

TUBING & CASING THREAD INSPECTION - Internal Taper



GAGEMAKER®



Internal Taper Gage - IT-6000 Series

Taper:

Taper is the increase in diameter over a 1" length. It is generally designated on inches per foot (TPF), but it is measured in inches per inch (in/in).

Gage Description:

The IT-6000 series of gages inspect variations in connection taper of internal threads ranging from 1 1/2" - 9". The IT-6000 gages require no setting standard to inspect parts. The gages use precision contact points that seat in the threads of the part during inspection. The gage's indicator reports actual measurement readings.

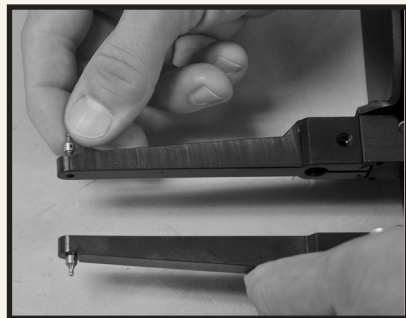


IT-6000

Internal Taper Inspection with IT-6000 Series Gage

Setting Up the Gage

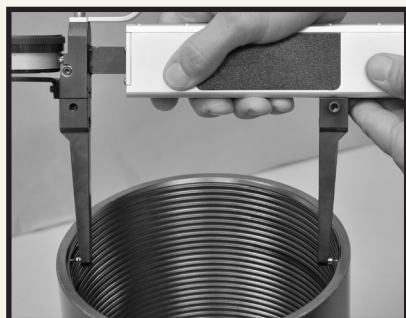
1. Select the correct contact point based on the connection type and thread pitch.
2. Install one contact point into the upper arm of the gage and another into the lower arm and tighten.



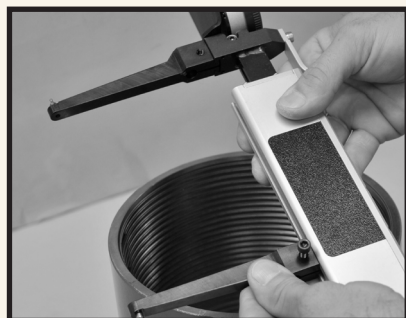
3. Loosen the capscrew on the lower arm with a hex wrench.



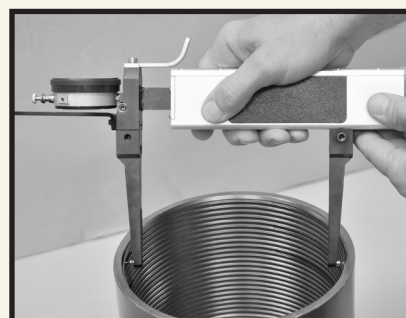
4. Seat the lower contact point into the first perfect thread of the part and adjust the lower arm to seat the upper contact point in the same thread.



5. Remove the gage from the part and continue to slide the lower arm an additional 1/8" to preload the gage.



6. Place the gage back into the part and sweep to verify that the indicator has movement at that location, indicating enough preload.



Inspecting a Part

1. Using a marking pen, draw an axis line perpendicular to the threads on the part.
2. Draw one half revolution on the threads, starting at the first perfect thread. Draw another line 1" back from the first thread and a third line 1" back from the second line.
3. Loosen the indicator bezel and seat the upper contact point into the third marked thread and seat the lower contact point into the same thread.
4. Using the lower contact point as the pivot point, sweep the gage from side to side to obtain the largest indicator reading.
5. Adjust the indicator bezel to align the needle with zero.
6. Move the gage to the second marked thread and sweep the upper contact point to obtain the largest indicator reading and adjust the indicator bezel to align the needle with zero.
7. Move the gage to the first marked thread and sweep the upper contact point to obtain the largest indicator reading and determine if the part is within tolerance.
8. Record findings on the inspection report.
9. Verify repeatability of the gage periodically.

