

# POP<sup>®</sup>

## INSTRUCTION MANUAL PRT 5250

### Inline Blind Rivet Tool



上海微宇电子科技有限公司  
Shanghai Huiyu Electronic Technology Co., Ltd.

**ATTENTION!**  
**TO INSURE PROPER FUNCTIONING AND SAFE OPERATION**  
**READ THIS MANUAL CAREFULLY BEFORE ATTEMPTING**  
**TO OPERATE THIS TOOL.**

### **SAFETY INSTRUCTIONS**

1. Always wear **eye protection** when operating the PRT5250.
2. To avoid injury **do not point the tool at anyone.**
3. **Disconnect the tool from the air supply** when not in use for an extended period of time or before proceeding with any maintenance procedures.
4. **Do not attempt to operate the tool with the Nose Housing removed.** This exposes potential pinch points and could result in injury.
5. **Do not tamper with Clamp Screws or Fill Screw.** Loosened screws may result in a malfunction or injury due to air or hydraulic pressure.
6. **To avoid injury, keep the plug in the threaded open end of the Passageway Assembly when not using a Mandrel Collection System.**
7. **Always clear the tool of spent mandrels** before setting a new fastener.
8. **Passageway Fastening Screws should only be removed during tool maintenance.** The tool should not be operated with the Passageway Cover removed.
9. **Use caution when holding the tool at an angle** since compressed air is released through the Intensifier Chamber and may be directed towards the operator. Do not direct exhaust towards anyone.
10. Inspect the tool at regular intervals for damage and proper function. **Replace damaged parts immediately. Do not connect a damaged tool to an air supply.**
11. **Use only genuine Pop brand replacement parts.**

## DESCRIPTION

The PRT5250 is a light weight air-hydraulic In-Line Rivet Tool developed for over-head assembly and designed to be used in an upright, nose-down position. It can be suspended with the use of a 5lb. tool balancer to simplify the operation of setting blind rivets of 1/8", 5/32" and 3/16" diameter. The PRT5250 comes fitted with a 3/16" nose-piece, but can easily be converted to accommodate 1/8" and 5/32" rivet nosepieces (included with tool) or a 3/32" nosepiece (can be ordered separately).

## PACKED IN CARTON

Part Number	Part Name	Data
PRT5250	In-Line Rivet Tool	Fully assembled
PRT5200	Air Supply Hose Assembly	6 feet long
PRN414	Nosepiece	For 1/8" Open End Rivets
PRN514	Nosepiece	For 5/32" Open End Rivets
PRN614	Nosepiece	For 3/16" Open End Rivets – Installed on Tool
PRT5200-4	Mandrel Guide & Jaw Pusher Assembly	Use with 1/8" and 3/32" diameter Rivets
PRG540-127	Oil Replacement Screw	Use for hydraulic oil replacement
PRT5250-91	Hanger	Installed on Tool
	Instruction Manual & Warranty Card	

## SPECIFICATIONS

WEIGHT:	3.9 lbs. (1.77 Kg.)
LENGTH:	15.63 in. (397 mm)
WIDTH:	4.44 in. (113 mm)
STROKE	.63 in. (16 mm)
PULLING FORCE:	1700 lb.f. (7556 N)
AIR PRESSURE:	85 P.S.I. (5.8 bar or KgF/cm <sup>2</sup> ) max.

## THEORY OF OPERATION

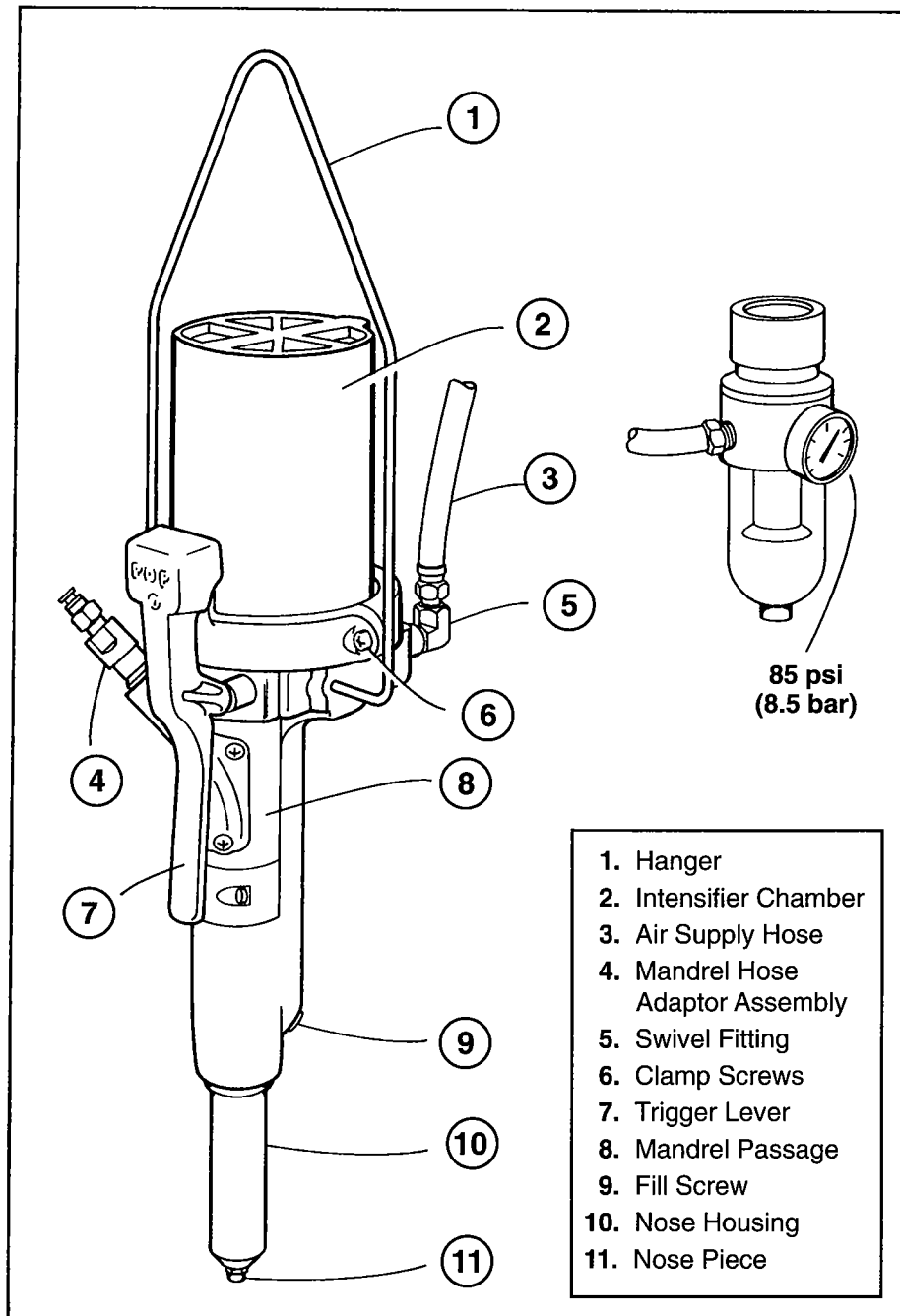
When the tool is connected to an air supply and the Trigger Lever is operated, pressurized air pushes the air piston which acts on the hydraulic Ram Assembly. The hydraulic Ram Assembly forces hydraulic fluid from the reservoir in the handle into the main hydraulic bore where it moves the hydraulic piston together with the attached pulling mechanism rearward. As the pulling jaws move rearward they close on and grip the rivet mandrel and set the rivet.

When the trigger is released air at line pressure forces the hydraulic piston forward to the starting position. As the hydraulic piston moves forward the hydraulic fluid is also forced back returning the hydraulic fluid and air piston to the starting position. When the hydraulic piston is fully returned the broken rivet mandrel is released as the jaws are forced open again against the nosepiece.

If the tool is equipped with an MCS5000 Remote Vacuum Mandrel Collection System the mandrel will be drawn out of the tool through the Mandrel Passage and deposited in the collection container.

## INSTALLATION

**CAUTION:** Do not connect air supply until all tool parts are properly installed and ready for operation.



## AIR SUPPLY REQUIREMENTS

1. Use a **dry, filtered air supply regulated to 75 - 85 PSIG (5 - 6 BAR)**
2. If using a Mandrel Collection System (MCS) with the PRT5250, **a separate air supply should be used for each device.** If both the PRT5250 and the MCS must be connected to the same air supply, a minimum of a 1/4" I.D. air supply hose is required to provide adequate volume.

## PREPARING FOR OPERATION

1. Select and attach the appropriate Nosepiece based on the rivet size. The PRT5250 comes assembled with a 3/16" Nosepiece.

To change to a 5/32" Nosepiece, remove and replace the Nosepiece with part no. PRN514. Securely tighten.

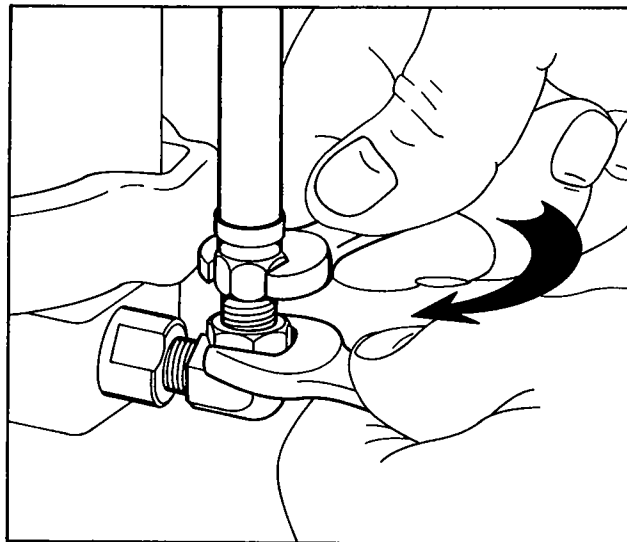
When changing to the 1/8" Nosepiece, PRN414, installation of the Mandrel Guide and Jaw Pusher Assembly is required. Refer to Service Procedures, Section 1 for more information.

## AVAILABLE NOSEPIECES

Rivet Size	Open End	Closed End Steel Mandrel	Closed End Aluminum Mandrel	T-Rivet
3/32"	PRN314			
1/8"	<b>PRN414 *</b>	PRN424	PRN434	
5/32"	<b>PRN514 *</b>	PRN524	PRN534	
3/16"	<b>PRN614 *</b>	PRN624	PRN634	PR25

\* Included with the PRT5250  
Additional parts listed above are available from POP Fasteners.  
Specify part number when ordering.

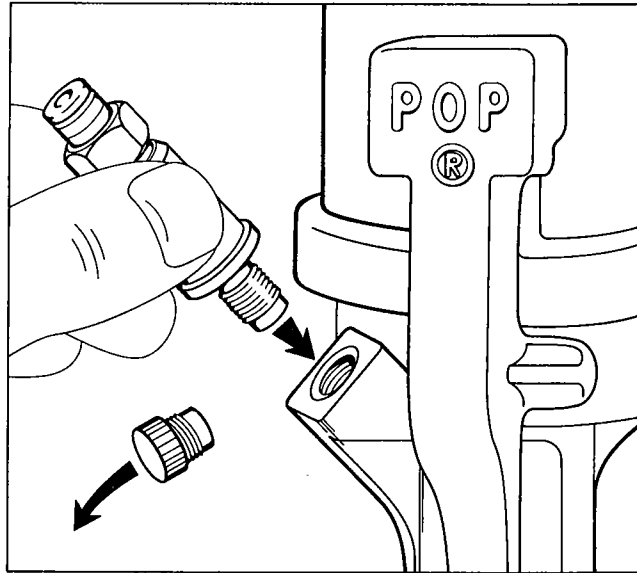
2. Attach the air supply hose.



3. Attach the MCS5000 Mandrel Collection System.

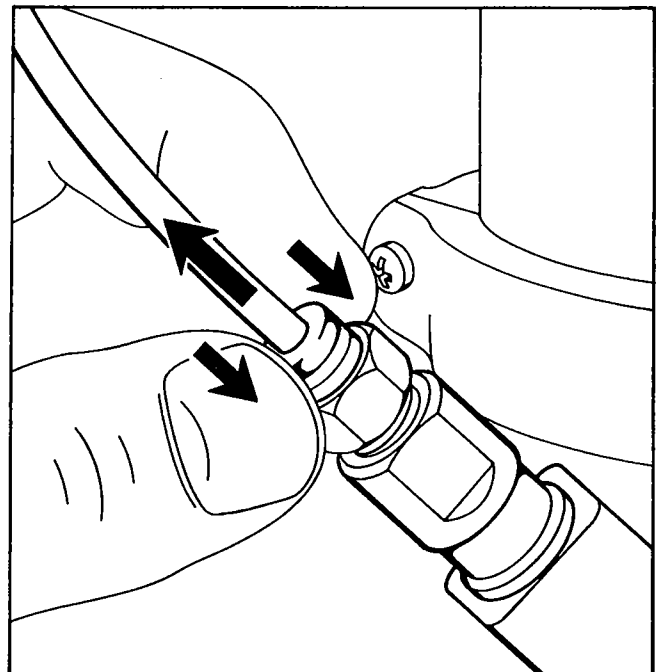
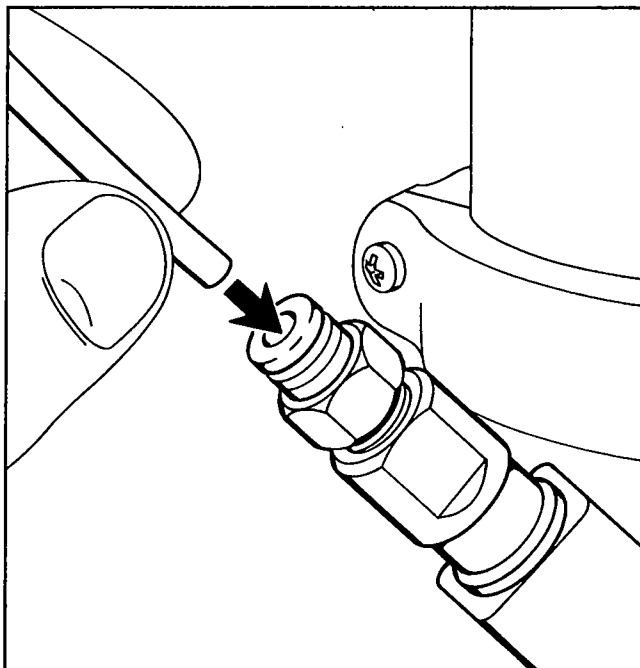
Remove the plug from the threaded open end of the Passageway Assembly. (Leave this plug in place when not using a Mandrel Collection System and skip to step 4.)

Attach a Mandrel Hose Adapter Assembly to the tool and tighten gently. Select PRT5250-8 for 1/8" diameter rivets or PRT5250-9 (the larger of the two) for 5/32" or 3/16" diameter rivets.



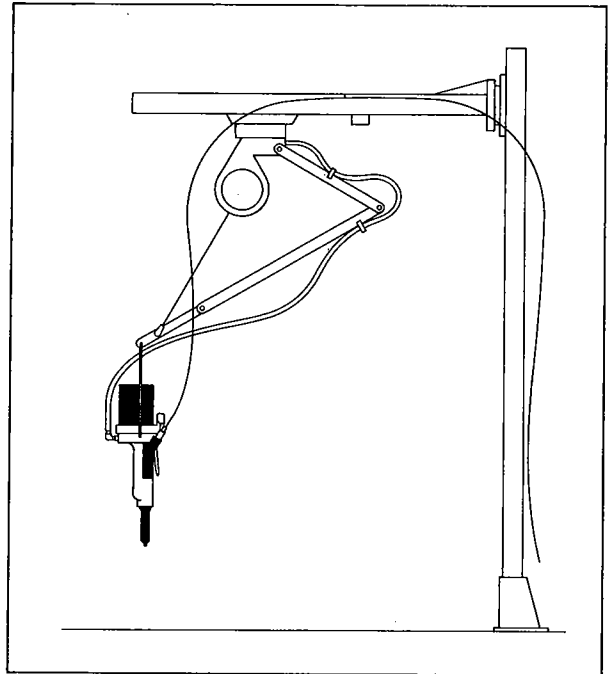
Insert one end of the Mandrel Collection Hose into the Mandrel Hose Adapter Assembly. Gently push until the hose is securely in place.

**NOTE:** To remove the collection hose from the adapter, gently push in on the red ring to release the hose from the self-gripping adapter.

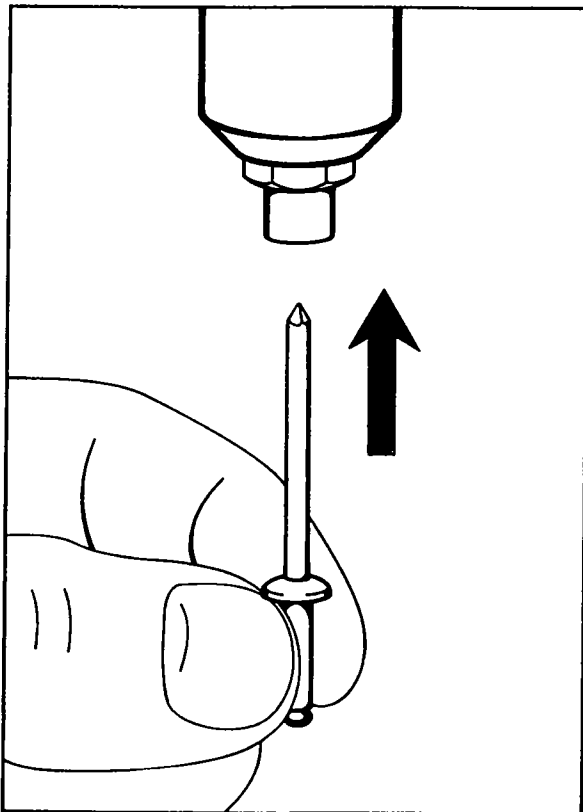


Insert the opposite end of the Mandrel Collection Hose into the hose fitting on the Mandrel Collection System. Gently push until the hose is securely in place.

4. Suspend the PRT5250 using the hanger attached to the tool. Use an adjustable **5lb. tool balancer or equivalent to position the tool.**
5. Attach the air supply hose on PRT5250 In-Line Rivet Tool to the air supply to begin operation.



**Tool Suspended From Tool Balancer**



## OPERATION

1. Once the tool is ready for operation, turn on the air supply to the PRT5250 and the Mandrel Collection System.
2. Insert a rivet mandrel into the Nosepiece as shown. The vacuum pull from the Mandrel Collection System holds the rivet securely in place.
3. Guide the tool until contact is made between the face of the rivet head and the outer surface of the unit to be riveted.
4. Squeeze the trigger lever on the side of the tool. Once the rivet is set, release the trigger lever. The spent mandrel is instantly propelled into the Mandrel Collection System bucket.

**CAUTION: Do not point the tool toward anyone when riveting.**

## **CARE AND MAINTENANCE**

### **AIR SUPPLY REQUIREMENTS**

Use only a filtered, dry air supply regulated between 75 to 85 PSIG (5-6 BAR) maximum pressure. No oiler is required or recommended on the air supply

### **SPECIFICATIONS FOR HYDRAULIC FLUID**

POP Fasteners PRG540-130  
Available in 1 quart containers

You can also use one of the following approved commercial equivalents:

Mobil	DTE26
Exxon	NUTO H-68
Shell	Tellus 68
Texaco	Rando HD-68

### **TOOLS AND EQUIPMENT REQUIRED**

Hydraulic Oil  
Oil Replacement Screw (3/8" - 24)  
1" O.E. Wrench  
Two 11/16" O.E. Wrenches  
7/16" O.E. Wrench  
Soft Jaw Vise  
Phillips Screwdriver  
Slotted Screwdriver

### **ROUTINE MAINTENANCE**

1. Inspect the tool and air supply hose for damage daily. Replace damaged parts immediately.
2. Check and secure all fasteners daily.
3. Frequently clean, inspect and lubricate jaws, Jaw Guide and Jaw Pusher.
4. Keep Nose Housing, Nosepiece, and Jaw Guide tightened.
5. Frequently check vacuum Mandrel Collection System for efficiency.



## SERVICE PROCEDURES

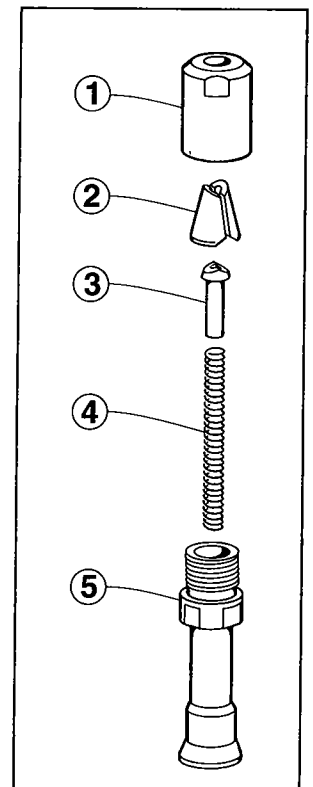
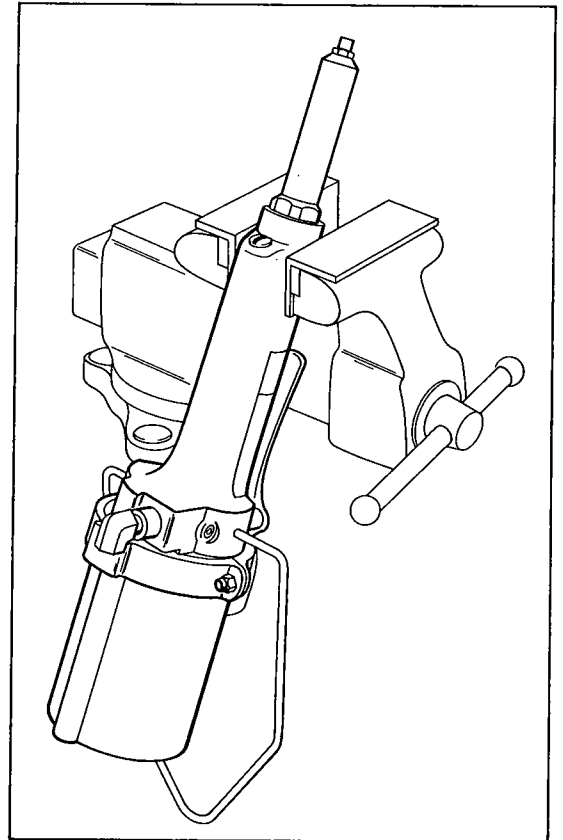
### 1. CHANGING SET UP FOR 1/8" DIAMETER RIVETS

To prevent mandrel jams from occurring inside the tool it is important to install a Jaw Pusher and Mandrel Guide Assembly when setting rivets 1/8" in diameter or smaller.

Parts needed: PRN414 Nosepiece  
Jaw Pusher and Mandrel Guide Assembly, part no. PRT5200-4

Equipment needed: 7/16" O.E. Wrench  
1" O.E. Wrench  
Two 11/16" O.E. Wrenches  
Soft-Jaw Vise

- a. Place the tool in a soft-jaw vise, gripping the tool near the front of the plastic passageway (about 2" back from the front of the aluminum casting).
- b. Remove the Nosepiece.
- c. Remove the Nose Housing.
- d. Remove the Jaw Guide, Jaws and Jaw Pusher. (Store the Jaw Pusher carefully. This part will be used again for larger size rivets).
- e. Insert the Mandrel Guide and Jaw Pusher Assembly into the Jaw Pusher Spring.
- f. Replace the Jaws and the Jaw Guide and tighten to 25-30 ft. lbs. torque.
- g. Replace the Nose Housing and wrench-tighten to 25 ft. lbs. torque.
- h. Attach the PRN414 Nosepiece and wrench-tighten to 60 in. lbs. torque.



- |                         |
|-------------------------|
| 1. Jaw Guide            |
| 2. Jaws                 |
| 3. Jaw Pusher           |
| 4. Jaw Pusher Spring    |
| 5. Pulling Head Adaptor |

## 2. SERVICING THE JAWS, JAW PUSHER AND JAW PUSHER SPRING

Equipment Needed    1" O.E. Wrench.  
                              7/16" O.E. Wrench  
                              Two 11/16" O.E. Wrenches  
                              Soft-Jaw Vise  
                              Brushes & Cleaning Solvent

- a. Place the tool in a soft-jaw vise, gripping the tool near the front of the plastic passageway (about 2" back from the front of the aluminum casting). Refer to Section 1.
- b. Remove the Nosepiece and the Nose Housing.
- c. Loosen and unscrew the Jaw Guide.
- d. Tilt the tool to remove the Jaw Pusher Spring.
- e. Check for fatigued Jaw Pusher Spring. A new Jaw Pusher Spring measures 2 1/8" long. It will need to be replaced if shorter than 1 7/8 inches.
- f. With a soft brush and cleaning solvent, clean the serrated teeth of the Jaws. Using a wire brush, remove any dirt buildup inside the Nose Housing and behind the Nosepiece.
- g. Lightly oil Jaws and Jaw Pusher. Reassemble and attach to the Pulling Head Adapter. Wrench tighten to 25-30 ft. lbs. torque.
- h. Replace the Nose Housing and wrench tighten to 25 ft. lbs. torque.
- i. Replace the Nosepiece and securely tighten to 60 in. lbs. torque.

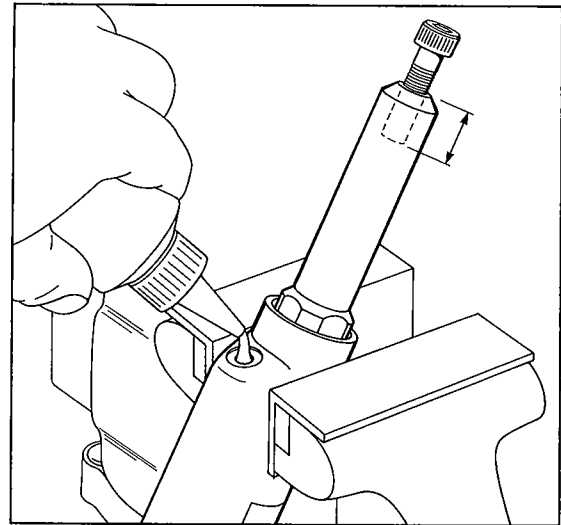
## 3. REPLACEMENT OF HYDRAULIC FLUID

A shortened stroke indicates minor oil loss.

Parts needed:    Oil Replacement Screw, 3/8" – 24 Socket  
                              Head Cap Screw  
                              Hydraulic Oil

Equipment needed:    Soft-Jaw Vise  
                                      7/16" O.E. Wrench  
                                      Slotted Screwdriver

- a. Place the tool in a soft-jaw vise, making sure the Fill Screw is facing up.
- b. Remove the Nosepiece, the Fill Screw and Seal Washer.
- c. To properly add oil, the Hydraulic Piston must be pushed back between 1/4" to 3/8" To do this, *simultaneously turn the Oil Replacement Screw into the Nose Housing (approximately 6 to 8 turns of the screw) while adding the oil one drop at a time through the Fill Screw opening.* Do not tighten the Oil Replacement Screw since internal tool damage may result. Allow bubbles to rise out of the oil.
- d. Reinstall Fill Screw and Seal Washer. Tighten securely.
- e. Remove the Oil Replacement Screw. Replace the Nosepiece and tighten securely.
- f. Reconnect the air supply.
- g. Loosen Fill Screw slightly, allowing excess oil to be forced out. **Do not depress the hand lever when Fill Screw is loose. This will cause oil to be forced out under great pressure.**
- h. Wipe tool clean and tighten Fill Screw securely.

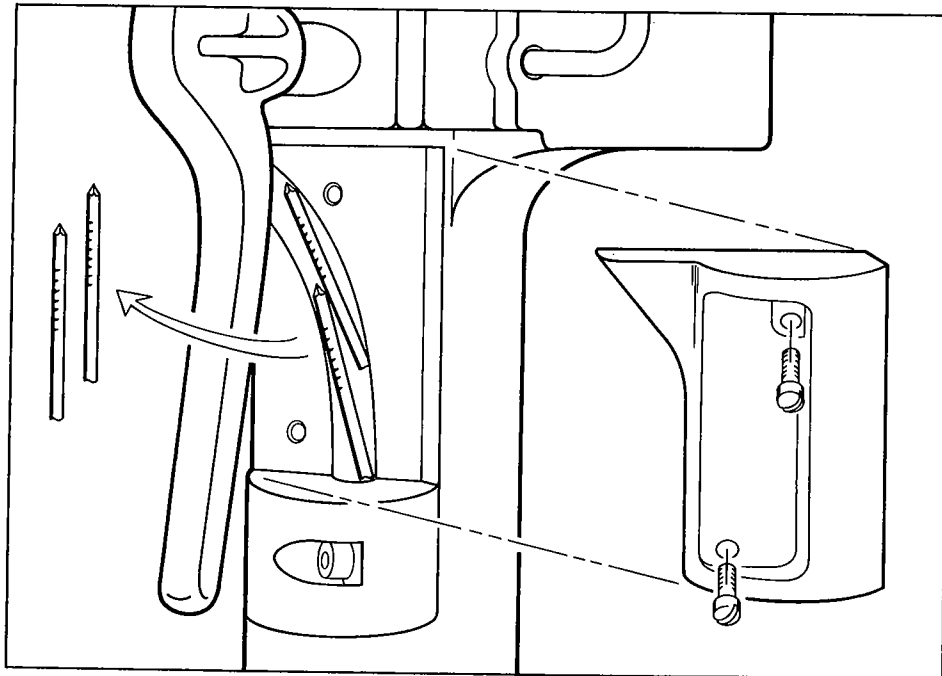


If oil loss is rapid or excessive refer to the service manual.

## 4. CLEARING MANDREL JAMS

Mandrel jams occur under these conditions: the tool has dirt and oil build-up, there is a kink or insufficient radius in the Mandrel Collection Hose, there is insufficient vacuum due to an air leak, low air pressure or dirt in the vacuum transducer or a bent mandrel could not pass through the collection hose.

- Inspect the radius of the Mandrel Collection Hose. A minimum 12" radius is required. Check the hose radius especially near the tool and collection unit and adjust as necessary. If this was the cause of the mandrel jam, the spent mandrel should now pass thru the Mandrel Collection Hose easily. Check the hose support to prevent kinks. If the hose has a kink cut off the kinked portion or replace the hose.
- If jammed mandrels are visible through the clear plastic cover of the Passageway Assembly, remove the two screws and clear cover and dislodge the jammed mandrels.



- Reinstall the screws and the clear plastic cover on the Passageway Assembly. This type of jam is usually the result of excess dirt and oil in the front end of the tool. Clean and lubricate the Jaws, Jaw Pusher and Jaw Pusher Spring. See section 2.
- Remove the Mandrel Hose Adaptor Assembly and make sure the openings are clear of dirt build-up.

## 5. SERVICING THE AIR SUPPLY HOSE

Periodically inspect the air hose for normal wear and tear. To replace a damaged hose:

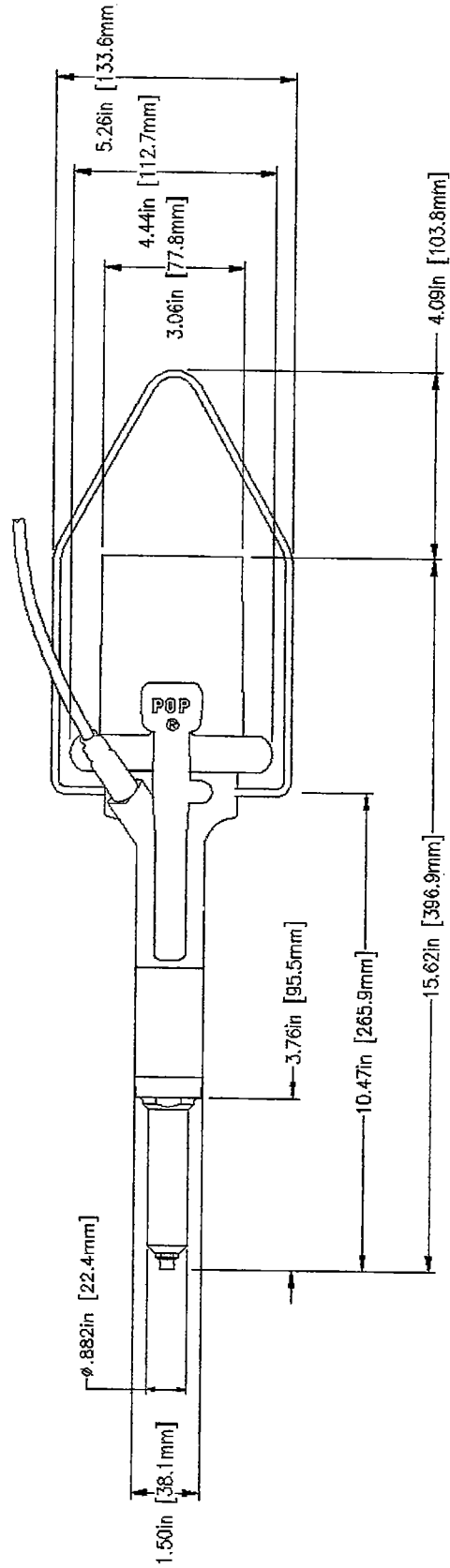
- Disconnect hose from air supply.
- Disconnect the air hose with fitting from the swivel fitting.
- Repair as necessary.
- Check the 'O-clamps' and fittings at either end of the hose. Remove and replace as necessary.
- Reconnect the hose to the swivel fitting on the PRT5250. Securely tighten with a wrench.

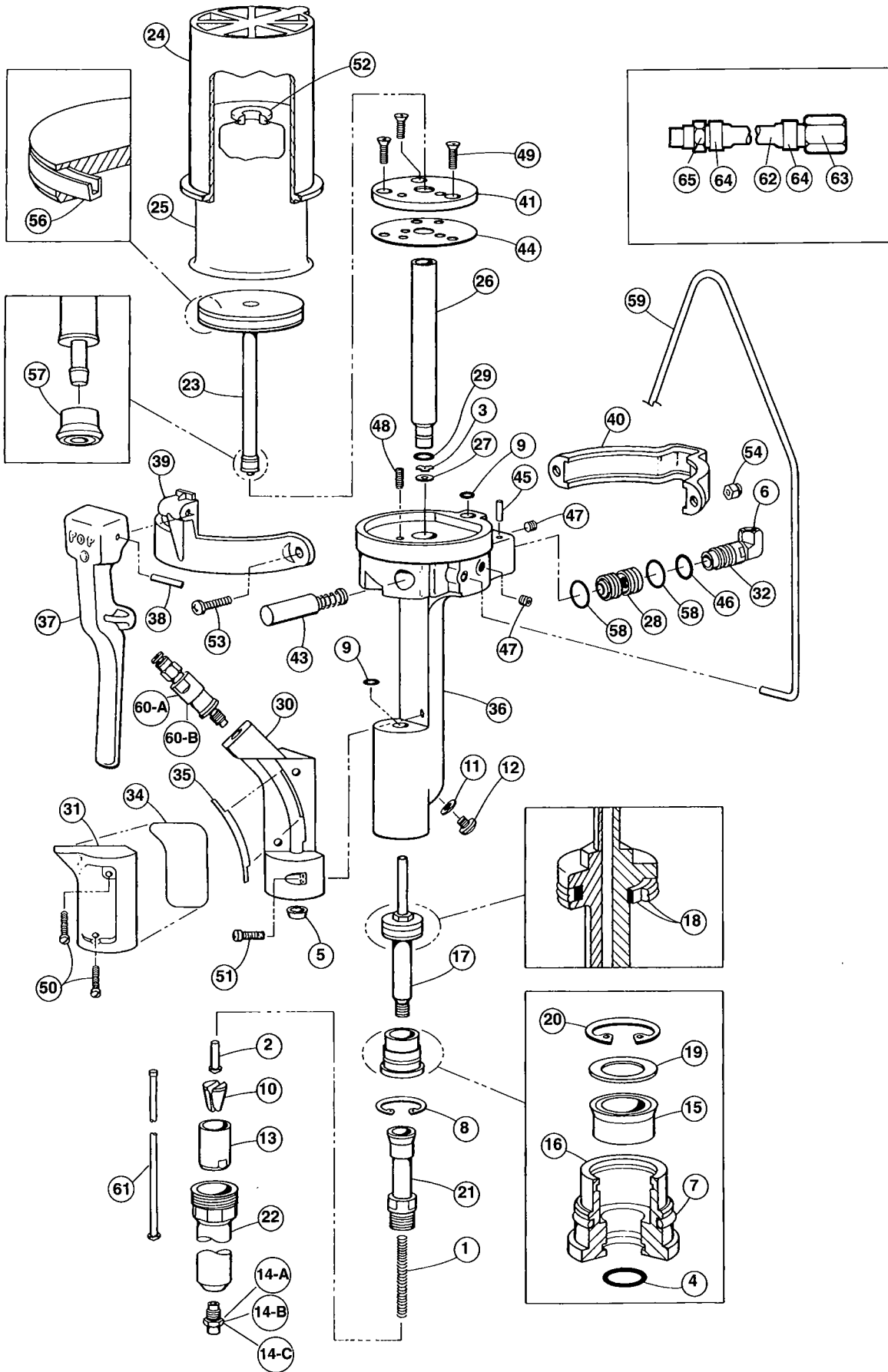
Replacement Air Hose Parts are available from POP Fasteners.

## TROUBLESHOOTING

**CAUTION: Disconnect the air supply and the Mandrel Collection System (if so equipped) BEFORE starting any disassembly/assembly procedures.**

Trouble	Probable Cause	Corrective Action
1. Tool will not operate.	Tool disconnected from air supply or air pressure too high.	Check air supply connection.  Set air pressure to 85 psig.
2. Tool will not break rivet mandrel.	1. Jaws slipping on mandrels indicated by lack of tooth marks on mandrel.  2. Low air pressure.	Clean or replace Jaws, check Jaw Pusher Spring. See Section 2.  Set air pressure at 85 psi.
3. Loss of stroke.	1. Jaws slipping on mandrels indicated by lack of tooth marks on mandrel.  2. Loss of hydraulic fluid.	Clean or replace Jaws, check Jaw Pusher Spring. See Section 2.  Add hydraulic oil. See Section 3.
4. Mandrels sticking in Jaws.	1. Dirt packed inside nose housing, behind nosepiece or inside Jaw Guide.  2. Nosepiece loose.  3. Too much hydraulic fluid in tool.	Clean and lubricate all front end parts. See Section 2.  Wrench tighten Nosepiece.  Too much fluid was added during last fill. See Section 3, par. d through h.
5. Mandrels jammed in tool or Mandrel Hose.	1. Mandrel collection hose disconnected or kinked.  2. Passageway cover loose or seal is leaking.  3. Dirt buildup in mandrel passageway.  4. Jaw Pusher and Mandrel Guide Assembly not installed (required for 1/8" or smaller rivets).  5. Problem with Vacuum Transducer.	Check connections. Replace hose if kinked. See Section 4.  Check cover seal, tighten cover screws.  Clean mandrel passageway from nosepiece to Mandrel Hose Adaptor Assembly.  See Service Procedure, Section 1.  See MCS5000 Maintenance Manual.





ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1	PRG510-123	Jaw Pusher Spring	1	36	PRT5250-31	Handle	1
2	PRG520-33	Jaw Pusher	1	37	PRT5250-32	Trigger Lever	1
3	PRG520-45	Restrictor	1	38	PRT5250-33	Lever Spring Pin	1
4	PRG520-47	O-Ring (Seal Sleeve Inside)	1	39	PRT5250-42	Rear Clamp	1
5	PRG-520-60	Passage Seal	1	40	PRT5250-43	Front Clamp	1
6	PRG520-68	Street Elbow (1/8-1/8 NPT)	1	41	PRT5250-48	Ram Sleeve Retainer Plate	1
7	PRG520-89	O-Ring (Seal Sleeve Outside)	1	42	PRT5250-49	Caution & Name Label (Not Shown)	1
8	PRG520-101	Sleeve Retainer Ring	1	43	PRT5250-50	Air Regulator Assembly	1
9	PRG520-106	O-Ring (Intensifier Chamber)	2	44	PRT5250-51	Retainer Plate Gasket	1
10	PRG540-46	Jaws	2	45	PRT5250-86	Swivel Spring Pin	1
11	PRG540-102	Fill Screw Washer	1	46	PRT5250-87	O-Ring (Swivel)	1
12	PRG540-122	Fill Screw	1	47	PRT5250-89	Pressure Plug	2
13	PRG740-11A	Jaw Guide	1	48	PRT5250-92	Mandrel Passage Screw	1
14A	PRN614	Nosepiece (3/16" Open End)	1	49	PRT5250-94	Retainer Plate Screw	3
14B	PRN514	Nosepiece (5/32" Open End)	1	50	PRT5250-96	Cover Screw	2
14C	PRN414	Nosepiece (1/8" Open End)	1	51	PRT5250-97	Mandrel Passage Screw	1
15	PRT5200-8	Rod Seal	1	52	PRT5300-26	Grommet	1
16	PRT5200-10	Seal Sleeve	1	53	PRT5500-112	Clamp Screw	2
17	PRT5200-14	Hydraulic Piston Rod	1	54	PRT5500-113	Clamp Nut	2
18	PRT5200-15	Piston Seal	1	55	PRT5250-70	Country of Origin Label (Not Shown)	1
19	PRT5200-19	Seal Retaining Washer	1	56	PRT5200-28	Air Piston Seal	1
20	PRT5200-20	Seal Snap Ring	1	57	PRT5200-84	Ram Seal	1
21	PRT5200-21	Pulling Head Adaptor	1	58	PRG540-117	O-Ring (Air Valve)	2
22	PRT5200-22	Nose Housing	1	59	PRT5250-91	Hanger	1
23	PRT5200-26	Intensifier Assembly (Includes Items 56 & 57)	1	60A	PRT5250-8	MCS Adaptor Assembly (1/8" Rivets)	1
24	PRT5200-29	Intensifier Chamber	1	60B	PRT5250-9	MCS Adaptor Assembly (5/32" & 3/16" Rivets)	1
25	PRT5200-30	Intensifier Chamber Sleeve	1	61	PRT5200-4	Mandrel Guide & Jaw Pusher Assembly (1/8" Rivets)	1
26	PRT5200-46	Ram Sleeve	1	62	PRG540-39	Air Line Hose	1
27	PRT5200-47	Restrictor Seat	1	63	PRG540-40	Female Fitting	1
28	PRT5200-55	Air Valve Assembly (Includes Item 58)	1	64	PRG540-45	Air Line "O" Clamp	2
29	PRT5200-59	O-Ring (Ram Sleeve)	1	65	PRT5200-90	Air Line Fitting	1
30	PRT5250-2	Mandrel Passage	1				
31	PRT5250-3	Passage Cover	1				
32	PRT5250-4	Air Line Swivel	1				
33	PRT5250-10	Safety Plug (Not Shown)	1				
34	PRT5250-11	O-Ring (Passage Cover)	1				
35	PRT5250-12	Mandrel Slide	1				