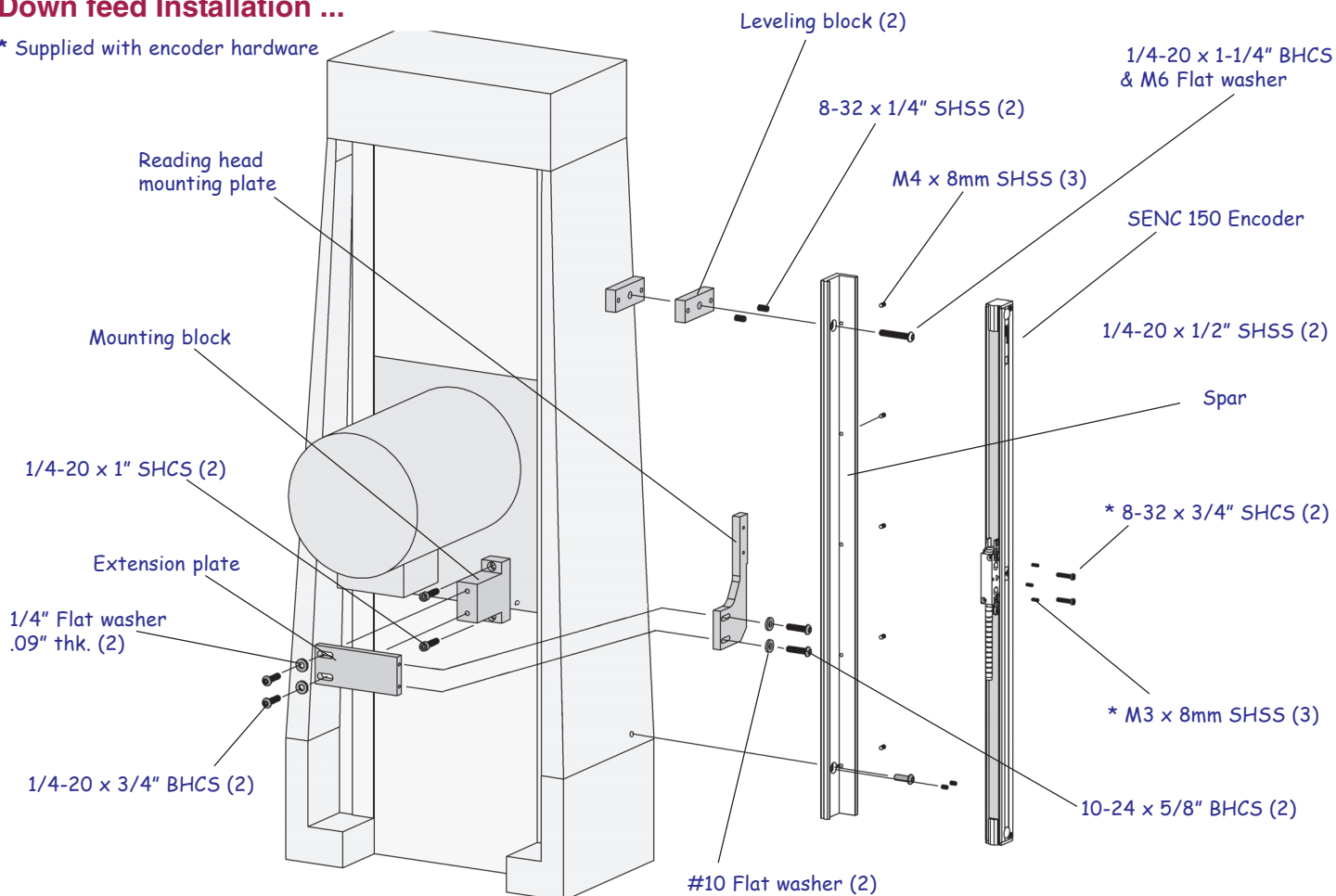


## Down feed Installation ...

\* Supplied with encoder hardware



## Mounting Information...

These are application instructions for mounting the Down feed "Z" axis SENC 150 encoder

### Before proceeding:

- Please read the instructions completely.
- Insure that the correct length encoder is being used for the total 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 ...

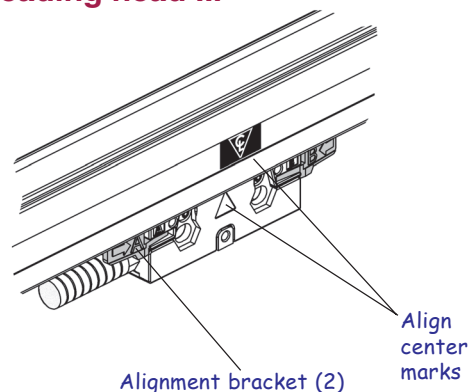
### Machine

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

### Encoder

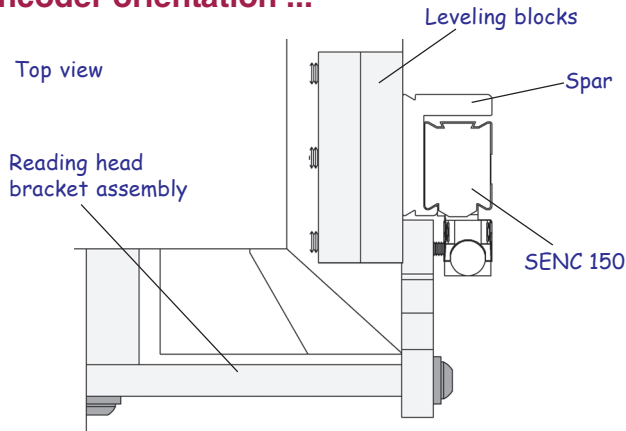
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

## Center reading head ...



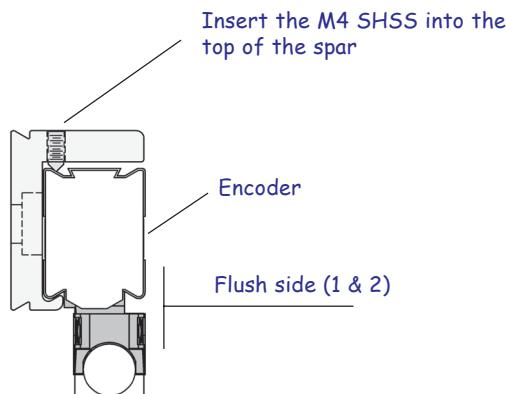
- Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

## Encoder orientation ...



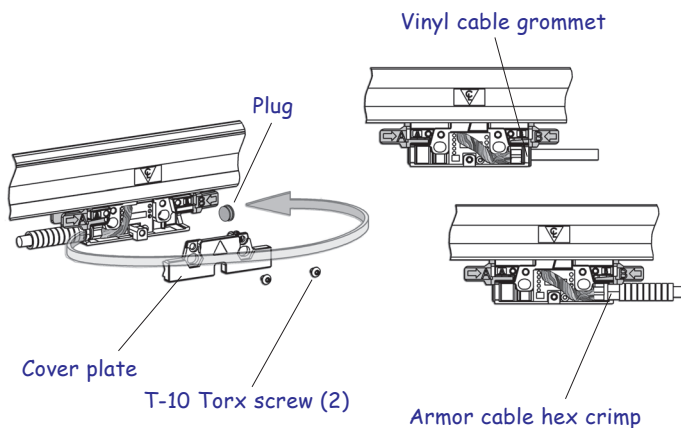
- These instructions will guide you through installing the encoder as shown in this view.

## Encoder/Spar assembly ...



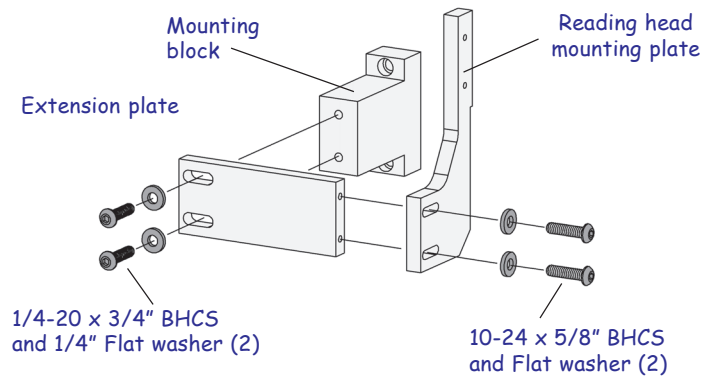
- Insert the encoder into the spar as shown, and center from end to end. Tighten the center set screw only.

## Cable exit ...



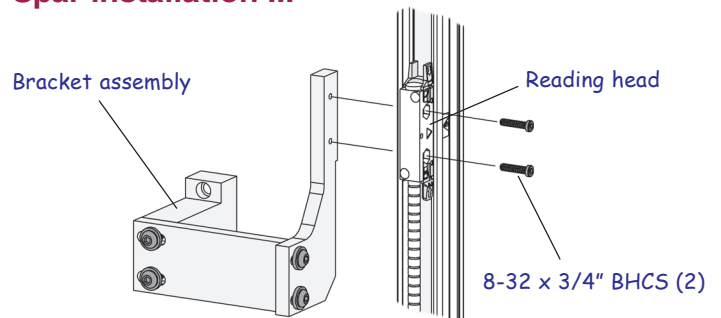
- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction; remove the cover plate and rotate the cable 180°.

## Bracket assembly ...

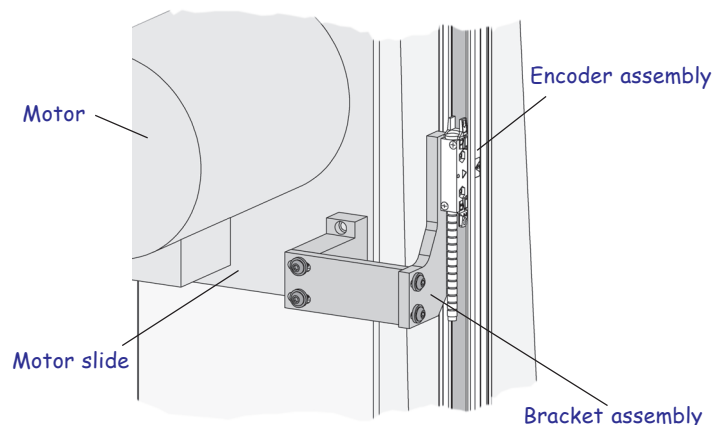


- Assemble the reading head bracket components as shown.
- Leave the fasteners loose enough to allow adjustment of the extension plate.

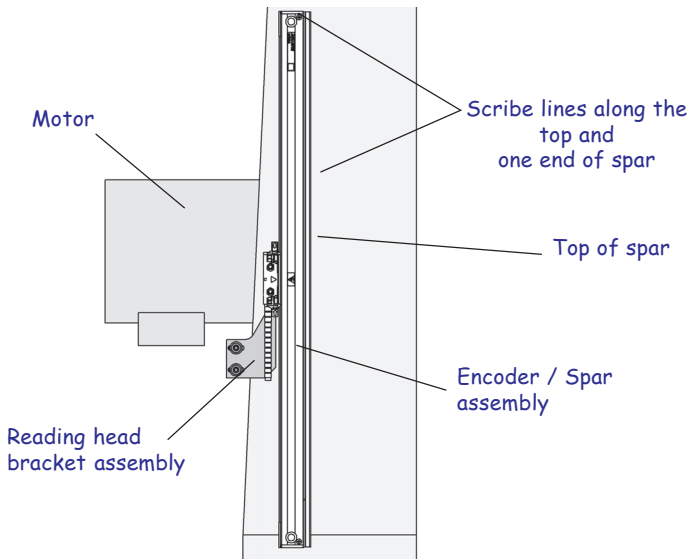
## Spar installation ...



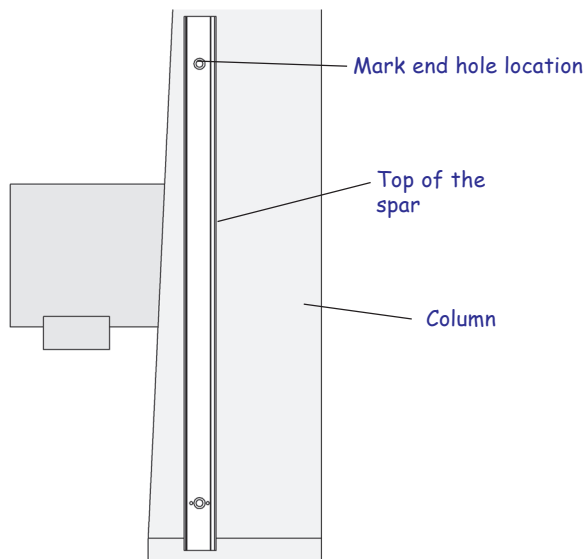
- Temporarily attach the reading head bracket assembly to the reading head for locating purposes (bracket attaches to side A-B).



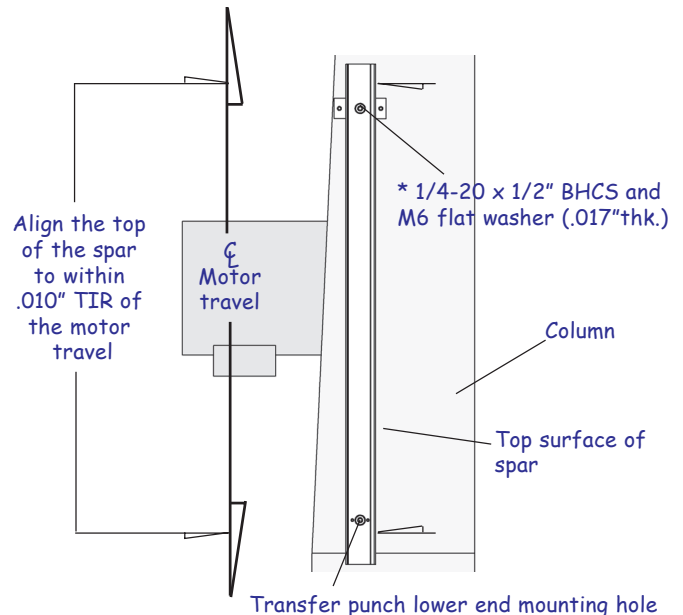
- Move the spindle to its center of travel, and position the encoder to the side of the column.
- Position the bracket assembly to the rear of the motor mount slide.
- The mounting position of the encoder and bracket assembly should provide proper clearances that will not interfere with other components or normal machine operation.



- With the encoder positioned properly, scribe reference lines locating the spar on the column.
- Remove the assembly from the machine.
- Remove the spar and bracket assembly from the encoder.

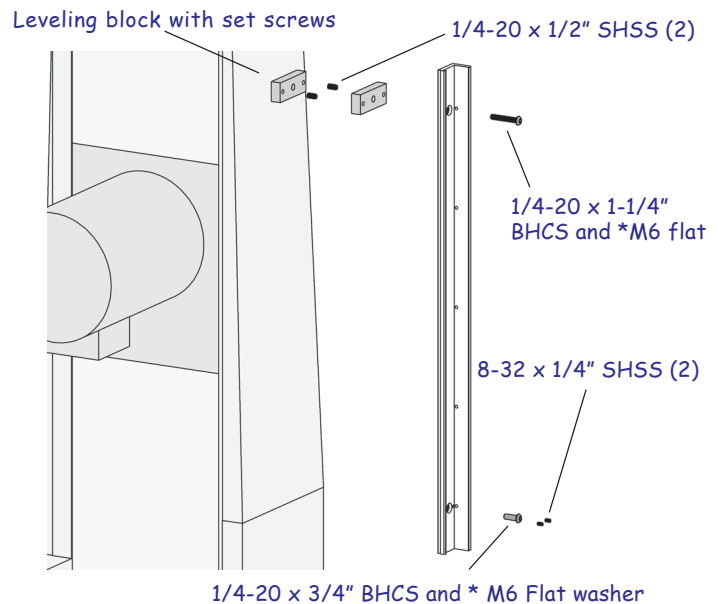


- Position the spar to the scribed lines, and align the top of the spar parallel with the motor travel.
- Mark the top end hole location to the column.
- Drill and tap the hole location for a 1/4-20 x 1/2" deep.

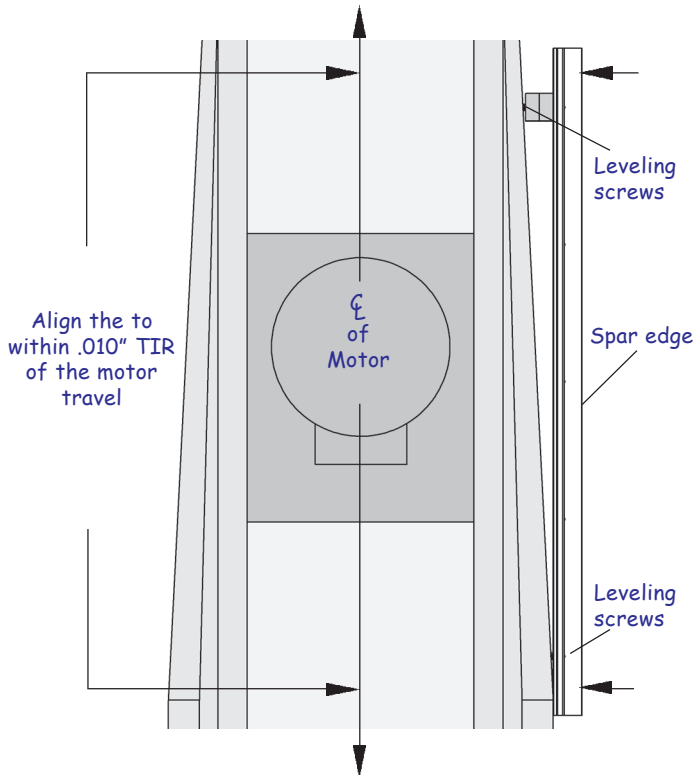


Transfer punch lower end mounting hole

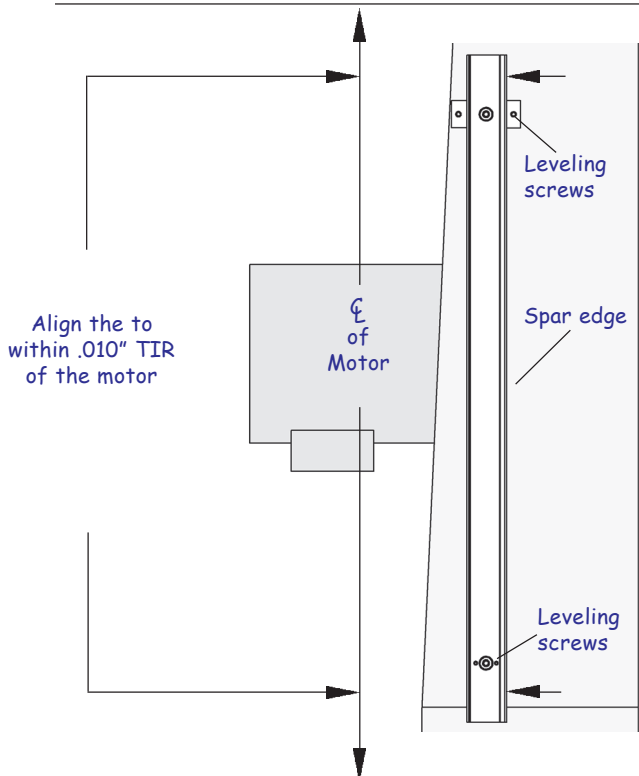
- Fasten the spar at the top to the column with a \*1/4-20 x 1/2" BHCS and \*M6 flat washer (.017" thk.), leveling blocks are not required for these steps, but can be used as a spacer if necessary.
- Align the top of the spar to the motor travel to within .010" TIR measuring over each end mounting hole location.
- Transfer punch the lower end hole location to the column. Remove the spar from the column.
- Drill and tap location for a 1/4-20 x 1/2" deep.



- Insert two 1/4-20 set screws into one leveling block. Position this block next to the column.
- Attach the spar to the column at each end with the two leveling blocks at the top hole location.
- Insert two 8-32 x 1/4" set screws into spar at the lower hole location.

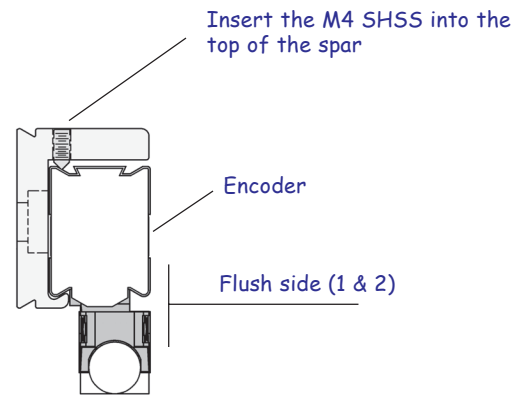


- Align the spar to within .010" TIR of the motor travel using the leveling screws for the front surface alignment.

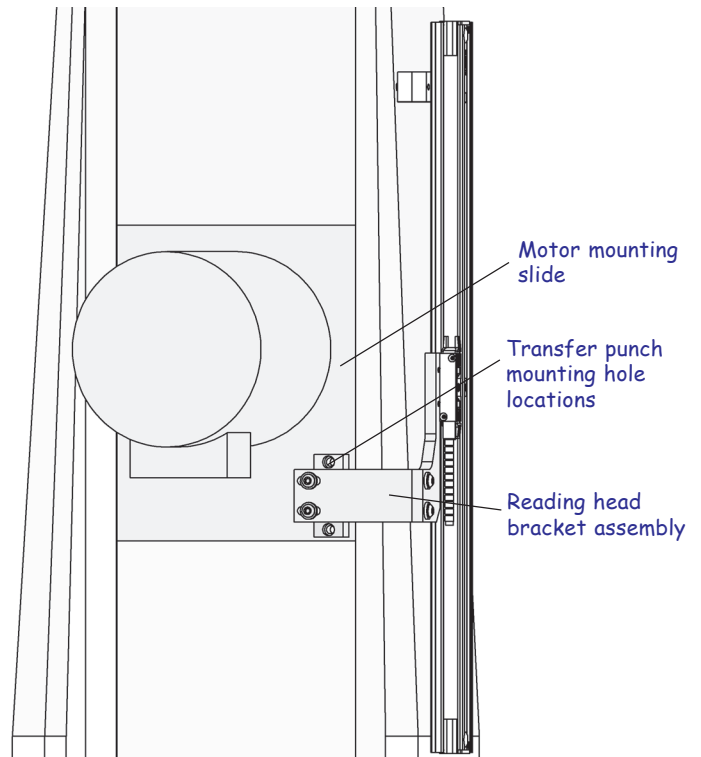


- Align the spar edge to within .010" TIR of the motor travel.
- Secure the spar in place maintaining these alignments.

## Encoder installation ...

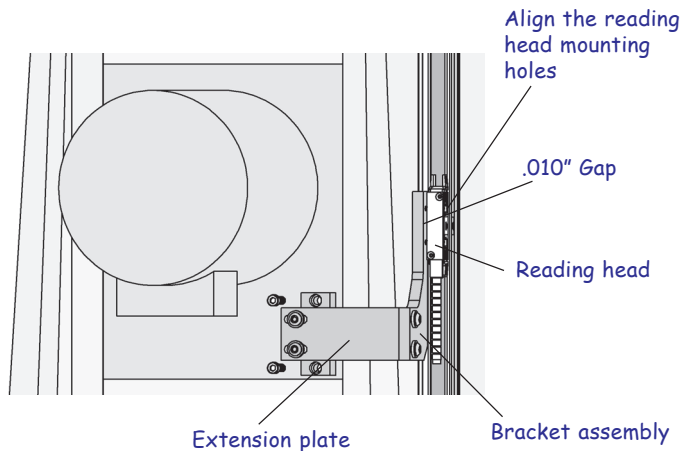


- Insert the encoder into the spar as shown, and center from end to end. Tighten the center set screw only.

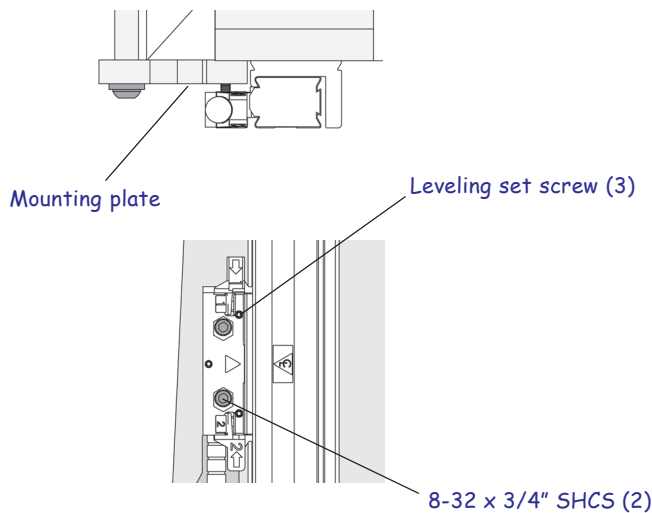


- Return the spindle to its center of travel. Attach the bracket assembly to the reading head as done previously.
- Position the assembly to the motor slide, and transfer punch the two mounting hole locations to the motor mount slide.
- Remove the bracket assembly from the reading head.
- Drill and tap the locations for 1/4-20 x 1/2" deep.

## Reading head bracket installation ...

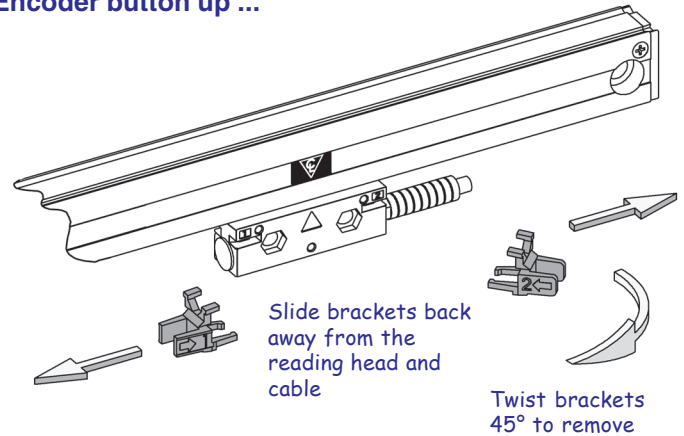


- Attach the bracket assembly to the slide.
- Adjust the extension plate so that a minimum gap of .01" clearance exist between the reading head and bracket.
- Align the mounting plate holes with the reading head mounting holes.
- Secure bracket assembly in place to the slide.

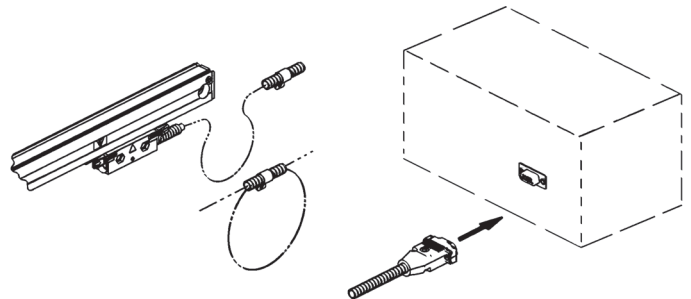


- Insert the \*8-32 x 3/4" SHCS, but do not tighten.
- There will be a gap of .03" - .18" between the bracket and the reading head.
- Insert and set each leveling screw by placing a .001" - .003" feeler gage between the set screw and the bracket.
- Adjust each set screw until a slight drag is felt on the feeler gage.
- **Evenly tighten** the two 8-32 SHCS.

## 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.



- 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".