

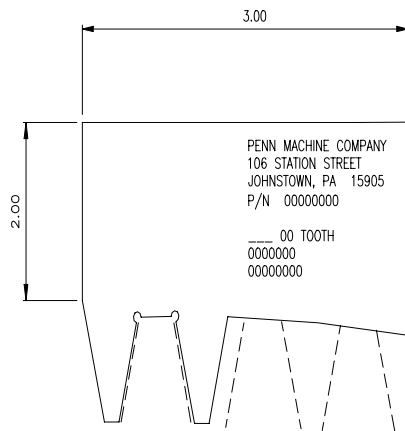
PENN MACHINE COMPANY

Penn Machine Company Involute Profile Gauges

Penn Machine Company is a leading supplier of traction motor gearing. Penn Machine Company supplies profile gauges to check involute tooth wear.

Users of the Involute Profile Gauges

Penn Machine Company (PMC) supplies gears to locomotive customers. The gears are periodically checked for wear with involute profile gauges. The gauges are used by railroad and railroad repair shops to determine the amount of deviation from the original tooth profile.



Gauge Physical Description

The gauge easily fits one's hand. It measures approximately 2.5" high by 3" wide. It is made of 1/8" thick steel. The gauge is treated with a coating, usually black oxide, to prevent corrosion.

The gauge is marked with the Penn Machine Company name, address and PMC part number. It is further marked with the gear type, including number of teeth, the gauge number or the original gear (or pinion) part number, and the corresponding Penn Machine Company number for the gear or pinion.



Measuring with the Gauge

The Penn Machine Company involute profile gauges are accurate within .001" tolerance of error.

PMC gauges are designed to reference from the maximum nominal outside diameter. The nominal gear (or pinion) diameter can vary by .010" to .020".

The main purpose of the gauge is to measure involute wear. It may also be used to measure involute error on new and reprofiled gears and pinions.

The gauge mirrors the original tooth profile. The gauge is placed on the gear (or pinion) with the gauge resting against one side of the tooth profile. The variance from the actual tooth profile, and the worn tooth profile is uncovered through gaps. The gauge indicates the involute wear or gaps typically from .010" and greater.

After the gauge is placed on the gear (or pinion) with the gauge tooth resting next to the worn gear tooth, a .010" diameter wire is inserted into the gap. A wire fitting through the gap indicates gear profile wear of .010" or greater. Generally .010" is used as the benchmark for maximum allowable wear. Usually, gears and pinions are taken out of service with gaps of .010" and greater. The gears are typically reprofiled if they are not beyond the tooth thickness condemning specification. The pinions are usually replaced.

Contact Penn Machine Company

To order your involute profile gauge, please have the original gauge number and/or the gear (or pinion) part number ready. Please contact us at:

Locomotive Gear Division
310 Innovation Drive
Blairsville, PA 15717

PH: 724-459-0302
FX: 724-459-4869
E-mail:
sales@pennlocomotivegear.com