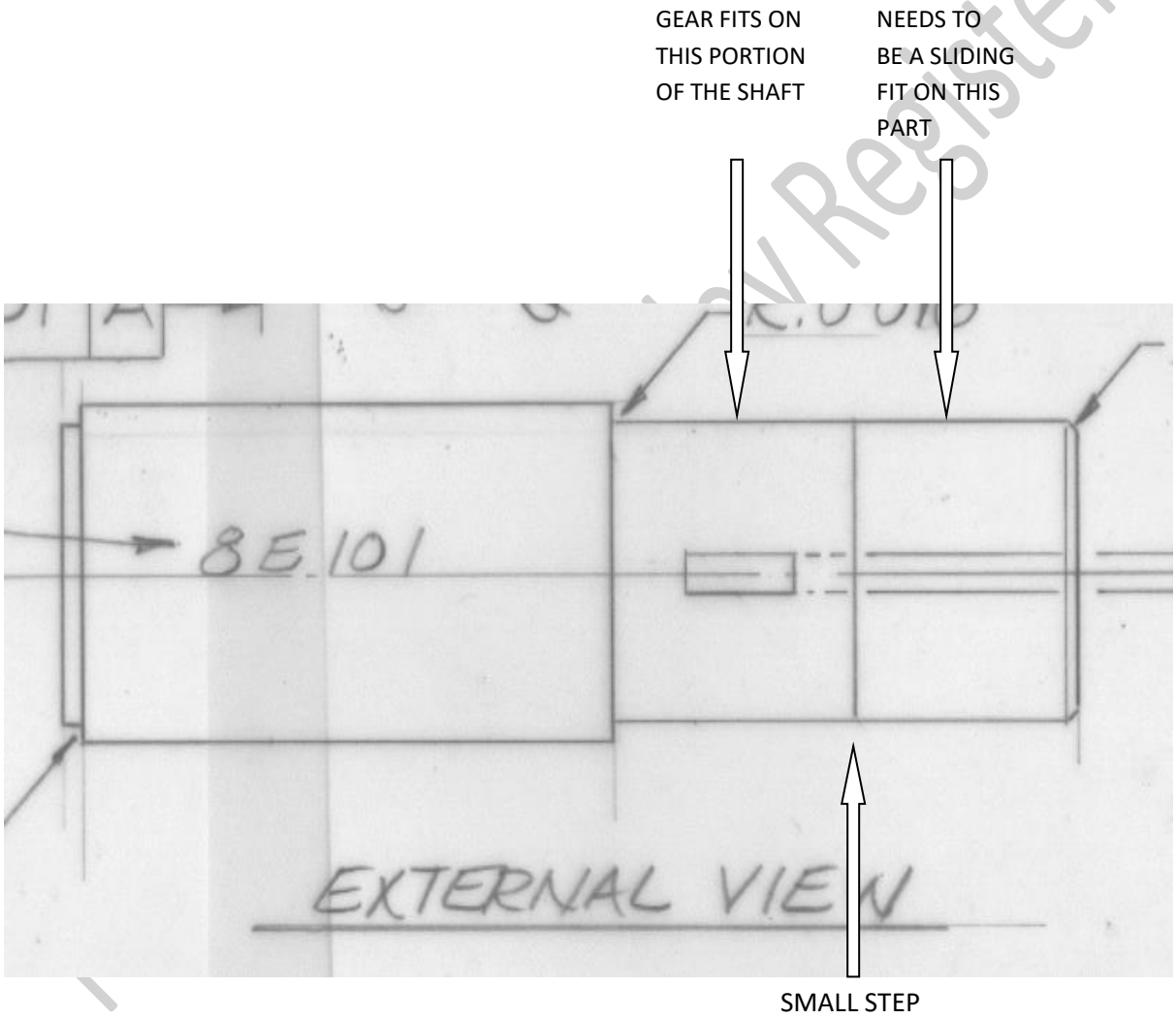
Fitting the 8E100 gear onto the 8E101 shaft

Background

These components were most likely originally designed for selective assembly and these notes are designed to aid members in correctly fitting the parts together.

It is important that members understand that the 8E101 is stepped on the main diameter, this step is only small in the order of three thousands of an inch. The gear is a press fit on the larger diameter part of the shaft with the design interference being 0.001 – 0.0023", the keyway providing orientation.



Fitting

When fitting a gear to the shaft it is necessary to first check the fit of the gear on the first (smaller diameter) part of the shaft. If you have a sweet combination of parts the gear will easily (hand pressure only) slide over the first part of the shaft but offer resistance when it get to the small step.

If this is not the case then it is recommended that the bore of the gear be given a light relief with fine emery paper. We would not expect any more than two to four tenths of thousandths of an inch to be removed from the diameter to enable the gear to easily slide onto the first part of the shaft.

The gear can now be assembled on the shaft, ensuring the keyway is properly aligned, before using a press to push the gear home. To ease fitting, cooling the shaft in a freezer and warming the gear to say 100 degrees C should reduce the force required to press the gear home.