

Power Train Savers[®] Light, Medium & Heavy Duty



Welding Procedure for PTS Installation

Preparation of Driveshaft

All loose or thick scale, rust, moisture, grease, paint or other foreign material that would prevent proper welding or produce objectionable fumes should be removed to within 2" of weld location. The repair area should be prepared by machining or grinding to remove any burrs or surface defects and to ensure squareness of tube ends.

Preheat

Preheating of the PTS is not necessary and should not be done. Weld at room temperature (68°F/20°C). The driveline tube can be preheated if needed.

Welder Settings

All welders are different. Some may have to be adjusted higher or lower to produce the same amperage. The following are average settings:

- **Voltage:** 19-21
- **Amperage:** 195-200

Weld Procedure

The welding process will be flux cored arc welding (FCAW) process, semi-automatic using an E4801 T-9 CH electrode with a 75/25% shielding gas. Use only stringer beads with a radial direction of travel. The driveline should be mounted on rollers and rotated to maintain a flat or horizontal welding position with a controlled rate of weld deposit.

- Slag or flux remaining after a pass must be removed before applying the next pass. Similarly, cracks or blowholes which appear on the surface of any pass must be removed before depositing the next pass.
- Care must be used to prevent the containment or trapping of slag, the formation of voids or root porosity.

- Weld geometry must be free from undercut, cold laps and poor transitions, and must be consistent with acceptable weld profiles.

Cooling of Driveline

The best method is to air-cool welds slowly at room temperature. Do not rush the cooling process by quenching the welds with coolant or water, as this can cause stress cracks not noticeable to the eye.

Installation



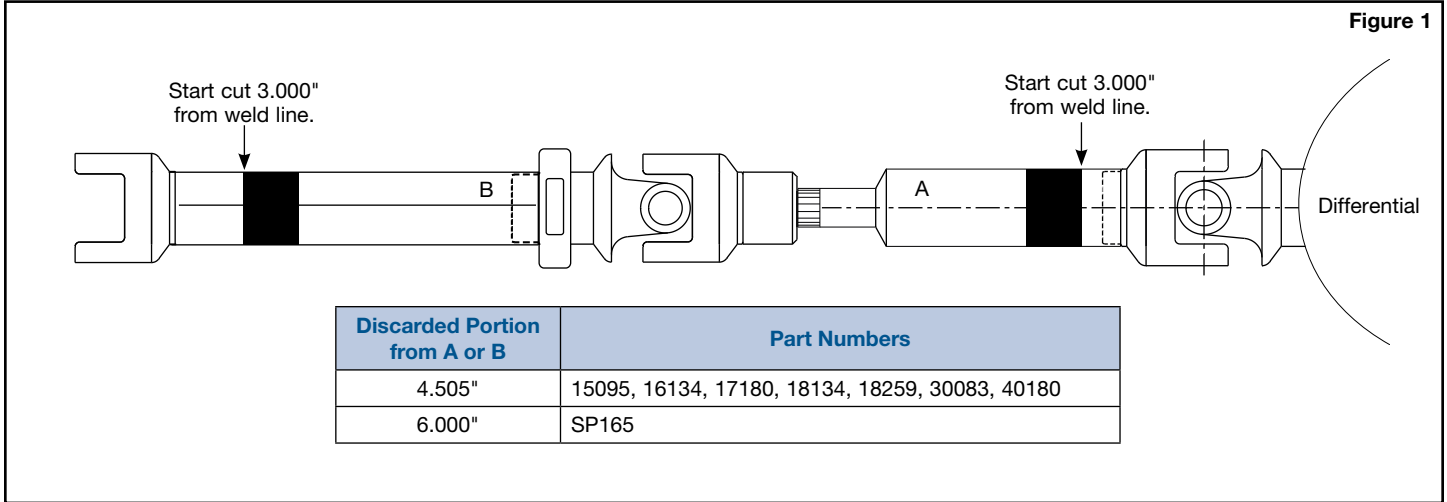
IMPORTANT: A qualified driveline technician must install the power train saver.

The power train saver (PTS) should normally be installed directly in front of the forward differential, on the weld yoke end of the shaft (**Figure 1** driveshaft "A").

In some cases, when the driveshaft angles and RPM exceed manufacturer specifications, the PTS can be installed ahead of the carrier bearing (**Figure 1** driveshaft "B").

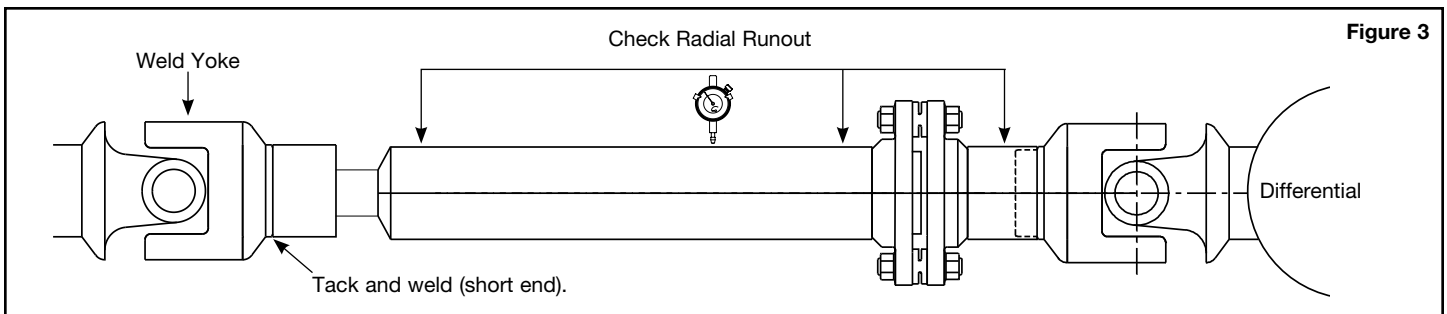
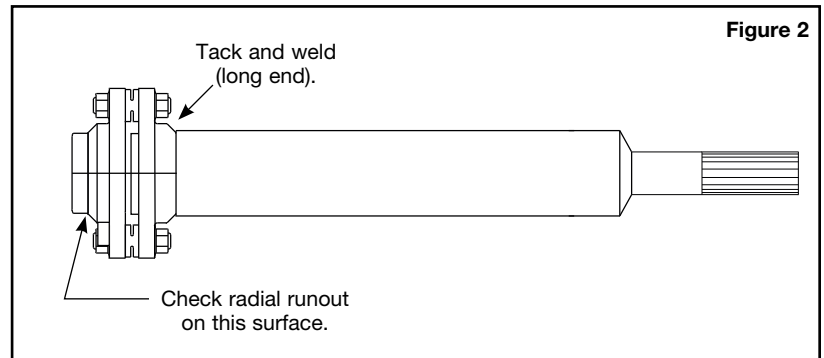
In either case, the PTS must be installed on the weld yoke end of the driveshaft.

1. Check PTS part number. Cut and discard the appropriate portion of driveshaft based on the PTS being installed using the dimensions shown in **Figure 1**, then machine tube ends square.
2. Align the timing marks on the outside diameter of the PTS and install the Torque Fuses[®] according to the instructions packed with the fuse set. The nuts must be tightened to the torque specification given.
3. Install the PTS into the longer section of the driveshaft. Make sure the PTS is square with the tube and tack weld it in place.



Installation (continued)

4. Radial run out of the PTS must be .002" or less when measured (**Figure 2**). Once correct positioning has been verified, complete the weld and remeasure.
5. Tack and weld the short end of the driveshaft to the PTS as shown in **Figure 3**.
6. Check the finished assembly for radial runout at the locations shown in **Figure 3**. No part of the assembly should have more than .004" radial run out.
7. Balance to within 0.2 ounce-inches on both ends of the assembly.



Fuse Nut Torque Specifications			
PTS Series	Fuse ID Stamp Code	Fuse Nut Hex	Fuse Nut Torque
Light Duty	1E – 1Q	3/4"	80 ft-lb
Medium Duty	0 – 13	15/16"	140 ft-lb
Heavy Duty	F – Z	1 1/8"	220 ft-lb