

# instruction sheet

FOR THE HEATHKIT HIGH VOLTAGE PROBE MODEL NO. 336

## PARTS LIST

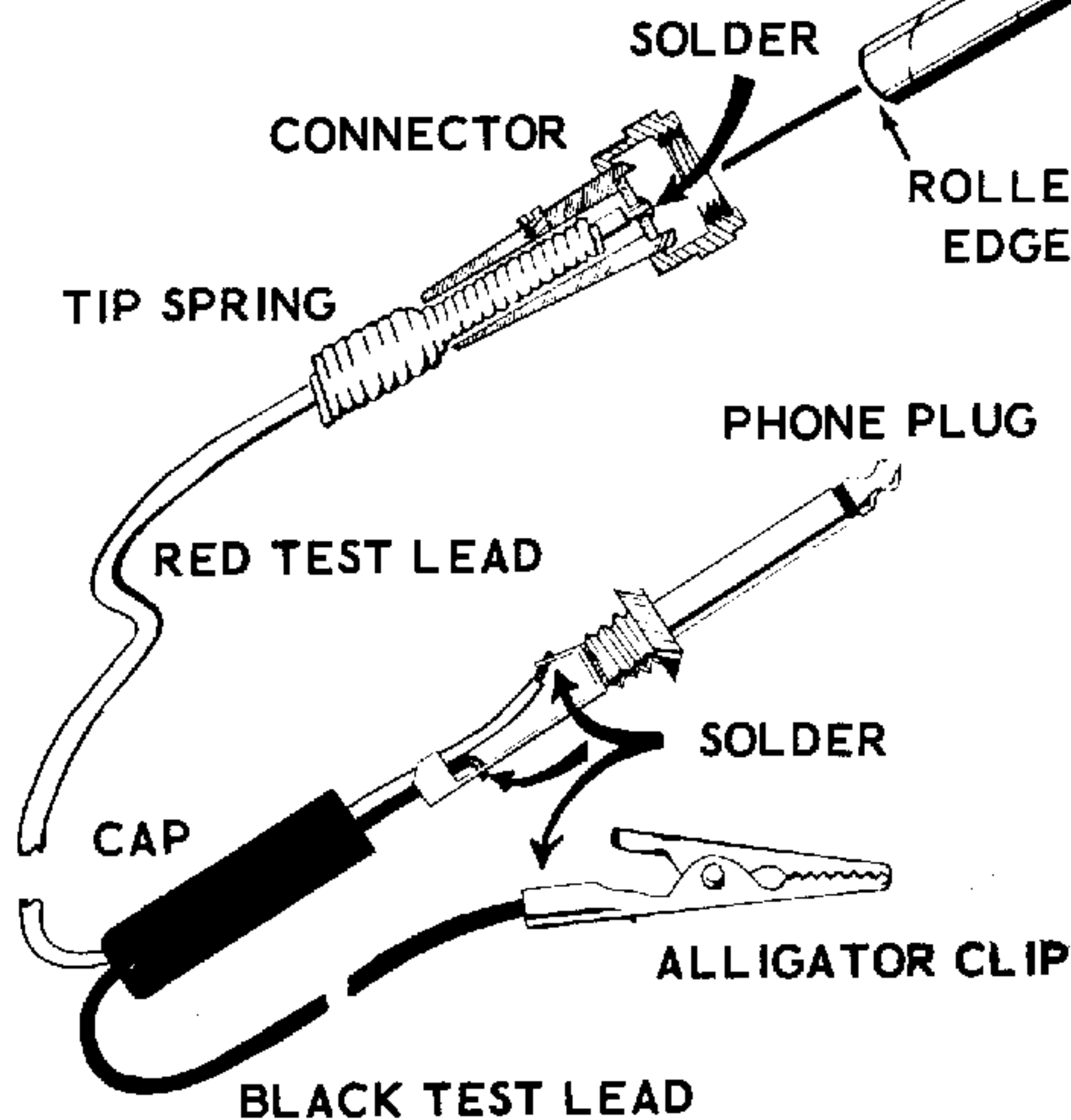
432-1	1	Connector
476-2	1	Probe body
2-47	1	1090 megohm resistor
250-6	1	Hex collar screw
260-1	1	Alligator clip
258-2	1	Tip spring
258-3	1	Body spring
70-1	1	Insulator sleeve
438-3	1	Phone plug
341-1	1	Length black test lead
341-2	1	Length red test lead
595-490	1	Instruction manual

NOTE: HANDLE THE 1090 MEGOHM RESISTOR WITH CARE.

## ASSEMBLY INSTRUCTIONS

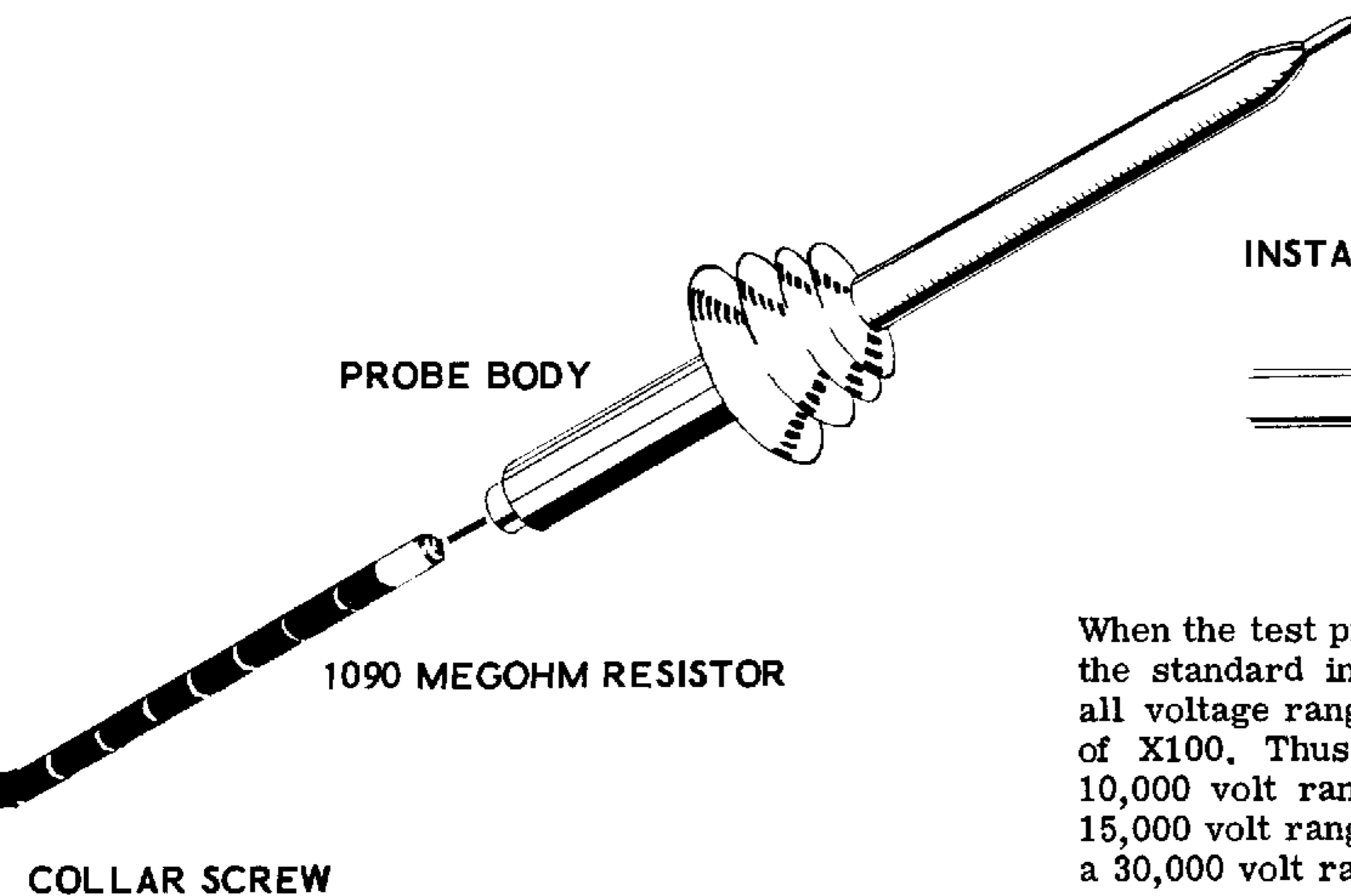
- ( ) Insert the resistor and body spring-insulator sleeve assembly into the probe body with the resistor toward the tip. Refer to the accompanying drawing.
- ( ) Strip 1/4" of insulation from both ends of both test leads.
- ( ) Unscrew the cap from the phone plug and insert one end of each test lead through the cap as shown. Solder the red test lead to the center lug, and solder the black test lead to the outside lug.
- ( ) Replace the cap on the phone plug.

- ( ) Remove the screw from one end of the 1090 megohm resistor and replace it with the collar screw. Now screw the body spring onto the long part of the collar screw.
- ( ) Slip the body spring into the insulator sleeve (large end first).

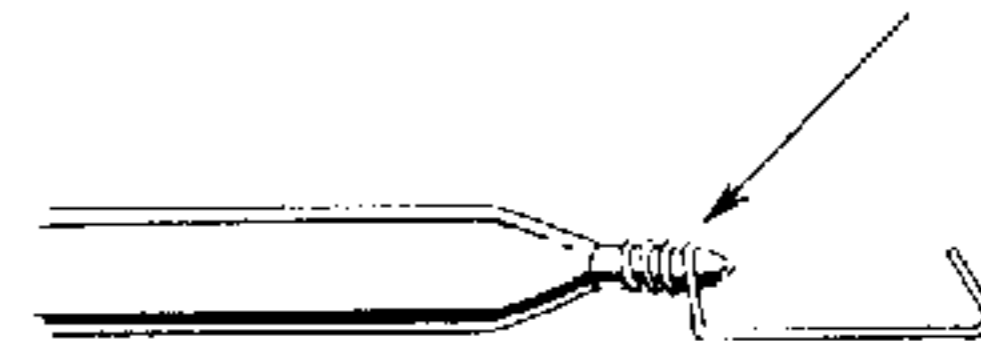


- ( ) Solder the alligator clip to the other end of the black test lead.
- ( ) Insert the other end of the red test lead through the tip spring (through the wide end first) and solder it to the eyelet in the connector, as shown.
- ( ) Push the tip spring down tightly into the end of the connector, and then tighten the setscrew in the connector.
- ( ) Screw the test lead assembly to the probe body, thus compressing the body spring, and insuring the proper contact between the resistor and tip, and between the spring and test lead assembly.

This completes the assembly. Connect the probe to your VTVM in place of the regular DC test probe.



**INSTALL TIP SPRING WHEN DESIRED**



When the test probe is connected to a VTVM with the standard input resistance of 11 megohms, all voltage ranges will be increased by a factor of X100. Thus a 100 volt range becomes a 10,000 volt range, a 150 volt range becomes a 15,000 volt range, and a 300 volt range becomes a 30,000 volt range.

**NOTE:** Although multiplying a 500 volt range by 100 gives a range of 50,000 V, never use the probe on DC voltages above 30,000 volts.

### USING THE HIGH VOLTAGE PROBE

**CAUTION: HIGH VOLTAGES ARE EXTREMELY DANGEROUS. NEVER MEASURE DC VOLTAGES IN EXCESS OF 30,000 VOLTS.**

This probe is designed to permit high voltage measurements to be made as safely as possible.

**ALWAYS MAKE SURE THAT THE GROUND CLIP IS CONNECTED TO THE CHASSIS OF THE UNIT UNDER TEST AND THAT THE PROBE IS CONNECTED TO THE VTVM.**

Wherever possible, contact the high voltage by hooking the tip spring to the terminal under test. This should be done with the power turned off. Then without touching the probe, turn power on, take the reading, turn the power off, carefully discharge any high voltage capacitors which may be in the circuit, and remove the probe from the circuit.

While the conductors inside the handle and the test lead assembly never carry more than 300 volts when the probe is properly connected, **THESE PARTS WILL BE EXPOSED TO THE FULL 30,000 VOLTS, IF NOT CONNECTED TO THE VTVM.**

This probe increases the input resistance of the VTVM to 1100 megohms. This permits measurements to be made in high resistance circuits with negligible loading. This high input resistance can even be used with lower voltages by using a 1.5 volt, 3 volt, or 5 volt range of the VTVM; the 1.5 volt range would become a 150 volt range, the 3 volt range would become a 300 volt range, and the 5 volt range would become a 500 volt range.

### WARRANTY

The Heath Company warrants that the parts supplied in its kits (except batteries) shall be free of defects in materials and workmanship under normal conditions of use and service. The obligation of Heath under this warranty is limited to replacing or repairing any such part upon verification that it is defective in this manner. This obligation is further limited to such defective parts for which Heath is notified of the defect within a period of ninety (90) days from the original date of shipment of the kit.

The obligation of Heath under this warranty does not include either the furnishing or the expense of any labor in connection with the installation of such repaired or replacement parts. The obligation of Heath with respect to transportation expenses is limited to the cost of shipping the repaired or replacement parts to the buyer, provided such repair or replacement comes within the terms of this warranty.

The foregoing warranty extends only to the original buyer and is expressly in lieu of all other warranties, expressed or implied. The foregoing warranty is further in lieu of all other obligations or liabilities on the part of Heath and in no event shall the Heath Company be liable for any anticipated profits, consequential damages, loss of time or other losses incurred by the buyer in connection with the purchase, assembly or use of the kit product or components thereof.

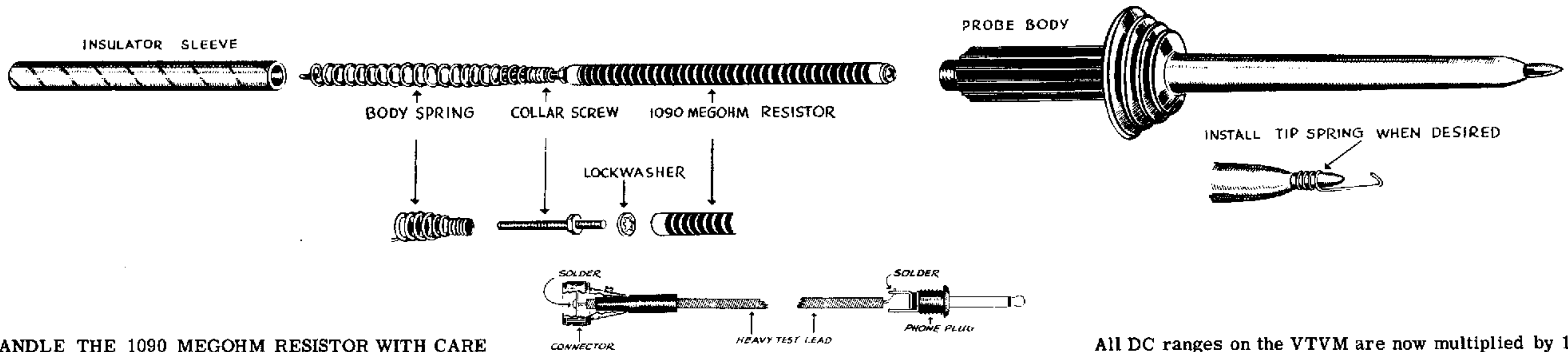
The foregoing warranty shall be deemed completely void if acid core solder or paste flux or other corrosive solders or fluxes have been used in assembling or repairing the kit product. Heath will not replace or repair any parts of any kit products in which such corrosive solders or fluxes have been used.

This warranty applies only to Heath products sold and shipped to points within the continental United States and to APO and FPO shipments. Warranty replacement for Heath products sold or shipped outside the United States is on an f.o.b. factory basis. Contact the Heath authorized distributor in your country or write: Heath Company, International Division, Benton Harbor, Michigan, U.S.A.

HEATH COMPANY

# For VTVM'S with 1.5V Full Scale Range

## ASSEMBLING THE HEATHKIT NO. 336 HIGH VOLTAGE PROBE KIT



HANDLE THE 1090 MEGOHM RESISTOR WITH CARE AS OUTLINED IN THE NOTE PACKED WITH THIS PART.

Remove the screw from one end, and replace with the collar screw. Screw the body spring onto the long part of the collar screw. Slip the insulator sleeve over the body spring, and slip this assembly into the probe body with the resistor towards the tip.

Assemble the cable as shown, by soldering the test lead to the proper lug on the phone plug. Then replace the bakelite cap on the phone plug. Now solder the test lead to the eyelet in the connector.

Screw the test lead assembly to the probe body, thus compressing the body spring, and insuring proper contact between resistor and tip, and between spring and test lead assembly.

This test probe, when used with a standard 11 megohm input resistance VTVM, will increase the voltage ranges by a factor of 100.

Connect the probe to the VTVM in place of the regular DC test probe.

### PARTS LIST

432-1	1	Connector
476-2	1	Probe Body
2-47	1	1090 Megohm Resistor
250-6	1	Hex Collar Screw
258-2	1	Tip Spring
258-3	1	Body Spring
341-3	1	Heavy Test Lead
70-1	1	Insulator Sleeve
438-3	1	Phone Plug

**CAUTION: HIGH VOLTAGES ARE EXTREMELY DANGEROUS. NEVER MEASURE DC VOLTAGES IN EXCESS OF 30,000 VOLTS.**

This probe is designed to permit high voltage measurements to be made as safely as possible.

ALWAYS MAKE SURE THAT THE GROUND CLIP IS CONNECTED BETWEEN THE CHASSIS OF THE UNIT UNDER TEST AND THE VTVM, AND THAT THE PROBE IS CONNECTED TO THE VTVM.

Wherever possible, contact the high-voltage by hooking the tip spring to the terminal under test. This should be done with the power turned off. Then without touching the probe, turn power on, take the reading, turn the power off, carefully discharge any high-voltage condensers which may be in the circuit, and remove the probe from the circuit.

While the conductors inside the handle and the test lead assembly never carry more than 300 volts when the probe is properly connected, THESE PARTS WILL BE EXPOSED TO THE FULL 30,000 VOLTS, IF NOT CONNECTED TO THE VTVM.

All DC ranges on the VTVM are now multiplied by 100, thus the 150 volt range becomes the 15,000 volt range. ALTHOUGH MULTIPLYING THE 500V RANGE BY 100 GIVES 50,000V, NEVER USE THE PROBE ON DC VOLTAGES ABOVE 30,000 VOLTS.

High voltages up to 30,000 Volts DC, as encountered in television receivers, may be applied to this test probe.

This probe increases the input resistance of the meter to 1100 megohms. On the 5 Volt position of the range switch a full scale reading of 500 Volts is obtained. This permits measurements to be made in high resistance circuits with negligible loading.

### WARRANTY

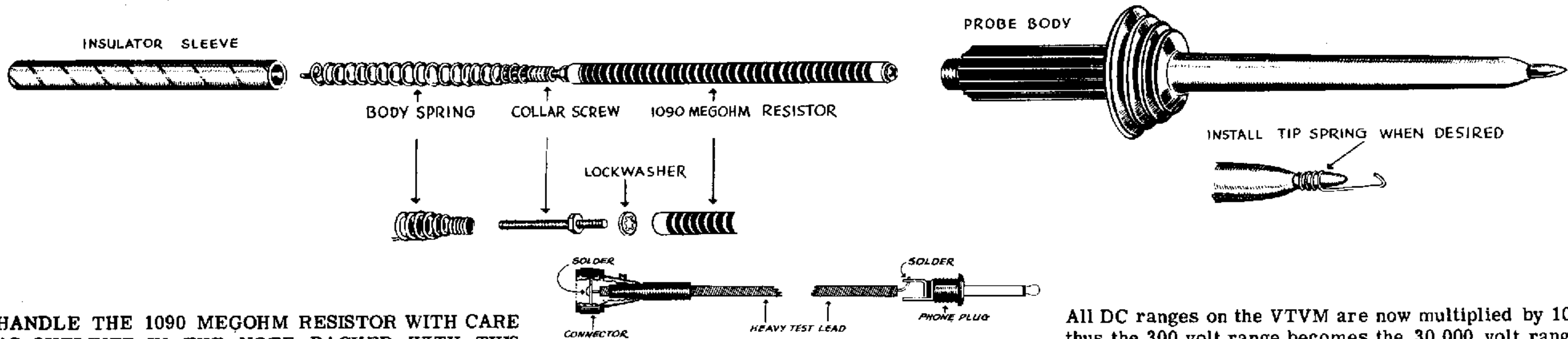
The Heath Company limits its warranty on any part supplied with any Heathkit (except tubes, meters, and rectifiers, where the original manufacturer's guarantee only applies) to the replacement within three (3) months of said part which, when returned with prior permission, postpaid, was in the judgment of the Heath Company, defective at the time of sale.

The assembler is urged to follow the instructions exactly as provided. The Heath Company assumes no responsibility nor liability for any damages or injuries sustained in the assembly of the device or in the operation of the completed instrument.

HEATH COMPANY  
Benton Harbor, Michigan

For VTVM'S with 3v Full Scale Range

# ASSEMBLING THE HEATHKIT NO. 336 HIGH VOLTAGE PROBE KIT



**HANDLE THE 1090 MEGOHM RESISTOR WITH CARE AS OUTLINED IN THE NOTE PACKED WITH THIS PART.**

Remove the screw from one end, and replace with the collar screw. Screw the body spring onto the long part of the collar screw. Slip the insulator sleeve over the body spring, and slip this assembly into the probe body with the resistor towards the tip.

Assemble the cable as shown, by soldering the test lead to the proper lug on the phone plug. Then replace the bakelite cap on the phone plug. Now solder the test lead to the eyelet in the connector.

Screw the test lead assembly to the probe body, thus compressing the body spring, and insuring proper contact between resistor and tip, and between spring and test lead assembly.

This test probe, when used with a standard 11 megohm input resistance VTVM, will increase the voltage ranges by a factor of 100

Connect the probe to the VTVM in place of the regular DC test probe.

## PARTS LIST

432-1	1	Connector
476-2	1	Probe Body
2-47	1	1090 Megohm Resistor
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341-3	1	Heavy Test Lead
70-1	1	Insulator Sleeve
438-3	1	Phone Plug

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**ALWAYS MAKE SURE THAT THE GROUND CLIP IS CONNECTED BETWEEN THE CHASSIS OF THE UNIT UNDER TEST AND THE VTVM, AND THAT THE PROBE IS CONNECTED TO THE VTVM.**

Wherever possible, contact the high-voltage by hooking the tip spring to the terminal under test. This should be done with the power turned off. Then without touching the probe, turn power on, take the reading, turn the power off, carefully discharge any high-voltage condensers which may be in the circuit, and remove the probe from the circuit.

While the conductors inside the handle and the test lead assembly never carry more than 300 volts when the probe is properly connected, **THESE PARTS WILL BE EXPOSED TO THE FULL 30,000 VOLTS, IF NOT CONNECTED TO THE VTVM.**

All DC ranges on the VTVM are now multiplied by 100, thus the 300 volt range becomes the 30,000 volt range, and the 100 Volt range becomes the 10,000 Volt range.

**—NEVER USE THE PROBE ON DC VOLTAGES ABOVE 30,000 VOLTS.**

High voltages up to 30,000 Volts DC, as encountered in television receivers, may be applied to this test probe.

This probe increases the input resistance of the meter to 1100 megohms. On the 3 Volt position of the range switch a full scale reading of 300 Volts is obtained. This permits measurements to be made in high resistance circuits with negligible loading.

## WARRANTY

The Heath Company limits its warranty on any part supplied with any Heathkit (except tubes, meters, and rectifiers, where the original manufacturer's guarantee only applies) to the replacement within three (3) months of said part which, when returned with prior permission, postpaid, was in the judgment of the Heath Company, defective at the time of sale.

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Benton Harbor, Michigan