

## 3-Notch Surface Defect Calibration Standard

This common standard contains three (3) surface notches at depths of 0.008", 0.020", and 0.040". Notch width typically 0.004" to 0.005", with other widths possible. Optional notch #4 is a 0.030" by 0.030" 45° corner notch. (Not pictured on image at right) Materials offered include 7075-T6 Aluminum, AISI 4340 Steel, Type 304 Stainless Steel, 6Al-4V Titanium, Inconel 600, Inconel 625, Inconel 690, and others. Notch depths are machine engraved on one edge; serial number and alloy on the other. NIST traceable. Block dims: 3.0" x 1.0" x .25". In accordance with PH Drawing No. 10075.



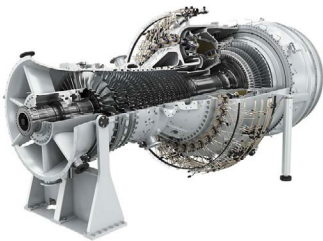
## Bolthole Calibration Blocks

Common blocks containing bolthole notches. Notches can be oriented axially in hole, full thickness of block or less, 45° corner notches, thumbnail corner notches, or other. Block at left contains one (1) bolthole of .500" diameter with axial notch 0.020" deep x 0.004" wide x 1" long. Block dimensions: 4" x 4" x 1". Blocks with multiple holes and notches are common also. Typical hole diameters range from 0.125" to 1.000". Many different block thicknesses, overall sizes, and materials are available. Multiple layer blocks available.



## MIL-STD-271F Performance Verification Reference Block

The Performance Verification Reference Block meets the requirements of MIL-STD-271F, Paragraph 7.4.2. Block is approximately 4" x 6" x 3/8" thick and made of the same material type as that being inspected. Blocks normally contain four (4) notches machined to 0.015" deep x 0.250" long x 0.010" wide (maximum dimensions). Blocks used for inspection of welds in the as-welded condition contain a similar weld with notches positioned in the weld. PH Tool will supply the complete block, or machine the notches in customer-supplied welded blocks.



## Turbine Blade Reference Standards

These standards are made from a customer-supplied blade of the same nominal composition as the blades being tested. EDM notches are machined on the leading and trailing edge of the convex and concave side. Notch dimensions per Westinghouse Process Specification 84351B4 are: 0.010" deep x 0.0025" wide x 0.250" long. Variations of this spec with additional notches are also available.



## Wheel Inspection Reference Standards

This type of standard is made from a wheel of the same nominal composition and size as those being tested. EDM notches of various dimensions can be machined in high-stress areas of the wheel standard. Standards can be made from aircraft, truck, or automobile wheels. Wheels or wheel segments are customer-supplied.



## Air Force General Purpose Eddy Current Standard

Standard is a three (3) plate assembly measuring 4" x 7" x 1.06". Contains twenty (20) fastener holes with diameters from 0.156 to 0.750", two (2) screw holes, and two (2) dowel pins holes. Standard also contains a total of 66 EDM notches in various locations. Notch depth and length vary. Width is 0.004" for all notches. Material is Aluminum Alloy 7075-T6, QQ-A-250/12. Finished standard is anodized per MIL-A-8625, Type II, Class I. Standard can also be made in titanium, steel, stainless steel or other alloy. Manufactured in accordance with U.S.A.F. Tech Order 33B-1-1, Figures 4-47 through 4-49. NSN 6635-01-092-5129, P/N 7947479-10.



## Navy Eddy Current Reference Standard

Standard used by all AIMD NDI shops, shore-based and shipboard, for intermediate maintenance activities for calibrating eddy current units prior to inspection. Standard is a three (3) plate assembly measuring 4" x 7" x .875". Contains twenty (20) fastener holes with diameters from 0.156 to 0.750", two (2) screw holes, and two (2) dowel pins holes. Standard also contains a total of 71 EDM notches in various locations. Notch depth and length vary. Width is 0.004" for all notches. Manufactured in accordance with U.S.A.F. Tech Order 33B-1-1, Figure 4-50. Kit P/N is NRK-3AST and consists of (1) Aluminum, P/N NRK-3A, 7075-T651 top and middle layer, 7075-T73 bottom layer; (1) Steel, P/N NRK-3S, 4340 alloy all three layers, and (1) Titanium, P/N NRK-3T, 6Al-4V alloy all three layers.



## DC-10 Service Bulletin Reference Standards

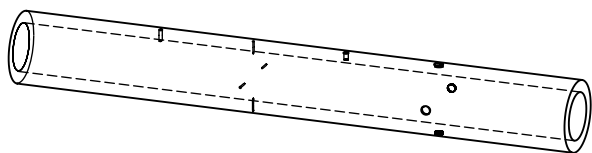
PH Tool is a recommended source for Eddy Current Reference Standards required per Service Bulletin 55-24. All four (4) standards are available including part numbers: SB10550024-3 (10RS.51), SB10550024-5 (10RS.51), SB10550024-7 (10RS.51), and SB09530016-5 (DAC GSET AL.01). Material is 7075-T6 Aluminum alloy.



## Aircraft Manufacturer Standards

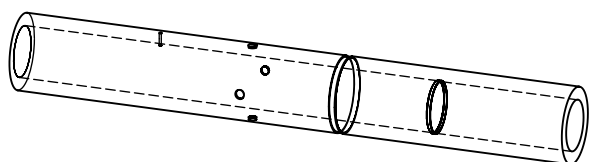
*Boeing, Airbus, Lockheed, Bombardier, Cessna, Saab, Gulfstream, Dassault, Embraer, McDonnell Douglas, and others.*

Standards are available to all aircraft manufacturer's specifications. We can manufacture the complete standard, or machine the EDM notches only in customer-supplied blanks. Both ET and UT standards offered.



## ASME Sec. V Article 8 Mandatory Appendix II Eddy Current Tubing Calibration Standard

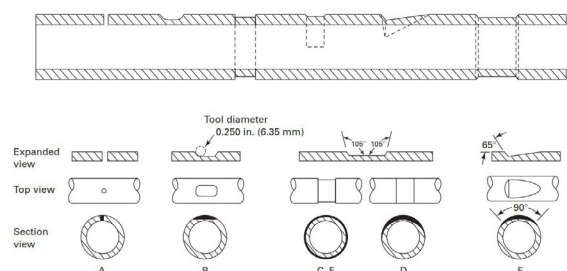
This standard is used to establish and verify system response for ET examination of non-ferromagnetic heat exchanger and nuclear steam generator tubing. Manufactured from tubing of the same nominal size and material type as that being examined. Discontinuities include one (1) through-wall hole (0.052" dia for tubing .750" and under; 0.067" dia for over .750"); four (4) through-wall holes @ .026" dia (for tubing .750" and under) or .033" dia (for tubing over .750") indexed 90°; one (1) .109" dia FBH @ 60%; and four (4) .187" dia FBHs @ 20% indexed 90°. Tubing can be customer or PH Tool-supplied.



## ASME Sec. V Article 8 Mandatory Appendix VIII Eddy Current Tubing Calibration Standard

This standard is used to establish and verify system response for ET examination of non-ferromagnetic heat exchanger tubing, **excluding** nuclear steam generator tubing. Manufactured from tubing of the same nominal size and material type as that being examined. Discontinuities include one (1) through-wall hole (0.031" dia for tubing .375" and under; 0.047" dia for over .375"); four (4) .187" dia FBHs @ 20% indexed 90°; one (1) 360° circumferential groove, .125" wide @ 10% on the OD; one (1) 360° circumferential groove, .063" wide @ 10% on the ID surface (optional for smaller diameter tubing.) Additional calibration features can be added according to customer specifications. Tubing can be customer or PH Tool-supplied.

Flaw	A	B	C	D	E	F
% Depth	100%	50%	20%	40%	60%	20%
Flaw Type	Through-Hole	Flat	Groove	Wear Scar	Tapered flaw	Groove
Flaw Length or Diameter	K × Tube Wall thickness*	1/2 × Tube Diameter	0.625 in. (15.88 mm)	0.625 in. (15.88 mm)	4 × Tube Diameter	2 × Tube Diameter (Length optional)



## ASME Sec. V Article 32, SE-2096, Fig. 4 RFT System Reference Standard

The RFT System Reference Standard has specific artificial flaws. It is used to set up and standardize a remote field system and to indicate flaw detection sensitivity. Flaws machined on the standard include a through-hole, flat-milled flaw, short circumferential groove, wear scar, tapered flaw, and a long circumferential groove. RFT and ET tubing standards can also come with simulated support structures (tube support simulation rings or plates.) Additional calibration features can be added according to customer specifications. Tubing can be customer or PH Tool-supplied.