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## PRESS-FIT OF PARTS FOR PRECISION OPERATION

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### The Professional Choice

Press fitting of precision machine components provides the highest reliability for achieving concentric, wobble-free, smooth running mechanical components. While bushings and other 'make-fit' components can help achieve a mechanical fit, every component has its own imprecision to a greater or lesser degree and the addition of these added imprecisions rapidly deteriorates the precision of the total assembly leading to eccentricity, wobble, vibrations, noise, shortened mechanical life, etc. Inaccurate assembly of press-fit components can also lead to these problems. Care must be taken to assure proper fit and proper alignment of the component being assembled. While the NWSL The Puller can be successfully used to assemble components, the lack of alignment control makes this a virtual 'last choice' method. Use of an arbor press such as The Sensipress+, which provides a sensitive feel of how the parts are fitting together as well as better alignment control, can provide greater reliability in achieving desired precision fits. The 'Aligner' tools can also assist by checking the assembly for wobble and in many instances can be used to remove wobble in an assembly.

\*Caution: When using a rotating pressing force such as the economical Puller tools, make sure that the pressing point contact is made at the center of the rotating force....if it is made off-center (illustrated above—see arrow), the pressed part (shaft) will be forced out of alignment as the screw turns. If this occurs, two things can happen:

- (1) Shaft enters gear or wheel at a skew and scores the bore causing gear or wheel wobble (because bore material is gouged away—see illustrations below—it may be impossible to achieve proper alignment again).
- (2) If part being pressed provides high resistance to side movement, such as occurs when attempting to press an axle out of a driver, the excess side pressure on the press-pin will bend and/or break the press-pin. A solution—use the appropriate size professional precision press tool accessory set (#4539-4) for The Puller which enables this economical, simple tool to achieve better life and precision comparable to heftier tools such as the Sensipress+.