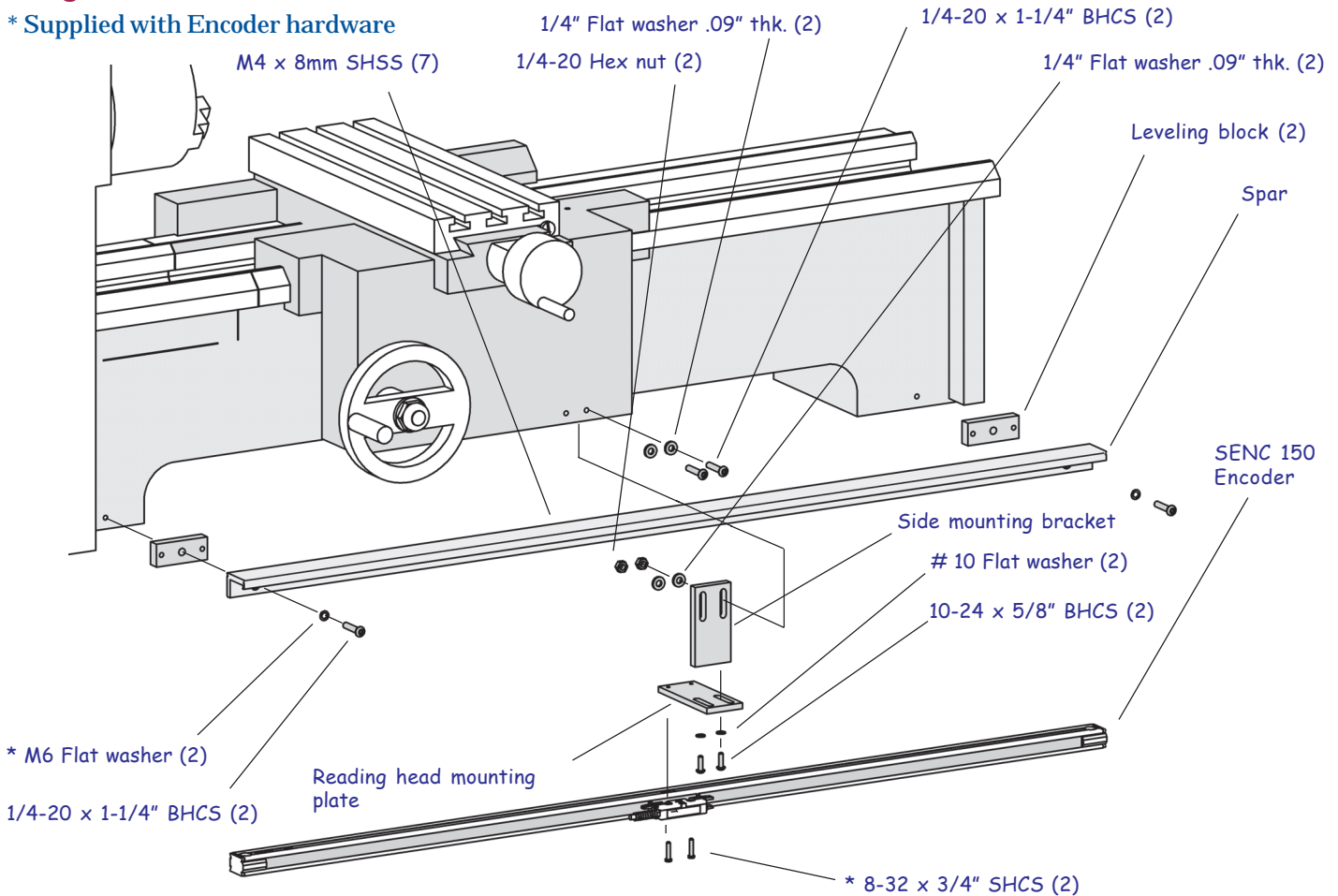


## Longitudinal Installation ...

\* Supplied with Encoder hardware



## Mounting Information...

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

### Before proceeding:

- Please read the instructions completely.
- Mount Z axis prior to installing the cross feed.
- 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 ...

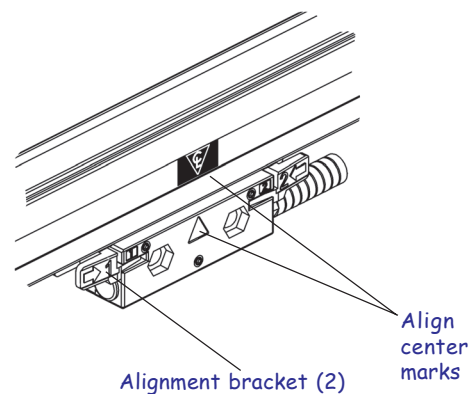
### Machine

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

### Encoder

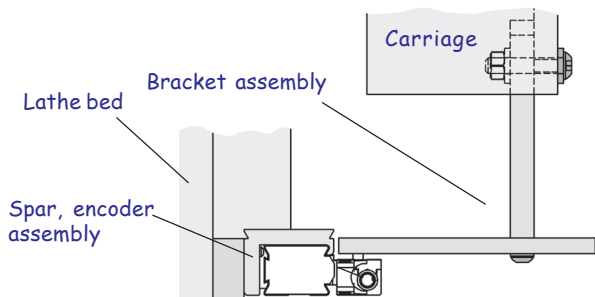
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

### Center reading head ...



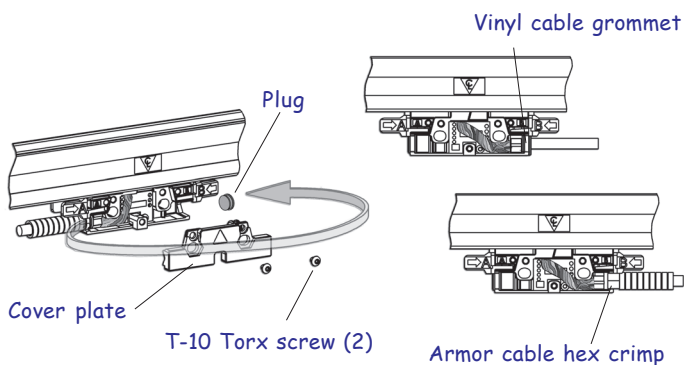
- Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

## Encoder orientation ...



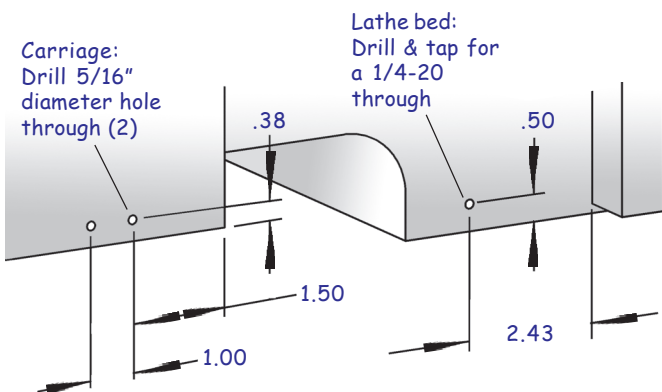
- These instructions will position the encoder assembly to the carriage and bed as shown.

## Cable exit ...



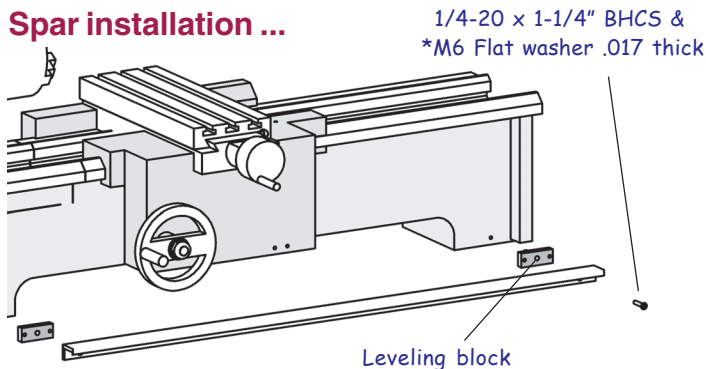
- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction, remove the cover plate and rotate the cable 180°.

## Mounting holes ...

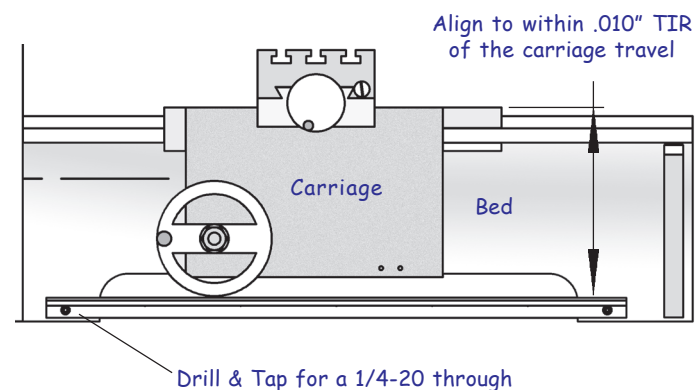


- Prepare the three holes shown to the dimensions provided.

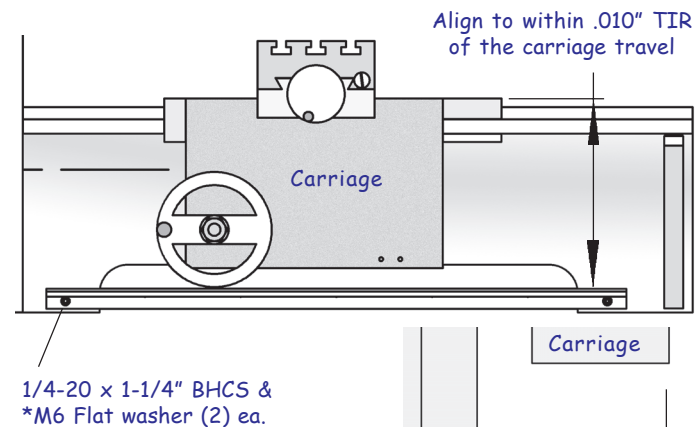
## Spar installation ...



- Fasten the spar to the bed at one end.



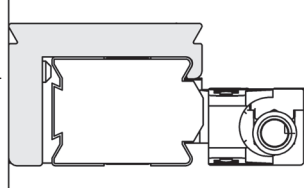
- Align the top side of the spar to the carriage travel to within .010" TIR measuring over the spar end mounting hole locations.
- Transfer punch the other end mounting hole.
- Remove the spar, drill and tap location for a 1/4-20 x 1/2" deep.



- Attach the spar to the bed.
- Align the face first, and then the top side of the spar to the carriage travel measuring over the end mounting hole locations.
- Secure the spar in place maintaining this alignment.

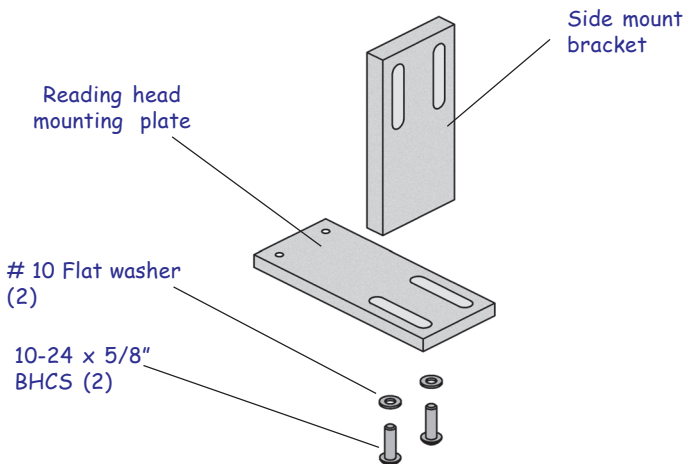
## Encoder installation ...

M4 x 8mm SHSS  
(7)



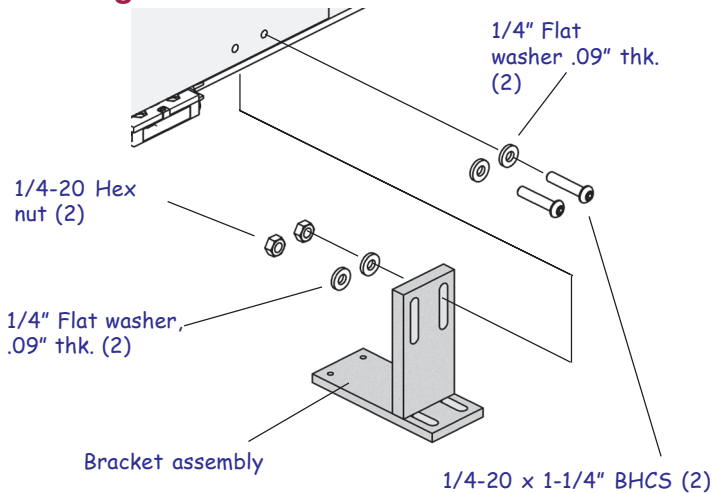
- Insert the encoder into the spar.
- Fully seat the encoder and secure in place by tightening the M4 set screws.

## Bracket assembly...

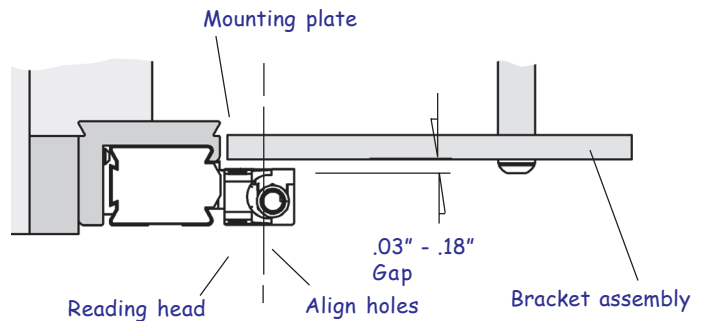


- Assemble the reading head bracket components. Leave the 10-24 BHCS loose enough to allow adjustment of the extension plate.

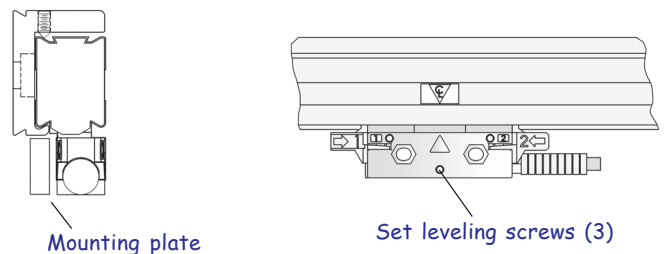
## Reading head installation ...



- Return the carriage to its center of travel.
- Attach the reading head bracket assembly to the carriage. Note, assembly mounts inside carriage casting.

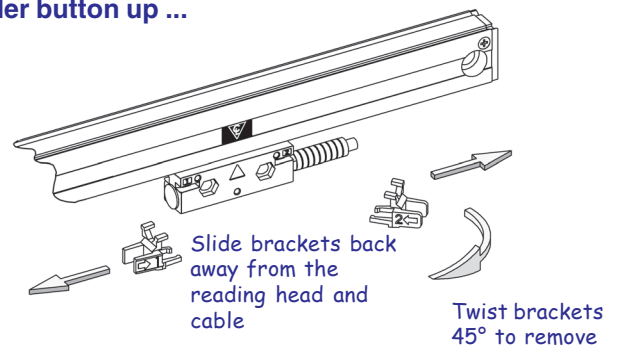


- Adjust the bracket assembly so that a gap of .03"-.18" gap exist between the reading head and the mounting bracket.
- Align the mounting plate holes with the reading head mounting holes.
- Secure bracket assembly in place to the carriage.



- Insert the two \*8-32 x 3/4" SHCS. Ensure 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.

## Encoder button up ...

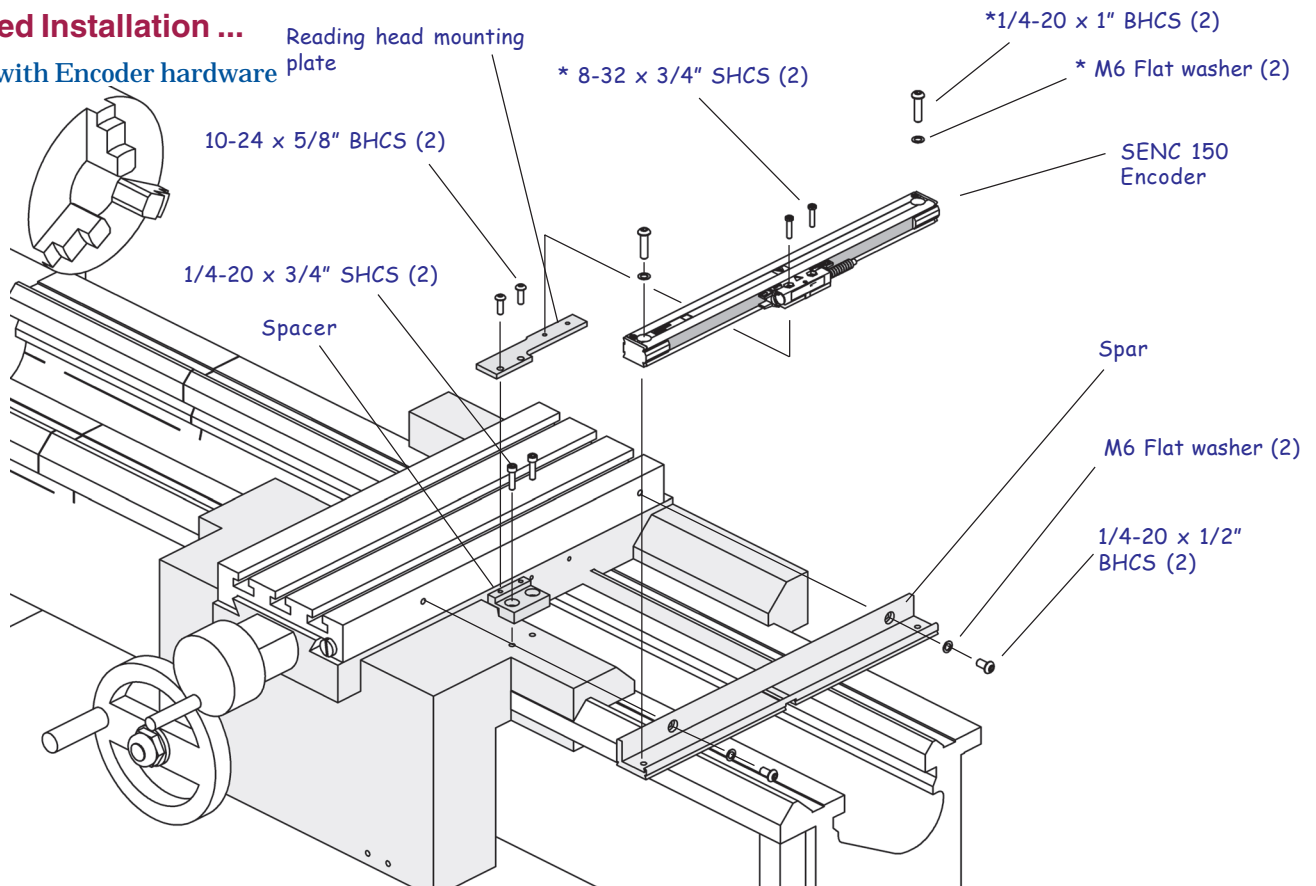


- Use allen wrench from set screw adjustment to slide alignment brackets away from the reading head.
- Remove alignment brackets and save.
- Move the axis through its full travel. Confirm that the assembly does not interfere with the machine movement.

**Proceed with the Cross Feed installation**

## Cross Feed Installation ...

\* Supplied with Encoder hardware



## Mounting Information...

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

### Before proceeding:

- Please read the instructions completely.
- Mount Z axis prior to installing the cross feed.
- Remove set screws from factory drilled holes.
- 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 ...

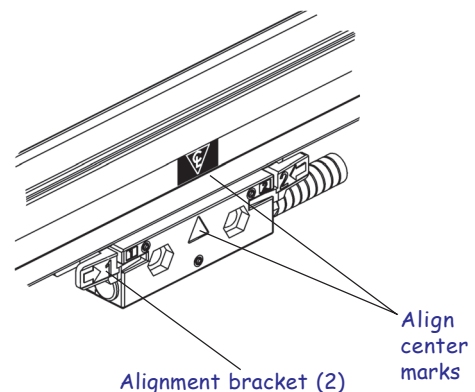
### Machine

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

### Encoder

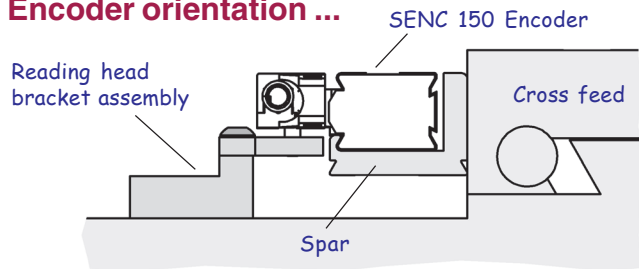
- ✓ Unpack encoder in a safe, convenient location.
- ✓ Do not remove the reading head alignment brackets until instructed.

## Center reading head ...



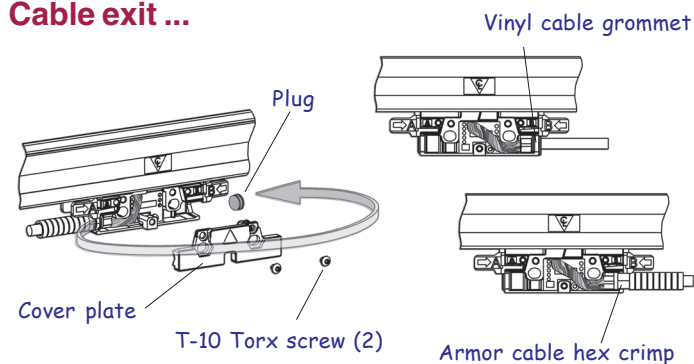
- Slide the reading head and brackets along the scale case until the center marks on the scale case and reading head are aligned.

## Encoder orientation ...



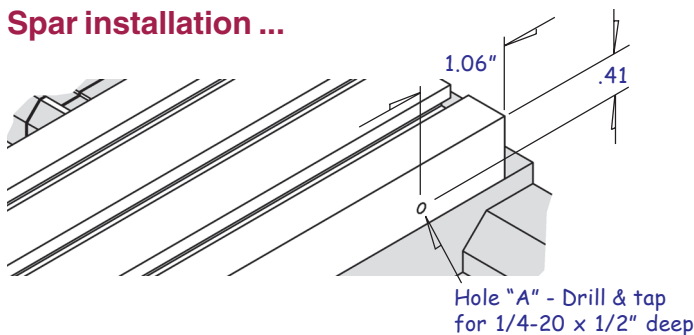
- These instructions will position the encoder assembly to the carriage and bed as shown.

## Cable exit ...

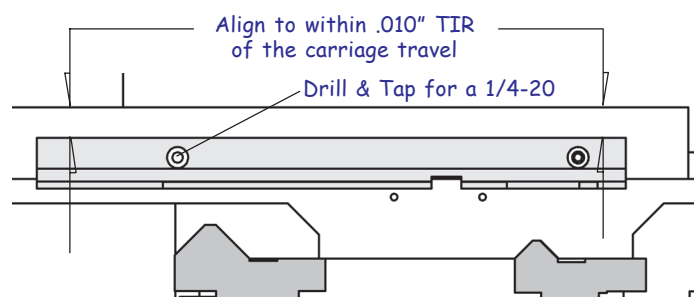


- Determine the cable exit direction before installing the encoder.
- To change the cable exit direction, remove the cover plate and rotate the cable 180°.

## Spar installation ...

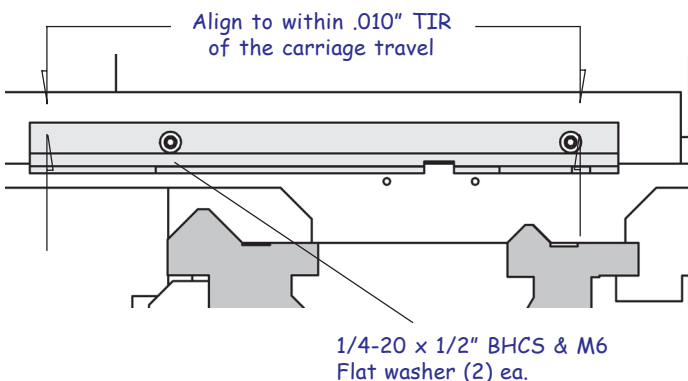


- Locate hole "A" using the dimensions provided.
- Drill and tap hole "A" location.



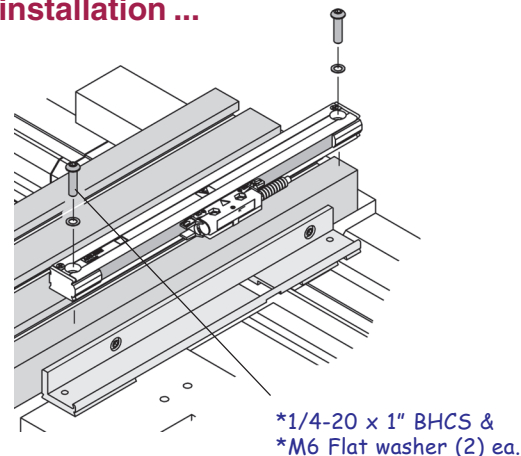
- Attach the spar to the cross feed.
- Align the top side of the spar to the cross feed travel measuring at the spar end mounting hole locations.

- Transfer punch the other end mounting hole.
- Remove the spar, drill and tap location for a 1/4-20 x 1/2" deep.



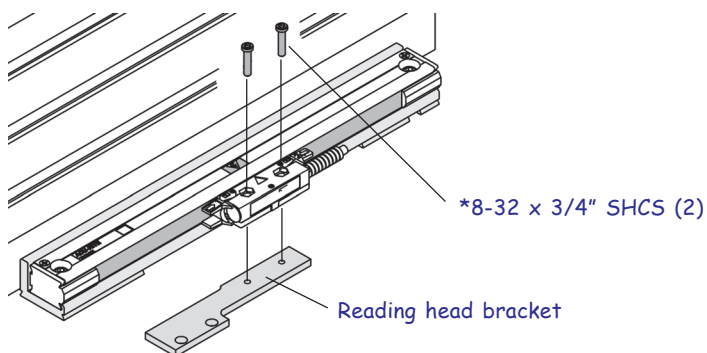
- Attach the spar to the cross feed.
- Align the top of the spar to the cross feed travel measuring at the end mounting hole locations.
- Secure the spar in place maintaining this alignment.

## Encoder installation ...

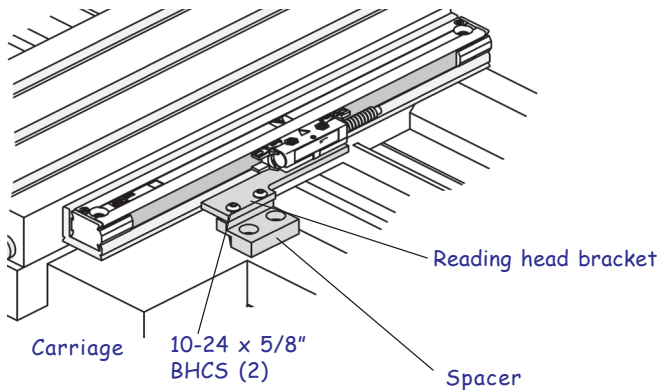


- Insert the encoder into the spar.
- Fully seat the encoder and secure in place with the mounting screws.

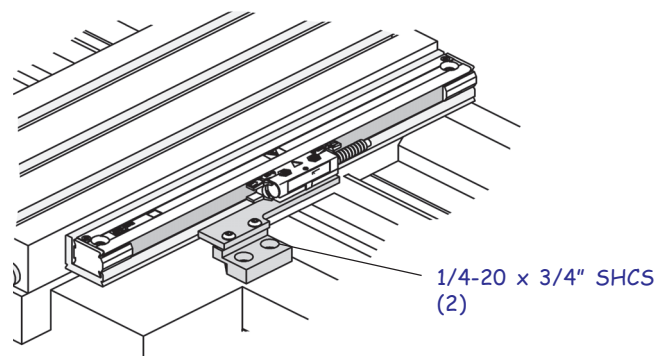
## Reading head installation ...



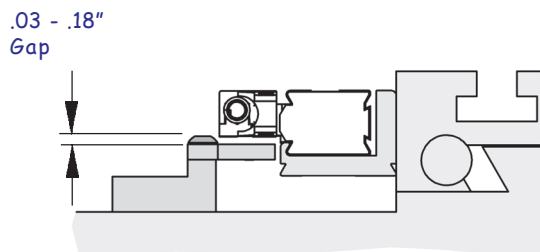
- Return the carriage to its center of travel.
- Attach the bracket to the reading head casting.



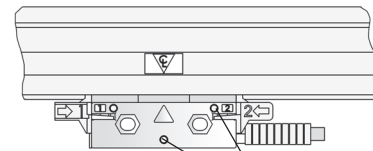
- Attach spacer under the bracket. Transfer punch the two mounting hole locations through the bracket assembly to the top of the carriage.
- Remove the mounting plate from the reading head.
- Drill and tap the two locations for a 1/4-20 x 1/2" deep.



- Attach the mounting bracket assembly to the cross feed.
- Align the bracket mounting holes with the reading head mounting holes.
- Secure the bracket assembly in place.



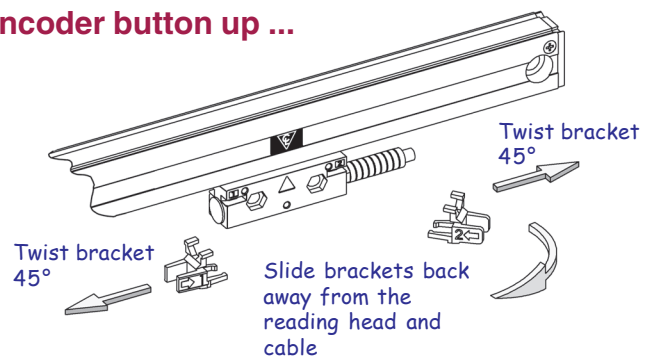
- A gap will exist between the reading head and mounting plate.
- Insert the \*8-32 x 3/4" SHCS reading head screws **but do not tighten**.



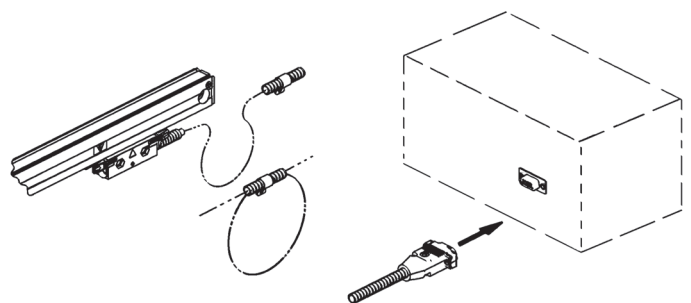
\*Leveling set screws (3)

- Set each leveling screw by placing a .001 - .003" feeler gage between the screw and reading head mounting plate.
- Adjust each 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 for possible future use.
- Move the axis through its full travel. Confirm that the assembly does not interfere with the machine movement.



- With both axis installations 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".