

TSB081018

TECHNICAL SERVICE BULLETIN

SUBJECT: Cutter Head Belt Replacement, Driveshaft Replacement and Driveshaft Universal Joint Breakage

AFFECTED MODELS: All Harvesters Equipped With Timed Cutter Heads

On harvesters equipped with floating heads, the left cutter head is driven by a shaft that connects the left head to the right head. The right head is driven by a hydraulic motor. The driveshaft is a double-universal joint design that allows the left and right heads to float independently of each other. See **Figure 1**.

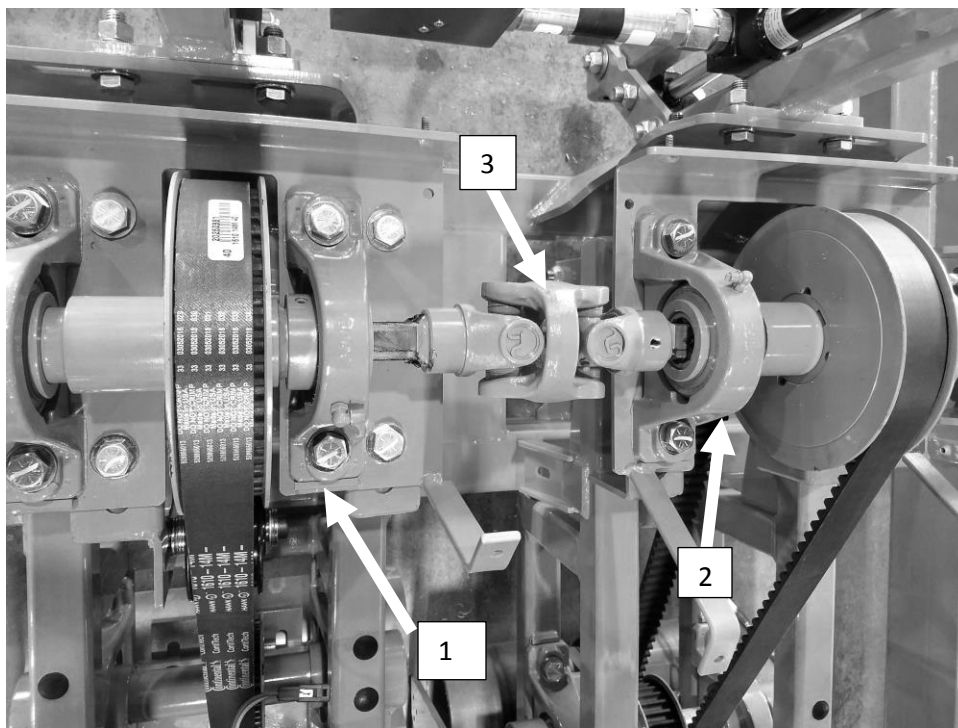


Figure 1—View showing the left cutter head (1), right cutter head (2) and Driveshaft (3).

The universal joint assembly compensates for the angle that is created in the driveshaft as the heads float independently of each other. However, if the angle becomes excessive, one or both

of the universal joint yokes can contact the center yoke and cause the universal joint and/or the yokes to break.

The primary cause of excessive universal joint angle and driveshaft breakage is cutter head top plate misalignment. The main reason for top plate misalignment is improper belt tensioning after replacing the drive belts or other cutter head components that require belt removal.

Another cause of driveshaft or universal joint breakage is missing or misadjusted cutter head bumpers. The bumpers are designed to keep the cutter heads in a relative upright position when the ground rollers are not in contact with the ground. If the bumpers are missing or not adjusted correctly, and the harvester is raised with the cutter heads running, the universal joints can bind and cause the universal joints and/or yokes to break. It is acceptable to operate the harvester if the bumpers are missing or misadjusted; however, avoid raising the ground rollers off the ground with the heads running. Furthermore, it is always good practice to stop the heads, or slow down the blade speed prior to raising the machine.

Tensioning the Cutter Head Drive Belts

NOTE: Always adjust the belt tension on the right head first, then the left head.

1. To tension the belt on the right cutter head, loosen the four fasteners that secure the two pillow-block bearings to the top plate and head frame. See **Figure 2**.

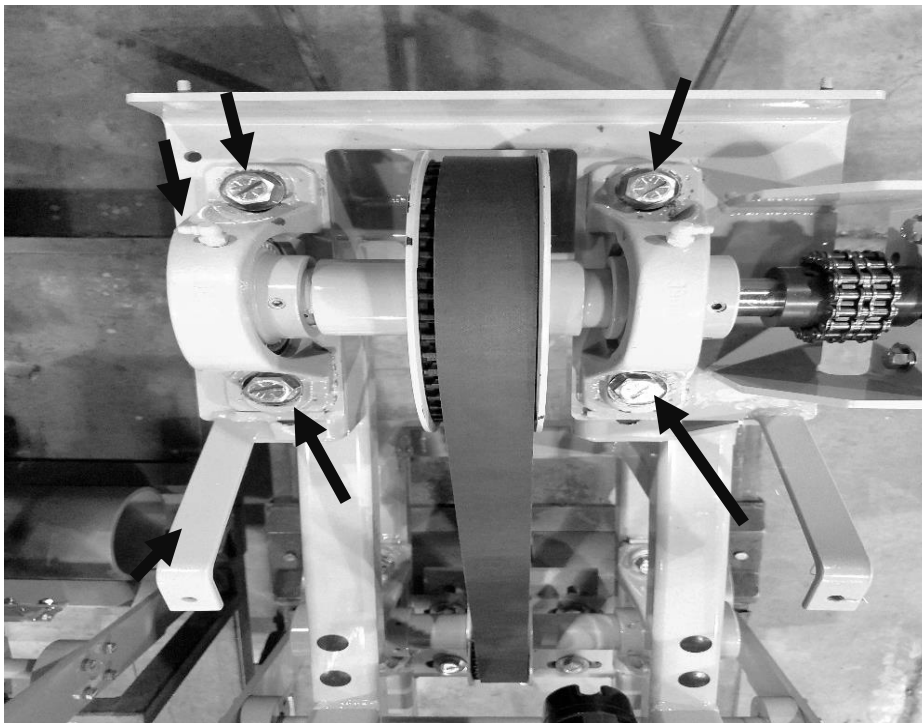


Figure 2—To tension the right cutter head drive belt, loosen the four Fasteners shown.

2. Slide the bearings and top plate toward the front of the head to tighten the belt. Tighten the belt until there is approximately ½ inch of deflection in the center of the top belt run using moderate finger pressure. Make sure the bearings and top plate are positioned squarely on the head frame, then securely tighten the four fasteners (**Figure 2**).

3. The tension on the drive belt for the left cutter head is adjusted using the tensioner pulley (**Figure 3**)

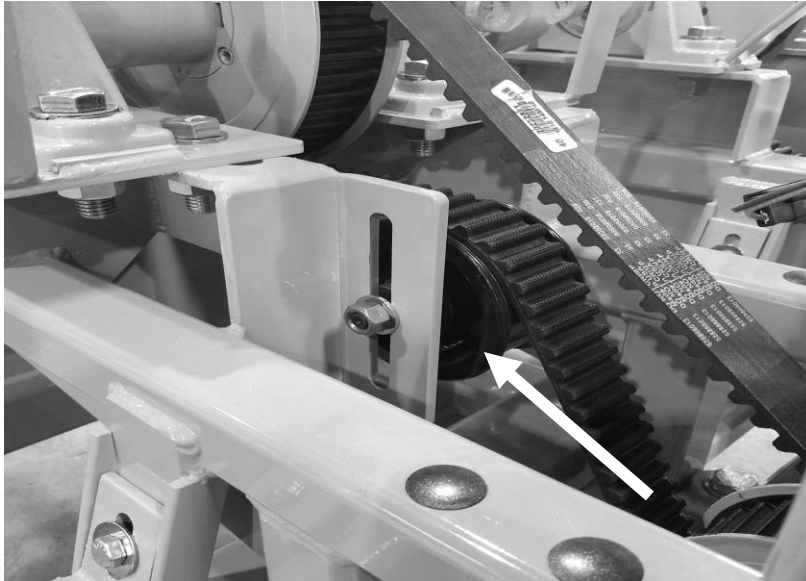


Figure 3—View showing tensioner pulley for the left cutter head.

4. Prior to applying tension to the left drive belt, make certain that the top plate on the left head is aligned with the top plate on the right head. See **Figure 4**. Make sure the top plate, bearings and shaft are positioned squarely on the head frame.

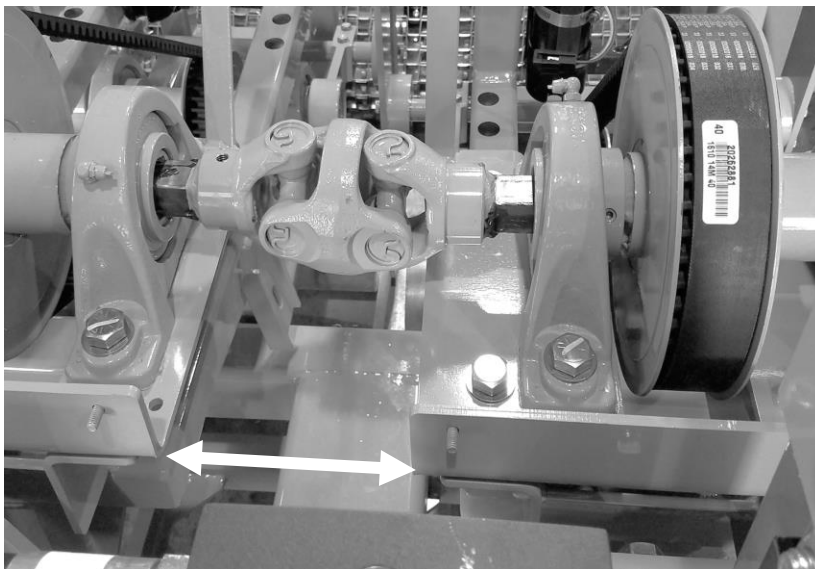


Figure 4—The left and right cutter head top plates must be

Aligned as shown.

5. If the top plate on the left head is not aligned with the top plate on the right head, loosen the four fasteners (**Figure 5**) that secure the top plate to the head frame. Slide the top plate in its slots to align the top plates (**Figure 4**).

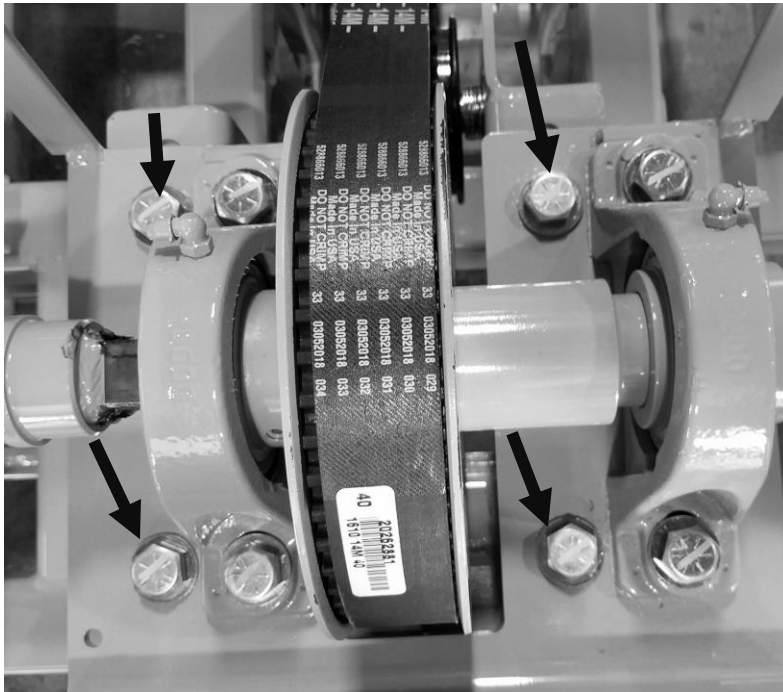


Figure 5—Loosen the fasteners shown to align the left top Plate with the right top plate.

6. After aligning the left top plate with the right top plate, securely tighten the fasteners (**Figure 5**).

7. Slide the tensioner pulley (**Figure 3**) upward against the bottom of the drive belt to tighten the belt. Tighten the belt until approximately $\frac{1}{2}$ inch of deflection is present in the center of the top belt run using moderate finger pressure. Securely tighten the tensioner pulley fastener.



Figure 6—The cutter head bumpers should be in firm contact with the harvester main frame.

8. Loosen the bumper mounting bolts and adjust the bumpers so they are in firm contact with the harvester main frame. See **Figure 6**. Securely tighten the mounting bolts.