

POP[®]

Rivet Tool

ProSet™ 1600 Series Maintenance Manual



**Emhart[®]
Teknologies**
POP[®]

Contents

| | |
|---|----|
| Introduction..... | 2 |
| Safety Instructions..... | 3 |
| Specifications | 4 |
| Packaged Accessories..... | 4 |
| Tool Requirements..... | 4 |
| ProSet™ 1600 Tool Dimensions | 5 |
| Common Nosepieces..... | 6 |
| Basic Tool Operation | 6 |
| Front End Service | 7 |
| Mandrel Collection System (MCS) – ProSet™ 1600 MCS..... | 8 |
| Cleaning the Collector Silencer..... | 8 |
| Tool Assembly Torque Requirements..... | 9 |
| ProSet™ 1600/1600MCS Diagram | 10 |
| Parts List | 12 |
| Hydraulic Oil Charging Procedure | 14 |
| Maintenance..... | 15 |
| Safety Data..... | 16 |
| Troubleshooting..... | 17 |
| EC Declaration of Conformity | 18 |

Introduction

POP® ProSet™ 1600 tools are light weight Air/Hydraulic rivet setting tools recommended for use with genuine POP® Brand Rivets per following chart:

| Rivet Type | Material (Body – Mandrel) | Rivet Diameter | | |
|---------------------------------|------------------------------|-----------------------|------------------------|-------------------|
| | | 3/32" (*) [2.4 mm] | 1/8" [3.0 - 3.2 mm] | 5/32" [4.0 mm] |
| Open End & MultiGrip | Al – Al | ✓ | ✓ | ✓ |
| | Al – St / SS | ✓ | ✓ | ✓ |
| | St – St | ✓ | ✓ | ✓ (†) |
| | SS – SS; Mo – St / SS | ✓ | ✓ | |
| Closed End | Al – Al | ✓ | ✓ | ✓ |
| | Al – St / SS; Cu – St | ✓ | ✓ | ✓ (*) |
| | St – St | ✓ | ✓ | |
| | SS – SS | ✓ | ✓ | |
| LSR Rivets | Al – Al | ✓ | ✓ | ✓ |
| HR™ Rivets | St – St | ✓ | ✓ | |
| T - Rivet | Al – St | ✓ | ✓ | ✓ |
| Self Plugger | St – St | ✓ | ✓ | |

Al: Aluminum, St: Steel, SS: Stainless Steel, Cu: Cooper, Mo: Monel

(*) Use FAN239-176 Jaw pusher set up.

(†) Exclude MultiGrip

(*) Set air pressure at 90 psi (6.2 bar).



Safety Instructions



TO INSURE PROPER FUNCTIONING AND SAFE OPERATION READ THIS MANUAL CAREFULLY BEFORE SETTING UP OR OPERATING THE POP[®] ProSet[™] 1600 SERIES TOOLS

1. **DO NOT** use this tool in a manner other than that recommended by Emhart Teknologies.
2. Always wear eye protection when using or when near a tool that is in use.
3. This tool is **NOT** designed for use in explosive atmospheres.
4. Inspect tool for damage before connecting to air supply including all air connections.
5. Trained personnel must perform tool repair and/or maintenance at the prescribed intervals.
6. Disconnect the air supply when adjusting, servicing or removing any part of the tool.
7. Keep fingers off the trigger when connecting the air supply or if the air supply fails.
8. Keep fingers away from the front of the tool when connecting the air supply or setting rivets.
9. **DO NOT** point the tool at anyone.
10. **DO NOT** operate tool with the nose housing removed.
11. **DO NOT** operate tool without the Deflector or Collector.
12. **DO NOT** modify the tool in any way. Modification will make void any applicable warranties and could result in damage to the tool or physical injury to the user.
13. **DO NOT** look into the tool from the front or the back during use or when connected to air supply.
14. The operating pressure must not exceed 100 psi (6.9 bar).
15. **DO NOT** direct tool exhaust towards anyone.
16. Wash hands if exposed to hydraulic fluid or lubricant.
17. Keep hair, fingers and loose clothing away from moving parts of the tool.

Specifications

| | ProSet™ 1600 | ProSet™ 1600MCS |
|-----------------|--|--------------------------------------|
| Weight | 2.14 lbs. (0.97 kg) | 2.29 lbs. (1.04 kg) |
| Length | 10.83" (275 mm) | 10.71" (272 mm) |
| Height | 8.94" (227 mm) | 8.94" (227 mm) |
| Tool stroke | 0.71" (18 mm) | 0.71" (18 mm) |
| Pulling force | 1090 lbs @ 90 PSI (4850 N @ 6.2 bar) | 1090 lbs @ 90 PSI (4850 N @ 6.2 bar) |
| Air consumption | 0.043 cu. ft. per rivet (1.22 liters per rivet) | 2.47 scfm (MAX) (70 ℓ/min (MAX)) |

Packaged Accessories

| Qty | Item | PROSET 1600 | PROSET 1600MCS | Part No. |
|-----|--------------------------------------|-------------|----------------|------------|
| 1 | ProSet™ 1600 Rivet Tool | ✓ | ✓ | - |
| 1 | Operating Instructions | ✓ | ✓ | P449 |
| 1 | Maintenance Manual | ✓ | ✓ | P513 |
| 1 | Nosepiece for 3 size open end rivets | ✓ | ✓ | PRN314 |
| 1 | Nosepiece for 4 size open end rivets | Installed | Installed | PRN414 |
| 1 | Nosepiece for 5 size open end rivets | ✓ | ✓ | PRN514 |
| 1 | Jaw Pusher (Assy.) for 3/32" rivets | ✓ | ✓ | FAN239-176 |
| 1 | Air Line Assembly | ✓ | ✓ | FAN239-157 |
| 1 | 4 mm Hex. Socket Screw Key | ✓ | ✓ | DPN239-139 |
| 1 | Warranty Card | ✓ | ✓ | FG2185 |

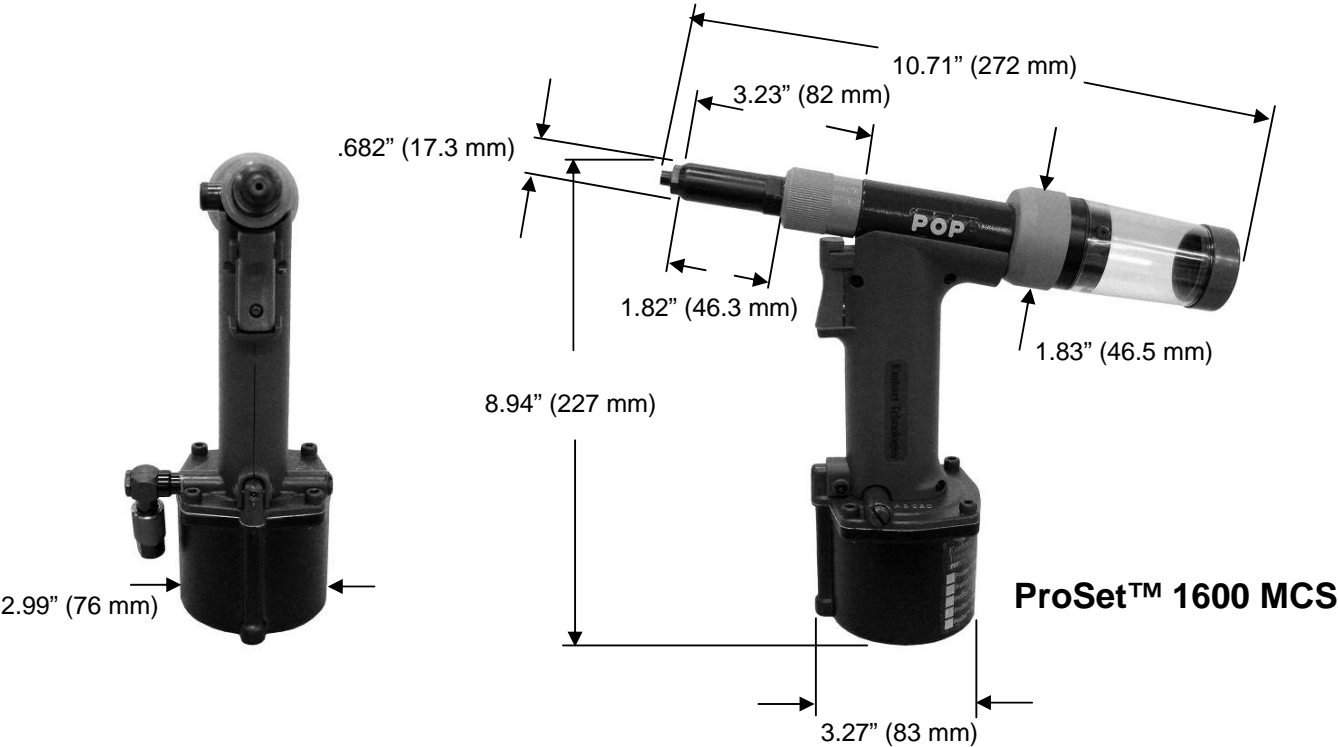
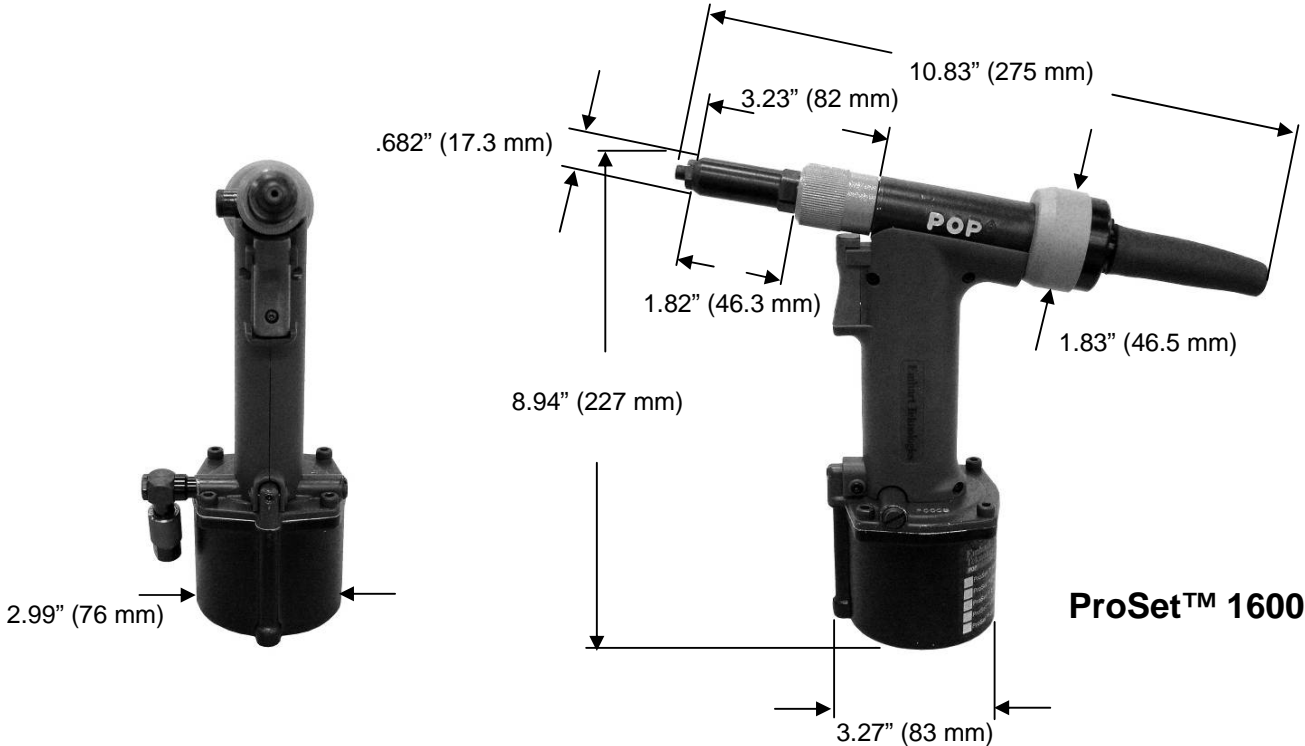
Tool Requirements

| | |
|--------------------------------|---|
| Air supply * | 6 scfm (150 l/min) Minimum |
| Recommended Operating Pressure | 72.5-90 PSI (5.0-6.2 Bar) dry, filtered |
| Maximum Operating Pressure | 100 PSI (6.9 Bar) dry, filtered |
| Hydraulic Oil ** | POP® p/n: PRG540-130 [1 qt. (.945 ml)] |
| Jaw Lubricant ** | POP® p/n: PRG510-130 [6 oz. (177 ml)] |
| Seal Lubricant ** | POP® p/n: PSA075508P [1 ¼ oz. (54 g)] |

(*) Note: For best results and long service life, use dry, filtered air supply.

(**) Note: See lubricant safety information.

ProSet™ 1600 Tool Dimensions



Common Nosepieces

| Rivet Diameter | Open End | Closed End | | HR Rivets | | Jaw Pusher |
|------------------------------------|----------|---------------|------------------|---------------|------------|-----------------------------------|
| | | Steel Mandrel | Aluminum Mandrel | Aluminum Body | Steel Body | |
| 2.0 mm | PRN214 | - | - | - | - | FAN239-176* (PRG402-02 - JAWS) |
| 3/32" (2.4 mm) | PRN314* | - | - | - | - | FAN239-176* |
| 1/8" (3.2 mm) or 7/64" (2.8 mm) | PRN414* | PRN424 | PRN434 | PRN414* | PRN4K | DPN239-144* |
| 5/32" (4.0 mm) | PRN514* | PRN524 | PRN534 | PRN514* | - | |

* Included with the tool

Use FAN239-176 instead of DPN239-144 (installed) when using 3/32" (2.4mm) or smaller diameter rivets.

Basic Tool Operation

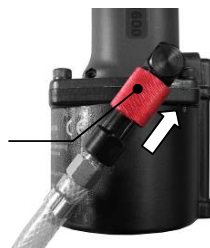
Before operating the tool check the following:

- Inspect tool for damage or leaking oil – **do not use tool if it is damaged or leaking oil.**
- Check that correct nosepiece is fitted and tightened to 60 - 65 in-lbs [6.8 – 7.3 N-m] torque.
- Check that the nose housing nut (8) is tight – hand tighten only.
- Connect tool to air supply – see air supply requirements (page 4).
- Fit Mandrel Collector (96) – (MCS tool only).
- Open air supply valve by Sliding red OS Sleeve (93) on side of tool (see note below).
- Insert rivet into nosepiece.
- Position rivet in work piece.
- Pull trigger to set rivet.
- Release trigger – if equipped, MCS suction will draw mandrel into the collector.

! Note: The ProSet™ 1600 has an OS (Open-Shut) Valve for switching the air supply ON and OFF to save air when the tool is not in use.

Air Supply ON: Open OS Valve by sliding OS Sleeve in the direction shown (up).

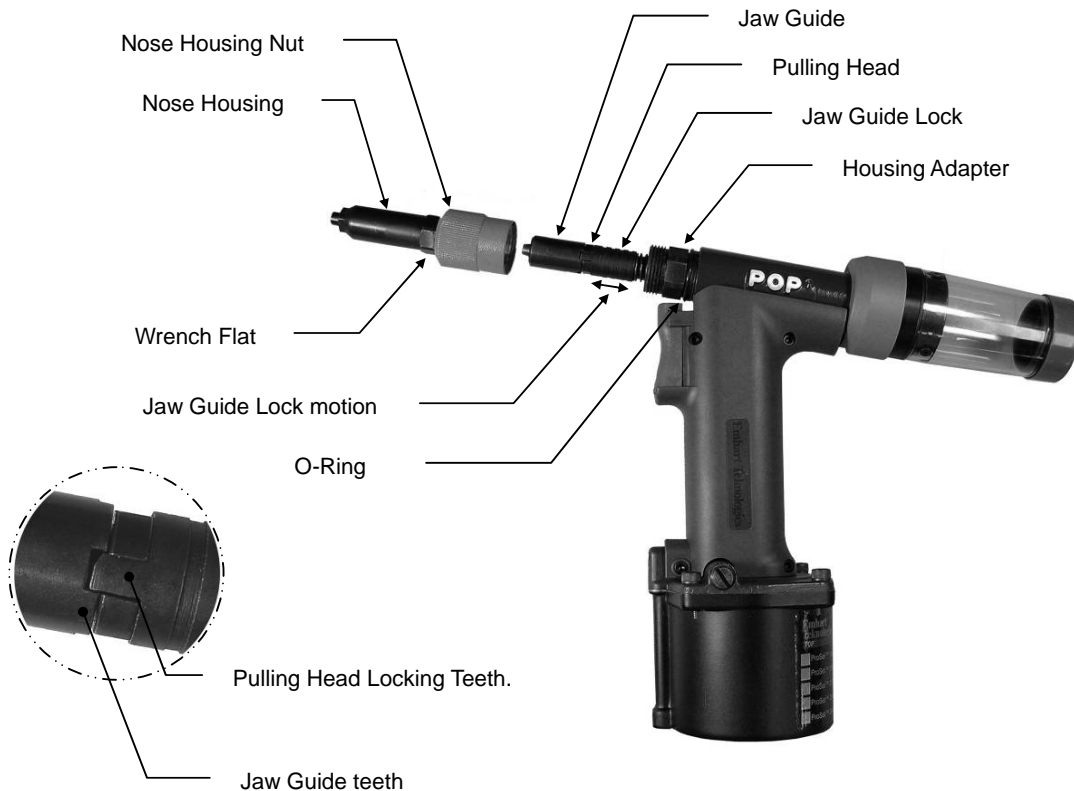
OS Sleeve



Air Supply OFF: Close OS Valve by sliding OS Sleeve in the direction shown (down).



Front End Service



For optimum tool performance, Front-End maintenance should be performed regularly as per the “Preventative Maintenance Schedule”.

! Note: UNPLUG AIR SUPPLY while servicing front-end to avoid INJURY.

1. REMOVE NOSE HOUSING:

Unscrew the Nose Housing Nut by hand and slide Nose Housing off the tool.

2. REMOVE JAW GUIDE TO ACCESS JAWS AND INTERNAL PARTS:

Pull back the Jaw Guide Lock to disengage the Jaw Guide Lock teeth and unscrew and remove the Jaw Guide.
Remove Jaws, Jaw Pusher, and Jaw Pusher Spring for servicing.

3. CLEAN PARTS:

Clean Jaws, Jaw Guide, Jaw Pusher, Spring and thread area of the Pulling Head.
Apply Seal Lube to outside surface of Jaws and inside surface of the Jaw Guide.

4. REASSEMBLY OF INTERNAL PARTS AND JAW GUIDE:

Place the Jaws into the Jaw Guide and slide the Jaw Pusher Spring and Jaw Pusher into the Pulling Head. Apply a small amount of Seal Lube to the Pulling Head threads and Jaw Guide Lock teeth. Screw the Jaw Guide onto the Pulling Head until the teeth on the Jaw Guide Lock stop the Jaw Guide rotating.

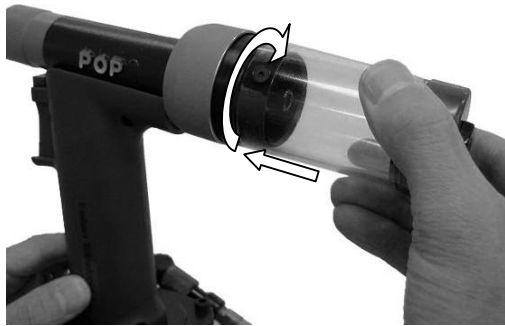
Apply Jaw lubricant to the Jaw area by submerging the assembled Jaw Guide into Jaw lube about 1 in. (25mm). Clean off excess Jaw Lube from the outside of the Jaw Guide.

5. REINSTALL NOSE HOUSING ASSEMBLY:

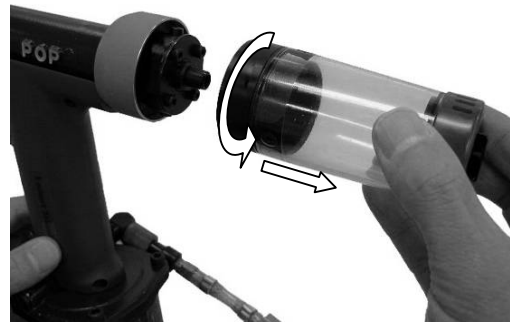
Refit the Nose Housing and Hand-tighten the Nose Housing Nut securely against the O-Ring. If the Nut is not tightened sufficiently against the O-Ring there may be a loss of suction.

Mandrel Collection System (MCS) – ProSet™ 1600 MCS

For safety purposes, removing the Collector from the tool automatically turns the MCS suction OFF. Refitting the Collector turns the MCS suction ON.



MCS suction ON



MCS suction OFF

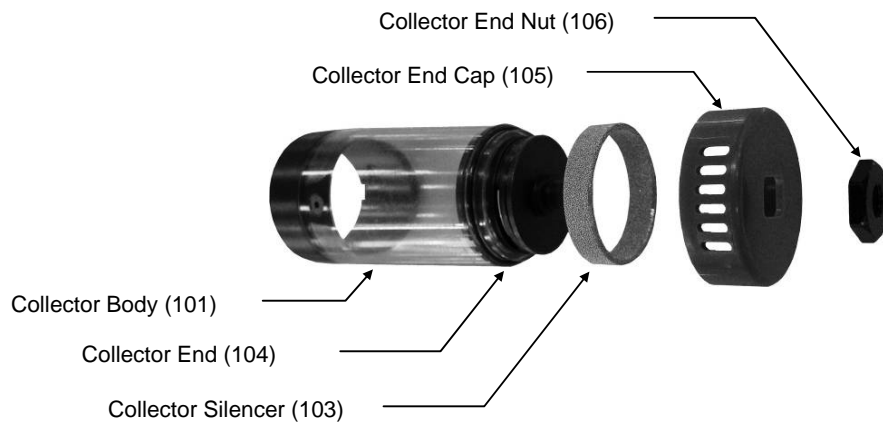
Cleaning the Collector Silencer

For optimum performance, the Collector Silencer should be cleaned at regular intervals as per the "Preventative Maintenance Schedule".

! Note: UNPLUG AIR SUPPLY while servicing Collector to avoid INJURY.

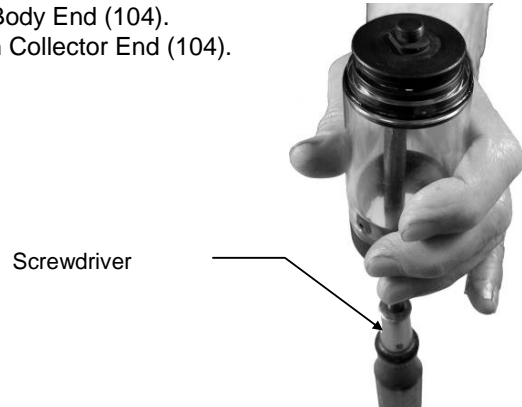
1. CLEAN THE COLLECTOR :

- Remove and empty the Collector (96) by turning counterclockwise.
- Remove the Collector End Nut (106) (17mm wrench) and remove the Collector End Cap (105).
- Remove the Collector Silencer (103).
- Clean and remove debris from all components.



2. RE-ASSEMBLE THE COLLECTOR :

- Secure Collector End (104) to Collector Body (101). Use a screwdriver or similar tool to hold the Collector End in place during re-assembly (see picture below).
- Place the Collector Silencer (103) onto the Collector End (104).
- Place Collector End Cap (105) on Collector Body End (104).
- Install and tighten Collector End Nut (106) on Collector End (104).

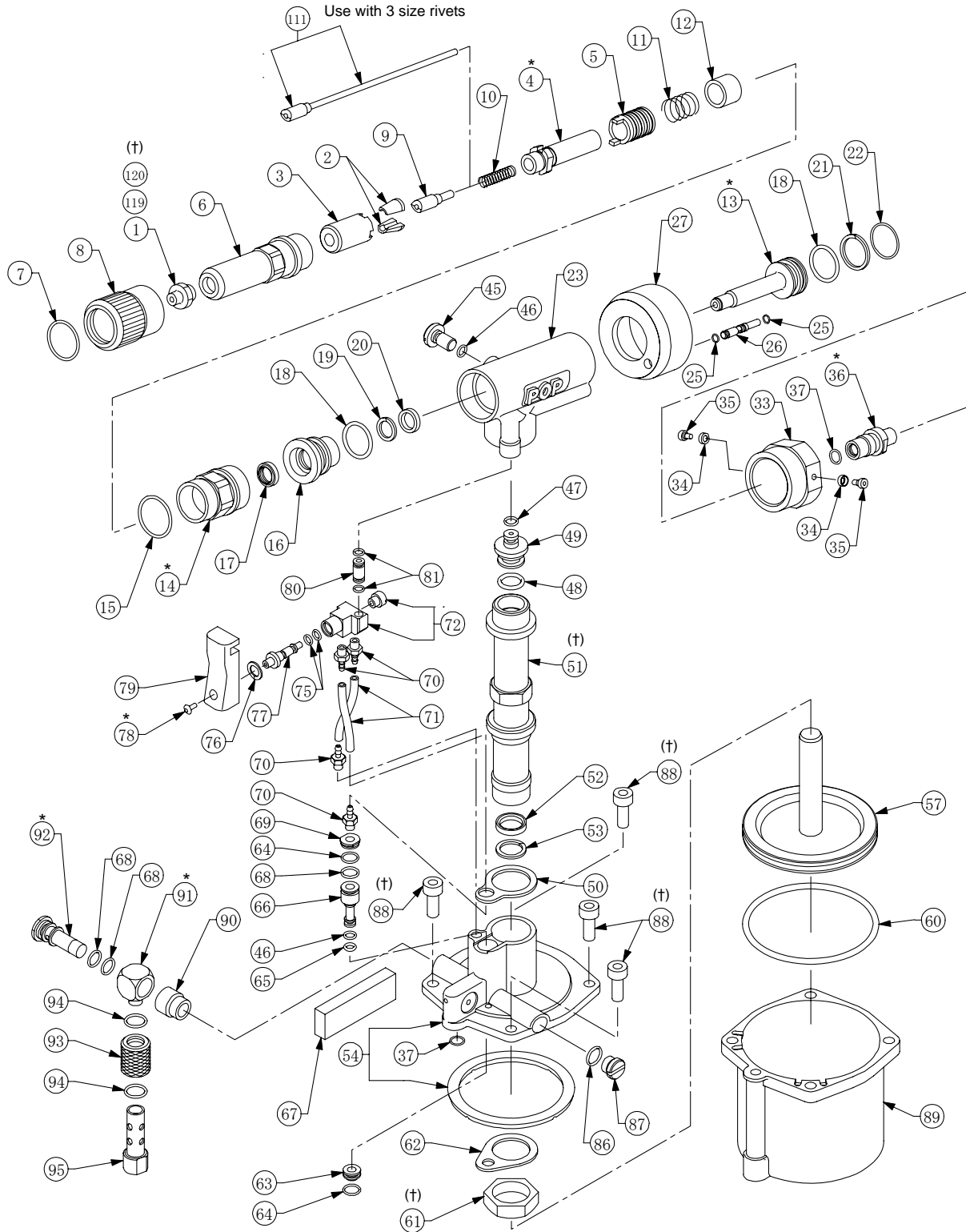


Tool Assembly Torque Requirements

| Item | Part No. | Description | Torque Value |
|------|------------|-----------------------|--------------------------------|
| 1 | PRN414 | Nosepiece 4 size | 60 – 65 in-lbs (6.8 – 7.3 N-m) |
| 119 | PRN314 | Nosepiece 3 size | |
| 120 | PRN514 | Nosepiece 5 size | |
| 51 | DPN239-053 | Sleeve Lower | 35 - 39 ft-lbs (47 - 53 N-m) |
| 61 | DPN239-063 | Sleeve Lock Nut | 31 - 35 ft-lbs (42 - 48 N-m) |
| 88 | DPN907-003 | Socket Head Cap Screw | 46 - 51 in-lbs (5.2 – 5.8 N-m) |

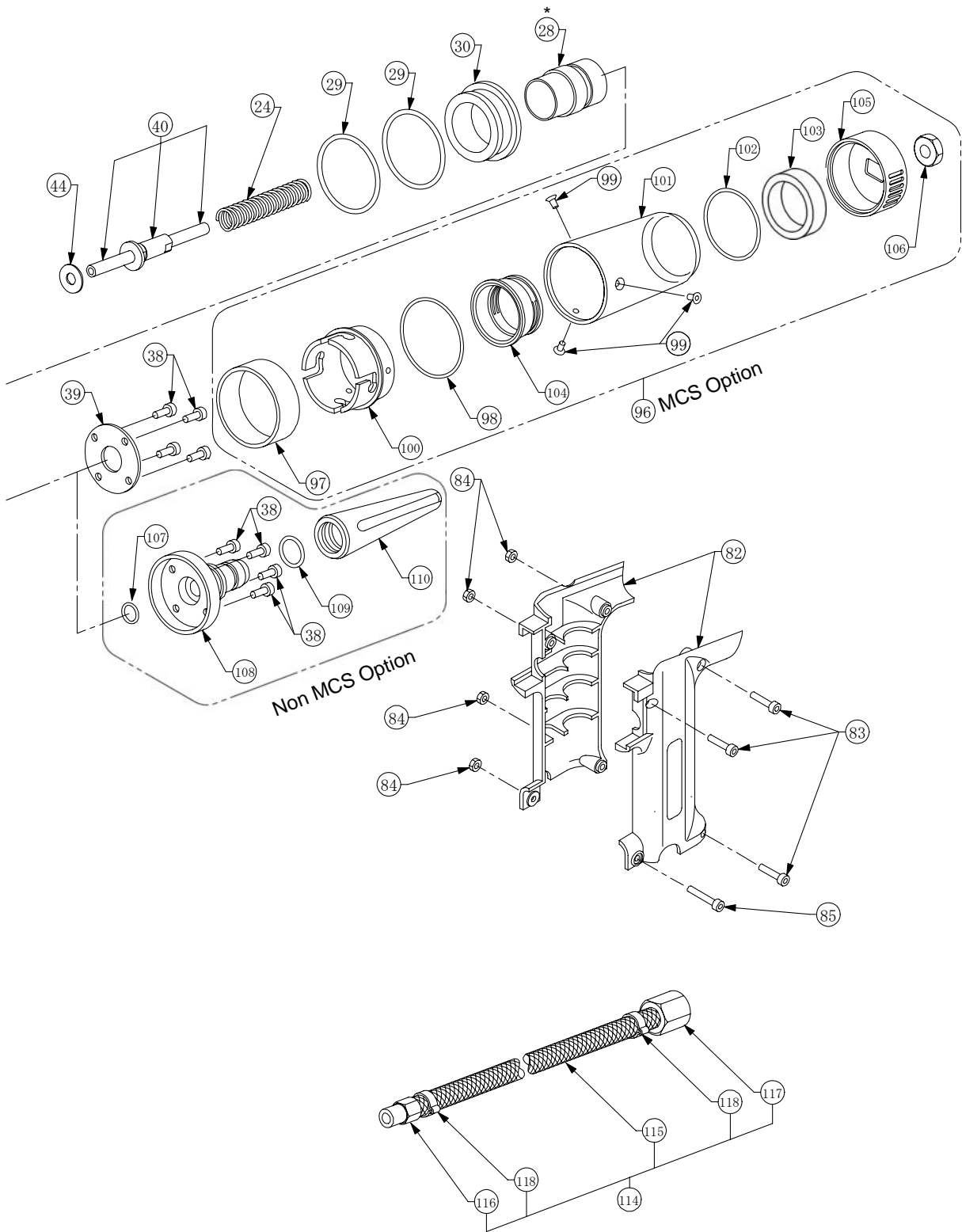
See exploded Tool Diagram

ProSet™ 1600/1600MCS Diagram



(*) These items require Loctite® 242 adhesive.

(†) These items have a specific tightening torque as indicated in the "Tool Assembly Torque Requirements" table.



Parts List

| Item | Part No. | Description | 1600 | 1600 MCS |
|------|------------|-----------------------|---------|----------|
| 1 | PRN414 | Nosepiece 4 size | 1 | 1 |
| 2 | PRG402-8A | Jaws | 1set(2) | 1set(2) |
| 3 | DPN239-006 | Jaw Guide | 1 | 1 |
| 4 | DPN239-007 | Pulling Head | 1 | 1 |
| 5 | DPN239-008 | Jaw Guide Lock | 1 | 1 |
| 6 | DPN239-009 | Nose Housing | 1 | 1 |
| 7 | DPN900-001 | O-Ring | 1 | 1 |
| 8 | DPN239-011 | Nose Housing Nut | 1 | 1 |
| 9 | DPN239-144 | Jaw Pusher | 1 | 1 |
| 10 | DPN901-001 | Jaw Pusher Spring | 1 | 1 |
| 11 | DPN901-002 | Spring | 1 | 1 |
| 12 | DPN239-018 | Spring Receiver | 1 | 1 |
| 13 | DPN239-019 | Hydraulic Piston | 1 | 1 |
| 14 | DPN239-020 | Housing Adapter | 1 | 1 |
| 15 | DPN900-002 | O-Ring | 1 | 1 |
| 16 | DPN239-022 | Rod Seal Case | 1 | 1 |
| 17 | DPN908-001 | Scraper | 1 | 1 |
| 18 | DPN900-003 | O-Ring | 2 | 2 |
| 19 | DPN908-002 | B.U-Ring | 1 | 1 |
| 20 | DPN908-003 | Penta Seal | 1 | 1 |
| 21 | DPN908-004 | B.U-Ring | 1 | 1 |
| 22 | DPN900-004 | O-Ring | 1 | 1 |
| 23 | DPN239-029 | Handle Upper | 1 | 1 |
| 24 | DPN901-003 | Return Spring | 1 | 1 |
| 25 | DPN900-005 | O-Ring | 2 | 2 |
| 26 | DPN239-111 | MCS Valve Rod | 1 | 1 |
| 27 | DPN239-112 | MCS Cap | 1 | 1 |
| 28 | DPN239-034 | End Cap Adapter | 1 | 1 |
| 29 | DPN900-019 | O-Ring | 2 | 2 |
| 30 | DPN239-036 | Slider | 1 | 1 |
| 33 | DPN239-153 | End Cap | 1 | 1 |
| 34 | DPN239-116 | Collar | 2 | 2 |
| 35 | DPN239-154 | Collar Screw | 2 | 2 |
| 36 | DPN239-118 | Ejector Guide | 1 | 1 |
| 37 | DPN900-006 | O-Ring | 2 | 2 |
| 38 | DPN907-002 | Socket Head Cap Screw | 4 | 4 |
| 39 | DPN239-119 | End Cap Plate | - | 1 |
| 40 | FAN239-043 | Ejector Assembly | 1 | 1 |
| 44 | DPN239-108 | Packing | 1 | 1 |
| 45 | DPN239-047 | Fill Screw | 1 | 1 |
| 46 | DPN900-007 | O-Ring | 2 | 2 |
| 47 | DPN900-008 | O-Ring | 1 | 1 |
| 48 | DPN900-009 | O-Ring | 1 | 1 |
| 49 | DPN239-147 | Sleeve Upper | 1 | 1 |
| 50 | DPN239-052 | Upper Plate | 1 | 1 |
| 51 | DPN239-053 | Sleeve Lower | 1 | 1 |
| 52 | DPN908-005 | Penta Seal | 1 | 1 |
| 53 | DPN908-006 | B.U-Ring | 1 | 1 |
| 54 | FAN239-148 | Handle Lower Assembly | 1 | 1 |
| 57 | FAN239-059 | Air Piston Assembly | 1 | 1 |
| 60 | DPN900-010 | O-Ring | 1 | 1 |
| 61 | DPN239-063 | Sleeve Lock Nut | 1 | 1 |
| 62 | DPN239-064 | Bottom Plate | 1 | 1 |
| 63 | DPN239-065 | J Valve Cap | 1 | 1 |
| 64 | DPN900-011 | O-Ring | 2 | 2 |
| 65 | DPN900-012 | O-Ring | 1 | 1 |
| 66 | DPN239-068 | J Valve Rod | 1 | 1 |
| 67 | DPN239-069 | EXT Silencer | 1 | 1 |
| 68 | DPN900-013 | O-Ring | 3 | 3 |
| 69 | DPN239-071 | Valve Stopper | 1 | 1 |
| 70 | DPN239-120 | Fitting | 4 | 4 |
| 71 | DPN239-121 | Air Tube | 2 | 2 |

| Item | Part No. | Description | 1600 | 1600 MCS |
|------|------------|-----------------------|------|----------|
| 72 | FAN239-074 | S.V Case Assembly | 1 | 1 |
| 75 | DPN900-014 | O-Ring | 2 | 2 |
| 76 | DPN902-001 | Retaining Ring | 1 | 1 |
| 77 | DPN239-078 | S Valve Rod | 1 | 1 |
| 78 | DPN906-001 | Button Head Cap Screw | 1 | 1 |
| 79 | DPN239-150 | Trigger | 1 | 1 |
| 80 | DPN239-083 | Connect Tube | 1 | 1 |
| 81 | DPN900-015 | O-Ring | 2 | 2 |
| 82 | DPN239-151 | Handle Assembly | 1 | 1 |
| 83 | DPN907-001 | Socket Head Cap Screw | 3 | 3 |
| 84 | DPN239-086 | Hexagon Nut | 4 | 4 |
| 85 | DPN907-004 | Socket Head Cap Screw | 1 | 1 |
| 86 | DPN900-016 | O-Ring | 1 | 1 |
| 87 | DPN239-089 | Plug | 1 | 1 |
| 88 | DPN907-003 | Socket Head Cap Screw | 4 | 4 |
| 89 | DPN239-091 | Chamber | 1 | 1 |
| 90 | DPN239-126 | R Joint Spacer | 1 | 1 |
| 91 | DPN239-093 | R Joint | 1 | 1 |
| 92 | DPN239-127 | R Joint Adapter | 1 | 1 |
| 93 | DPN239-095 | O S Slider | 1 | 1 |
| 94 | DPN900-017 | O-Ring | 2 | 2 |
| 95 | DPN239-097 | O S Joint | 1 | 1 |
| 96 | FAN239-166 | Collector Assembly | - | 1 |
| 97 | DPN239-098 | Collector Lock Collar | - | 1 |
| 98 | DPN900-018 | O-Ring | - | 1 |
| 99 | DPN903-001 | Flat Head Cap Screw | - | 3 |
| 100 | DPN239-155 | Collector Lock | - | 1 |
| 101 | DPN239-130 | Collector Body | - | 1 |
| 102 | DPN900-020 | O-Ring | - | 1 |
| 103 | DPN239-168 | Collector Silencer | - | 1 |
| 104 | DPN239-156 | Collector End | - | 1 |
| 105 | DPN239-167 | Collector End Cap | - | 1 |
| 106 | DPN239-152 | Collector End Nut | - | 1 |
| 107 | DPN900-021 | O-Ring | 1 | - |
| 108 | DPN239-163 | Deflector Adapter | 1 | - |
| 109 | DPN900-022 | O-Ring | 1 | - |
| 110 | PRG510-56 | Deflector | 1 | - |
| 111 | FAN239-176 | Jaw Pusher Assembly | 1 | 1 |
| 114 | FAN239-157 | Air Line Assembly | 1 | 1 |
| 115 | DPN239-158 | Air Line | 1 | 1 |
| 116 | DPN239-159 | Air Line Fitting | 1 | 1 |
| 117 | DPN239-160 | Hose Female Fitting | 1 | 1 |
| 118 | PRG540-45 | O-Clamp (0911) | 2 | 2 |
| 119 | PRN314 | Nosepiece 3 size | 1 | 1 |
| 120 | PRN514 | Nosepiece 5 size | 1 | 1 |
| NS | DPN239-139 | HS Screw key - M4 | 1 | 1 |

Optional Parts and Kits are also available separately.

| Part No. | | Description | |
|------------|------------|--|---|
| PRN214 | | Nose piece for 2.0 mm rivet (Micro Rivets) | |
| PRG402-02 | | Jaws for 2.0 mm rivet (Micro Rivets) | |
| DP239-110 | | 17mm Hex. Socket screw key for End Cap Adapter (DPN239-034) | |
| FA239-174 | | ProSet™ 1600 Font End Extension Kit – 5” length Contains: | |
| 5 | DPN239-008 | Jaw Guide Lock | 1 |
| 7 | DPN900-001 | O-Ring | 1 |
| 8 | DPN239-011 | Nose Housing Nut | 1 |
| 11 | DPN901-002 | Spring | 1 |
| | DPN239-169 | Nose Housing | 1 |
| | DPN239-170 | Pulling Head Extension | 1 |
| | DPN239-171 | Pulling Head Joint | 1 |
| | FAN239-172 | Jaw Pusher (Assembly) | 1 |
| FA239-175 | | ProSet™ 1600/1600MCS Seal kit Contains: | |
| 7 | DPN900-001 | O-Ring | 1 |
| 15 | DPN900-002 | O-Ring | 1 |
| 18 | DPN900-003 | O-Ring | 2 |
| 22 | DPN900-004 | O-Ring | 1 |
| 25 | DPN900-005 | O-Ring | 2 |
| 37 | DPN900-006 | O-Ring | 2 |
| 46 | DPN900-007 | O-Ring | 1 |
| 60 | DPN900-010 | O-Ring | 1 |
| 68 | DPN900-013 | O-Ring | 2 |
| 94 | DPN900-017 | O-Ring | 2 |
| 17 | DPN908-001 | Scraper | 1 |
| 19 | DPN908-002 | B.U-Ring | 1 |
| 20 | DPN908-003 | Penta Seal | 1 |
| 21 | DPN908-004 | B.U-Ring | 1 |
| 52 | DPN908-005 | Penta Seal | 1 |
| 53 | DPN908-006 | B.U-Ring | 1 |
| FA203-408 | | ProSet™ 1600 Adaptor Kit for MCS5000 (remote MCS) Contains: | |
| | MCS5000-78 | Adapter Cap | 1 |
| | MCS5000-81 | Strain Relief | 1 |
| | PRT5250-24 | Tapered Bushing | 1 |
| | PRT5250-26 | Tapered Bushing | 1 |
| | PRT5250-98 | Fitting for 5 size rivets | 1 |
| | PRT5250-99 | Fitting for 4 size rivets | 1 |
| FAN239-177 | | ProSet™ 1600 MCS Retrofit Kit Contains: | |
| 39 | DPN239-119 | End Cap Plate | 1 |
| 96 | FAN239-166 | Collector Assembly | 1 |

Hydraulic Oil Charging Procedure

! IMPORTANT. TOOL MUST BE DISCONNECTED FROM THE AIR SUPPLY. USE ONLY APPROVED HYDRAULIC OIL SPECIFIED IN THIS MANUAL.

1. Disconnect from air supply.
2. Remove Nose Housing (6) and Collector (96).
3. Remove four Socket Head Cap Screws (88) using 4mm Hex-Key wrench (accessory). (Fig. 1)
4. Turn tool upside down and remove Chamber (89). Then pull out Air Piston Assembly (57). (Fig. 2)
5. Drain the oil from the tool into a waste oil container.
6. Clean the dirt off the Air Piston Assembly (57) and inner Chamber (89) with a clean rag. Apply a thin layer of Seal Lube to inner Chamber.
7. Loosen Jaw Guide (3) approximately 3 full turns or a 0.12" (3mm) gap and loosen Fill Screw (45) approximately 3 - 3½ full turns or a 0.14" (3.6mm) gap (Fig. 3).
8. Secure the tool upside down again and pour hydraulic oil into Sleeve Lower (51) to the level of the Backup Ring (white part) (53). (Fig. 4)
9. Push Air Piston Assembly (57) into Sleeve Lower (51) to half-way point so that dirty hydraulic oil and air bubbles will come out from the loosened Fill Screw (45). Hold Air Piston Assembly until no more oil or bubbles come out. (Fig. 5)
10. Loosely tighten Fill Screw (45) and pull out Air Piston Assembly (57).
11. Pour more hydraulic oil into Sleeve Lower (51) to the level of the Backup Ring (57) into Sleeve Lower (51). Push Air Piston inwards then outwards 5-6 times in a slow, constant motion. Then pull it out and check for bubbles rising to the oil surface. If there are still bubbles, repeat the procedure until there are no more bubbles (Fig. 6).
It may be necessary to repeat this procedure 2-3 times to bleed all bubbles from the oil.
If after 3 attempts there are still bubbles in the oil, go back to No.5 and start again by draining the hydraulic oil.

Fig. 1

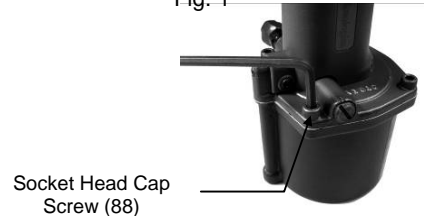


Fig. 2



Fig. 3

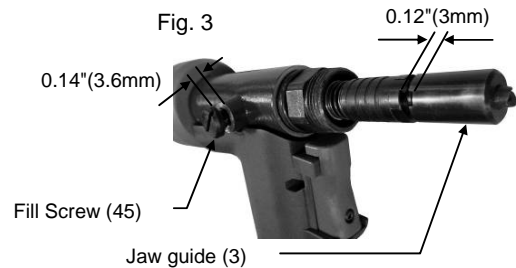


Fig. 4



Fig. 5

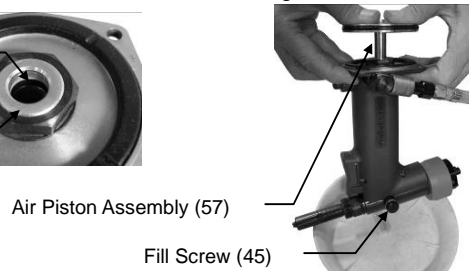
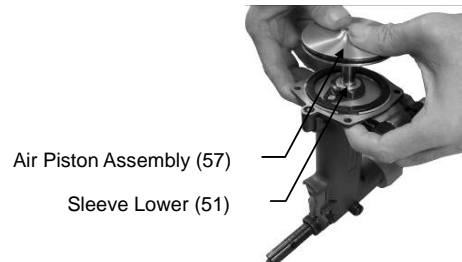
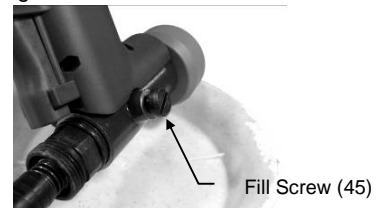


Fig. 6



12. When there are no more bubbles in the oil, top off the hydraulic oil in the Sleeve Lower (51) to the level of the Backup Ring (55).
13. Make sure the Jaw Guide (3) is loose (see No.7). Push the Air Piston Assembly (57) into the Sleeve Lower (51) to the half-way point. While holding the Air Piston at the half-way point, replace the Nose Housing and hand tighten.
14. With a clean rag, wipe off any oil on the Air Piston Assembly (57), Handle Lower Assembly (54), and Sleeve Lower (51). Put Chamber (89) over Air Piston Assembly (57) then turn the tool upright and tighten the four Socket Head Cap Screws (88) to a Torque of 65 - 75 in-lbs (7.5 – 8.5 N-m).
15. Remove the Nose Housing (6), and tighten the Jaw Guide (3) by hand until it stops.
16. Loosen the Fill Screw (45) approximately 3 - 3½ full turns or a 0.14"(3.6mm) gap to allow excess hydraulic oil and bubbles to escape. When no more oil comes out, tighten the Fill Screw (Fig. 7).
17. Wipe off any dirt and oil on the tool.
18. Replace the Nose Housing (6) and Collector (96).

Fig. 7



Note: During assembly and disassembly, do not allow any metal swarf or dirt into the Hydraulic Oil and inner Chamber.

Maintenance

| Preventative Maintenance Schedule | | |
|---------------------------------------|---|--|
| Item | Action | Frequency |
| Clean and lubricate Front End of tool | See "Front End Service" | 1 x per day or 5,000 rivet settings. |
| Inspect jaws | Look for broken jaws and damage or wear on jaw teeth. | During "Front End Service" or when jaws slip on mandrel. |
| Collector | Empty Collector | When the quantity of stored spent Mandrels starts to interfere with mandrels entering the Collector. (Storage quantity depends on rivet – approx. 75-90 5/32" (4.0mm) rivets). |
| | Clean Collector Silencer | Once a week or when MCS suction will not pull spent mandrels into the Collector. |

Note: Only use Emhart specified greases and lubricants

Safety Data

SEAL LUBE (P/N: PSA075508P)

LUBRIPLATE® 130-AA

Manufactured by:
Fiske Brothers Refining Co.
Phone: (419) 691-2491
Emergency: (800) 255-3924

ALVANIA® EP Grease 1

Prod Code: 71124
Manufactured by:
Shell Oil Products
Phone: (877) 276-7285
MSDS#: 57072E-5

First Aid:

SKIN:
Remove any contaminated clothing and wash with soap and warm water. If injected by high pressure under skin, regardless of the appearance of its size, contact a physician IMMEDIATELY. Delay may cause loss of affected part of body.

INGESTION:

Call a physician immediately. Do not induce vomiting.

EYES:

Flush with clear water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

Fire:

FLASH POINT: COC- 400° F
Cool exposed containers with water. Use foam, dry chemical, carbon dioxide or water spray.

Environment:

WASTE DISPOSAL:
Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste disposal facility or site.

SPILLAGE:

Scrape up grease, wash remainder with suitable petroleum solvent or add absorbent.

Handling/ Storage:

Keep containers closed when not in use. Do not handle or store near heat, sparks, flame or strong oxidants.

Lubriplate® is a registered trademark of Fiske Brothers Refining Company.

JAW LUBE (P/N: PRG510-130)

SUNPAR 107

Manufactured By:
Sunoco, Inc.
Emergency Phone: (800) 424-9300

First Aid:

SKIN:
Wash with soap and water until no odor remains. If redness or swelling develops, obtain medical assistance. Wash cloths before reuse.

INGESTION:

Do not induce vomiting! Do not give liquids! Obtain emergency medical attention. Small amounts that accidentally enter mouth should be rinsed out until taste of it is gone.

EYES:

Flush with water.

Fire:

FLASH POINT: Greater than 200° F
Can be made to burn. Use water spray, regular foam, dry chemical or carbon dioxide.

Environment:

WASTE DISPOSAL:
Do not flush to drain or storm sewer. Contract authorized disposal service.

SPILLAGE:

Contain Spill. Absorb onto inert material. Shovel, sweep or vacuum spill.

Handling/ Storage:

NFPA Class IIIB Storage. Avoid prolonged breathing of mist or vapor. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Wash thoroughly after handling.

HYDRAULIC OIL (P/N: PRG540-130)

MOBIL DTE 26

Manufactured By:
ExxonMobil Corporation
Emergency Phone: (609) 737-4411
MSDS Fax on Demand:
(613) 228-1467 MSDS # 602649-00

Shell TELLUS 68

Manufactured By:
SOPUS Products
Health Information: (877) 504-9351
MSDS Assistance:
(877) 276-7285 MSDS # 402288L-0

Distributed By:

Emhart Teknologies
Phone: (203) 924-9341

First Aid:

SKIN:
Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention.

INGESTION:

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

EYES:

Flush with water. If irritation occurs, get medical attention.

Fire:

FLASH POINT: 390° F/198.9° C
Material will float and can be re-ignited on the surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO₂) to extinguish flames. Do not use a direct stream of water.

Environment:

SPILLAGE:
Soak up residue with an absorbent such as clay, sand or other suitable material. Place in a non-leaking container and seal tightly for proper disposal.

Handling:

Wash with soap and water before eating, drinking, smoking, applying cosmetics or using toilet. Properly dispose of leather articles such as shoes or belts that cannot be decontaminated. Use in a well ventilated area.

Storage:

Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Please refer to the actual MSDS for complete safety and handling information. These can be obtained from the point of purchase.

Troubleshooting

| Symptom | Probable Cause | Remedy |
|--------------------------------------|---|---|
| TOOL FAILS TO OPERATE | Tool not connected to air supply. OS Valve is in "OFF" position. Insufficient air pressure. Air pressure is too high. Tool is low on hydraulic fluid. | Connect to recommended air supply source. Slide OS Valve to ON position. Adjust air supply pressure. Adjust air supply pressure. Service tool by qualified service personnel. |
| TOOL NOT RETURNING | Possible jam due to debris in Nose Housing. | Perform "Front End Service" and check for debris or damage. |
| TOOL LOSING STROKE | Tool low on hydraulic fluid. | Service tool by qualified service personnel. |
| JAWS SLIPPING ON MANDRELS | Jaws dirty or need lubrication. Jaws worn. | Clean and lube jaws. Replace jaws. |
| JAWS FAIL TO OPEN | Dirty Nose Housing, Jaws or Jaw Guide. Nose Housing loose. Excess hydraulic oil in tool. | Perform "Front End Service" and clean inside of Nose Housing. Tighten Nose Housing. Service tool by qualified service personnel. |
| MANDREL STICKING IN JAWS | Jaws dirty or need lubrication. | Perform "Front End Service" to clean and lubricate Jaws. |
| RIVET FAILS TO INSERT INTO NOSEPIECE | Incorrect nosepiece. Shear ring stuck in hole of nosepiece. | Install correct nosepiece. Remove shear ring, check for the correct Nosepiece and review application parameters to ensure proper riveting. |
| RIVET MANDREL DOES NOT BREAK | Rivet not fully set. Mandrel break load requirement too high. Insufficient air pressure. | Repeat stroke required, or change rivet. Upgrade tool. Adjust air supply pressure to recommended level. |
| MCS NOT WORKING | Tool not connected to air supply. Collector not tight or missing. Mandrel path blocked. | Connect to recommended air supply source. Check Collector. Clear mandrel path. |
| LOW VACUUM | Dirty Silencer. Collector is full of mandrels. Insufficient air pressure. | Clean or change Silencer. Discard the mandrels. Adjust air supply pressure. |

EC Declaration of Conformity

We, Emhart Teknologies

Tucker Fasteners Limited
Birmingham B42 1BP
United Kingdom.

Declare that:

ProSet™ 1600
ProSet™ 1600 MCS

Conforms to the following standards:

EN 292 part 1 and part 2
ISO 3744
ISO prEN 792 part 1
EN ISO 4871

ISO prEN 15744
EN 28662 - 1
EN 12096

Following the provisions of the Machine Directive 98/37/EEC which replaces Directive 89/392/EEC and its amending Directives 91/368/EEC, 93/44/EEC and 93/68/EEC.



Signed: _____
Eymard Chitty, Vice President, R&D

Birmingham

1st. July 2006

Notes



THE AMERICAS

United States

50 Shelton Technology Center
P.O. Box 859
Shelton, CT 06484
USA
Tel. 203-924-9341
Fax. 800-225-5614

Canada

9870 boul. Du Golf
Anjou, Quebec H1J 2Y7
Canada
Tel. 514-351-0330
Fax. 514-351-0458

Brazil

Rua Ricardo Cavatton, 226 LAPA
CEP 05038-110 Sao Paulo, SP
Brazil
Tel. +55-11-3871-6460
Fax +55-11-3611-3508

México

Bosque de Radiatas No 42
Bosques de las Lomas
05120 México, D.F.
Tel. +52-555-326-7100
Fax. +52-555-326-7141

EUROPE

Denmark

Farverland 1B
DK-2600 Glostrup
Denmark
Tel. +45-4484-1100
Fax. +45-4484-6212

Finland

Hyttmästargränden 4,
FIN-02780 ESBO
Finland
Tel. +358 9 8190060
Fax. +358 9 812428

France

ZA des Petits Carreaux
Bâtiment Haute Technologie No 8
2 bis, Avenue des Coquelicots
94385 Bonneuil-Sur-Marne
France
Tel. 33-1-5671-2424
Fax. 33-1-5671-2434

Norway

Postboks 153, Leirdal
1009 Oslo, Norway
Tel. +47 2290-9990
Fax. +47 2290-9980

Spain

Carretera M-300 Km 29,700
28802 Alcalá de Henares
Madrid, Spain
Tel. 34-91-887-1470
Fax. 34-91-882-3602

Sweden

Skjutbanelvägen 6
SE-701 44 Örebro, Sweden
Tel. +46 19 2058000
Fax. +46 19 260038

United Kingdom

177 Walsall Road
Perry Barr
Birmingham, B42 1BP
United Kingdom
Tel. +44 (0) 121 356-4811
Fax. +44 (0) 121 356-1598

ASIA PACIFIC

Japan

Shuwa Kioicho Park Building 302
3-6 Kioicho, Chiyoda-Ku
Tokyo, 102-0094, Japan
Tel. 81-03-3265-7291
Fax. 81-03-3265-7298

Korea

Rm 609, Seorin Bldg.
45-15 Yeoido-Dong
Yeongdeungpo-Ku
Seoul, 150-891, R.O. Korea
Tel. 82-2-783-9226
Fax. 82-2-783-9228

P.R.China

488 Jia Tang Road
Jiading District
Shanghai 201807
People's Republic of China
Tel. 86-21-5954-8626
Fax. 86-21-5954-8775

Visit our website at <http://www.emhart.com>