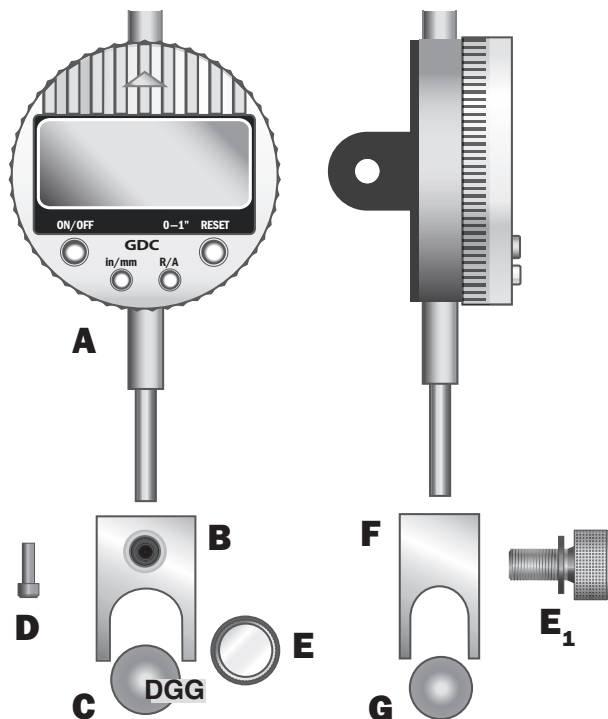


Digital Groove Gauge

DGG Components for 1/2" (2.7 mm) or 5/8" (16.0 mm)



A.	GDC Body/Indicator Stem
B.	5/8 in. (16.0 mm) Base (front view)
C.	5/8 in. (16.0 mm) Tip
D.	Hex Socket Cap Screw (size 4-48 x 3/8)
E/E1	Thumbscrew (front/side view)
F.	1/2 in. (12.7 mm) Base (side view)
G.	1/2 in. (12.7 mm) Tip
H.	Allen Wrench (not pictured)

Brugg GDC (Groove Depth Comparator)

is a unique tool that simplifies measuring sheave groove variations (from within the groove surface). Variations cause an impact on individual rope travel distances (the formula at right reviews how this may be calculated). Sheave groove variations directly influence rope life and can lead to sheave groove degradation as well.

Rope crown wear should be seen as more than a sign of a mismatch of rope diameter and groove depth. Instead crown wear may be



seen as visible evidence that natural factors such as rope stretch (due to load stresses) and friction have caused a rope's diameter to become slightly smaller than the groove itself. Any reduction of rope diameter means that the rope will travel lower in the sheave groove increasing the process where the rope wears into the sheave groove's bottom surface. This creates cross section distortion and leads to the pinching of the rope's outer wire strands (crown wear). Unless the sheave is regrooved or replaced subsequent sets of replacement ropes will see

far less rope life than the previous ones.

With GDC you can directly identify, during routine maintenance, the presence of sheave groove variation and determine a remedy before its leads to installation performance reduction and more expensive repairs.

An Explanation Of Symbols

SD	Sheave Diameter
GD	Groove Depth
RGD	Rope Groove Diameter
RGDW	Rope Groove Diameter Wear
RGC	Rope Groove Circumference
RGCW	Rope Groove Circumference Wear
RISE	Travel of elevator
SGD	Sheave Groove Difference

Formula For The Calculation Of Hoist Rope Travel Distances Related To Sheave Groove Variation

$$SD - (GD \times 2) = RGD \times 3.1416 = RGC$$

$$SD - (GD + WEAR \times 2) = RGDW \times 3.1416 = RGCW$$

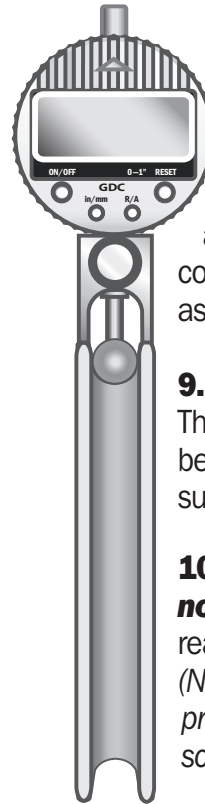
$$RGC - RGCW = SGD$$

$$RISE \times 2 \times 12 = RT'' / RGC = SR$$

$$SGD \times SR = RTD$$

Operating Instructions

1. Remove from GDC case appropriate Base (either 5/8 in./16.0 mm or 1/2 in./12.7 mm) and Tip to match rope diameter present on sheave.
2. Run GDC body through the Base opening and connect the indicator stem to the appropriate Tip (either 5/8 in./16.0 mm or 1/2 in./12.7 mm).
3. Use Allen Wrench (not pictured) to tighten the Hex Socket Cap Screw into the Tip base affixing the Tip to the Indicator Stem.
4. Tighten Thumbscrew into Base position opening until secure. Your GDC unit is now assembled.
5. Turn indicator on by pressing **ON/OFF**. If unit does not respond apply new **1.56 V** watch battery (replacement battery not included with GDC unit).
6. Press **in/mm** indicator button to determine preferred choice of measurement using either imperial or metric units. (Note: readings measured in 0.005 in./ 0.127 mm increments — GDC unit is accurate to within 0.0012%).
7. Now place ball Tip within drive sheave groove. Place GDC unit in any position on the drive sheave ensuring that the ball Tip has actual contact access with the groove surface itself.



(Note: normally you need not remove ropes from the sheave prior to use if a portion of the sheave is accessible).

8. Press GDC against the sheave until all four legs of the device base make contact against the drive sheave surface as shown in the drawing.

9. Press **RESET** to zero out reading. This will establish a base point which will be used to compare variances in all successive grooves.

10. Repeat Step 8 procedure (**but do not press RESET button**) and note readings on all remaining grooves. (Note: all variance measurements are prominently displayed within the digital screen readout area).

Measurement Explanation:

Measurements will show either a (+) positive reading indicating that the successive groove depth is shallower than the base sheave groove, or a (-) negative reading, signifying the presence of a deeper groove depth. Variance of groove measurements is evidence of sheave wear or improper groove fabrication.

* Additional groove size combinations – including 3/4 in. (19.0 mm), 11/16 in. (17.5 mm), 9/16 in. (14.3 mm), 7/16 in. (11.0 mm) – are optional and available at extra cost through special arrangement upon customer request.