



PRECISION 7-16 CONNECTOR GAGE KITS

Features

- High Resolution for Increased Accuracy
- Hardened Stainless Steel For Long Life
- Performance Standards Traceable to NIST

Introduction

The Maury 7-16 connector gage kits are used for measuring precision and general purpose connectors including Maury GPC and LPC, IEC 169-4, EN 122190, and BSEN 122190.

Description

The A041A and A041C connector gage kits are designed to measure and check the critical axial interface dimensions of 7-16 coaxial connectors.

The A041A has a higher level of accuracy with a dial resolution of .0001 and is used more for metrology applications. The A041C is for general purpose gage with a dial resolution of .0005. The A041A is recommended for use with many 7-16 calibration kits.

The critical axial interface dimensions for the specified connectors are shown in **Figure 1** on page 2. These dimensions must be maintained in order to provide proper electrical performance and mechanical mating of male and female connectors. These connectors are designed to achieve a coplanar mating at the outer conductor mating plane i.e., a metal to metal contact. Destructive interference may result if the contacts protrude beyond the specification. This can cause buckling of the female contact fingers or damage to associated equipment during mating. Also, an excessive gap of the center contacts when mated produces high reflections and

Model A041A



causes breakdown under peak power conditions. Connectors on all equipment should be gaged on a routine basis to assure continued performance and prevent damage to other equipment.

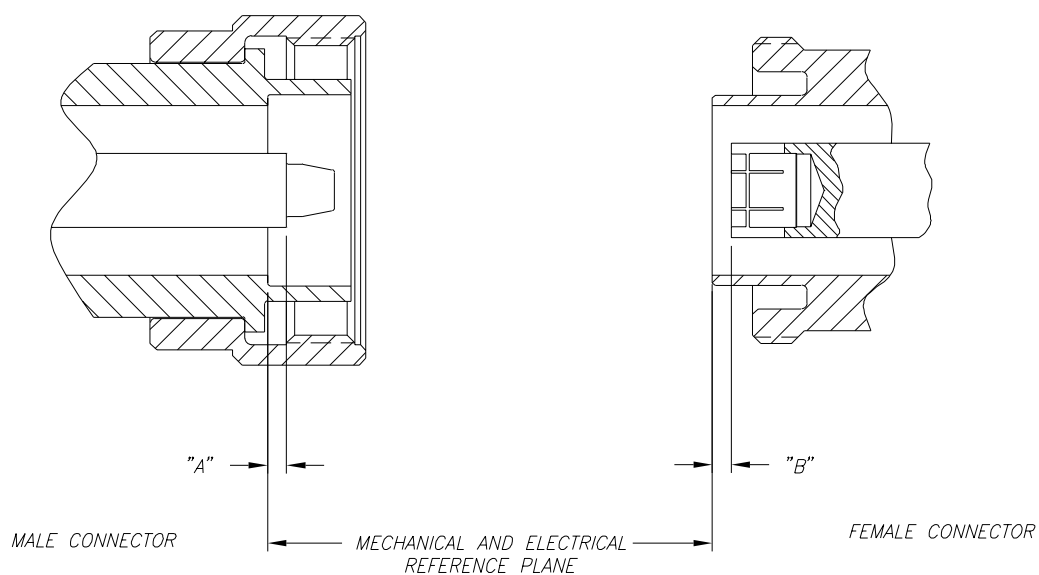
The gage assemblies are basically dial indicator comparators and, when zero set, will reflect the actual deviation from zero, which corresponds to deviation from the outer conductor mating plane.

These gage kits are an essential quality control tool for the laboratory, production check-out, incoming inspection, and other areas where quality and performance are measured.

All gage parts and the master gages are made from hardened stainless steel and will provide long-wearing characteristics with excellent retention of dimensional stability.



Dimensions



"A" = Male Contact Pin Location

"B" = Female Contact Socket Location

Maury 7-16 Connector	"A" Inches		"B" Inches		"A" (mm)		"B" (mm)	
	GPC	0.0697 +.000/-0.010		0.0697 +.012/-0.000		1.77 +.00/-0.25		1.77 +.30/-0.00
LPC	0.0697 +.0000/-0.0015		0.0697 +.0015/-0.0000		1.77 +.000/-0.038		1.77 +.038/-0.000	
European 7-16	min	max	min	max	min	max	min	max
General Purpose	0.0579	0.0697	0.0697	0.0815	1.47	1.77	1.77	2.07
Reference/Test	0.06811	0.06890	0.07047	0.07126	1.73	1.75	1.79	1.81

NOTES: GPC = General Purpose Connector
LPC = Laboratory Precision Connector

Figure 1. Male and Female Center Contact Location for Maury and European 7-16 Connectors



Specifications for the A041A

The specifications listed in the table below are the performance standards based on factory measurements traceable to the U.S.A. National Institute of Standards and Technology (NIST).

Characteristics		Limits	Comments
Gage Resolution		± 0.000020	1/5 Least dial graduation ¹
Gage Calibration Accuracy ⁵		± 0.000150	1 Least dial graduation ² plus 0.000050 measurement guardband
Gage Repeatability		± 0.000020	1/5 Least dial graduation ²
Master Accuracy		± 0.000150	0.00030 Range ³
Total Uncertainty ^{4,5}	RSS	± 0.000214	Root sum of the squares
	Worst Case	± 0.000340	Add resolution, repeatability, gage and master accuracy limits

Specifications for the A041C

The specifications listed in the table below are the performance standards based on factory measurements traceable to the U.S.A. National Institute of Standards and Technology (NIST).

Characteristics		Limits	Comments
Gage Resolution		± 0.000100	1/5 Least dial graduation ¹
Gage Calibration Accuracy ⁶		± 0.000750	1 Least dial graduation ² plus 0.000250 measurement guardband
Gage Repeatability		± 0.000100	1/5 Least dial graduation ²
Master Accuracy		± 0.000150	0.00030 Range ³
Total Uncertainty ^{4,6}	RSS	± 0.000778	Root sum of the squares
	Worst Case	± 0.001100	Add resolution, repeatability, gage and master accuracy limits

NOTES:

- ¹ Per ASME B89.1.10M-2001, C5.1.2.
- ² Per ASME B89.1.10M-2001, Table 2.
- ³ Per manufacturer's specification.
- ⁴ Performance standards are in compliance with ANSI/NCSL Z540-1, MIL-STD-45662A and ISO 10012-1.
- ⁵ Applies over the operating range for connector gaging 0.005" recession to 0.002 protrusion from master gage zero setting.
- ⁶ Applies over the operating range for connector gaging 0.020" recession to 0.005 protrusion from master gage zero setting.