

This document has illustrations and instructions to assist in the replacement of the X-axis ballscrew on OmniTurn slides, either attachments or Gt's.

The illustrations use GT slide but are applicable for attachments as well.

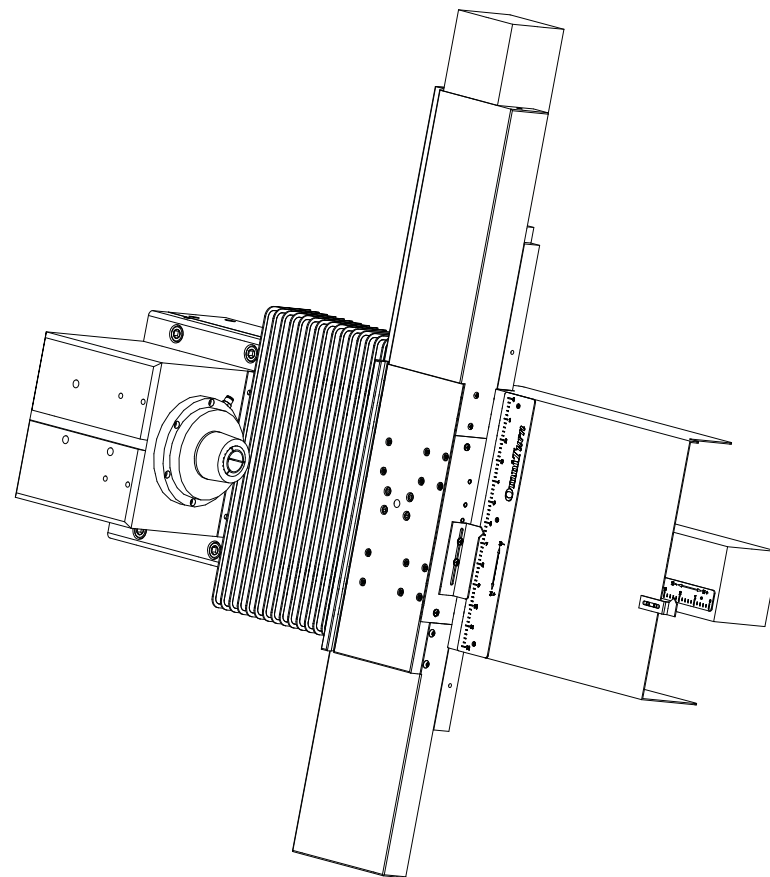
**IMPORTANT NOTE:** Ballscrews are shipped full length for 12" X-axis travel. Ballscrews for early 10" X-axis must be cut to length using an abrasive saw.

**Order of Operations:**

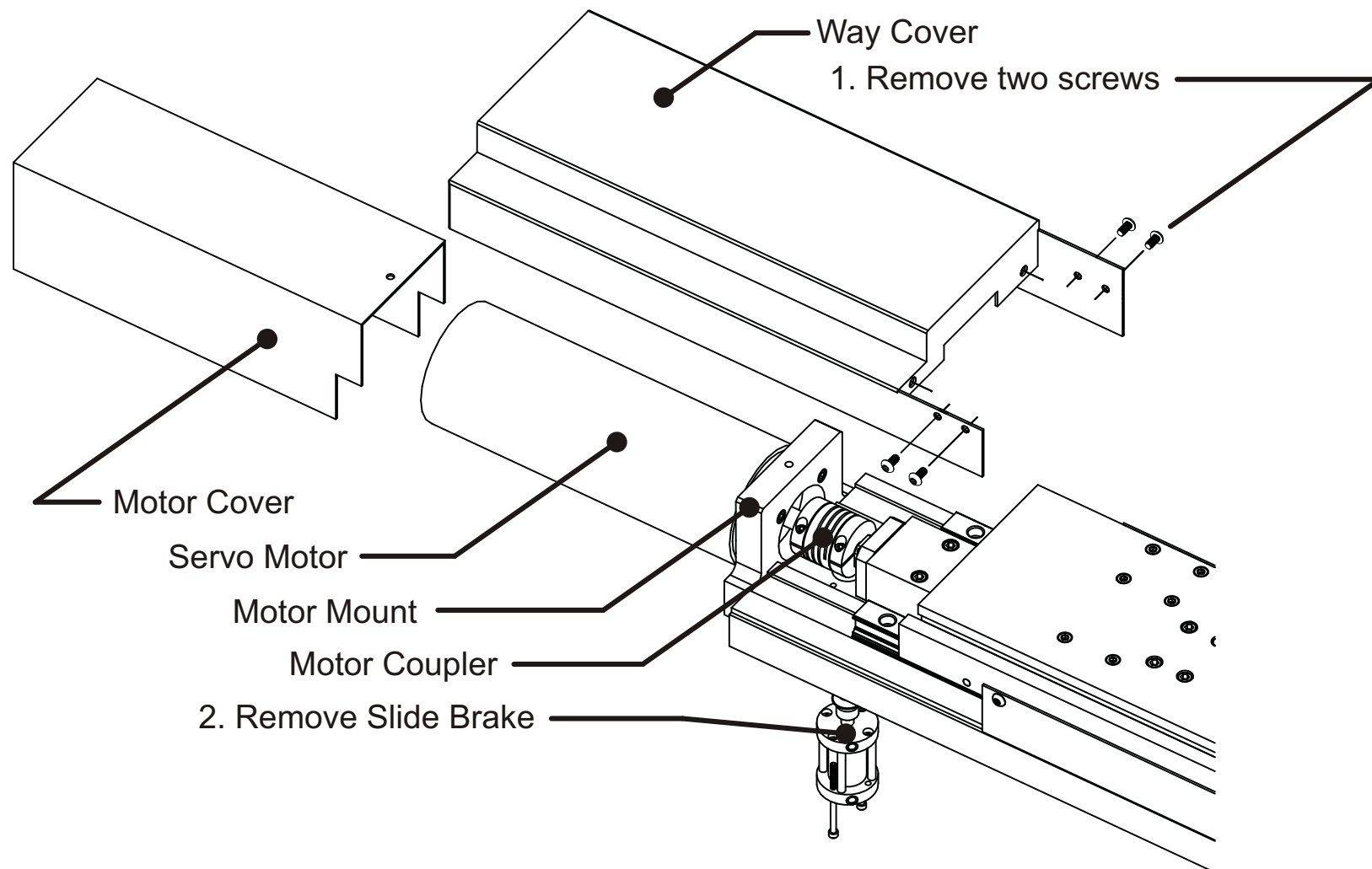
1. Remove sheetmetal
2. Remove servo motor
3. Remove support unit (thrust bearing)
4. Remove tooling plate (table) *with ballscrew*
5. Remove & replace ballscrew on tooling plate
6. Replace tooling plate and ballscrew
7. Replace support unit
8. Tighten ballnut screws with table at home
9. Replace servo motor
10. Replace sheetmetal

**Special tool**

1. 14" long 5/32 hex wrench (tighten ballnut screws)

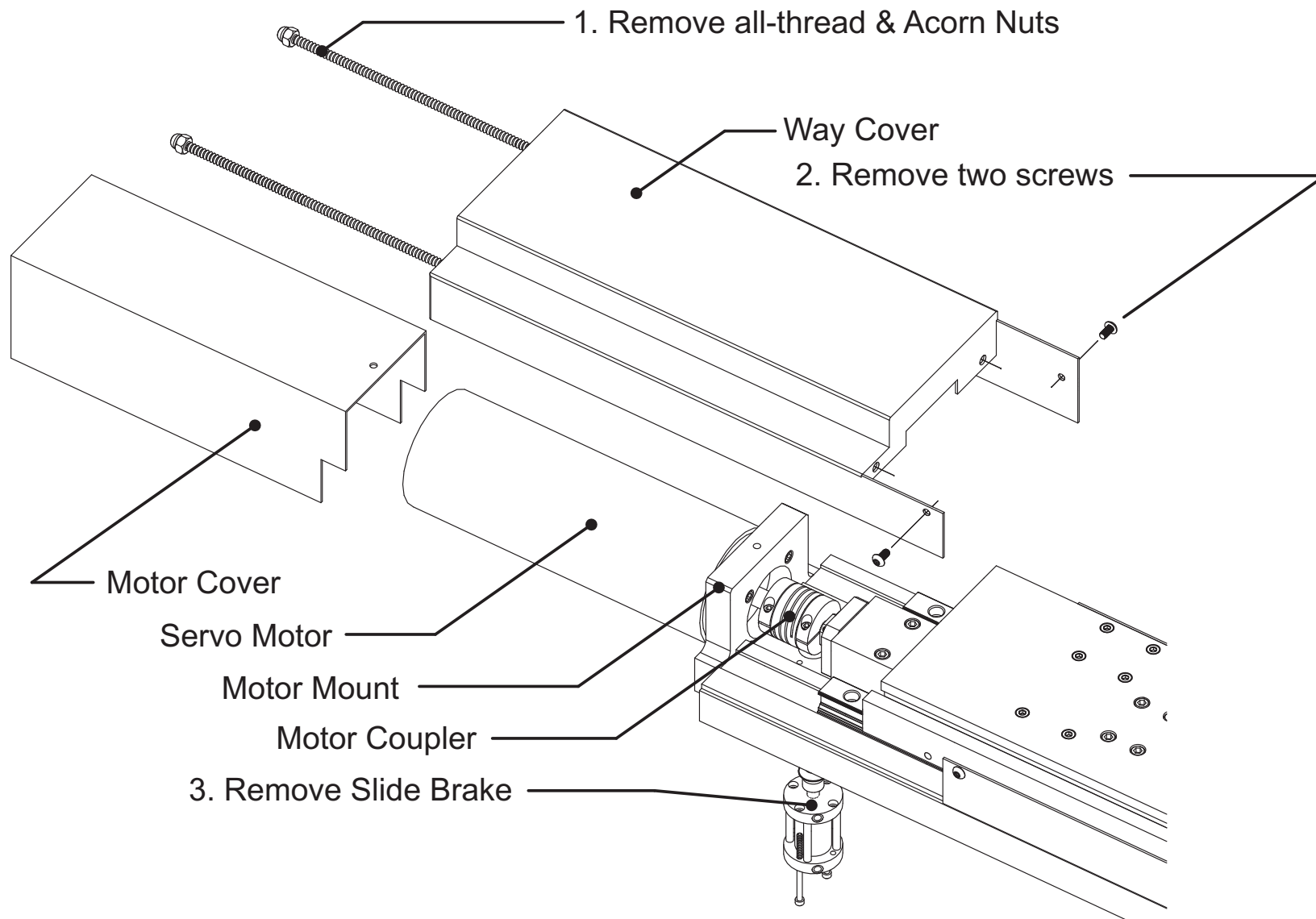


## To remove X-Axis Sheet Metal: *(Current)*



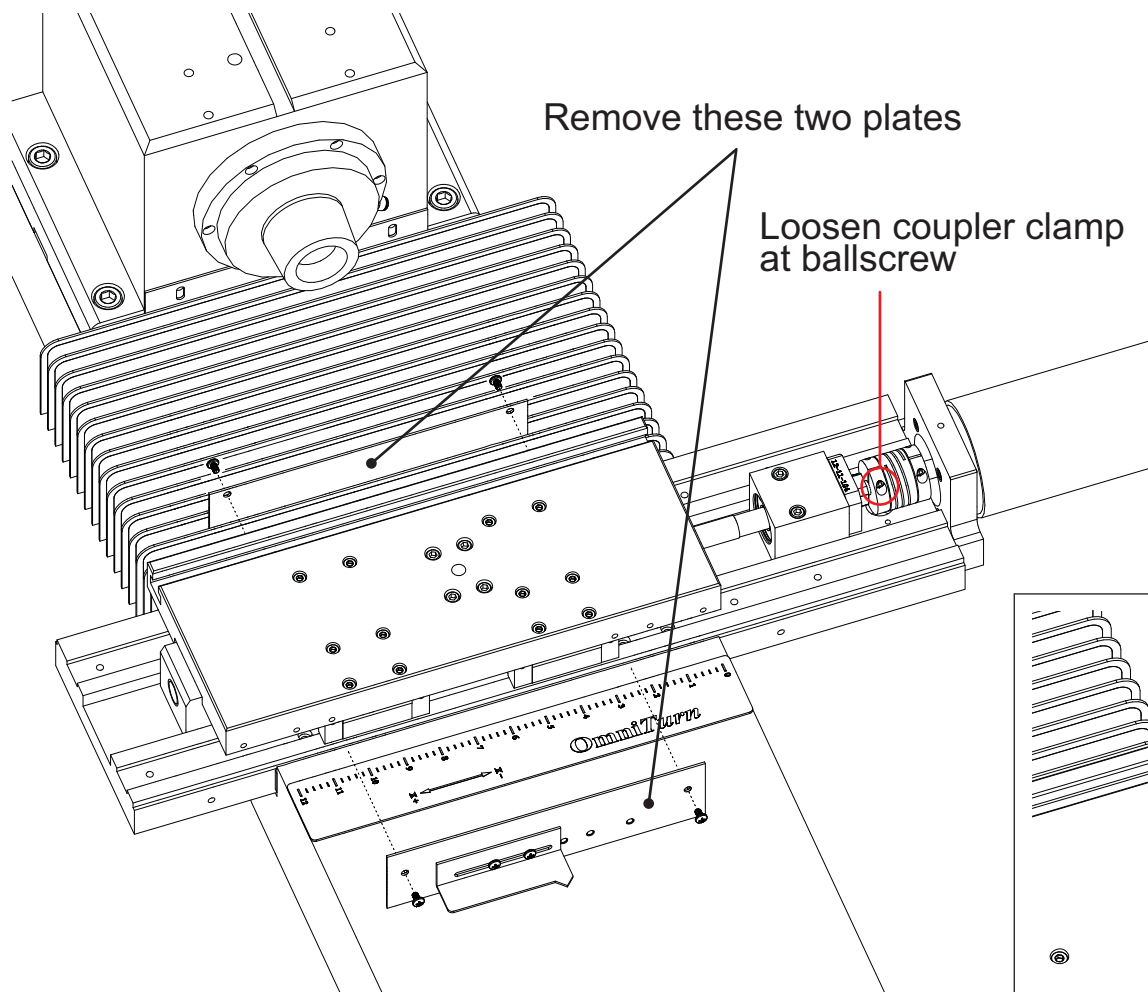
*For X-Axis, the slide brake must be retracted or removed. To remove: two 6-32 cap screws secure the cylinder to the saddle. To retract, disconnect servo motor cables at controller, then turn servos ON.*

## To remove X-Axis Sheet Metal: (Old-style)

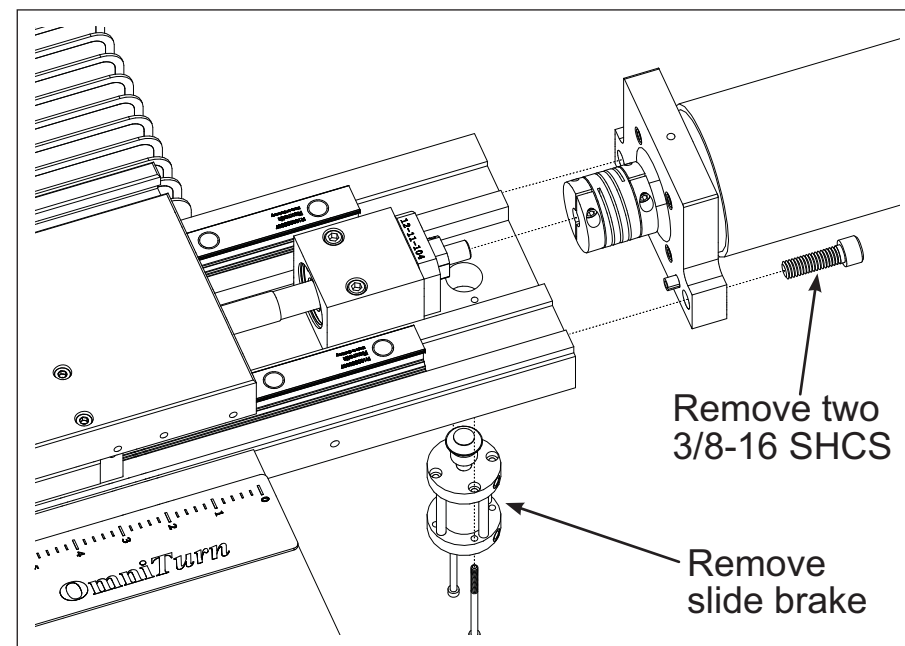


*For X-Axis, the slide brake must be retracted or removed. To remove: two 6-32 cap screws secure the cylinder to the saddle. To retract, disconnect servo motor cables at controller, then turn servos ON.*

## Remove Servo Motor

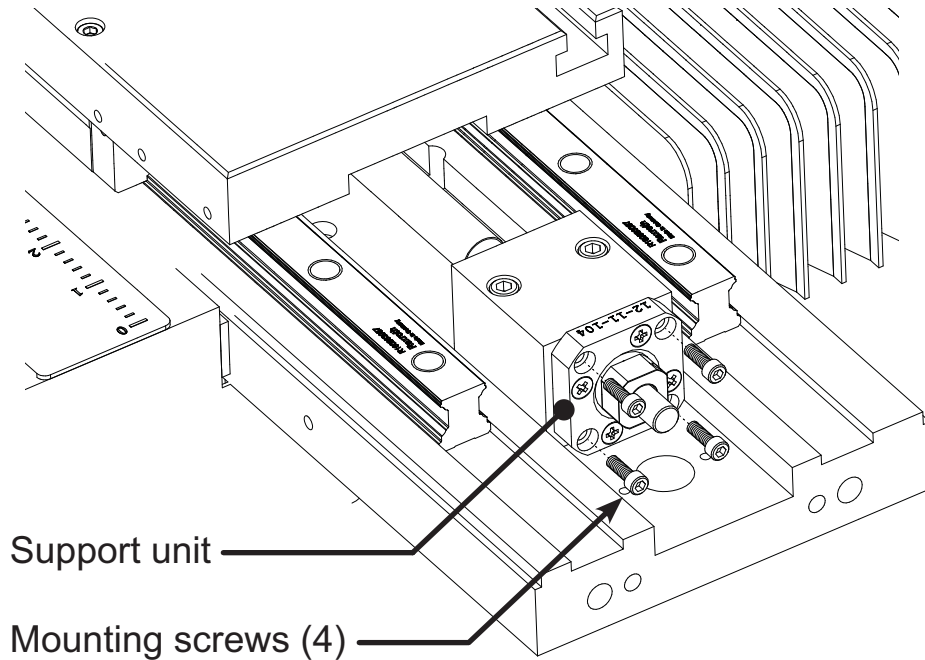


1. Remove sheet metal plates each side of table.
2. Loosen coupler clamp at ballscrew end.
3. Remove slide brake if you haven't already done so.
4. Remove two 3/8-16 SHCS that hold motor mount to base.
5. Roll-pins align motor to ballscrew; jiggle the motor mount as required to slide assembly off base.

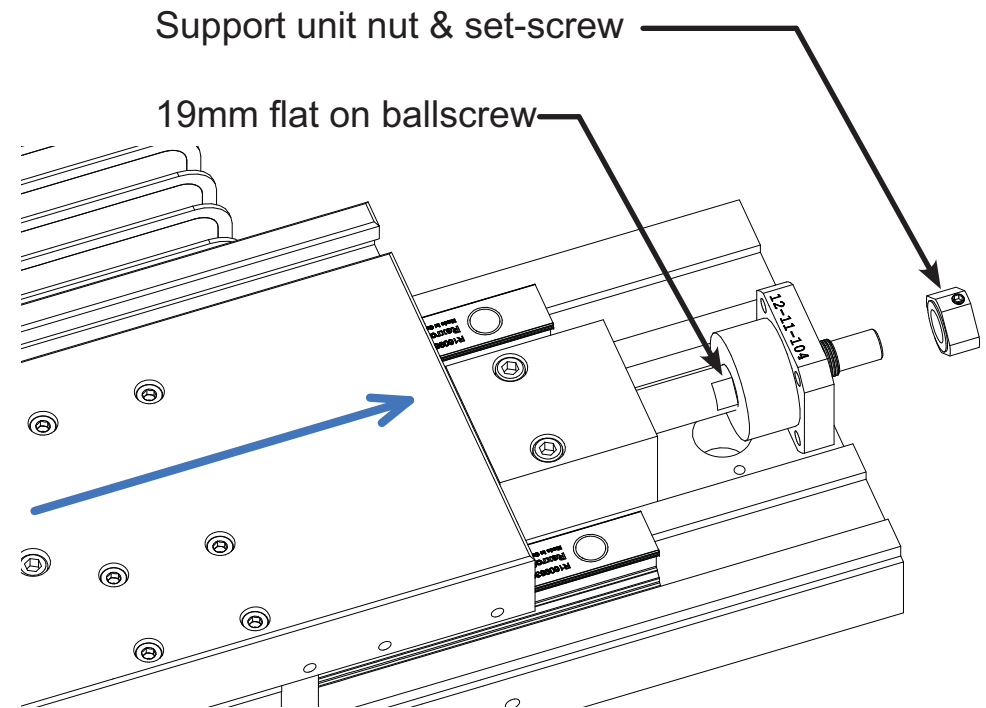


## Remove Support Unit from Ballscrew

1. Remove four socket screws holding support unit to block.
2. Push slide in x-axis to expose flat on ballscrew.
3. Loosen support unit nut set-screw
4. Loosen support unit nut using 1/2" and 19mm wrenches.

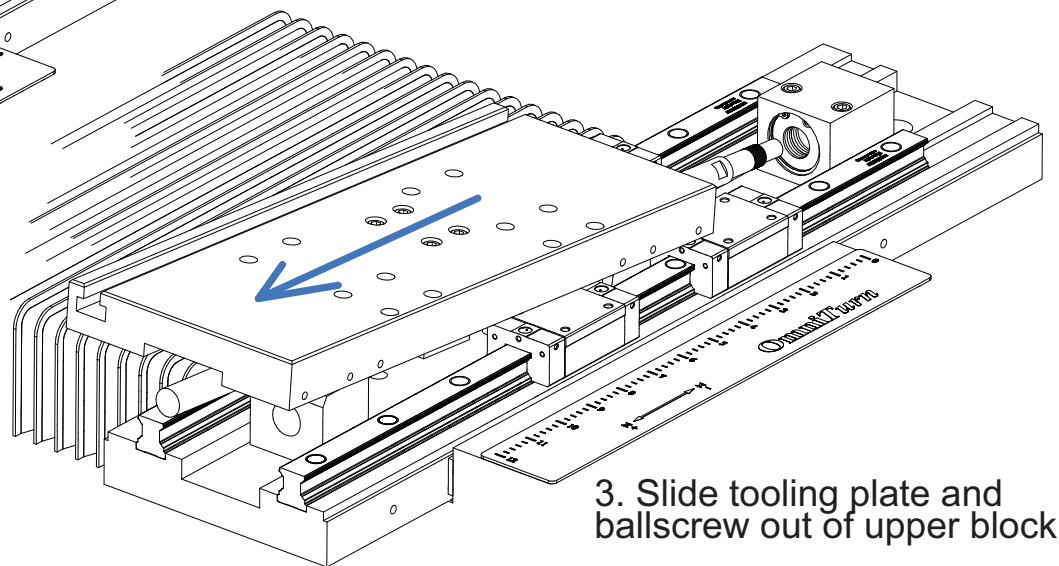
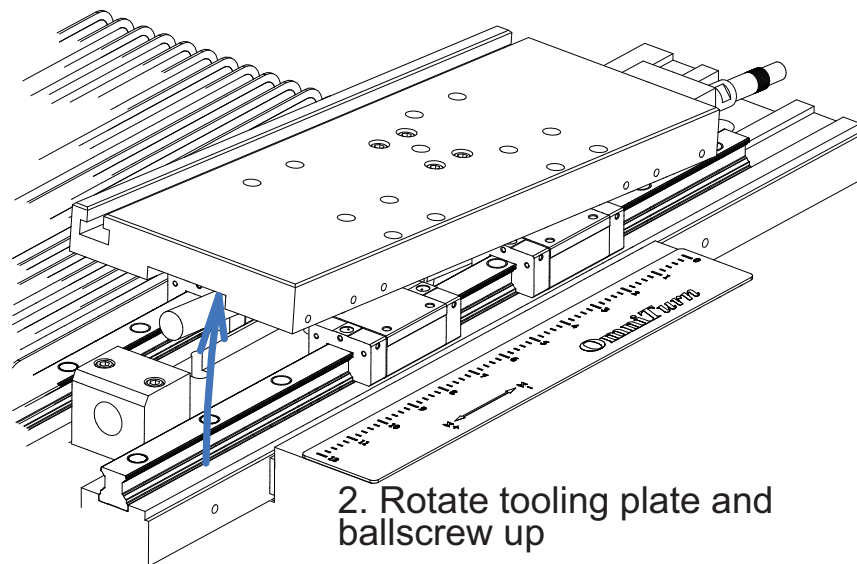
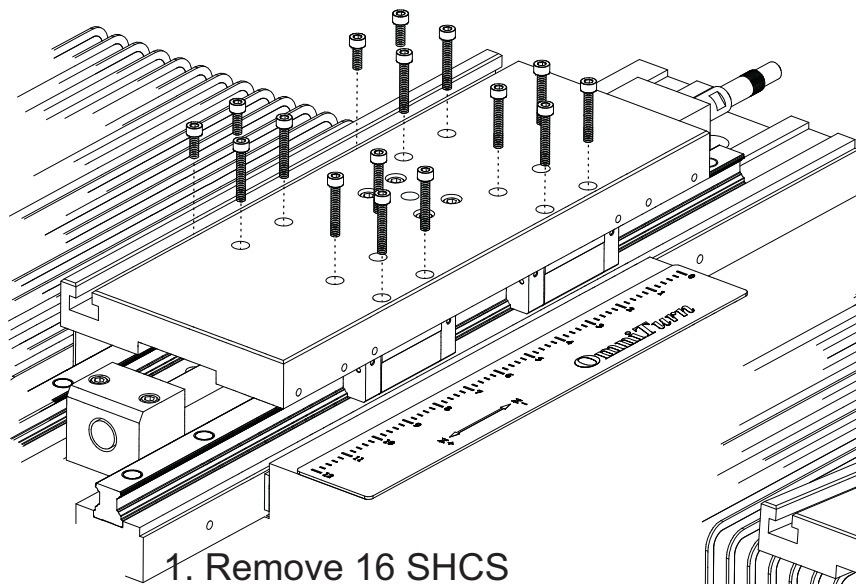


After removing support unit mounting screws, push slide up to reveal 19mm flat on ballscrew.  
Loosen set-screw in support unit nut.  
Remove support unit nut.  
*Note: there is a tiny brass cushion under the set screw. The new support unit has a replacement.*

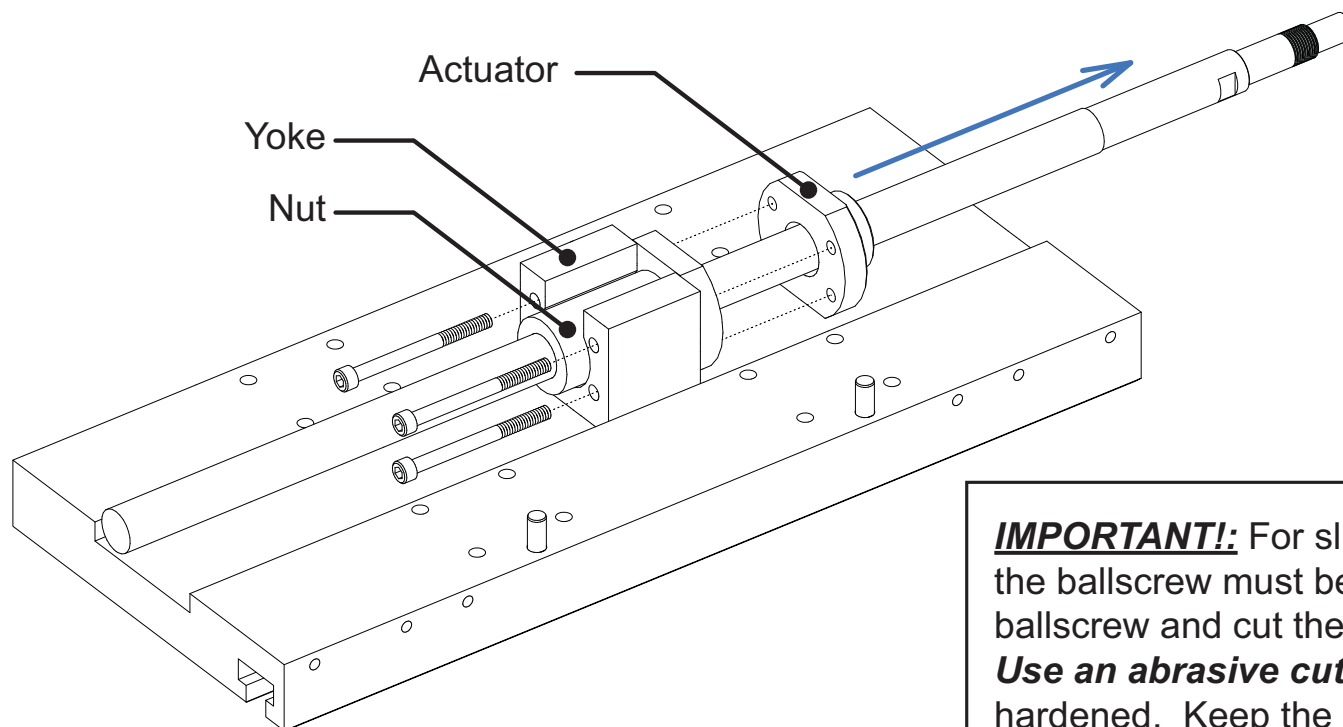


## Remove Tooling Plate with Ballscrew

1. Remove 16 socket screws holding tooling plate to trucks.
2. Rotate table and ballscrew up, off trucks to clear lower block.
3. Slide table and ballscrew out of upper block.

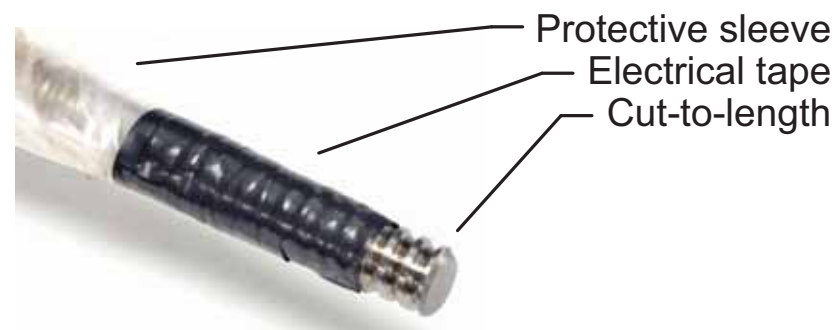


## Remove & Replace Ballscrew

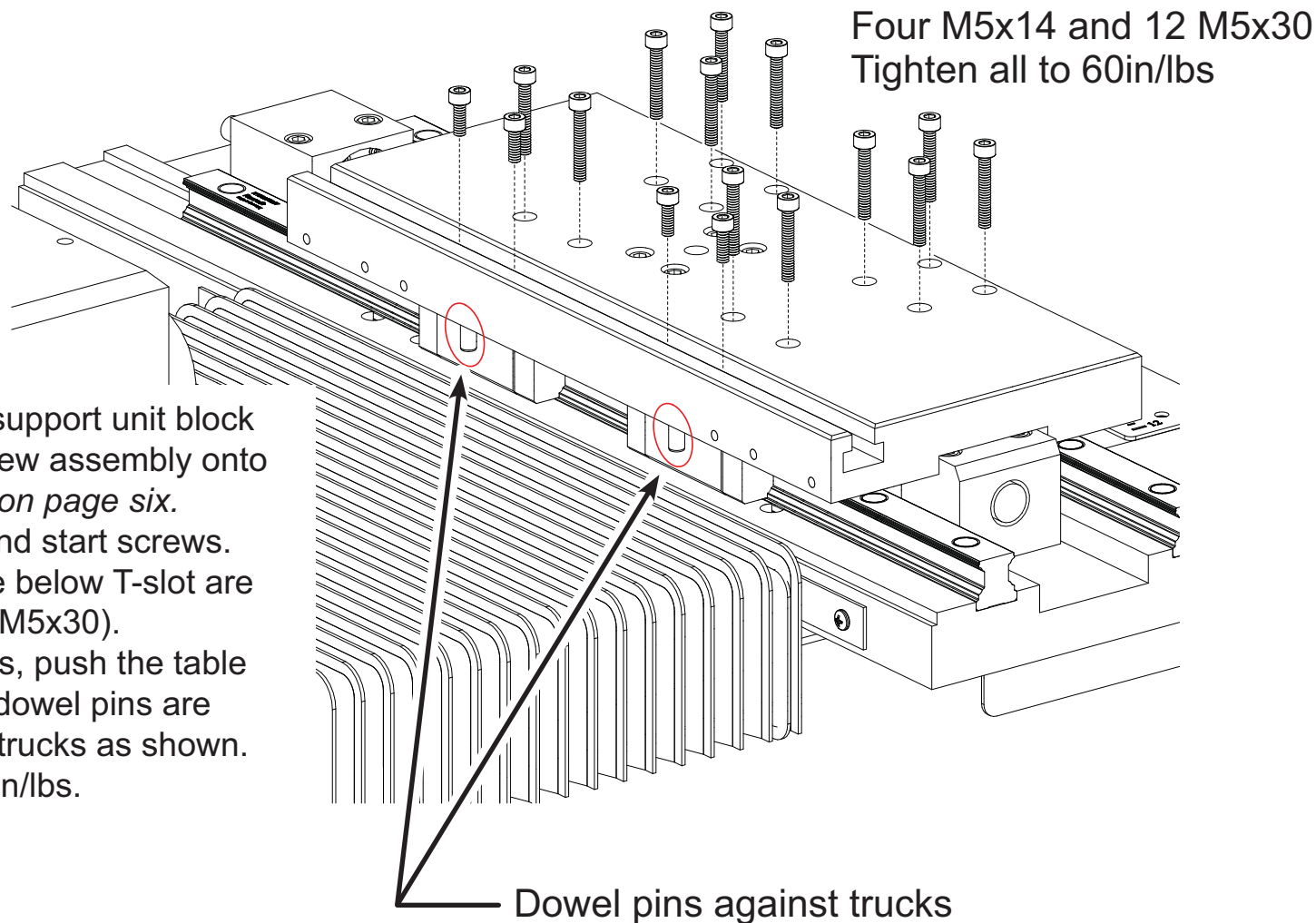


1. Remove four socket screws holding actuator to yoke. Hand-tighten with new ballscrew; they will be tightened after alignment using 12" long 5/32 hex wrench.
2. Slide actuator and ballscrew out of yoke.
3. Replace ballscrew. (NEVER remove nut from new ballscrew; that will destroy the ballscrew.)
4. Replace four socket screws. Hand tighten for now, they will be tightened after alignment.

**IMPORTANT!** For slides with 10 inch X-axis travel, the ballscrew must be cut to length. Measure your old ballscrew and cut the new one to same length. **Use an abrasive cut-off saw** because the ballscrew is hardened. Keep the ballscrew in the protective sleeve, with part to cut off extending. Wrap the sleeve and ballscrew with tape to keep abrasive dust off screw.



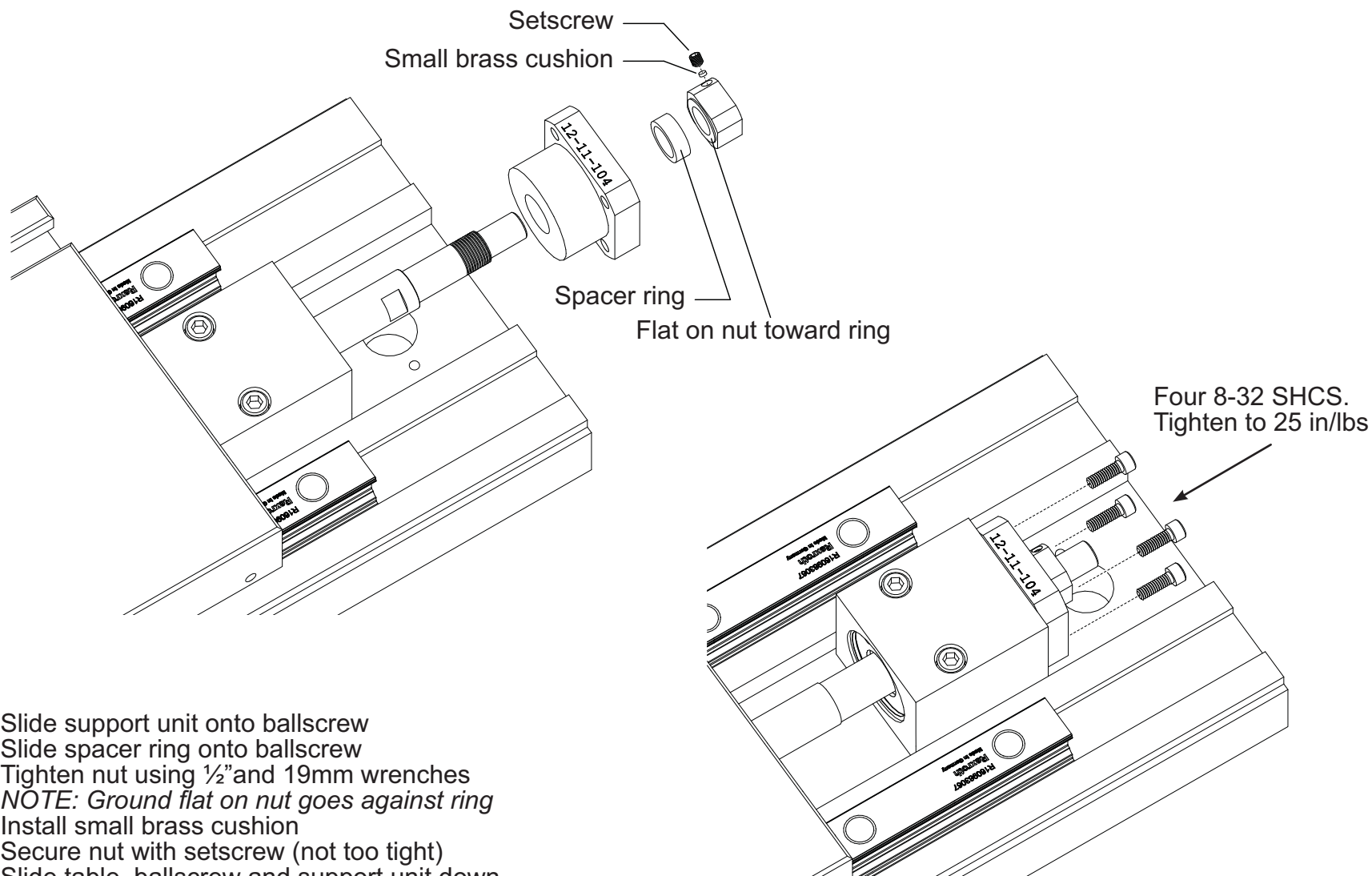
## Replace Tooling Plate (Table)



1. Slide ballscrew through support unit block and set table and ballscrew assembly onto trucks. *Refer to pictures on page six.*
2. Line up holes in trucks and start screws. (The four screws that are below T-slot are M5x14; the other 12 are M5x30).
3. As you tighten the screws, push the table plus Z to insure that the dowel pins are pressed against the two trucks as shown.
4. Tighten all screws to 60 in/lbs.

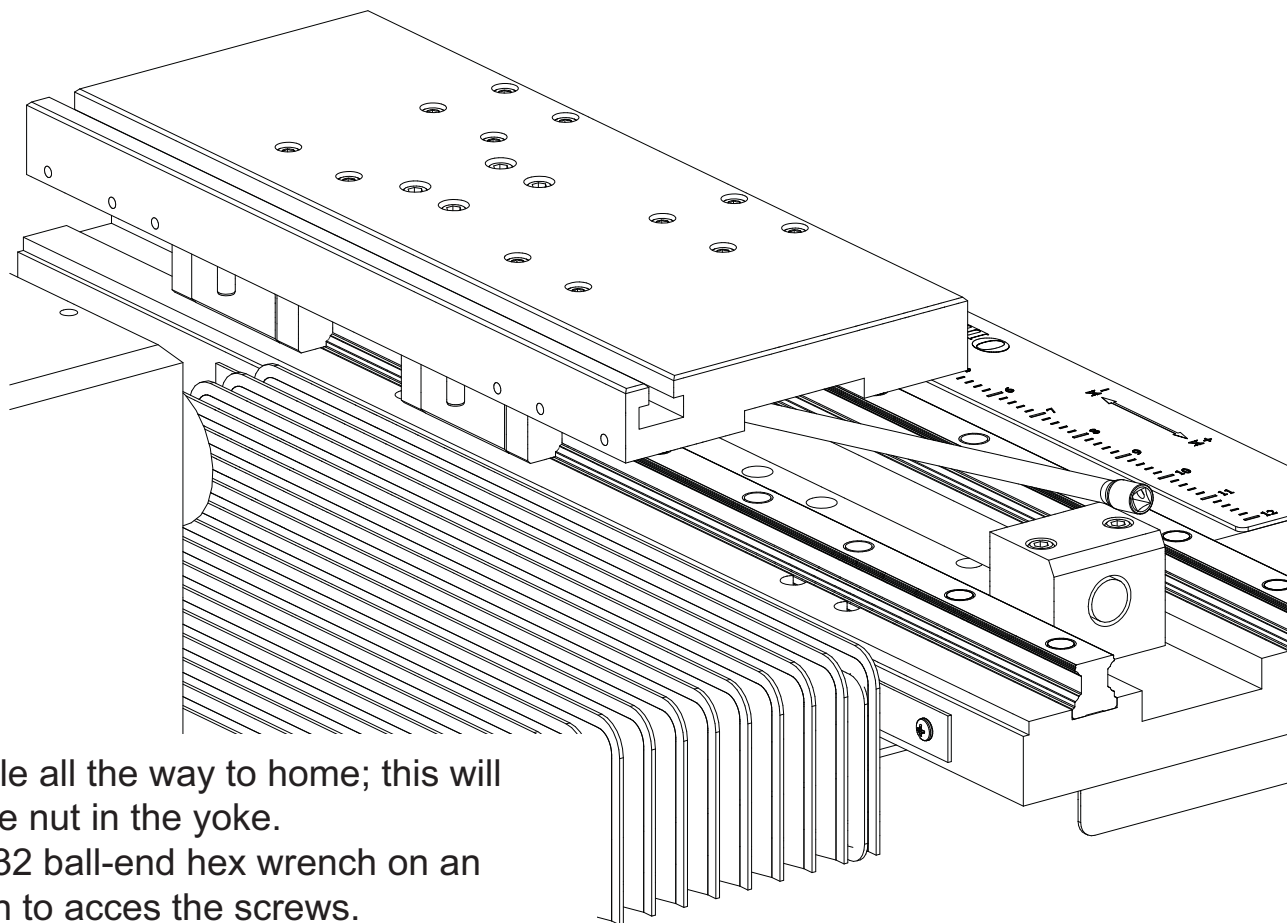


## Replace Support Unit



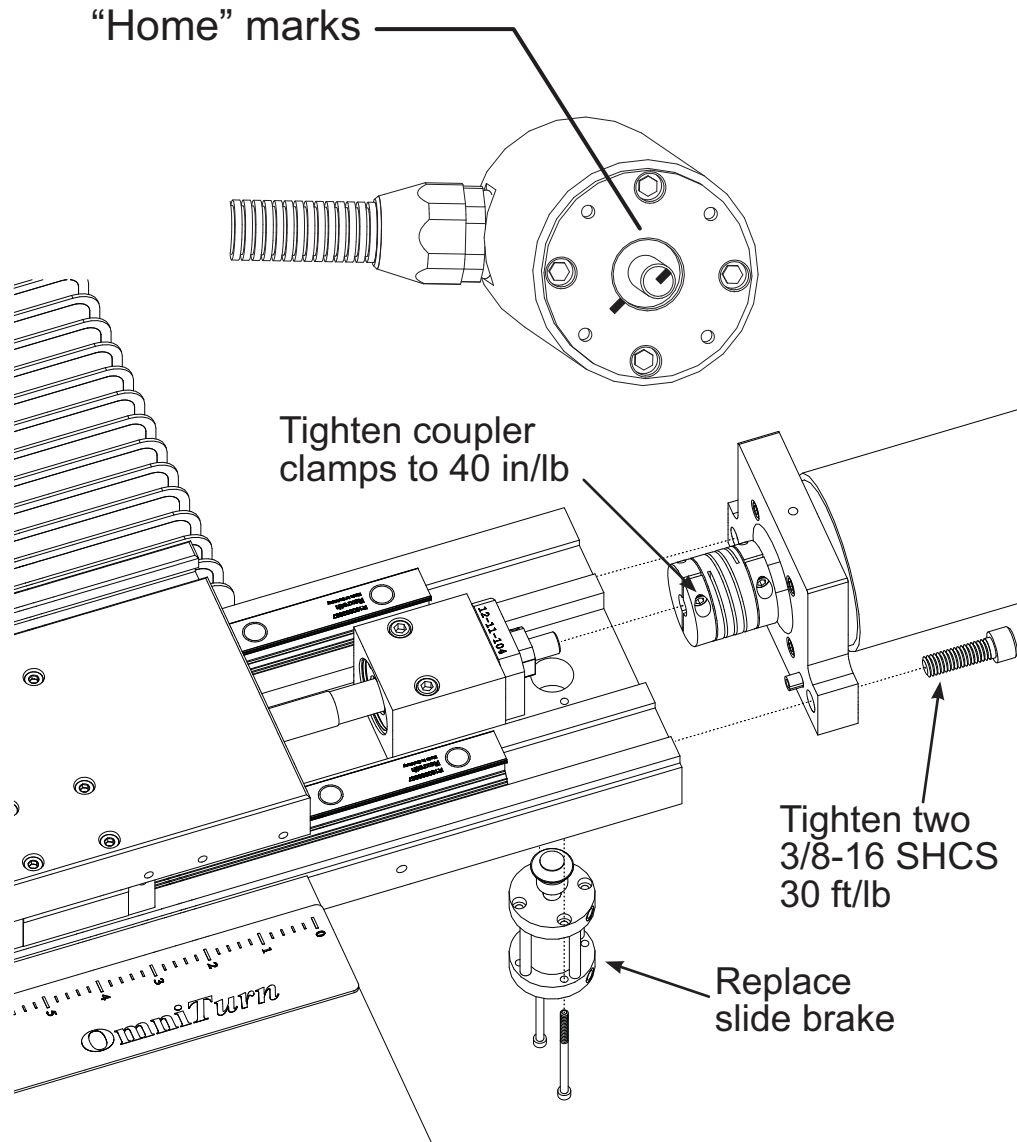
1. Slide support unit onto ballscrew
2. Slide spacer ring onto ballscrew
3. Tighten nut using  $\frac{1}{2}$ " and 19mm wrenches  
*NOTE: Ground flat on nut goes against ring*
4. Install small brass cushion
5. Secure nut with setscrew (not too tight)
6. Slide table, ballscrew and support unit down to seat support unit in block.
7. Tighten four 8-32 SHCS to 25 in/lbs

## Tighten Ball Nut Screws



1. Push table all the way to home; this will center the nut in the yoke.
2. Use a 5/32 ball-end hex wrench on an extension to access the screws.
3. Tighten four 10-24 SHCS to 50 in/lbs.

## Replace the Servo Motor



Notice the mark on the end of the motor shaft and another on the face of the motor. These marks are aligned when the motor is at "home". Turn the motor shaft so that the marks are 180° apart; that is 1/2 turn. This provides about 0.100" clearance past home.

Install the motor with the table all the way down, against the soft stop.

Attach the motor mount to the base, slipping the shaft into the coupler. Don't let the shaft turn much. The motor mount has roll pins to insure proper alignment of motor shaft and ball screw.

Tighten the motor mount to the machine before tightening the clamp on the coupler. Verify shaft alignment by loosening motor-side coupler clamp and sliding the coupler back and forth. Tighten both coupler clamps to 40 in/lb. Tighten motor mount screws to 30 ft/lb.

Replace the slide brake.

Replace all sheetmetal; review pages 2-4.

After re-assembly, jog the axis toward home, and verify that the scale pointer will go just slightly past "0"; jog back to about 0.100, then establish Home as usual. If the pointer is not at "0", loosen it and move it as required.

***Re-set all tools before running.***