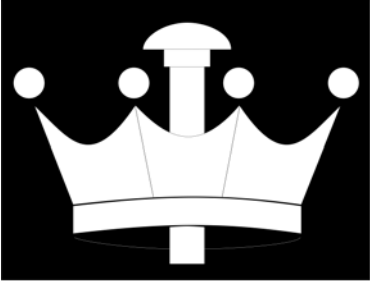


**R I V E T**



**K I N G**®

Instruction Manual  
**RK-INLINE**



**For sales, service or support call your local distributor or:**

**1800-BUY-RIVET or 1-800-289-7483**

**[www.rivet.com](http://www.rivet.com)**



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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 NOSE PIECES 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 6 BAR / 90 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. THE PLASTIC BODY MUST BE CHANGED 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.

SPECIFICATIONS FOR RK-800LS RIVET TOOL		
Air Pressure	75-100psi	Min/Max
Stroke	0.63 Inches	
Pull Force	2000 lbsF	@90psi
Cycle Time	0.9 seconds	Approximately
Noise Level	75 dB(A)	Less than
Weight	3.74 lbs	
Vibration	2.5m/s <sup>2</sup>	Less than
Hydraulic Oil	Mobil DTFE 24	
Nose Pieces	1/8, 5/32, 3/16	All material rivets
Nose Pieces	1/8	Purchased Separately

## PREPARING THE TOOL FOR SERVICE

### I. Operation

(A) Selection of rivet size Before riveting, there must of course be a hole in the materials to be rivets.

Matching of hole and rivet sizes are very important. For example, where the outer diameter of the rivet is 3.2 mm, the hole diameter should be between 3.3-3.4 mm.

The rivet should be 3 mm longer than the object to be riveted is thick.

(B) Check that the correct nosepiece is fitted as per the following:

---

Rivet Dia.		Rivet Material	Nosepiece
mm	inch		
3.2	1/8"	All Materials	1
4.0	5/32"	All Materials	1
4.8	3/16"	All Materials	1

(C) Now connect the tool to the compressed air supply.

## AIR SUPPLY

- The rivet tool is powered by compressed air at an optimum pressure of 5.5-6.0bar(80-90 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**

## 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 Maintenance

- Check for air leaks. Any damaged hoses should be replaced
- Lubricate the tool by pouring a few drops 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/mandrel use depending on the size of the rivet nut.
- Remove the mandrel from the front nose assembly and inspect for cracks, wear or other damage. Replace if necessary.
- Check that front nose assembly is fully tightened onto body

### II. Maintenance:

The newest Air-Hydraulic Straight Riveting Tool is a finely engineered mechanical device which should be serviced and maintained on a regular basis in order to achieve maximum efficiency and economy. The tool has been so designed that this servicing and maintenance is simple and can be carried out without any major degree of skill or specialized tools other than those supplied with the kit, the operative parts of the tool which require regular inspection and maintenance are as follows:

(A) Periodically the jaws should be inspected and cleaned and, when necessary, replaced with new jaws (see section A below for maintenance procedure).

(B) The hydraulic section of the tool should be checked periodically to ensure that the oil level is maintained and that there are no leaks or breakdowns in the seals.

## PROCEDURES

### (A) CLEANING AND CHANG JAWS

1. Important: Disconnect the tool from the air pressure line.
2. Use WRENCH (66) to remove HEAD (2) and JAW HOUSING (3) at the same time hold the JAW HOUSING COUPLER (7) with an 14mm open end wrench.
3. Clean jaws with solver or steel brush. Replace with new jaws if excess wear is apparent. Always coat outer or smooth surface of jaws with an oil film before assembling.

### (B) REASSEMBLING

1. Re-assemble by reversing above procedure. It is important that PUSHER TUBE engages the conical part of the jaws DO NOT change position of parts(7) or (64) If inadvertently changes see readjustment instructions under "MALFUCTION" below.

2.The distance between the flat underside of JAW HOUSING (3) and front end of HYDRAULIC SECTION (14) should be measured against recess on WRENCH (66) as a gauge of 57mm measurement. shown in exploded view for correct adjustment on jaw assembly.

### (C) CHANGING NOSEPIECES

- 1.Connect the tool to air line and press TRIGGER (30) until nosepiece is unscrewed and new changed by unscrewing the HEAD (2).
- 2.Nosepiece can also be changed by unscrewing the HEAD (2).
- 3.When TRIGGER (30) has been released, the tool is at rest there should be a circular opening visible in the nosepiece and JAWS (4) open to equal degree.

## III. MALFUNCTION AND CORRECTIONS

### A. MANDREL GRIPPED BY JAWS BUT RIVET DOES NOT SET AND MANDREL DOSE NOT BREAK.

#### CAUSES:

1. Low air pressure or
2. Loss of oil

2. Insert mandrel of rivet into Riveter. Rivet will be held in Riveter by air vacuum. If rivet falls out of tool, vacuum is not strong enough. Amount of vacuum can be adjusted via REGULATOR (54) located under the Mandrel Bottle area. Turn this screw counter-clockwise to increase vacuum, or clockwise to decrease vacuum. The longer the rivet, the stronger the vacuum must be to hold rivet in place in tool.

3. If pull Small rivets 1/8"(3.2mm) application, PLS change (60) PUSHER TUBE and insert (5) Smaller PUSHER TUBE into the (7) & (11)

### B. MANDREL DOES NOT FIT INTO THE NOSEPIECE OR FAILS TO EJECT.

#### CAUSES:

1. Position of JAW HOUSING COUPLER (7) and NUT (64) has been changed, or
2. The HYD. RETURN SPRING (18) is weak.

#### REMEDIES:

1. Check the distance between the front fudge of the JAW HOUSING (3) and the milled underside of the HYDRAULIC SECTION (14) (measurement "57mm" on WRENCH (66)
2. When testing, check that the HYD. RETURN SPRING (18) will return the HYDRAULIC PLUNGER (11) with and without the HEAD (2).

**REMEDIES:**

1. Increase air pressure but don't exceed 90 PSI at tool.  
Make sure all fittings including SCREW PLUG(50) and HEAD (2) are tight. If malfunction persists add oil as next procedure.
2. Disassemble AIR CYLINDER BODY (31) HYD. SECTION (14) and HEAD (2) before adding oil, check to be sure HYDRAULIC PLUNGER(11) is at the bottom of its stroke, by hand pulling JAWS HOUSING (3) away from HYDRAULIC SECTION (14). Hydraulic section should bottom its stroke automatically when removing HEAD (2). If JAW HOUSING (3) moves downward by hand power, then HYD. RETURN SPRING (18) must be replaced. Care must be exercised to avoid damage to o'ring. Pour hydraulic oil (Texaco R&O-68) or any equivalent (36cSt=4.3e/50°C) into HYDRAULIC SECTION(14)until the level touches the X RING SEAL(10) in the HYD. ROD GUIDE (19). Before assembling also check to see if any oil appears in AIR CYLINDER (31), HEAD (2) or SCREW PLUG (50). If oil is found in any of these areas replace o'ring as needed. Reassemble the parts in the reverse order ensure that the o'ring are undamaged.

**IMPORTANT:**

1. When refilling, ensure that there are no bubbles in the oil, Bubbles can be dispersed by a pumping action with the PLUNGER ROD (27). If necessary, refill after pumping. HEAD (2) MUST BE OFF WHEN REFILLING.

**C. TOOL TAKES MORE THAN ONE STROKE UNDER IDEAL****CAUSES:**

1. Insufficient oil
2. Not enough air
3. Loose nosepiece
4. JAW HOUSING COUPLER (8) too far forward.

**REMEDIES:**

1. See remedy under malfunction A.
2. Increase air pressure but do not exceed 90 PSI at tool.
3. Tighten nosepiece with WRENCH (66).
4. See procedure under remedy 1 of malfunction B above.

**D. MANDREL IS NOT GRIPPED****CAUSES:**

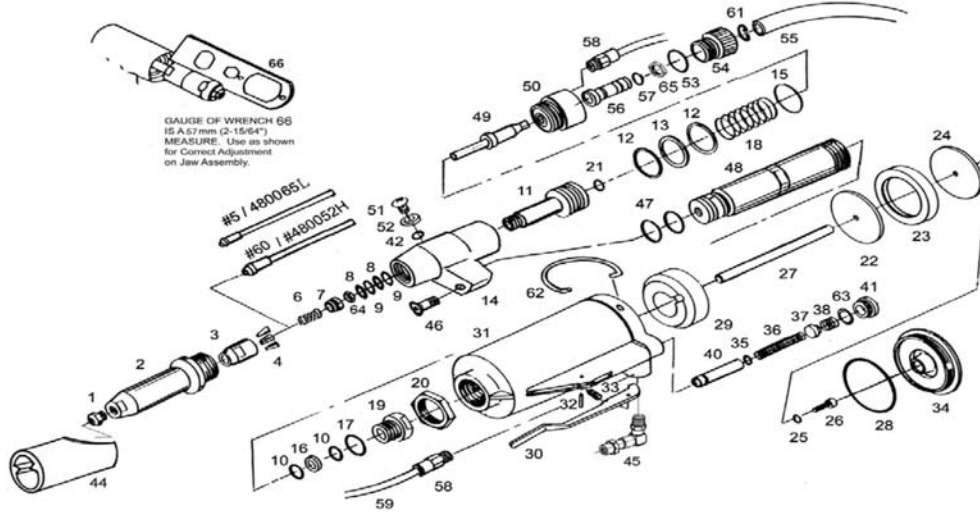
1. JAWS (4) are dirty, worn, or broken.
2. SPRING (6) is weak.

**REMEDIES:**

1. Clean or change the jaws in accordance with procedure. (A) of para.II maintenance.
2. Replace with new SPRING (6) in the JAW HOUSING COUPLER (7).

# SCHEMATIC

## RK-INLINE 3/16" AIR HYDRAULIC STRAIGHT



### TECHNICAL DATA

Blind Rivet Setting Capacity  
 Min Hose inch  
 Traction Power lbs(kgf)  
 Operating Air Pressure PSI  
 Net Weight lbs(kgs)  
 Stroke Length inch(mm)

Max. 3/16"(4.8mm)blind rivets in all materials  
 3/8  
 2000(900)  
 90  
 3.3(1.5)  
 (16)

Index #	Part #	Description	Q'ty
1C	CIR316-01C	3/16" Nosepiece	1
2	CIR316-02	Head	1
3	CIR316-03	Jaw Housing	1
4	CIR316-04	Jaws	3
6	CIR316-06	Spring	1
7	CIR316-07	Jaw Housing Coupler	1
8	CIR316-08	X-Ring Seal	2
9	CIR316-09	O-Ring Washer	2
10	CIR316-10	O-Ring Seal	2
11	CIR316-11	Hydraulic Plunger	1
12	CIR316-12	O-Ring Seal	2
13	CIR316-13	O-Ring Washer	1
14	CIR316-14	Hydraulic Cylinder	1
15	CIR316-15	O-Ring Seal	1
16	CIR316-16	O-Ring Washer	2
17	CIR316-17	O-Ring Seal	1
18	CIR316-18	Hydraulic Return Spring	1
19	CIR316-19	Hydraulic Rod Guide	1
20	CIR316-20	Lock Nut	1
21	CIR316-21	O-Ring	1
22	CIR316-22	Front Piston Head Disc	1
23	CIR316-23	Piston Head Packing Ring	1
24	CIR316-24	Rear Piston Head Disc	1
25	CIR316-25	Spring Washer	1
26	CIR316-26	Piston Head Lock Screw	1
27	CIR316-27	Plunger Rod	1
28	CIR316-28	O-Ring Seal	1
29	CIR316-29	Damping Ring	1
30	CIR316-30	Trigger Arm	1
31	CIR316-31	Air Cylinder Body	1
32	CIR316-32	Roll Pin	1
33	CIR316-33	Spring	1
34	CIR316-34	Air Cylinder Cap	1
35	CIR316-35	O-Ring Seal	1
36	CIR316-36	Valve Spring	1
37	CIR316-37	Valve Plate	1

Index #	Part #	Description	Q'ty
38	CIR316-38	Valve Pressure Spring	1
40	CIR316-40	Valve Tube	1
41	CIR316-41	Screw Plug	1
42	CIR316-42	O-Ring	1
44	CIR316-44	Rubber Sleeve	1
45	CIR316-45	Swivel Jointer	1
46	CIR316-46	Bolt	1
47	CIR316-47	O-Ring Seal	2
48	CIR316-48	Hydraulic Pipe	1
49	CIR316-49	Tube Screw	1
50	CIR316-50	Screw Plug	1
51	CIR316-51	Oil Plug	1
52	CIR316-52	Washer	1
53	CIR316-53	O-Ring	1
54	CIR316-54	Regulator	1
55	CIR316-55	Tube (ϕ8 x 7FT)	1
56	CIR316-56	Nipple	1
57	CIR316-57	O-Ring Seal	1
58	CIR316-58	Tube Connector	2
59	CIR316-59	Tube (ϕ2.5)	1
60	CIR316-60	Pusher Tube	1
61	CIR316-61	Retaining Ring	1
62	CIR316-62	Handing Ring	1
63	CIR316-63	O-Ring Seal	1
64	CIR316-64	Nut	1
65	CIR316-65	Nut	1
<b>ACCESSORIES</b>			
	CIR316-1A	1/8" Nosepiece	1
	CIR316-1B	5/32" Nosepiece	1
	CIR316-04	Jaws (3) (10408)	3
	CIR316-05	Pusher Tube	1
	CIR316-A01	Hex Wrench	1
	CIR316-A02	Spanner 11mm/13mm	1
	CIR316-A03	Spanner 14mm/17mm	1
	CIR316-A04	Oil Syringe	1

# PARTS LIST



## Oil Details

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

## 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.

## 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>▪ Air Lubrication</li> <li>▪ Worn or broken jaws</li> <li>▪ Improper adjustment of set nut <b>(13)</b></li> <li>▪ Low oil level or air bubble in hydraulic oil</li> <li>▪ Buildup 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>▪ Install new jaws</li> <li>▪ adjust set nut <b>(13)</b> clockwise 1 rotation</li> <li>▪ See Priming Procedure</li> <li>▪ Service nose assembly</li> </ul>
Tool will not grip stem of fastener	<ul style="list-style-type: none"> <li>▪ Worn, broken or missing jaws</li> <li>▪ Buildup 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>▪ See Jaw Cleaning Procedure</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>▪ Buildup of dirt inside the nose assembly</li> <li>▪ Jaw housing, nose tip or nose casing not properly seated</li> <li>▪ Improper adjustment of set nut <b>(13)</b></li> <li>▪ Weak or broken spring in nose assembly</li> <li>▪ Air Leak or Air pressure below 90 psi</li> <li>▪ Low oil level or air bubble in hydraulic oil</li> </ul>	<ul style="list-style-type: none"> <li>▪ See Jaw Cleaning Procedure</li> <li>▪ Tighten nose assembly and adjust if necessary</li> <li>▪ adjust set nut <b>(13)</b> counter-clockwise 1 rotation</li> <li>▪ Fit new spring</li> <li>▪ Tighten joints or replace components</li> <li>▪ Adjust as in 'Operating Procedure' to 90 psi</li> <li>▪ See Priming Procedure</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> <li>▪ Air pressure below 90 psi</li> </ul>	<ul style="list-style-type: none"> <li>▪ Empty mandrel collector</li> <li>▪ Check if jaw pusher <b>(7)</b> is cracked/broken</li> <li>▪ Check if Vacuum Sleeve <b>(16)</b> is cracked/broken</li> <li>▪ Adjust vacuum pressure</li> <li>▪ Adjust as in 'Operating Procedure' to 90 psi</li> </ul>
Slow cycle	<ul style="list-style-type: none"> <li>▪ Lack of lubrication</li> <li>▪ Low air pressure</li> <li>▪ Low oil level or air bubble in hydraulic oil</li> <li>▪ Buildup 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>▪ See Priming Procedure</li> <li>▪ Service nose assembly</li> </ul>
Tool fails to operate	<ul style="list-style-type: none"> <li>▪ No air pressure</li> <li>▪ On/Off switch is in off position</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>▪ Adjust as in 'Operating Procedure' to 90 psi</li> <li>▪ Slide On/Off sleeve <b>(54)</b> down until air is flowing</li> <li>▪ See 'Trigger Maintenance' <b>Page 7</b></li> <li>▪ Disconnect Air Pressure, Tighten all connections</li> <li>▪ Disconnect Air Pressure, Tighten Cap <b>(28)</b></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 as in 'Operating Procedure' to 90 psi</li> <li>▪ Use more powerful tool</li> <li>▪ Contact Industrial Rivet for assistance</li> <li>▪ See Priming Procedure</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>▪ Adjust as in 'Operating Procedure' to 90 psi</li> <li>▪ See "Operation" for proper adjustment</li> </ul>

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

## Warranty Statement:

Industrial Rivet & Fastener Co. Inc. and Zipp Tools (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)

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**