POP®

Rivet Tool

ProSetä 2100 Series

Maintenance Manual

Emhart® Teknologies

POP®

Contents

Introduction

Thank you for choosing the Emhart Teknologies' **ProSet™ 2100** Series Rivet Tool.

ProSet™ tools are recommended to be used with genuine **POP**Ò Brand Rivets.

Models	Diameter Rivet Size	Nose Housing Diameter
ProSet™ 2100 *(P/N: PA203-001)*	3/32" to 3/16" (2.4 to 4.8 mm)	0.953" (24.2 mm) Max.
ProSet™ 2100 MCS *(P/N: PA203-003)*		
ProSet™ 2101 * *(P/N: PA203-002)*		0.689" (17.5mm) Max.
ProSet™ 2101 MCS * *(P/N: PA203-004)*		

* ProSet™ 2001 models are recommended for rivet break loads of 1,000 lbs. max.

Safety Instructions

TO INSURE PROPER FUNCTIONING AND SAFE OPERATION READ THIS MANUAL CAREFULLY BEFORE SETTING UP OR OPERATING THE ProSet™ 2100 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 the tool both the operator and any person(s) in the vicinity are required to wear eye protection to protect against injury.
3. Inspect tool for damage before connecting to air supply.

4. Trained personnel must perform tool repair and/or maintenance at the prescribed intervals for damage and functionality.
5. Disconnect the air supply when adjusting, servicing or removing any part of the tool.

6. Keep your fingers off of the trigger when connecting the air supply.

7. Keep your fingers away from the front of the tool when connecting the air supply or setting rivets.
8. **DO NOT** point the tool at any person(s) or the operator.

9. **DO NOT** operate tool with nose housing removed.

10. **DO NOT** operate tool without deflector or MCS options.

11. **DO NOT** modify the tool in any way. In addition to voiding any applicable warranties, unauthorized modifications can result in damage to the tool or physical injury to the user.
12. **DO NOT** look into the tool from the front or the back during use. Rivets or expended mandrels may be ejected resulting in injury.
13. The operating pressure shall not exceed 100 psi (6.9 bar).

14. **DO NOT** direct tool exhaust towards anyone.

15. If there is excessive contact with hydraulic fluid or lubricants, care should be taken to wash thoroughly.
16. Take care to keep hair, fingers and loose clothing away from moving parts of the tool to avoid entanglement and/or physical injury.

Specifications

	ProSet™ 2100		ProSet™ 2101	
	w/o MCS	w/MCS	w/o MCS	w/MCS
Weight	3.31 lbs. (1.5 kg)	3.70 lbs. (1.68 kg)	3.13 lbs. (1.4 kg)	3.50 lbs. (1.59 kg)
Length	11.14" (283.0 mm)	12.32" (312.9 mm)	10.53" (267.5 mm)	11.71" (297.4 mm)
Height	11.07" (281.2 mm)		10.85" (275.6 mm)	
Tool stroke	.669" (17 mm)		.629" (16 mm)	
Pulling force *	1900 lbs @ 85 PSI (8452N @ 5.9 bar)		1900 lbs@ 85 PSI (8452N @ 5.9 bar)	
Air consumption per rivet	.011 cu. ft. (.31 liters)/rivet	0 to 2 scfm adjustable	.011 cu. ft. (.31 liters) / rivet	0 to 2 scfm adjustable

* ProSet™ 2001 models are recommended for rivet break loads of 1,000 lbs. max.

Packaged Accessories

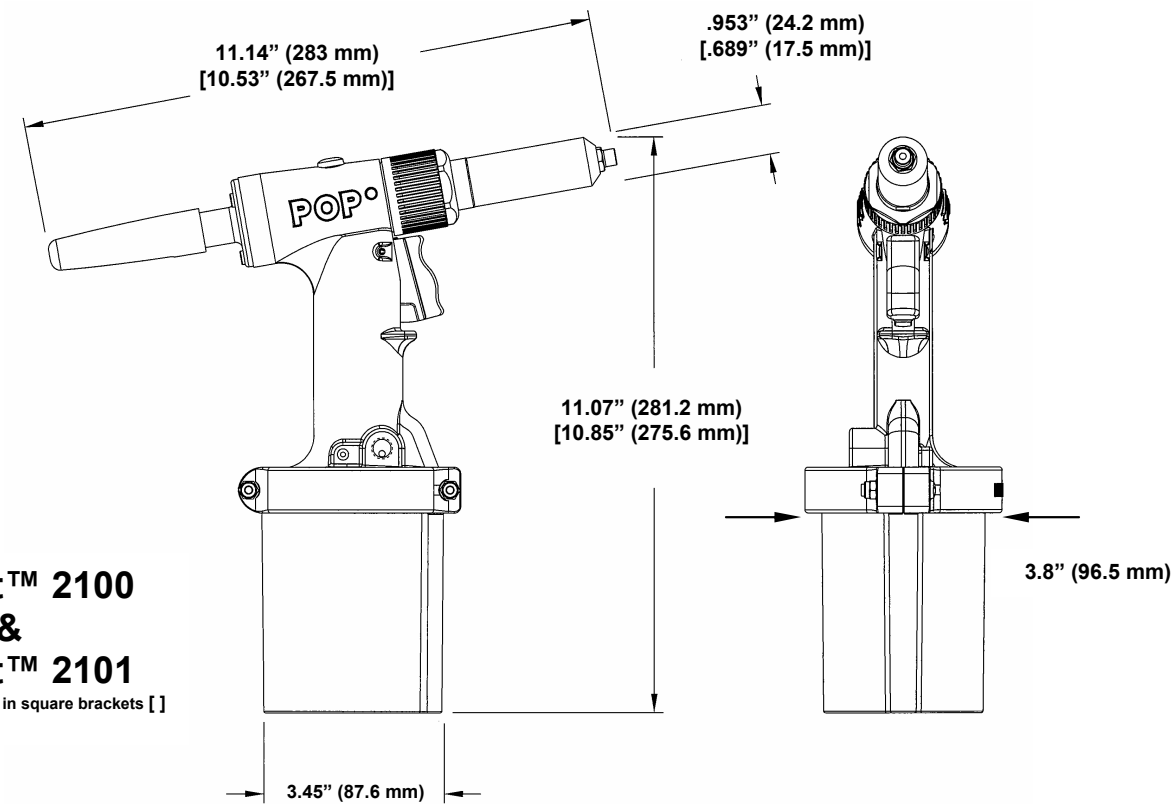
Qty	Item	2100	2101	Part No.
1	ProSet™ Rivet Tool	✓	✓	
1	Operating Instructions	✓	✓	P449
1	Maintenance Manual	✓	✓	P442
1	Nosepiece for 4 size open end rivets	✓	Installed	PRN414
1	Nosepiece for 5 size open end rivets	✓	✓	PRN514
1	Nosepiece for 6 size open end rivets	Installed	✓	PRN614
1	Jaw Pusher	-	✓	PRG520-33
1	Air Hose Assembly	✓	✓	PRT5200-220
1	Warranty Card	✓	✓	FG2184

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)] (Mobil DTE 26)
Jaw Lubricant **	**POP®** p/n: PRG510-130 [6 oz. (177 ml)]
Seal Lubricant **	Lubriplate® 130 AA

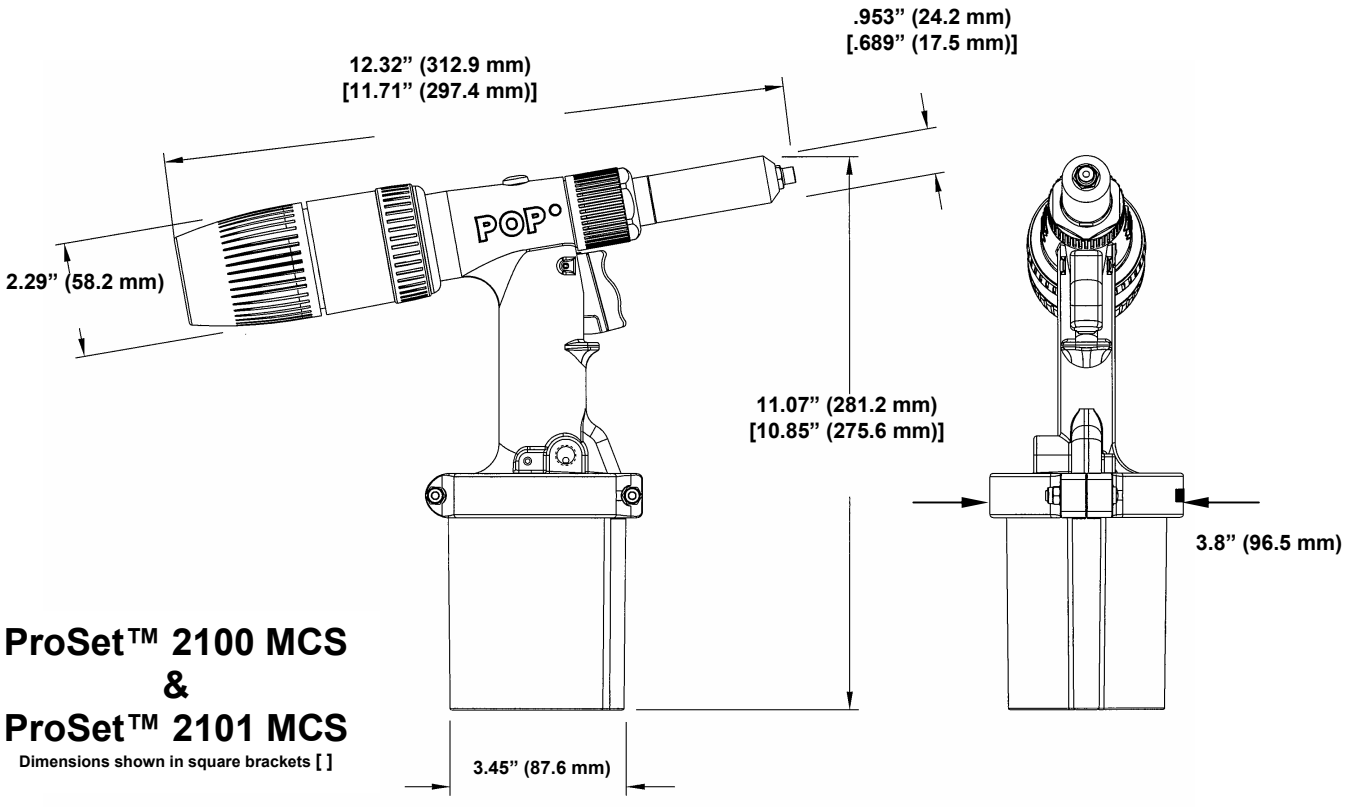
* Note: For best results and long service life, use only a dry filtered air supply.
** Note: See lubricant safety information.
Lubriplate® is a register mark of Fiske Brothers Refining Company.

Tool Dimensions



ProSet™ 2100
&
ProSet™ 2101

Dimensions shown in square brackets [ ]



ProSet™ 2100 MCS
&
ProSet™ 2101 MCS

Dimensions shown in square brackets [ ]

Common Nosepieces

Rivet Diameter	Open End	Closed End		T-Rivet	HR Rivets	
		Steel Mandrel	*Aluminum Mandrel*		*Aluminum Body*	*Steel Body*
3/32” (2.4 mm)	PRN314	-	-	-	-	-
1/8” (3.2 mm) or 7/64” (2.8 mm)	PRN414*	PRN424	PRN434	-	PRN414	PRN4H
5/32” (4.0 mm)	PRN514*	PRN524	PRN534	-	PRN514	PRN5H
3/16” (4.8 mm)	PRN614*	PRN624	PRN634	PRN625	PRN614	-

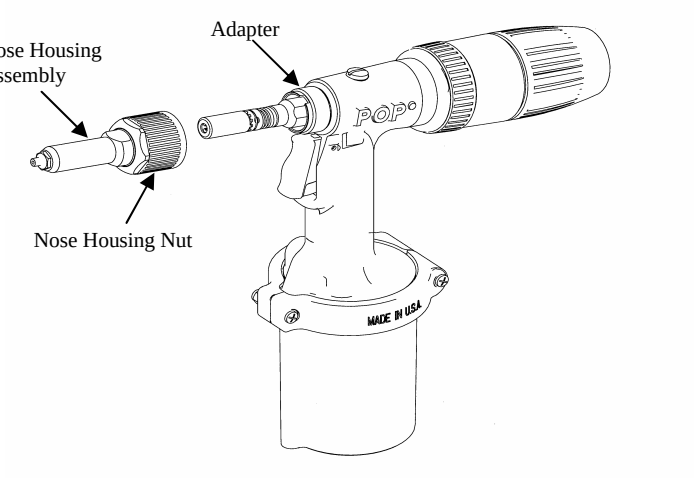
* Included with the tool.

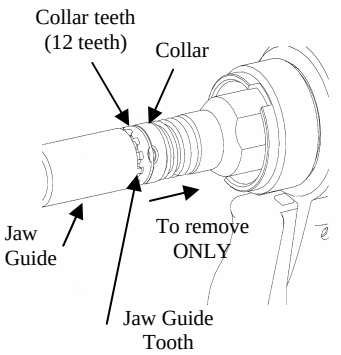
Basic Tool Operation

Before operating the tool check the following:

- ❑ Inspect tool for damage or leaking oil.
  - **Do not use tool if damaged or leaking oil.**
- ❑ Check to see that correct nosepiece is installed into the nose housing.
  - Tighten nosepieces to 60-65 in-lbs. of torque.
- ❑ Be sure that the nose housing nut (9) is tight.
  - Hand tighten only.
- ❑ Connect tool to air supply.
  - See air supply requirements (page 4).
- ❑ Turn on MCS by rotating switch-ring to one of the three ‘ON’ positions.
  - MCS style only.
- ❑ Adjust low-flow vacuum setting if necessary.
  - See “Adjusting low-flow vacuum” (page 8).
- ❑ Insert rivet into nosepiece.
- ❑ Position rivet in work piece.
- ❑ Pull trigger to set rivet.
  - When turned on, the MCS vacuum will automatically switch to high-flow mode and transfer the mandrel into the collector bottle.
- ❑ Release trigger.
  - MCS low-flow will begin to time out. (Approx. 5 to 18 seconds).

Front End Service





For optimal tool performance, Front End maintenance should be performed regularly per the "Preventative Maintenance Schedule".

1. REMOVE NOSE HOUSING:

Remove Nose Housing Assembly by grasping the Nose Housing Nut by hand and rotate the entire assembly counterclockwise until the threads are fully disengaged. *Tools are not required, however, flats are provided as back-up.*
Slide Nose Housing Assembly off the tool.

2. REMOVE JAW GUIDE TO ACCESS JAWS INTERNAL PARTS:

Pull back the Collar to disengage the Collar teeth from the Jaw Guide teeth.
Once the teeth are disengaged unscrew the Jaw Guide from the Pulling Head Adaptor.
Remove jaws, jaw pusher, and jaw pusher spring for servicing. *Tools are not required*.

3. CLEAN PARTS:

Clean jaws, jaw guide, jaw pusher, spring and thread area of the pulling head adaptor. Also be sure to clean the inside of the Nose Housing Assembly. A long narrow wire may be needed to loosen debris at the inside-front surface.

4. REASSEMBLY OF INTERNAL PARTS AND JAW GUIDE:

Apply Lubriplate to jaws and to conical area of the jaw guide and Jaw Pusher. Place the Jaws and Jaw Pusher into the Jaw Guide and slide the Jaw Pusher Spring into the Pulling Head Adaptor.
Apply a slight amount of Lubriplate® 130 AA to the Pulling Head Adaptor threads and Collar teeth. Screw the Jaw Guide onto the Pulling Head Adaptor until the teeth on the Collar causes the Jaw Guide to stop rotating.
Do not pull the collar back and fully tighten jaw guide onto the pulling head adaptor.
Apply jaw lube to the jaw area by submerging the assembled jaw guide into jaw lube about 1 in. (25mm).
Make sure the MCS unit is turned off.

5. REINSTALL NOSE HOUSING ASSEMBLY:

Slide the Nose Housing Assembly over the Pulling Head Adaptor. Hand tighten the Nose Housing Nut onto the Adaptor so that it squeezes snuggly against the Nose Housing Seal.
Do not use a wrench to tighten the nose housing onto the tool. The wrench flats are only to assist removal of the nose housing when necessary.
Check to make sure that there is sufficient squeeze on the Nose Housing Seal. There may be a loss of vacuum if the Nose Housing Seal is not fully engaged.

Note: Turn off MCS unit while servicing tool to avoid sucking any oils or other fluids into the MCS unit.

Mandrel Collection System (MCS)

For ProSet™ 2100MCS & ProSet™ 2101MCS.

The MCS suction on the ProSet™ model tools is switched ON and OFF by turning the red Switch Ring (21) to one of the three ON positions.
The MCS features an automatic timer and switch that reduces air flow to a Low-Flow mode if the tool is left idle.

Air Flow Modes

With the Switch Ring in the ON position air will flow through the MCS system. If the trigger has not been pressed the air flow will be in the *Low-Flow* mode. Pressing the trigger will activate the *Full-Flow* mode for 15 – 20 seconds. After 15 – 20 seconds, if the trigger has not been pressed again the tool will automatically return to the Low-Flow mode.

Adjusting Low-Flow Vacuum

1. Remove Collector Bottle (22) from tool.
2. Remove Filter Cover Assembly (43).
3. Remove Filter (24). (Optional)
4. Connect tool to air supply.
5. Turn on MCS unit by rotating the Switch Ring (21) to one of the three on positions.
   - Activate Trigger (5) while rotating Switch Ring (21) to on position.
6. Using a small screwdriver rotate Low-flow adjustment screw.
   - Clockwise - reduce vacuum in low-flow mode. If screw is fully in, there won't be vacuum during the low-flow mode.
   - Counter clockwise – increase vacuum in low-flow mode. If screw is fully back, vacuum during the low-flow mode will continue at full flow.
     DO NOT attempt to remove Low Flow Adjustment Screw. A flange on the blind side prevents removal and the assembly will be damaged if removal is attempted.
7. Replace filter (24).
   - Be sure that filter does not cover both Low-flow adjustment and vacuum holes.
8. Replace Filter Cover Assembly (43).
9. Replace Collector Bottle (22).

Cleaning the MCS Filter

For optimal performance, the MCS filter should be cleaned at regular intervals per the “Preventative Maintenance Schedule”.

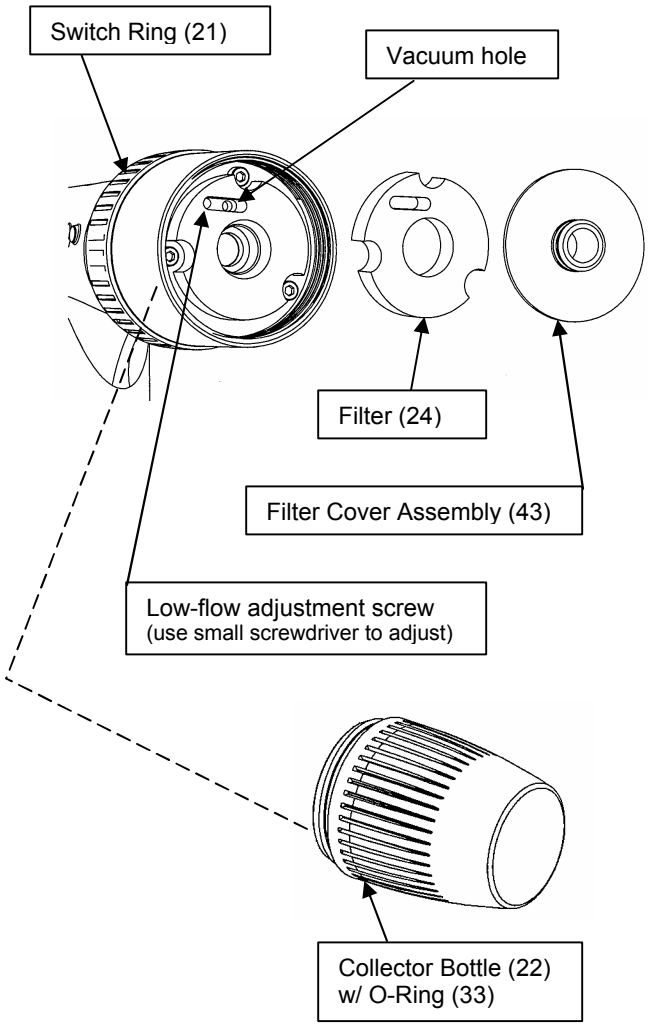
Note: Turn off MCS unit AND UNPLUG AIR SUPPLY while servicing MCS to avoid INJURY.

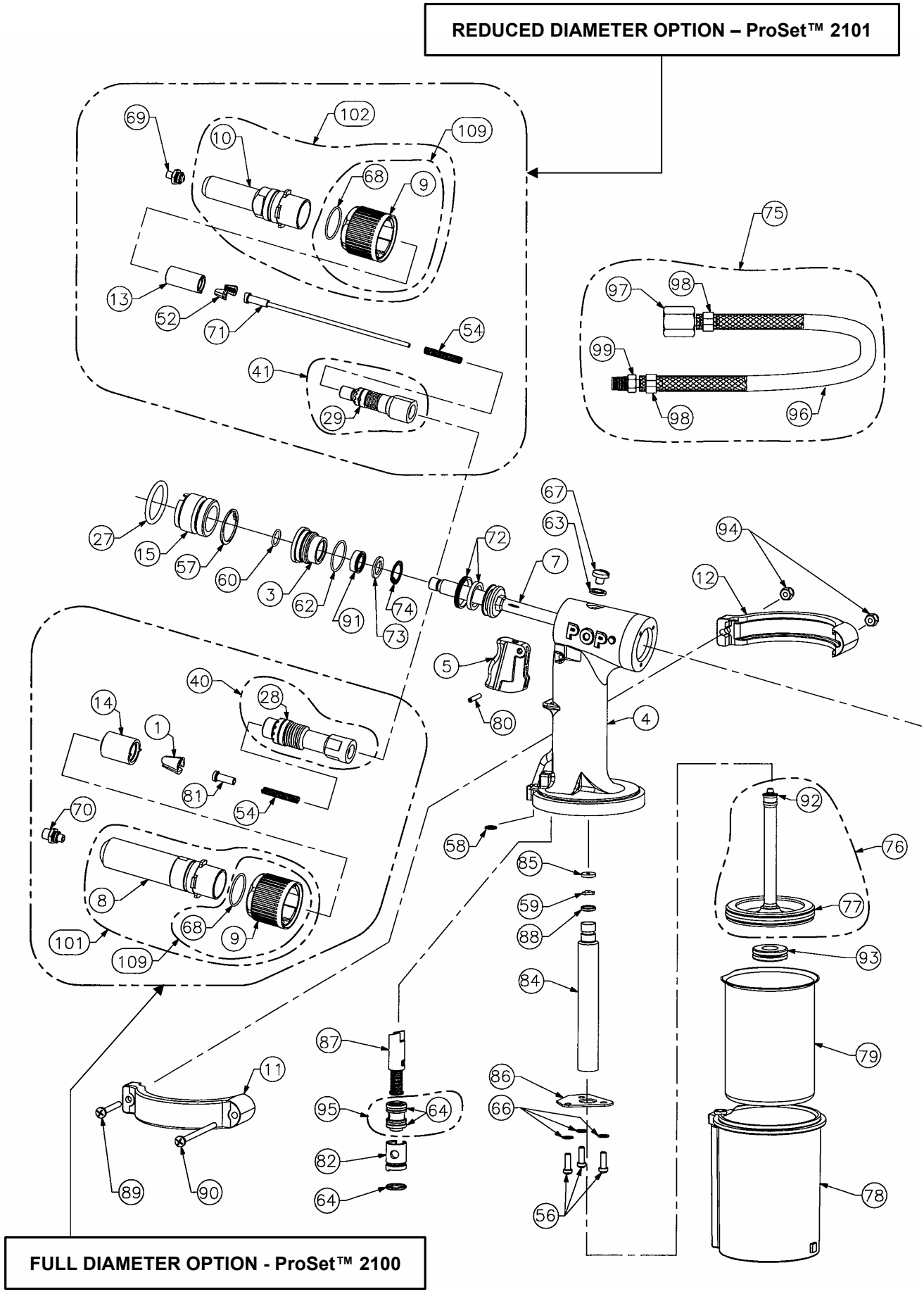
1. CLEAN THE MANDREL COLLECTION UNIT:

- Remove and empty the Collector Bottle (22) by unscrewing counterclockwise.
- Remove the Filter Cover Assembly (43) by taking hold of the center stem and pulling the assembly out.
- Remove the Filter (24).
- Remove debris from the back of the MCS taking care not to let debris fall into the piston shaft area.

2. RE-ASSEMBLE THE MANDREL COLLECTION UNIT:

- Place the Filter (24) back into the MCS unit ensuring that the oval slot in the filter exposes the two holes in the back of the MCS.
- Insert the Filter Cover Assembly (43) into the recess in the back of the unit, O-rings first.
- Screw on the Collector Bottle (22) hand-tight so that the O-ring (33) seal squeezes tightly against the back of the MCS unit.




REDUCED DIAMETER OPTION – ProSet™ 2101
FULL DIAMETER OPTION - ProSet™ 2100
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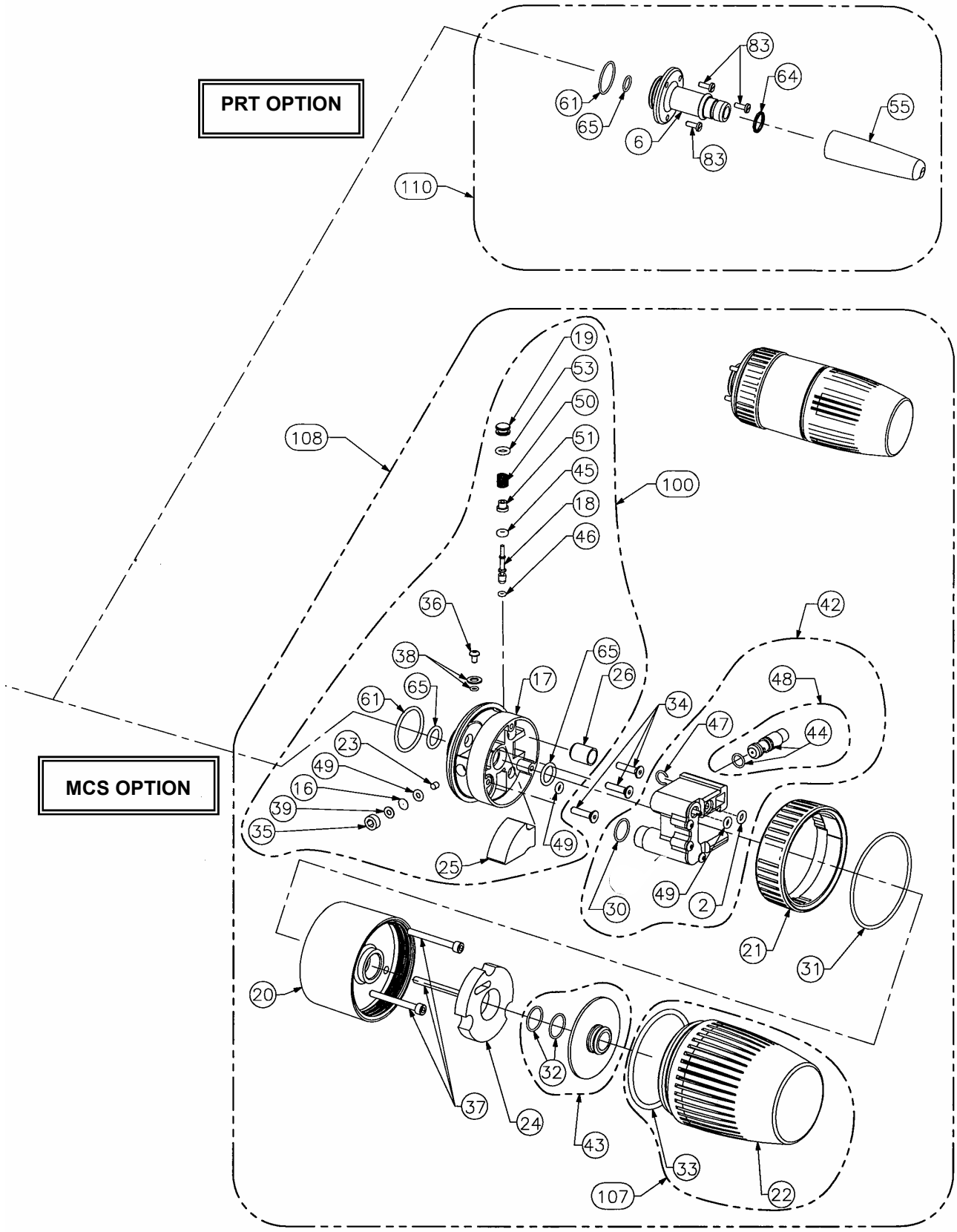
PRT OPTION
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Parts List

ITEM	Part No.	DESCRIPTION	ProSet™ 2100	ProSet™ 2101	ProSet™ 2100 MCS	ProSet™ 2101 MCS
1	13300	JAW 3-STYLE	3	-	3	-
2	2001-8549-002	O-RING	-	-	1	1
3	DP203-011	SEAL SLEEVE	1	1	1	1
4	DP203-031	HANDLE	1	1	1	1
5	DP203-032	TRIGGER	1	1	1	1
6	DP203-037	END CAP - POP OFF STYLE	1	1	-	-
7	DP203-086	HYDRAULIC PISTON	1	1	1	1
8	DP203-090	NOSE HOUSING – FD 2100	1	-	1	-
9	DP203-091	NOSE HOUSING NUT	1	1	1	1
10	DP203-096	NOSE HOUSING – RD 2101	-	1	-	1
11	DP203-120	CLAMP – LEFT	1	1	1	1
12	DP203-121	CLAMP – RIGHT	1	1	1	1
13	DP203-172	JAW GUIDE – RD 2101	-	1	-	1
14	DP203-181	JAW GUIDE – FD 2100	1	-	1	-
15	DP203-191	ADAPTOR	1	1	1	1
16	DP203-210	ORIFICE – MCS	-	-	1	1
17	DP203-236	BOTTOM HOUSING - MCS	-	-	1	1
18	DP203-245	MCS VALVE STEM	-	-	1	1
19	DP203-250	MCS VALVE STEM SEAL	-	-	1	1
20	DP203-260	TOP HOUSING	-	-	1	1
21	DP203-261	SWITCH RING, MCS	-	-	1	1
22	DP203-263	COLLECTOR BOTTLE, MCS	-	-	1	1
23	DP203-265	LEAK FILTER	-	-	1	1
24	DP203-272	MCS FILTER	-	-	1	1
25	DP203-276	MCS MUFFLER	-	-	1	1
26	DP203-287	VALVE STEM RETAINING BUSHING	-	-	1	1
27	DP900-005	O-RING – ADAPTOR	1	1	1	1
28	DP900-006	O-RING - COLLAR FD 2100	1	-	1	-
29	DP900-007	O-RING - COLLAR RD 2101	-	1	-	1
30	DP900-008	O-RING - MH2BH	-	-	1	1
31	DP900-009	O-RING - SWITCH RING	-	-	1	1
32	DP900-010	O-RING - FILTER COVER	-	-	2	2
33	DP900-011	O-RING - COLLECTOR BOTTLE	-	-	1	1
34	DP903-001	SCREW - FHSCS 6-32 X 0.500	-	-	3	3
35	DP904-001	SET SCREW - 5/16-18 X 5/32 HOLLOW	-	-	1	1
36	DP906-002	SCREW - 4-40 X 3/16 BHCS	-	-	1	1
37	DP907-001	SCREW - 6-32 X 1 1/4 SHCS	-	-	3	3
38	DP908-001	SEALING WASHER (2 PC. ASSEMBLY)	-	-	1	1
39	DP909-001	#3 FLAT WASHER - ORIFICE	-	-	1	1
40	FA203-194	PULLING HEAD ADAPTOR ASSEMBLY - 2100	1	-	1	-
41	FA203-200	PULLING HEAD ADAPTOR ASSEMBLY - 2101	-	1	-	1
42	FA203-277	MIDDLE HOUSING ASSEMBLY	-	-	1	1
43	FA203-281	FILTER COVER ASSEMBLY	-	-	1	1
44	MCS500-22	O-RING – TRANSDUCER	-	-	2	2
45	MCS5200-13	O-RING	-	-	1	1
46	MCS5200-18	O-RING	-	-	1	1
47	MCS5200-19	RETAINER – TRANSDUCER	-	-	1	1
48	MCS5200-20	TRANSDUCER (ASSEMBLY)	-	-	1	1
49	MCS5200-21	O-RING	-	-	3	3
50	MCS5200-3	SPRING - VALVE STEM	-	-	1	1
51	MCS5200-7	VALVE GUIDE	-	-	1	1
52	PRG402-8A	JAW	-	2	-	2
53	PRG510-107	O-RING	-	-	1	1
54	PRG510-123	SPRING – JAW PUSHER	1	1	1	1

Parts List

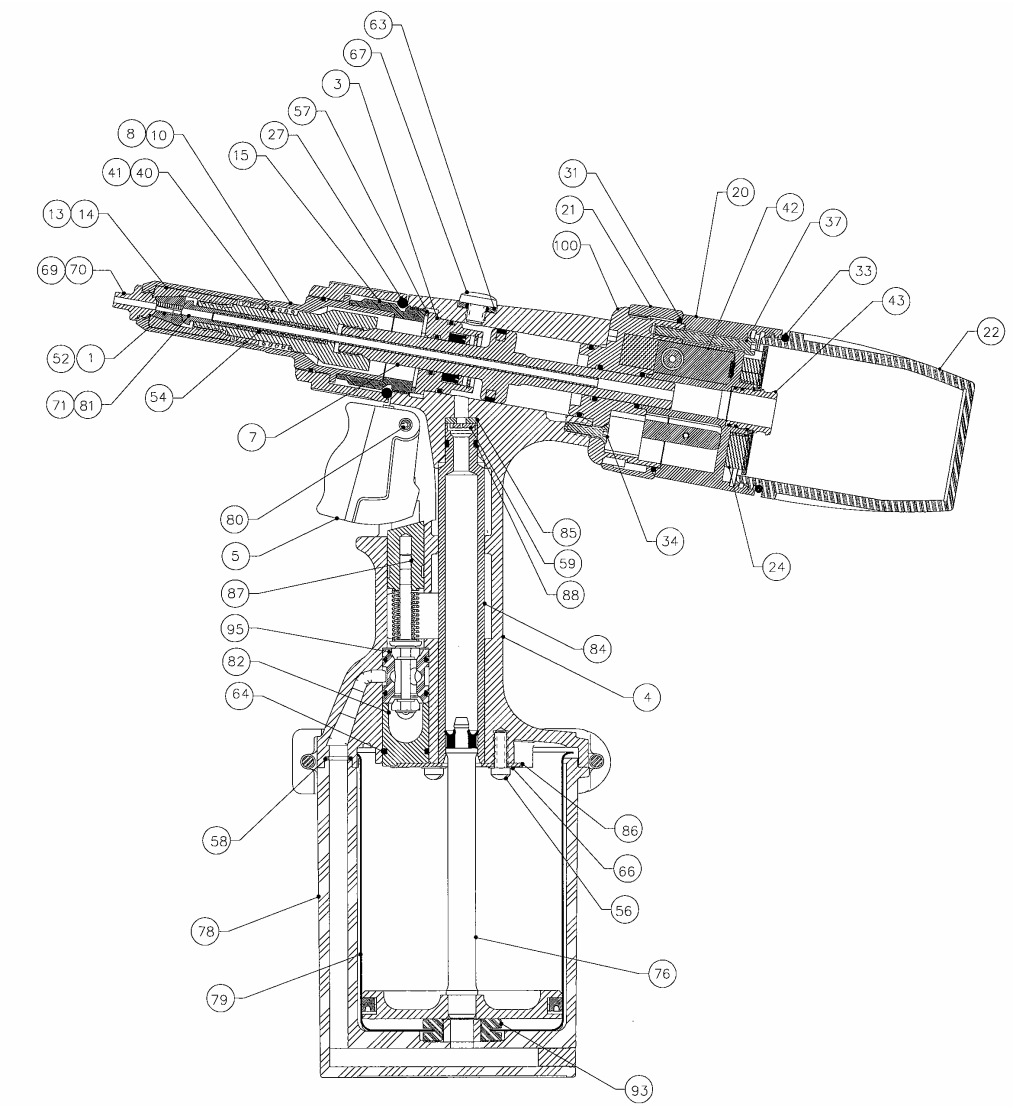
ITEM	Part No.	DESCRIPTION	ProSet™ 2100	ProSet™ 2101	ProSet™ 2100 MCS	ProSet™ 2101 MCS
55	PRG510-56	DEFLECTOR	1	1	-	-
56	PRG520-100	SCREWS - RETAINER PLATE	3	3	3	3
57	PRG520-101	RETAINING RING - SEAL SLEEVE	1	1	1	1
58	PRG520-106	O-RING – POT	1	1	1	1
59	PRG520-45	RESTRICTOR	1	1	1	1
60	PRG520-47	O-RING - SS WIPER	1	1	1	1
61	PRG520-49	O-RING – END CAP OUTSIDE	1	1	1	1
62	PRG520-89	O-RING - SS OUTSIDE	1	1	1	1
63	PRG540-102	WASHER - FILL SCREW	1	1	1	1
64	PRG540-117	O-RING – VALVE	4	4	3	3
65	PRG540-118	O-RING – END CAP INSIDE	1	1	2	2
66	PRG540-120	LOCK WASHER	3	3	3	3
67	PRG540-122	FILL SCREW	1	1	1	1
68	PRG540-4	O-RING - NH	1	1	1	1
69	PRN 414	NOSEPIECE 4-SIZE	-	1	-	1
70	PRN 614	NOSEPIECE 6-SIZE	1	-	1	-
71	PRT5200-4	JAW PUSHER ASSEMBLY	-	1	-	1
72	PRT5200-15	PISTON SEAL (2 PC. ASSEMBLY)	1	1	1	1
73	PRT5200-19	WASHER – SS	1	1	1	1
74	PRT5200-20	RETAINING RING - SS	1	1	1	1
75	PRT5200-220	AIR LINE ASSEMBLY (COMPLETE)	1	1	1	1
76	PRT5200-26	INTENSIFIER ASSEMBLY	1	1	1	1
77	PRT5200-28	SEAL - AIR PISTON	1	1	1	1
78	PRT5200-29	INTENSIFIER CHAMBER	1	1	1	1
79	PRT5200-30	INTENSIFIER CHAMBER SLEEVE	1	1	1	1
80	PRT5200-33	SPRING PIN – TRIGGER	1	1	1	1
81	PRT5200-34	JAW PUSHER – CONICAL	1	-	1	-
82	PRT5200-35	VALVE PLUG	1	1	1	1
83	PRT5200-37	SCREW - END CAP	3	3	-	-
84	PRT5200-46	RAM SLEEVE	1	1	1	1
85	PRT5200-47	RESTRICTOR SEAT	1	1	1	1
86	PRT5200-48	RETAINER PLATE - RAM SLEEVE	1	1	1	1
87	PRT5200-50	PRESSURE REGULATOR ASSEMBLY	1	1	1	1
88	PRT5200-59	O-RING - RAM SLEEVE	1	1	1	1
89	PRT5200-62	SCREW - CLAMP FRONT	1	1	1	1
90	PRT5200-63	SCREW - CLAMP BACK	1	1	1	1
91	PRT5200-8	ROD SEAL	1	1	1	1
92	PRT5200-84	RAM SEAL	1	1	1	1
93	PRT5300-26	GROMMET	1	1	1	1
94	PRT5500-113	CLAMP NUT	2	2	2	2
95	PRT5200-55	AIR VALVE ASSEMBLY	1	1	1	1
96	PRG540-39	AIR LINE	1	1	1	1
97	PRG540-40	HOSE FEMALE FITTING	1	1	1	1
98	PRG540-45	AIRLINE “O“ CLAMP	2	2	2	2
99	PRT5200-90	AIR LINE FITTING	1	1	1	1
100	FA203-279	BOTTOM HOUSING ASSEMBLY	-	-	1	1
101	FA203-092	NOSE HOUSING ASSEMBLY - 2100	1	-	1	-
102	FA203-097	NOSE HOUSING ASSEMBLY - 2101	-	1	-	1
107	FA203-405	COLLECTOR BOTTLE ASSEMBLY	-	-	1	1
108	FA203-402	MANDREL COLLECTION SYSTEM	-	-	1	1
109	FA203-404	NOSE HOUSING NUT ASSEMBLY	1	1	1	1
110	FA203-406	END CAP ASSEMBLY	-	-	1	1

FD: Denotes “Full Diameter” option 2100.
RD: Denotes “Reduce Diameter” option 2101.

Optional Kits are also available separately.

Part No.	Description
FA203-400	ProSet™ 2100 Seal Kit
FA203-401	ProSet™ 2100MCS Seal Kit
FA203-403	Reduced Diameter Front End Kit (2100 to 2101 conversion)
FA203-408	ProSet™ 2100 Adaptor Kit for MCS5000 (remote MCS)
FA203-2102K	Reduced Diameter Front End Extension Kit – 6” length
FA203-2103K	Reduced Diameter Front End Extension Kit – 8” length
FA203-2104K	Standard Diameter Front End Extension Kit – 6” length
FA203-2105K	Standard Diameter Front End Extension Kit – 8” length

Tool Cross Section

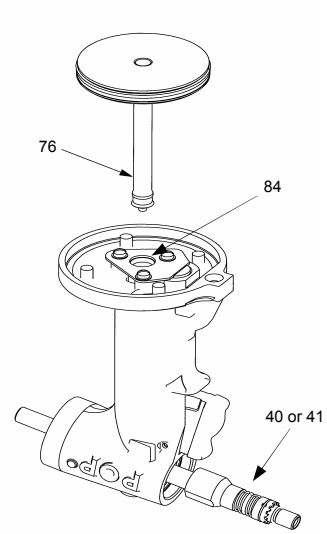


Double balloons indicate 2100 and 2101 equivalents. MCS version shown.

Hydraulic Oil Charging Procedure

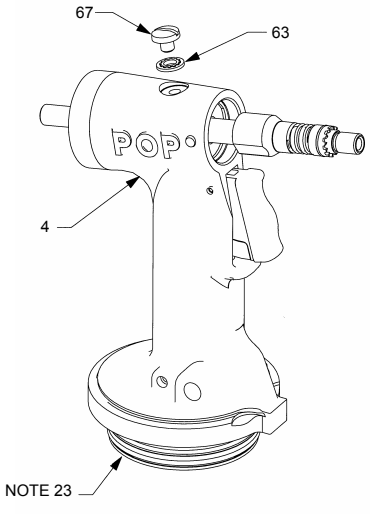
IMPORTANT. TOOL MUST BE DISCONNECTED FROM THE AIR SUPPLY. USE ONLY APPROVED HYDRAULIC OIL SPECIFIED IN THIS MANUAL.

VIEW "E1"
INVERTED POSITION



1. Disconnect tool from air supply.
2. Remove Nose Housing Assembly (101 or 102).
3. Loosen fill screw (67) together with fill screw washer (63) ¼" turn.
4. Remove clamp screws (89 & 90), clamp nuts (94), right and left clamps (11 & 12). *Note the orientation of Clamp lettering "Made In U.S.A.".*
5. Remove intensifier chamber and sleeve (78 & 79), Remove O-ring (93 & 58). *To avoid spilling hydraulic oil, **DO NOT** remove Intensifier Assembly (76) at this time.*
6. Turn tool upside down as shown in View E1. Slowly withdraw the intensifier assembly (76), being careful not to scratch or score the inside of the Ram Sleeve surface (84).
7. Turn the tool right side up over a pan that can capture the hydraulic oil as it is drained from the tool. The oil will exit the tool out of the Ram Sleeve (84).
8. Remove or loosen the fill screw Assembly (67 & 63). Allow oil to drain for a minute or two.
9. Invert the handle, pulling head down (view E1) in a soft jawed vise. Grip the tool gently on the aluminum casting in the middle of the tool handle grip area.
10. If fill screw (67) and fill screw washer (63) have been removed during dismantling, reinstall these before proceeding and tighten hand tight (approximately 15 in – lbs).

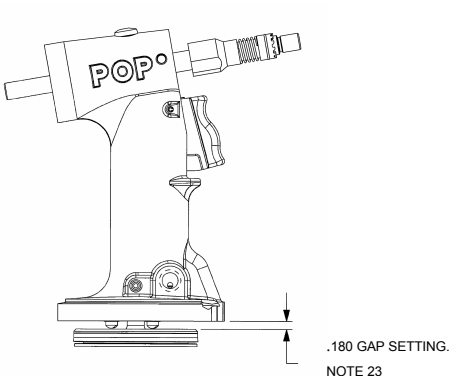
VIEW "E2"
UPRIGHT POSITION



11. Move the pulling head (40 or 41) to the full forward position. *Note: rotating the pulling head adaptor while moving it will reduce sudden uncontrolled movement.*
12. Fill ram sleeve (84) with hydraulic oil until level with the top of the ram sleeve.
13. Slowly move the pulling head back, about ½ inch. Then, slowly return the pulling head to the full forward position. *Note: rotating the pulling head adaptor while moving it will reduce sudden uncontrolled movement.*
14. Refill ram sleeve (84) with hydraulic oil until level with the top of the ram sleeve. Repeat above procedure a second time.
15. With the pulling head in full forward position, refill ram sleeve, if needed, with hydraulic fluid until level with the top of the ram sleeve.
16. Slowly move the pulling head back until the oil level in the ram sleeve drops to approximately ½ inch for top of seal sleeve.
17. Add hydraulic fluid until level with the top of the ram sleeve.
18. Install the intensifier assembly (76) into the ram sleeve. Push in until it is about 1/3 down.
19. Reposition this assembly to the upright position, as shown on view E2.
20. Let the tool stand for approximately 2 minutes so that any air in the ram sleeve rises to the top.

21. Move the intensifier (item 76) up approximately ½ inch more. This will force air trapped at the top of the ram sleeve into the upper bore chamber of the handle, in front of the hydraulic piston.
22. Let the tool stand for approximately 2 minutes so that any air in the upper bore chamber rises towards the fill screw.
23. Move the intensifier up so that the pulling head is in the full back position. Apply pressure to the bottom of the air piston and loosen the fill screw until oil seeps by the threads of the fill screw. Continue until the piston gap setting is .180 (4.6mm). See gap setting.
24. Tighten fill screw to 60-65 in – lbs.
25. Wipe away any excess oil from the handle.
26. Inspect Ram Seal (92) for cuts and defects. Inspect inside surface of the Ram Sleeve (84) for marks and scratches.
27. Reinstall the intensifier chamber and sleeve (78 & 79) and O-ring (93 & 58).
28. Install the Clamp assemblies (11, 12, 89, 90 and 94). Be sure that the orientation of the clamps is correct. Tighten both Clamp Nuts (94) to 8 – 10 in–lbs. *NOTE: The orientation of the words "Made In U.S.A." on one of the clamps should be the same as the words "POP" on the Handle (4) and located opposite the air inlet port of the Handle.*
29. Reinstall the Nose Housing Assembly (101 / 102).

GAP SETTING



Maintenance

Preventative Maintenance Schedule		
Item	**Action**	**Frequency**
Clean and lube 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 gripping teeth.	During Front End service. When jaws slip on mandrel.
MCS Collector Unit	Empty Collector Bottle	When the quantity of stored spent mandrels begin to interfere with mandrels entering the collector bottle. (Storage quantity depends on rivet size and application).
	Clean MCS Filter	Once a day or when MCS vacuum will not pull rivet into collector bottle.
	Clean MCS Muffler	2 months or 250,000 rivet settings.

* Note: Only use Emhart specified greases and lubricants

Safety Data

LUBRIPLATE® 130-AA

Manufactured by:
Fiske Brothers Refining Co.
Phone: (419) 691-2491

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**.**

JAW LUBE *(P/N: PRG510-130)*

Distributed By:
Emhart Teknologies
Phone: (203) 924-9341

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.

MOBIL DTE 26 (*P/N: PRG540-130)*

Distributed By:
Emhart Teknologies
Phone: (203) 924-9341

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

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. Do not reuse clothing until cleaned.

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 (CO_2) to extinguish flames. Do not use a direct stream of water.

Environment:
WASTE DISPOSAL:
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. Insufficient air pressure. Air pressure too high. Tool low on hydraulic fluid.	Connect to recommended air supply source. Adjust air supply pressure. Adjust air supply pressure. Service tool by qualified service personnel.
TOOL NOT RETURNING	Insufficient air pressure.	Adjust air supply pressure.
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	Insufficient air pressure. Nose housing loose. Excess hydraulic oil in tool.	Adjust air supply pressure. Tighten nose housing. Service tool by qualified service personnel.
MANDREL STICKING IN JAWS	Jaws dirty or need lubrication.	Clean and lube jaws.
RIVET FAILS TO INSERT INTO NOSEPIECE	Incorrect nosepiece. Shear ring stuck in hole of nosepiece.	Install correct nosepiece. Remove shear ring.
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.
MCS NOT WORKING	Tool not connected to air supply. MCS switch ring in off position. Collector bottle not tight or missing. Collector bottle seal damaged or missing. Low-flow adjusted to off position. Mandrel path blocked.	Connect to recommended air supply source. Rotate MCS switch ring to “ON” position. Check collector bottle. Replace seal. Adjust low-flow valve. Activate trigger to check. Clear mandrel path.
LOW VACUUM	Collector bottle not tight. Dirty filter. Collector bottle seal damaged or missing. Insufficient air pressure.	Check collector bottle. Clean or change filter. Replace seal. Adjust air supply pressure.

EC Declaration of Conformity

We, Emhart Teknologies

Tucker Fasteners Limited
Birmingham B42 1BP
United Kingdom.

Declare that:

ProSet ä 2100/MCS
ProSet ä 2101/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. November 2003

POP®

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Emhart® Teknologies

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