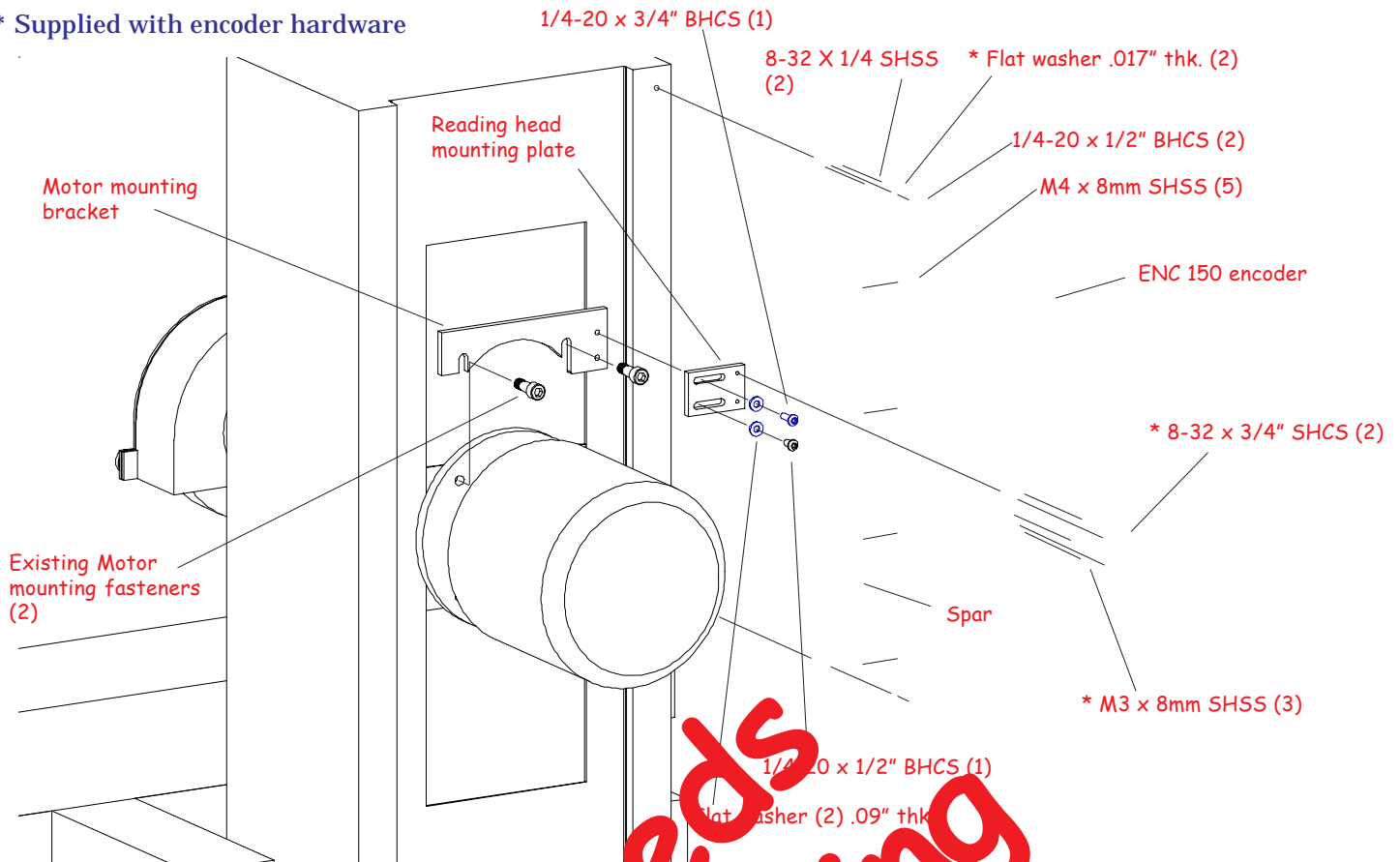


Longitudinal Installation ...

* Supplied with encoder hardware



Mounting information ...

These instructions are for mounting the ENC 150 encoder to the Down Feed "Z" axis on the Model B surface grinder.

Before proceeding:

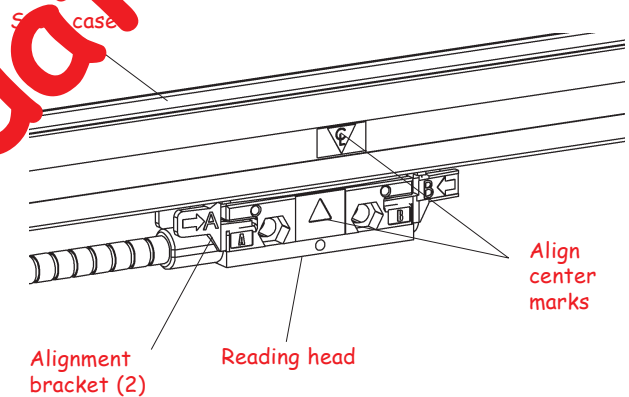
- Please read the instructions completely.
- Insure that the correct length encoder is being used for the total motor travel.
- Keep the reading head centered on the encoder and machine axis when locating the installation position.
- Clean all of the mounting surfaces.
- Save the alignment brackets with the Encoder Reference Manual following the completion of the installation.

First Steps ...

Encoder

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

Center the reading head ...



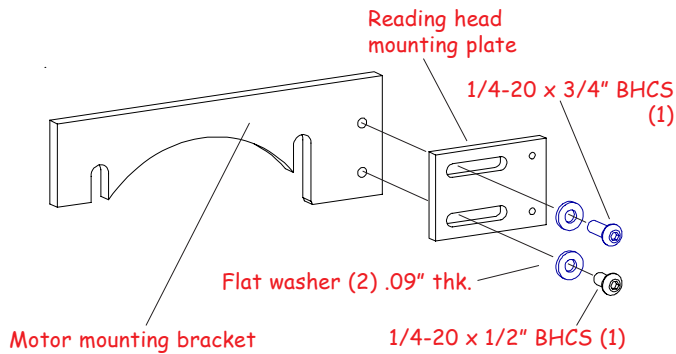
- Slide the reading head and brackets along the scale case until the center marks on the scale and the reading head are aligned.

Machine

- ✓ Move the motor to its center of travel and mark the location so that it can be re-centered easily.

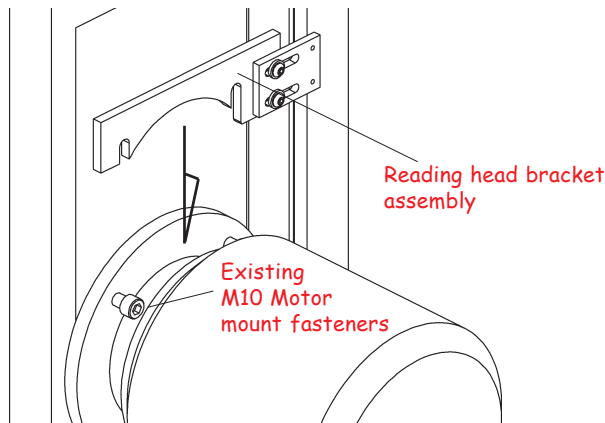
Needs Updating

Bracket installation ...



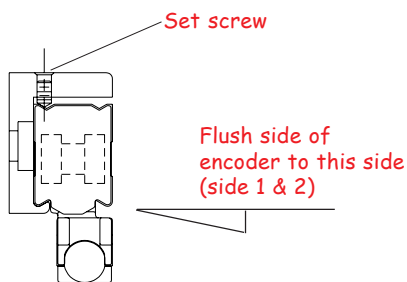
- Attach the plate to the bracket. Leave loose to allow for adjustment. Note the different fastener lengths and their placement.

Bracket attachment ...



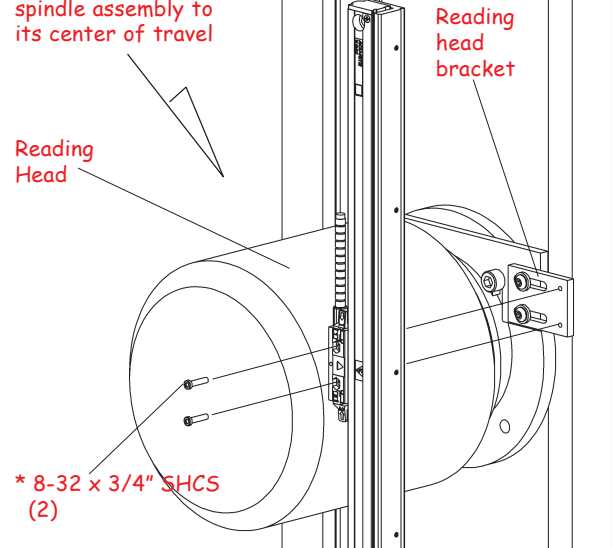
- Attach the bracket assembly to the motor by loosening the top two M10 motor mount screws.
- Slide the bracket over the motor onto the screws. Position the bracket so that it rests on both screws horizontally.
- Secure the bracket in place by tightening the M10 fasteners

Encoder / Spar assembly ...

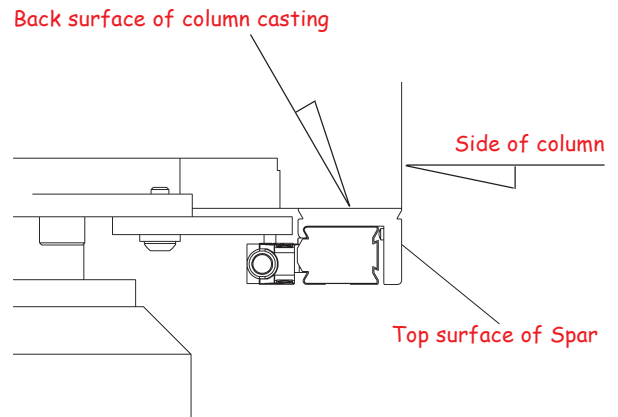


- Insert the encoder into the spar as shown and center with ends flush.
- Tighten the center set screw only for temporary assembly.

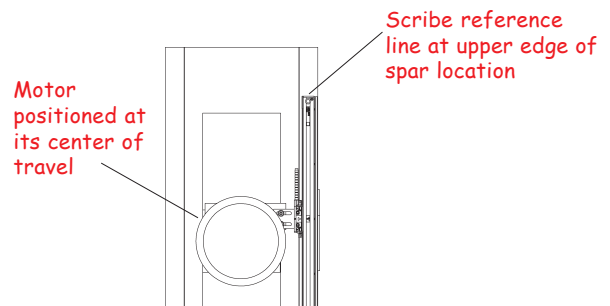
Position the motor / spindle assembly to its center of travel



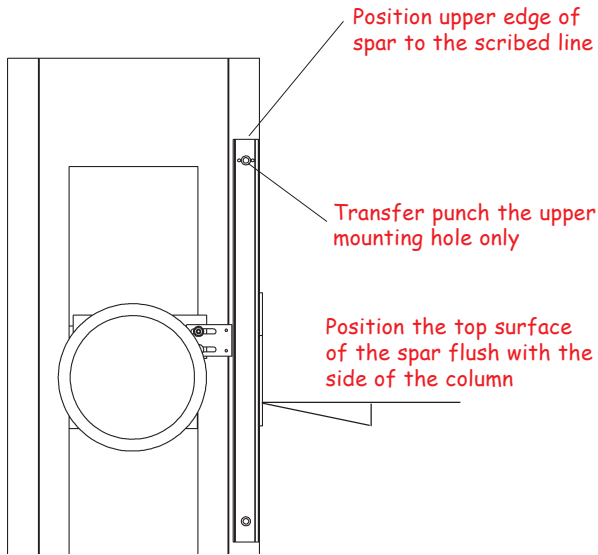
- With the motor at its center of travel, attach the encoder reading head to the bracket.



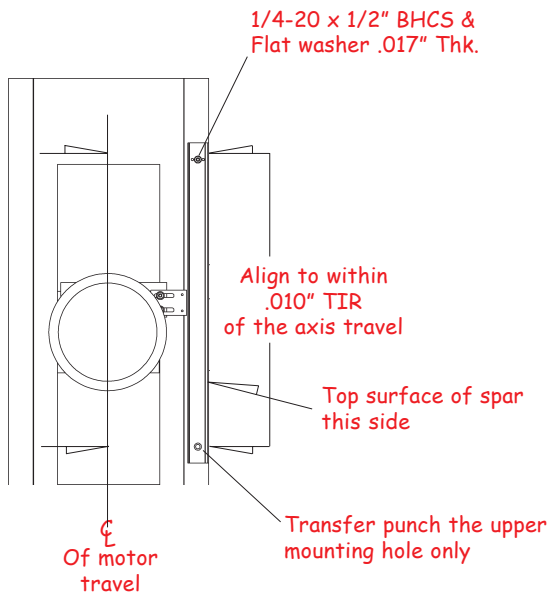
- Position the spar to the back side of the column casting.
- Position the spar top surface flush with the outside edge of the column.



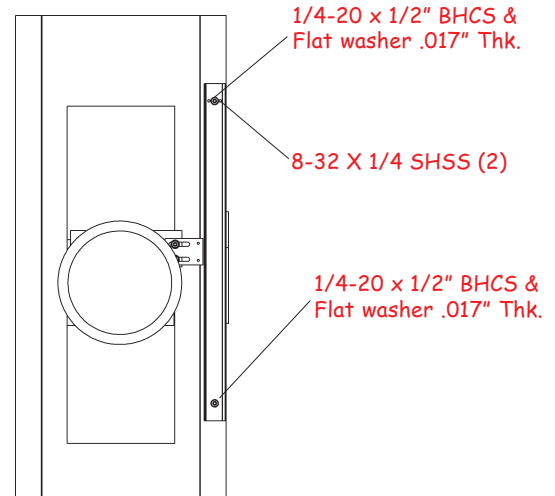
- Scribe a reference line on the back side of the column at the upper edge location of the spar.



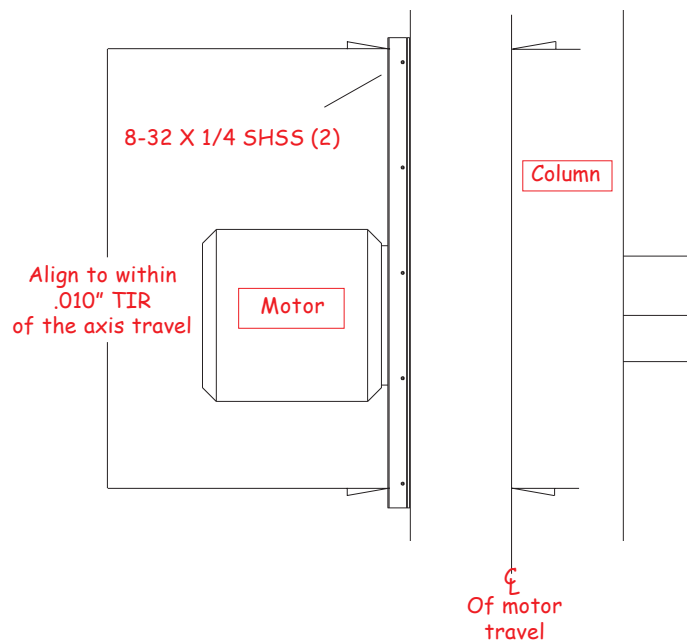
- Remove the encoder assembly from the reading head bracket.
- Remove the spar from the encoder.
- Position the spar on the column, to the scribed line, in its previous position, with the top surface flush with the side of the column.
- Transfer punch the upper end hole location to the back side of the column.
- Remove the spar, and drill and tap location for a 1/4-20 x 1/2" deep.



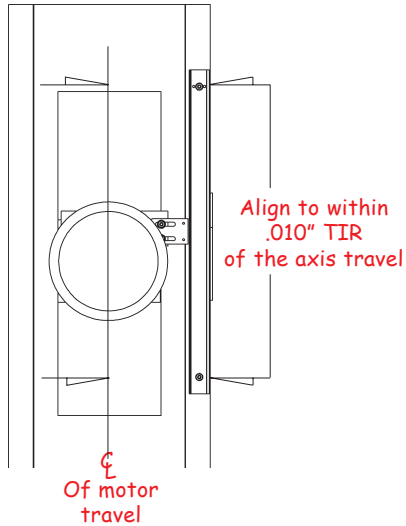
- Fasten the spar to the column.
- Align the top surface of the spar to the motor travel to within .010" TIR measuring at each end mounting hole location.
- Transfer punch lower mounting hole.
- Remove the spar, drill and tap location for a 1/4-20 x 1/2" deep.



- Attach the spar to the back side of the column.
- Insert two 8-32 leveling set screws at the top mounting hole location.

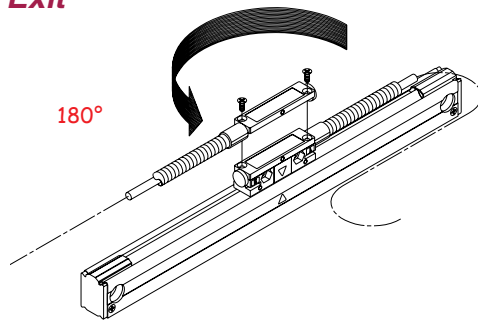


- Align the front of the spar to the motor travel to within .010" TIR. Measure at each end mounting hole location.
- Upper leveling screws are provided to assist with this alignment. Insure set screws are flush or below the spar face surface.

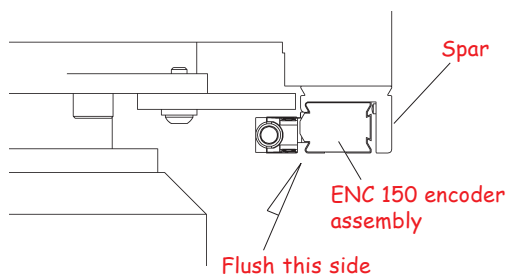


- Align the top of the spar to the motor travel to within .010" TIR measuring at each end mounting hole location.
- Secure spar in place maintaining both alignments.

Cable Exit

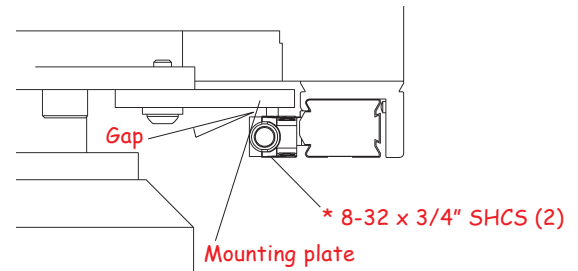


- Determine the cable exit direction before installing the encoder.
- To change cable exit direction; remove the base and rotate it 180°.

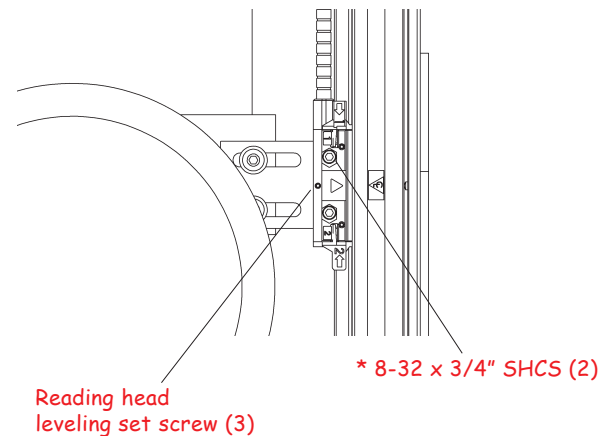


- Insert the encoder into the spar as shown and center with ends flush.
- Tighten all of the set screws .

Attaching the reading head ...

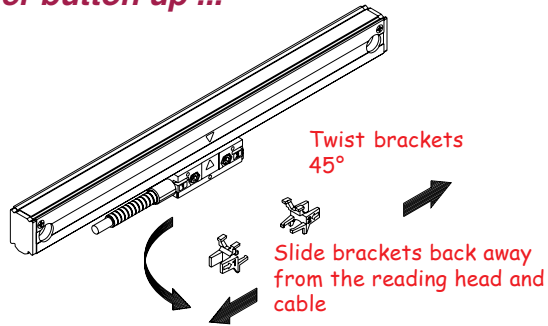


- Align the mounting plate holes with the reading head and secure the plate in place. A gap will exist between the reading head and plate.
- Attach the reading head with two 8-32 x 3/4" SHCS, but **Do Not Tighten**.



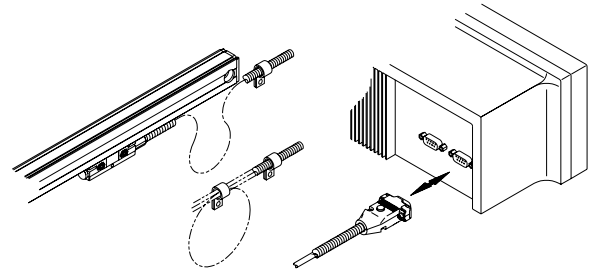
- Set each reading head leveling screw by placing a .001 - .003" feeler gage between the screw and reading head mounting plate.
- Adjust each screw until a slight drag is felt on the feeler gage.
- **Evenly tighten** the two 8-32 SHCS to secure the reading head in place.

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.

Completing the installation ...



- Secure the cables from both encoders by fastening with clips or ties.
- Route the cables providing sufficient slack loops for machine movement to the readout.
- Attach the encoder connectors to the readout.