



A Cylindrical Lathe Part Has a Taper with Tailstock Use

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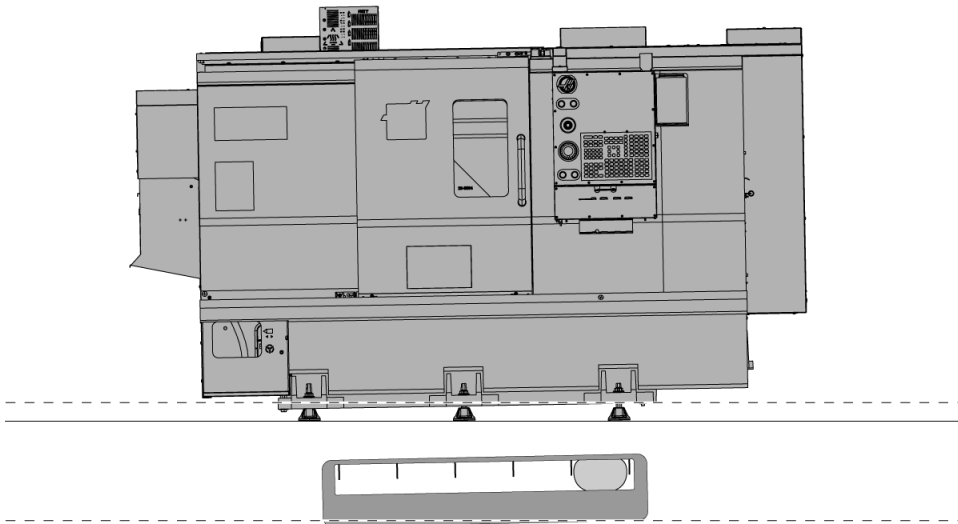


Translation Available



The Machine is Not Level - Lathe

To operate correctly, the machine must be level. An out-of-level machine can have problems such as poor surface finish, tapered parts, accuracy and repeatability issues, out-of-round circular motion, and out-of-true linear motion.



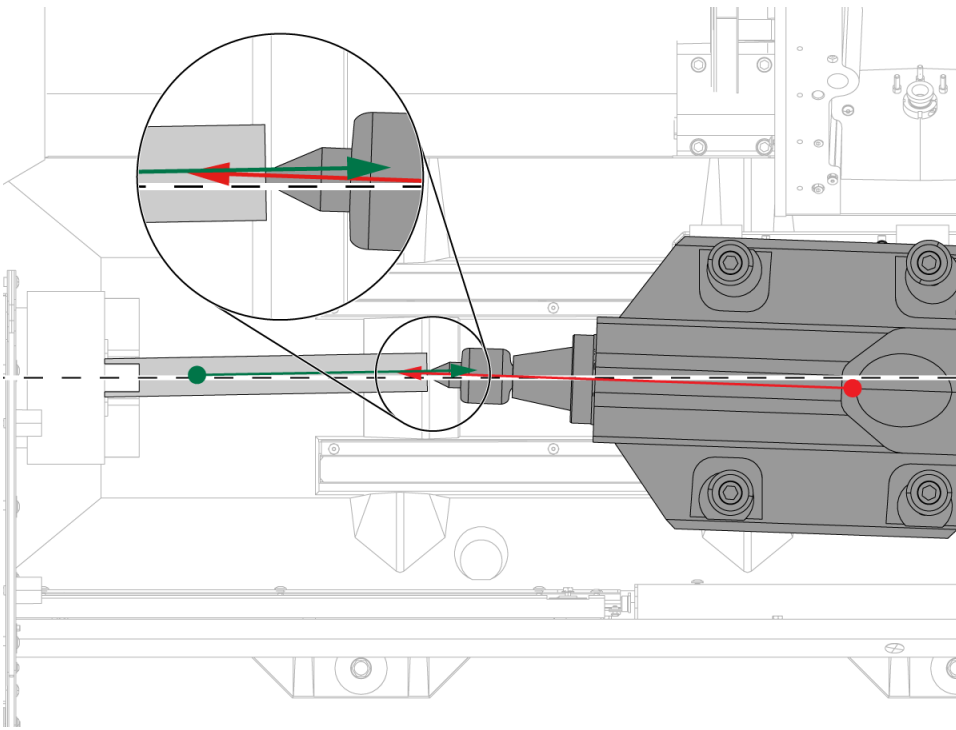
Watch the [Lathe Leveling](#) video to learn how to properly level your Haas lathe, or contact your Haas Factory Outlet to have your machine's level checked.

The Tailstock is Not Aligned

If the tailstock center-line is not co-linear with the spindle center-line, taper will be cut on your part.

Corrective Action:

Have your lathe's tailstock alignment checked and corrected if necessary.



Incorrect Tailstock Pressure for Application

If the tailstock pressure is too high, cutting forces can push the workpiece into the spindle. When this happens, the tailstock no longer has proper contact with the workpiece. The workpiece can then deflect.

If the tailstock pressure is too low, the workpiece may deflect during aggressive cutting.

Too much tailstock pressure on delicate parts can cause the part to deflect or bend.

Corrective Action:

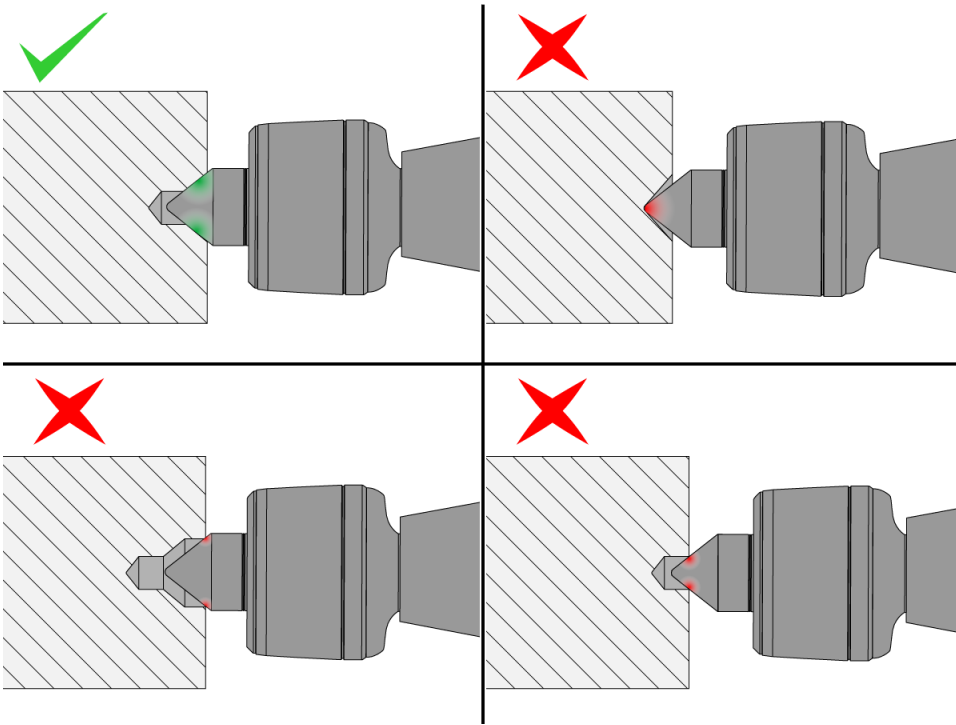
Find the correct tailstock pressure setting for each application. Do not set the tailstock pressure to the minimum or maximum unless the application requires it.

We recommend using a starting pressure of 200 psi for most applications.

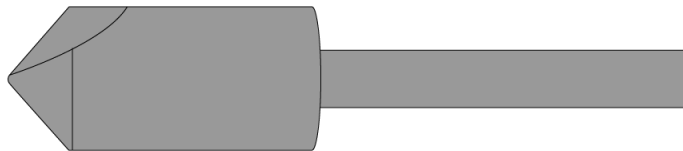
For more details, watch this video on [Tailstock Fundamentals](#).

The Center-Drilled Hole is Incorrect or Damaged

If the center-drilled hole has the wrong angle, is too small, too shallow, too deep, or is damaged, the live center will not have sufficient contact with the workpiece to properly stabilize the cut.



Be sure to use a 60° center drill tool. Countersink tools do not have the tip relief required for the live center.



Inspect the center-drilled hole. If necessary, machine it again.

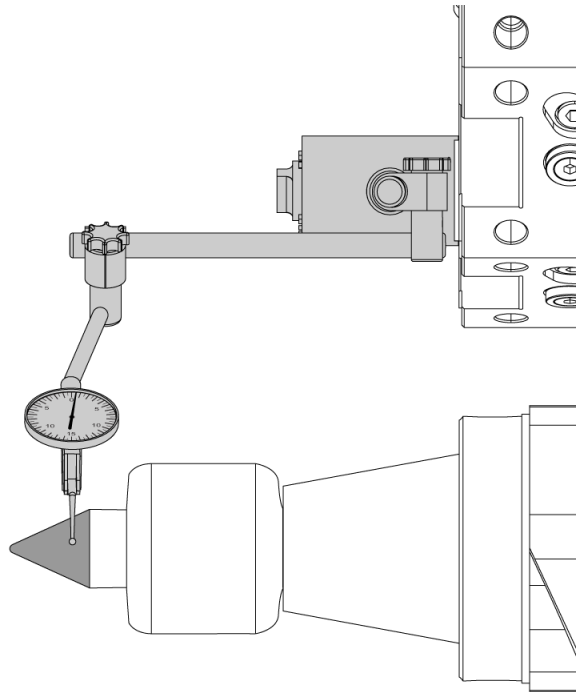
For more details center-drill requirements watch this video on [Tailstock Fundamentals](#).

Worn or Damaged Live Center

A worn or damaged live center can introduce vibrations and let the part move. This can cause chatter, taper, poor surface finish, and tool life issues.

Inspect live centers for excessive runout and damaged bearings while they're still in the machine.

Check runout by placing an indicator on the 60 degree point, then gently rotate the center's point. The TIR should be within the manufacturer's specification.



Check for bearing wear by gripping the point firmly and rotating it in one direction. The spindle should turn freely, if you can feel hesitations or roughness this indicates bearing wear.

Note: Live centers have a service life and a maintenance schedule. Refer to the live center manufacturer's documentation for details on your live center.

Tip: Excessive tailstock pressure can prematurely wear out your live center.