A Walk Off!

by Tom Endy

A not uncommon occurrence in the modern era is for the starter ring gear on the flywheel of a Model A to want to attempt to walk off its mounting position. The ring gear is an interference press fit on the flywheel and in the old days that seemed to be enough to keep it in place. It may be that the repo ring gears are not made correctly. That would be no great surprise.

The ring gear is pressed on from the front of the flywheel until it sits flush against a machined stop. The gear on the end of the starter sits behind the ring gear. When the starter is engaged the starter gear is actually attempting to pull the ring gear forward and away from the machined stop. This can causes it to move forward if the press fit is not tight enough. It would have been better if Henry had mounted the ring gear from the rear of the flywheel against a machined stop.

I had the experience of one coming loose. It walked forward almost an eighth of an inch. When I would start the car up I would hear a knocking sound for about 30 seconds, then the noise would disappear. What was happening was the ring gear was hitting the ends of two of the starter mounting bolts that protrude very slightly through the clutch housing. This occurred because the starter gear jerked the ring gear forward. After about 30 seconds of rubbing the ends of the bolts the ring gear would be knocked back enough to clear the ends of the bolts and the noise would stop.

The out of position ring gear can also cause the starter gear to jam against the ring gear. This also happened to me and that was how I discovered the ring gear was walking. I was able to tap the ring gear back into place by rotating the engine and tapping the gear with a brass drift every few inches through the starter mounting boss. This is only a temporary repair, as the ring gear will continue its walk about, and it certainly did.

I finally pulled the engine and flywheel. I could see witness marks on the ends of two of the starter mounting bolts where it had worn the ends smooth.

There is a permanent fix. A machine shop can press the ring gear back into place then pin it with setscrews. Holes are drilled and tapped though the surface of the ring gear and into the flywheel in three equally distant places and seated with lock tight. This would be a prudent thing to have done anytime you are having a new repo ring gear installed. ☺

Three setscrews are installed at 120 degrees distance from each other.

The setscrews lock the ring gear to the flywheel.