

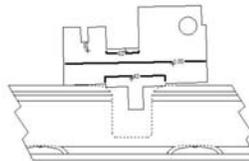
TOMKEY©
AD2011-10-09 Inspection Tool
Instructions

The TomKey© is a precision tool gauge manufactured to tolerances of less than .001” and should be treated as such. It is not a pry tool, bottle cap opener, DZUS® fastener tool or screw driver. Care in it’s use and storage will give many years of service.

Instructions for use

The tool is essentially seven go-no go gauges in one piece. Each gauge is marked with its respective inch measurement dimension and is used as follows (ref. AD2011-10-09 & it’s figures.):

- .05”- Thickness of the Tang (par. (g)(5)). If the gauge fits over the portion of the tang depicted in figure 3, the tang is too thin and should be rejected.
- .23”- Length of the tang (par. (g)(6)). If the gauge fits over the length of the tang as depicted in figure 4, the tang is too short and should be rejected.
- .42”- Diameter of the seat track hole (par. (g)(3) figure 1). Lay the .42” tool edge straddling (fore & aft) the seat track hole being measured. If either end of the .42” tool edge is **not** contacting the seat rail, the hole is within limits. On holes approaching the limit, use a .001” feeler gauge to help determine gauge-to-rail contact. It is usually easiest to slide the gauge to a hole edge and check the trailing edge of the gauge for contact with the rail. See gauge-to-rail figure below.
- .15”- (par. (g)(10), figure 2)When measuring the diameter of the seat track hole(s), mark on the side of the rail with a marker, the .15” distance from the top of the rail. The seat pin depth can then be checked when the seat is reinstalled on the rails.
- (.30”)- Figure 4. This is a reference measurement for the usual tang gap on tangs not worn. (Not a required limit).
- (.44”)- Figure 4. This is a reference measurement for the tang gap when the tangs are worn to the limit. (.44 is not a required limit). Bent roller housings can also cause a large tang gap.
- 1.0”- (par. (g)(8), figure 5) Edge-to-Edge length of the gauge for determining if cracks on the rail are closer than 1.0”.



Gauge-to-rail figure

Verifying tool calibration. Calibration should be annually, when damage is suspected, or as specified in the companies’ FAA approved Tool program (Repair Station, PMA, TSO, etc.), whichever comes first. Pin gauges (class ZZ recommended) and micrometers/calipers used in this process must be in annual calibration traceable to NIST. Calibration of the TOMKEY© may be performed by an FAA A&P mechanic, a calibration company/lab, or a person approved by the companies FAA approved tool program.

Accomplish the following:

- .05”- A .050” pin gauge should *not* fit the slot. A .049” minus (pin gauge no larger than .0490”) *should* just fit fully in the slot. TOMKEY’s© not passing calibration can be sent back to the company for recalibration adjustments.
- .23”- Measure with a calibrated dial calipers/inside micrometer with a .001” resolution. Gap should be .229”, +.000” -.002”. TOMKEY’s© not passing calibration can be sent back to the company for recalibration adjustments.
- .42”- Measure with a calibrated caliper/micrometer with a .001” resolution. Length between the .020” shoulders should be .420” +.002”, -.000”.
- .42” .020” step- Measure with a calibrated micrometer or depth gauge with a .001” resolution. If using a micrometer, measure from the opposite side of the tool on and off the step and subtracting off-step measurement from the on-step measurement. (total of four measurements , two for each side of the step).

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Step should be $.020'' +.002''$, $-.000''$ on both sides of the $.15''$ gauge. Radius of the external step corner should be no more than $.003''$.

$.15''$ - Measure with a calibrated dial calipers with a $.001''$ resolution using depth gauge end or using a calibrated depth gauge. Length of the protrusion from the $.020''$ shoulder surface should be $.150'' +.002'' - .000''$.

$(.30'')$ - Reference measurement only. Measure with a calibrated dial calipers with a $.001''$ resolution. Width should be $.30'' \pm .010''$

$(.44'')$ - Reference measurement only. Measure with a calibrated dial calipers with a $.001''$ resolution. Width should be $.44'' \pm .010''$

$1.0''$ - Measure with a calibrated dial calipers with a $.001''$ resolution. Width should be $1.00'' \pm .010''$.

A tag indicating calibration date, expiration date, tool ID number (assigned by owner or calibration lab) and calibrators' initials or calibration company (logo or abbreviation) shall be affixed to the TOMKEY©. The easiest method is a small tag on the chain that came with the tool.