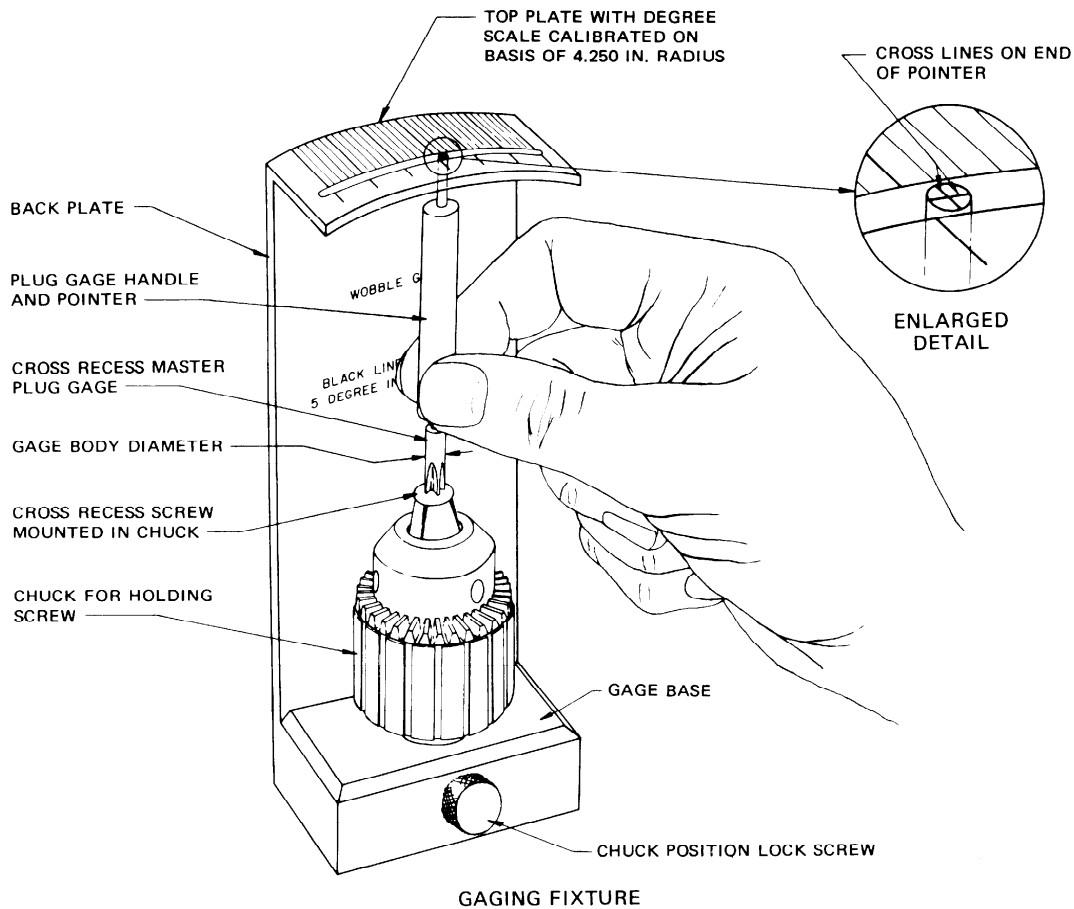


Greenslade Recess Wobble Gage

Operating Procedure



Step 1:

Insert the screw to be gauged into the holding chuck.

Step 2:

Orient one set of recess wings so that they are parallel to the upright back plate.

Step 3:

The screw must be positioned to prevent any tilting of the screw in the chuck.

Step 4:

Tighten chuck around the screw securely.

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Step 5:

Select the appropriate plug gage and insert the end with the crosshairs up through the slot in the top degree plate.

Step 6:

Place the gaging element end into the recess.

Step 7:

Adjust the chuck height until the gage pointer is flush with the top of the degree scale by loosening the chuck position lock screw, raising or lowering the chuck as necessary, and re-tightening the lock screw.

Step 8:

The crosshairs should be lined up with the scale. If not, adjust the plug gage so that the crosshairs and the wings on the gaging element are aligned.

Step 9:

It is essential that the recess wings, the gaging element wings and the crosshairs of the handle remain aligned at all times.

Step 10:

The gage handle, with downward pressure, is moved from side to side, noting at which points resistance is felt. Record the total amount of travel. The total observed may not exceed the maximum allowable total wobble noted in the chart below:

Gaging Limits for Type I and Type IA Recesses		
Size of Recess Gage	Maximum Total Wobble in Degrees	
	Type 1	Type 1A
No. 1	15	12
No. 2	12	10
No. 3	10	8
No. 4	10	8
No. 5	10	8

Step 11:

Loosen the chuck and rotate the screw 90° so that you may check the other set of wings in the same manner as above.

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Wobble Gaging of Cross Recessed Head Screws

Wobble Gaging of Recessed Heads:

Wobble gaging provides a means for determining the compatibility of cross recesses in the heads of screws with companion screw drivers and will indicate the point where deviations in the recess contours affects satisfactory driver engagement. Recesses which exhibit excessive wobble characteristics will result in poor screw drivability because of driver camout prior to attaining normal torque level; damage to recesses; and/or accelerated driver wear.

The allowable total wobble gaging limits for the various types of recesses included herein were predicated originally on the gaging of plain finish (unplated or uncoated) screws. However, subsequent experience has shown these limits to be suitable for the gaging of screws having coating thickness up to and including 0.0003 in. on significant surfaces. Screws having heavier coatings, which fail to meet the wobble gaging requirements, must be stripped of finish and gaged for acceptance or rejection in the plain condition.

Wobble gaging fixtures as illustrated on following page and appropriate cross recess master plug gages with handles and position indicators for the respective recess types are available through the screw suppliers. Dimensions of the points on master plug gages are, except for the body diameters tabulated herein, the same as those specified for the respective gage points in Appendix III, Penetration Gaging, page H-48.

The screw to be gaged shall be placed into the screw holding chuck and oriented such the set of recess wings is parallel to the upright back plate. The screw shall be so positioned and the chuck shall be tightened sufficiently to prevent any tilting of the screw in the chuck when taking wobble readings.

The position gage pointer and handle with the proper master plug gage for the recess size being checked shall be positioned in the slot of the degree scale on top plate and the point of the plug gage inserted into the screw recess. It is essential that registry between the cross lines of pointer and the recess wings be maintained. To correct any misalignment, the chuck position lock screw is loosened, and the chuck is rotated until registry is obtained, and the chuck raised or lowered until the gage pointer is flush with the top of the degree scale. The chuck position lock screw is then tightened and the readings taken. The gage handle, with downward pressure applied, is moved from side to side until resistance is encountered and the total reading between points of travel of the gage pointer is recorded. The allowable angular wobble limits shall not exceed the values tabulated below. Cross lines on gage pointer should be rechecked with plug gage wings to make certain cross lines and gage wings are registered on identical radials.

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