

# Keysight 16034E Test Fixture

Operation and  
Service Manual

# Notices

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### CAUTION

A **CAUTION** 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 damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

### WARNING

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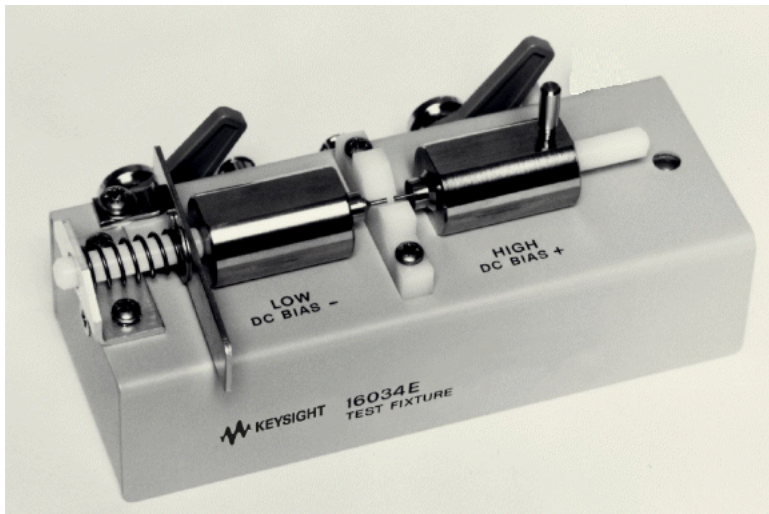
# 1 Operation

This Operating note provides Operating and service information for the Keysight 16034E Test Fixture. Specifications are listed in [Table 1-1](#).

## Product Description

This test fixture is designed to facilitate easy and accurate measurements of chip type components and similar types not furnished with lead wires. Connection of sample components to the 16034E is done by simply pressing the loading lever to left, inserting sample components in the V-mount center section (between fixture jaws) and releasing lever. Components which may be measured with the 16034E are the rectangular paralleled chip, cylindrical chip, and other similar in shape and type to components shown in [Table 1-1](#). The 16034E is shown in [Figure 1-1](#).

Figure 1-1 Product Overview

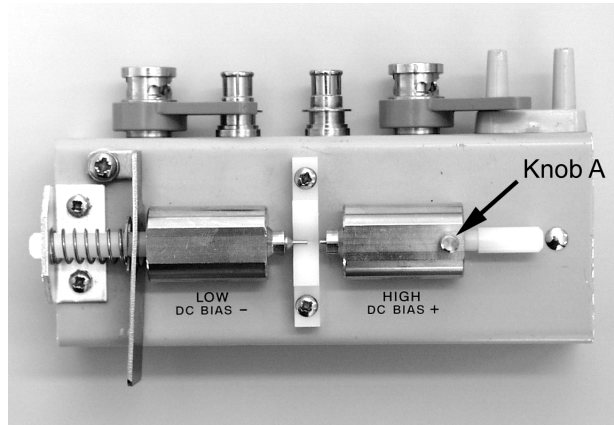


## Operation

The set up and measurement procedure is as follows:

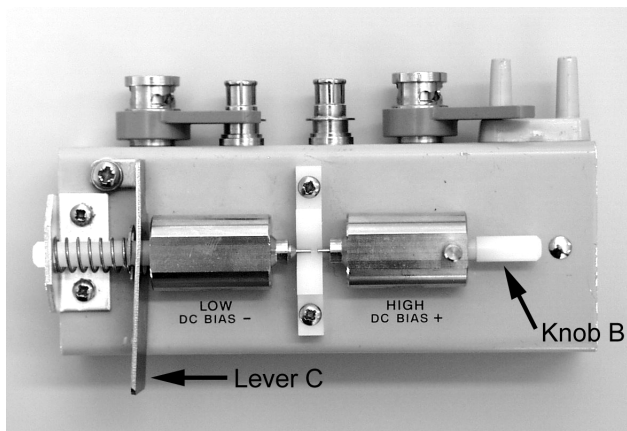
1. Set the cable length to 0m.
2. Connect the 16034E directly to the UNKNOWN terminals.
3. Loosen the knob A.

Figure 1-2



4. Adjust the contact pin position on the V-mount center section with the knob B to adapt your DUT size.

Figure 1-3

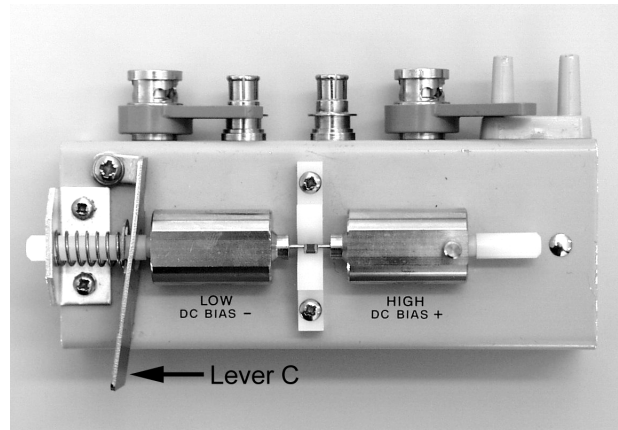


5. Tighten the knob A to fix the contact pin.
6. Make the right and the left contact pins contact.
7. Perform the short compensation described in the instrument's operation manual.
8. Pressing the loading lever C to left.
9. Hold the lever C so that the gap of contact is as same as the DUT's length.

Operation  
Operation

10. Perform the open compensation described in the instrument's operation manual.
11. Inserting a sample components in the V-mount center section (between fixture jaws).
12. Releasing the lever C to fix the DUT.

Figure 1-4



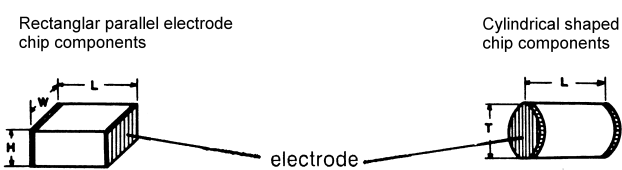
**WARNING**

DO NOT APPLY MORE THAN  $\pm 42V$  OF DC BIAS VOLTAGE TO THE UNKNOWN TERMINALS. AN ELECTRICAL SHOCK HAZARD WILL EXIST DURING OPERATION WHEN THE DC BIAS VOLTAGE IS GREATER THAN  $\pm 42V$  DC.

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## Specifications

Table 1-1 Specification of the 16034E

Function:	For use with 4 terminal-pair LCR Meters and Impedance Analyzers.
Measurable components:	Chip type components (Not furnished with lead wires)
Dimension of measurable components:	 <p>Rectangular parallel electrode chip components</p> <p>Cylindrical shaped chip components</p> <p>L: 0.1~ 8.0mm      H: 0.5~10.0mm W: 0.5~10.0mm      T: 0.5~ 3.0mm</p>
Frequency:	≤ 40 MHz
Maximum Voltage:	± 42 V peak max.(AC + DC)
Dimensions of test fixture:	128 (W) × 60 (H) × 71 (D) mm
Weight:	270 g

## Typical Characteristics

Table 1-2 Typical Characteristics

Incremental Error at $f \geq 1$ MHz	
Parameter reading error (%)	Offset Value for D

$$\pm 1.50 \times \left(\frac{f}{10}\right)^2$$

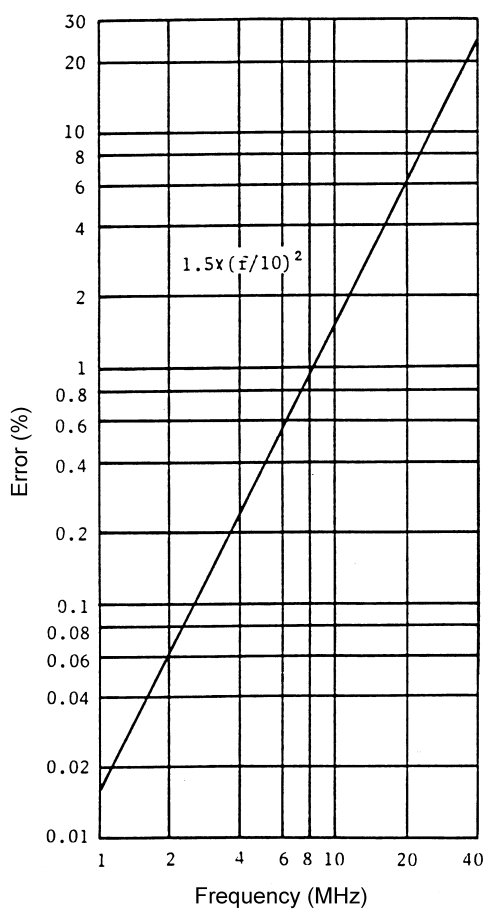
$$\pm 0.015 \times \left(\frac{f}{10}\right)^2$$

### NOTE

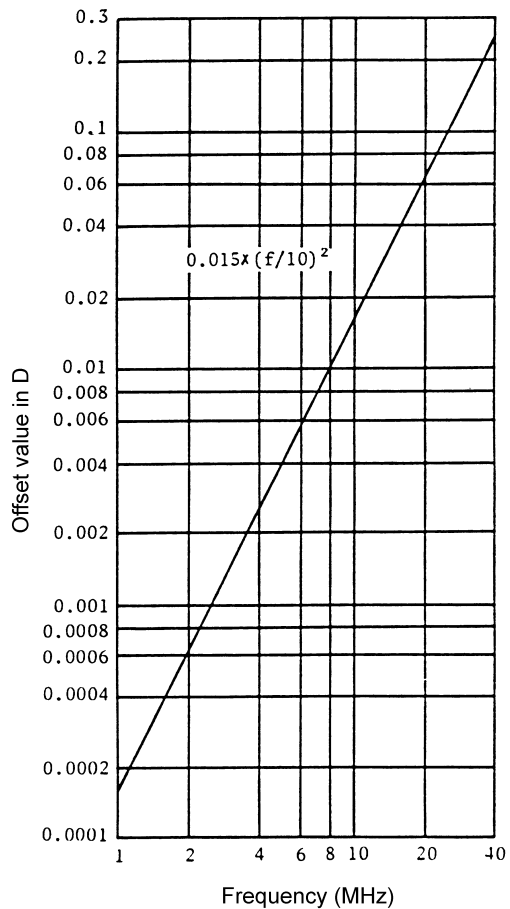
f is the measurement frequency in MHz. The incremental errors calculated from the equations given in this table are additive when measurements are made above 1MHz. The incremental error is applicable after completion of the OPEN/SHORT compensation.



Figure 1-5



Parameter reading error vs frequency



Offset value in D vs frequency

Operation  
Specifications

## 2 Service

### Introduction

This chapter gives the service information for the 16034E.

Serial Number for Non-RoHS 16034E:

“MY44100001 – MY44199999” / “SG44100001 – SG44199999”

Serial Number for RoHS 16034E:

“MY44200001 and above” / “SG44200001 and above”

### Maintenance

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 16034E. Special handling is needed while using the RoHS replacement part on non-RoHS 16034E. The original support part number is replaced by the respective “RoHS Compliant Replacement Part”. Please refer to **Table 2-1** for the respective replacement part accordingly.

Do not disassemble any further than shown. Maintenance consists principally of cleaning contacts and replacing worn or damaged parts. Take special care when cleaning contacts.

To order parts, use the Keysight Technologies part numbers listed in **Table 2-1**. If a faulty part is located in an assembly that cannot be disassembled, order the next higher assembly or return the fixture to the nearest Keysight Technologies Sales/Service Office for repair or replacement.

Figure 2-1 Parts Identification

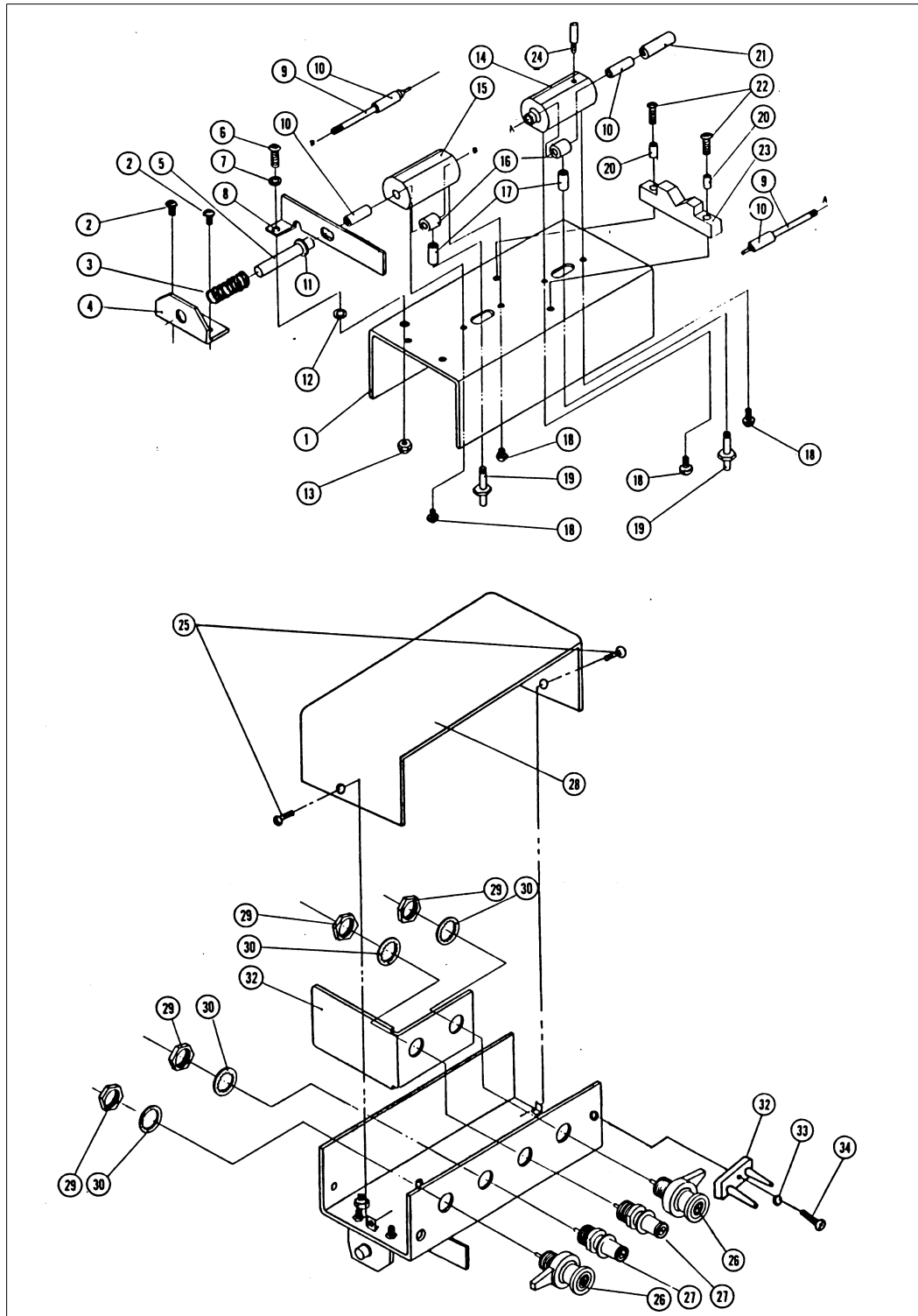


Figure 2-2

Parts Identification

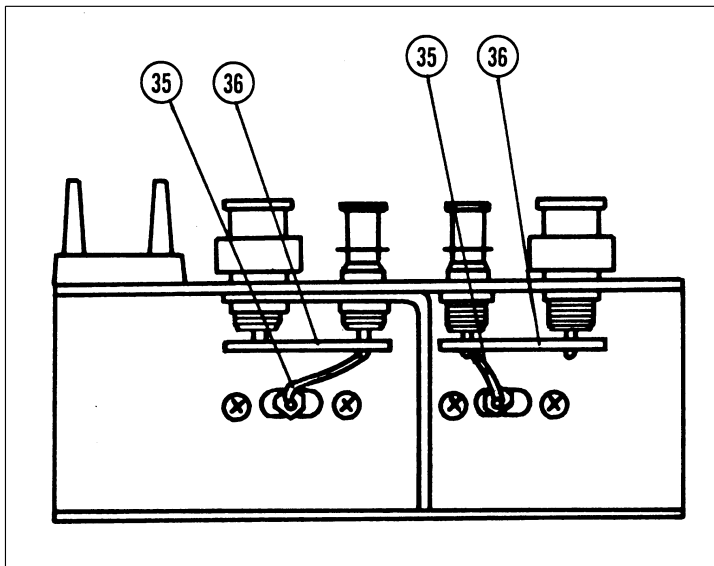


Table 2-1

Parts Identification lists

Ref /D	Non-RoHS Part Number	Qty	Description	RoHS Compliant Replacement Part	Qty
1	16034-00221 (16034-00241)	1	TOP COVER	16034-60005	1
2	2200-0103 (No more used)	2	SCREW	Not used	-
3	1460-0323	1	SPRING	1460-0323	1
4	16034-01202 (No more used)	1	BRACKET	Not used	-
5	16034-25004	1	KNOB	16034-25004	1
6	2360-0201	1	SCREW	16034-60005	1
7	3050-0228	1	WASHER	Not used	-
8	16034-05001	1	LEVER	16034-60005	1
9	16034-23001	2	SHAFT	16034-23001	2
10	16034-25002	4	COLLAR	16034-25002	4
11	0510-0083	1	ERING	0510-0083	1
12	3050-1138	1	WASHER	16034-60005	1
13	2420-0006 (2420-0003)	1	NUT	16034-60005	1

Table 2-1

Parts Identification lists

Ref /D	Non-RoHS Part Number	Qty	Description	RoHS Compliant Replacement Part	Qty
14	16034-20002 (16034-20102)	1	BLOCK	16034-60005	1
15	16034-20001 (16034-20101)	1	BLOCK	16034-60005	1
16	16034-24001	2	COLLAR	16034-24001	2
17	16034-25001	2	COLLAR	16034-25001	2
18	2200-0101	4	SCREW	16034-60005	1
19	16034-20003	2	PLUG	16034-20003	2
20	0380-0044 (3050-0229)	2	COLLAR	16034-60005	1
21	16034-25003	1	KNOB	16034-25003	1
22	2200-0769 (2200-0111)	2	SCREW	16034-60005	1
23	16034-25005 (42851-40021)	1	BLOCK	42851-40021	1
24	16034-23013	1	SCREW	16034-60005	1
25	2360-0192	2	SCREW	16034-60005	1
26	16012-7122 (5012-8617)	2	BNC ASS'Y	5012-8617	2
27	1250-1798 (5012-8628)	2	BNC	5012-8628	2
28	16034-00222 (16034-00242)	1	BOTTOM COVER	16034-60005	1
29	2950-0043	4	NUT	2950-0043	4
30	2190-0016	4	WASHER	2190-0016	4
31	16034-00601	1	SHIELD PLATE	16034-00601	1
32	16047-40000	1	STOPPER	Not used	-
33	2190-0206	1	WASHER	Not used	-
34	2200-0105	1	SCREW	Not used	-
35	16034-68021	2	J.W.L	16034-61601	2

Table 2-1

Parts Identification lists

Ref /D	Non-RoHS Part Number	Qty	Description	RoHS Compliant Replacement Part	Qty
36	16047-00617	2	PLATE	16034-60005	1

Service  
Maintenance



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