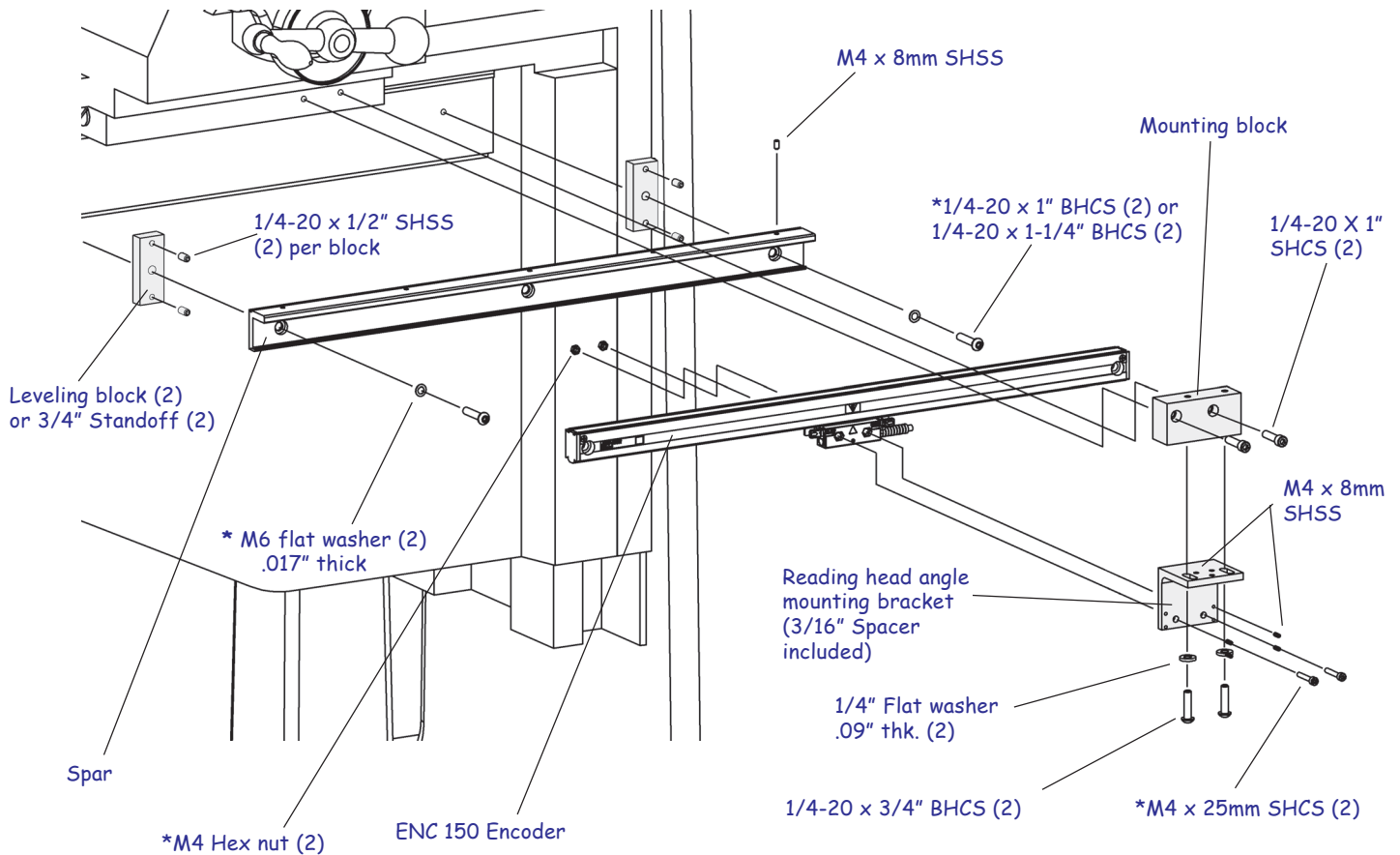


Cross Feed Installation ...

* Supplied with encoder hardware



Mounting Information...

These instructions are for mounting the SENC 150 encoder to a vertical knee mill with square saddle ways.

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 ...

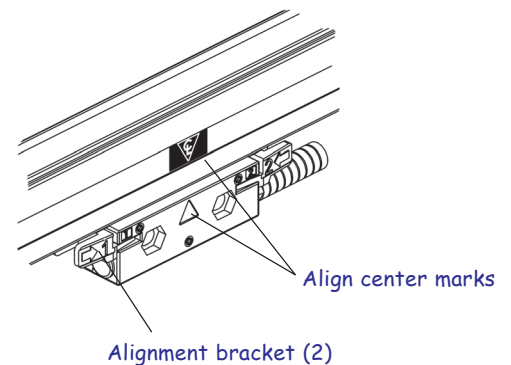
Machine

- ✓ Move the table to it's far left travel.
- ✓ Move the saddle to it's center of travel, include the longitudinal scale thickness.
- ✓ Mark the axis so that it can be re-centered easily.

Encoder

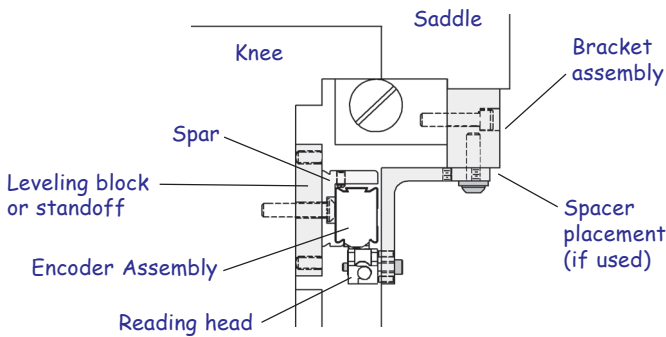
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

Center reading head ...



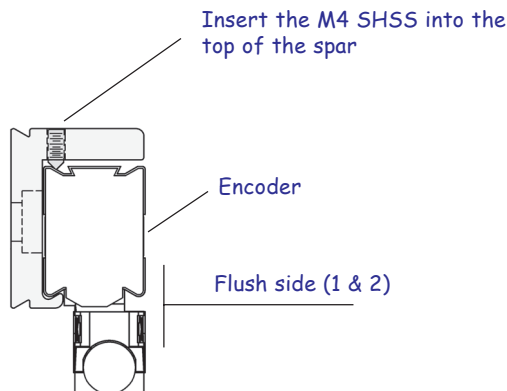
- Mark the center location on the scale case. Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

Encoder orientation ...



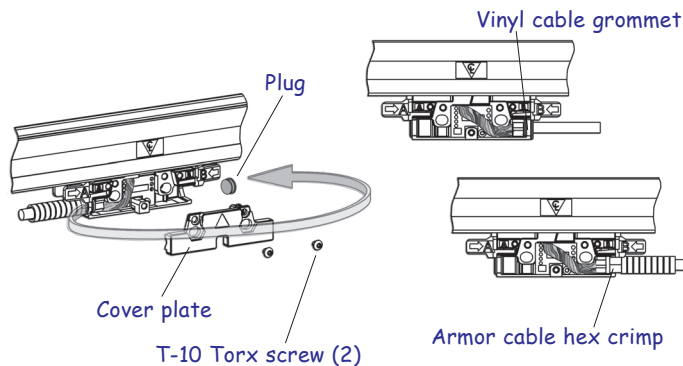
- These instructions will guide you through installing the encoder as shown in this view.

Encoder/Spar assembly ...



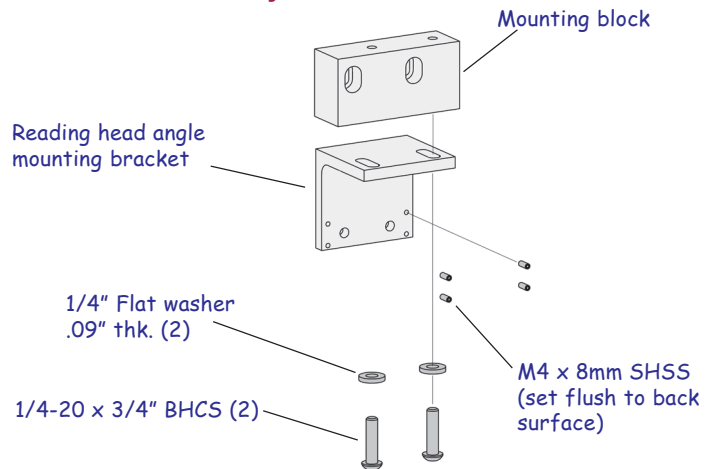
- Insert the encoder into the spar as shown, and center from end to end. Tighten the center set screw only.

Cable exit ...

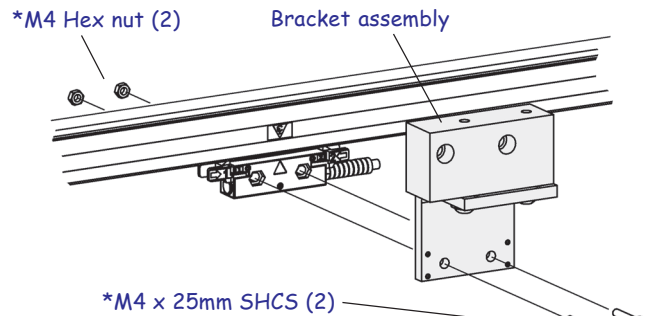


- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction, remove the cover plate and rotate the cable 180°.

Bracket assembly ...

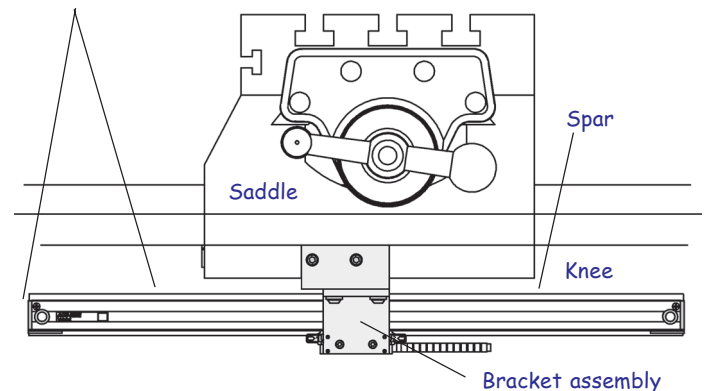


- Assemble the brackets loosely for future adjustment.



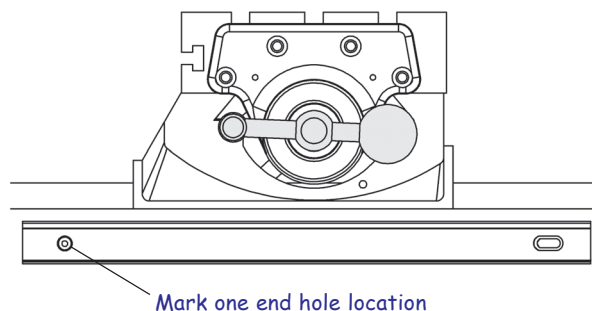
- Temporarily attach the bracket assembly to the reading head.

Scribe lines along the top and one end of the spar to locate its position on the knee.

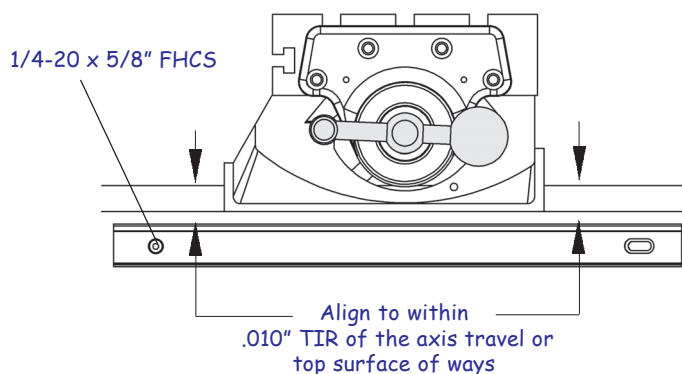


- With the saddle at its center of travel, position the spar on the knee, and the bracket assembly to the saddle.
- Locate the assembly so that a suitable mounting position is provided for both the encoder w/spar to the knee, and the bracket assembly to the saddle.
- With the spar parallel to the top of the knee, scribe spar location reference lines on the knee. Remove the assembly.

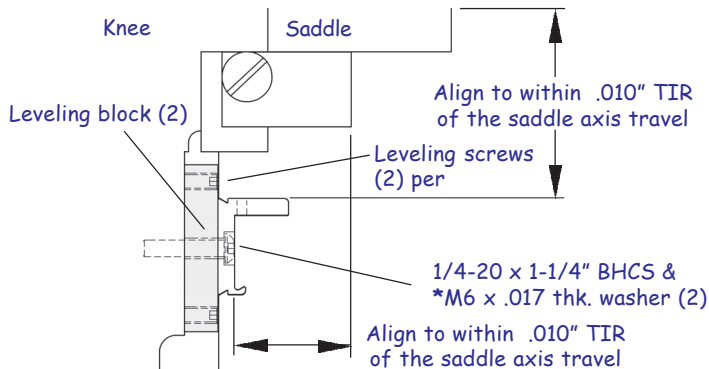
Spar installation ...



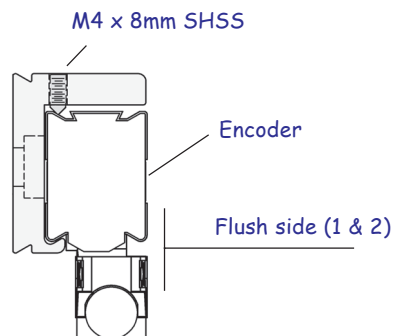
- Remove the bracket assembly from the reading head, and the encoder from the spar.
- Position the spar to the scribed lines and mark one end mounting hole location to the knee.
- Drill and tap location for a 1/4-20 x 1/2" deep.



- Temporarily fasten the spar to the knee at one end with a 1/4-20 x 5/8" FHCS provided.
- Align the top of the spar to the saddle travel.
- Transfer punch the second mounting hole.
- Remove the spar, drill and tap location for a 1/4-20 x 1/2" deep.



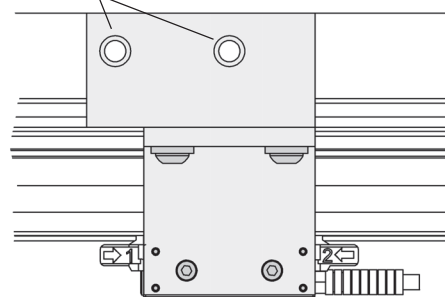
- Attach the spar with the leveling blocks to the knee.
- Align the front surface of the spar using the leveling screws to aid with front surface alignment.
- Align the top surface of the spar and secure in place.



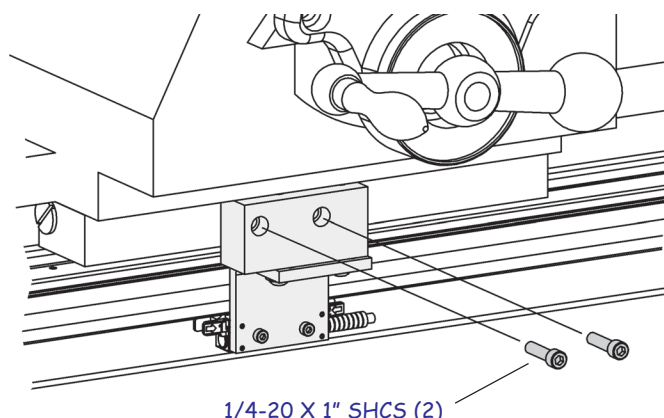
- Insert and center the encoder in the spar from end to end as done previously.
- Tighten set screws to secure in place.

Reading head installation ...

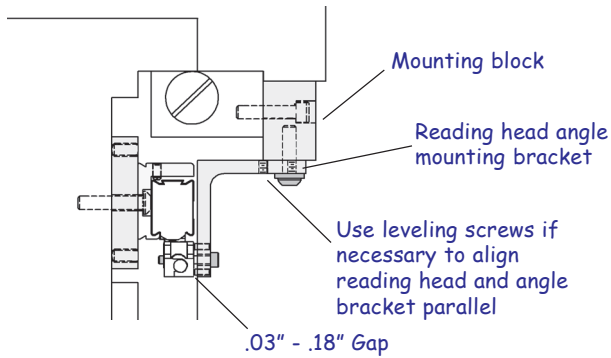
Transfer punch mounting locations to the side of the gib



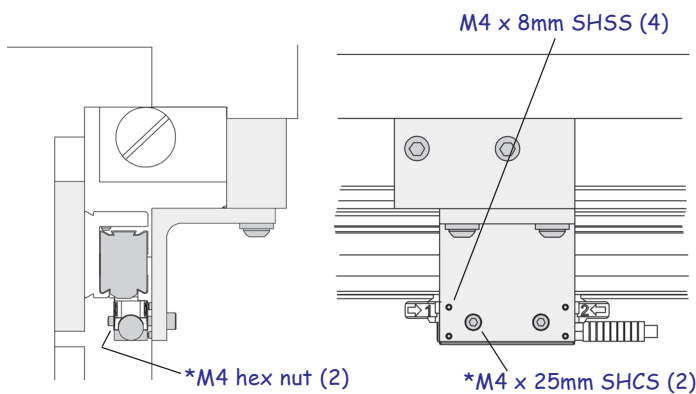
- With the axis at the center of travel, attach the bracket assembly to the reading head.
- Position the assembly to the saddle, and transfer punch the two mounting slot locations.
- Remove the assembly from the reading head, drill and tap the locations for 1/4-20 x 1/2" deep.



- Loosely attach the bracket assembly to the saddle.

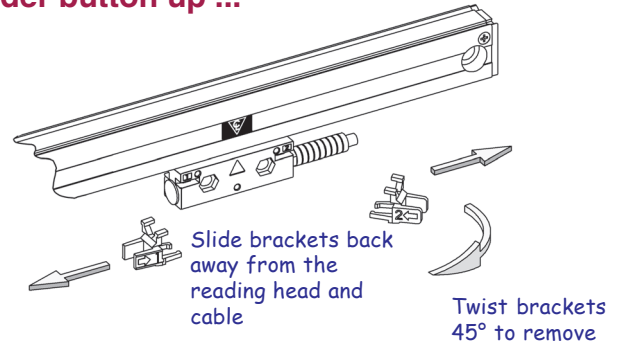


- Adjust the angle mounting bracket clearance so that a gap of .03" - .18" exist.
- Align the reading head mounting holes with the mounting bracket holes.
- Secure the bracket assembly in place.

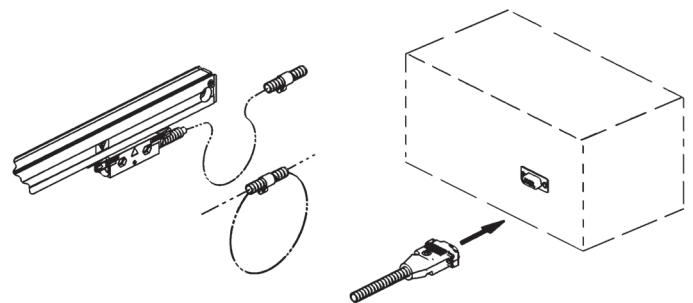


- Insert the two *M4 hex nuts and *M4 x 25mm SHCS. Insure the bracket assembly is adjusted to provide screw clearance. **Do Not Tighten Screws** at this time.
- Set each leveling set screw by placing a .001" - .003" feeler gage between the set screw and the bracket.
- Adjust each set screw until a slight drag is felt on the feeler gage.
- **Evenly tighten** the two M4 SHCS.

Encoder button up ...



- 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".