STRAIGHT THREAD INSPECTION- External Functional Size

GAGEMAKER®

THREAD CHECK INC.

Functional Size Gages- RG-7000 Series

Functional Thread Size:

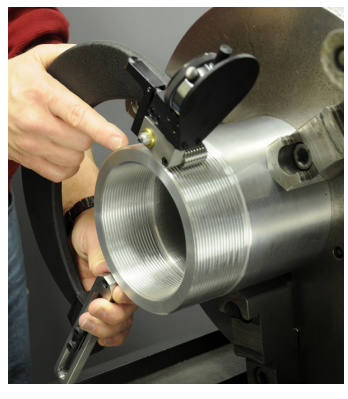
The functional size of a thread is the size at which two parts will screw together. To inspect functional size, the RG-7000 gages use thread rolls to detect discrepancies in the cumulative effects of thread element variations in the flank angle, lead (including uniformity of helix), taper, and roundness.

Purpose:

Functional thread size resembles the results obtained by using a ring gage. Functional thread size is inspected to verify that mating threaded parts are interchangeable and will screw together. To ensure proper thread size and integrity, the pitch diameter size must be verified as well.

RG-7000 Series

Thread Rolls



Inspect a part on a machine

External Thread Inspection with RG-7000 Series

Thread Disk™ Software

1. Start the TDWIN™ program.

2. Select the Thread Type and Thread Class.

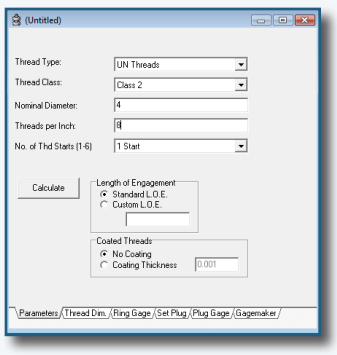
3. Type the Nominal Diameter and Threads Per Inch (TPI).

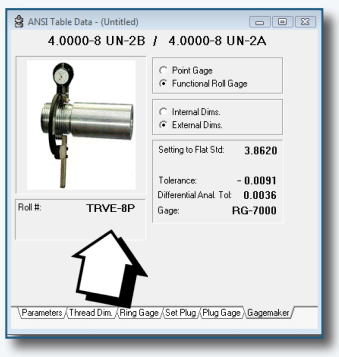
4. Select the Number of Thread Starts.

5. Click the Calculate button.

6. Click the Gagemaker tab.

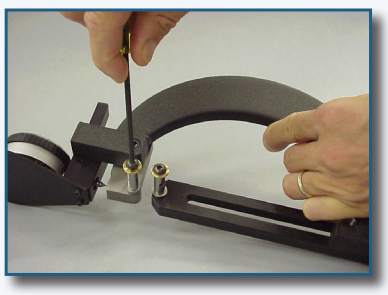
7. Based on the Roll# displayed in the window, select the proper thread roll.



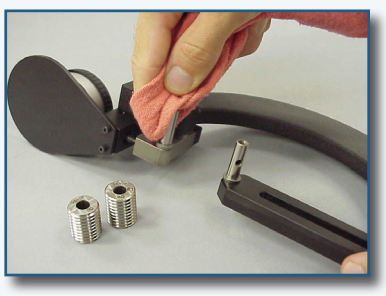


Gage Setup

1. Using the 1/8” hex wrench, remove the lock screw and washer from each roll pin.

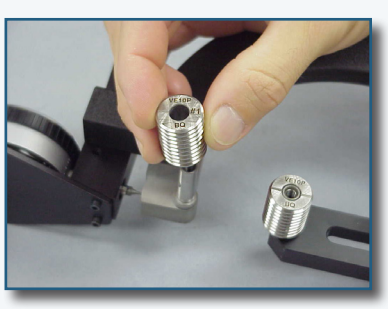


2. Clean the thread rolls and the roll pins on the gage to ensure they are free from debris**.**



3. Slide a thread roll on each of the gage’s roll pins. The face of the thread roll that is marked with lines and the thread roll type should face outward.

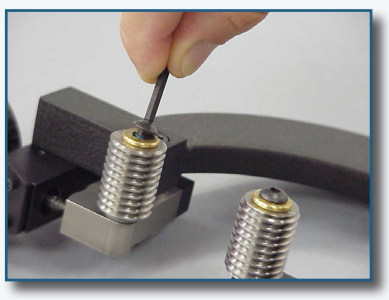
Note: Be sure there is no dirt between the thread roll and the roll pin to allow the thread rolls to spin freely.



4. Place the washer and lock screw on each roll pin.

Gage Setup (Continued)

5. Using the 1/8” hex wrench, tighten the lock screw. Eliminate any vertical movement of the thread roll, but make sure that the thread roll still rotates.



6. DO NOT over-tighten the lock screw. This will prevent the gage from operating properly.

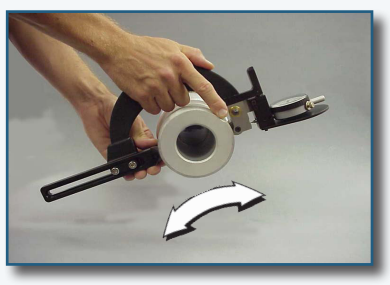
7. Locate the gage setting dimensions previously printed from the Gagemaker screen in TDWIN™.

Gage Operation

1. After zeroing the RG-7000 gage to the proper setting value, press the retraction lever and position the lower thread roll in the threads of the part.

2. Using the lower thread roll as a pivot, seat the upper thread roll in the threads of the part.

3. Sweep the RG-7000 gage back and forth to locate the largest indicator reading on the part. Use the gauging tolerances previously printed from the Gagemaker screen in the TDWIN™ software to determine the accurarcy of the diameter.



4. Hold the gage steady at the largest reading and rock the gage frame left and right to seat both rolls and allow a minimum indicator reading.

Note: Be sure that the small revolution counter on the indicator is pointing to the same number as when the gage was zeroed.

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