

## OPERATING INSTRUCTIONS



**GFT2-G  
GROUND FAULT TESTER**

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**Example:** If the GFI trips on position 5 on a 110 volt circuit, the GFI has tripped at 4.6 to 5.5 milliamperes, which is within the proper trip range of 4-6 milliamperes prescribed by Underwriters' Laboratories, Inc. for "R" type, Class "A" or portable units.

**Note:** In all testing procedures, the light in the tester must light up indicating voltage is present in the circuit. Failure to light indicates no circuit voltage or that the GFI being tested has tripped at a level below one milliampere, or the GFI has been previously tripped and not reset.

### Tool and Appliance Leakage Testing

Tool and appliance leakage testing can only be performed in conjunction with a properly operating GFI in the circuit whose trip level has previously been determined as outlined above.

### Two Wire or Three Wire 120V Tools or Appliances

**Note:** It is essential that the case of the tool be grounded in order to test for leakage. Since it may not be known whether or not the ground wire in a three wire cord is intact, it is prudent to assume an open condition. Hence, both two wire and three wire tools and appliances should be treated alike - i.e., the case should be externally grounded.

1. Determine the trip level of the GFI as previously outlined above. Refer to Table I. Make note of the pointer knob setting at which the GFI tripped.
2. If a portable GFI is in the circuit being used and the load side has only one receptacle outlet, obtain a three wire grounding type cube tap and insert it in the receptacle provided on the load side of the GFI, plug in the

The GFT2-G test unit is designed to measure the trip level of a ground fault circuit interrupter in the range of 2 to 7 milliamperes.

It may also be used to measure leakage in small portable tools and appliances within a leakage range of 1 to 7 milliamperes.

The tester may be used on any 110, 120, or 130 volt circuit at 15 or 20 amperes or circuits above 20 amperes with the use of adapters. The tester consumes less than 1 watt of power.

The circuit under test must be properly grounded. The tester will not function properly without a ground.

The GFT2-G test unit is not intended to determine:

- Incorrect receptacle polarity (Ground and neutral reversed, etc.)
- The "quality" of the ground
- Any combination of incorrect wiring

Portable tools and appliances must be tested for leakage in conjunction with a GFI whose trip level has been determined by the use of the GFT2-G tester before plugging in the tool or appliance. This test procedure is outlined below:

### Testing the GFI Trip Level

1. Test the GFI for proper operation by using the "trip" and "reset" buttons on the units as the manufacturer recommends, determining that the GFI is functioning normally. (Note: The use of the test button normally only guarantees that the trip level is not more than 9.0 milliamperes at 120V).
2. Set the black pointer knob on the top of the tester to position #1.

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GFI, and turn "ON." If the GFI is the "wired in" type, the cube tap is unnecessary unless only a single receptacle outlet is available on the circuit.

3. Plug the tool or appliance into one of the outlets in the cube tap, or one of the GFI protected receptacles if "wired in GFI", and turn the tool on appliance "ON". If the GFI trips, the tool has leakage exceeding the trip level of the GFI. If it does not trip, proceed with test sequence.

4. Set the tester pointer knob at "1" and plug the tester into one of the outlets in the cube tap or one of the other GFI protected receptacles in the circuit. The internal light in the tester should come on.

5. With the tool or appliance running or in the "ON" position, rotate the pointer knob on the tester one step at a time until the tester light goes out, indicating the GFI has tripped. Make note of the number setting of the pointer knob.

6. Refer now to "Table II - MA Tool Leakage at 120V" located on the body of the GFT2-G tester and also repeated below. Follow down the left hand vertical column: "Dial set with tool" until you find the pointer knob position number at which the GFI tripped with the tool or appliance running.

7. Now in the horizontal column on the table marked "without tool", find the pointer knob setting at which the GFI alone tripped (Step 1 above).

At the junction of the vertical and horizontal columns thus selected, you will find the tool leakage figure.

**Example:** If the GFI alone tripped at "4", without the tool or appliance and tripped at "3" with the tool or appliance running, the tool leakage is between 0 to 2 milliamperes as shown in the illustration on page 6.

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3. With the GFI in the "ON" operating position, insert the GFT2-G into the load receptacle provided on the GFI if a portable unit, or if a permanently installed "wired in" unit protecting several receptacles "downstream", into one of the receptacles in that circuit. Any appliances or equipment on the GFI protected circuit should be disconnected or turned off. The GFT2-G will light up indicating it is functioning.

(Note: Any equipment connected on the protected side of the GFI, even if turned off, can add to the standing leakage of the system and lower the GFI trip level accordingly).

4. With GFI turned "ON" and tester inserted, rotate pointer knob slowly to position 2, 3, 4, etc., until tester light goes out, indicating GFI trip.

5. Refer to Table I on tester band and find pointer knob setting in "dial set" column. Read across horizontal column to the right and you will find the trip level of the GFI tested, in milliamperes, under the proper column for the actual branch circuit voltage.

Table I. MA Trip Range

Dial Set	110V AC	120 VAC	130 VAC
1	0-1.8	0-2	0-2.2
2	1.5-2.8	2-3	2.2-3.2
3	2.8-3.7	3-4	3.2-4.3
4	3.7-4.6	4-5	4.3-5.4
5	4.6-5.5	5-6	5.4-6.5
6	5.5-6.4	6-7	6.5-7.6

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Table II. MA Tool Leakage at 120V

Dial Set With Tool	1	2	3	4	5	6
1	0-2	0-3	1-4	2-5	3-6	4-7
2		0-1	0-2	1-3	2-4	3-5
3			0-1	0-2	1-3	2-4
4				0-1	0-2	1-3
5					0-1	0-2
6						0-1

**Note:** If the GFI does not trip with the tester and the tester light is on, the circuit wiring may be incorrect (reversed polarity) or the trip level is above that in the table, or there is no ground connection.

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