

# Keysight 16092A Test Fixture

Operation and  
Service Manual

# Notices

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### CAUTION

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### WARNING

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

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## Contents

## 1 Operation

This operating note provides the information required to maintain and repair the 16092A Spring Clip Fixture. The 16092A pictorially shown in **Figure 1-1** was specially designed for use with the Impedance analyzer. How to use the 16092A, performance characteristic data, and operating instructions are given in the Impedance Analyzer's operation and service Manual. To order additional copies of this operating note, use the part number listed on the rear cover and contact the nearest Keysight Technologies office.

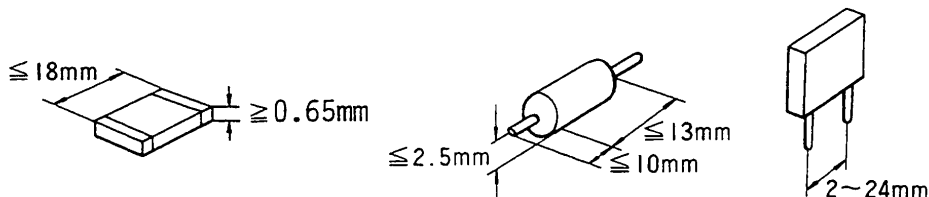
Figure 1-1 16092A Test Fixture



## Description

The 16092A spring Clip Fixture is used for measurement of both axial and radial lead components and lead-less chip elements. Spring clip contacts are capable of holding samples of dimensions given below:

Figure 1-2



A combined slide gauge provides direct readouts of the physical length of the sample tested.

Usable frequency range: DC to 500 MHz

Electrical Length: 0.34cm (typ.).

Maximum Voltage:  $\pm 40\text{V}$  peak max. (AC + DC)

### NOTE

A special skirted grounding terminator is furnished with the 16092A spring Clip Fixture. The terminator provides an optimum shorting configuration between the High terminal and ground of the test fixture. When the test fixture is short-circuited, the residual resistance and inductance of the fixture terminal can be measured in the L-R(inductance-series resistance) mode of the Impedance Analyzer using the following procedure.

Remove the slide clip contact (twin clip contact) assembly from the test fixture deck. Attach (screw) the special grounding electrode, with its concave slide down to test fixture positive contact post. Under this condition, the residual inductance and resistance are displayed.

The left and right spring clip assemblies on the 16092A spring Clip Fixture are composed of the same parts and are assembled and disassembled in the same way as shown in the figure.

## 2 Service

### Introduction

This chapter gives the service information for the 16092A Test Fixture.

Serial Number for Non-RoHS 16092A:

“MY43100001 – MY43199999” or “SG43100001 – SG43199999”

Serial Number for RoHS 16092A:

“MY43200001 and above” or “SG43200001 and above”

### Maintenance

**Figure 2-1** lists all replaceable parts of the 16092A. To identify the locations of the individual parts listed refer to the exploded view. Do not disassemble any further than shown in the figure. To order the necessary replacement parts, identify them by their Keysight Technologies part number. If a defective part is located in an assembly that cannot be disassembled, order the next higher assembly or return the whole device to the nearest Keysight Technologies Sales/service office for repair or replacement.

Shown are the supported parts and their respective RoHS compliant replacement support part. RoHS conversion involves with design and dimension change which result in the RoHS support part backward incompatible with non-RoHS 16092A. Special handling is needed while using the RoHS replacement part on non-RoHS 16092A. The original support part number is replaced by the respective “RoHS Compliant Replacement Part”. Once the original support part is depleted, please proceed to obtain the RoHS compliant support part.

Figure 2-1 Parts Identification

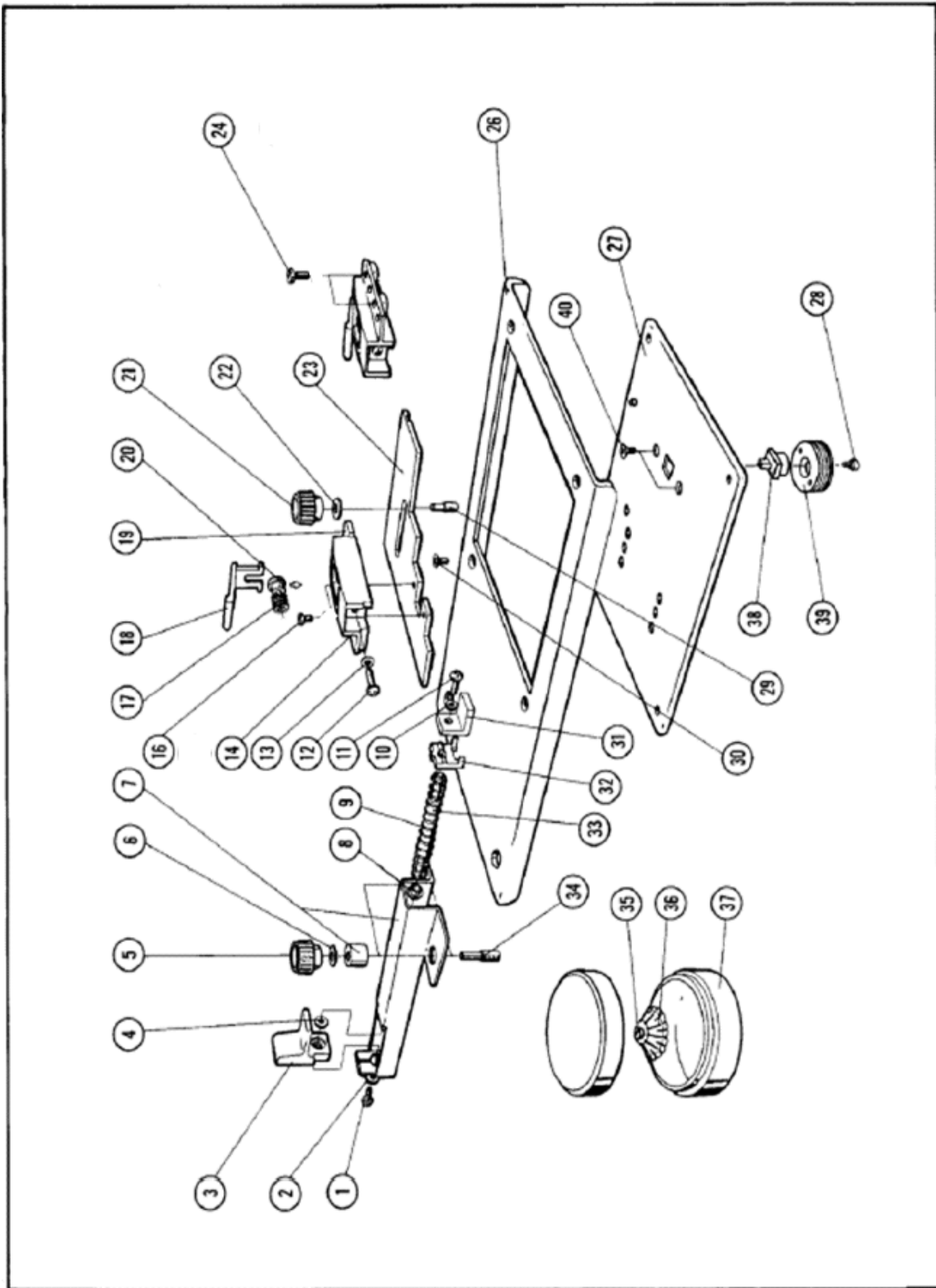




Table 2-1

Replaceable Parts List

Ref /D	Keysight Part No.	Description	Qty	RoHS Compliant Replacement Part	Description	Qty
1	0520-0174	SCREW	1	<sup>1</sup> Set Change: 0515-0659	SCREW	1
2	2190-0125	WASHER	1	<sup>1</sup> Set Change: 3050-0098	WASHER	1
3	16092-40015	LEVER	1	16092-40015	LEVER	1
4	3050-0230	WASHER	1	<sup>1</sup> Set Change: 3050-0098	WASHER	1
5	0370-2446	KNOB	2	0370-2446	KNOB	2
6	2190-0199	WASHER	2	2190-0199	WASHER	2
7	16092-65001	HOLDER	1	16092-65001	HOLDER	1
8	16092-23012	COLLAR	1	16092-23012	COLLAR	1
9	1460-0350	SPRING	1	1460-0350	SPRING	1
10	2190-0125	WASHER	1	<sup>1</sup> Set Change: 3050-1066	WASHER	1
11	0520-0174	SCREW	1	<sup>1</sup> Set Change: 0515-4293	SCREW	1
12	0520-0133	SCREW	2	<sup>2</sup> Set Change: 0515-0661	SCREW	2
13	2190-0103	WASHER	2	<sup>2</sup> Set change: 3050-1066	WASHER	2
14	16092-40010	HOLDER	2	16092-40010	HOLDER	2
16	16092-24012	SCREW	2	16092-24012	SCREW	2
17	1460-0352 (16092-29001)	SPRING	2	16092-29001	SPRING	2
18	16092-40011 (16092-01201)	LEVER	2	16092-01201	LEVER	2
19	16092-40016	HOLDER	2	<sup>2</sup> Set Change: 16092-40616	HOLDER	2

Table 2-1

Replaceable Parts List

Ref /D	Keysight Part No.	Description	Qty	RoHS Compliant Replacement Part	Description	Qty
20	16092-23010	SHAFT	2	16092-23010	SHAFT	2
21	0370-2446	KNOB	1	0370-2446	KNOB	1
22	2190-0199	WASHER	1	2190-0199	WASHER	1
23	16092-00611	PLATE	1	16092-00623	PLATE	1
24	16092-24011	SCREW	2	16092-24011	SCREW	2
26	16092-00210	TABLE	1	<sup>3</sup> Set change: 16092-00271	TABLE	1
27	16092-65003	PLATE	1	<sup>3</sup> Set change: 16092-65073	PLATE	1
28	1250-0907	CONTACT-RF CONNECTOR	1	1250-0907	CONTACT-RF CONNECTOR	1
29	16092-24010	SCREW	1	16092-24010	SCREW	1
30	0520-0163	SCREW	4	<sup>3</sup> Set change: 0515-1946	SCREW	4
31	16092-29011	GROUND CONDUCTOR	1	16092-29011	GROUND CONDUCTOR	1
32	16092-40014	GUIDE	1	16092-40614	GUIDE	1
33	16092-23011	SHAFT	1	<sup>1</sup> Set change: 16092-23611	SHAFT	1
34	16092-24013	SCREW	2	16092-24013	SCREW	2
35	16092-24012	SCREW	1	16092-24012	SCREW	1
36	16092-08010	GROUND SPRING	1	16092-08010	GROUND SPRING	1
37	1540-0622	CASE	1	9300-2603	CASE	1
38	16092-40018 (16092-40019)	CENTER POST WITH INSULATOR	1	16092-40019	CENTER POST WITH INSULATOR	1
39	16092-24014	GROUND SCREW	1	<sup>3</sup> Set change: 16092-24614	GROUND SCREW	1

Table 2-1

Replaceable Parts List

Ref /D	Keysight Part No.	Description	Qty	RoHS Compliant Replacement Part	Description	Qty
40	0520-0126	SCREW	2	<sup>3</sup> Set change: 0515-2151	SCREW	2

1. Replace all the associated parts marked with <sup>1</sup> as they are mutually dependent.
2. Replace all the associated parts marked with <sup>2</sup> as they are mutually dependent.
3. Replace all the associated parts marked with <sup>3</sup> as they are mutually dependent.

PERIODIC AND PREVENTIVE MAINTENANCE OF THE APC-7 CONNECTOR CONTACTS.

Keep contact surface of the APC-7 connector (part of the test fixture) clean and dry. Replace the center pin of the APC-7 connector every 50 connections and disconnections or when the center pin is damaged or worn. The appropriate procedure and the precautions to follow when cleaning and replacing the contacts of the APC-7 connector are outlined in paragraph 3 and 4.

REPLACEMENT OF THE APC-7 CONNECTOR CONTACT.

To maintain optimum contact between the APC-7 connector contacts it is recommended that the RF Connector Contact (Keysight Part No. 1250-0907) of the center conductor be replaced every 50 connections/disconnections or as required (when damaged or worn). A Pin vise of the 11591A APC-7 Pin Replacement Kit is required to remove the contact from the connector. The replacement procedure is outlined below:

1. Grip the Pin vise and fully open the vise chuck by pressing the button on the vise.
2. Place the Pin vise over the center conductor of the APC-7 connector and guide pin into the hole of the contact.
3. Close the vise chuck by releasing the button the chuck will close around the connector contact and extract it from the APC-7 connector.
4. Lift the Pin vise up and away and remove the extracted contact from the vise chuck.
5. Carefully insert the new contact into the center conductor using tweezers. Push the contact into the center conductor with a clean flat-head stick until it is seated.

## CLEANING APC-7 CONNECTORS.

The APC-7 connector contact surface of the UNKNOWN terminal terminations and test fixtures must be kept clean, i.e. free of dust oil or any foreign matter which will prevent good contact. To maintain clean contact surfaces, it is recommended that the operator perform periodic cleaning as necessary. Use a lint-free cloth and if a cleaning fluid is needed, use isopropylalcohol.

### CAUTION

Do not use aromatic or chlorinated hydrocarbons, esters, ethers, terpenes, higher alcohols, ketones, or such chemicals as benzene, toluene, turpentine, dioxane, gasoline, cellulose acetate, or carbontetrachloride. Keep exposure of the connector parts to both the cleaning fluid and its vapors as brief as possible.

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