



Instruction Manual  
Model# RK-187



**FOR SALES, SERVICE OR TECH SUPPORT CALL:  
1800-BUY-RIVET or 1-800-289-7483**

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## **SAFETY**

- ➡ DO NOT USE OUTSIDE DESIGN INTENT OR WITH EQUIPMENT THAT IS NOT RECOMMENDED BY THE MANUFACTURER.
- ➡ ALWAYS DISCONNECT THE AIR SUPPLY BEFORE ATTEMPTING ANY MAINTENANCE OR ADJUSTMENT/FITTING OF NOSE EQUIPMENT
- ➡ DO NOT OPERATE A TOOL THAT IS DIRECTED TOWARDS ANY PERSON(S) OR WITH THE MANDREL CATCHER OFF THE TOOL
- ➡ ALL MODIFICATIONS CARRIED OUT ON THE TOOL WITHOUT EXPRESS WRITTEN CONSENT OF THE MANUFACTURER SHALL BE DONE SO AT THE CUSTOMERS' SOLE RESPONSIBILITY
- ➡ REFER TO THIS MANUAL BEFORE ATTEMPTING ANY MAINTENANCE OPERATION. DO NOT DISASSEMBLE THIS TOOL BEFORE REFERRING TO THIS MANUAL.
- ➡ AVOID EXCESSIVE CONTACT WITH HYDRAULIC OIL, AS SOON AS POSSIBLE WASH HANDS THOROUGHLY
- ➡ DO NOT EXCEED 7 BAR / 100 PSI INLET PRESSURE, THE USE OF A PRESSURE REGULATOR IS HIGHLY RECOMMENDED
- ➡ INSPECT THE TOOL USING PREVENTIVE MAINTENANCE TECHNIQUES AT REGULARLY SCHEDULED INTERVALS. INSPECT FOR DAMAGE AND FUNCTION BY TRAINED COMPETENT PERSONNEL. REPLACE THE PNEUMATIC CYLINDER HOUSING OR HYDRAULIC CYLINDER HOUSING WHENEVER THERE IS EVIDENCE OF IMPACT DAMAGE, CHIPPING, OR CRACKING.
- ➡ WEAR SAFETY GLASSES AND ADOPT FIRM FOOTING DURING OPERATION.

## **SPECIFICATIONS**

The specifications and information contained in this manual are applicable only to the tool with which it was supplied. Industrial Rivet & Fastener Co reserve the right to make any changes without notice as part of Industrial Rivet & Fastener Co policy of continuous improvement.

<b>SPECIFICATIONS FOR RK-187 RIVET TOOL</b>		
Air Pressure	80-90 PSI	Min/Max
Traction Power	1980 lbs	900 kg
Stroke	.625	Minimum
Pull Force	3,400 lbsF	@90psi
Cycle Time	0.9 seconds	Approximately
Noise Level	320mm	Less than
Weight	3.3 lbs	
Vibration	2.5m/s <sup>2</sup>	Less than
Hydraulic Oil	Rivet DTFE 24	
Rivet Capacity	3/32, 1/8, 5/32, 3/16 2.4, 3.2, 4.0, 4.8	All material rivets

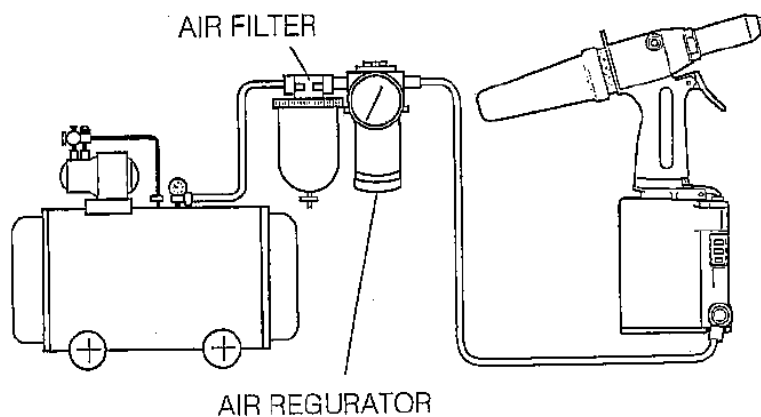
## AIR SUPPLY

- The rivet tool is powered by compressed air at an optimum pressure of 5.5 bar (80 psi)
- The use of a pressure regulator filter/lubricator unit within 3 meters of the tool is highly recommended to extend the life of the tool.

**Dirt and/or water in the air supply can seriously impact the performance and durability of the tool; damage to the tool caused by contaminated air supply is not covered under warranty**

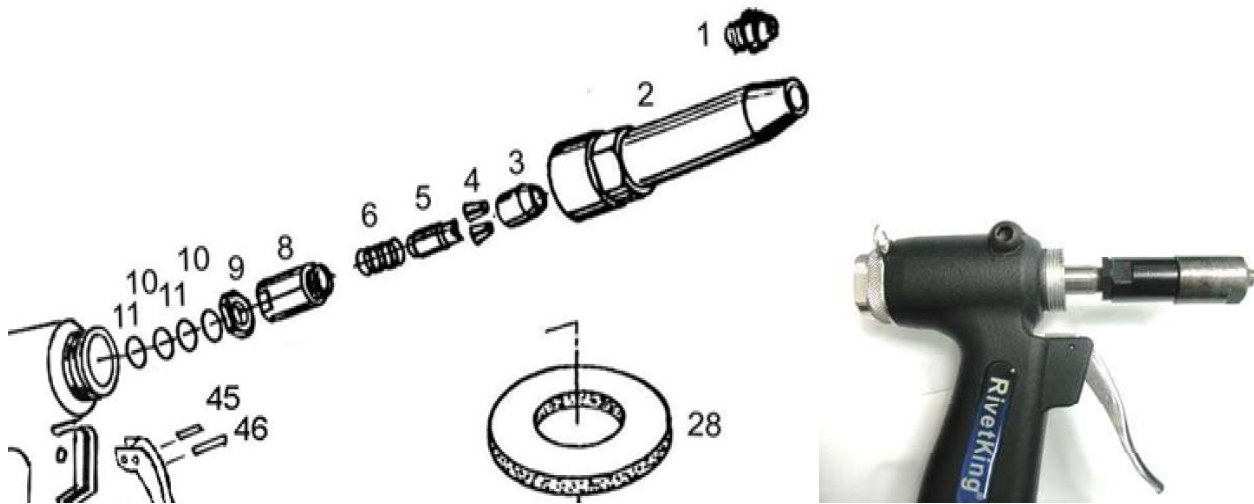
## OPERATION

1. Inspect for damage
2. Connect the tool to the air supply
3. Always bleed air line to clear it of all accumulated dirt or water before connecting air supply to tool.
4. Air supply of 80-90 P.S.I must be available.
5. Choose and securely install the applicable nose piece for the rivets you wish to apply. A ¼" flat face nose piece is installed as standard
6. Bring the tool and the rivet into the application hole. Insure the rivet head flat onto surface
7. Fully actuate the trigger. The tool will cycle and set the rivet while ejecting the nail into the rear mandrel catcher.
8. Empty catcher when at 50% capacity



## JAW CLEANING PROCEDURE / JAMMED GUN REMEDY

1. Disconnect tool from air supply
2. Leaving the nose piece attached, remove the nose case **2** using the wrench provided by loosening at the wrench point.
3. Fit two wrenches, one on Jaw Case **03** and the other on **08** keeping the nut **09** stationary while unscrewing the jaw casing **03**. It is important that you only unscrew the nut closest to the jaws (jaw casing) **03**. **DO NOT ADJUST LOCKNUT 09.**
4. Take care during removal as this jaw casing is spring loaded and contains 2 small jaws **04**, a jaw pusher **05**, and a spring **06**. Do not lose these pieces.
5. Once removed if a mandrel has jammed the tool, dislodge the mandrel from the jaws, discard mandrel.
6. Clean Jaws **04** with a mineral spirit then and coat outside of jaws (outside only) with a light layer of white lithium grease, red grease or one drop of hydraulic oil. Be sure to coat the outside of the jaws only.
7. Replace jaws into jaw case **03**.
8. Followed by jaw pusher **05**, and spring **06**, if necessary.
9. Re-apply jaw case **03** securely onto **08** using a wrench.
10. Reapply the nose case **02** securely to the tool
11. Reattach air supply. Actuate tool without rivet. Check Function.
12. Once comfortable, Apply Rivets.

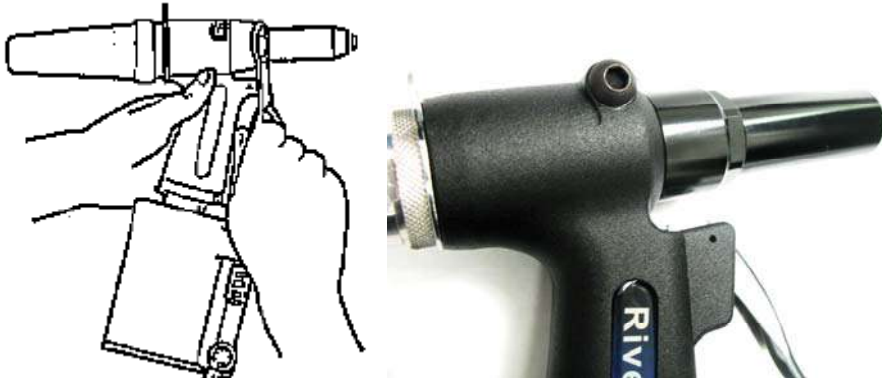


## MAINTENANCE

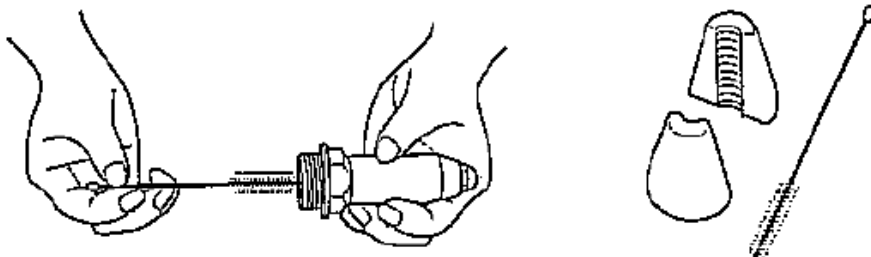
### **Oil Priming Procedure**

After 100,000 cycles, or when the tool loses enough stroke and/or power to place rivets in one actuation, a priming procedure may be required. Please use the oil provided with the tool. Replacements are available at 1-800-BUY-RIVET.

- Disconnect air supply to tool .
- Remove bleed screw(70) and seal(69).



- Fill the syringe(priming pump) with oil and screw it into the bleed screw hole. Actuate the pump by pressing down and releasing several times until resistance is felt. Overfilling the tool with oil and actuating it may result in hydraulic body fractures.
- Remove the priming pump and the excessive oil will flow out. Then clean out the excessive oil and replace the bleed screw and seal.
- Use a brush or similar to clean all parts.



**IMPORTANT:** DISCONNECT THE TOOL FROM THE AIR SUPPLY OR SWITCH OFF AT VALVE (55). REMOVE NOSE ASSEMBLY OR SWIVEL HEAD COMPONENTS. All operations should be carried out on a clean bench, with clean hands in a clean area. Ensure that the new oil is perfectly clean and free from air bubbles. Care **MUST** be taken at all times, to ensure that no foreign matter enters the tool, or serious damage may result.

### **Valve Spool Assembly**

- Send into authorized repair center for service.

## **PREVENTIVE MAINTENANCE**

In order to maintain the tool in a safe working order it is important to carry out regular maintenance as prescribed by the manufacturer. A thorough inspection replacement of all seals within the tool should be carried out after 500,000 placings or annually, whichever is the sooner. Item numbers in parentheses refer to assembly drawing part numbers

### **Daily**

- Check for air leaks. Any damaged hoses should be replaced
- Lubricate the tool by pouring a 1 drop of light lubricating oil into the air inlet on the tool
- If there is no pressure regulator, bleed the airline to clear it of accumulated dirt or water before connecting the air hose to the tool. If there is a filter, drain it.
- Check for proper nose piece use depending on the size of the rivet.
- Remove front jaw nose assembly and inspect for cracks or other damage to front and rear of the nose piece. Replace if necessary.
- Insure that rotary valve for the vacuum on the mandrel collection unit is correctly adjusted for fastener retention

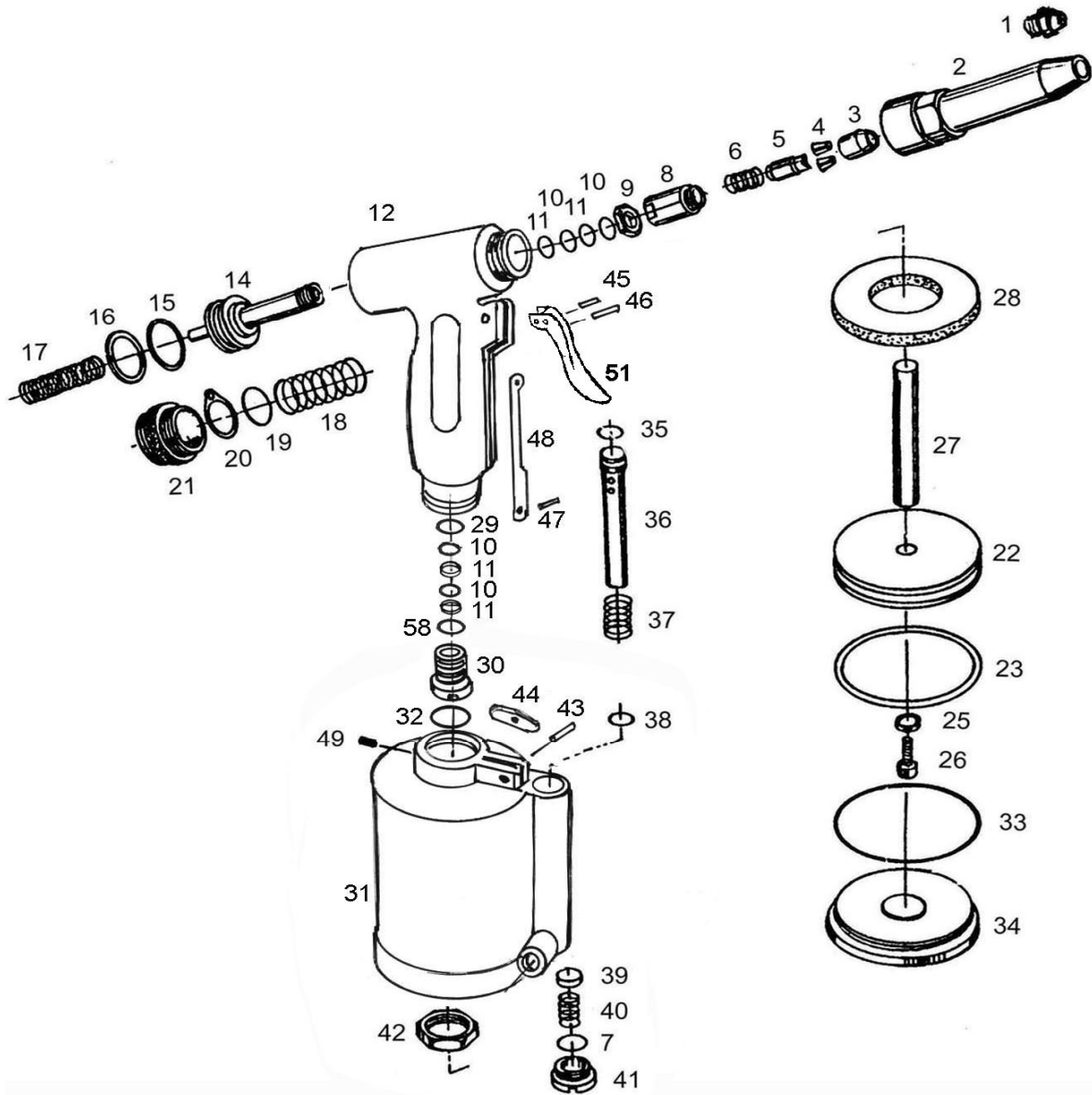
### **Weekly**

- Carry out procedures as per daily maintenance instructions above
- Clean and inspect the jaws for signs of damage or wear (groove running through the jaw serrations). Follow the instructions on page 4 for cleaning of jaws. Reassemble the tail jaws with a light coating of grease on the outer face that contacts the jaw housing. Do not allow grease to contaminate the grooved inner face of the jaws as mandrel slippage may result.

### **Monthly**

- Carry out procedures as per daily maintenance instructions above
- Check and replace cylinder bodies if there are signs of damage or cracks.

# SCHEMATIC





## Part List

Index NO.	PART NO.	DESCRIPTION	NO. Req'd
1D	107163	3/16" Nosepiece	1
2	02115A	Head	1
3	10709	Jaw Housing	1
4	107B08	Jaw ('@2PCS/SET)	2
5	107B07	Jaw Pusher	1
6	02105	Spring	1
7	10548	O-Ring Seal	1
8	02106	Jaw Housing Coupler	1
9	02104	Nut	1
10	11520	X-Ring Seal	4
11	11558	Ring Washer	4
12	02102F	Hydraulic Seciton	1
14	021510	Hydraulic Plunger	1
15	11501	O-Ring Seal	1
16	11549	O-Ring Washer	1
17	02152	Return Spirng	1
18	02153	Return Spirng	1
19	02127	O-Ring Seal	1
20	02159	Hanging Ring	1
21	02110	Screw Plug	1
22	02123	Piston Disc	1
23	02124	Air Piston Ring	1
25	76527	Spring Washer	1
26	10427	Piston Head Lock Screw	1
27	02122	Plunger Rod	1
28	02130	Damping Ring	1
29	25022	O-Ring Seal	1

Index NO.	PART NO.	DESCRIPTION	NO. Req'd
30	02157	Screw Plug	1
31	02101	Air Cylinder	1
32	02116	O-Ring Seal	1
33	10431	O-Ring Seal	1
34	02103	Air Cylinder Cap	1
35	02197	O-Ring Seal	1
36	02139	Valve Tube	1
37	11541	Valve Spring	1
38	11560	O-Ring Seal	1
39	10442	Valve Plate	1
40	10544	Valve Pressure Spring	1
41	10550	Screw Plug	1
42	02121	Lock Nut	1
43	02167	Pin	1
44	02134	Trigger Lever	1
45	02168H	Pin	1
46	02169	Pin	1
47	N2.5x6	Pin	1
48	02133	Trigger Rod	1
49	02172	Set Screw	1
51	02138HF	Trigger	1
58	02170	O-Ring Seal	1
<b>*** ACCESSORIES ***</b>			
1A	106160	3/32" Nosepiece	1
1B	107162	5/32" Nosepiece	1
1C	107161	1/8" Nosepiece	1
50	10647	Wrench	1

## **OIL MATERIAL SAFETY DATA SHEET (MSDS)**

Priming is ALWAYS necessary after the tool has been dismantled and prior to operating. It may also be necessary to restore the full stroke after considerable use, when the stroke may be reduced and fasteners are not fully placed by one operation of the trigger

### **Oil Details**

The recommended oil for priming is Mobil DTE 24 or Hyspin VG32 available in 0.51 or one gallon containers, or, you can use 30W hydraulic oil. Please see safety data below.

### **Mobil DTE 24 or Hyspin VG 32 Oil Safety Data**

#### **First Aid**

##### **SKIN:**

Wash thoroughly with soap and water as soon as possible. Casual or short term contact requires no immediate attention.

##### **INGESTION:**

Seek medical attention immediately. DO NOT induce vomiting.

##### **EYES:**

Irrigate immediately with water for several minutes. Although NOT a primary irritant, minor irritation may occur following contact.

#### **Fire**

Flash point 232°C. Not classified as flammable.

Suitable extinguishing media: CO<sub>2</sub>, dry powder, foam or water fog. DO NOT use water jets.

#### **Environment**

WASTE DISPOSAL: Through authorized contractor to a licensed site. May be incinerated. Used product may be sent for reclamation.

SPILLAGE: Prevent entry into drains, sewers, and water courses. Soak up with absorbent material.

#### **Handling**

Wear eye protection, impervious gloves (e.g. of PVC) and a plastic apron. Use in well ventilated area.

#### **Storage**

No special precautions.

#### **Priming Kit**

To enable you to follow the priming procedure opposite, you will need to obtain a priming kit:

<b>PRIMING KIT: RK-187</b>	
<b>PART NO</b>	<b>DESCRIPTION</b>
HO	Rivet DTE 24
HO-B	Refill Bottle

# TROUBLESHOOTING

Item numbers in parentheses refer to assembly drawing part numbers on page 9.

<b>Problem</b>	<b>Possible Cause</b>	<b>Remedy</b>
More than one operation of the trigger needed to place fastener	<ul style="list-style-type: none"> <li>▪ Air leak</li> <li>▪ Insufficient air pressure</li> <li>▪ Lack of lubrication</li> <li>▪ Worn or broken jaws</li> <li>▪ Low oil level or air in oil</li> <li>▪ Build up of dirt inside the nose assembly</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tighten joints or replace components</li> <li>▪ Adjust air pressure to within specification</li> <li>▪ Lubricate tool at air inlet point</li> <li>▪ Fit new jaws</li> <li>▪ Prime tool</li> <li>▪ Service nose assembly</li> </ul>
Tool will not grip stem of fastener	<ul style="list-style-type: none"> <li>▪ Worn or broken jaws</li> <li>▪ Build up of dirt inside the nose assembly</li> <li>▪ Loose jaw housing</li> <li>▪ Weak or broken spring in nose assembly</li> <li>▪ Incorrect component in nose assembly</li> <li>▪ Rotary valve incorrectly adjusted</li> </ul>	<ul style="list-style-type: none"> <li>▪ Fit new jaws</li> <li>▪ Service nose assembly</li> <li>▪ Tighten against locking ring</li> <li>▪ Fit new spring</li> <li>▪ Identify and replace</li> <li>▪ Read 'Operation'</li> </ul>
Jaws will not release broken stem of fastener	<ul style="list-style-type: none"> <li>▪ Build up of dirt inside the nose assembly</li> <li>▪ Jaw housing, nose tip or nose casing not properly seated</li> <li>▪ Weak or broken spring in nose assembly</li> <li>▪ Air or oil leak</li> <li>▪ Low oil level or air present in oil</li> </ul>	<ul style="list-style-type: none"> <li>▪ Service nose assembly</li> <li>▪ Tighten nose assembly and adjust if necessary</li> <li>▪ Fit new spring</li> <li>▪ Tighten joints or replace components</li> <li>▪ Prime tool</li> </ul>
Jammed Gun / Cannot feed next fastener	<ul style="list-style-type: none"> <li>▪ Broken stems jammed inside tool</li> <li>▪ Rotary valve incorrectly adjusted</li> </ul>	<ul style="list-style-type: none"> <li>▪ Empty mandrel collector</li> <li>▪ Check if jaw pusher is correct</li> <li>▪ Adjust air pressure to within specification</li> <li>▪ Adjust as in 'Operating Procedure'</li> </ul>
Slow cycle	<ul style="list-style-type: none"> <li>▪ Lack of lubrication</li> <li>▪ Low air pressure</li> <li>▪ Build up of dirt inside the nose assembly</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lubricate tool at air inlet point</li> <li>▪ Adjust air pressure to within specification</li> <li>▪ Service nose assembly</li> </ul>
Tool fails to operate	<ul style="list-style-type: none"> <li>▪ No air pressure</li> <li>▪ Damaged trigger valve</li> <li>▪ Loose pneumatic piston cover</li> <li>▪ Loose stem collector</li> </ul>	<ul style="list-style-type: none"> <li>▪ Connect and adjust to within specification</li> <li>▪ Replace</li> <li>▪ Tighten Socket Screws</li> <li>▪ Tighten</li> </ul>
Fastener fails to break	<ul style="list-style-type: none"> <li>▪ Insufficient air pressure</li> <li>▪ Fastener outside tool capability</li> <li>▪ Low oil level or air present in oil</li> </ul>	<ul style="list-style-type: none"> <li>▪ Adjust air pressure to within specification</li> <li>▪ Use more powerful tool</li> <li>▪ Contact Industrial Rivet</li> <li>▪ Prime/Re-Fill oil</li> </ul>
Insufficient Vacuum Pressure	<ul style="list-style-type: none"> <li>▪ Insufficient Air Pressure</li> <li>▪ Improper Vacuum Pressure Adjustment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Set to 90psi</li> <li>▪ See "Operation" for proper adjustment</li> </ul>

## Warranty Statement:

Industrial Rivet & Fastener Co. Inc. (hereinafter "IRF"), hereby warrants to the initial retail customer and original distributor ("Warrantee") only that its products will be free from defects in material and workmanship for a period of 1 year from the purchase date, provided that the products are used in accordance with "IRF's" instructions as to maintenance, operation and use.

The said warranty does not extend to goods subjected to misuse, neglect, accident or improper installation or maintenance or which have been altered or repaired by anyone other than the seller or its authorized agents.

The warrantee's only remedy and IRF's only obligation in the event of a defect or failure in the products, is that IRF, at its sole option, repair, replace or rework the products, but in no case shall the cost of the foregoing exceed the invoice price of the products.

This warranty shall be void if any person seeking to make a claim for defective or failed products fails to notify IRF within 30 days of receipt of evidence that the product is defective or has failed, or if said person fails to provide IRF with such evidence as is reasonably requested concerning the effect or failure, including without limitation, evidence of the date of purchase and date of installation.

**This warranty is in lieu of all other warranties, expressed or implied, including merchantability, or fitness provided for herein. Under no circumstance shall IRF be liable for incidental or consequential damages arising from the defect or failure in its products.**

Seller's sole obligation under the foregoing warranty will be limited to, at Seller's option, repair or replacement of the tool (and shipping to the buyer with transportation charges paid to any place within the contiguous 48 states). Returned goods will be evaluated by our warranty repair department and a conclusion will be determined and classified as:

- a) Warranty Repair (free of charge)
- b) Abuse /Neglect (bench fee and/or hourly rate)
- c) Maintenance (Flat Fee)

Level 1 - Adjustments and light repair \$15.00 + parts

Level 2 – Maintenance, Oil Change \$25.00 + parts

Level 3 – Overhaul, complete disassembly, change all seals \$35.00 + parts

If inspection by the seller of returned goods shows no breach of the forgoing warranty, Seller's regular conditioning charges (as stated above) apply. Upon this conclusion we will either repair the tool at no cost to you and return it postage paid, or call you to inform you of the repair cost. The repair will need to be approved in writing before any work is performed.

A comprehensive tool service and repair program, for details contact your local area sales representative or call:

Industrial Rivet & Fastener Co.  
200 Paris Ave  
Northvale, NJ 07647  
**1-800-BUY-RIVET**