



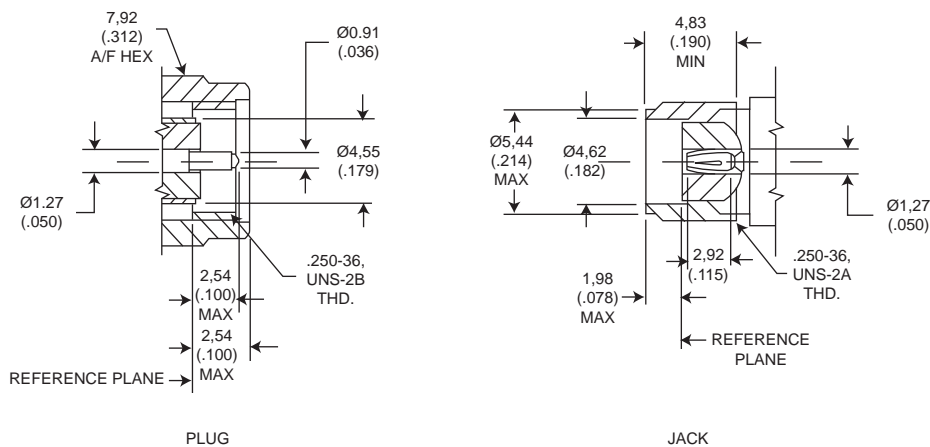
**Key Features**

- Military grade
- Rugged stainless steel design
- Intermateable with all SMAs to Mil-C-39012
- Frequency range DC to 18 GHz

Cannon’s precision SMA connectors feature the MIL-C-39012 Series SMA interface and envelope configuration. They can be mated with all connectors meeting the MIL specification dimensions. Designed for use with a variety of subminiature coaxial cables, superior results are obtained from DC to 18 GHz when used with semi-rigid cables and from DC to 12.4 GHz with flexible cable. These connectors are manufactured with beryllium copper bodies which are gold plated or stainless steel bodies which can be supplied with either a gold plated or passivated finish.

Cannon also offers a range of commercial SMA brass bodied connectors. For further details, please see page 13.

**MATING INTERFACES**



**SPECIFICATIONS**

ELECTRICAL	Impedance	50Ω nominal		
	Frequency Range	0 to 18.0 GHz		
	Voltage Rating	Connectors for RG178/U series cable: At Sea Level=170 Vrms. At 21km (70k feet) = 45 Vrms Connectors for RG316/U series cable: At Sea Level = 250 Vrms. At 21km (70k feet) = 65 Vrms Connectors for RG142/U series cable: At Sea Level = 335 Vrms. At 21km (70k feet) = 85 Vrms		
	Insulation Resistance	5000 MΩ minimum		
	Contact resistance	Center Contact = 3.0 m Ω maximum initial. 4.0 m Ω maximum after environment Outer Contact = 2.0 m Ω maximum initial. 2.0 m Ω maximum after environment Braid to Body = 0.5 m Ω maximum		
	Contact Current Rating	2.0 A dc maximum		
	Insertion Loss	0.06 x $\sqrt{\text{freq. GHz}}$ tested at 6 GHz		
	RF Leakage	-60 dB minimum @ 2 - 3 GHz		
	Voltage Standing Wave Ratio (VSWR) To 18 GHz or 80% of upper cut-off frequency of the cable , whichever is lower. Applicable to 50Ω cables only.(F = GHz)	Connector Configuration		
		Cable group	Straight	Right Angle
RG178/U braided		1.20 + .025F	1.20 + .03F	
RG316/U braided		1.15 + .02F	1.15 + .03F	
RG142/U braided		1.15 + .01F	1.15 + .02F	
Dielectric Withstanding Voltage (DWV) Corona Level	Connectors used with RG316/U series cable = 750 Vrms @ Sea Level			
	Connectors used with RG316/U series cable = 190 V @ 21km (70k feet) minimum			
MECHANICAL	Engagement Design	SMA per MIL-C-39012, Series SMA		
	Engagement Forces	Torque: 0.23 Nm (2 in. lbs.) maximum		
	Contact Torque	0.03 Nm (4 in. ozs.) minimum. (For captivated contacts)		
	Mating Torque	0.8 Nm to 1.1 Nm (7 to 10 in. lbs.)		
	Locknut Torque	1.4 Nm to 1.7 Nm (12 to 15 in. lbs.) minimum		
	Coupling Nut Retention	267 N (60 lbs.) minimum		
	Materials	Body & Body Components: Non-magnetic stainless steel or beryllium copper. Female Contacts: Beryllium copper. Insulators: PTFE. Crimp Ferrule: Annealed copper alloy. Gaskets: Silicone rubber		
Finish/Plating	Center Contacts: Gold plated. Other Metal Parts: Gold plated or passivated (as specified) to meet the finish and corrosion requirements of MIL-C-39012			
ENVIRONMENTAL	Temperature Rating	-65° C to 165° C		
	Corrosion (salt spray)	MIL-STD-202, Method 101, test condition B, 5% salt solution		
	Vibration, High Frequency	MIL-STD-202, Method 204, test condition D (20 G's)		
	Shock	MIL-STD-202, Method 213, test condition I (100 G's)		
	Thermal Shock	MIL-STD-202, Method 107, test condition B		
Moisture Resistance	MIL-STD-202, Method 106. No measurements at high humidity. Insulation resistance shall be 200 M Ω minimum within 5 minutes after removal from humidity.			
GENERAL	Connector Durability	500 matings minimum		
	Contact Captivation	Unless otherwise specified, all connectors feature captivated contacts. When captivated the contacts will withstand 26.7 N (6 lbs.) minimum axial force.		
	Cable Retention	When properly assembled to the compatible single braided coaxial cable, the retention is equal to the breaking strength of the cable.		
Body Plating Options				
The following part number suffices can be specified for Precision SMA Connectors				
..... 310 gold body, gold coupling nut				
..... 890 passivated body & coupling nut				
except <u>Direct Solder Types</u> : gold body, passivated coupling nuts				

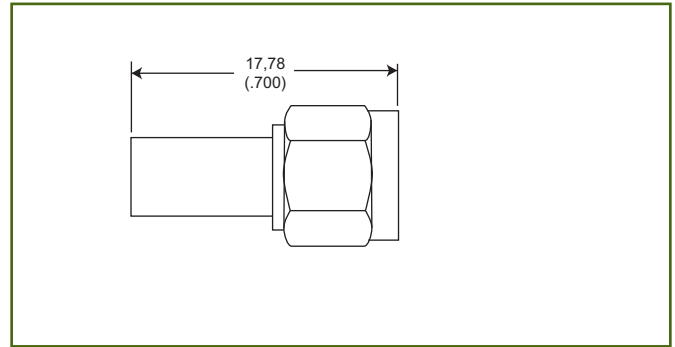
Dimensions shown in mm (inch)  
Specifications and dimensions subject to change



**CRIMP TYPE CABLE CONNECTORS FOR FLEXIBLE CABLE**

Straight Plug, Non-Captive Contact

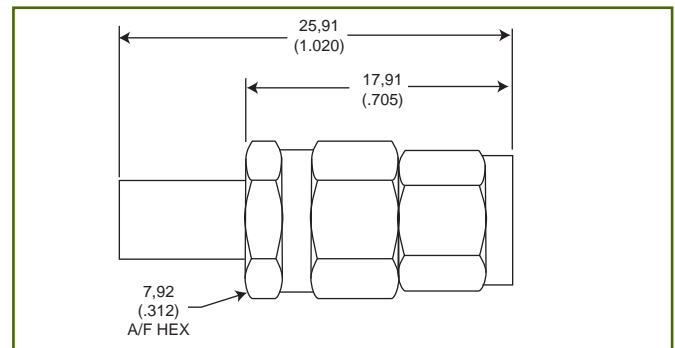
Part Number	Cable Numbers
050 - 622 - 9188890	RG174/U, 316/U
050 - 622 - 9875890	RD316



Assembly Instructions AI-102 (Page 43)

Straight Plug, Captive Contact

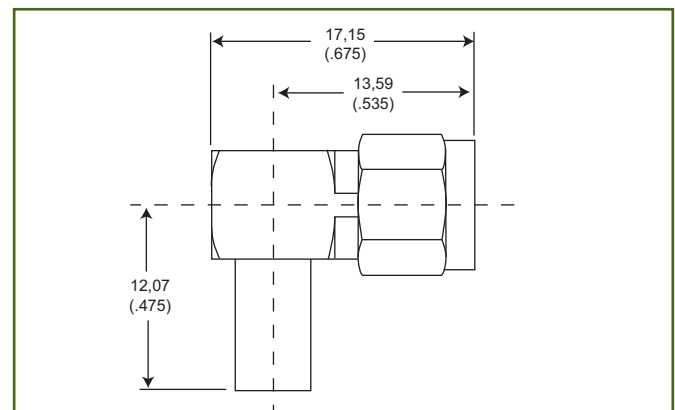
Part Number	Cable Numbers
A50 - 624 - 9188890	RG174/U, 316/U
A50 - 624 - 9875890	RD316



Assembly Instructions AI-703 (Page 51)

Right Angle Plug, Captive Contact

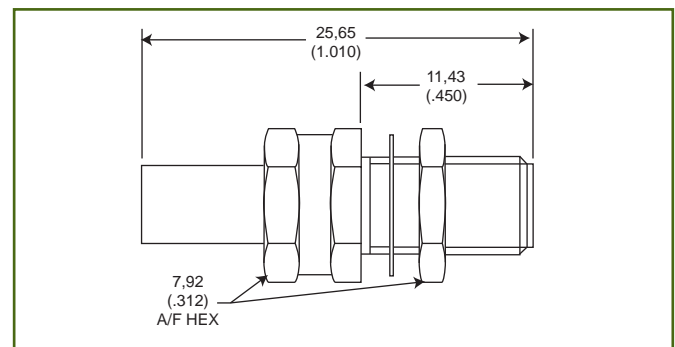
Part Number	Cable Numbers
050 - 628 - 9188890	RG174/U, 316/U
050 - 628 - 9875890	RD316



Assembly Instructions AI-90 (Page 41)

Bulkhead Jack, Captive Contact

Part Number	Cable Numbers
050 - 627 - 9188890	RG174/U, 316/U
050 - 627 - 9875890	RD316



Mounting Plan W (Page 40)  
Assembly Instructions AI-227 (Page 46)

The surface finish on these products is passivated stainless steel. For gold plated versions change last three digits of the the part number from 890 to 310.



Dimensions shown in mm (inch)  
Specifications and dimensions subject to change

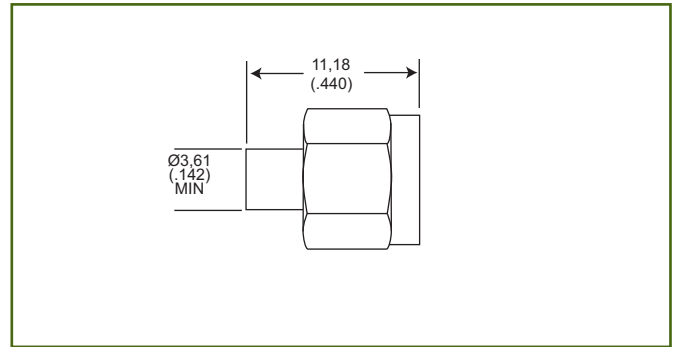
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**DIRECT SOLDER TYPE CABLE CONNECTORS FOR SEMI-RIGID CABLE**

Straight Plug without Center Contact\*

Part Number	Cable Numbers
055 - 607- 2003890	RG402/U

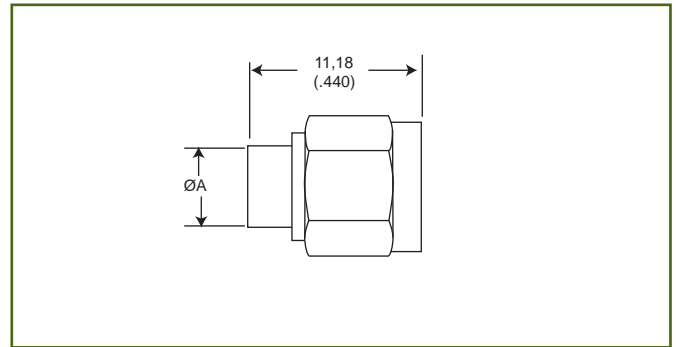
\*Center conductor of cable is used as contact



Assembly Instructions AI-302 (Page 48)

Straight Plug with Center Contact

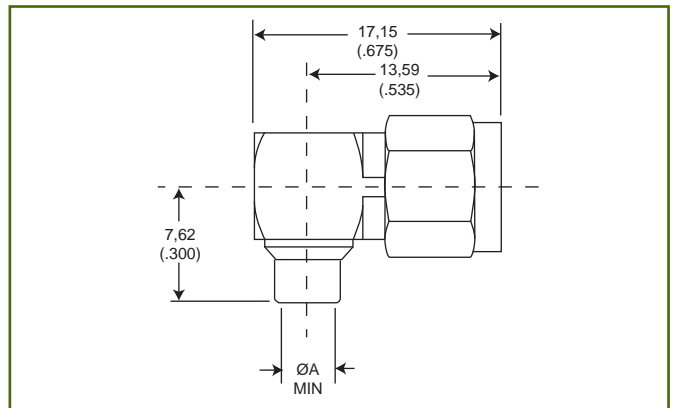
Part Number	Cable Numbers	A
055 - 607- 9172890	RG405/U	2,20 (.088)
055 - 607 - 9173890	RG402/U	3,60 (.142)



Assembly Instructions AI-252 (Page 47)

Right Angle Plug

Part Number	Cable Numbers	A
055 - 611- 3702890	RG405/U	2,20 (.088)
055 - 611- 3703890	RG402/U	3,60 (.142)



Assembly Instructions AI-98 (Page 42)

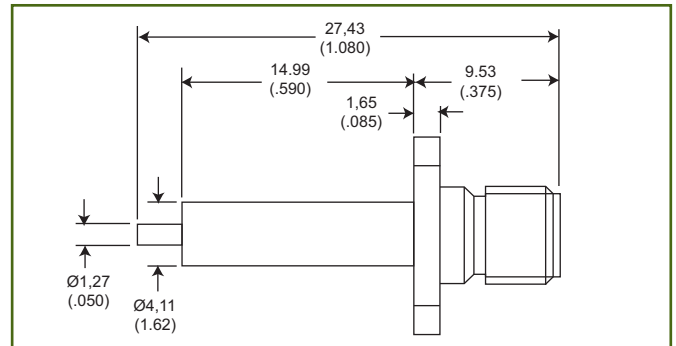
The surface finish on these products is passivated stainless steel. For gold plated versions change last three digits of the the part number from 890 to 310.

Dimensions shown in mm (inch)  
 Specifications and dimensions subject to change

**FLANGE MOUNT RECEPTACLES**

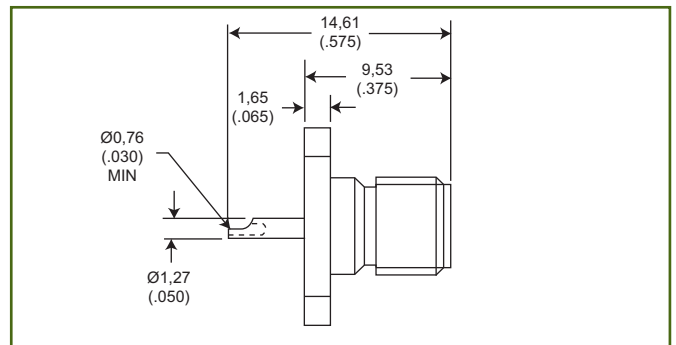
Straight Jack, Stub Contact, Extended Dielectric

Part Numbers	
Square Flange	Narrow Flange
050 - 645 - 9009890	050 - 645 - 4540890



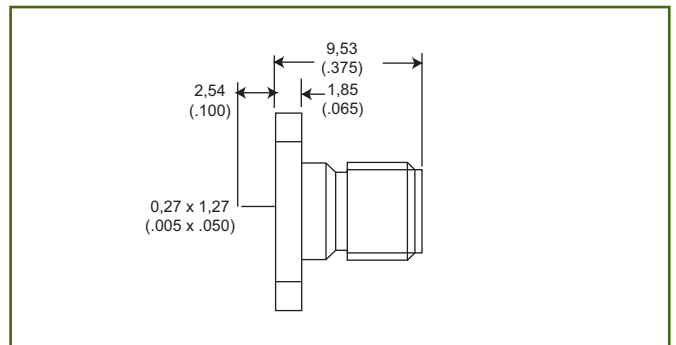
Straight Jack, Solder Pot Contact, Flush Dielectric

Part Numbers	
Square Flange	Narrow Flange
050 - 645 - 9019890	Contact Customer Service



Straight Jack, Tab Contact, Flush Dielectric

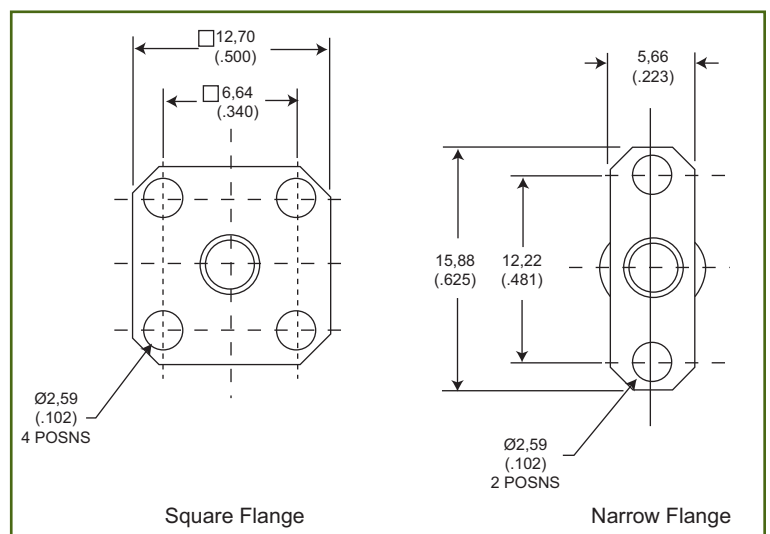
Part Numbers	
Square Flange	Narrow Flange
050 - 645 - 4575890	050 - 645 - 4528890



**Flange Dimensions for Flange Mount Receptacles and Panel Jacks**

ALL FLANGE MOUNT RECEPTACLES HAVE CAPTIVATED CONTACTS

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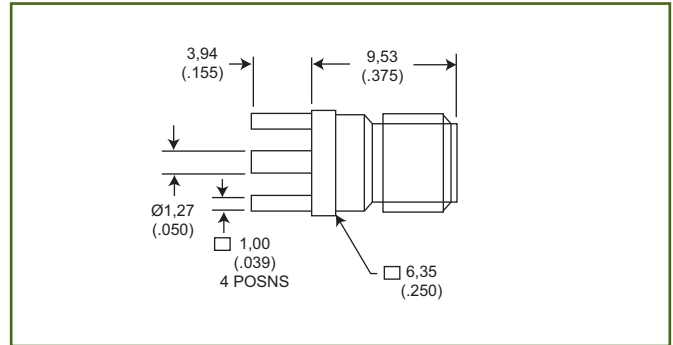
Dimensions shown in mm (inch)  
Specifications and dimensions subject to change

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**PRINTED CIRCUIT RECEPTACLES**

Straight Jack

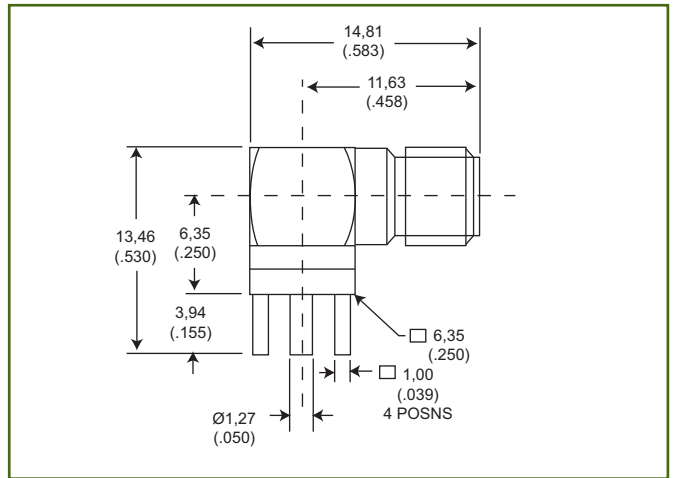
Part Number
050 - 651 - 0000310



Mounting Plan D (Page 40)

Right Angle Jack

Part Number
050 - 653 - 0000310



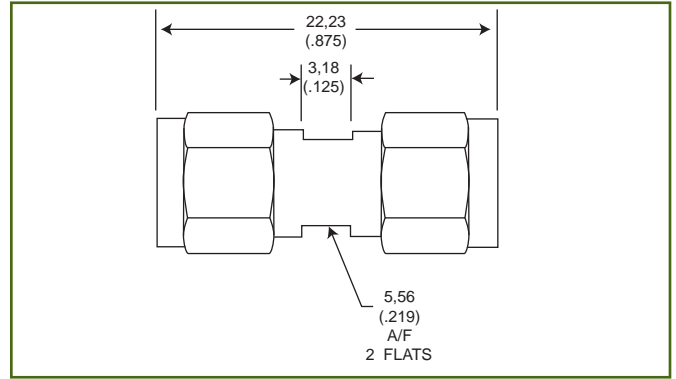
Mounting Plan D (Page 40)

**IN-SERIES ADAPTORS**

Plug to Plug Adaptor, Straight

Part Number

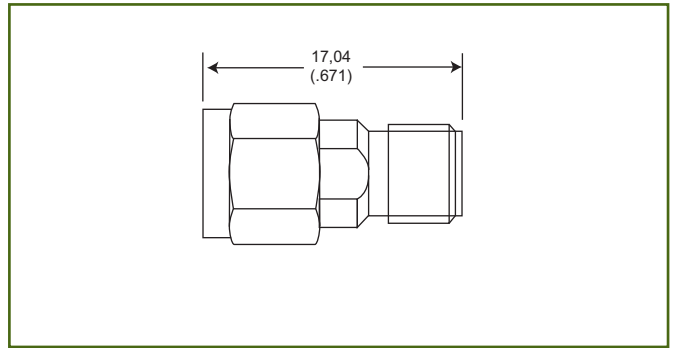
050 - 673 - 0000890



Plug to Jack Adaptor, Straight

Part Number

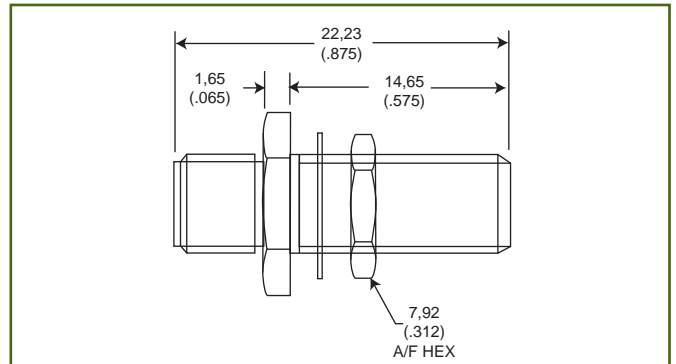
050 - 674 - 0000890



Jack to Jack Adaptor, Bulk Head Mount, Straight

Part Number

050 - 675 - 0000890

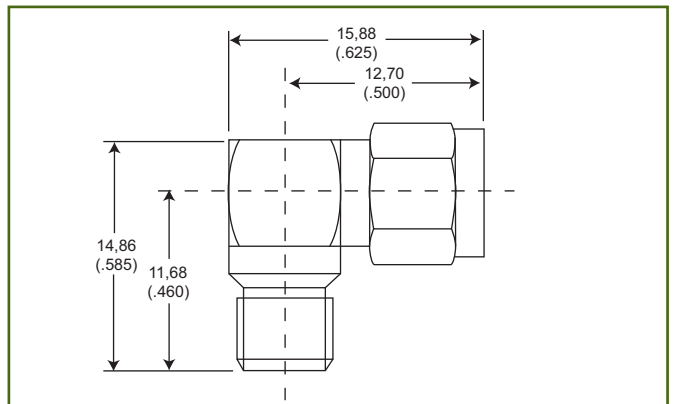


Mounting Plan W (Page 40)

Plug to Jack Adaptor, Right Angle

Part Number

050 - 678 - 0000890



The surface finish on these products is passivated stainless steel. For gold plated versions change last three digits of the the part number from 890 to 310.



Dimensions shown in mm (inch)  
Specifications and dimensions subject to change

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