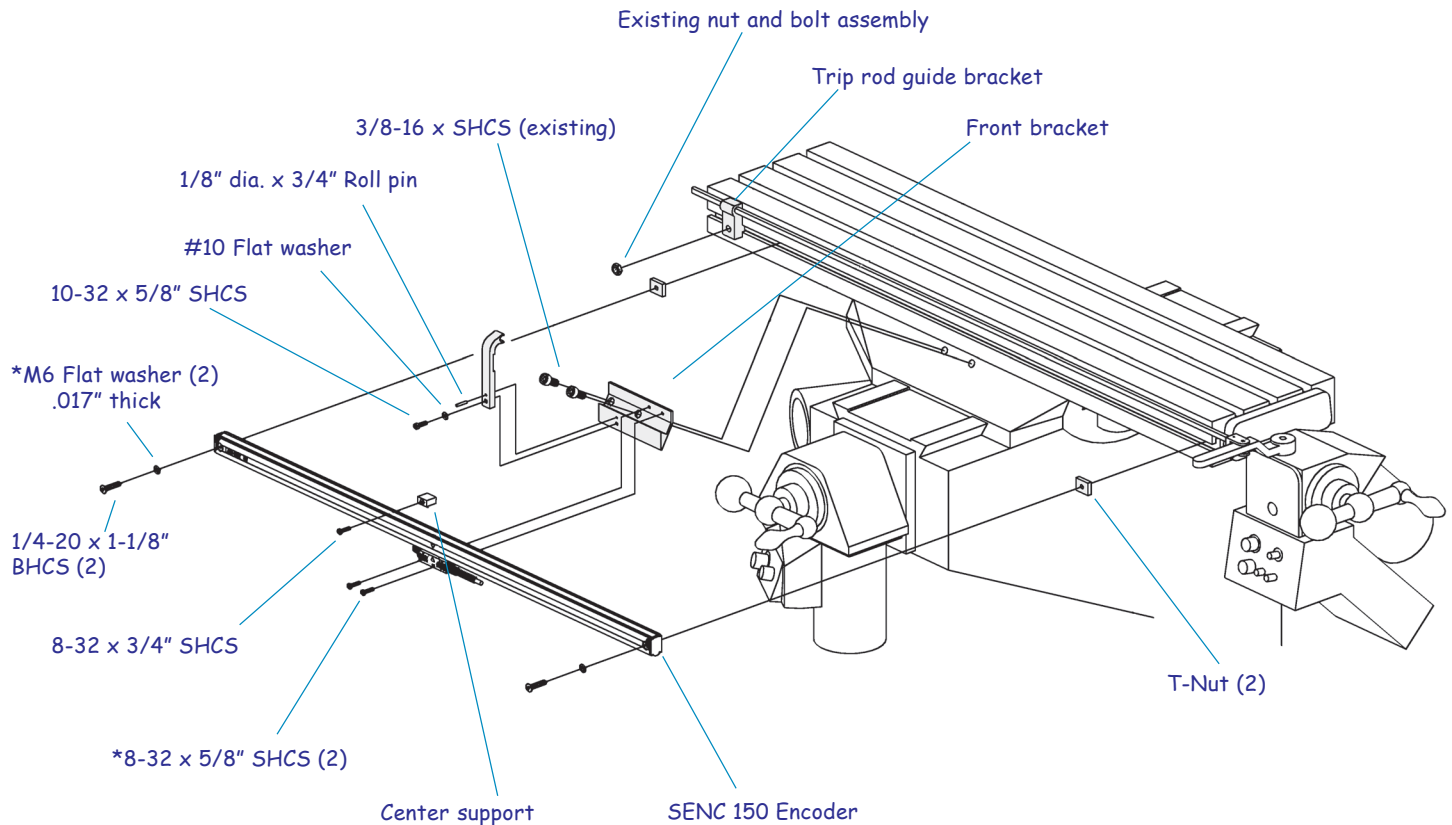


Longitudinal Installation ...

*Supplied with encoder hardware



Mounting Information...

These are application instructions for mounting the longitudinal "X" axis SENC 150 encoder.

Before proceeding:

- Please read the instructions completely.
- Insure that the correct length encoder is being used for the total axis travel.
- Keep the reading head centered during installation.
- Clean the mounting surfaces.
- Save the alignment brackets with the Encoder Reference Manual after installation is completed.

First Steps ...

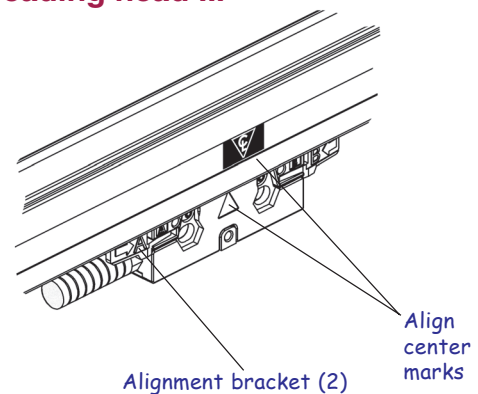
Machine

- ✓ Move the table to its center of travel.
- ✓ Mark the axis so that it can be re-centered easily.

Encoder

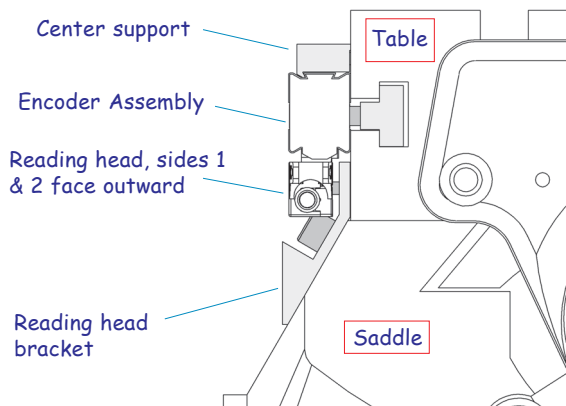
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

Center reading head ...



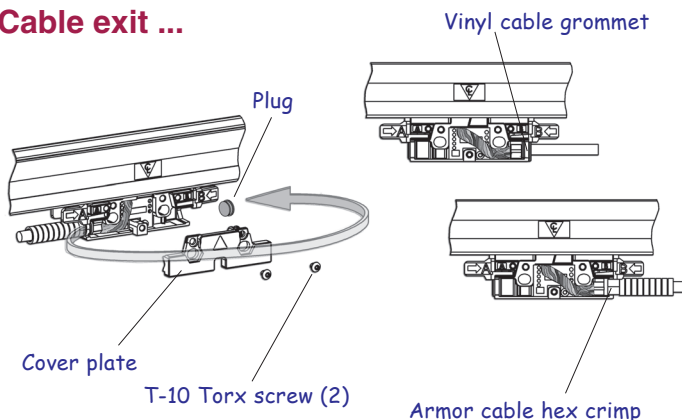
- Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

Encoder orientation ...



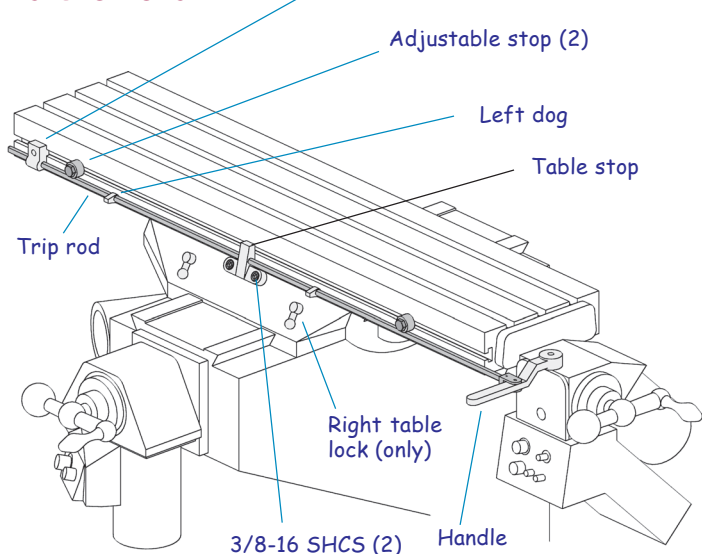
- These instructions will guide you through installing the encoder as shown in this view.

Cable exit ...



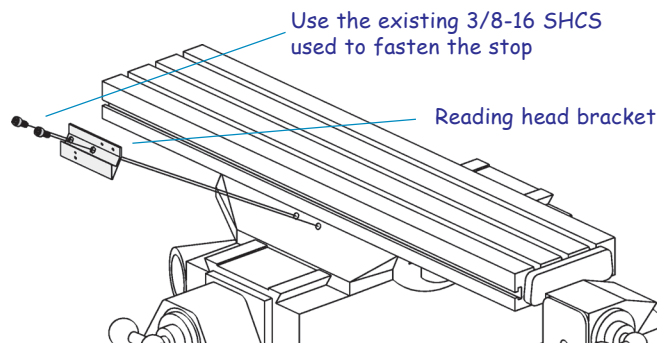
- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction; remove the cover plate and rotate the cable 180°.

Part removal ...

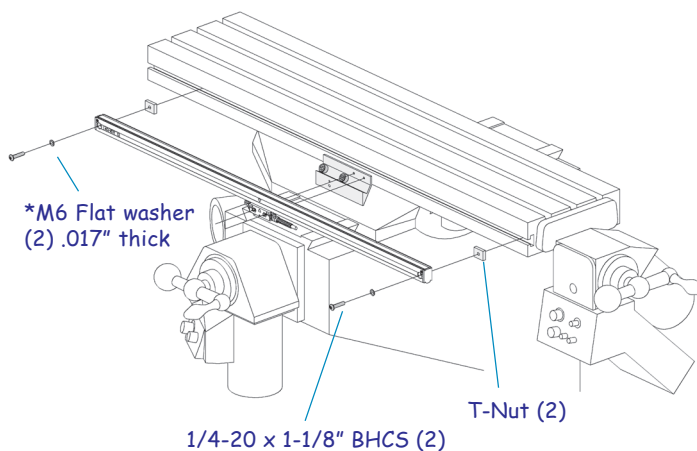


- Remove all of the labeled components shown above.

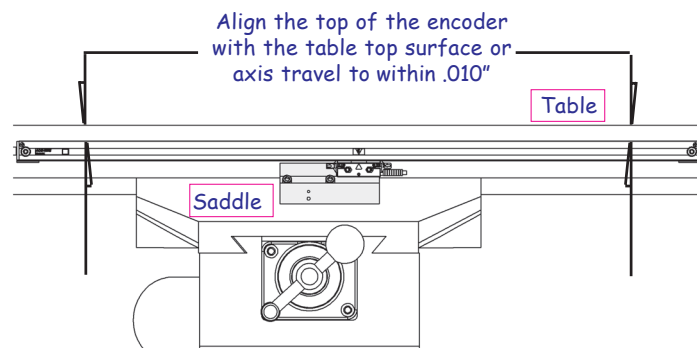
Encoder installation ...



- Attach the reading head bracket using the same fasteners.

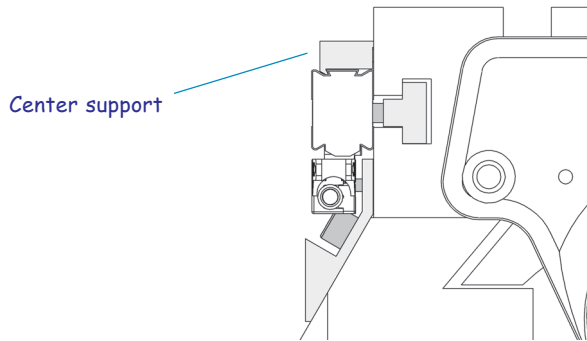


- Replace exiting T-Nuts from the front of the table with the T-Nuts supplied in the bracket kit.
- Fasten the encoder to the table, but do not tighten fully.
- With the table at its center of travel, position the encoder so that the bracket mounting holes and the reading head mounting holes are in the same proximity.

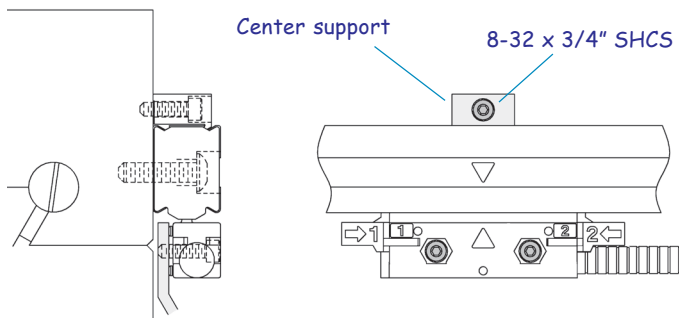


- Align the top of the encoder to within .010" TIR.
- Secure encoder in place maintaining alignment.

Center support installation ...

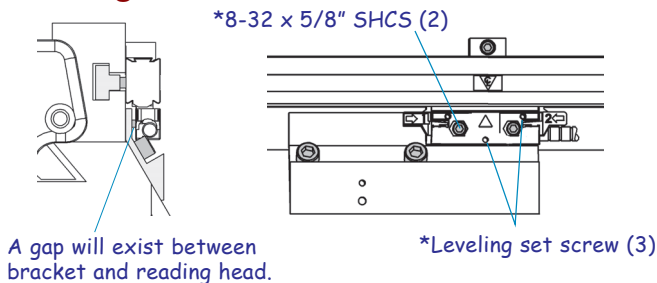


- Insert the center support to the top of the scale case above the center location tag.
- Ensure that the center support interlocks with the scale case.



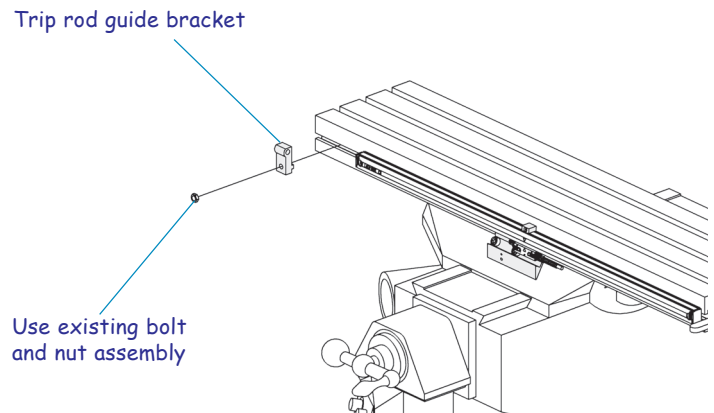
- Align the center of the scale case to within .010" to the ends, and transfer punch the support hole location.
- Remove the center support, drill and tap the hole location for an 8-32 x 1/2" deep.
- Attach the center support to the scale case and table. Align the center of the scale case with each end to within .010" and secure in place.

Reading head installation ...

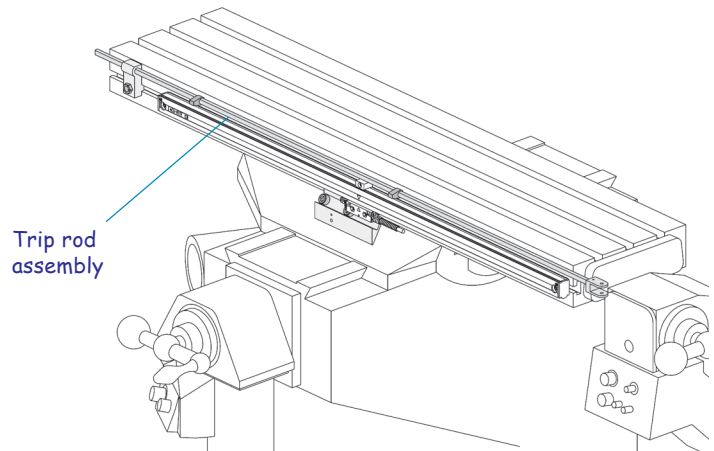


- Insert the two *8-32 x 5/8" SHCS. Insure the bracket is adjusted to provide proper screw head clearance. **Do not** tighten screws at this time.
- Set each leveling set screw by placing a .001" - .003" feeler gage between the set screw and the bracket.
- Adjust each set screw until a slight drag is felt on the feeler gage.
- **Evenly tighten** the two 8-32 SHCS.

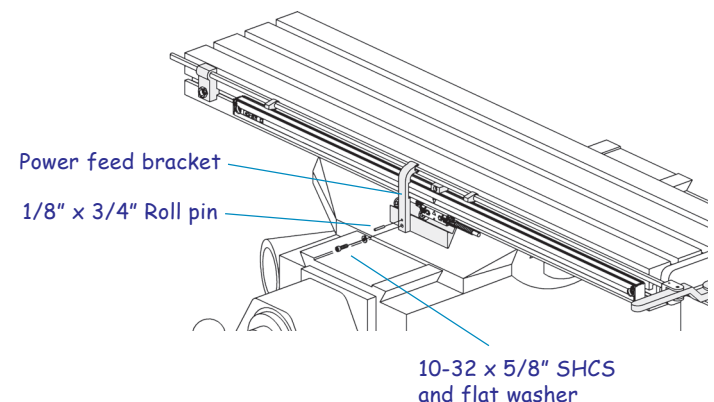
Power feed components



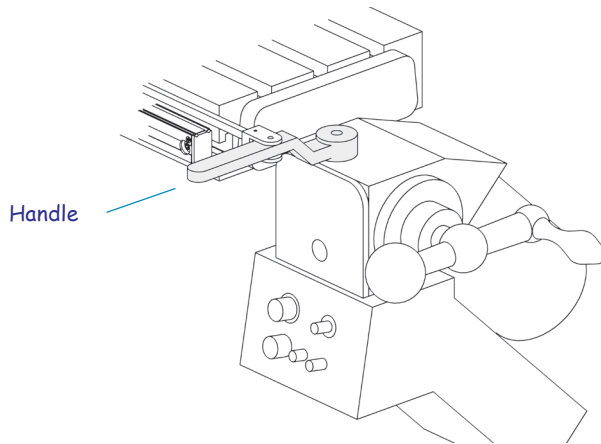
- Attach the guide bracket using the existing nut and bolt.



- Insert the trip rod into the guide.

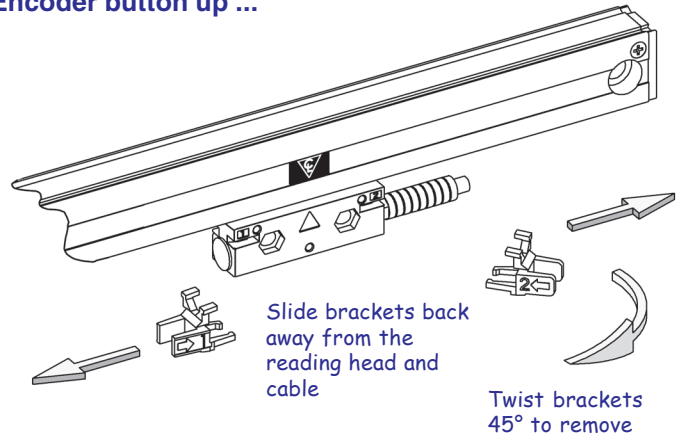


- Attach the power feed bracket.



- Reinstall the handle with the off set raised up from the power feed unit.
- Field modification may be required. Handles supplied by the manufacturer vary and may require a field fabricated adapter from the handle yoke to the rod.

Encoder button up ...

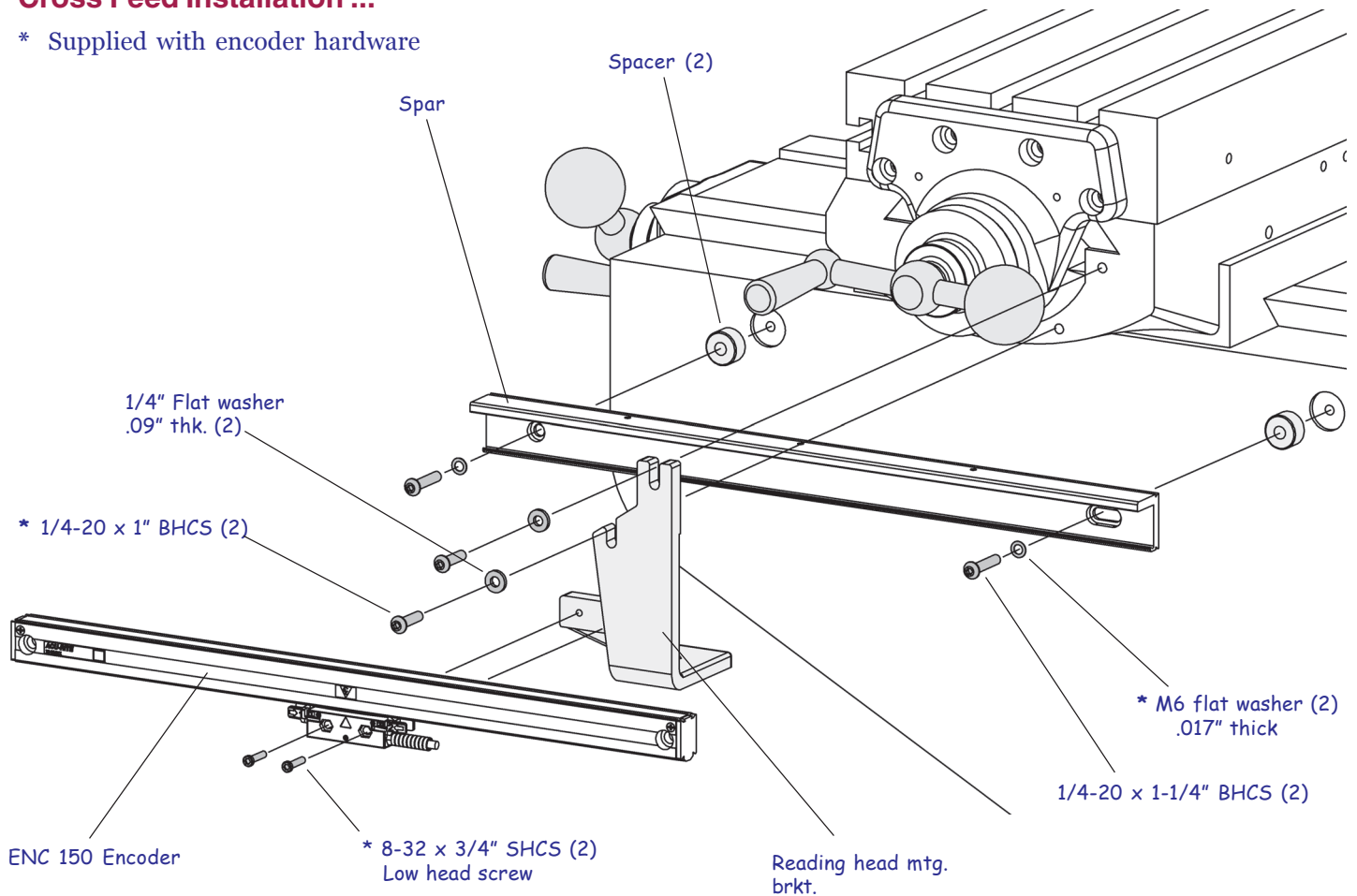


- Use allen wrench from set screw adjustment to slide alignment brackets away from the reading head.
- Remove alignment brackets and save.
- Move the axis through its full travel. Confirm that the assembly does not interfere with the machine movement.

**Proceed with the Cross
Feed installation**

Cross Feed Installation ...

* Supplied with encoder hardware



Mounting Information...

These instructions are for mounting the 13" encoder to the Series 1 knee mill. Bridgeport machines have the encoder mounting holes provided since 1985. These instructions assume these holes are present.

Before proceeding:

- Please read the Procedure completely.
- Mount X axis prior to installing the cross feed.
- Clean the mounting surfaces.
- Save the alignment brackets with the Encoder Reference Manual after installation is completed.

First Steps ...

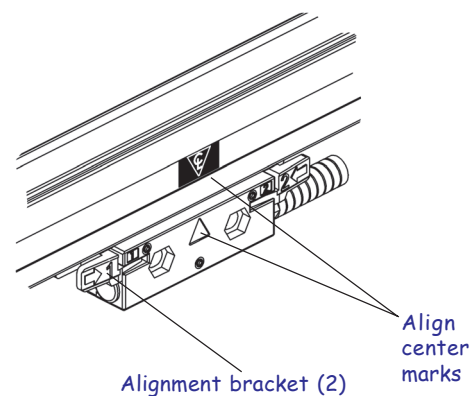
Machine

- ✓ Move the table to its center of travel.
- ✓ Mark the axis so that it can be re-centered easily.
- ✓ Move the saddle completely forward on the knee.

Encoder

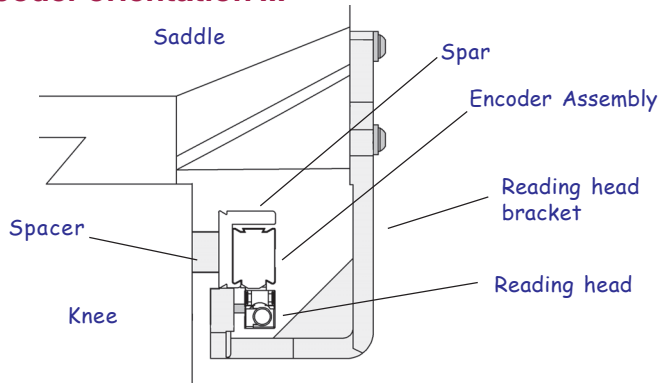
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

Center reading head ...



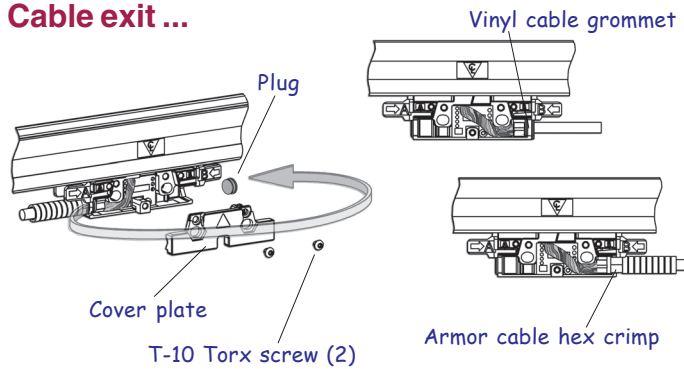
- Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

Encoder orientation ...



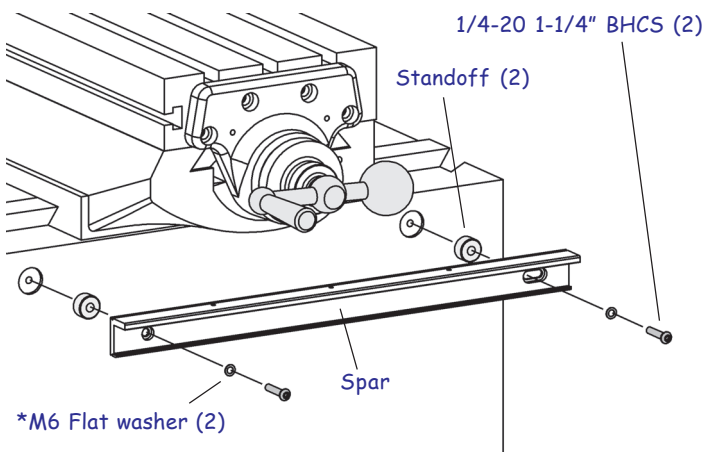
- These instructions will guide you through installing the encoder as shown in this view.

Cable exit ...

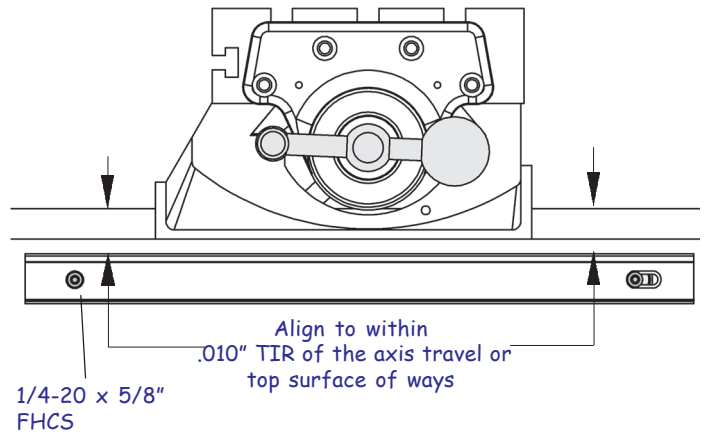


- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction; remove the cover plate and rotate the cable 180°.

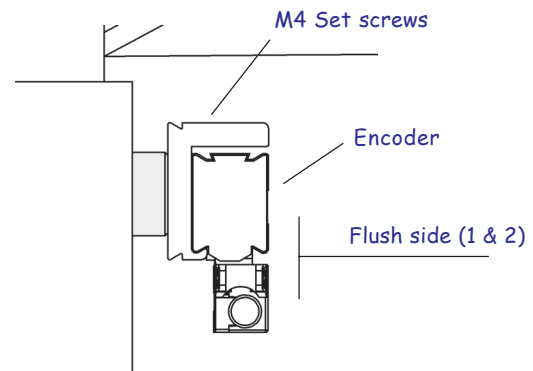
Encoder / Spar installation ...



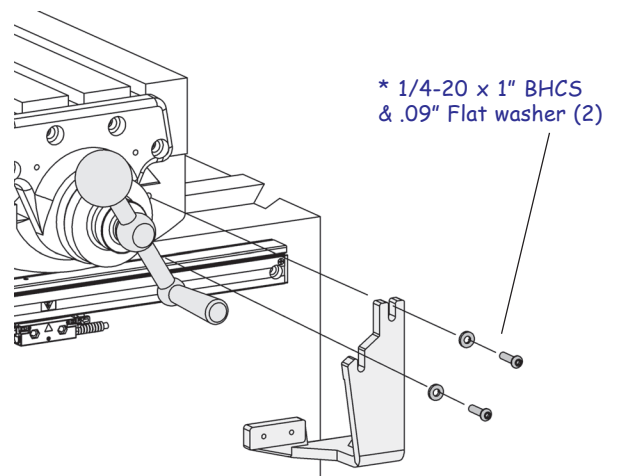
- Attach the spar to the knee with the standoffs. Much older Bridgeport machines were tapped for a 3/16-18. Two threaded inserts are provided for these older mills. Some machines have the spot faced surfaces epoxied over and will need to be cleaned out completely.



- Align the spar top and front surface to the axis travel.

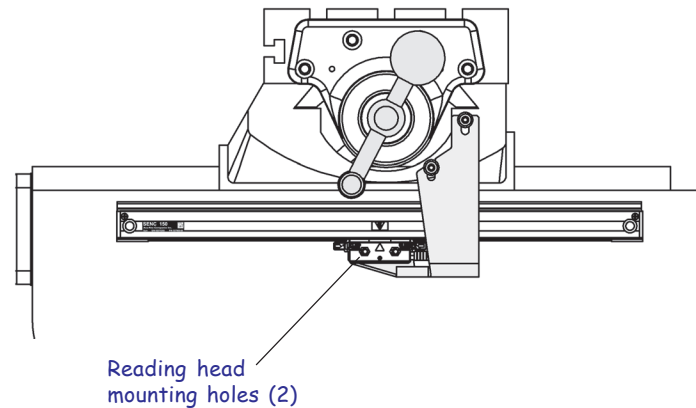


- Insert and center the encoder in the spar from end to end as done previously.
- Tighten set screws to secure in place.

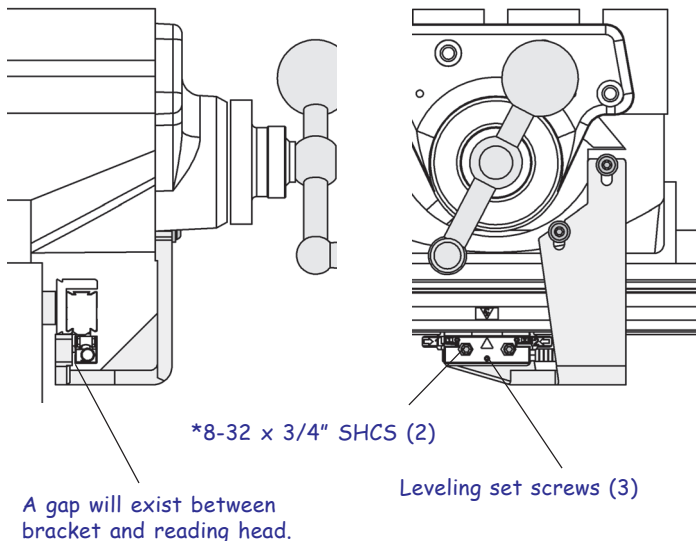


- With the saddle at its center of travel, attach the bracket to the saddle.

Reading head installation...

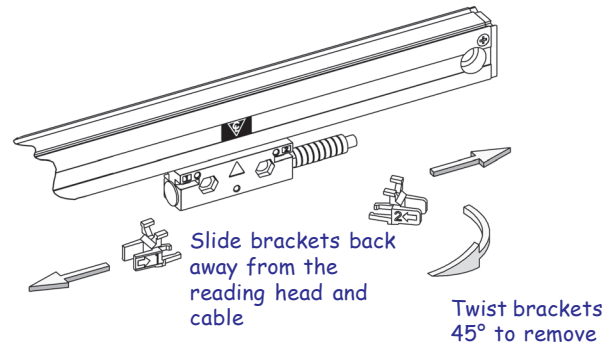


- Adjust the bracket so that the reading head mounting holes align with the reading head casting. Secure the bracket in place.

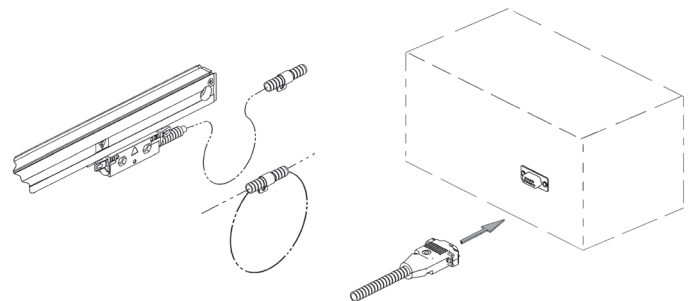


- Insert the two *8-32 x 5/8" SHCS. Insure the bracket is adjusted to provide proper screw head clearance. **Do Not Tighten Screws** at this time.
- Set each leveling set screw by placing a .001" - .003" feeler gage between the set screw and the bracket.
- Adjust each set screw until a slight drag is felt on the feeler gage.
- **Evenly tighten** the two 8-32 SHCS.

Alignment bracket removal ...



- Use allen wrench from set screw adjustment to slide alignment brackets away from the reading head.
- Remove alignment brackets and save for possible future use.
- Move the axis through its full travel. Confirm that the assembly does not interfere with the machine movement.



- With the longitudinal axis installation complete, route the cables providing sufficient slack loops for machine movement to the readout.
- Secure cables by fastening with clips or ties.
- Attach the linear encoder connectors to the readout.
- Complete the installation by following the steps in "Checking Your Installation" section in the encoder "Reference Manual".