

ROTARY SHOULDERED CONNECTION- External Pitch Diameter



Pitch Diameter Gage- PD-8001-RSC

Pitch Diameter:

Pitch diameter is the most critical measurement in matching threads. When pitch diameters do not meet specification it allows the connection to flex while drilling, ultimately causing galling and connection failure.

Purpose:

The PD-8001-RSC gage measures the deviation from nominal pitch diameter for the connector being inspected. The gage uses fixed and a moveable contact balls that are set into the thread's helical path at a predetermined location. The deviation is read directly from the indicator.



PD-8001-RSC



Easily Inspect Parts



LPP Template

External Thread Inspection with PD-8001-RSC

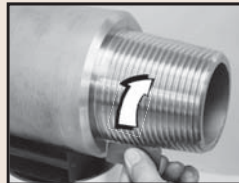
Gage Setup

1. Ensure the proper insert is on the machine using the correct insert identifier.



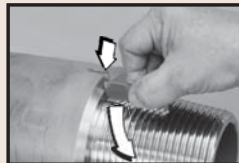
2. With the profile's reference mark facing you and the connector shoulder to your left, place a pin pitch diameter location template, or LPP template, on the threaded connector so the teeth seat fully into the threads. The last length of the template does not contact the shoulder.

3. With the teeth of the template seated fully in the threads of the connector, slide the template clockwise or away from you around the connector until the left end of the template makes contact with the pin shoulder. This is a rough clocking position.

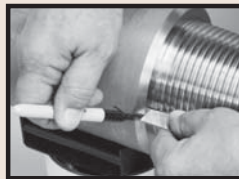


4. Using a Sharpie® felt marker, place a mark on the pin shoulder next to where the template contacts the shoulder. Jog or rotate the machine spindle until this mark is at the 12:00 o'clock position. This makes it easier to locate and mark the measurement position.

Marked at 12 o'clock



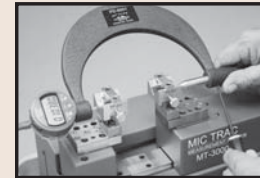
5. Place the template back onto the pin threads just before the mark on the shoulder. Be sure that the template threads are fully seated and parallel to the pin centerline. Using a slight twisting motion, slide the template in a clockwise direction or away from you until the left edge of the template contacts the shoulder. The twisting motion ensures that the template is seated properly in the threads and against the pin shoulder.



6. Using a Sharpie® felt marker, mark the crests of the two threads on either side of the locator reference marks. This is the location where the fixed contact ball of the PD-8001-RSC gage will be placed when measuring the pitch diameter.

Gage Setting

1. The PD-8001-RSC gage must be preset and locked to a calculated dimension for the particular connector you are inspecting. It is recommended that a ground setting standard rod or a MIC TRAC is used for presetting the gage. Gages, setting standards, and parts should be at the same temperature.



2. To preset the gage, loosen the lower arm lock screw and slide it to the approximate location where the standard will fit between the contact points.

3. With the lower arm loose, slide the arm toward the indicator approximately .100" and tighten the lock screw using a 1/8" Allen wrench. This will preload the indicator .100" as the gage is zeroed.

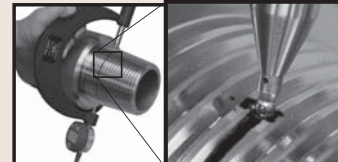
4. Place the standard between the contact points, sweep the standard in a small circular motion to locate the smallest reading and zero the indicator.



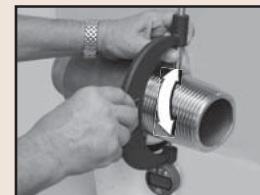
Gage Operation

1. With the indicator on the bottom side of the connector, place the fixed contact ball at the point where the LPP was located and marked.

2. Trace the same thread groove counter-clockwise to the opposite side of the connector and place the moveable contact ball in that thread groove.



3. While holding the fixed contact ball at the marked location, sweep the gage to locate the largest indicator reading.



*The reading on the indicator is the amount of deviation from the nominal pitch diameter.