 Daylight Savings Time)). Contact us at:

Phone: (262) 637-9681 Extension: 111
E-mail: techserv@racinerailroad.com
Website: http:\\www.racinerailroad.com

5.2.2 Non-Warranty Technical / Field Service Support: Depending upon the circumstances and availability of technical service personnel, we may provide technical assistance and/or field service support, at the customer's expense, to assist in the correction of non-warranty related problems. Contact our Technical Service Department to coordinate Non-Warranty Technical / Field Service Support.

5.2.3 Warranty Technical / Field Service Support: Depending upon the circumstances and availability of technical service personnel, we may provide technical assistance and/or field service support, at no charge to the customer, to assist in the correction of warranty related problems. Contact our Technical Service Department to coordinate Warranty Technical / Field Service Support.

5.3 Warranty Parts & Service

Warranty parts and service are coordinated through our Technical Service Department. Our warranty terms and procedures are provided in Section 1.11 of this manual.

5.3.1 Warranty Parts Claims: Material claimed to be defective must be returned to our factory for evaluation. Defective materials will be replaced, or your account will be credited if replacement materials have already been purchased. Please contact our Technical Service Department at the address provided below if you have any questions or problems.

5.3.2 Warranty Service Support: Depending upon the circumstances and availability of technical service personnel, we may provide technical assistance and/or field service support, at no charge to the customer, to assist in the correction of warranty related problems. Contact our Technical Service Department at the address provided below to coordinate Warranty Technical / Field Service Support.

Racine Railroad Products, Inc.
Attn: Technical Service Manager
1524 Frederick Street
P.O. Box 044577
Racine, WI 53404-7577

Phone: (262) 637-9681 Extension: 111
E-mail: techserv@racinerailroad.com
Website: http:\\www.racinerailroad.com

Section 6 Appendices

6.1 Sales Representatives

For more information about this, or any of our other products, please contact the nearest Representative shown on our Sales Representatives List.

6.2

The Owner's Manuals provided was current at the time of printing.