

100 PLUSr Multiplier Replacement Kit

1. Introduction

The replacement instructions in this instruction sheet are applicable to the following service kits:

- 100 PLUS multiplier, 100 kV, negative
- 100 PLUS multiplier, 100 kV, positive

To order these service kits, refer to *Parts* in the back of this instruction sheet.

The following paragraphs provide procedures for replacing and calibrating the multiplier in the 100 PLUS electrostatic power unit.

NOTE: Refer to the *100 PLUS Electrostatic Power Unit* manual for component location and additional information.

2. Replacement



WARNING: Allow only qualified personnel to perform the following tasks. Observe and follow the safety instructions in this document and all other related documentation.

Refer to the *100 PLUS Electrostatic Power Unit* manual for detailed safety precautions.

1. See Figure 1. Remove the multiplier (7) from the multiplier module (10). Refer to the *100 PLUS Electrostatic Power Unit* manual for disassembly procedures.
2. Install the replacement multiplier. Refer to the *100 PLUS Electrostatic Power Unit* manual for repair procedures.

3. Regulator Circuit Board Calibration

See Figure 1. The regulator circuit board (2) must be calibrated for accurate kV and μ A display. Perform the following steps to calibrate the regulator circuit board.

1. Disconnect the electrostatic cable from the multiplier well (6).
2. Install the dust cap (5) to the multiplier well.
3. Loosen the captive screws (1) securing the electronic control module to the cabinet and gain access to the regulator circuit board.

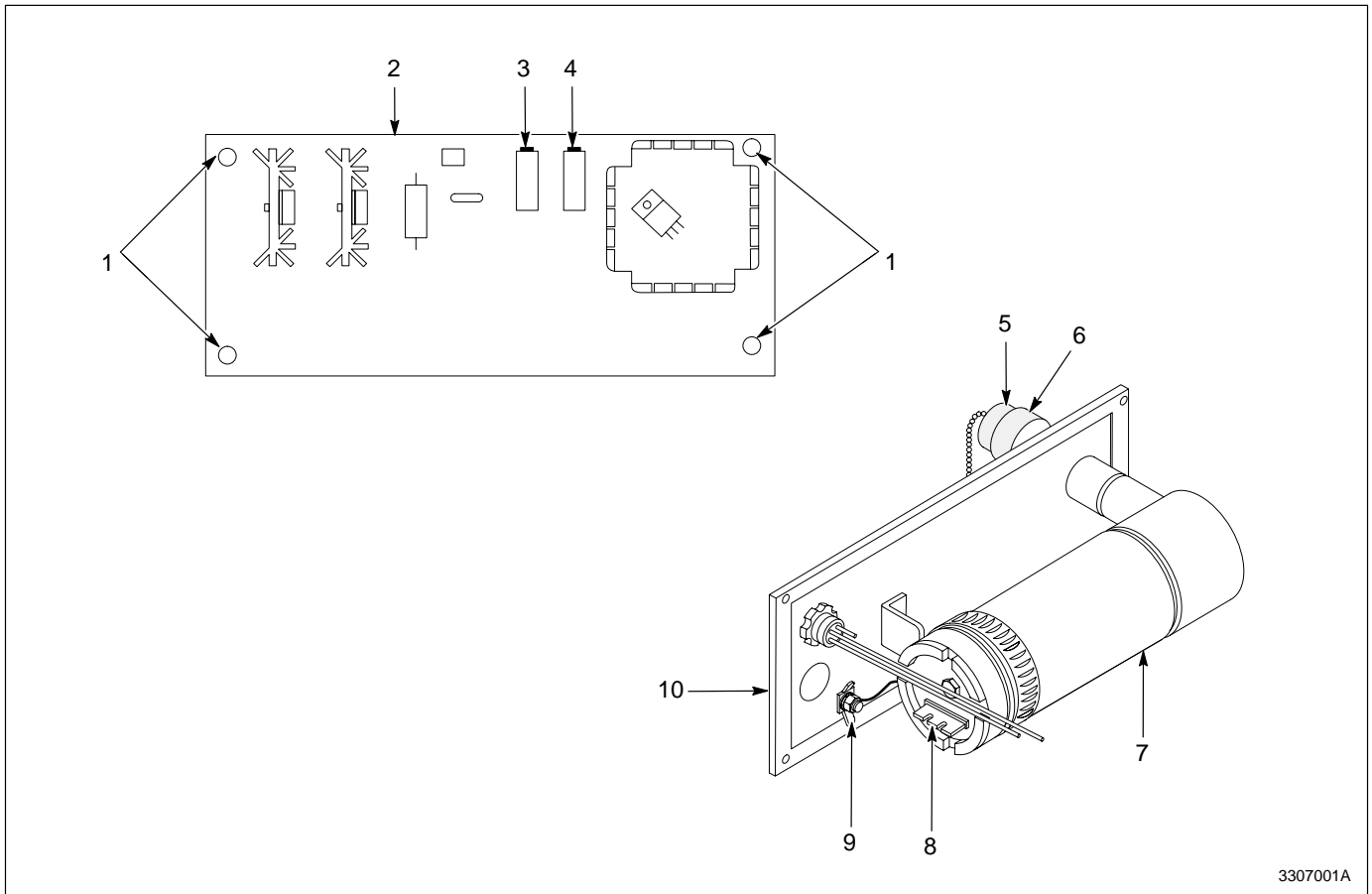


WARNING: Power is applied to the power unit during the calibration procedure. Exercise extreme caution while calibrating the regulator circuit board. Contact with energized components may cause severe shock or death.

4. Turn the kV potentiometer on.

NOTE: Measure the voltage on the foil side of the finger board.

5. Using a voltmeter set for dc volts, measure dc voltage from pin 5 (8) to the multiplier ground stud (9).
6. Adjust the potentiometer R20 (4) on the regulator circuit board to the voltage marked on the top cap of the multiplier (7).
7. Apply locking compound to the potentiometer R20 adjustment screw.
8. Turn the kV potentiometer off.
9. Install the multiplier module (10) to the cabinet and tighten the captive screws.
10. Turn the potentiometer on and set to the maximum kV output.
11. Adjust the potentiometer R40 (3) as follows:
 - a. 100 kV multiplier: adjust the R40 until the bar meter reads 100 kV.
 - b. 80 kV multiplier: adjust the R40 until the bar meter reads 80 kV.
12. Turn the kV potentiometer off.
13. Install the electronic control module to the cabinet and tighten the captive screws.
14. Remove the dust cap from the multiplier well.
15. Connect the electrostatic cable to the multiplier well.



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Fig. 1 Regulator Board Calibration

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|----------------------------|--------------------|---------------------------|
| 1. Captive screws | 5. Dust cap | 6. Pin 5 |
| 2. Regulator circuit board | 6. Multiplier well | 9. Multiplier ground stud |
| 3. Potentiometer R40 | 7. Multiplier | 10. Multiplier module |
| 4. Potentiometer R20 | | |

4. Parts

Part	Description	Quantity
106 430	Service kit, 100 PLUS multiplier, 100 kV, negative	1
124 452	Service kit, 100 PLUS multiplier, 100 kV, positive	1

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