Protrusion-Head Height Gages

Definitions:
**Flat Head Protrusion** (also called flushness) - the distance the top of a flat head screw extends above the mouth of a specified gaging hole diameter (F dimension in the illustration shown below).

**Head Height** - the distance from the bottom of a screw head to its extreme highest point.

These gages are designed to measure the protrusion height of flat head screws and the head heights of non-flat head screws with accuracy and speed. The protrusion heights are measured by placing a flat head screw in the appropriate gaging hole and positioning it under the indicator foot for measurement after having "Zeroed" the indicator on the gaging plate surface. The foot is raised. The screw is placed in the "V". The foot is rested on the screw's head and the measurement is taken.

These multipurpose gages can be used to measure all types of outside dimensions of fasteners such as head diameters, body diameters, thread major diameters, across flats and across corners of hex heads, washer diameters, and nut thicknesses.

**Protrusion Heights are available with the following gaging plates:**
- ANSI/ASME 82 degree flat head plates: #2 through 3/8"
- ANSI/ASME 100 degree flat head plates: #2 through 3/8"
- ISO 90 degree metric flat head plates: M2 through M10
- SEMSCHENK plates for measuring head heights and lengths of SEMS screws after assembly.

These gages are ideally suited for use in manufacturing and final inspection applications.

When ordering Protrusion-Height Gages, specify dial indicator (.001" resolution) or electronic indicator (either .0005" or .0001" resolution) and the gaging plate you require. Gaging plates can be quickly changed on the same gage.

**The results of a long form Gage Repeatability and Reproducibility Study for the Protrusion-Height Gage was 8%**.

NOTE: NAS fasteners are measured with a variation of these gages. Contact us for specific information.
The "DIMENSION-ALL" Gage can measure all of the outside dimensions of fasteners, including lengths up to 2 inches, and record them quickly and accurately. This system is faster to use and more accurate than using hand-held measuring instruments. This system is ideally suited for incoming or final inspection applications.

This patented gage comes as a complete measuring system including a 2.000" (50mm) travel indicator having .0001" resolution, an 82 degree flat-head gaging plate (plate substitutions are allowed), presetter for setting tolerance limits in the system, a gage connecting cable, a foot switch, and a DP-1 data collector-printer. A master-test report form is part of the operator's manual allowing up to 4 characteristic inspections to be easily and neatly saved for future reference or presentation to customers.

When the "FASTENERTEST" Computerized Data Collection System is ordered, the "DIMENSION-ALL" Gage should be ordered, less DP-l, cable, and foot switch, because the gage is connected directly to the computer's interface.

The result of a long form Gage Repeatability and Reproducibility Study for the "DIMENSION-ALL" System was 8%.