



MY1C Mechanical Joint Rodless Cylinder

Supplemental Assembly Instructions for Maintenance Operations

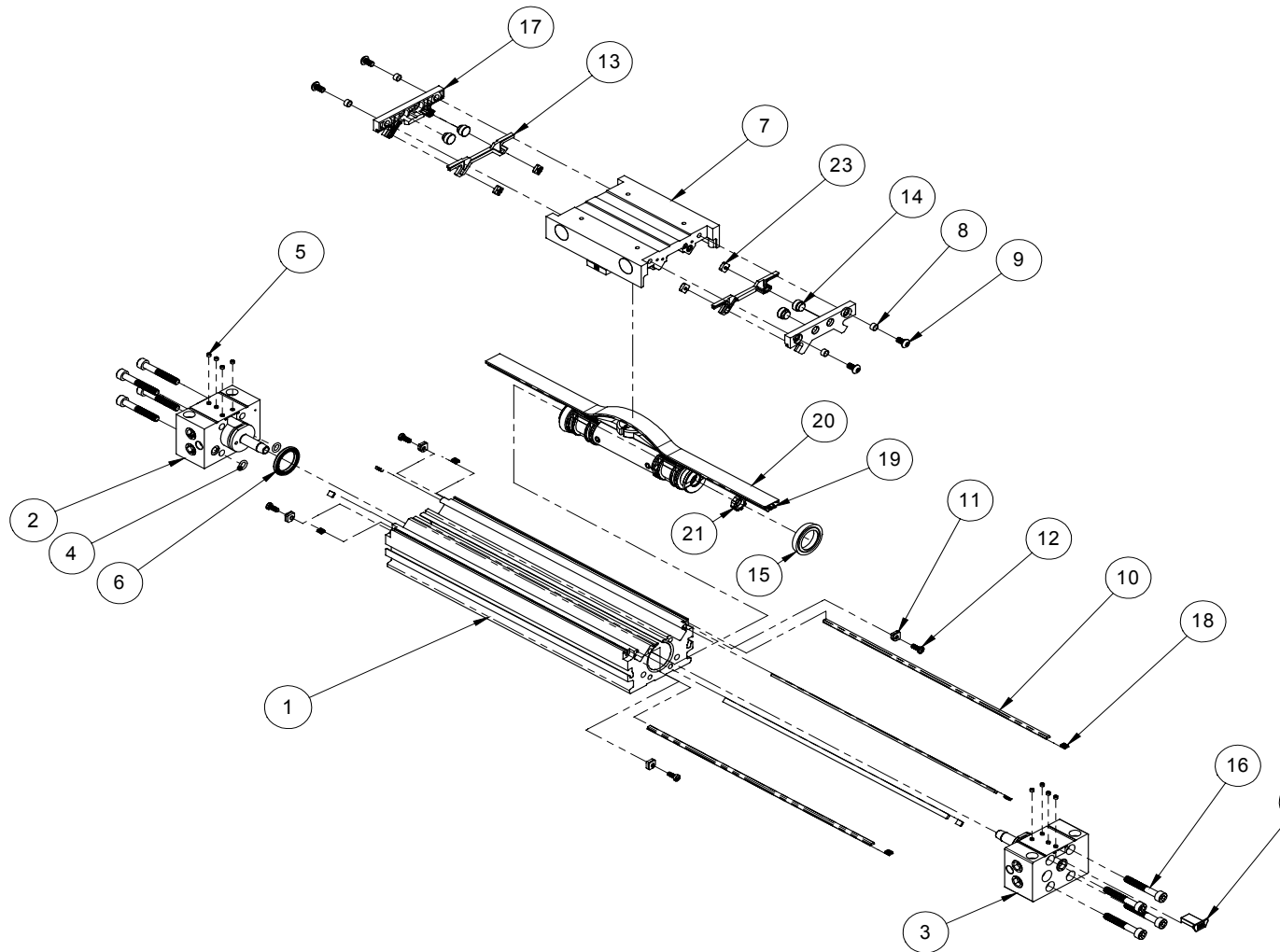
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INTRODUCTION

This document is intended as a supplement to the Operation Manual for MY1C cylinders (document number FIA-GL98-0022) to provide more detailed information or pictorial clarification of critical assembly steps. This document does not supersede or void any information that may be provided in any current or future version of the Operation Manual or other authorized repair, operation or assembly instructions.

INDEX

Exploded Assembly Diagram	Page 3
Preparation for Reassembly after Tear-down	Page 4
Slide Table Adjustment and Assembly	Page 5
Final Cylinder Assembly	Page 10



Item	Quantity	Description
1	1	Cylinder Tube
2	1	Left Head Cover
3	1	Right Head Cover
4	4	By-pass Gasket
5	8	Set Screws
6	2	Tube Gasket
7	1	Piston Table
8	4	Spacer

Item	Quantity	Description
9	4	Button Head Cap Screw
10	4	Rail
11	4	End Clamp
12	4	Button Head Cap Screw
13	2	Scraper
14	4	Stopper
15	2	Piston Seal
16	8	Cover Bolts

Item	Quantity	Description
17	2	End Cover
18	4 or 8	End Spacer
19	1	Seal Belt
20	1	Dust Seal Cover
21	2	Cushion Seal
22	2	Belt Clamp
23	4	Backup Plate

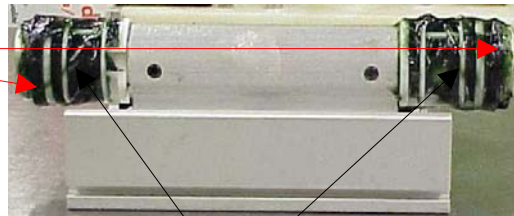
Preparation for Reassembly after Tear-down

Follow these steps to reassemble cylinder after disassembly per Operation Manual instructions

1. Grease the piston seals and place onto both sides of the piston assembly with the seal lips facing out. Make sure the piston seals lay flat and fit snugly into the grooves on the pistons.

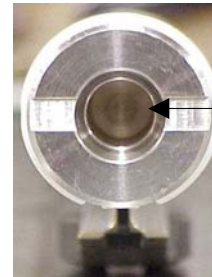


The piston seal lip should face outward



Verify the grease fully coats the grooves in the slide bearings on the piston

2. Grease the cushion seals and insert with the notched side facing out into the cavity in both pistons.



Grease & Insert Into Inside Cavity of Piston



Notched Side of Cushion Seal Facing Out

3. Grease the bearings on the pistons and place assembly into the slide

4. Prepare seal belt
Place the piston assembly at the end of the cylinder tube. Cut the seal belt the combined length of the cylinder tube and piston assembly. Check that the surface of the seal belt is smooth and free of defects.

5. Grease seal belt.
Apply a generous amount of grease to one end of the seal belt. Using your fingers, work the grease towards the opposite end of the seal belt. Make sure that the grease completely fills all grooves. Seal belt will be solid green in color.

6. Slide the seal belt into the cylinder tube.
Position the seal belt inside the cylinder tube with equal amounts of the length extending from both ends.

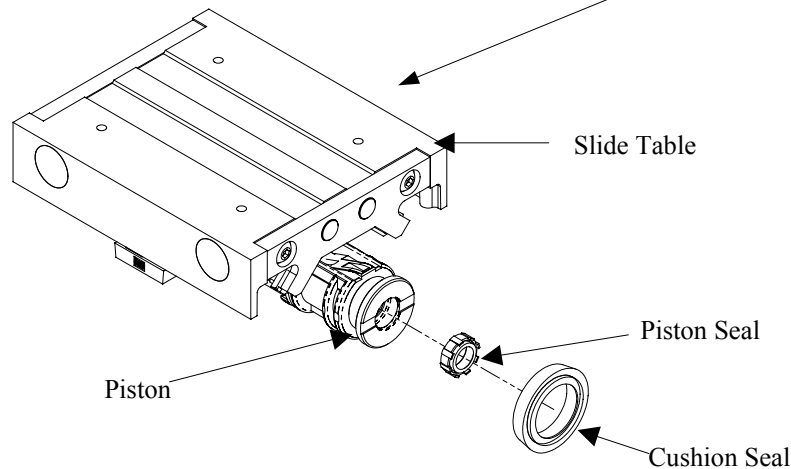
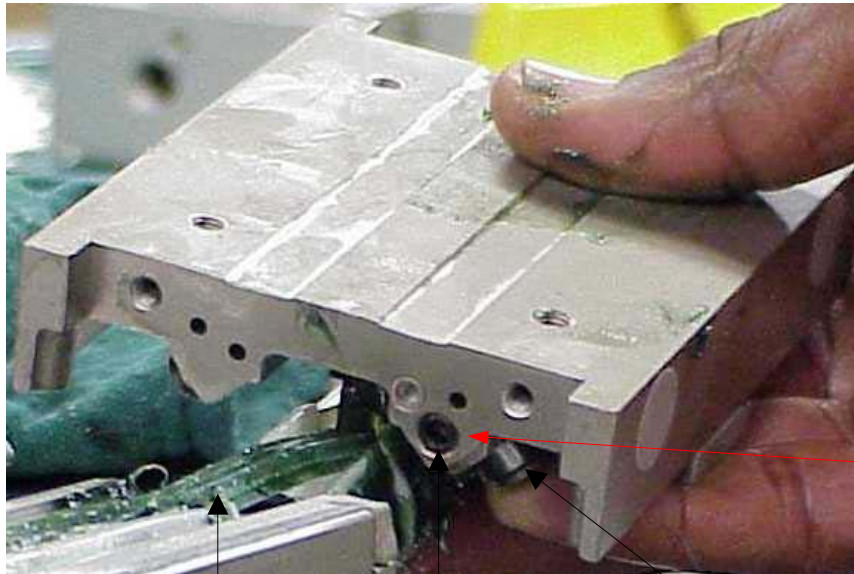


Figure E

Slide Table Adjustment and Assembly

Loosen the locking screw on the slide table.

1. Place a finger over the cam follower to hold it into place.
2. Using an Allen Wrench turn the locking screw counter clockwise half a revolution to free the adjusting gear.
3. Insert the seal belt into the slide table; slide the table halfway onto the cylinder tube.
4. Repeat this step for the locking screw on the other side of the slide table.
5. Slide the table onto the cylinder tube.



PLEASE NOTE! Never turn the locking screw around more than half a revolution; the adjusting gear may fall off.

Insert the Seal Belt into the Slide Table

Turn the Locking Screw Counter Clockwise Half a Revolution

Hold the Cam Follower into Place with Finger



Figure F

Verify the slide table did not push the rails out of the end of the cylinder tube.

If the rails do extend beyond the end of the cylinder tube, using a screwdriver turn the adjusting screw on both sides of the table to free the cam followers away from the rails and push the rails back into position. Do not move the slide table.

Verify the rail does not extend past the end of the cylinder tube



NOTE! Do not force the rails back into place as this will cause the cam followers to be too tight against the rails in the tube.

Turn the Adjusting Screw to rotate the cam follower away from the rails

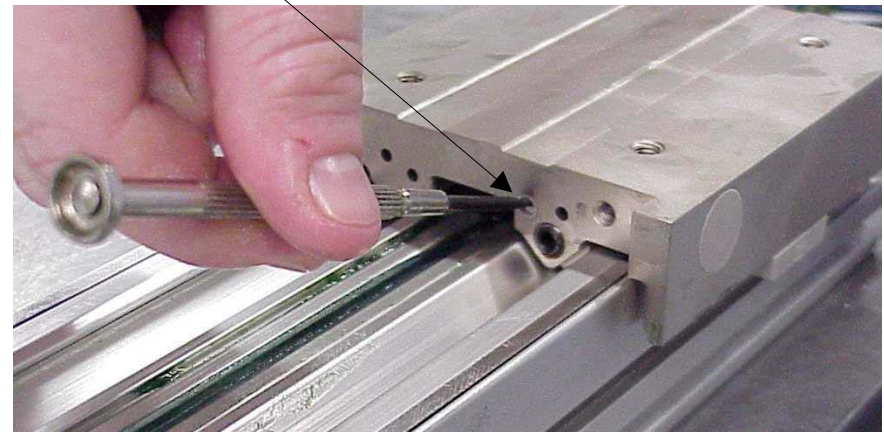


Figure G

Torque the adjusting screw.

Without holding onto the table, torque the adjusting screws on both sides of the slide table to 1 kgf-cm.

- Do not move the slide tables until locking screws are set as this may cause loss of proper adjustment of bearings.
- By looking into gap between table and tube, ensure the cam followers have not dropped out of position into contact with tube. If so, table must be removed, cam follower reseated and locking screw retightened until cam followers are retained, but still able to turn with adjusting screw.

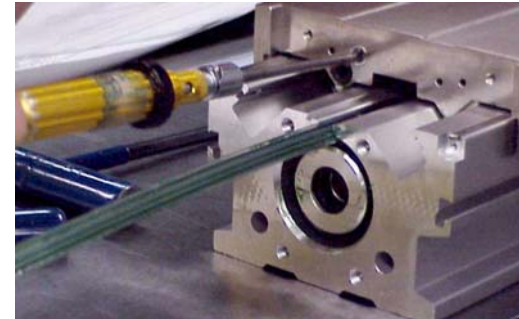
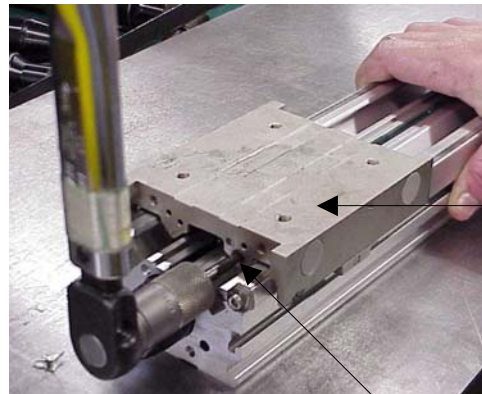


Figure H

Torque the locking screws.

1. Without holding onto the table, torque the locking screw to the appropriate torque value (reference torque table below).
2. Glide the slide table to other end of cylinder tube and torque the locking screw on the other side to the appropriate torque.
3. Hand actuate the slide assembly along the length of the cylinder tube.
4. Verify the slider glides easily across the seal belt and the cam followers move smoothly with no rattle or floating.
5. Remove excess grease from both ends of the tube.

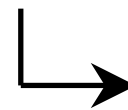


Do not hold onto the slide table while applying torque

Figure I

Locking Screw

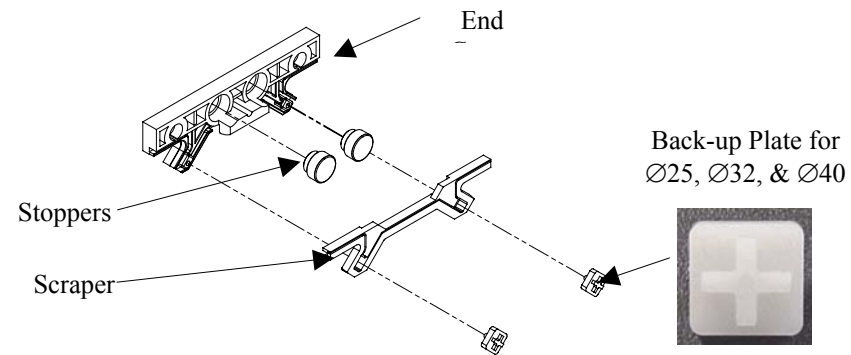
LOCKING SCREW TORQUE REFERENCE TABLE



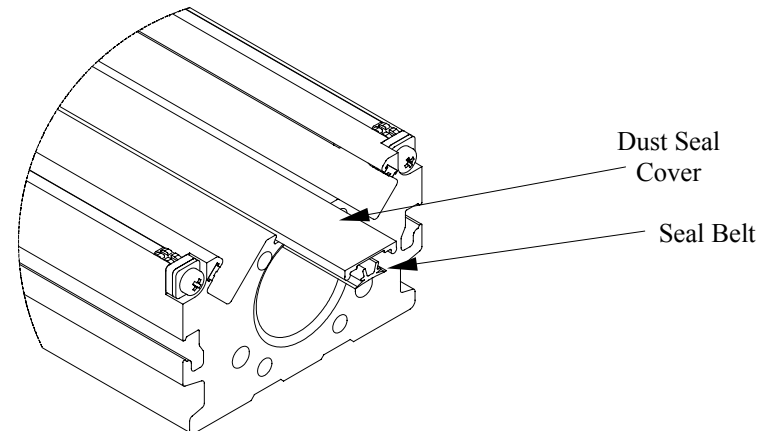
Bore:	Torque (Nm):
Ø16, Ø20	1.4
Ø25	2.4
Ø32	6.0
Ø40	12
Ø50, Ø63	21.1

Install stoppers, scrapers, and back-up plates on the end covers.

1. Insert the stoppers into holes located in the end cover.
2. Grease and insert the scraper on the bottom groove of the end cover.
3. For $\varnothing 25$, $\varnothing 32$, and $\varnothing 40$ only, install the back-up plates into the scraper and end cover holes.

**Figure J**Grease and install dust seal cover.

1. Peel back the rubber covering on the top (flat) side of the dust seal cover. Check that the dust seal cover is smooth and free of bumps or other defects.
2. Apply grease along the length of the bottom side (non-metallic side) of the dust seal cover.
3. Insert the dust seal cover (metallic side up) over the seal belt. Thread the dust seal cover through the piston assembly.
4. Align the dust seal cover so the excess lengths are equally extended from both ends of the tube.
5. Run a finger over the dust seal cover to ensure it is lying flat along the length of the cylinder tube.

**Figure L**

Install end covers onto slide table.

1. Place the end covers on the end of the table assembly.
2. Insert the 0.95mm shim in the center of the end cover before tightening the end covers.
3. Place a spacer on each button head screw and tighten to the correct torque (see torque chart below).
4. Verify that the end covers are flush, securely seated, and the scraper is not protruding between the table assembly and cylinder tube.

END COVER TORQUE CHART

Bore Size	Torque (kgf-cm)
∅16, ∅20	3.1
∅25, ∅32, ∅40	7.1
∅50, ∅63	15.3

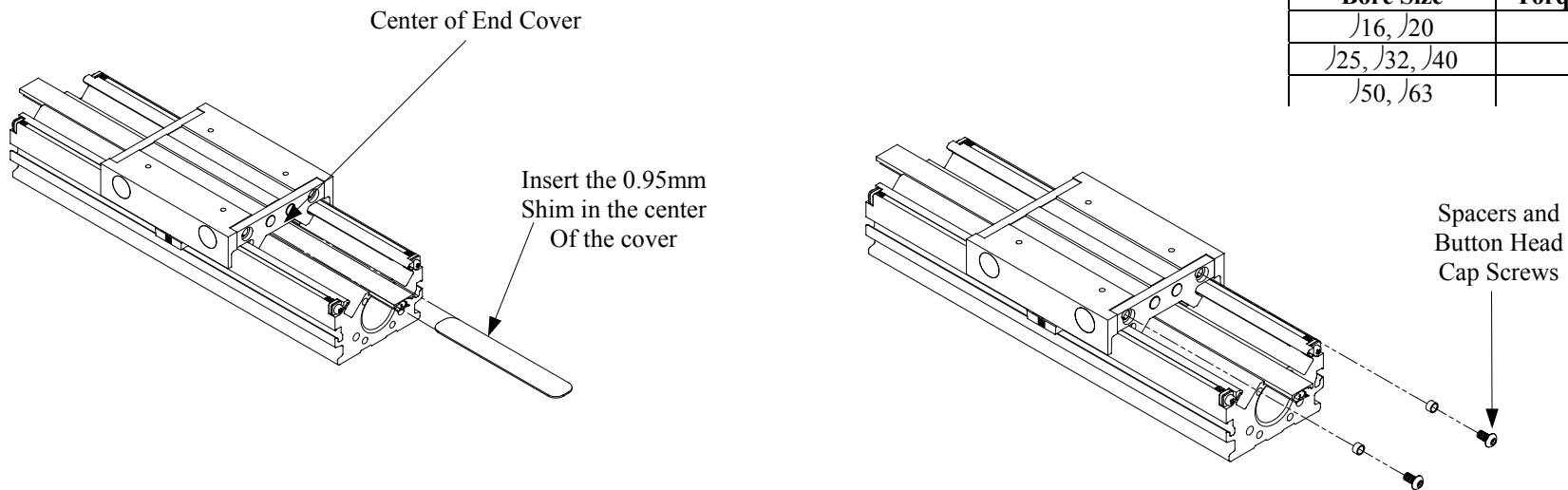


Figure M

Final Cylinder Assembly

Install the tube gasket and the by-pass gaskets.

1. Lightly grease the tube gasket and install into groove in the boss on the head covers.
2. Lightly grease the by-pass gaskets and install into the counterbored holes on face of head covers.

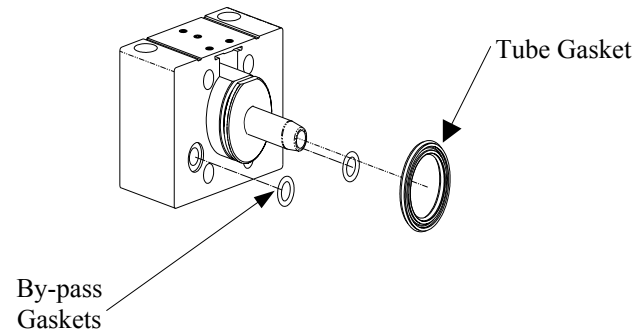
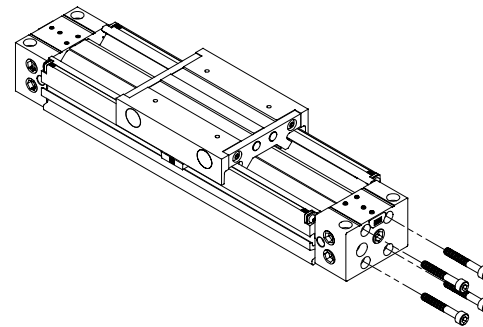


Figure N

Install head covers.

1. Push piston assembly towards the right end of cylinder tube.
2. Insert the seal belt and dust seal band in right head cover.
3. Carefully insert the head cover into the end of the cylinder tube with a slight up and down rocking motion, taking care not to pinch tube seal.
4. While pressing down on the cylinder tube, secure the head cover to the cylinder tube with the required cover bolts and torque.
 - Make sure that the dust seal cover remains flat and does not buckle near the head covers.
 - Make sure that the port holes on the head cover are on the same side as the set screws on the piston assembly.
5. Slide piston assembly to the left end of the tube and install the left head cover with the same procedure as the right head cover.



HEAD COVER TORQUE CHART

Bore Size	Torque Spec.
Ø16	6.1 kgf-cm
Ø20	15.3 kgf-cm
Ø25	30.6 kgf-cm
Ø32 - Ø40	51 kgf-cm
Ø50	102 kgf-cm
Ø63	255 kgf-cm

Figure O

Install belt clamps and tighten set screws.

1. Cut the excess seal belt and place the belt clamp in recess.
 - Check that belt clamp is flush with the head cover.
2. Tighten dust seal cover with required set screw.
3. Carefully apply specified torque of 1.0 kgf-cm to each set screw.
 - Do not over torque the set screws, as this will damage the dust seal cover.

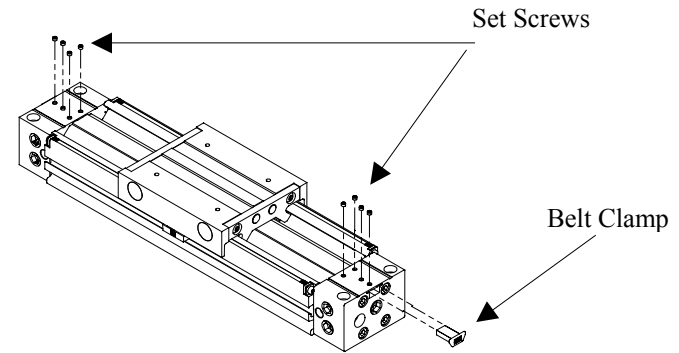


Figure P

Bore Size	Std. Dust Seal Cover	Wide Dust Seal Cover
∅16, ∅20, ∅25	M3x0.5x3TL (MY1M-B)	M3x0.5x3TLS (MY1M-B)
∅32, ∅40, ∅50	M3x0.5x8TL (MY1B-B)	M3x0.5x8TLS (MY1B-B)
∅63	M3x0.5x8TL (MY1B-B)	M3x0.5x8TLS (MY1B-B)