



OPERATING INSTRUCTIONS

I-GR-2000

FOR SUNNEN RETRACTABLE DIAL BORE GAGE

DIAMETER RANGE: 2" - 6" (50-150 mm)

MODELS: GR-2061, GRM-2061, GR-2065, GRM-2065, GR-2121,
GRM-2121, GR-2125, GRM-2125, GR-2241 and GRM-2241

NOTE: Metric dimensions shown in these instructions are conversion equivalents only . . . items are not graduated in metric dimensions unless specifically identified as Metric Models.

HOW TO USE

1. Select the correct Gage Point from Chart 1.

USE GAGE POINT NO.	FOR DIAMETER RANGE	
	INCHES	mm
1	2.000 - 2.375	50 - 60
2	2.375 - 2.750	60 - 70
3	2.750 - 3.125	70 - 79
4	3.125 - 3.500	79 - 89
5	3.500 - 3.875	89 - 98
6	3.875 - 4.250	98 - 108
7 + 2	4.250 - 4.625	108 - 117
7 + 3	4.625 - 5.000	117 - 127
7 + 4	5.000 - 5.375	127 - 137
7 + 5	5.375 - 5.750	137 - 146
7 + 6	5.750 - 6.000	146 - 150

Gage Setting Fixture. Set desired size by turning the Gage Point in or out.

- Lock Gage Point (G) with Locking Nut (C), using wrench furnished.
- Recheck "0" setting; reset to "0" if necessary by loosening bezel screw, rotating indicator dial face, and tightening bezel screw.
- Insert gage into bore to be measured and rock as shown at "E" to obtain minimum reading.

To retract centralizer points and indicator point

CHART 1

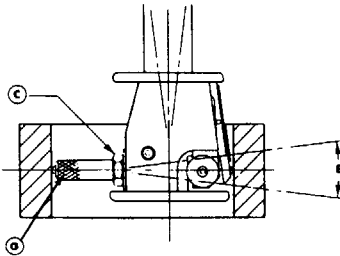


FIGURE 1

- See Figure 1. Screw correct range Gage Point (G) into gaging head.
- Set gage to desired size, using a ring gage, micrometer, or the Sunnen CF-1126 Dial Bore

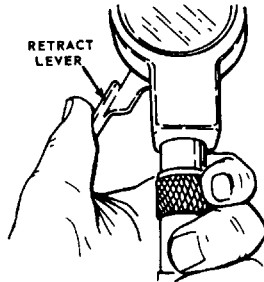


FIGURE 2

See Figure 2. Squeeze Retract Lever.

HOW TO ADJUST:

To adjust Centralizer Points to size of bore

If Centralizer Points don't touch the walls of the bore, or if they exert too much pressure on the walls, adjust as follows:

1. Insert gaging head approximately 3/4" (20 mm) into bore being measured.

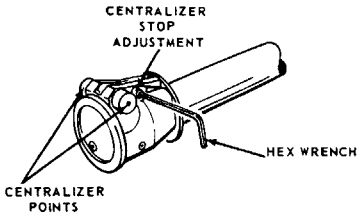


FIGURE 3

2. See Figure 3. Insert 5/64" Hex Wrench into Centralizer Stop Adjustment. Rotate Wrench to retract or expand Points until they barely contact the walls of the bore.

3. Slide gaging head in and out of the bore several times to check adjustment.

NOTE: The closer the Centralizer Points are set to the bore size, the easier it will be to insert the gage into the bore.

To adjust worn Centralizer Points

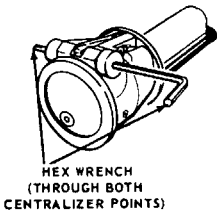


FIGURE 4

When Centralizer Points must be adjusted because of excessive wear, be sure to adjust both Points at the same time. Insert 3/32" Hex Wrench through both Centralizer Points and turn both Points at the same time until new wear surfaces will contact the walls of the bore (see Figure 4).

To adjust tension on centralizer points

For fast, easy gaging with the least wear on the centralizer points, the tension should be adjusted to fit the job you're doing:

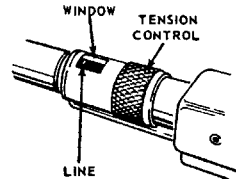


FIGURE 5

When gaging horizontal bores, the tension should be light . . . turn the Tension Control until the Line is at the bottom of the Window (see Figure 5).

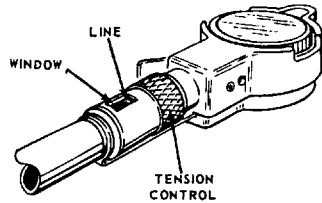


FIGURE 6

When gaging vertical bores, more tension is needed to make the centralizer points come out and make proper contact. Turn the Tension Control until there is enough tension to keep the centralizer points extended. The Line will then be close to the top of the Window (see Figure 6).

To rotate gage point Ball

When a gage point Ball gets a flat worn on it, the Ball can be rotated to a new position, as follows:

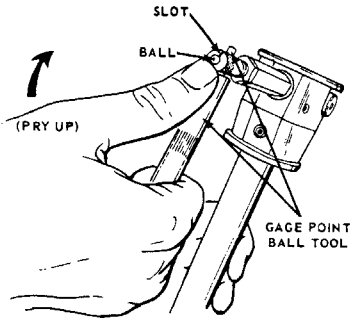


FIGURE 7

NOTE: While performing this operation, hold gage point over a clean cloth in case the Ball should be dropped.

1. See Figure 7. Hold thumb over Ball and pry it out with the Gage Point Ball Tool.
2. Rotate Ball so an unworn area will protrude from gage point. Reinstall Ball by pressing in with blade of Gage Point Ball Tool.
3. Seat Ball by pressing it against hard surface.

To rotate Indicating Finger Ball

When the Indicating Finger Ball gets a flat worn on it, the Ball can be rotated to a new position, as follows:

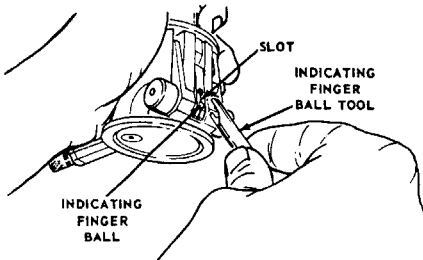


FIGURE 8

NOTE: While performing this operation, hold gage over a clean cloth in case the Ball should be dropped.

1. See Figure 8. Insert Indicating Finger Ball Tool into Slot and pry upward to remove Ball. Ball will stay in Tool.
2. Rotate Ball so unworn area will protrude from Indicating Finger.

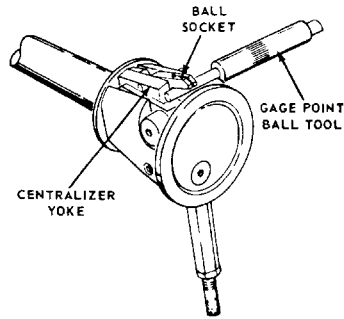


FIGURE 9

3. Depress Centralizer Yoke and insert Gage Point Ball Tool as shown in Figure 9 to prevent damage to gage when reinstalling Ball.
4. With Ball still captivated in Indicating Finger Ball Tool, reinsert Tool into Slot, locating Ball over Ball Socket. Press Ball firmly into place and remove Indicating Finger Ball Tool.
5. Make sure Ball is seated by pressing it down firmly with flat back of Indicating Finger Ball Tool.
6. Remove Gage Point Ball Tool.

