

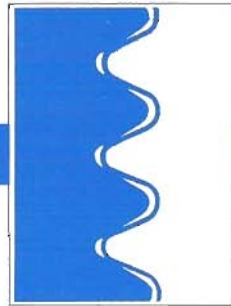
MALFORMED MAJOR DIA.



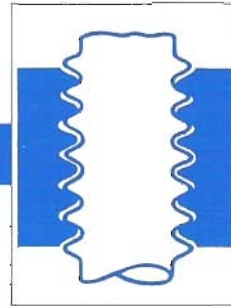
RADIUS AT ROOT OVERSIZE



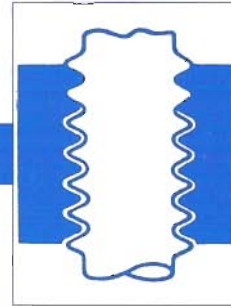
EXCESS ANGLE ERROR



PITCH ERROR



TAPER



DETECTABLE ERRORS

DETECTABLE ERRORS WHICH CAN

BE FOUND USING THE THREAD

ROLLER CALIPER

1

OUT OF ROUNDNESS.

By turning the component through 90 degrees any error which takes the component either into an oversize or undersize condition may be found.

2

Various other errors as shown opposite may be found by placing a reflective material i.e. a piece of ordinary white paper, between the GO and NOT GO rollers. Then with the aid of a light source, any errors present either form or pitch etc., should be detectable, by placing the work piece between the GO rollers.

Standard thread forms are readily available, non-standard forms such as Trapezoidal, Buttress, Acme, etc., may be subject to a tooling charge.

Multi-start threads may also be gauged using the thread roller caliper. However, this is subject to lead-diameter combinations.

Packaging consists of stiff cardboard box with plastic moulded infill for safe transportation and storage.

PICCADILLY PRECISION ENGINEERING



MEASURING UP TO THE HIGHEST STANDARDS

Gage Crib Worldwide, Inc.
(616) 954 6581 Fax 954 6583
6818 Burton St SE
Grand Rapids, MI 49546-6862

THREAD ROLLER CALIPER GAUGE

SIZES & PITCHES AVAILABLE

1.00 mm to 80.00 mm DIA. 0.25 mm to 6.00 mm PITCH
 $\frac{3}{64}$ " to $\frac{3}{16}$ " DIA. 80 TPI to 4 TPI

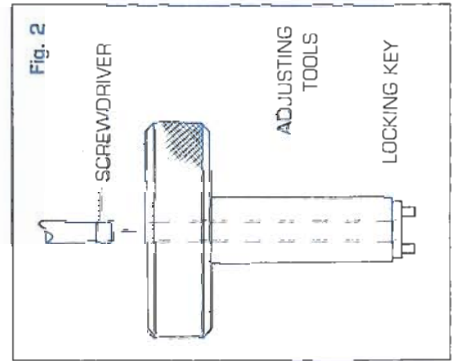
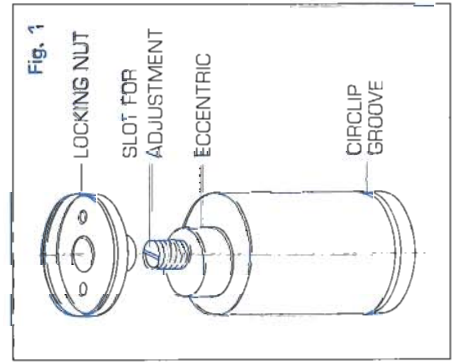
The Thread Roller Caliper is ideal for gauging components produced in high volume in all types of material. It especially lends itself to gauging components manufactured from soft alloys such as aluminium, bronze and brass where, when using solid thread ring gauges, the problem of adhesion of the alloy to the thread ring gauge can be experienced.

The gauge frames are coated in an epoxy resin coat, which gives the gauge a high level of protection from accidental damage which may occur if the gauge should be dropped, or of any other type of accidental impact.

The GO rollers are a complete 'GO' gauge and no element of a screw which passes through these rollers can be too large, whilst the rear rollers constitute a 'NOT GO' effective diameter gauge, the threads being cleared away at the crest and root.

The threads on the rollers are annular and of corrected form so that there is no interference caused by the helix angle of the thread being gauged.

METHOD OF ADJUSTMENT



TO ACHIEVE CORRECT SETTINGS

Setting can be carried out by following the procedure stated below:-

- (i) Insert locking key into locking nut (Fig 2.)
- (ii) Insert screwdriver through hole in locking key locating in screwdriver slot in the roller pin (fig 1.)
- (iii) Release tension of lock nut until roller pin rotates on eccentric diameter.
- (iv) Relock lock nut.

Repeat above procedure until the desired setting is achieved using either master setting plug or gauge blocks.

'ha' FIGURE

If using gauge blocks to set the caliper to a specified pitch diameter, the 'ha' figure which is marked on the end of the gauge pin is used to achieve required setting - as shown in the example opposite.

Only the very lightest of pressure should be used to assist the setting plug or gauge blocks to pass through the rollers.

When being used to gauge components, the components should pass through the Go rollers under their own weight or again with the very slightest of pressure. Under no circumstances should any force be used to assist entry.

Example:	$\frac{7}{16}$ " x 20 UNF 2A (BS919-1960 PT.1.)
	.4037 pitch dia. GO
	- .0216 = 2 x ha GO
	.3821
	- .0005 gauge tolerance (.0004/.0006)
	.3816 = Gauge block size
	.3995 pitch dia. NOT GO
	- .0106 = 2 x ha NOT GO
	.3887
	- .0005 gauge tolerance (.0003/.0005)
	.3882 = Gauge block size

MAINTENANCE

The rolls should rotate freely on their pins, should they start to 'stick' or 'tighten up' remove the wire circlip and clean the bores of the rolls, clean the pins and re-assemble. No re-setting should be required as the gauge pins will not have been disturbed.