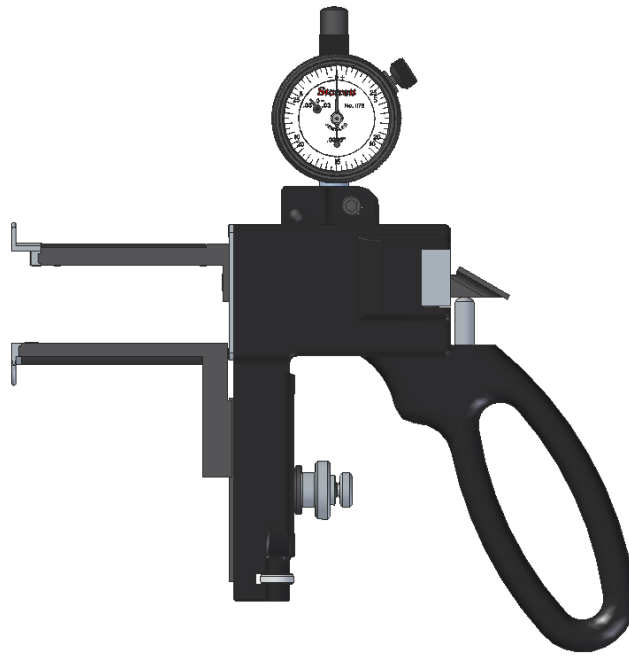


Starrett®

Special Function Indicators

1175Z, E1175Z DIAL AND DIGITAL INDICATOR INTERNAL GROOVE GAGE



1175Z DIAL INDICATOR GROOVE GAGE

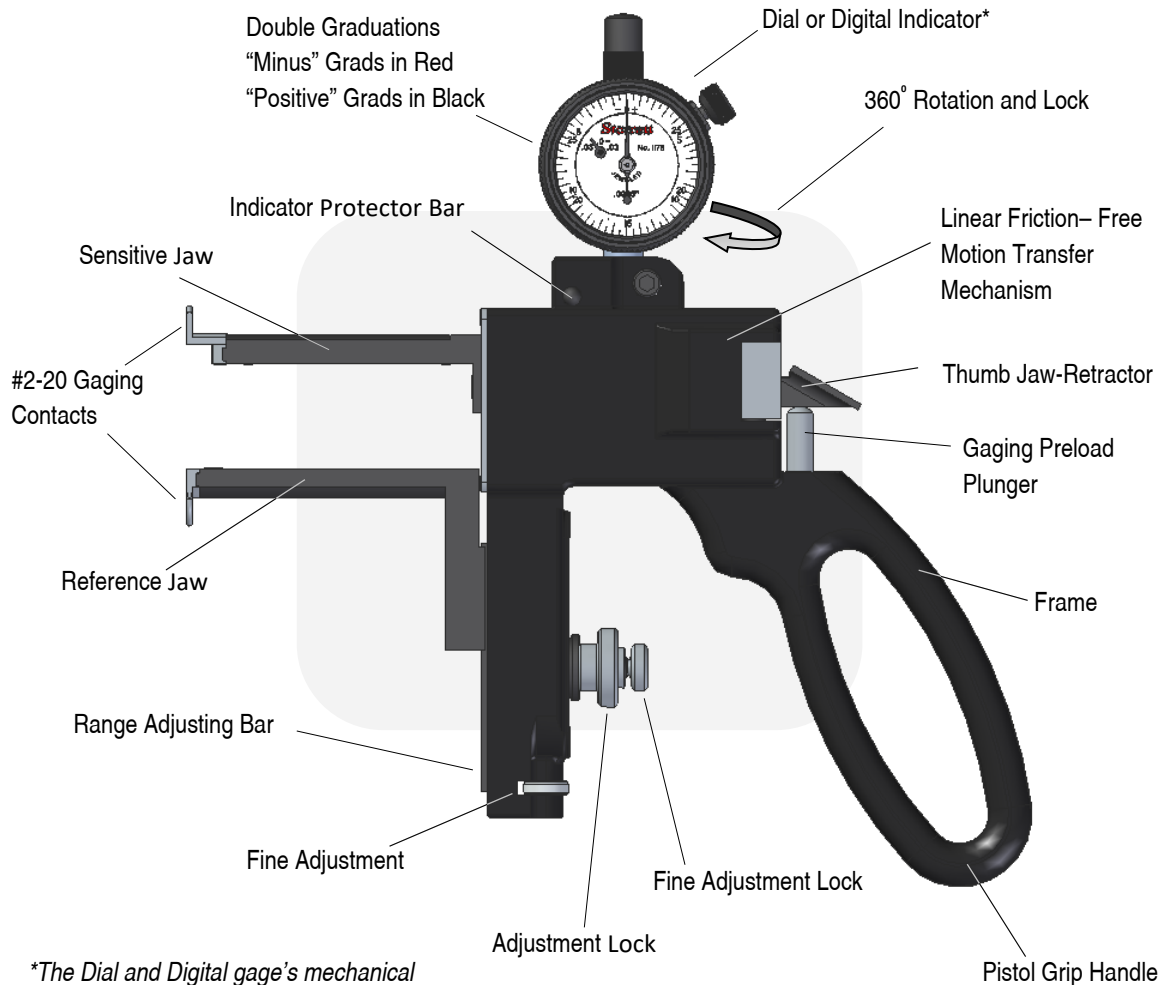
This manual covers the following Tools:

1175Z (.375-6"), 1175MZ(9.5-150mm)

E1175Z (.375-6", 9.5-150mm)

USER'S GUIDE

1175Z DIAL, E1175Z DIGITAL INDICATOR INTERNAL GROOVE GAGE



**The Dial and Digital gage's mechanical parts are identical except for the addition of the Digital Indicator.*

Fig.1, 1175Z

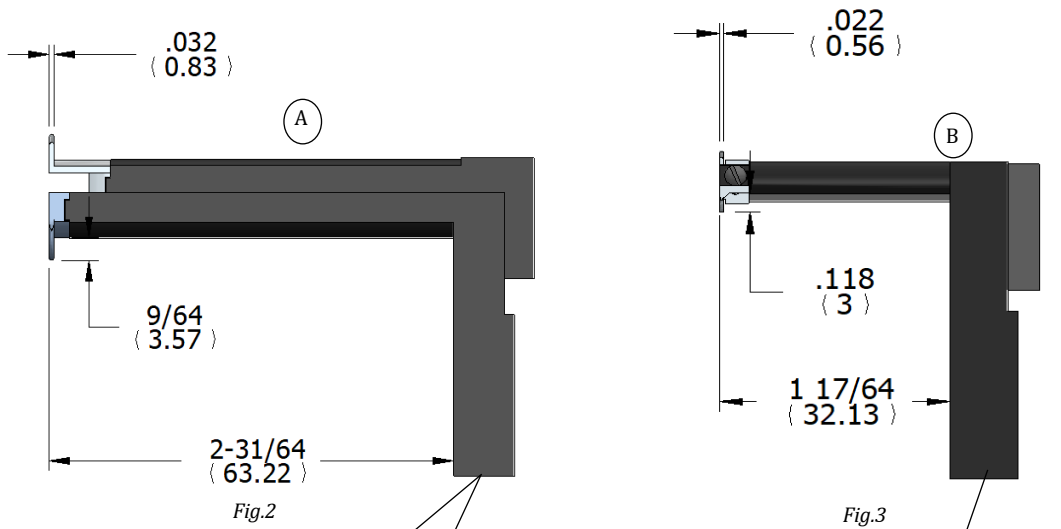
This lightweight gage is used for in-process or bench inspection of oil grooves, snap ring retainer grooves, "O" ring seat retainer grooves and similar internal recesses. It is also useful for checking bore dimensions and testing for taper, bell-mouth and out-of-roundness. The dial and digital gage's mechanical parts are identical except for the type of the indicator.

- The Gage can be easily adjusted to handle a total range of internal diameters from .375" up to 6 inches with a depth of 2 1/2 inches. Internal diameters are read directly from a dial or digital indicator graduated in .0005" or 0.01mm grads and the digital in .0001" or 0.001mm. The movable, sensitive gaging upper contact jaw has a 1/2" (12.7mm) retractable range and transfers the measurement through a linear, friction-free transfer mechanism to the dial indicator. The lower reference jaw is fixed and supports the entire weight of the gage and the operator's hands, thus preventing incorrect gaging pressure and false readings. The reference jaw can be mounted in two positions on the range adjusting bar. The bar itself is also adjustable for greater or lesser range. A fine adjustment screw and a lock are also provided.

- Special jaws for 4" and 6" (100mm and 150mm) gaging depths, a diameter range extension bar from 6-12" (150-300mm), dial indicators graduated in .001", or any special modification of gaging contacts and jaws, are available by request through our Special Order Department.

Three sets of contacts are supplied (Styles 1-10, 2-10, and 2-20) Figs. 4- 6. The gage is furnished with two sets of jaws, Jaw set "A" Fig. 2, is used with the contacts 2-20 and 2-10. Jaw set "B" Fig. 3 can only be used with contacts 1-10 . The contacts 2-20 and 2-10 can be interchanged without replacing the entire jaw set ("A"). The contacts have flush ends so that grooves at the bottom of blind holes can be gaged. The contacts are hardened steel with a hard chrome finish.

Upper and Lower Arm Pairs



Gaging Contacts

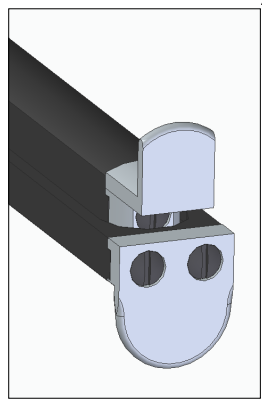


Fig. 4
Style 2-20 Contacts,
PT30920 / PT30921

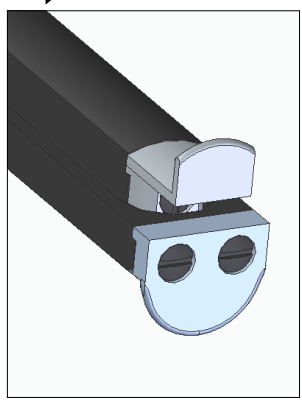


Fig. 5
Style 2-10 Contacts,
PT30918 / PT30919

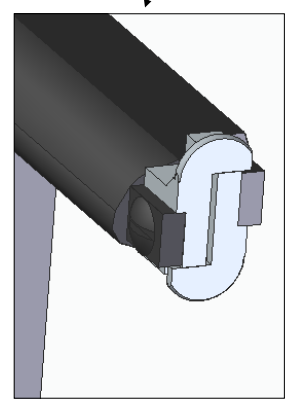


Fig. 6
Style 1-10 Contacts,
PT30917 x 2

Maximum and Minimum Measurements

Figs.7,8, illustrates the two types of jaws with information about their maximum and minimum measurements and the max gaging depth. Fig.9, shows these measurements in a chart for quick reference.

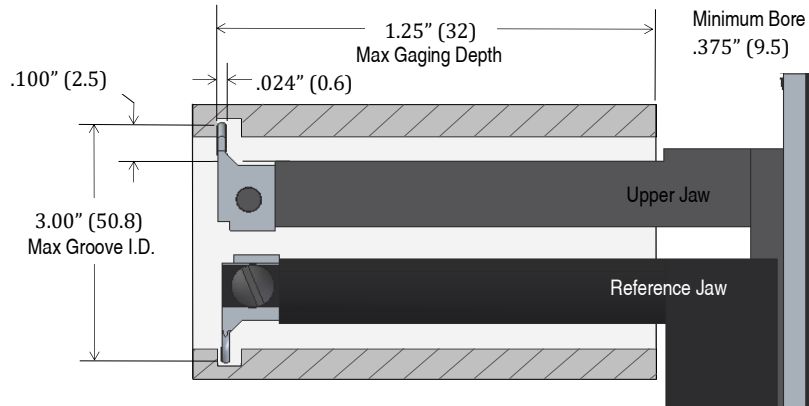


Fig.7, Style 1-10

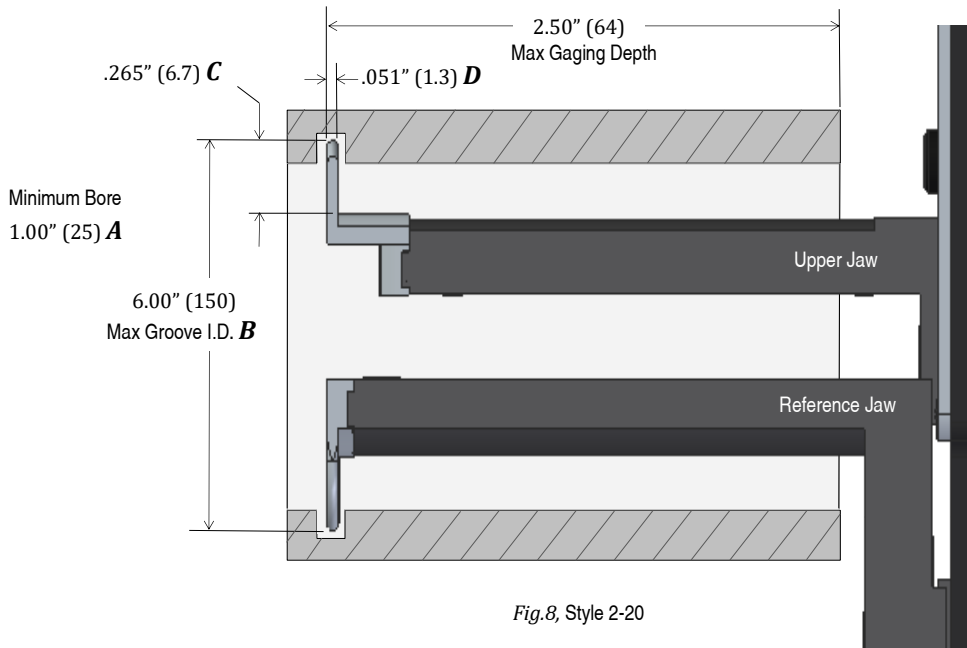


Fig.8, Style 2-20

1175Z - E1175Z Indicator Groove Gage Contact Sets								
Contact Style	Minimum Bore I.D. A		Maximum Groove I.D. B		Minimum Groove Depth C		Minimum Groove Width D	
	in	mm	in	mm	in	mm	in	mm
1-10	.375"	9.5	3.00"	75	.100"	2.5	.024"	0.6
2-10	.690"	17.5	5.00"	125	.140"	3.6	.034"	0.8
2-20	1.00"	25	6.00"	150	.265"	6.7	.051"	1.3

Fig.9

Instructions for Setting the 1175Z / E1175Z Gage to Work Dimensions

- *Fig. 10*, Select the proper jaws and contacts to suit the I.D. being measured and mount them on the adjusting bar of the gage.
- *Fig. 11*, Adjust the reference jaw to the approximate dimension and lock in position.
- Select gage blocks for the required nominal I.D. dimension. Other methods such as calipers, outside micrometers, ring gages, etc. may be used, depending on tolerances.

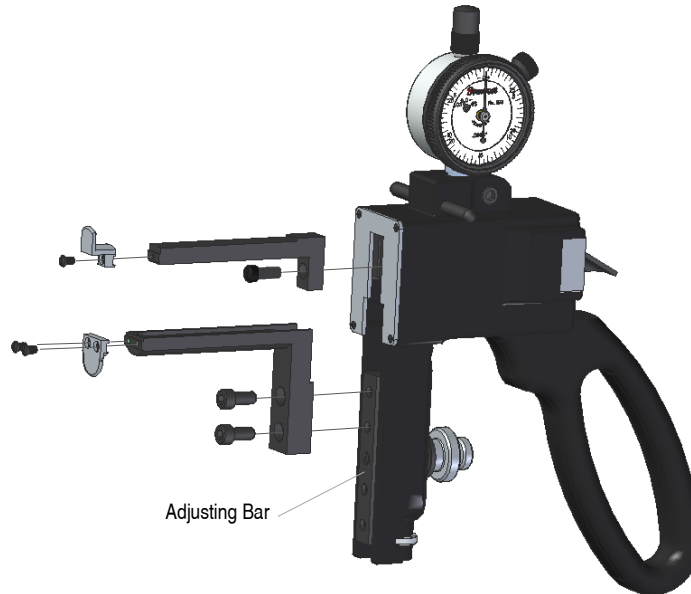


Fig.10

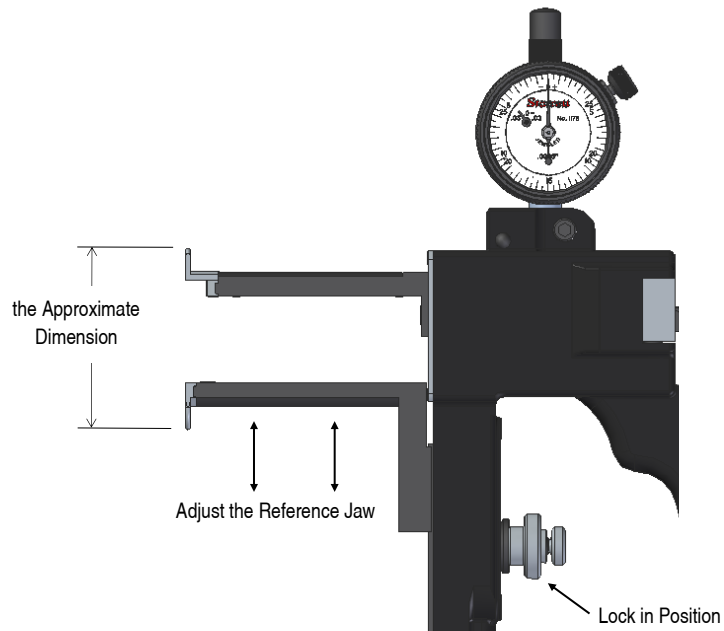


Fig.11

- **E1175Z:** Fig.12, Press the CLR / ON button to turn on the indicator, and make sure the reading is zero. If the reading is not zero then press the CLR / ON button again to zero the tool. Set the groove gage to gage blocks or other reference, using the fine adjustment. The indicator should read approximately zero. Lock the fine adjustment and set the indicator to zero by pressing the CLR / ON button if required. Use the inch/mm button “I/M” to pick the unit of measure.

Note: The full manual “Electronic Indicator Operating Manual Analog Display” is included with the E1175Z gage.

- **1175Z:** Fig.13 , Set the groove gage to gage blocks or other reference. Use the fine adjustment so that the dial indicator reads approximately zero. Lock the fine adjustment and set the indicator to zero by bezel if required.
- The gage is now ready for production gaging of internal diameters.



Fig.12, E1175Z

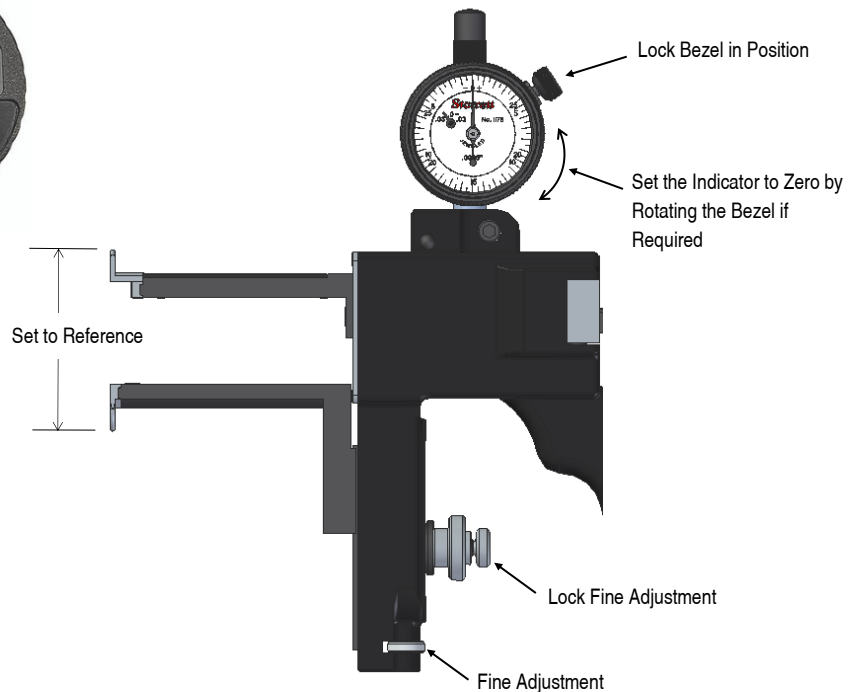


Fig.13, 1175Z

To gage internal on snap ring retainer grooves and internal “O” ring rubber seat retainer grooves the use of the following Contact Styles is suggested.

Contact Style	Internal Snap Ring Truarc Series 5000, 5001, 5002, 5008 No's or Equal	“O” Ring Seal Series 6227 Dash No's or Equal
1-10	No 37-75	No 7-14
2-10	No 77-150	No 15-27
2-20	No 156-600	No 28-64

Fig.14