

Differential Bust Up

by Tom Endy 2022

A recent overhaul of a Model A differential provided a unique challenge. The differential had suffered a ring & pinion failure with several teeth broken off the ring gear. A new ring & pinion gear set was procured and the rebuild was in process. While trying to set the carrier bearing pre-load we experience a lock up each time we tightened the banjo bolts. There was much frustration as we manipulated bearing shims and banjo gaskets to no avail.

It was finally discovered there was a gouge on the inside of the left axle housing that would contact the back side of the new ring gear each time we bolted it down. An inspection of the old destroyed ring gear showed a witness mark on the back side. What apparently had happened was one of the broken off teeth from the ring gear had gotten between to the back side of the ring gear and the left axle housing and had caused a gouge that raise the metal enough to contact the new ring gear when bolted down. Using a grinder we ground off the protrusion and were then able to obtain the required carrier bearing pre-load.

This something to look for when doing a differential overhaul. Make certain there are no gouges on the inside of the axle housings as a result of a bust up.



Teeth broken off the ring gear



The inside of the axle housing should be smooth