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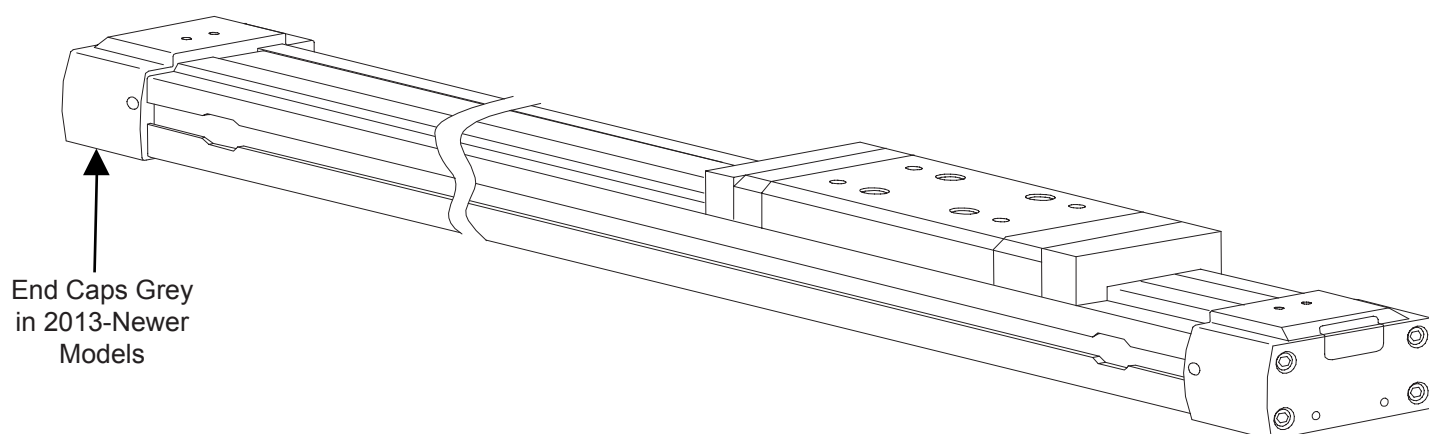
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**THE EASTMAN®**

**2013 & NEWER**

**Blue Jay  
Rodless Cylinder  
BC-40224-MS**

***Track Repair Manual***



Technical Support:  
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Manufacturers of Eastman Cloth Cutting and Cloth Spreading Machines

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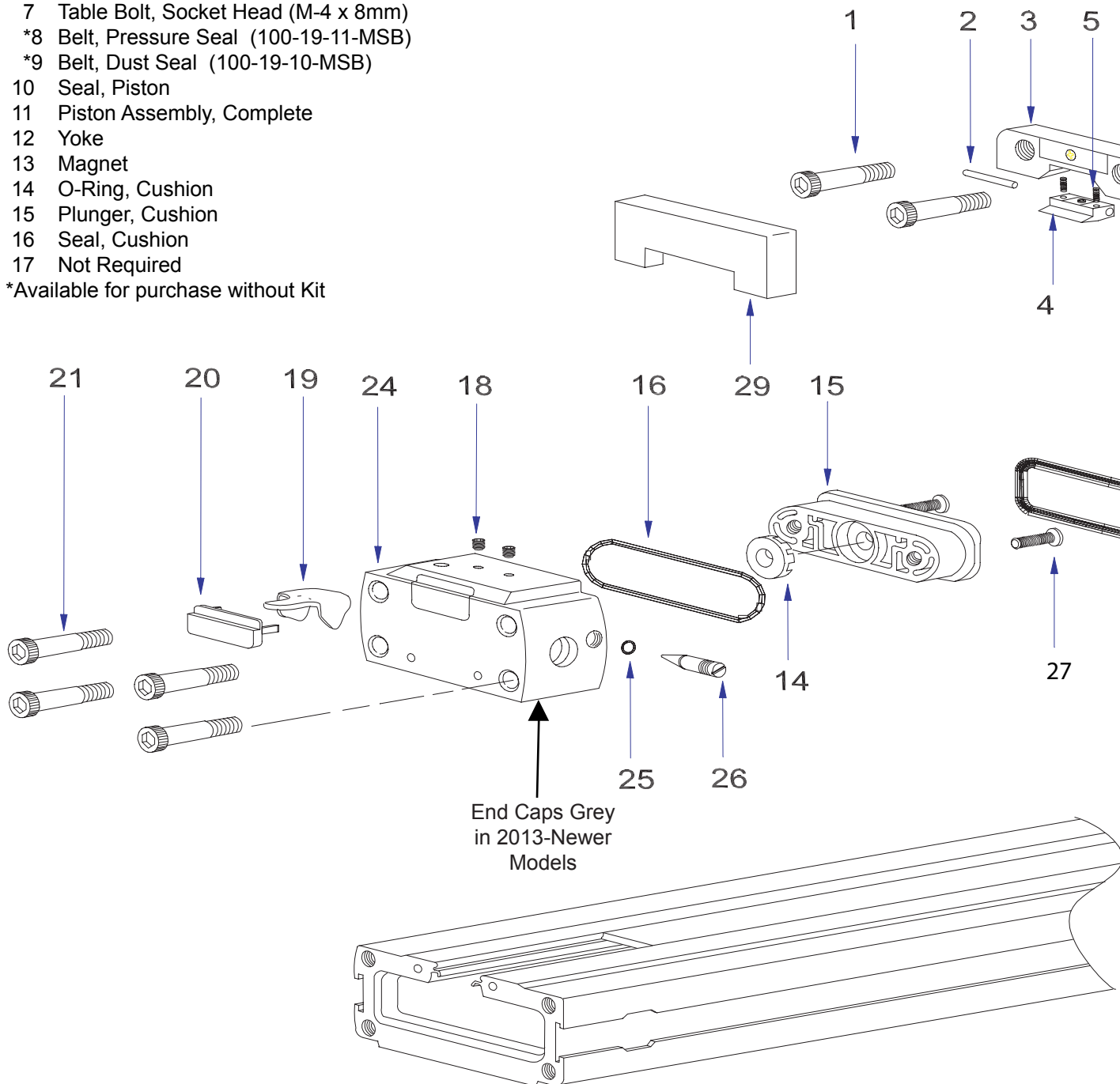
## BLUE JAY TRACK

### BC-40224-MS

#### ITEM DESCRIPTION / (Part Number)

- 1 Table Cover Bolt, Socket Head (335-102-8)
- 2 Pin, Pivot
- 3 Cover, Table End
- 4 Container, Dust Belt
- 5 Spring
- 6 Table
- 7 Table Bolt, Socket Head (M-4 x 8mm)
- \*8 Belt, Pressure Seal (100-19-11-MSB)
- \*9 Belt, Dust Seal (100-19-10-MSB)
- 10 Seal, Piston
- 11 Piston Assembly, Complete
- 12 Yoke
- 13 Magnet
- 14 O-Ring, Cushion
- 15 Plunger, Cushion
- 16 Seal, Cushion
- 17 Not Required

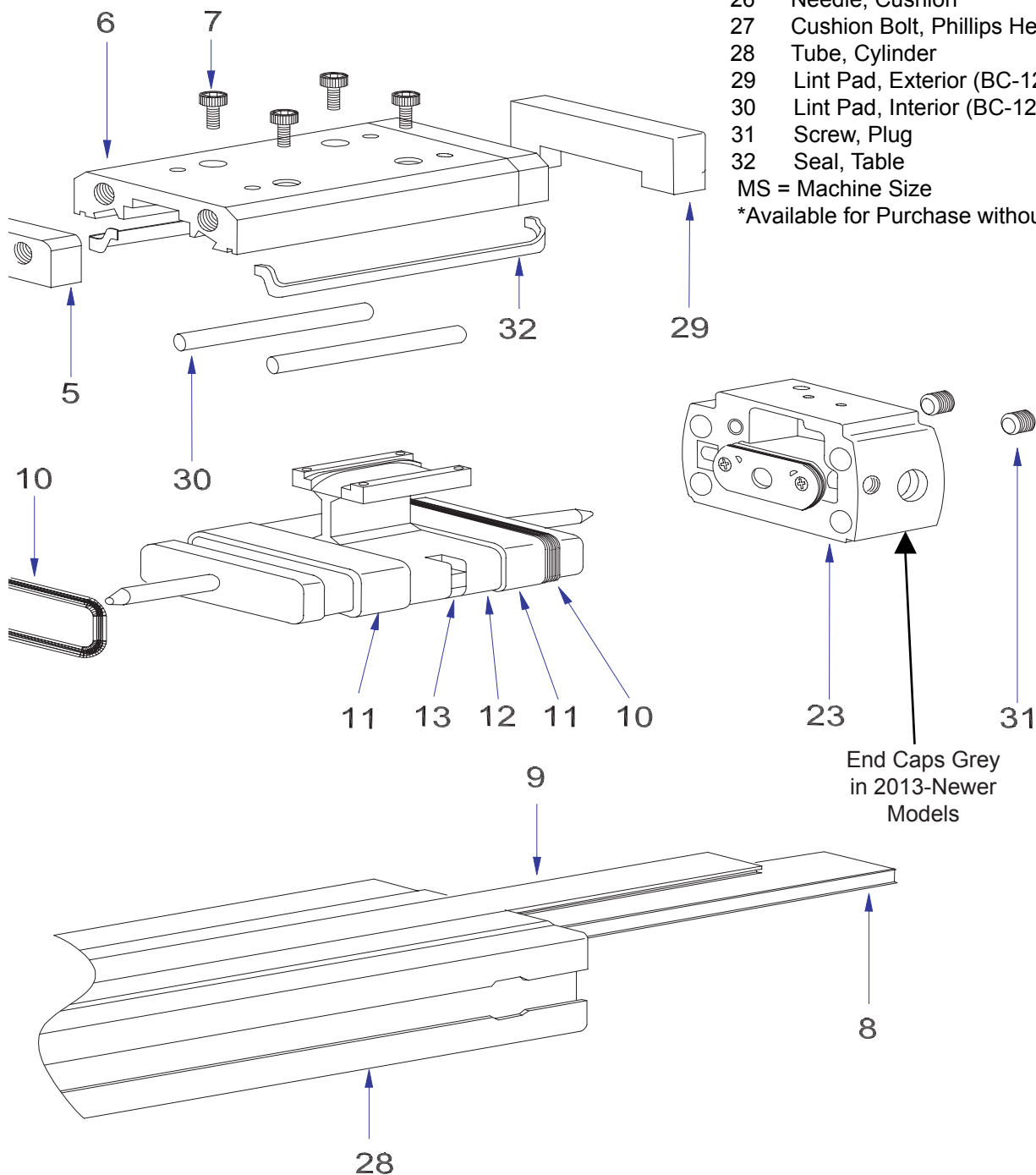
\*Available for purchase without Kit



KIT NUMBER	DESCRIPTION	INCLUDED ITEMS
9120-215	Table Kit	1,2,3,4,5,6,7,32
9120-216	Piston & Magnet Kit	11,12,13,15
9120-217-MSB	Repair Kit	8,9,10,14,16

**NOTE:** Items Included In Kits Are Only Available With Kit.  
(Excludes Items 8 & 9)

ITEM	DESCRIPTION / (Part Number)
18	Screw, Socket Head Set (M-4 x 6mm)
19	Clamp, Belt
20	Cover, Belt Clamp
21	Bolt, Socket Head (335-102-20)
22	Not Required
23	Right Cap, Cylinder End (100-19-27B)
24	Left Cap, Cylinder End (100-19-26B)
25	Gasket, Needle
26	Needle, Cushion
27	Cushion Bolt, Phillips Head
28	Tube, Cylinder
29	Lint Pad, Exterior (BC-12703)
30	Lint Pad, Interior (BC-12702)
31	Screw, Plug
32	Seal, Table
MS = Machine Size	
*Available for Purchase without Kit	



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## CYLINDER DISASSEMBLY

To disassemble, please follow these instructions carefully.

Manually move piston table away from end caps. Insure plunger is not engaged with piston. This will require a distance of at least four inches from table edge to inside face of end cap.

Remove table from piston yoke by removing four socket head bolts (No. 7) located at the top of table.

Remove belt covers (No. 20) from cap ends by prying them loose. **Be careful not to damage them.** These release easily and do not require special tooling.

The dust seal belt (No. 9) can now be removed by loosening two small socket head set screws (No. 18). They are located at each end of the cylinder at the top of caps. After loosening set screws, lift belt off the center of piston yoke. Do this carefully to prevent damaging the belt.

**Caution** - Be sure the piston and yoke assembly is not located at either end of cylinder so the cushion plunger is not engaged with piston. Once the socket head bolts have been removed, the cap can be removed by inserting a tool approximately 1/2" into one of the bolt holes (in the cap) and twisting sideways. The end cap will separate from tube and the metal belt clamp (No. 19) will drop out from end cap. Remove opposite end cap using the same procedure listed above.

With end caps off, slide the piston assembly out from tube. Do this carefully to prevent damaging the piston.

The pressure seal belt (No. 8), which is located on the inside groove of the tube, can be pushed down and then removed from either end.

## DUST BELT RETAINER DISASSEMBLY

If it is necessary to replace the spring-loaded dust belt retainer, refer to **figure 1** and use the following procedures.

To disassemble table cover (No.3) remove exterior lint pad (No.29) and remove socket head bolts (No.1) at one end of the table. Be careful not to lose the springs and dust seal retainer assembly which is attached to the table cover.

Place your thumb over the dust belt retainer (No. 4) to compress springs (No. 5). Slide pivot pin (No.2) out.

To prevent the assembly from flying apart, slowly lift your thumb to release the compression on springs.

Repeat the above procedure to disassemble the dust belt retainer at opposite end.

## DUST BELT RETAINER REASSEMBLY

Install two springs (No. 5) into slots provided. Place retainer (No. 4) over springs and hold retainer in position with your thumb.

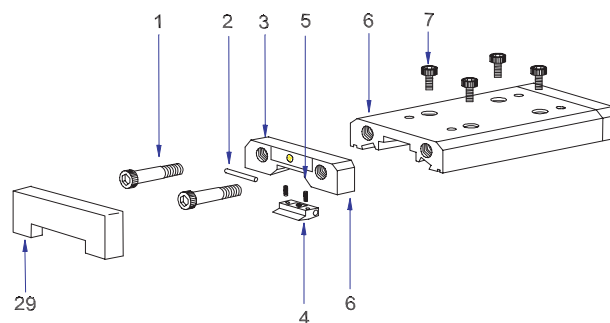
Align the pivot holes in retainer with pin hole in the table end cover (No. 3). Insert pivot pin (No. 2) all the way through the hole. The pin should extend an equal distance on both sides.

Release your thumb slowly. The dust belt retainer should exhibit a spring loaded effect.

Apply Loctite to the threads of two socket head bolts (No. 1) prior to attaching the table cover (No. 3) to table (No. 6). Torque bolts to **9 in./lb.** Attach exterior lint pad (No.29) to table cover with contact cement.

Repeat the above procedure to assemble the dust belt retainer at opposite end.

Lubricate the flat surface of retainers with Valvoline Daphne No. 1U or equivalent grease prior to assembling to piston yoke.



**figure 1**

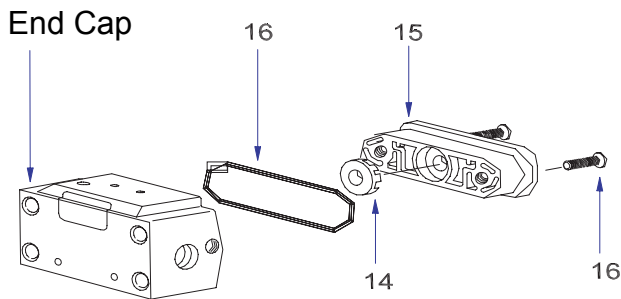
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## PISTON SEALS & CUSHION O-RING REPLACEMENT

To remove piston seals (No. 10), rotate piston seal approximately 90 degrees around the slot in piston. This will cause the seal to be raised slightly in the center of piston groove. Refer to **figure 2**.

Insert a small screwdriver under piston seal and slip the seal over the edge of the groove. Be careful not to damage the groove or edge. Repeat the above procedure to remove seal at opposite end.

Lubricate the new seal thoroughly with grease (Valvoline Daphne 1U or equivalent). Slip the seal over the edge and into the groove of piston. Ensure the raised lip of seal is facing away from piston (Note: install the piston seal with the white dot located on the top of the piston) . Do **NOT** install the other piston seal until after the piston has been inserted into the tube.



**figure 2**

## CYLINDER END CAP SEAL REPLACEMENT

There are two seals located in the end covers at each end of the cylinder. The first seal is cylinder seal (No. 16) located in the groove on cylinder end cap. The other seal is green cushion ring (No. 14) located inside the end cap. Ordinarily, the green color cushion ring (No. 14) in the cavity at each cylinder end cap does not require replacement.

To remove the cylinder seal, slip a pointed tool under the O-ring and lift it out from the groove.

To replace, Lubricate cylinder seal (No. 16) and install over lip and into groove of the end cap. Apply lubricating grease to green cushion ring. Repeat the above procedure to replace the seals in the other end cap.

To remove the green cushion ring, remove two Phillips head screws (No. 27) in the end cap. Lift the seal groove (No. 15) away from end cap. Use a pointed tool to lift the gasket out from groove in end cap.

To replace the green cushion ring, lubricate and insert the ring into cavity at cylinder end cap. Ensure small tabs on the ring are facing inward to the piston. The ring should be completely seated in groove. Repeat the above procedure to install the ring at opposite end.

Place seal groove back onto end cap. Be sure to align pin holes in base with the those located in end cap. The seal groove should fit flat against the end cap face.

Insert two Phillips head screws (No. 27) into seal groove and tighten to end cap. Torque screws to **3.5 in./ lb.**

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## CYLINDER REASSEMBLY

NOTE: The lubricating grease used for all seals and components in the cylinder is Valvoline DAPHNE NO 1 1U or equivalent.

Thoroughly inspect all cylinder components for damage.

Ensure tube is clean, including the inside and slot on top, where the pressure and dust seals will seat. This is very important as these are the sealing surfaces for both the piston and belt seals.

After cleaning tube, use a liberal amount of lubricating grease inside of tube for the full length. This can be accomplished by putting grease in one end of the tube and inserting a small rag. Using a tool, drag the rag through the full length of tube using the slot on top.

Liberal grease pressure seal belt (No. 8) prior to inserting into tube. Slip the seal belt through slot on top of tube for the full length. Let the seal belt lay at the bottom of tube with larger (flat) side down. Then, extend one end of seal belt approximately 5" out from one end of tube.

Set piston so the end without the piston seal is next to the end that has the seal belt extended. Insert the extended length of belt seal through piston, under the yoke and out the other side. The pressure seal belt should extend about 1/2 inch beyond the piston seal end. Refer to **figure 3**.

Insert piston (No. 11) into tube. Push the piston to other end allowing about 1/2 inch of seal belt to extend at each end of tube. Move piston slightly further through tube so the piston groove (without the piston seal) extends beyond tube. Lubricate and install piston seal onto piston. Ensure lip of seal faces out, away from piston (Note: white dot on piston seal must be installed on the top side of the piston). Move piston back into tube and position in the center. The seal belt should extend beyond the tube about the same amount at each end. If the seal belt is not equally extended at each end of tube, you may have to move the piston back and forth while manually pushing the seal belt from either end (to center it) with your thumb.

Put Loctite on threads of socket head bolts used for the end caps. Attach end caps to the tubing using socket head bolts. Be sure to "snug up" screws across corners (to bring end caps up evenly) before you finish tightening bolts. Torque bolts to **25 in./lb.**

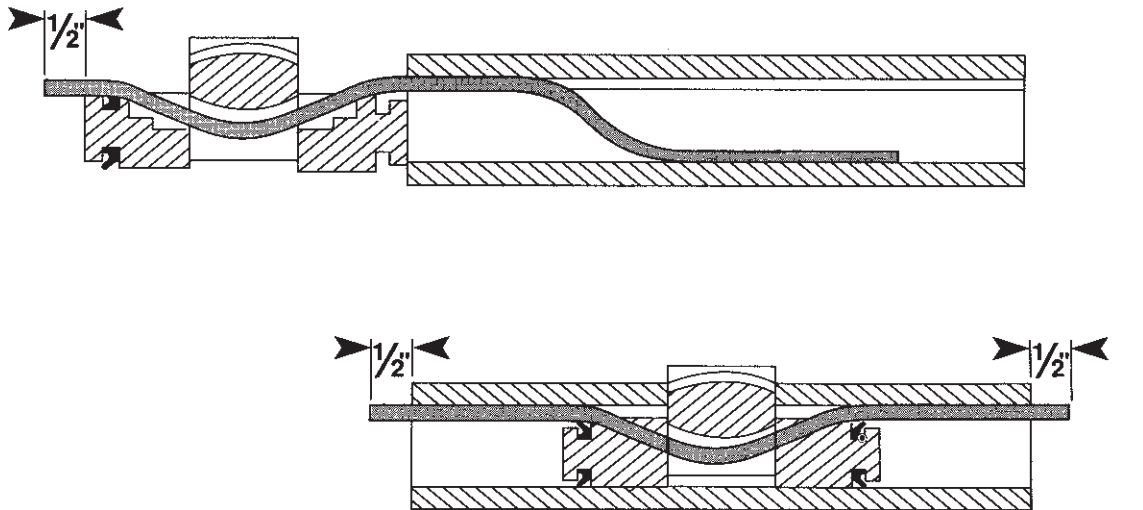


figure 3

Locate piston to the center of tube for the assembly of dust belt (No. 9). Lubricate dust belt and lay it across piston yoke (No. 12) with the stainless steel side of dust belt up. Ensure dust belt is centered on tube so an even amount of the belt is on each end. Lift the center of belt slightly and insert one end of dust belt into end cap. Insert belt clamp (No. 19) into end cap making sure the smaller tab side of belt clamp is located farthest away from tube. Push belt clamp all the way into end cap so it bottoms out. Refer to **figure 4**.

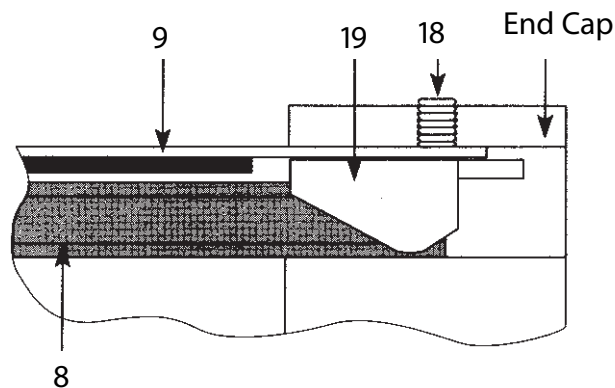
Put Loctite on belt clamp set screws (No. 18) and insert into the proper holes in top of end cap. Torque screws to **13 in./lb.**

Again, lift the center of dust belt and insert other end into cylinder end cap. Do not install other belt clamp and set screws until the table (No. 6) has been installed.

Lubricate dust belt retainers (No. 4) before attaching table to piston yoke. Put Loctite on four socket head bolts (No. 7). Attach table to piston yoke with spring-loaded belt retainers down, against dust belt. Tighten bolts evenly across the corners. Torque bolts to **21 in./lb.**

Manually move table and piston back and forth to ensure dust belt is properly seated into slot. When dust belt is properly seated into slot, install the other belt clamp into end cap. Ensure clamp is bottomed out in cap and tab end of clamp is facing away from tube. Put Loctite on two socket headed set screws (No. 18). Install set screws into two holes located at top of end cap. Torque screws to **9 in./lb.**

Install belt covers (No. 20) by sliding them into opening and snapping them into place. Wipe outside of cylinder clean, leaving a slight film of grease on the dust belt.



**figure 4**

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## FASTENER TORQUE (IN./ LB.)

Usage	Table Cover to Table	Table to Yoke	Set Screw	Cap to Tube	Cushion Plunger to Cap
Item #	1	7	18	21	27
Torque	13	21	9	25	3.5

## REPLACEMENT PARTS

PART NUMBER	DESCRIPTION
9120-215	Table Kit
9120-216	Piston & Magnet Kit
9120-217-MSB	Repair Kit
100-19-10-MSB	Dust Seal (Top)
100-19-11-MSB	Pressure Seal (Bottom)

MS = Machine Size

## Guarantee

We guarantee our machines for 90 days from date of invoice against defective parts and workmanship and will repair or replace any part that proves defective from these causes when returned to us, carrying charges prepaid. This guarantee does not include making good for damages caused by misuse, neglect or normal wear; and is void if other than genuine EASTMAN parts are used in the machine.

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