

Operation and Service Manual



For Technical Assistance:

1-800-504-0055

1306 / 1307

Slaughter

Instruments for Electrical Test & Measurement

Phone: (847) 932-3662 Fax: (847) 932-3665 E-mail: info@hipot.com Web Site: www.hipot.com

LAUGHTER

The ProTesters

HAZARD WARNING NOTICE

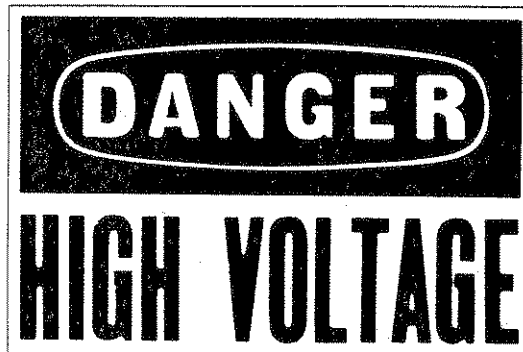
Good safety practice dictates labeling of hazards properly. Since high-voltage testing can be hazardous, the work station should be labeled. Naturally, the location of the label should be carefully selected so that it can be placed in the location that will do the most good.

In some cases, this may be on the test instrument itself, and in others, it may be at a location directly in front of the operator which is somewhat removed from the instrument.

Since this is true, rather than arbitrarily label our instruments we are supplying two labels that you should apply in accordance with the above suggestions.

If you need a few more labels, please let us know . . . we will gladly supply them. If you need a large quantity, these are available at a nominal price.

WARNING LABEL (Full Size)
Order Part No. 600-197



1306 / 1307



SERIES 1306

AC HIPOT TESTER

The "Fail Safe" Hipot Tester

- Designed for Go, No-Go Production Line/Quality Control Testing
- Meets UL and CSA Requirements Including UL 120K ohm Requirements
- Safe, Efficient, Easy-To-Use Retracting Safety Prods for Applying High Voltage
- Unique Fail-Safe Reject/HV Cutoff Circuit Disables Tester if Primary Cutoff Fails
- 120 K ohm Resistor Terminals on Front Panel for Quick, Easy Calibration Check

APPLICATIONS

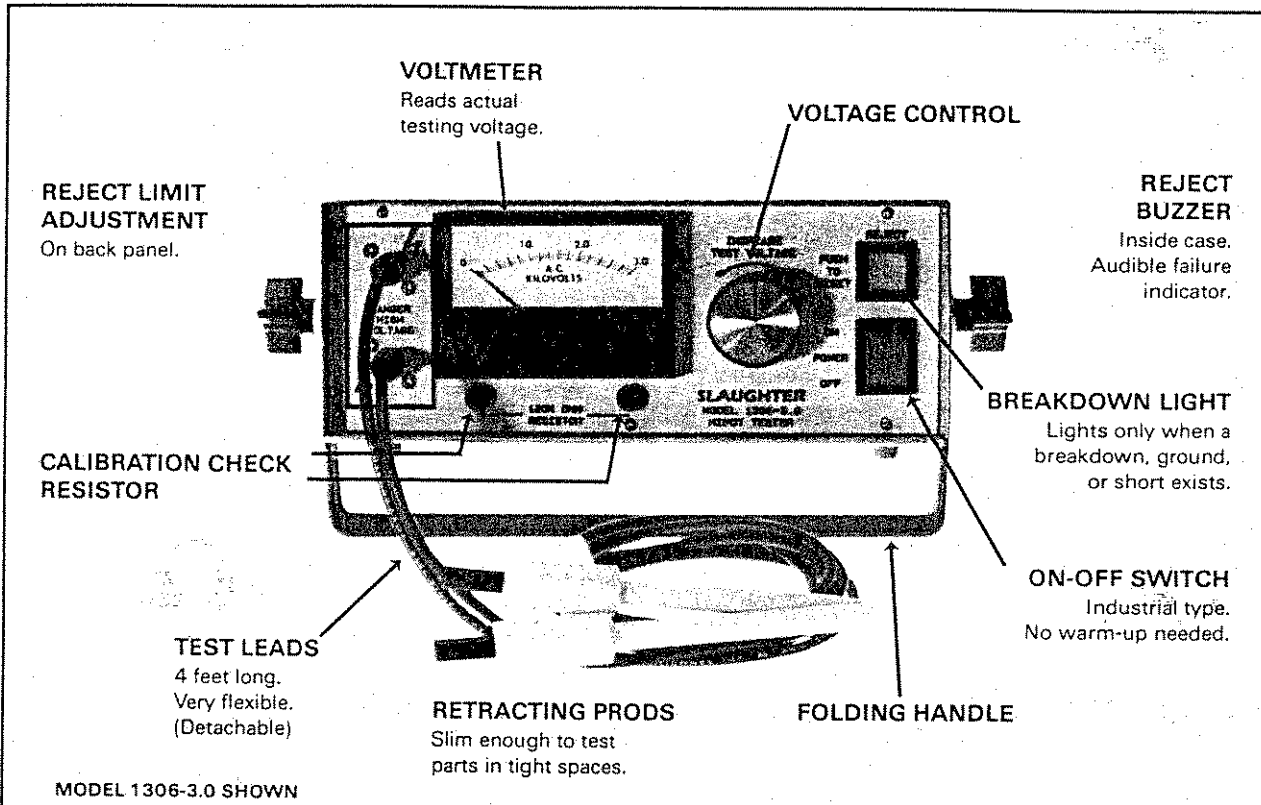
The Slaughter Series 1306 units are simple go, no-go dielectric voltage withstand (hipot) testers that contain all features necessary for tests specified by practically any agency standard. These units are most commonly used as in-line or final inspection testers by manufacturers of electrical components, assemblies, and complete products such as appliances, computers, and robots. They are also used as troubleshooting tools by design engineers, plant maintenance personnel, and electrical contractors. The instrument is particularly well suited for testing per the new UL "120 K ohm" requirement. The 120 K ohm resistor terminals on the front panel allow the operator to check instrument calibration quickly and easily at any time. The 1306 is an unusually powerful tester for its size and can be used to test all but the largest electrical products. At 10Ma and 1250 volts, even electric motors up to about 20 horsepower or .02 microfarad should be no problem.

OPERATION

The controls on these instruments consist of a power switch, a combination reject lamp — reset switch, and a voltage adjust knob. Operation is simple and straightforward. Power is switched on, voltage is set as required, and the test prod contacts are placed across the insulation system of the unit under test. If the insulation system is sound there will be no response from the tester. If there is a defect in the dielectric, a short, a ground, or an arc, the reject lamp and buzzer will turn on and the high voltage will be shut off within six milliseconds. The instrument can be reset by pushing the reset button. In the unlikely event that the Reject/HV cutoff circuit should fail, the instrument will go into the reject mode on the next bad part and will not reset. This protects the operator from shock hazard and from passing bad parts while unaware the Reject/HV cutoff circuit is inoperative.

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The ProTesters



VOLTMETER
Reads actual testing voltage.

VOLTAGE CONTROL

REJECT LIMIT ADJUSTMENT
On back panel.

REJECT BUZZER
Inside case. Audible failure indicator.

BREAKDOWN LIGHT
Lights only when a breakdown, ground, or short exists.

ON-OFF SWITCH
Industrial type. No warm-up needed.

FOLDING HANDLE

RETRACTING PRODS
Slim enough to test parts in tight spaces.

TEST LEADS
4 feet long. Very flexible. (Detachable)

CALIBRATION CHECK RESISTOR

MODEL 1306-3.0 SHOWN

SPECIFICATIONS

MODEL	1306-3.0	1306-5.0
Output Voltage Range ¹	0-3000VRMS	0-5000VRMS
Output Waveform, Sinusoidal	Pk \geq 1.3, \leq 1.5 of RMS	Pk \geq 1.3, \leq 1.5 of RMS
Voltmeter Accuracy	\pm 3% Full Scale	\pm 3% Full Scale
Leakage Current Limit Range ²	0.6-10 Milliampères	0.6-10 Milliampères
Factory Set Leakage Current Limit ²	5 Milliampères	5 Milliampères
Short Circuit Current ³	176 Milliampères	293 Milliampères
Voltage Cutoff Response Time	6 Milliseconds	6 Milliseconds
HV Transformer Rating	50 Voltampères	50 Voltampères
Dimensions	10 1/2" X 8 3/4" X 4 5/16"	10 1/2" X 8 3/4" X 4 5/16"
Weight	12.5 Lbs.	13.5 Lbs.
Input Power	117VAC, 50/60 Hz	117VAC, 50/60 Hz

NOTES:

1. Not Rated for U.L. '120 K' requirements below 800 volts. Standard test prods not recommended for use below 500 VRMS, use positive contact prods. Contact factory for information.
2. Any Leakage current within the range shown above may be factory set upon request at no charge.
3. Through UL Body Impedance Model at maximum rated voltage.

801 Hailey Street
P.O. Box 1805
Ardmore, OK 73402
USA

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The ProTesters

Phone - 405/223-4773
or 800/421-1921
Telex - 6975577
FAX 405/226-5757

INSULATION TESTERS • COIL & WINDING TESTERS • CABLE & HARNESS TESTERS • BATTERY TESTERS

CONTROLS AND INDICATORS — 1306

Functions of the various controls and indicators are as follows:

1. **POWER-ON & PILOT LIGHT** — The Power Switch is located in the lower right corner of the front panel. (Refer to page on left.) When this switch is pressed on the bottom edge, the unit is turned OFF. When pressed on the top edge, the unit is turned ON and Pilot Light will shine.

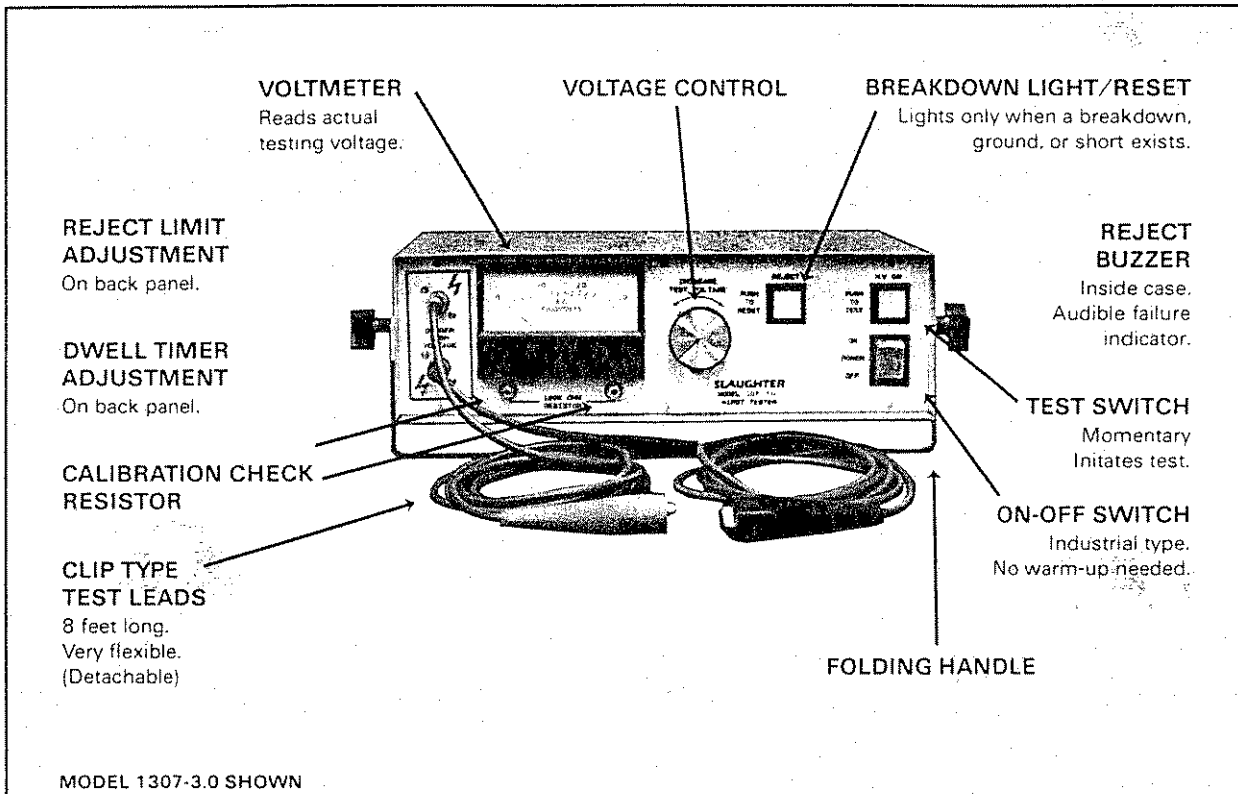
When power is turned on, the Reject buzzer and light will be energized. This is a self-check of the reject circuits.

2. **RESET SWITCH** — The Reset Switch is located on the upper right corner of the front panel. (Refer to the page on left.)

Pressing the Reset Switch will clear the reject buzzer and light and turn on the High Voltage. Each time a reject is found press this button to clear.

NOTE: If the line voltage is removed from the unit, the unit will come ON in the self-check mode when power is restored. It is, therefore, recommended that whenever the unit is unattended or at the occurrence of any power shut down, the unit be switched to OFF.

3. **REJECT LAMP** — Located in the Reset switch. Indicates failure of the part under test. The reject buzzer will also sound.
4. **VOLTAGE CONTROL** — Adjust the testing voltage.
5. **VOLTMETER** — Indicates actual testing voltage at the test prods.
6. **CALIBRATION RESISTOR** — Allows operation to check 120K calibration periodically to insure proper operation.
7. **DETECTION CIRCUITS** — Operates a Reject signal lamp and a buzzer when failure occurs. A back-up detection circuit is also provided should the primary fail. Its response is slightly delayed from the primary and should never operate except on failure of the primary. When it fails, the reject is locked up and will not test further until the primary is repaired. Reject signals remain on upon rejection and the unit must be manually reset after a rejection. This feature is required in many UL bulletins. The reject can be cleared by pressing the Reset switch.



SPECIFICATIONS

MODEL	1307-3.0	1307-5.0
Output Voltage Range ¹	0-3000VRMS	0-5000VRMS
Output Waveform, Sinusoidal	Pk \geq 1.3, \leq 1.5 of RMS	Pk \geq 1.3, \leq 1.5 of RMS
Voltmeter Accuracy	\pm 3% Full Scale	\pm 3% Full Scale
Leakage Current Limit Range ²	0.6-10 Milliamperes	0.6-10 Milliamperes
Factory Set Leakage Current Limit ²	5 Milliamperes	5 Milliamperes
Short Circuit Current ³	176 Milliamperes	293 Milliamperes
Voltage Cutoff Response Time	6 Milliseconds	6 Milliseconds
HV Transformer Rating	50 Voltamperes	50 Voltamperes
Dwell Timer	1-65 Seconds	1-65 Seconds
Dimensions	12 3/4" x 8 3/4" x 4 5/16"	12 3/4" x 8 3/4" x 4 5/16"
Weight	14 Lbs.	15 Lbs.
Input Power	117VAC, 50/60 Hz	117VAC, 50/60 Hz

NOTES:

1. Not Rated for U.L. '120 K' requirements below 800 volts.
2. Any Leakage current within the range shown above may be factory set upon request at no charge.
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CONTROLS AND INDICATORS — 1307

Functions of the various controls and indicators are as follows:

The Model 1307-3.0 is intended to provide the Model 1306-3.0 with provision for automatic operation. All 1306-3.0 features explained in the book apply. The basic difference between the 1306-3.0 and the 1307-3.0 is the latter has been provided with a dwell timer and is intended to be used with clip type leads rather than the hand held prods.

The front panel controls can be duplicated externally by connection through the 20-pin connector on the rear.

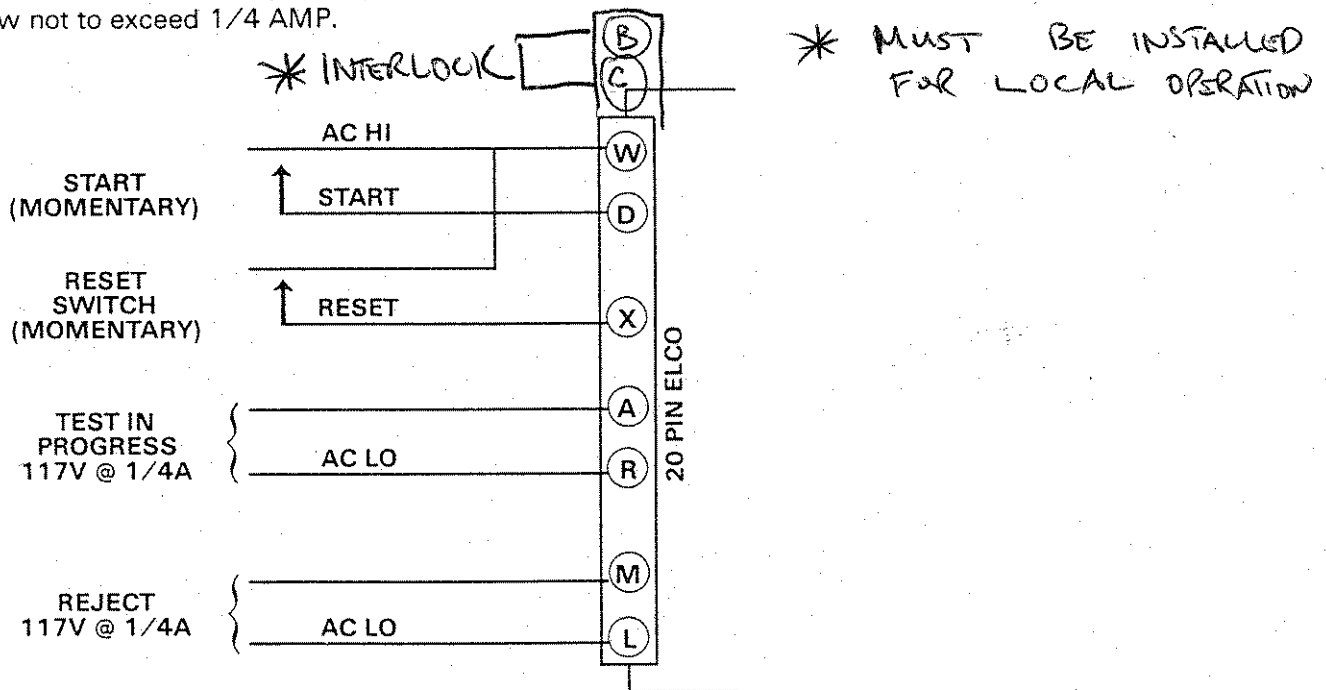
DWELL TIMER — Adjustable via one-turn pot mounted on the back panel. Timing range is approximately 1 second to 65 seconds.

With power switch ON, push Reset switch, placing unit in standby mode. Push H.V. ON switch to turn High Voltage ON and start the Dwell Timer. Pushing the Reset switch terminates the test and resets the timer. The timer can be overridden by holding the H.V. On switch pressed. A reject overrides both.

CUSTOMER INTERFACE

A 20-pin ELCO socket mounted on the back panel provides remote **Start** and Reset capability using momentary contact switches with fused 120 VAC signal.

Also remote 120 VAC Test In Progress signal and Reject signal capable of activating indicators or relays with a current draw not to exceed 1/4 AMP.



APPLICATIONS

Application of this equipment is to the testing of all types of electrical/electronic components and assemblies for insulation breakdown (dielectric strength, grounds, and shorts). For additional general information, refer to the small Basic Facts booklet supplied separately with the unit.

When considering specific applications, consideration must be given to the power rating of the unit, and/or the capacitance of the product to be tested.

Under actual test conditions, the equivalent load on the tester is made up of the inherent shunt capacitance of the workpiece, plus a series impedance which may exist between the point of fault (if any) and the terminal at which the test is applied.

Since these testers reject the low impedance usually created by a fault, sensitivity is defined as the minimum total impedance load that can be applied to the unit without tripping the reject circuit.

Since the shunt capacitive characteristics of the workpiece is essentially a reactive load, if the shunt capacitive characteristics are too high, the load on the unit will be a very low impedance and false rejections will occur — in other words, the tester will be overloaded and register a rejection as a result.

If excessive series impedance exists between the test terminals and the point of fault, the total load on the tester will be a very high impedance and the tester will not respond to the fault.

The shunt capacitive characteristics of typical electrical equipment generally varies with the horsepower rating, so the proper tester size can usually be established by consideration of the rating for the part to be tested. In case of doubt, the actual capacitive characteristics of the part to be tested should be checked and compared with the capability of the unit. The capability of the tester is summarized below.

SERIES 1306 — STD. UNIT

VOLTAGE SETTING	600 V	1250 V	3000 V	5000 V
RATED CAPACITIVE LOAD MFD @ 10 MA	.044	.02	.0088	.00528
APPROXIMATE MAX HP OF WORKPIECE @ 10 MA	40	20	10	6
RATED CAPACITIVE LOAD IN MFD @ 5 MA	.022	.01	.0044	.0026
APPROXIMATE MAX HP OF WORKPIECE @ 5 MA	20	10	5	3

APPLICATIONS — Cont'd.

Since the reject circuit trips due to the current drawn in the H.V. secondary, the capacitive ratings are based on the mathematical analysis of a pure capacitive circuit that shows:

$$X_C = \frac{1}{2 \pi f C}$$

WHERE: X_C = capacitive reactance, in ohms

f = frequency, in Hz

C = capacitance, in farads

for 60 Hz this can be reduced to:

$$\text{Capacitance (in microfarads)} = \frac{2.65 \times \text{trip setting (in MA)}}{\text{Test Voltage}}$$

For a rough approximation, a figure of .001 MFD per horsepower for motors, generators, transformers, etc. can be used, and a figure of .000020 MFD (20 PF) per foot can be used for ordinary hook-up wire.

If more precision is required use a capacitance meter. Example: Beckman Technology #CM20A or measure the capacitance by using known volts & Amps. X_C then becomes $V/I = X_C$ which can be calculated with the formula above.

INSTALLATION AND CHECKING

CAUTION: Since any electrical equipment can be hazardous, the initial checkout procedure here should be conducted only by qualified personnel familiar with safety rules applying to electrical equipment. It is suggested that before checkout, the BASIC FACTS booklet supplied with this equipment be reviewed, particularly pages 19 through 22, for safety suggestions.

When first received, unpack this unit carefully and examine for evidence of hidden damage. Keep the carton and file claim with carrier if any damage is evident.

To check the unit quickly, go through the first three steps of the procedures under Operating Notes.

As a final safety check at 1250 volts contact each prod, individually, to a bare metal screw on the front of the tester. There should be no response. This checks the insulation integrity of the tester itself. If a reject is indicated, unplug the tester and report the problem.

OPERATING NOTES

1. With the power switch on the front of the tester in the "OFF" position and with the voltage control knob turned fully counter-clockwise, plug the tester power cord into a 120 VAC, 50/60 Hz wall socket that has a functional grounding lead.
2. Push the power switch into the "ON" position. The pilot light in the power switch and the reject light should go on, also, the buzzer should sound as a self-check feature of these reject indicators. Push the combination reset button/reject light to turn off the reject signals and to put the tester in operational mode. If the pilot light, reject lamp or buzzer fails to activate upon placing the power switch in the "ON" position or if pushing the reset button does not stop the reject signals, unplug the tester and report the problem.
3. On instruments which are to be used with the standard 5 MA reject trip current, the calibration of the instrument can be spot checked by setting the voltage to 600 volts, open circuit, and contacting the prods to the 120 K ohm terminals on the front of the instrument. No reject should be indicated. Then reset the voltage to 700 volts, open circuit, and contact the 120 K ohm terminals again. A reject should be indicated at 700 volts.
4. Select the desired test voltage on the meter and apply the prods to the test piece. Generally, the black prod will be applied to the frame and the red prod to each electrical circuit. A slight spark may be seen upon contacting the prods to the test piece. This is normal and is the charging current of the inherent capacitance of the test piece. The capacitance of the test piece may also cause the test voltage to drop upon prod contact. If this drop is significant, re-adjust the voltage to a high enough value that the voltage under load is at the desired level. Upon prod contact to a sound part there will be no response from the tester. Upon prod contact to an unsound part the reject lamp and buzzer activate. The reject indicators can be de-activated by removing the prods from the test piece, and pushing the reset button.

MAINTENANCE AND REPAIR

CAUTION: Since any electrical equipment can be hazardous, maintenance and repair procedures should be conducted only by qualified personnel familiar with safety rules applying to electrical equipment. It is suggested that the BASIC FACTS booklet supplied with this equipment be reviewed, particularly pages 19 through 22 for safety suggestions.

Routine maintenance of this unit should include the following:

1. FUNCTION CHECK:

At least once per shift verify calibration by touching extended tips of prods to 120 K ohm calibration resistor. Terminals with voltage set at 700 VAC should indicate reject. Check again at 600 VAC. No reject should be indicated.

2. SAFETY INSPECTION:

A. DAILY: Check H.V. isolation by turning unit on at normal operating voltage and touch each extended prod tip alternately to a bare metal screw head on case. A slight spark is normal. A breakdown indication means an internal failure and unit should be **removed from service** until repaired.

Check prods for burning or contamination inside barrel by bringing the tip ends together in the **retracted** position. There should be no evidence of arcing or rejection. If there is, prods should be considered unsafe and **removed from service**.

B. MONTHLY: Repeat above tests with tester voltage set to full scale.

Check your line receptacle for ground integrity. Check line cord on tester for damage, deterioration, and ground lead integrity.

C. ANNUALLY: Check calibration of reject cutout and overload cutout. See calibration procedures for details. Return instrument to factory for re-certification if required.

Repair of these testers in the field is not recommended. Testers sent in for repair will normally be repaired and returned within 72 hours. However, if in-plant servicing must be done, the schematic should first be carefully studied. The area of trouble should then be localized between the primary circuits and the high-voltage circuits.

WARNING: Use great care in working on this instrument, as the voltages are lethal and capacitors can hold a charge even when the unit is "OFF".

If replacement parts are to be ordered from the factory, please identify the part on the enclosed parts list and order by Slaughter part number.

CALIBRATION PROCEDURES

These are precision units, and have been carefully calibrated at the factory. Recalibration should not be attempted unless suitable standards are available. Also, personnel should be competent and familiar with the use of this equipment and of safety precautions which apply in such circumstances.

- A. CHECKING CALIBRATION** — Voltmeter calibration should be checked first. For this purpose, use a quality voltmeter of at least 1% accuracy and at least 5000 ohms per volt sensitivity. Electrostatic type meters are recommended. Check calibration at four or five points on the scale. According to agency specifications, a tolerance of $-0/+20\%$ at normal testing voltage is acceptable. However, recalibration is recommended if the error exceeds $-0/+10\%$.

Reject calibration is most easily checked with the precision 120,000 ohm, 50 watt load resistor mounted on the front panel. With this resistor as a load, voltage should be increased from zero to the point at which the reject circuit trips. This should occur between 600 and 650 volts on the voltmeter. When rejection occurs, voltmeter should fall to zero.

To verify calibration of the backup cutout, the top cover must be removed. Remove slide on jumper near light isolation U1 to kill the primary trip circuit. With a 120,000 ohm, 50 watt resistor load, increase voltage slowly from zero until the overload relay trips. This should occur between 1600 and 1920 volts on the voltmeter, if not adjust 100 ohm pot on back side lower edge of P.C. board. When cutout occurs, voltage should fall to zero. To reset back-up, press down on the mechanical latch on relay. Refer to drawing #106946.

- B. TROUBLE-SHOOTING METER CIRCUITS** — If the meter calibration checks considerably off, some defect may exist which should be repaired before attempting recalibration. Consult the following notes for suggestions.

1. If the meter is consistently low on all ranges and appears to be heavily damped on all ranges, a defective meter movement is indicated.
2. If the meter is about 50% low on all AC ranges, but damping is satisfactory, even slightly under damped, a defective meter diode is indicated.

- C. RECALIBRATION PROCEDURES** — When recalibrating a unit, be sure to recalibrate the voltmeter first, then proceed to the adjustment of the reject.

1. Voltmeters should be recalibrated at between 60% and 80% of full scale as convenient. Total load on the unit at the calibration point, including the burden of the reference instrument, should be 5 milliamperes. This is needed in order to insure that the instrument will be calibrated to the proper tolerances.
2. Reject circuits may be adjusted from 0.6 MA to 10 MA. Factory adjustment is 5 MA. To adjust the reject circuit, a known load of precision resistors is constructed so that the desired trip current will be flowing at a particular voltage. Once the desired trip current is established, the reject pot located on the back panel is adjusted to trip at that current.

Since $V = I R$ when $V = \text{Volts}$ $I = \text{Current}$ $R = \text{Resistance}$

A 10 MA current will flow through a 200 K load at 2000 volts. A 5 MA current will flow through a 200 K load at 1000 volts. When choosing load resistors, be sure to pick a resistor of sufficient wattage that heating will not be a factor.

**SERIES 1306
SERVICE & REPAIR PARTS**

PARTS & SERVICES LISTED HERE ARE ONLY THOSE MOST COMMONLY REQUESTED. REPLACEMENT PARTS FOR ALL OF OUR EQUIPMENT ARE AVAILABLE GENERALLY FROM FACTORY STOCK. FOR PARTS NOT LISTED CONTACT FACTORY GIVING DESCRIPTION OF ITEM PLUS MODEL AND SERIAL NUMBERS OF UNIT INVOLVED. THESE NUMBERS ARE LOCATED ON THE FRONT PANEL OF THE UNDERSIDE OF THE CABINET.

PART NUMBER	QTY	DESCRIPTION
102050	1	PAIR PRODS & LEADS
125013	1	POWER CORD
200046	1	TRANSFORMER H.V.
210000	1	10-C POWERSTAT
250075	1	0-3KV METER
320010	1	VOLTAGE CONTROL KNOB
330052	1	554-1221-411 DIALCO
330094	1	2WIX11 DREEFS SPST ILLUM
375007 (1307)	1	BUZZER 110V
375014 (1306)	1	BUZZER 24V AC
400128	1	R-792PM 120V AC REL SVC
425133	1	REJECT RELAY (K1)
400128	1	OVERLOAD RELAY (K2)
450055	2	47 OHM 2 W WW
460004	2	1 MEG 2 W
460037	1	500K 1 W
470107	1	500K POT (METER ADJ)
470097	1	10K POT 1W BNS#3005P-1-103
480016	1	1K ½ W 10%
500009	1	.047 MFD 400V
510004	1	.01 MFD 1KV
575044	8	J-4 DIODE 400V
540076	1	50 MFD 50V EL. CAP.
400129	1	TIMER
400132	1	KHU - 17A11-120

TEST PRODS

Prods and leads should be inspected periodically for damage or wear which might result in an unsafe condition. In particular, inspect the lower portion of the prod barrel for evidence of burning. If this is detected, replace, and check operating technique.

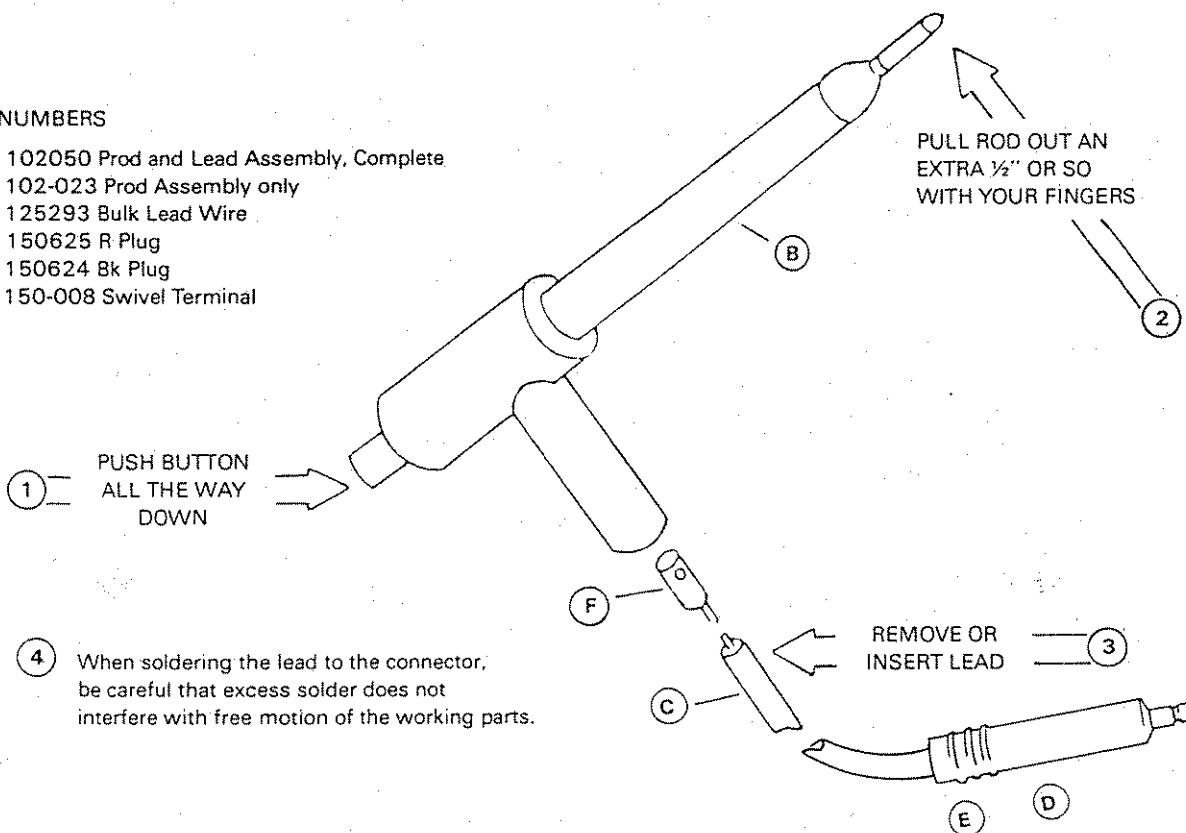
Test for possible tracking or contamination inside barrel by setting tester to full rated voltage, and bringing the tip ends of the barrels together in the **retracted** position. There should be no evidence of any arcing or rejection when this test is made. If there is, the prods should be considered unsafe and taken out of service.

It is characteristic of the construction of these parts that the prod and lead assembly may show an intermittent open condition when checked with an ordinary multimeter. This is normal and no reason for concern. To verify, hold a gentle pull on the cable where it enters the handle and work the button a few times. This should clear up the apparent discontinuity. If it does not, the trouble is probably in the core of the cable, near the handle.

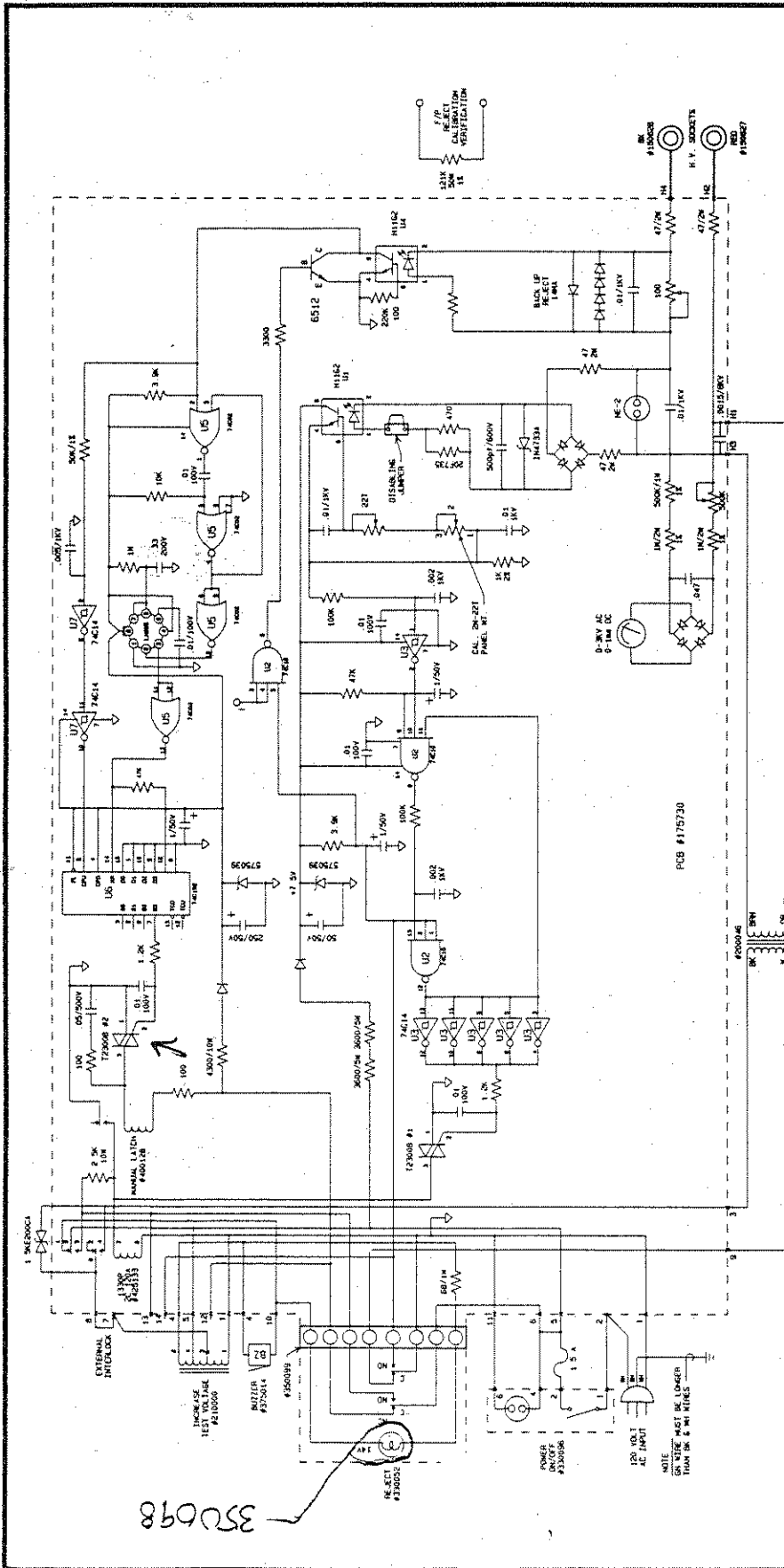
Test prods are permanently assembled, and no attempt should be made to dismantle them in any way. To do so will void warranty, and might create a dangerous situation. To replace test leads, follow instructions below:

PART NUMBERS

- A. No. 102050 Prod and Lead Assembly, Complete
- B. No. 102-023 Prod Assembly only
- C. No. 125293 Bulk Lead Wire
- D. No. 150625 R Plug
- E. No. 150624 Bk Plug
- F. No. 150-008 Swivel Terminal



Replacement prods with leads, prods only, leads only, etc., are available from factory stock. See service and repair parts list.



350698

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The Protesters

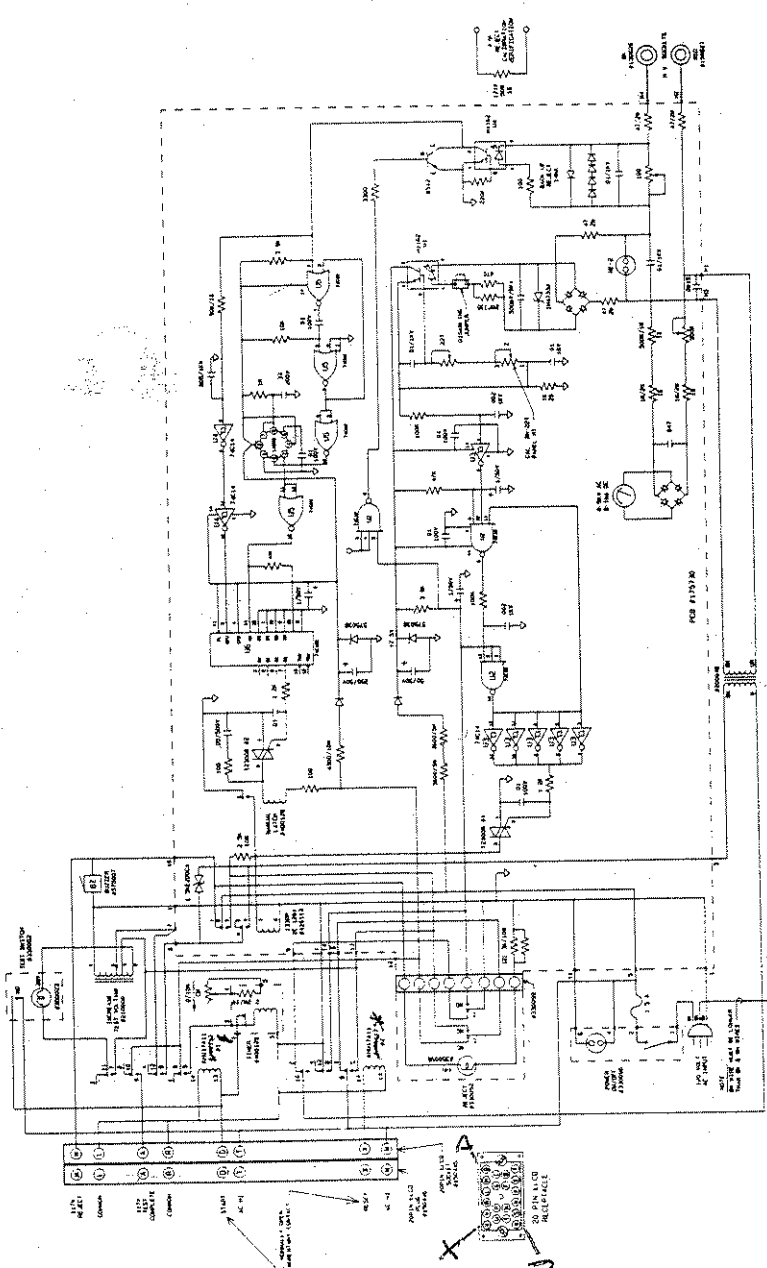
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TITLE		1306-3.0 SCHEMATIC	
DATE 7-12-89	DWG. BY LM	SCALE N	ISSUE 13
REF. NO.	DWG. NO. 106947		DEPT.

NOTE: ...
TURN CAL. POT. FOR REJECT ON.
TURN CAL. POT. FOR REJECT OFF.
TURN CAL. POT. FOR REJECT ON.
TURN CAL. POT. FOR REJECT OFF.
TURN CAL. POT. FOR REJECT ON.
TURN CAL. POT. FOR REJECT OFF.

120 VOLT AC INPUT
NOTE: ...
TURN ON & WAIT 10 SECS.
TURN OFF & WAIT 10 SECS.



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TITLE 1307-3.0 SCHEMATIC			
DATE 7-17-89	DWG. BY LM	SCALE N	ISSUE 4
REF. NO. PCB 106997	DWG. NO. 106985		DEPT.

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I. Initial Inspection (Cover Removed).

- A. Solder joints and wiring secure, components in place, screws and nuts tight.
- B. Check ground continuity then hipot at 1250V.
- C. Use 1309 S/N 156952.

II. Initial Power Up Tests

- A. Turn powerstat to zero volts. Plug tester into 117 VAC supply.
- B. Pilot/Reject lamps, buzzer on with power on.
- C. Reject lamp/buzzer off when reset pushed.
- D. Using multimeter set to AC volts measure between case and point #1 on board should read no volts. Measure between power SW pin #1 and case. Should read 117 VAC.


III. Meter Test and Calibration

- A. Smooth operation over full range.
- B. Set zero.
- C. Calibration: Set exactly at 3000V. Check for --100V @ 5000V.

IV. Reject Circuit Tests

- A. Connect output leads to 120,000 ohm load thr an ammeter.
- B. Remove U1. Check backup trip current. Tolerance: 15.0 ma to 20.0 ma. Per ECO 665. Replace U1. (Adjust pot on rear of circuit board). Reset backup latching relay.
- C. Short leads together. Turn on H.V. check for backup trip.
- D. Set primary trip current at 10ma+/- .5ma by adjusting pot on rear of cabinet or front of circuit board. Check for any back-up trips with output shorted with prods at 1000V and 5000V. Repeat this test at least 25 times at each voltage.
- E. Set primary trip current at rated value Rate _____ ma +0/-10% by adjusting pot on rear of cabinet or front of cktbd. Actual _____ ma.
- F. No trips on arcs at 75% primary trip current at 5000V. (For standard setting of 5ma select load of 1.25 Meg). Repeat this test at least 25 times.
- G. At 5000V touch each test lead to case and confirm no trips.
- H. Verify 120,000 ohm resistor

REV	DATE	ECO
B	1/18/94	765
A	1/11/94	665
REVISIONS		

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TOLERANCE UNLESS OTHERWISE NOTED: X = ± 1/2 DEGREE FRACTIONS = ± 1/32 .XX = ± .01 .XXX = ± .001		TITLE 1306/1307-5.0 TEST REPORT	
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