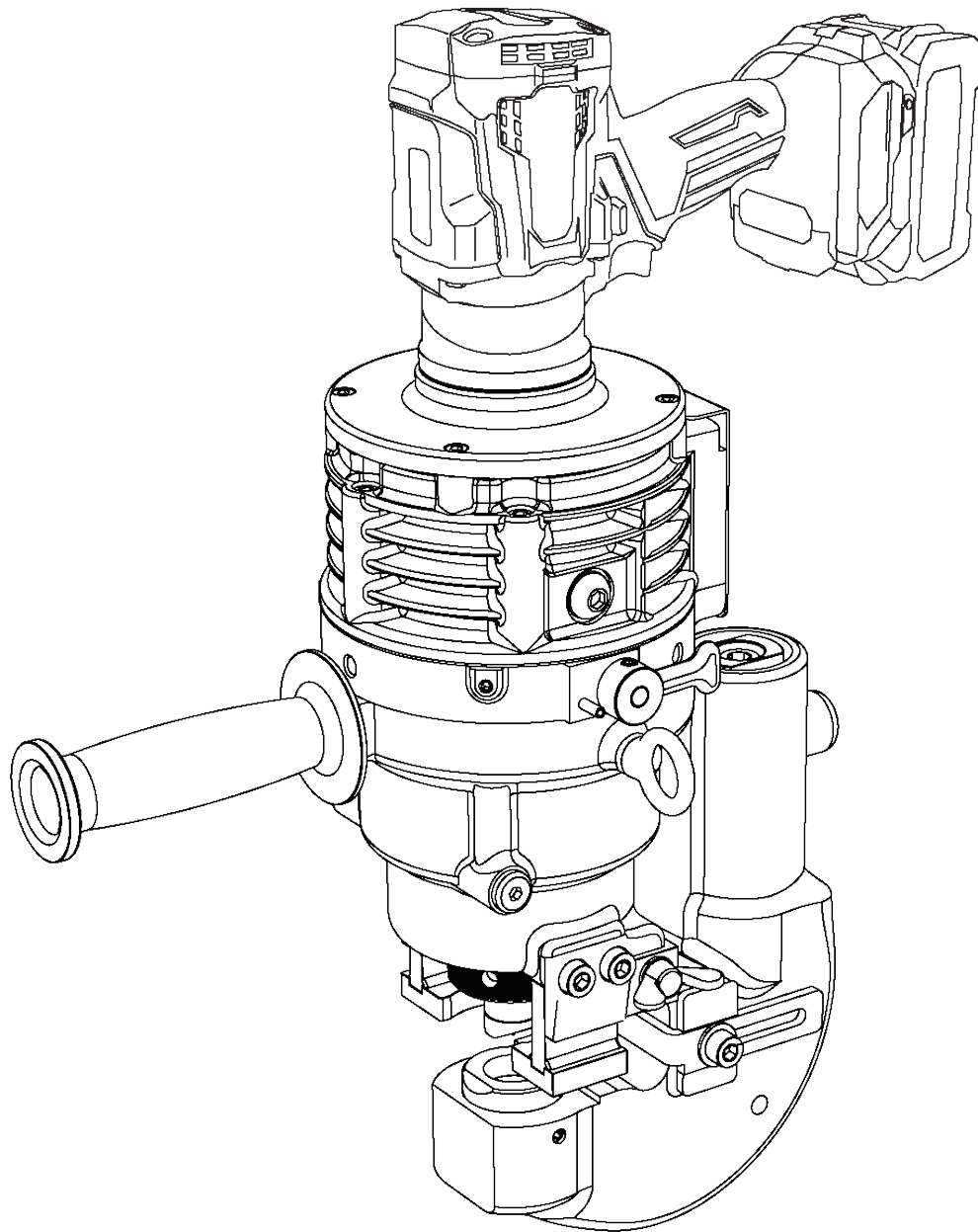


# **Hougen<sup>®</sup>-Ogura<sup>™</sup>**

## **76006PR PUNCH PRO<sup>™</sup>** **ELECTRO-HYDRAULIC HOLE PUNCHER**

### **OPERATOR'S MANUAL**

COVERS HOLE PUNCHER PART NUMBERS 0766102



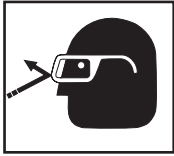
# Important Safety Instructions



## WARNING

- 1. Before use, read this Instruction Manual thoroughly.**  
Do not expose the charger and battery to rain or use them in damp or wet locations, as this may cause overheating or electric shock.
- 2. Keep work area clean.**  
Cluttered areas and benches invite injuries.
- 3. Keep the work area well lighted.**  
Working where there is insufficient light may cause an accident
- 4. Keep children away.**  
Do not allow children or unauthorized personnel to handle tool.
- 5. Store idle tools.**  
When not in use, tools should be stored in a dry and secure place. Keep out of reach of children.
- 6. Do not force tool.**  
It will do the job better and safer at the rate for which it was intended. Do not force tool to work beyond its ability. Excessive load will cause seizure of the motor, overheating, smoke and fire.
- 7. Use right tool.**  
Do not force small tool or attachment to do the job of a heavy-duty tool.
- 8. Wear safety glasses and protective clothing.**  
Always wear safety glasses, safety footwear, safety gloves, and any other mandated or necessary protective clothing while using this equipment. Failure to do so may result in injury.
- 9. Dress properly.**  
Do not wear loose clothing or jewelry as they can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- 10. Hold tool securely.**  
A tool that is not held securely may injure you. Use clamps or a vice to hold the work. This frees both hands to properly hold, control, and operate the tool. Failure to properly secure the work may result in injury.
- 11. Disconnect the tools power supply, by removing the battery and engaging the Trigger Switch Lock, whenever one of the following situations occur:**  
The tool is not in use or is being serviced, any parts such as a blade, are being replaced. There is a recognized hazard. Failure to do so may result in unexpected operation and damage or injury.
- 12. Avoid unexpected operation.**  
Do not carry the tool by the Trigger Switch as this may cause unexpected operation and damage or injury.
- 13. Do not abuse power cord.**  
Never carry battery charger by its power cord or pull on the cord to disconnect it. Keep cord away from heat, oil and sharp objects. Place cord so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress. If the tool is dropped or struck, check carefully that the body is not damaged, cracked, or deformed.
- 14. Do not overreach.**  
Keep proper footing and balance at all times.
- 15. Maintain tools carefully.**  
Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect battery charger power cord periodically and, if damaged, have it repaired by Hougen Manufacturing, Inc. Keep handles dry, clean, and free from oil and grease.
- 16. Remove keys and wrenches.**  
Form habit of checking to see that keys and wrenches are removed from tool before starting operation.
- 17. Stay alert when using electric tools.**
  - Consider safety of others.
  - Operate tool with care.
  - Watch what you are doing.
  - Use common sense.
  - Do not operate tool when you are tired.
- 18. Check for damaged parts.**
  - Before using the tool, carefully check all parts for damage, including guards, to ensure that they will operate properly and perform their intended function.
  - Check for any misalignment or binding of moving parts; damaged or broken parts and mountings; and any other conditions that may affect its operation.
  - Do not use battery charger if electric plug or cord is damaged or if it was dropped or damaged in any way.
  - A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated in this instruction manual.
  - Do not use tool if switch does not turn it on and off. Have damaged or defective switch replaced by Hougen Manufacturing, Inc.
- 19. Service at Hougen Manufacturing Only.**  
Service this electric appliance in accordance with the relevant safety regulations. Repairs to electric appliances should only be done by a qualified person. Repairs by others may endanger the user. Contact Hougen Mfg., Inc. to arrange servicing.
- 20. Only use the specified accessories or attachment.**  
Use only the specified accessories or attachment described in this Instruction Manual and the Ogura catalog. Use of any other accessories or attachments may result in an accident or injury.

# SAFETY FIRST



Always wear eye protection while using punching tools, or in the vicinity of punching.



**CAUTION!** Risk of pinching or crushing . Keep away from moving parts when unit is in use.



**CAUTION!** The slug is ejected at the end of the punch. Do not aim the unit so that ejected slug may hit someone around, or below you.

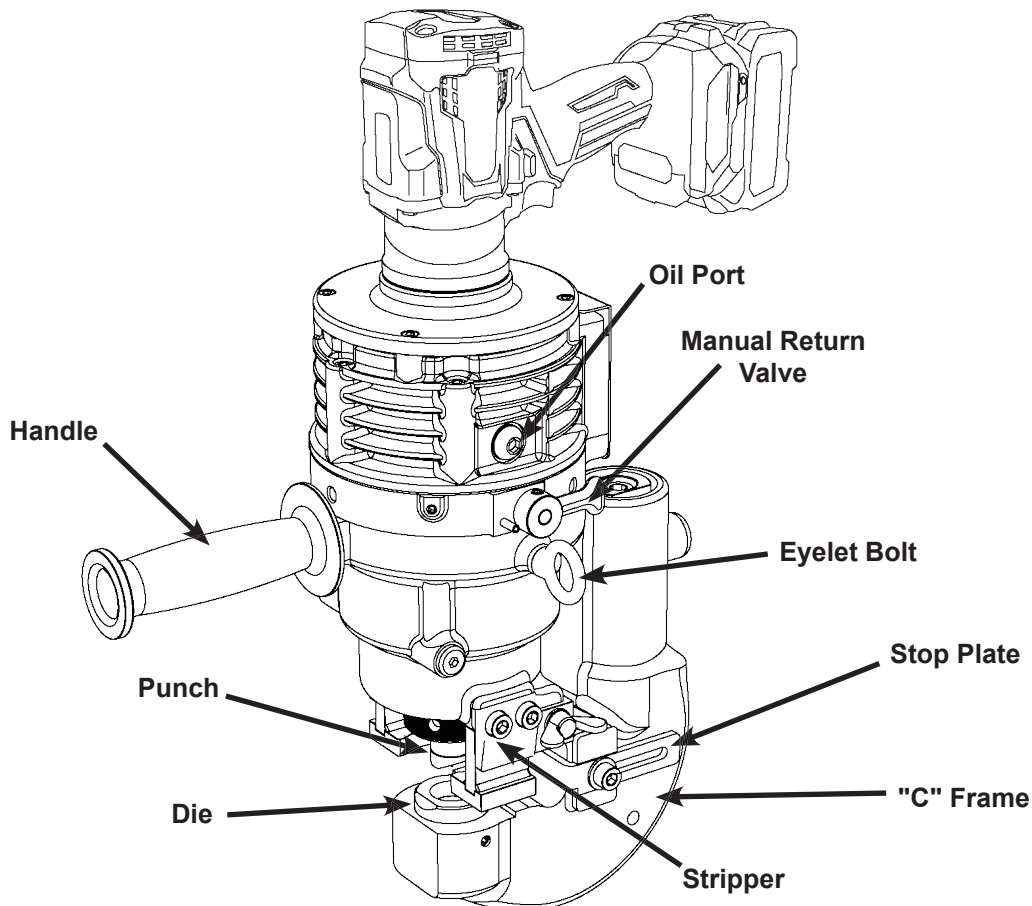


**CAUTION!** To prevent electric shock, do not use power tools near wet areas, or where power tool may become wet.

# PRINCIPLES OF OPERATION

The Hougen-Ogura Electro-hydraulic Hole Puncher is an integrated unit, containing the electric motor, hydraulic pump, and "C"-frame punching unit. It uses hydraulic power to force the punch through the workpiece, and a strong spring to return the punch piston to its "home" position. The patented design includes an automatic valve that releases the hydraulic pressure when the punch piston is at the bottom of its stroke. The automatic valve remains open until the punch piston has fully returned to the home position.

As a result of this design, the piston will not return to its home position automatically unless the full stroke has been completed. Also, the punch will not begin another stroke unless the punch has fully returned to the home position, resetting the automatic valve. To allow the punch piston to be manually returned in the event that the punch cycle is stopped prior to completion, a manual return valve is provided.



# 76006PR CONTENTS

Hydraulic Oil #32	75377
13/16" Diameter Punch	76366
13/16" Diameter B Die (>1/8-1/4THK)	75605
M3 Hex Key	75742
M5 Hex Key	75744
Tommy Bar	76554
Battery-40V-Makita	09788
Charger-40V-Makita	09787

## OPERATING PROCEDURES

Read, understand and follow all safety instructions and operating procedures. If you do not understand the instructions or if conditions are not correct for proper operation, do not operate the machine. Consult your supervisor or other responsible person.

\*Check that the trigger switch is not locked on.

\*Check that the manual return valve is closed.

\*Make sure that the proper punch and die are installed correctly. See **Die Selection** and **Proper Punches and Dies** on next page.

\*If you are using the hole locator gauge, adjust it to the proper distance. See **Hole Locator Gauge Adjustment** on next page.

\*Plug the power cord into the proper power supply.

\*Position the puncher at the proper location on the workpiece using the hole locator gauge or by locating the point on the end of the punch into a center punch mark on the piece.

With everything in proper order, the switch can be activated to start the electric motor. The punch piston will move out and push the punch through the material. Keep the switch on until the punch has reached the end of its stroke and stops. Release the switch. The automatic return valve will open at the end of the stroke allowing the punch piston to retract to its home position. The punch piston must return completely before another hole can be punched.

If the punch stops in the midst of its stroke or does not come out of the material, open the manual return valve. Once the punch piston has returned to its home position, tighten the manual return valve.

**WARNING! Failure to check punch retaining nut periodically during use, can result in personal injury or damage to the unit could occur.**

## **SELECTING PROPER DIES**

Proper die selection is essential. Other than the obvious necessity of matching shaped punches and dies, there are two other basic selection factors that must be considered. The first is die clearance. Different material types and different material thicknesses require different clearances between the punch and die. In order to maintain the best possible hole while remaining within the tonnage capacity of the machine, it is essential to choose the die with the proper clearance. The second is the die angle. Most structural shapes can be punched with the standard

flat dies, but "I" -beams and most channels which have a 2-in-12 taper require the use of special 9-1/2 degree angled dies. Car and ship channel flanges and other structural shapes with a 2 degree taper can be punched with flat dies. Materials with a flange taper of less than 5 degrees can also be punched with the flat die, however, the hole will be slightly angled. Refer to specific information and tables within this manual for the proper punch and die combination.

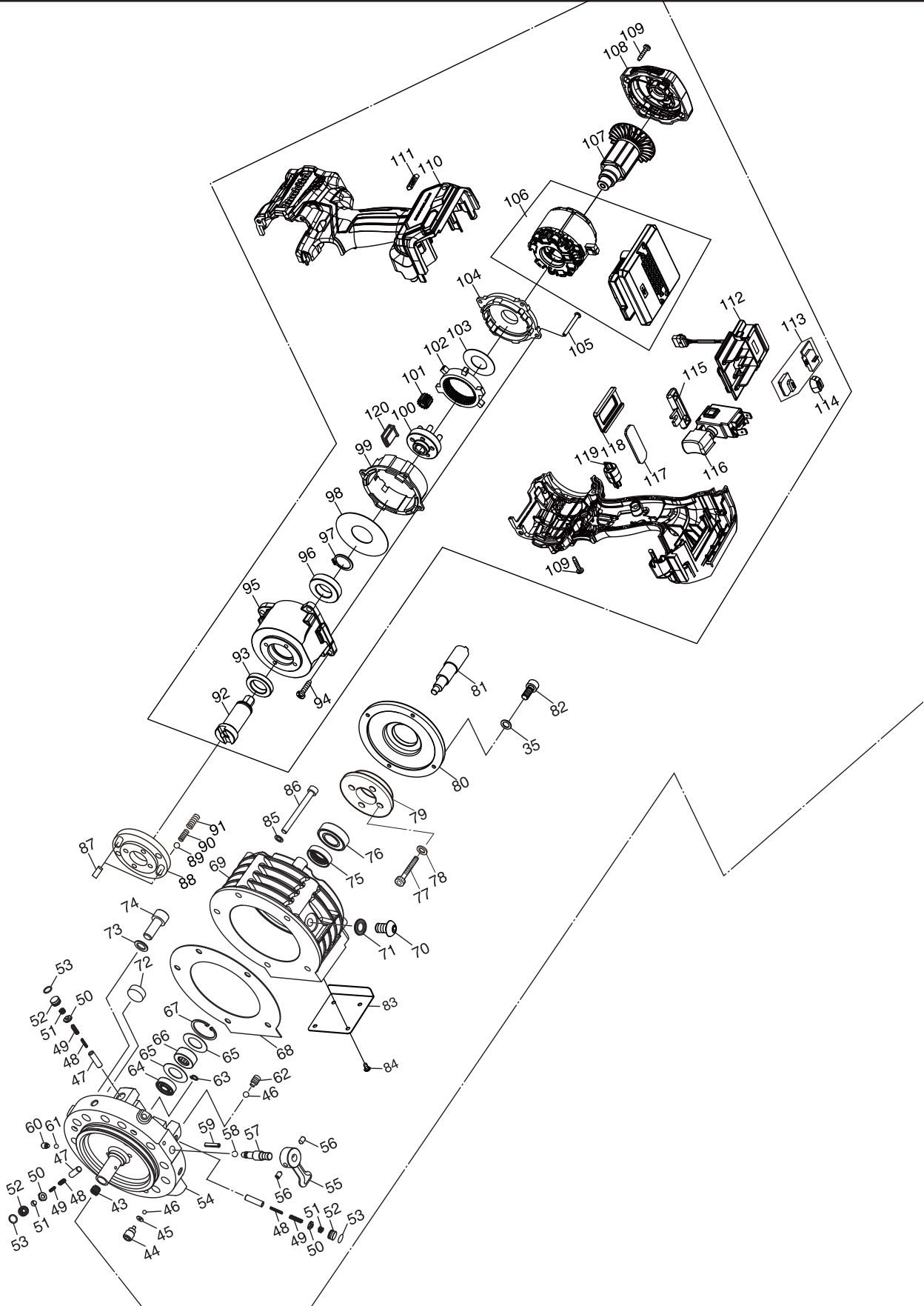
**Hougen-Ogura Punches are designed to be used in Structural Steel. If used in harder or higher tensile strength materials, performance will be impeded and serious damaged could occur to your unit.**

## **HOLE LOCATOR GAUGE ADJUSTMENT**

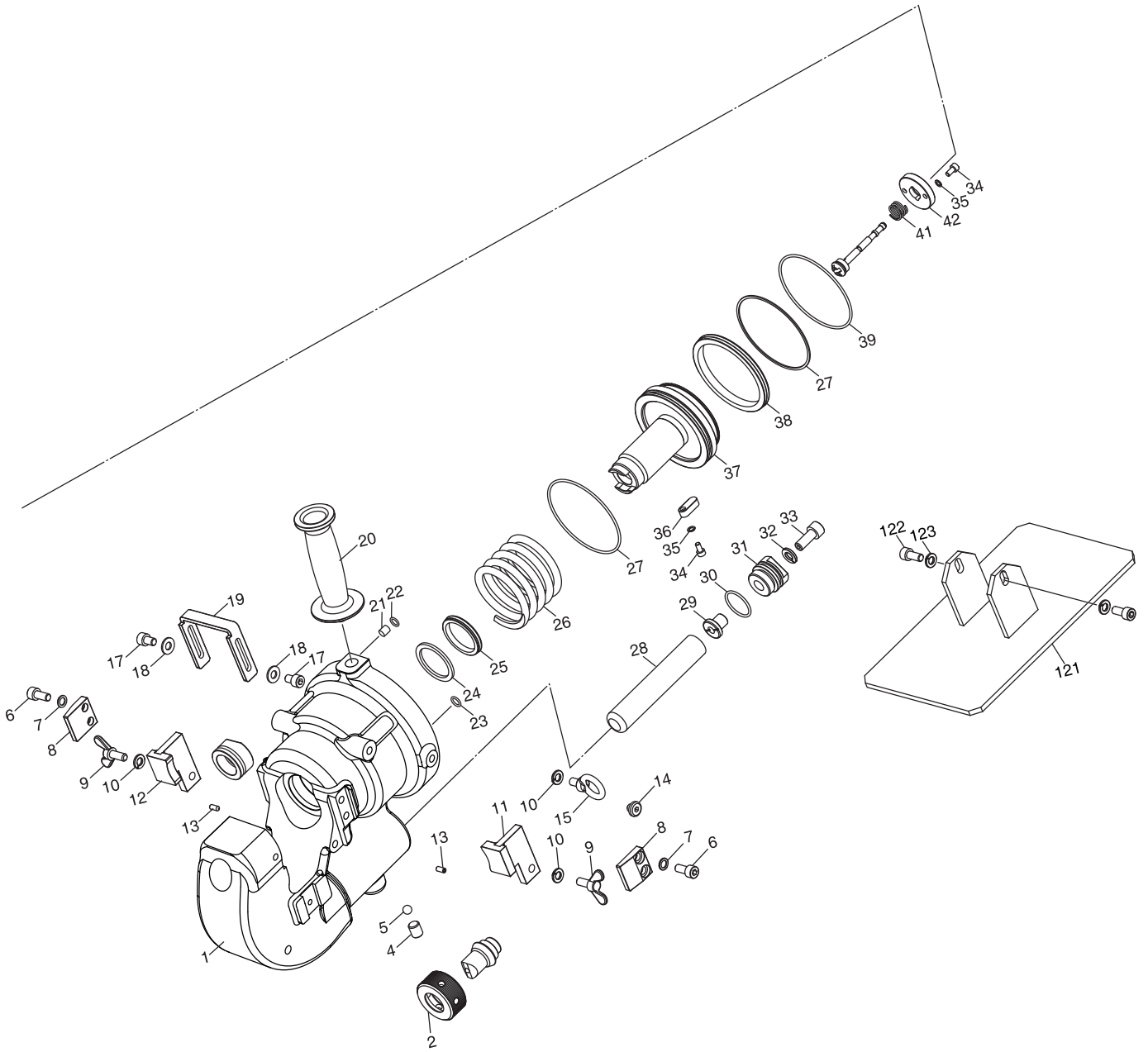
The Hole locator Gauge can be set to hold the Hole Punches at a constant distance from the edge of the workpiece. The gauge is held in place by one or two socket head caps screws. Before making any adjustment,

first, unplug the power cord. To adjust the position of the gauge, loosen the cap screw(s), tap the gauge into the desired position and retighten the cap screw(s).

# 76006PR EXPLODED VIEW



# 76006PR EXPLODED VIEW



# PARTS LIST - 76006PR

Det #	Part #	Description	Qty
1	76700	"C" Frame	1
2	76501	Punch Retaining Nut	1
4	75357	SCR-SOC Set M12 x 15mm	1
5	75356	Ball-Steel 3/8"	1
6	75602	SCR-SHC M8 x 18mm	4
7	75159	Washer-Serrated Flat 8mm	4
8	76503	Sub Stripper	2
9	76504	Bolt 8 x 20mm	2
10	76111	Washer 8mm	4
11	76505	Stripper R	1
12	76506	Stripper L	1
13	75098	SCR-SOC Set M6 x 12mm	2
14	76507	Plug Bolt	2
15	75362	Eye Bolt	2
17	75314	SCR-SHC M6 x 12mm	2
18	75157	Washer - Flat 6mm	2
19	76701	Slide Stopper	1
20	75063	Handle Punch	1
21	76509	Spacer	2
22	75240	O-Ring	2
23	75195	O-Ring	1
24	75293	Back Up Ring	1
25	75294	Packing Rod Seal	1
26	76510	Punch Return Spring	1
27	75272	O-Ring	2
28	75344	Oil Bladder	1
29	75136	Screw Bladder	1
30	75355	O-Ring	1
31	75345	Screw-Bladder Bushing	1
32	75155	Washer 10mm	1
33	75138	Retaining Screw	1
34	75037	SOC-SHC M5 x 10mm	3
35	75835	Washer 5mm	3
36	76511	Punch Rod Key	1
37	76512	Punch Rod	1
38	75295	Packing	1
39	75306	Ring Back Up	1
41	76514	Valve Return Spring	1
42	76515	Stopper Plate	1
43	76516	Release Valve Spring	1
44	76517	Seal Bolt	1
45	76518	Washer - 3mm	1
46	75208	Ball - Steel 4mm	4
48	75341	Spring - Piston Return B	3
49	75340	Spring - Piston Return A	3
50	75050	Valve - Check	3
51	75052	Spring - Check Valve	3
52	75325	Packing	3
53	76702	O-Ring	3
54	76519	Cylinder with Piston	1
55	75047	Lever - Return	1
56	75160	SCR-SOC Set M6 x 8mm	2
57	75046	Return Valve	1
58	75085	O-Ring	1
59	75100	Pin - Roll 4 x 20mm	1
60	76520	SCR-SOC Set M6 x 8mm	6
61	76521	Ball - Steel 3/16	6
62	76522	SCR-SOC Set M5 x 6mm	3

Det #	Part #	Description	Qty
63	76523	Stop Ring	1
64	75086	Bearing - Ball	1
65	75271	Needle Holder	2
66	75088	Bearing - Needle	1
67	75298	Ring - Retaining	1
68	76524	Liner	1
69	76525	Pump Case	1
70	76646	Bolt TRB 10 x 15	1
71	75090	Seal Washer	1
72	75054	Magnet	2
73	75353	Washer - Flat 10mm	12
74	75316	SOC-SHC M10 x 25mm	12
75	76526	Oil Seal	1
76	75297	Bearing - Ball	1
77	76630	Bolt HB4 x 25	4
78	75101	Washer WM3	4
79	76634	Thrust Fix Flange	1
80	76703	Middle Flange	1
81	76704	Eccentric Shaft	1
82	76402	Bolt HB5 x 12	4
83	76705	Housing Plate	1
84	76706	Bolt HBB5 x 10	4
85	75872	Washer HW6	5
86	76527	Soc-Shc M6 x 60 mm	5
87	75117	Leaf Spring	2
88	76636	Motor Mounting Flange	1
89	76637	Steel Ball D6	2
90	76638	Position Spring B	2
91	76639	Position Spring A	2
92	76679	Spindle	1
93	76046	Bearing	1
94	76680	Screw 4 x 18mm	4
95	76651	Gear Housing	1
96	76681	Ball Bearing	1
97	76042	Stop Ring	1
98	76653	Flat Washer 15	1
99	76654	Gear Case	1
100	76655	Carrier Complete	1
101	76656	Spur Gear 13	5
102	76657	Internal Gear 41	1
103	76658	Flat Washer 13	1
104	76659	Motor Bracket	1
105	76660	Pan Head Screw M3 x 25	4
106	76661	Stator Complete	1
107	76662	Rotor	1
108	76663	Rear Cover	1
109	76021	Tapping Screw PT3 x 16	11
110	76682	Motor Housing Set (Pair)	1
111	76665	XGT Log Level	1
112	76666	Terminal Unit	1
113	76667	Sensor Circuit	1
114	76668	LED Circuit	1
115	76669	Lock Lever	1
116	76670	Switch	1
117	76671	Masking Label	1
118	76672	Cover A	1
119	76673	Cover B	1
120	76674	Cover C	1

# ROUND PUNCHES AND DIES FOR 76006PR

ROUND PUNCH				MATERIAL		DIE		OBLONG PUNCH				MATERIAL		DIE	
Size			Part No.	Thickness	Style	Size	Part No.	Size			Part No.	Thickness	Style	Size	Part No.
Nominal	Actual	Metric						Nominal	Actual	Metric					
7/16"	.433	11mm	76359	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 7/16 SA	75578	7/16" x 5/8"	.433 x .625	11mm x 15.9mm	76369	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 7/16 x 5/8 A	75709
				5/64 (.078) to 3/8 (.375) 14 to 3 GA.	F, A, H	Die 7/16 SB	75579					5/64 (.078) to 3/8 (.375) 14 to 3 GA.	F, A, H	Die 7/16 x 5/8 B	75710
				5/16 (.312) Max.	C	Die 7/16 CC	75616					5/16 (.312) Max.	C	Die 7/16 x 5/8 CC	75723
1/2"	.512	13mm	76360	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 1/2 SA	75581	1/2" x 3/4"	.512 x .750	13mm x 19mm	76370	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 1/2 x 3/4 A	75712
				5/64 (.078) to 3/8 (.375) 14 to 3 GA.	F, A, H	Die 1/2 SB	75582					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 1/2 x 3/4 B	75713
				5/16 (.312) Max.	C	Die 1/2 CC	75617					5/16 (.312) Max.	C	Die 1/2 x 3/4 CC	75724
9/16"	.551	14mm	76361	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 9/16 SA	75584	9/16" x 13/16"	.551 x .827	14mm x 20.6mm	76371	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 9/16 x 13/16 A	75715
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 9/16 SB	75585					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 9/16 x 13/16 B	75716
				5/16 (.312) Max.	C	Die 9/16 CC	75618					5/16 (.312) Max.	C	Die 9/16 x 13/16 CC	75725
5/8"	.625	15.9mm	76362	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 5/8 SA	75588	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 5/8 SB	75589					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 5/8 CC	75620					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
11/16"	.688	17.5mm	76363	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 SA	75592	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 SB	75593					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 11/16 CC	75622					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
3/4"	.750	19mm	76364	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 3/4 SA	75596	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 3/4 SB	75597					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 3/4 CC	75624					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
25/32"	.787	20mm	76365	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 25/32 SA	75600	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 25/32 SB	75601					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 25/32 CC	75626					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
13/16"	.812	20.6mm	76366	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 13/16 SA	75604	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 13/16 SB	75605					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 13/16 CC	75628					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
7/8"	.875	22.2mm	76367	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 7/8 SA	75608	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 7/8 SB	75609					5/64 (.078) to 1/2 (.512) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720
				5/16 (.312) Max.	C	Die 7/8 CC	75630					5/16 (.312) Max.	C	Die 11/16 x 13/16 CC	75727
15/16"	.938	23.8mm	76368	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 15/16 SA	75612	11/16" x 13/16"	.688 x .827	17.5mm x 20.6mm	76372	5/64 (.078) to 1/8 (.125) 14 to 11 GA.	F, A, H	Die 11/16 x 13/16 A	75719
				5/64 (.078) to 15/32 (.472) 14 to 3 GA.	F, A, H	Die 15/16 SB	75613					5/64 (.078) to 15/32 (.472) 14 to 3 GA.	F, A, H	Die 11/16 x 13/16 B	75720

# TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
MOTOR RUNS BUT PUNCH PISTON DOES NOT COME OUT	MANUAL RETURN VALVE IS OPEN	CLOSE MANUAL RETURN VALVE
	OIL IS INSUFFICIENT	ADD OIL
	PISTON HAS NOT RETURNED COMPLETELY TO ITS HOME POSITION DUE TO STEEL CHIPS, DIRT OR OTHER DEBRIS ON THE EXPOSED PUNCH-HOLDER POSITION.	CLEAN DEBRIS FROM EXPOSED PUNCH-HOLDER PORTION OF PISTON ROD. PUSH PUNCH PISTON BACK TO ITS HOME POSITION.
	PUNCH PISTON RETURN SPRING IS TOO WEAK TO RETURN PUNCH ROD	HAVE MACHINE SERVICED BY THE FACTORY
PUNCH PISTON COMES OUT, BUT PUNCHING POWER IS TOO WEAK TO PUNCH	MANUAL RETURN VALVE IS NOT COMPLETELY CLOSED	CLOSE MANUAL RETURN VALVE
	OIL IS INSUFFICIENT OR AIR IS TRAPPED IN RESERVOIR	ADD OIL
	INTERNAL PUMP OR PISTON PARTS ARE WORN, DIRTY OR DAMAGED AND NOT FUNCTIONING PROPERLY	HAVE MACHINE SERVICED BY THE FACTORY
MOTOR DOES NOT ROTATE OR POOR ROTATION OF MOTOR	OPEN POWER CIRCUIT	CHECK PLUG, EXTENSION CORD, CIRCUIT BREAKER
	IMPROPER VOLTAGE	CHECK POWER SOURCE
	EXCESSIVE VOLTAGE DROP	EXTENSION CORDS ARE OF INSUFFICIENT WIRE SIZE FOR THE LENGTH OF THE CORD.
	WORN OR DAMAGED CORDS OR PLUGS. WORN CARBON BRUSHES. DAMAGED INTERNAL MOTOR PARTS	HAVE MACHINE SERVICED BY THE FACTORY
OIL LEAKING BETWEEN "C" FRAME AND CYLINDER OR BETWEEN CYLINDER AND PUMP HOUSING	BOLTS ARE NOT TIGHT	TIGHTEN BOLTS
	GASKET IS DAMAGED	HAVE MACHINE SERVICED BY THE FACTORY
OIL LEAKING AROUND PISTON OR FROM INTERNAL AREA	INTERNAL SEALS OR SURFACES ARE DAMAGED. OIL LEVELER SACK IS BROKEN	HAVE MACHINE SERVICED BY THE FACTORY
PUNCH DOES NOT STRIP OUT OF WORKPIECE AFTER PUNCHING	PUNCH OR DIE IS WORN	REPLACE
	IMPROPER DIE FOR MATERIAL OR THICKNESS	CHECK FOR PROPER PUNCH AND DIE SELECTION
	WORKPIECE WAS NOT UNDER BOTH STRIPPERS AND IS BINDING OR PUNCH	MAKE SURE THAT THE MATERIAL IS FULLY SEATED IN THE PUNCHING AREA

## MAINTENANCE

In order to insure smoother operation and longer life of your hole puncher, the following maintenance should be done periodically, based on use.

1. Keep the machine clean. It is especially important to keep the sliding portion of the punch piston free from metal chips, scale, dirt, dust or other debris. To clean the punch piston, turn on the switch to move the punch piston almost to the bottom of its stroke. If necessary, cycle the punch several times to determine where the bottom of the stroke is, and to correctly position the punch piston.

Unplug the power cord. Wipe any debris from the exposed part of the punch piston.

2. Regularly tighten all fasteners and replace any worn components.
3. Check power cord, if cracked or frayed, return the machine to an authorized repair center for replacement.
4. Check oil level, carefully using the procedure below.

**NOTE:** *The internal components of the pump and piston area have very close clearances and are sensitive to damage from dust, dirt, contamination of the hydraulic fluid or improper handling. The disassembly of the pump housing requires special tools and training, and should be attempted by a qualified repair person. The improper servicing of electrical components can lead to conditions that could cause serious injury.*

**ANY ATTEMPT BY UNAUTHORIZED PERSONNEL TO SERVICE THE INTERNAL COMPONENTS OF THE PUMP AREA WILL VOID THE WARRANTY.**

## ADDING OIL

Use of the correct hydraulic oil is essential. Approved oils are Shell "TELLUS Oil" and Exxon "TERESSTIC" (Part No. 75377). Grade #32 viscosity must be used. Check the unit specifications. Make sure that the work area and all equipment are clean so that no dirt, dust or other foreign material can get into the hydraulic oil or pump area.

1. Locate the socket head cap screw that plugs the oil port. It is just above the manual return lever on the right hand side of the Hole Puncher.
2. Lay the Hole Puncher on its left side so that the oil port is facing up.
3. Turn on the switch to move the punch piston almost to the bottom of its stroke. If necessary, cycle the punch several times to determine where the bottom of the stroke is, and to correctly position the punch piston. In this position, the maximum amount of oil has been drawn from the pump and the correct fill can be obtained.

4. Carefully open the oil port by removing the socket head cap screw.

5. Using the small squeeze bottle supplied with the Hole Puncher, carefully add hydraulic oil to completely fill the reservoir. Rock the Hole Puncher back and forth slightly several times to free any trapped air bubbles, then add additional oil if necessary.

6. Replace the cap screw and wipe up any excess oil.

7. Cycle the Hole Puncher several times with the Manual return Valve open, and again with the valve closed, to work any trapped air out of the system, then repeat the above procedure, making sure that the punch piston is almost at the bottom of the stroke before removing the cap screw from the oil port.

8. Add additional oil as necessary. If the unit was extremely low on oil, it may be necessary to repeat the procedure several times.

## HELPFUL HINTS FOR HOLE PUNCHING

Each of the punches is provided with a sharp point at its center. If the hole locations are center punched, the point on the end of the punch may be used to "find" the center punched spot.

Also, for accurate and easy positioning of the punch to a hole location, the switch can be intermittently pulsed on an off to jog the punch down to the work surface.

If the position is not satisfactory, open the manual return valve to retract the punch for another attempt. This operation can also be performed with the manual return valve "cracked" open slightly to prevent full punching pressure from being developed. In this manner, the punch can be easily brought right down to the surface without beginning to punch the hole. If the location is satisfactory, close the valve and finish the operation.

**WARNING! Failure to check punch retaining nut periodically during use, can result in personal injury or damage to your unit.**

## COMMERCIAL / INDUSTRIAL LIMITED WARRANTY

Hougen Manufacturing, Inc. warrants its Portable Magnetic Drills, Trak-Star Rail Drills, Hydraulic Rail Saw and Tornado II Paint Shakers for two (2) years, Electro-Hydraulic Hole Punchers for one (1) year, and it's Husqvarna Saw and other products for ninety (90) days from date of purchase against defects due to faulty material or workmanship and will repair or replace (at its option) without charge any items returned. This warranty is void if the item has been damaged by accident or unreasonable use, neglect, improper service, or other causes not arising out of defects in material or workmanship. No other expressed warranty is given or authorized. Hougen Manufacturing, Inc. disclaims any implied warranty of Merchantability or fitness for any period beyond the expressed warranty and shall not be liable for incidental or consequential damages. Some states do not allow exclusion of incidental or consequential damages or limitation on how long an implied warranty lasts and, if the law of such a state governs your purchase, the above exclusion and limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To obtain warranty service, return the item(s), transportation prepaid to your nearest Factory Authorized Warranty Service Center, or to Hougen Manufacturing, Inc., 3001 Hougen Drive, Swartz Creek, MI 48473.

This warranty is in lieu of any other warranty, expressed or implied, including any warranty of merchantability or fitness for a particular purpose.

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## FACTORY WARRANTY REPAIR SERVICES

Can be obtained by sending your product to:

**Hougen Manufacturing, Inc.**  
3001 Hougen Drive  
Swartz Creek, MI 48473  
Attn: Repair Department

***Hougen®-Ogura™***

Hougen Manufacturing, Inc.  
3001 Hougen Drive • Swartz Creek, MI 48473  
Phone (810) 635-7111  
www.hougen.com • info@hougen.com  
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