WT- 27 **T**ungsten **A**djustment **S**et-up

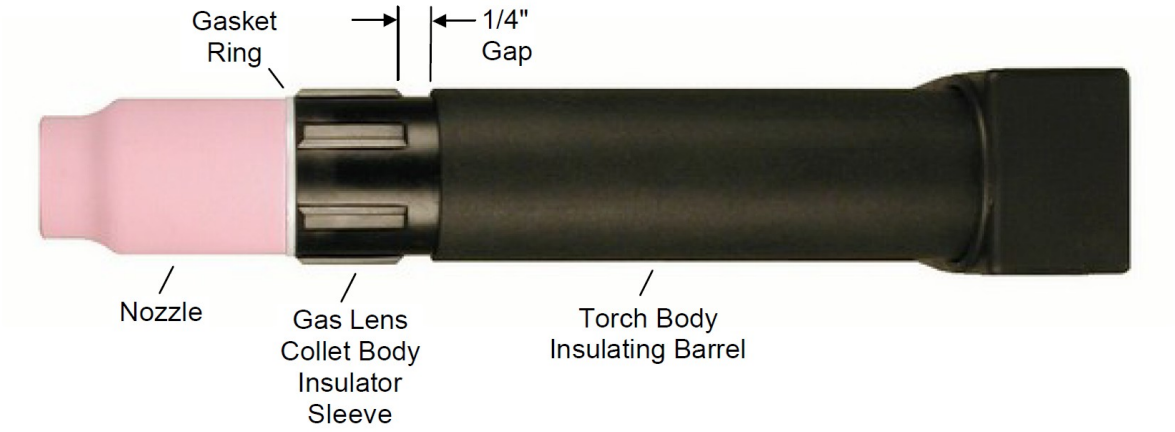
BACKGROUND

The **TAS** option was developed to allow manual adjustment of the TIG arc length while welding. A special shaft assembly with an internal collet is used to provide this function. Proper set-up of all the components will insure proper operation. Please follow these steps until you become familiar with the operation.

TORCH SET-UP

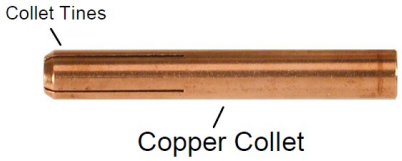
The WT-27 TIG torch must be set-up correctly to allow for forward or backward tungsten electrode movement.

The gas lens collet body must be positioned correctly in the torch body. Select the desired nozzle and gas lens collet body that matches the electrode size to be used. Screw the nozzle onto the gas lens collet body until it is seated against the gasket ring. Now, with the shaft assembly and collet removed from the torch body, screw the gas lens collet body with nozzle into the torch body until there is approximately ¼" space between the rear edge of a longitudinal grip rib on the gas lens insulator sleeve and the end of the torch body insulating barrel. This will position the gas lens to allow proper shaft movement.



COLLET SET-UP

Select a collet that matches the electrode size and squeeze the ends of the collet tines together with your fingers. Do not use excessive force or distort the collet tines. The object is to create slight friction or drag on the electrode as it passes through the collet.



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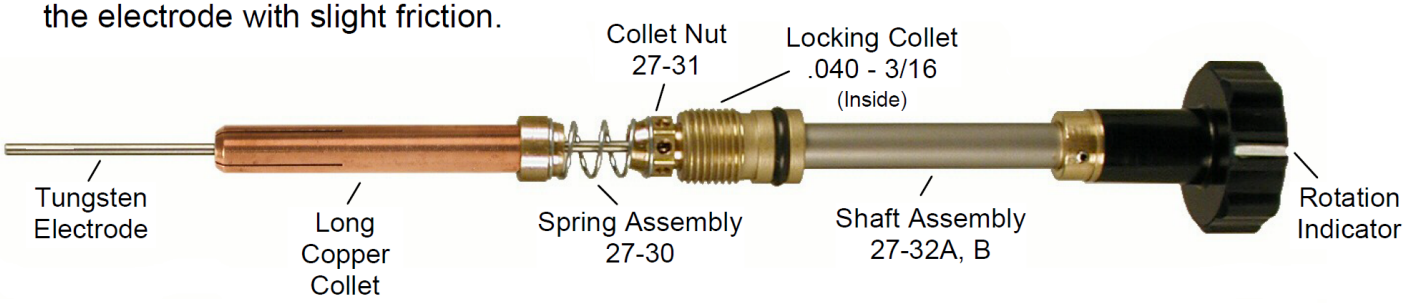
SHAFT ASSEMBLY SET-UP

1) The tungsten electrode can now be mounted in the shaft assembly. The minimum useable electrode length is 5½". Select a locking collet for the electrode diameter to be used and place the collet in the end of the shaft fitting with the tines/tapered end facing out. Screw the hex collet nut into the shaft fitting over the collet. Insert the electrode in the collet and position the electrode for proper stick out. You may have to move the electrode back and forth several times to determine the proper stick out with respect to the end of the nozzle. Once the electrode is in the correct place tighten the hex collet nut snuggly to grip the electrode. A simple bench top gage can be made to aid in pre-setting the electrode stick out for future set-ups.

2) Select the long copper collet for the electrode diameter to be used. Install the spring and spring retainer onto the back end of the long collet. Slide the collet and spring onto the tungsten electrode and push the spring end onto the hex collet nut. The long collet tines should be closed enough to hold the collet and spring assembly on the electrode with slight friction.



3) The entire assembly; shaft, locking collet, collet nut, spring, long copper collet and electrode can be inserted into the torch body as a unit. Carefully slide the shaft assembly into the rear of the torch body until it stops. Now push the knob forward until the shaft again stops. You will feel the spring resistance. While holding the knob forward against the stop turn the knob clockwise until the shaft threads just engage the internal torch body threads holding the shaft assembly in position. This should be approximately ½ revolution of the knob.

4) Using the white indicator strip on the knob turn the knob clockwise four (4) additional complete revolutions. The shaft fitting threads will now be centered in the internal torch body threads allowing approximately equal forward and backward adjustment of the electrode. From this position a maximum of three (3) complete turns of the knob in either direction should be used. Note: one revolution of the knob equals approximately .045 inch of electrode travel. With the shaft assembly in this position the spring will be pushing the long copper collet into the tapered seat aiding in the electrical contact with the electrode and making positive electrical contact between all components reducing the chance of internal arcing.

The TIG torch should now be ready to begin welding. Be sure to check all connections, machine and gas flow settings.

TAS-72501