McAllister Technical Services

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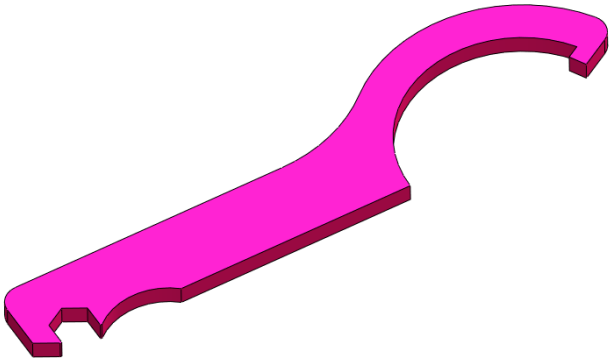
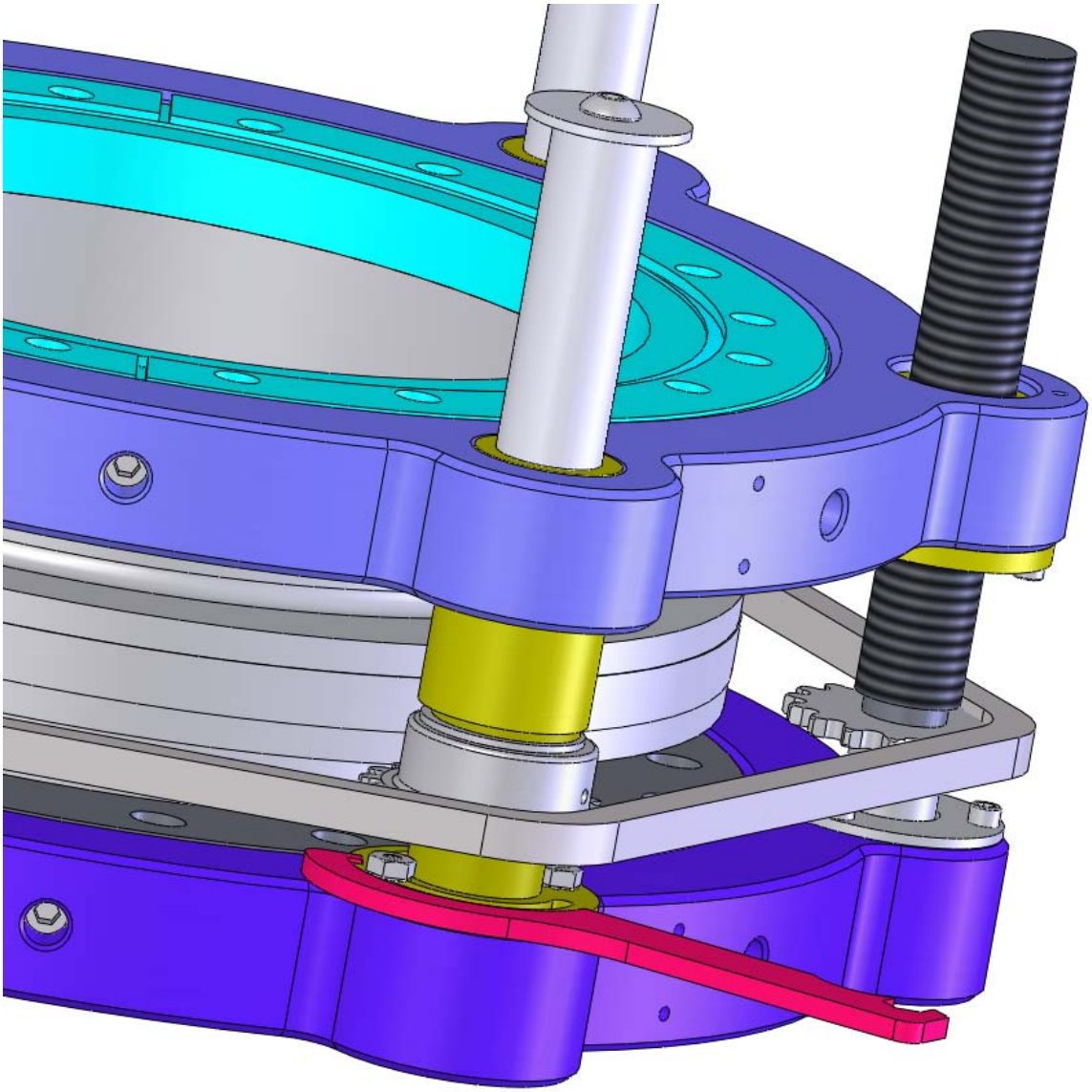
BLT86-Series Translators

THANK YOU for your purchase of MTS' **B**ellows-sealed **L**inear **T**ranslator (BLT), It is the finest of its kind available. We appreciate the confidence you have placed in our company. Under normal conditions your BLT will provide years of trouble-free service, especially if the following simple maintenance is performed.

• As delivered, the screws and ball bearings are coated with a high-temperature lubricant. This coating will degrade over time, due to bake-out heat and moisture in the atmosphere. Re-lubricate the ball bearings every third or fourth bake-out with the supplied grease. Lightly lubricate the screws after each bake out. **Do not** use a hydrocarbon grease such as Felpro C100™ for units that will be baked because the hydrocarbon greases will cake and dry out. Suggested bake out temperature is 150ºC, although bake out to 210ºC can be done with more frequent lubrication. Do not bake motors, limit switches, handles, indicators, etc.

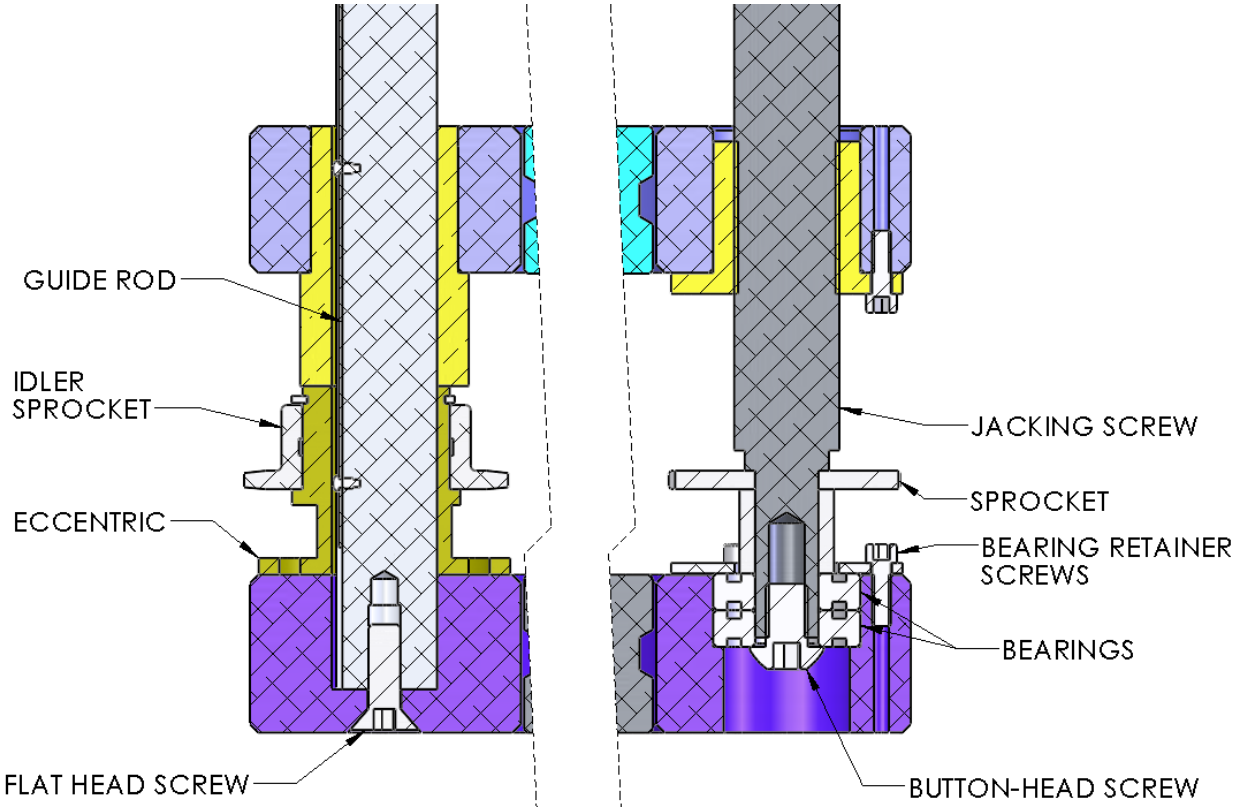
• The chain may stretch with use. This is normal but chain tension is **very important.** When assembled, the maximum lateral play in the chain should be no more than ~1/2 chain width (+/-1/4 each way). Should it become necessary to adjust the tension on the chain, first slightly loosen the two 1/4" nuts beneath the sprocket. Using the supplied wrench (shown at right) wrench, rotate the bronze idler eccentric to achieve the necessary tension. Retighten the two nuts. Repeat as necessary on the remaining eccentrics. It may be necessary to actuate the BLT a few cycles and repeat this process so the chain tension is evenly distributed. CAUTION: Over-tightening the chain will place added load on the motor and will cause excessive wear on the bronze eccentrics.





• Occasionally, the flanges may need to be re-aligned to parallel after removing or replacing the chain. Should it become necessary to adjust the alignment of the 2 flanges, first remove the retainer clip and master link from the chain, and then remove the chain from the sprocket. Using dial calipers, or some other measuring instrument, measure the distance between the 2 flanges (or black rings). Adjust the 3 screws individually so that the flanges are parallel to within 0.005" (0.12 mm). Replace the chain and master link.

Replacing bearings in the BLT86-series



• With the BLT off the vacuum system, remove the screws from underneath the base black ring (from the vacuum-face side of the chamber flange) that go into the jacking screws, and that go into the guide rods. The guide rods should be able to freely slide out of the eccentrics, even if only a little way. Remove the chain, and tap the jacking screws out of the bearings. One way to do this is to put a longer screw (1/4-28, same as for a 2.75" CF) in the thread and tap on that screw. This will free the jacking screws from the black ring. Then remove the bolts from around the circumference of the black ring, and slip the ring off of the flange. With the ring off, remove the screws in the bearing retainer ring and press the bearings out of the black ring using a plug of plastic or a socket, from the backside. Put the new, greased bearings in the holes. Press them in (they are a very light press fit; they won't be very tight), put the bearing retainer rings back on, and repeat the disassembly operations in reverse order. Finally, adjust the flange parallelism and the tension of the chain as detailed above.

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