



Doosan Infracore
Portable Power

Service Letter

Field Modification

SL: 30007
Date: 26 March 2012
Product: Generators
Subject: Main Power Cables Final Repair (Y05C)

PROCEDURE & WARRANTY GUIDELINES

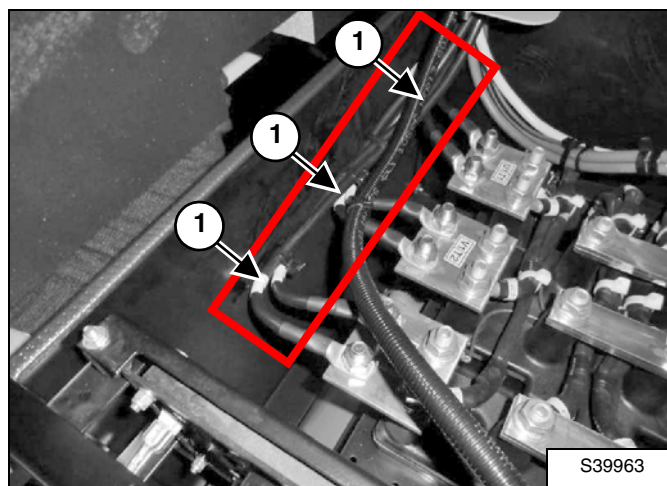
Repair Priority	Mandatory - Class A
Parts Required	G160: M333001A (ABB) G160: M333001F (MERLIN-GERIN) G200: M333001B (ABB) G200: M333001G (MERLIN-GERIN) G250: M333001C (ABB) G250: M333001H (MERLIN-GERIN) G400: M333001D (ABB) G400: M333001I (MERLIN-GERIN) G500: M333001E (ABB) G500: M333001J (MERLIN-GERIN)
Parts Return	No - dispose of old parts
Parts Credit	No - parts are shipped free of charge
Labor Credit	Yes - Four (4) hours
Travel Credit	Yes - Two (2) hours for retailed machines
Causal Part Number	Alternator Wire Assembly
Warranty Code	Y05C
DVP Application	No

[Figure 1] Doosan Benelux SA has determined a final repair for the routing of the main power cables (Item 1) between the alternator box wiring terminals and the circuit breaker for the generators listed in this letter.

This modification is only required in case after the inspection (campaign Y05A) a temporary repair was required (campaign Y05B). (**See service letter #30006 dated 15 February 2012**).

All possible affected parts need to be replaced with the new parts supplied within the cable & protection kit (as listed below) and to be installed with a proper routing.

Figure 1



MODEL	SERIAL NUMBER
G160	G1600116 G1600127 thru G1600128 G1600131 thru G1600204
G200	G2000115 thru G2000117 G2000120 thru G2000160
G250	G2500117 thru G2500119 G2500122 thru G2500123 G2500127 thru G2500177
G400	G4000111 G4000116 thru G4000119 G4000121 thru G4000136
G500	G5000122 G5000125 thru G5000144

Parts:

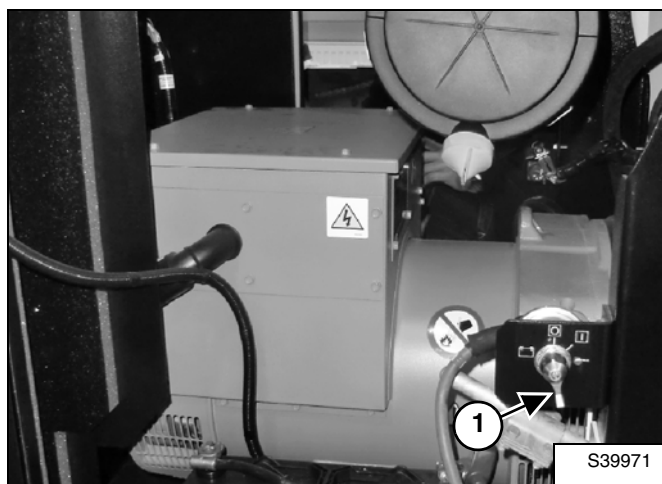
MODEL	QTY	P/N	DESCRIPTION
G160	1	M333001A	Cable & Protection Kit Type 2, G160 (ABB)
G160	1	M333001F	Cable & Protection Kit Type 2, G160 (MERLIN-GERIN)
G200	1	M333001B	Cable & Protection Kit Type 2, G200 (ABB)
G200	1	M333001G	Cable & Protection Kit Type 2, G200 (MERLIN-GERIN)
G250	1	M333001C	Cable & Protection Kit Type 2, G250 (ABB)
G250	1	M333001H	Cable & Protection Kit Type 2, G250 (MERLIN-GERIN)
G400	1	M333001D	Cable & Protection Kit Type 2, G400 (ABB)
G400	1	M333001I	Cable & Protection Kit Type 2, G400 (MERLIN-GERIN)
G500	1	M333001E	Cable & Protection Kit Type 2, G500 (ABB)
G500	1	M333001J	Cable & Protection Kit Type 2, G500 (MERLIN-GERIN)

The above parts will be shipped to you for each affected machine, in case you have reported an affected machine by campaign Y05B, as described per service letter #30006 dated 15 February 2012.

Doosan Benelux SA asks its dealers to contact all owners of affected machines and make arrangements for this modification and to correct all affected machines in your dealer inventory prior to delivery.

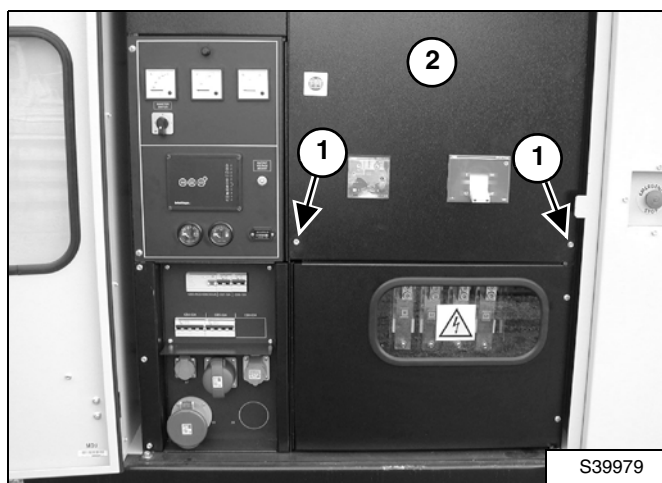
Procedure

Figure 2



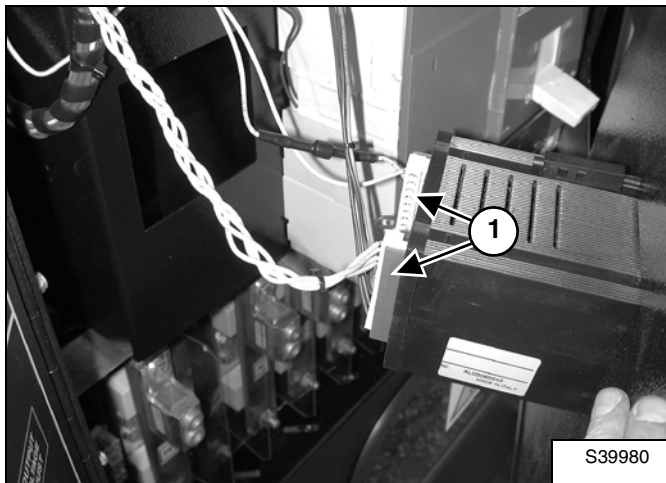
Before any intervention on the machine, stop the engine and place the battery switch (Item 1) [Figure 2] on position "0".

Figure 3



Remove the four screws (Item 1) from the main breaker panel (Item 2) [Figure 3].

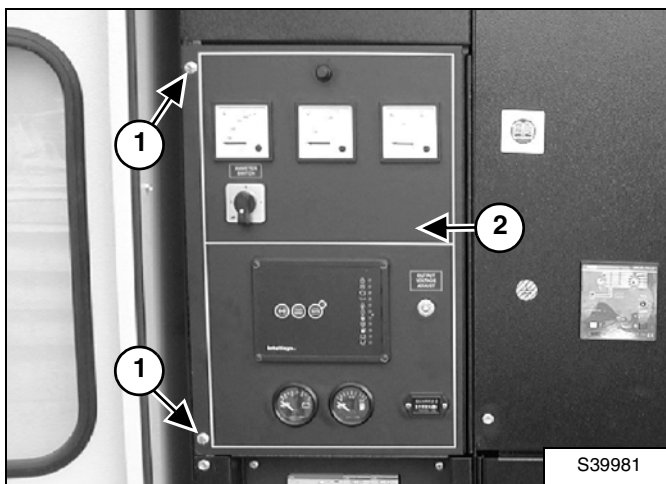
Figure 4



Disconnect the earth leakage connectors (Item 1) [Figure 4] (if applicable) and remove the main breaker panel.

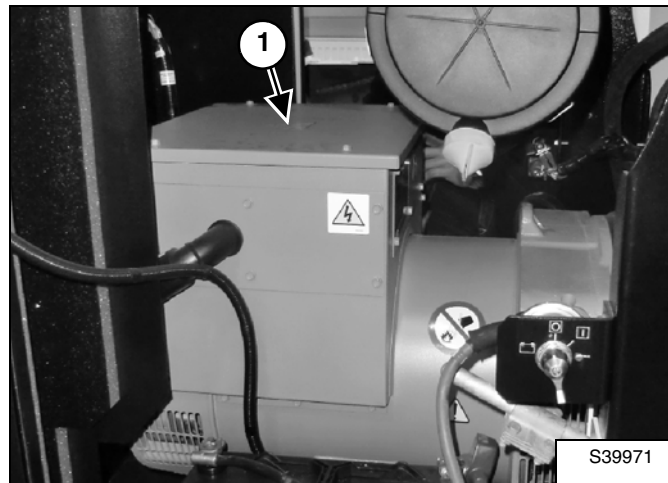
NOTE: On some models, before removing the main breaker panel, you must disconnect the connectors to the earth leakage - three connectors in two rows.

Figure 5



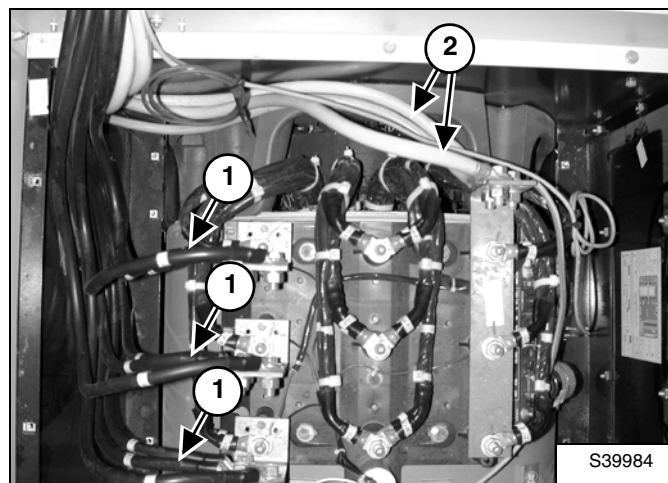
Loosen the two screws (Item 1) 1/4 turn and open the control panel (Item 2) [Figure 5].

Figure 6



Open the alternator terminals box cover (Item 1) [Figure 6].

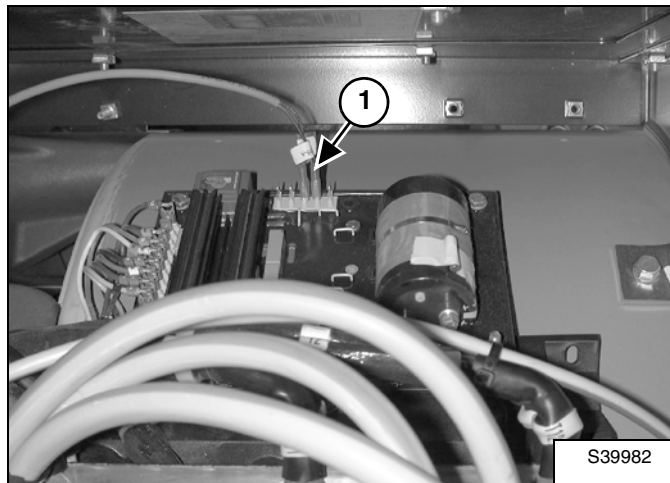
Figure 7



Disconnect all power cables (Item 1) and earth cables (Item 2) [Figure 7].

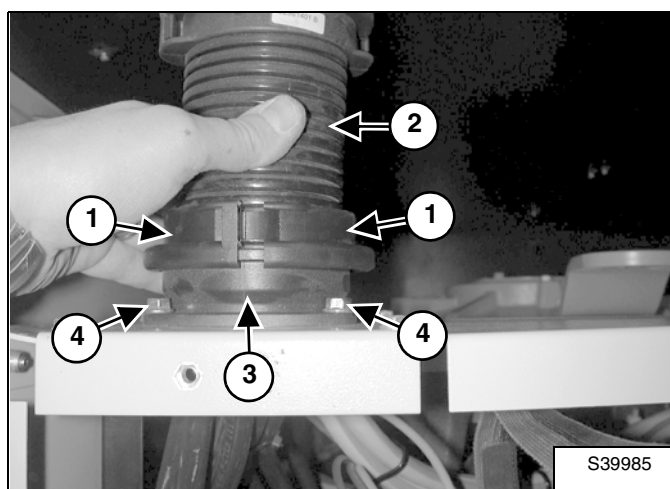
NOTE: Depending on the model, there are one, two or three cables per phase and earth.

Figure 8



Disconnect the AVR wires (Item 1) [Figure 8].

Figure 9



Disconnect the half circles plastic gland (Item 1) to remove the plastic conduit (Item 2) from the plastic conduit holder (Item 3) [Figure 9].

Remove the four bolts (Item 4) [Figure 9] and nuts from the plastic conduit holder.

Figure 10

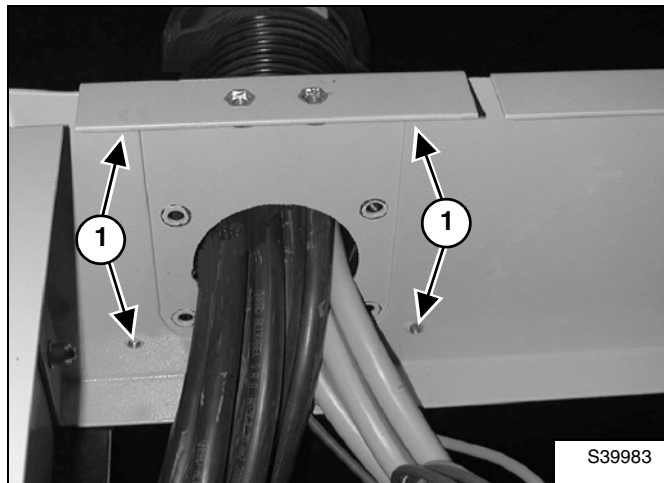
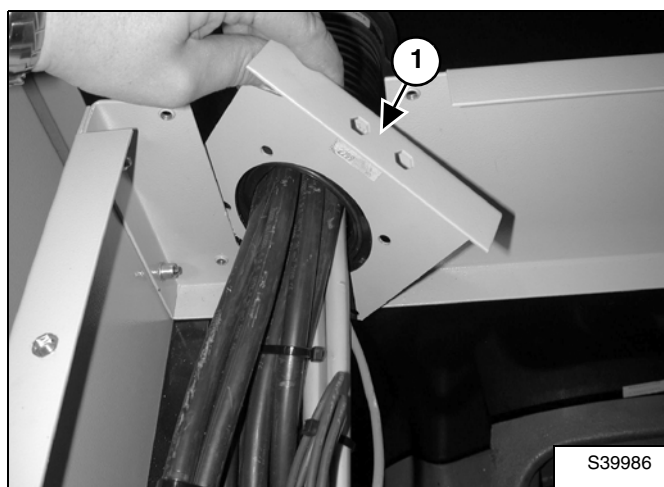
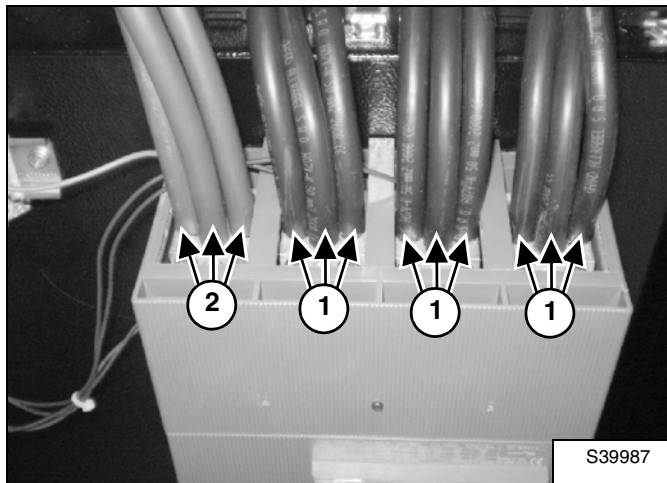


Figure 11



Remove the four bolts (Item 1) [Figure 10] and put the alternator terminals box bracket (Item 1) [Figure 11] aside.

Figure 12

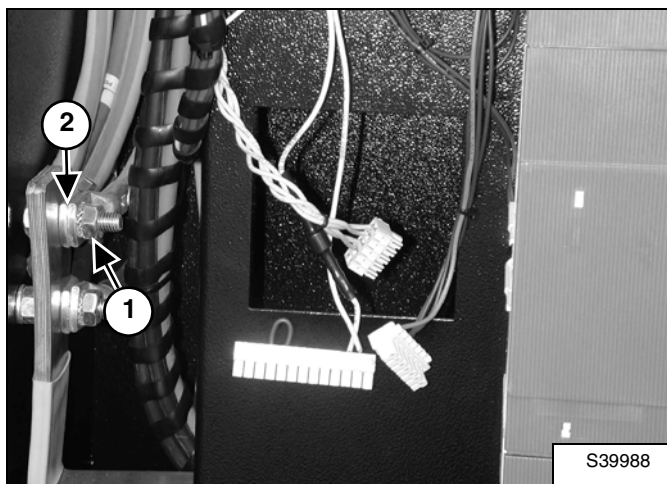


Disconnect the power cables (Item 1) [Figure 12] from the main breaker.

NOTE: Depending on the model, there are one, two or three cables per phase.

NOTE: Do NOT disconnect the neutral cable(s) (Item 2) [Figure 12].

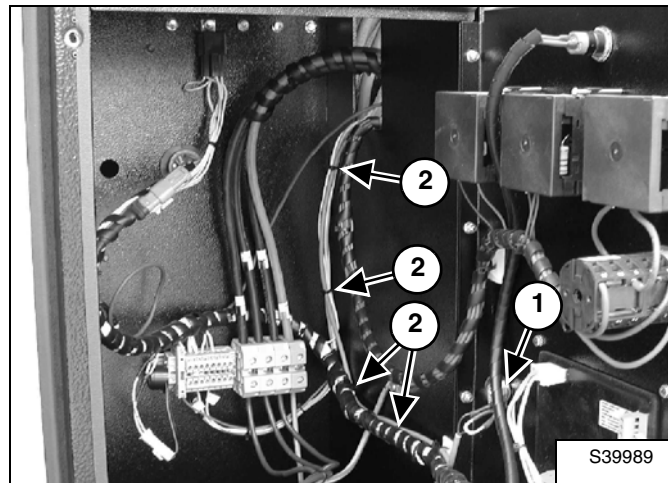
Figure 13



Remove the nut (Item 1) to disconnect the earth cables (Item 2) [Figure 13] at the busbar.

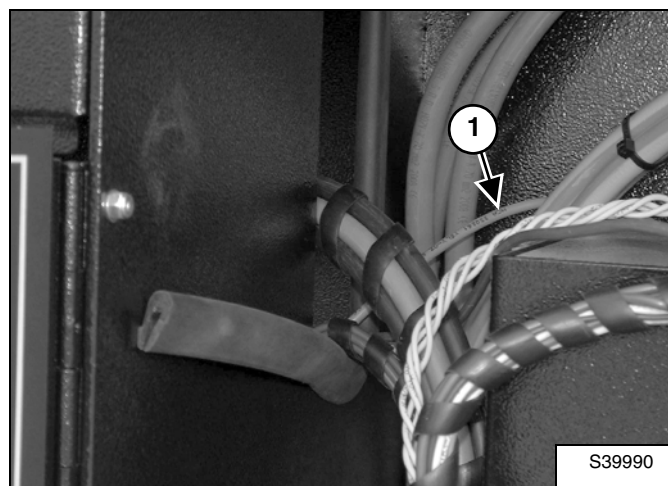
NOTE: Depending on the model, there are one, two or three earth cables.

Figure 14



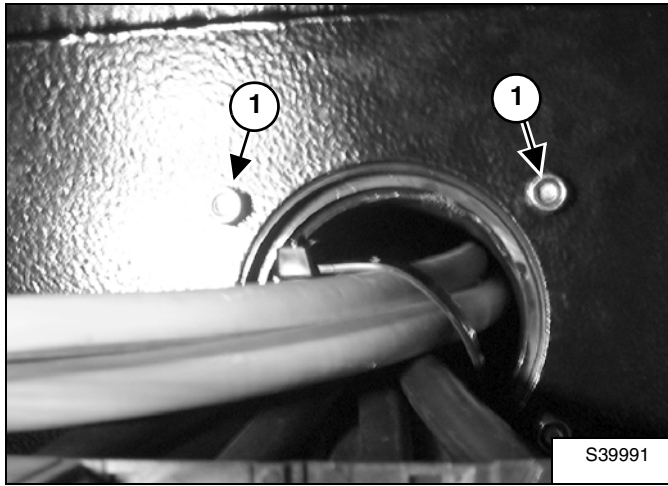
Disconnect the AVR wires from the voltage potentiometer (Item 1). Cut the cable ties (Item 2) [Figure 14].

Figure 15



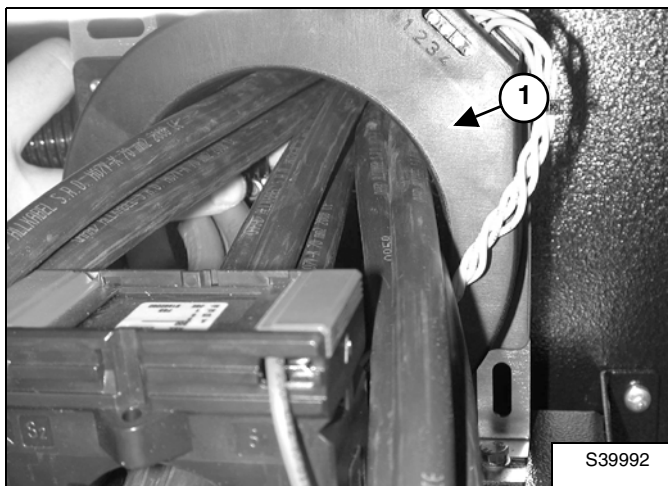
Pull the AVR wire (Item 1) [Figure 15] through the hole.

Figure 16



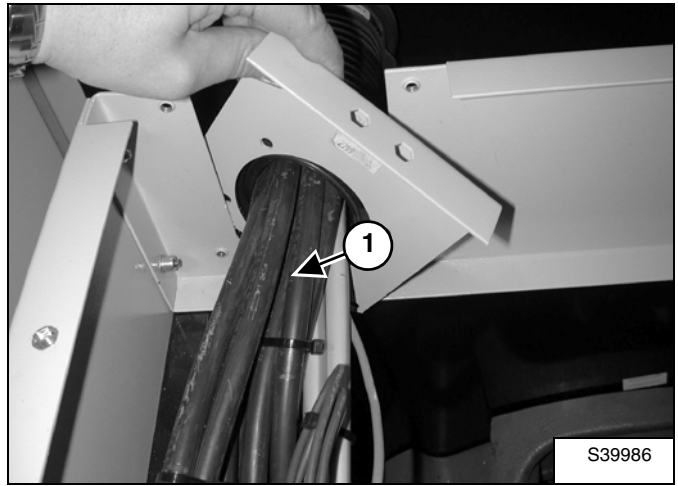
Remove the four bolts and nuts (Item 1) **[Figure 16]** from the plastic conduit holder at the power pedestal plate.

Figure 17



Remove the RCD transformer (Item 1) **[Figure 17]** (where applicable) to ease the cable removal.

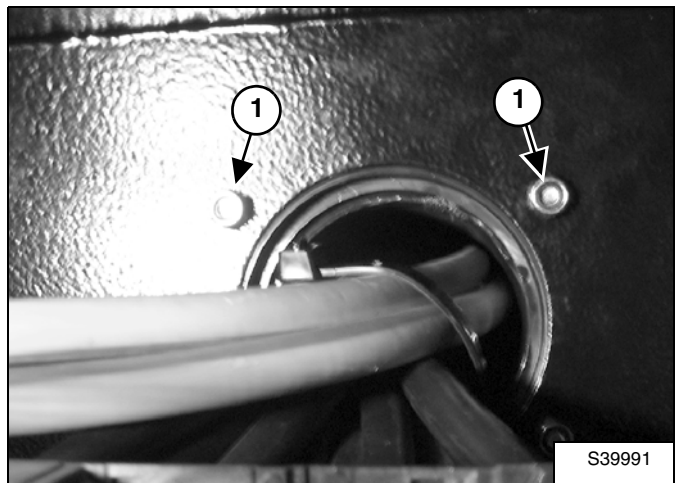
Figure 18



Straighten up the cables (power, earth, and AVR) at the breaker end and remove all cables (Item 1) **[Figure 18]**.

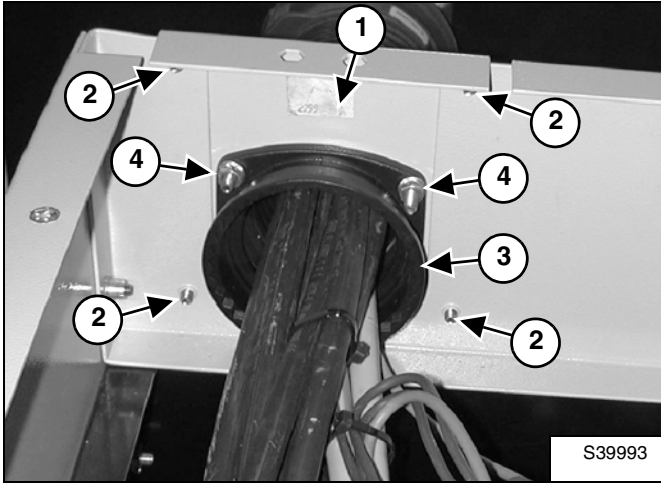
Install the new cables. Make sure to keep the same routing as for the old cables.

Figure 19



Fit the plastic conduit holder on the power pedestal plate and reinstall the four bolts and nuts (Item 1) **[Figure 19]**.

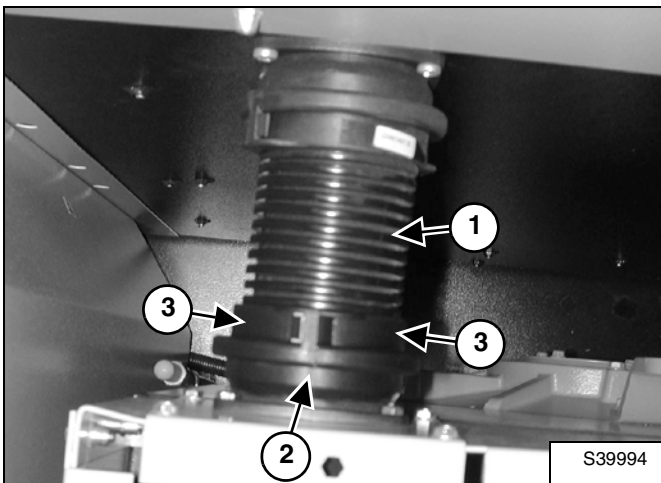
Figure 20



Put the alternator terminals box bracket (Item 1) back in position and install the four bolts (Item 2) [Figure 20].

Reinstall the plastic conduit holder together with the new inside plastic conduit holder (Item 3) using the four long bolts and nuts (Item 4) [Figure 20].

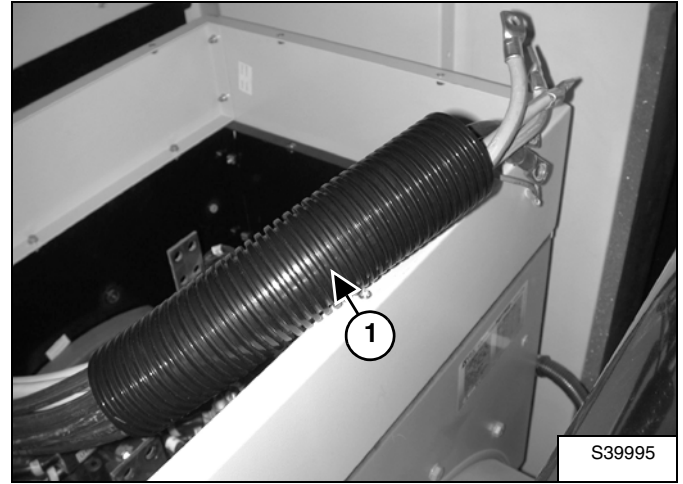
Figure 21



Fit the plastic conduit (Item 1) on the plastic conduit holder (Item 2) and reinstall the half circles plastic gland (Item 3) [Figure 21].

NOTE: Make sure the gland encases itself in the conduit grooves and in the plastic conduit holder collar. Make sure both halves of the plastic gland are closed properly.

Figure 22

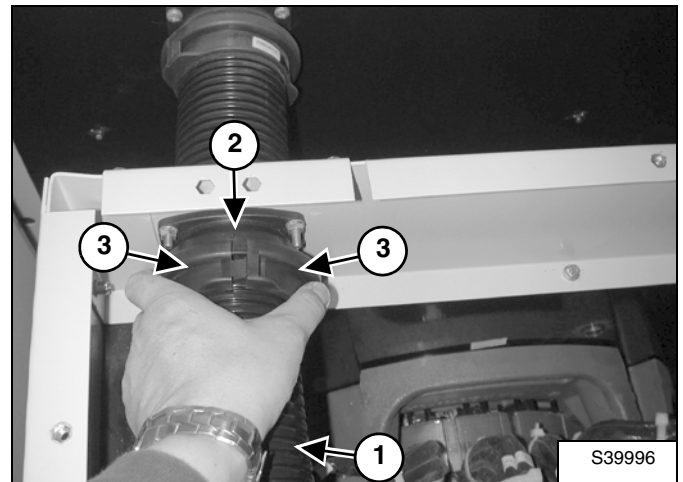


Group the power, earth, and AVR cables and slide the plastic conduit (Item 1) [Figure 22] over the cables.

NOTE: Align the cables properly. Any cable crossing increases the harness total diameter and makes it much more difficult to slip the conduit over. Make sure the plastic conduit includes all cables.

NOTE: Do not forget any cable, especially not the AVR wire.

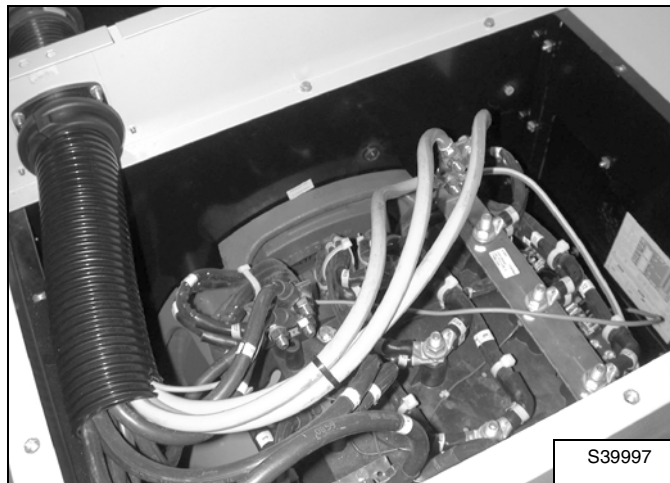
Figure 23



Fit the plastic conduit (Item 1) on the plastic conduit holder (Item 2) and install the half circles plastic gland (Item 3) [Figure 23].

NOTE: Make sure the gland encases itself in the conduit grooves and in the plastic conduit holder collar. Make sure both halves of the plastic gland are closed properly.

Figure 24



Connect the power, earth, and AVR cables [Figure 24].

IMPORTANT

Make sure to connect all cables at the correct position. Also make sure the cables do not touch or run close to any metallic part. A 10 mm (0.4 in) distance should be kept between the cables and any metallic parts to avoid any risk of cable rubbing against the metallic part. Failure to do so will result in alternator damage and/or electrical hazard.

Figure 25

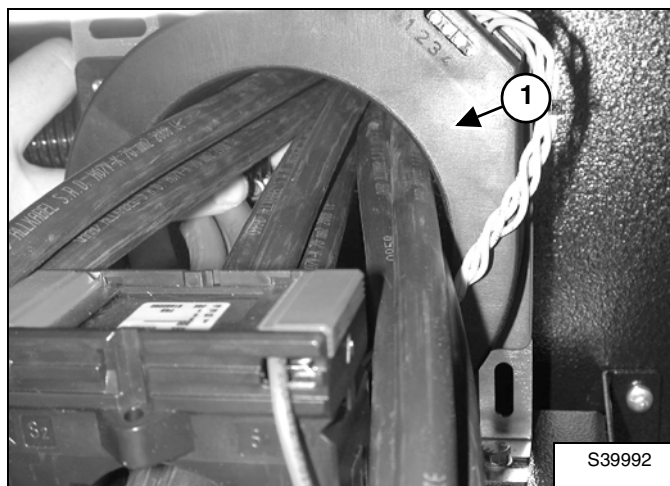
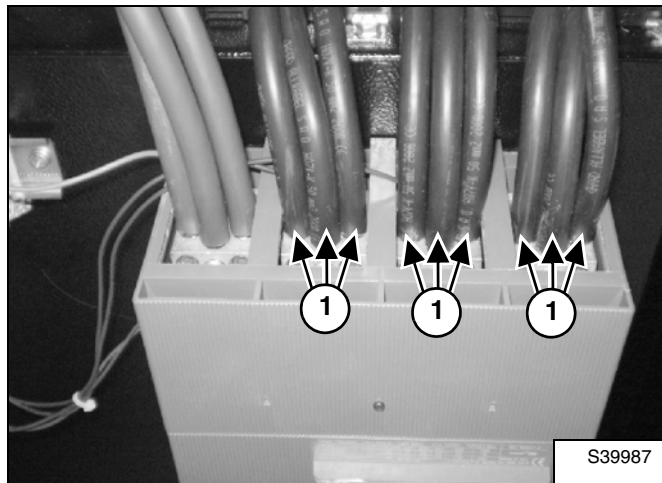


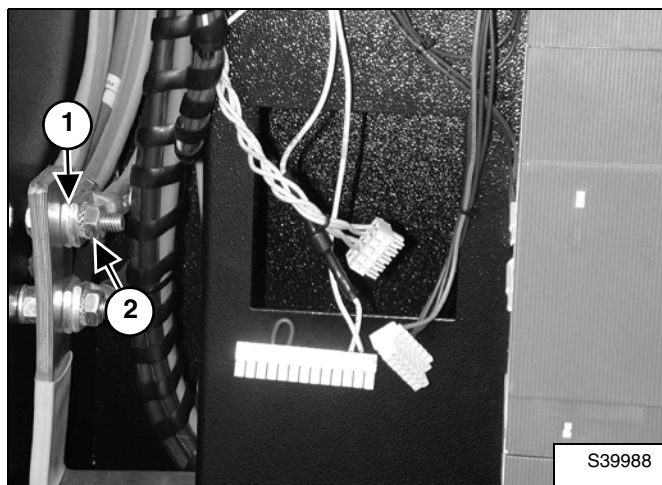
Figure 26



Reinstall the RCD transformer (Item 1) [Figure 25] (when applicable) and connect the power cables (Item 1) [Figure 26] to the main breaker as follows:

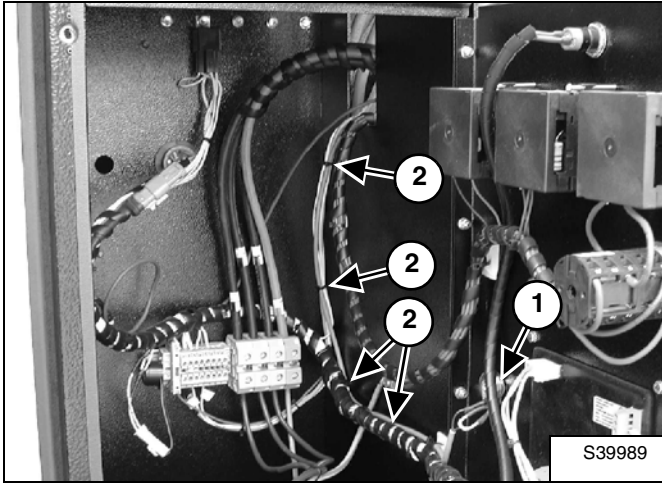
- The power and neutral cables must go through the RCD transformer (where applicable)
- The earth cable must not go through the RCD transformer
- Each power cable must go through its respective current measurement transformer.

Figure 27



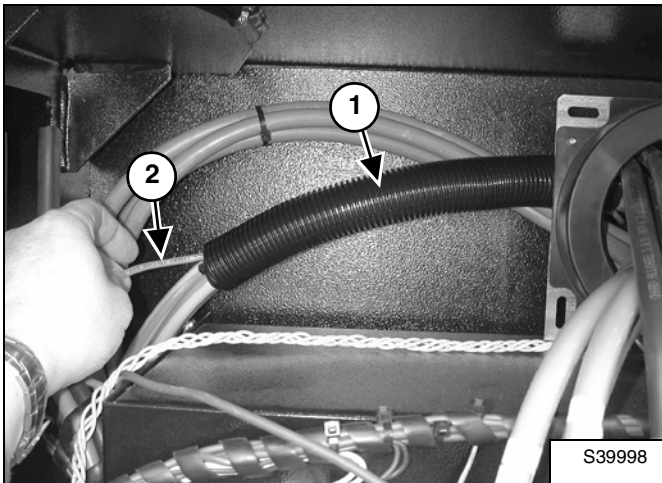
Connect the earth cables (Item 1) to the busbar. Install and tighten the nut (Item 2) [Figure 27].

Figure 28



Route the AVR wire through the hole and connect it to the voltage potentiometer (Item 1). Install cable ties (Item 2) [Figure 28].

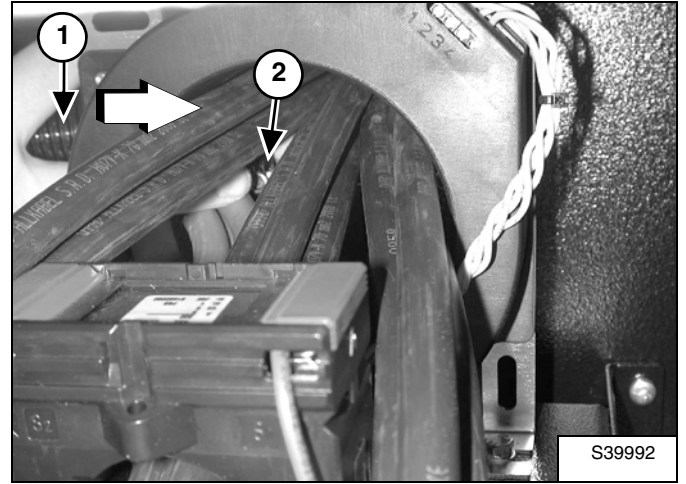
Figure 29



Install the slit conduit (Item 1) [Figure 29] around the earth cables.

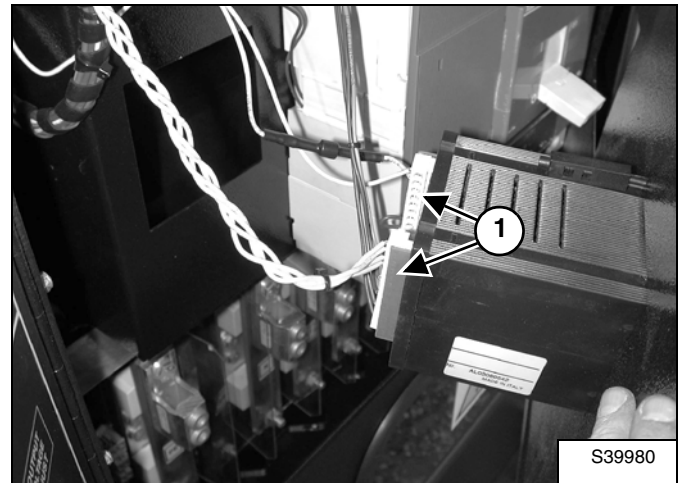
Carefully insert the AVR wire (Item 2) [Figure 29] in the slit conduit. Do not damage the AVR wire.

Figure 30



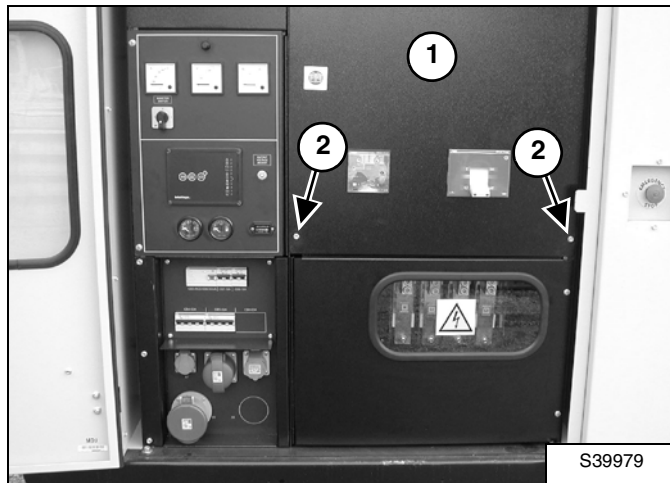
Slide the slit conduit (Item 1) along the earth cables until it is visible (Item 2) [Figure 30] through the RCD transformer.

Figure 31



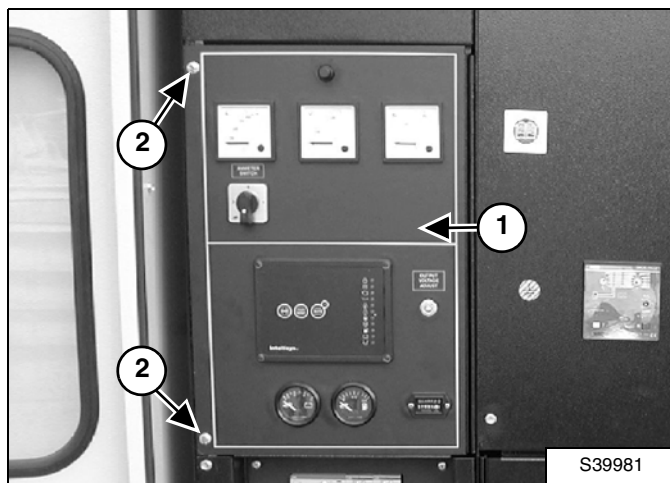
Reconnect the earth leakage connectors (Item 1) [Figure 31] (if applicable).

Figure 32



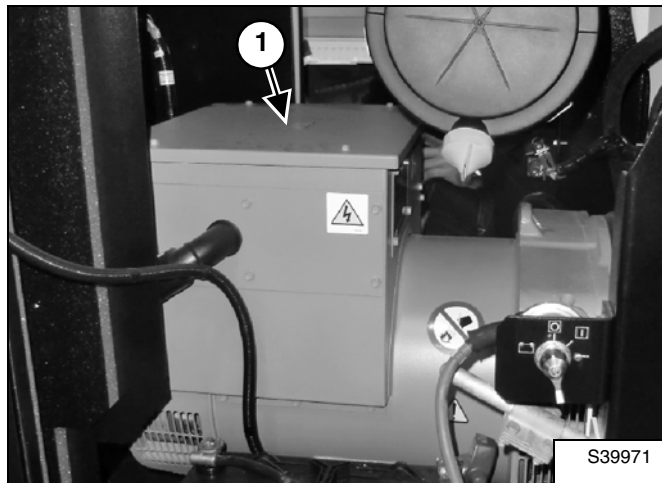
Reinstall the main breaker panel (Item 1) using the four screws (Item 2) **[Figure 32]**.

Figure 33



Close the control panel (Item 1) and tighten the two screws (Item 2) **[Figure 33]** 1/4 turn.

Figure 34



Close the alternator terminals box cover (Item 1) **[Figure 34]**.

Testing The Generator

Testing While The Generator Is Running

! WARNING

ELECTROCUTION CAN CAUSE SERIOUS INJURY OR DEATH

Use certified protection equipment such as rubber soled shoes, rubber gloves, according to local safety regulations.

All tests should be performed with the main breaker in "ON" position.

Voltage

- Test voltage between N and each phase - result should be $230\text{ V} \pm 1\text{ V}$.
- Test voltage between each phase - L1 -> L2, L2 -> L3, and L3 -> L1 - result should be $400\text{ V} \pm 2\text{ V}$.

Figure 35

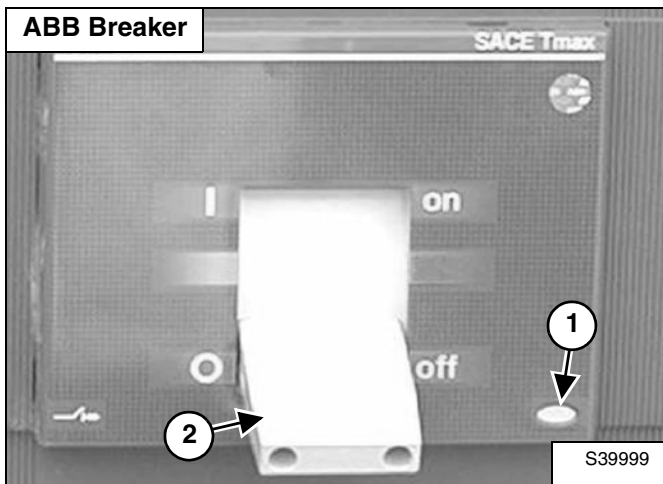
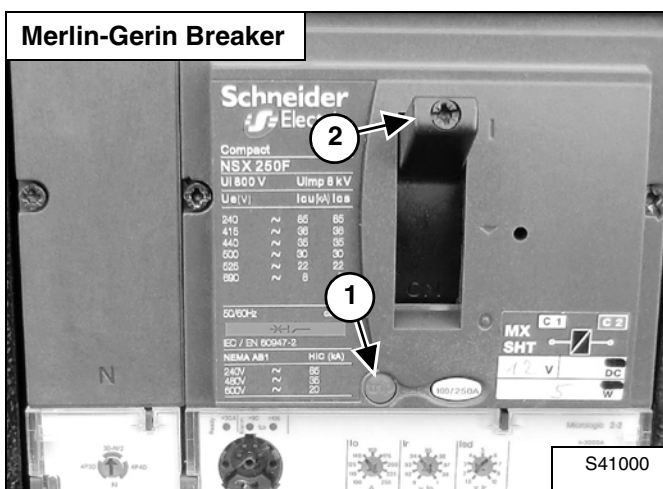


Figure 36



With the generator running, press the main breaker test button (Item 1). The main breaker (Item 2) **[Figure 35]** or **[Figure 36]** should trip and jump in the “trip” position.

Push the breaker in position “OFF” and then “ON” for the next test.

Figure 37

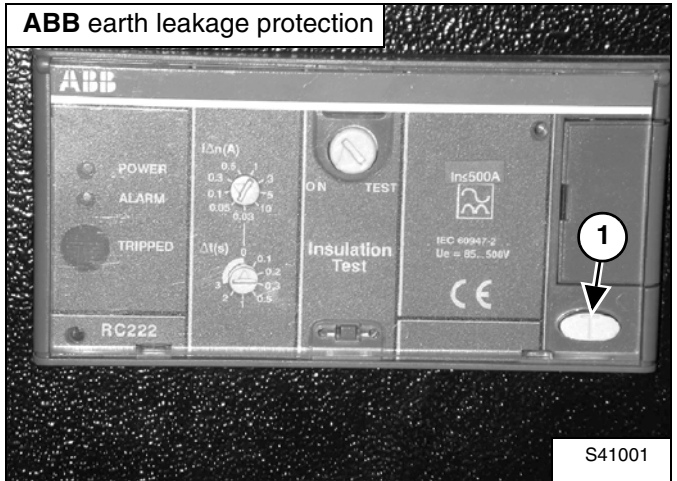
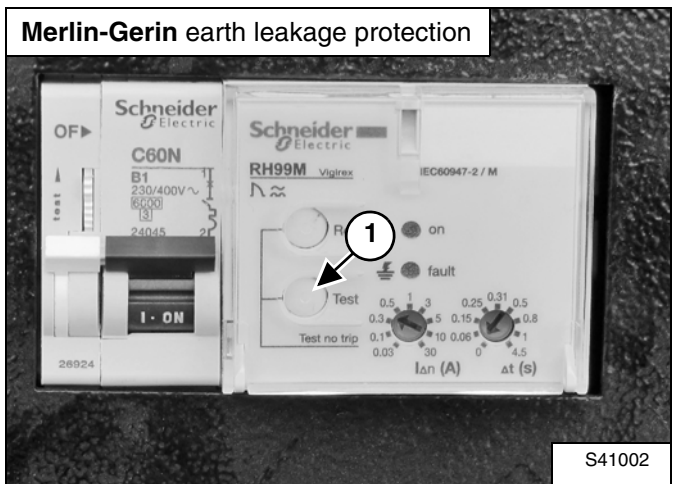


Figure 38



With the generator running, press the earth leakage device test button (Item 1) **[Figure 37]** or **[Figure 38]**. The main breaker (Item 2) **[Figure 35]** or **[Figure 36]** should trip and jump in the “trip” position.