



OPERATING INSTRUCTIONS

I-GA-2000

FOR SUNNEN DIAL BORE GAGE

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

MODELS: GA-2031, GA-2035, GA-2061, GA-2065,
GA-2121, GA-2241 and GA-2245

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

CHART 1

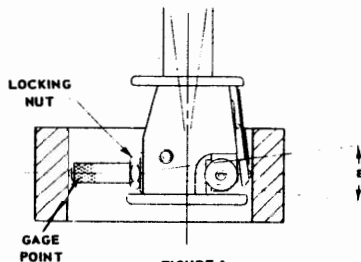


FIGURE 1

2. See Figure 1. Screw correct range Gage Point into gaging head.
3. Set gage to desired size, using a ring gage or the Sunnen CF-1126 Dial Bore Gage Setting Fixture. Set desired size by turning the Gage Point in or out.

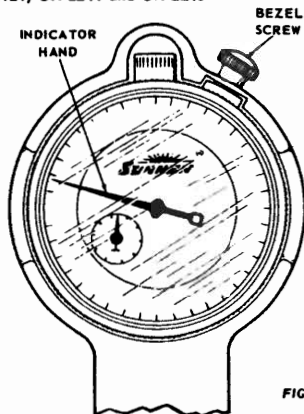


FIGURE 2

4. Lock Gage Point at this position with Locking Nut, using wrench furnished.
5. Recheck "0" setting; reset "0" if necessary by loosening Bezel Screw, rotating indicator dial face, and tightening Bezel Screw (see Figure 2).
6. Insert gage into bore to be measured and rock as shown at "E" to obtain minimum reading.

HOW TO ADJUST

To adjust Centralizer Points to size of bore

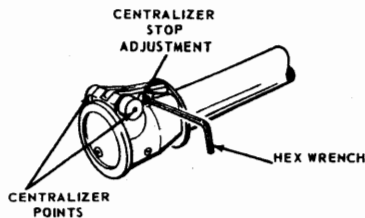


FIGURE 3

1. See Figure 3. Insert 5/64" Hex Wrench into Centralizer Stop Adjustment and turn Centralizer Points all the way back.
2. Insert gaging head approximately 3/4" (20 mm) into bore being measured.
3. Rotate Stop Adjustment until Points contact the walls of the bore.
4. 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. Centralizer Points must always make contact with the sides of the bore.

To adjust worn Centralizer Points

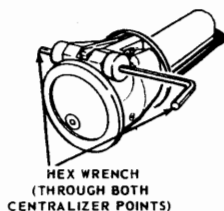


FIGURE 4

See 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 contact the walls of the bore.

To interchange Extension Sleeves

The Model GA-2061 Gage is supplied with a 6" (150 mm) Extension Sleeve. Longer or shorter Extension Sleeves for gaging depths of 3", 12", and 24" (75, 300, and 600 mm) may be ordered separately, and are interchanged as follows:

Disassembly:

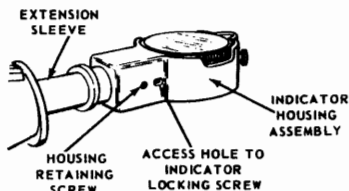


FIGURE 5

1. See Figure 5. Using a 1/8" hex wrench, loosen Housing Retaining Screw approximately two turns.
2. Insert a 3/32" hex wrench through Access Hole and loosen Indicator Locking Screw 1/2 turn (no more).
3. Remove Indicator Housing Assembly from Extension Sleeve.

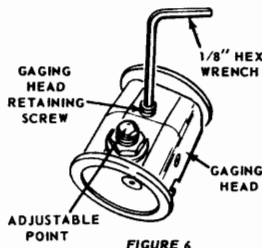


FIGURE 6

4. See Figure 6. If Adjustable Point is installed, remove it.
5. Using 1/8" Hex Wrench, loosen Gaging Head Retaining Screw approximately three turns.
6. Remove Gaging Head from Extension Sleeve.

Assembly:

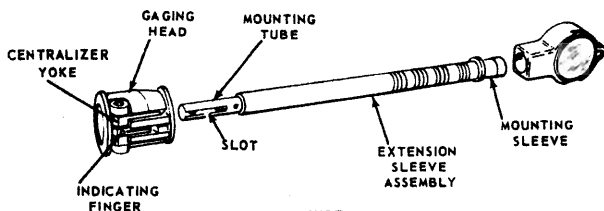


FIGURE 7

1. See Figure 7. Align Slot of replacement Extension Sleeve Assembly with Indicating Finger in Gaging Head and slide Mounting Tube all the way into Gaging Head. While tightening Gaging Head Retaining Screw, apply enough end pressure against Gaging Head to overcome spring tension of Extension Sleeve Assembly.

CAUTION: Do not overtighten Gaging Head Retaining Screw; it might bind the Centralizer Yoke.

2. Check Centralizer Yoke for free movement. If it is binding, loosen Gaging Head Retaining Screw (see Figure 6) until Centralizer Yoke moves freely.

3. See Figure 8. Align Indicator Locking Screw in Mounting Sleeve with Access Hole in Indicator Housing. Slide Mounting Sleeve into Housing until Indicator Locking Screw is visible through Access Hole. Lightly tighten Housing Retaining Screw.

CAUTION: Overtightening the Housing Retaining Screw might strip the plastic threads in the Indicator Housing.

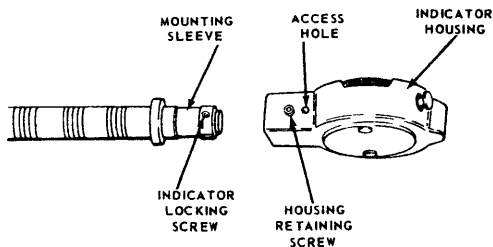


FIGURE 8

4. Holding Indicator Housing in one hand and Gaging Head in the other, slide units apart until Indicator Hand moves to the 9 o'clock position (its maximum counterclockwise position).

NOTE: Counter Hand should be at "0" when Indicator Hand is at "0".

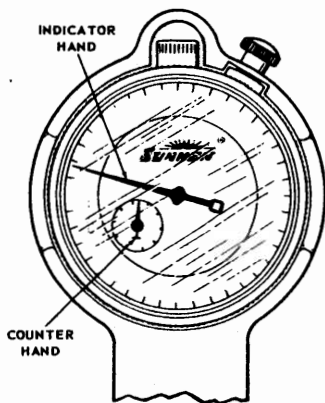


FIGURE 9

5. Slightly twisting the Indicator Housing and Extension Sleeve Assembly from side to side, slide them together until Indicator Hand just begins to move clockwise . . . then, reverse direction, pulling units apart until Indicator Hand is between 9 o'clock and 10 o'clock (see Figure 9). Tighten Indicator Locking Screw firmly at this point.

To adjust indicator for easier reading

The indicator housing can be rotated (in one direction) up to 90° in relation to the gaging head, as follows:

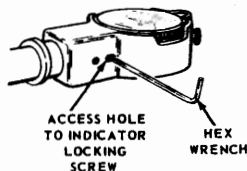


FIGURE 10

1. See Figure 10. Insert a 3/32" Hex Wrench through Access Hole and loosen Indicator Locking Screw 1/2 turn (no more).
2. Rotate indicator housing to position desired.
3. Holding indicator housing in one hand and gaging head in the other, slide indicator housing away from extension sleeve assembly. Indicator Hand will move to the 9 o'clock position (its maximum counterclockwise position).

NOTE: Counter Hand should be at "0" when Indicator Hand is at "0".

4. Slightly twisting the indicator housing and sleeve assembly from side to side, slide them together until Indicator Hand begins to move clockwise . . . then, reverse direction, pulling units apart until Hand stops at a position between 9 o'clock and 10 o'clock. Retighten Indicator Retaining Screw at this point.

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:

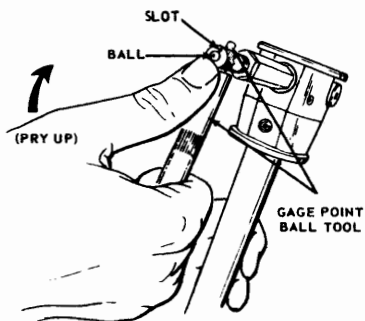


FIGURE 11

1. See Figure 11. Hold thumb over Ball and pry it out with the Gage Point Ball Tool.

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

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:

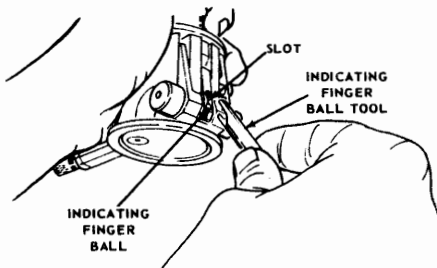


FIGURE 12

1. See Figure 12. Insert Indicating Finger Ball Tool into Slot under Ball and pry upward to remove Ball. Ball should stay in Tool.
2. Rotate Ball so unworn area will protrude from Indicating Finger.

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

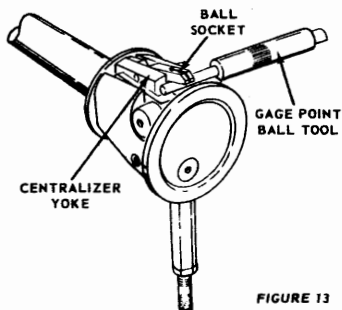


FIGURE 13

3. Depress Centralizer Yoke and insert Gage Point Ball Tool as shown in Figure 13 to prevent damage to gage when reinstalling Ball.
4. With Ball still captive 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.

