

## SERVICE BULLETIN

Original Issue Date: **8/02**Model: **20-2800 kW**Market: **Industrial**Subject: **Warranty Startup Procedure Requirements**

Some generator set models with electronic control modules (ECM) may limit or prohibit adjusting the engine speed or testing the shutdown/warning faults. This type of testing is typically required by the NFPA 110 standard for emergency power supply systems or by

other governing agencies. Completion of the shutdown and warning tests does not affect the warranty coverage. Figure 1 shows if the fault shutdown or warning tests are feasible.

| Model            | Engine     | Governor Type             | Shutdown and Warning Fault Tests |           |                    |                      |
|------------------|------------|---------------------------|----------------------------------|-----------|--------------------|----------------------|
|                  |            |                           | Overspeed                        | Overcrank | Engine Sensors (A) | External Sensors (B) |
| 20GS             | Ford       | Electronic, Barber-Colman | Yes                              | Yes       | Yes                | Yes                  |
| 30-125GSG/GSGB   | GM         |                           | Electronic, Woodward             |           | No                 |                      |
| 30-125GSG/GSGB   |            | Electronic, E-Controls    |                                  |           |                    |                      |
| 30-125GSG/GSGB   |            |                           |                                  |           |                    |                      |
| 135-275GS/GSB    | DDC        | ECM Control               |                                  |           |                    |                      |
| 400-800GSW       | Waukesha   | Electronic                | Yes                              |           |                    |                      |
| 20-100DSJ/DSJB   | John Deere | Mechanical                | Yes                              |           | Yes                |                      |
| 20-100DSJ/DSJB   |            | Electronic                |                                  |           |                    |                      |
| 20-230DSEJ/DSEJB |            | Mechanical                |                                  |           |                    |                      |
| 20-230DSEJ/DSEJB |            | Electronic                |                                  |           |                    |                      |
| 80-200DSEJC      |            |                           | ECM Control                      |           | No                 |                      |
| 600-1000DSM      | Mitsubishi | Electronic                | Yes                              |           | Yes                |                      |
| 2000DSM          |            |                           |                                  |           |                    |                      |
| 200DSE/DSEB      | DDC        | ECM Control               | No                               |           | Yes*               |                      |
| 230-300DSE/DSEB  |            |                           |                                  |           |                    |                      |
| 350/400DSE       |            |                           |                                  |           |                    |                      |
| 450DSE-4         |            |                           |                                  |           |                    |                      |
| 500-1000DS-4     |            |                           |                                  |           |                    |                      |
| 650-2000DSEB     |            |                           |                                  |           |                    |                      |
| 1250-2000DS-4    |            |                           |                                  |           |                    |                      |
| 2500/2800DSE     |            |                           |                                  |           |                    |                      |

\* Units with 550 controllers may require user-supplied potentiometers to simulate sensor function.  
The potentiometer value and connector vary by engine manufacturer/model.

**Figure 1** Feasibility of Fault Shutdown and Warning Tests

| Routing      | Service Manager | Sales Manager | Parts Manager | Technician No. 1 | Technician No. 2 | Technician No. 3 | Return This to |
|--------------|-----------------|---------------|---------------|------------------|------------------|------------------|----------------|
| Initial Here |                 |               |               |                  |                  |                  |                |

## Related Documents

- Startup Notification K-625
- Startup and Onsite Test Procedure K-3322

The engine ECM or other generator set controls may impact the following shutdowns and warnings. The letter in parentheses identifies the fault category in Figure 1.

- Overspeed (governor control) shutdown
- Overcrank shutdown
- High coolant temperature shutdown (A)
- High coolant temperature warning (A)
- Low coolant temperature warning (A)
- Low oil pressure shutdown (A)
- Low oil pressure warning (A)
- Battery charger fault warning (B)
- Low battery voltage warning (B)
- Low fuel (level or pressure) warning (B)

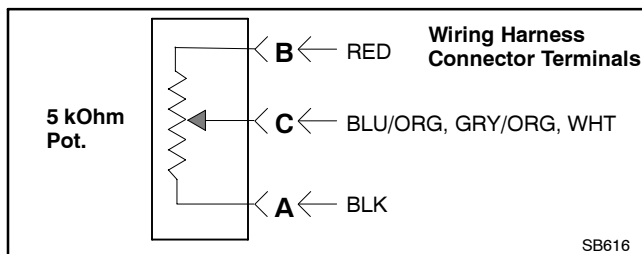
Use the information in Figure 8, Figure 9, and Figure 10 to test the engine sensor/switch faults. The information in this bulletin provides a guideline for warranty startup requirements. Use this data during troubleshooting of the generator set.

## Test Method 1

Remove the sensor lead and ground the lead to the engine block ground or connect a jumper wire from the sensor terminal to the engine block ground.

## Test Method 2

Test faults using a 5 kOhm, 10-turn, 3-watt potentiometer (part no. X-6136-36) and the illustration shown in Figure 2. Before starting the generator set, turn the potentiometer fully counterclockwise. While the generator set is running, turn the potentiometer clockwise until the unit shuts down.

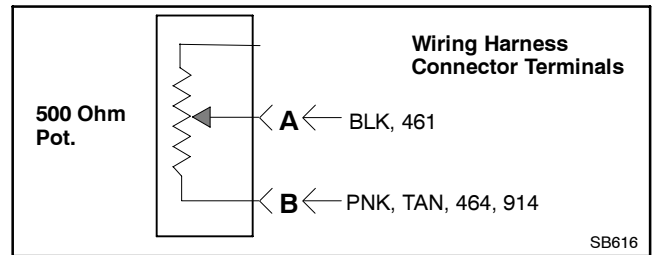


**Figure 2** Coolant Temp. and Oil Pressure Test

## Test Method 3

Test coolant temperature faults using a 500 ohm, 10-turn, 3-watt potentiometer (part no. X-6136-37) and the illustration shown in Figure 3. Turn potentiometer fully counterclockwise before starting the generator set.

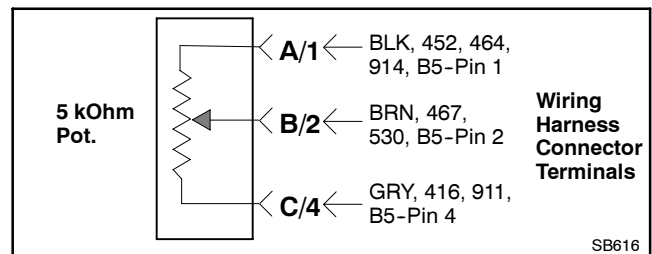
While the generator set is running, turn the potentiometer clockwise until the unit shuts down. The mating connector to the engine wiring harness connector is a Packard Electrical Division part no. 12066016.



**Figure 3** Coolant Temperature Test

## Test Method 4

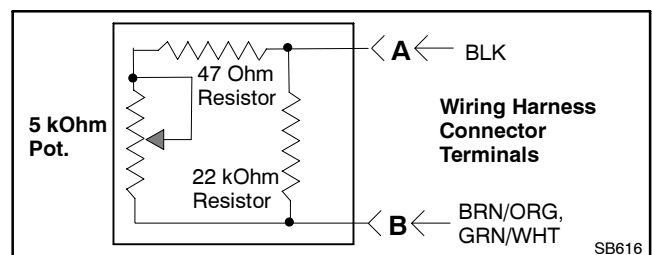
Test oil pressure faults using a 5 kOhm, 10-turn, 3-watt potentiometer (part no. X-6136-36) and the illustration shown in Figure 4. Before starting the generator set, turn the potentiometer fully counterclockwise. While the generator set is running, turn the potentiometer clockwise until the unit shuts down.



**Figure 4** Oil Pressure Test

## Test Method 5

Test coolant temperature faults using a 5 kOhm, 10-turn, 3-watt potentiometer (part no. X-6136-36), 47 ohm 1/2-watt resistor, and 22 kOhm 1/2-watt resistor using the illustration shown in Figure 5. Before starting the generator set, turn the potentiometer fully counterclockwise. While the generator set is running, turn the potentiometer clockwise until the unit shuts down.



**Figure 5** Coolant Temperature Test

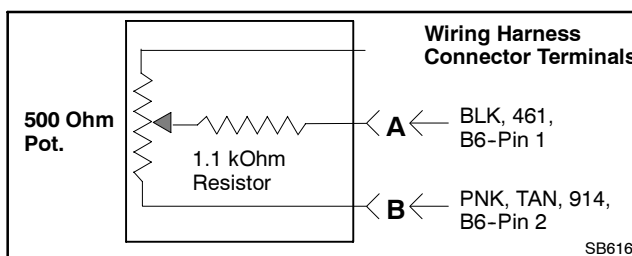
## Test Method 6

Test coolant temperature faults using a 500 ohm, 10-turn, 3-watt potentiometer (part no. X-6136-37) and a 1.1 kOhm 1/2-watt resistor, using the illustration shown in Figure 6. Turn potentiometer fully counterclockwise before starting the generator set to simulate a low coolant temperature warning. While the generator set is running, turn the potentiometer clockwise until the unit shuts down.

Figure 7 provides the Decision-Maker™ 340 and Decision-Maker™ 550 factory settings for shutdown and warning faults. 218(103)

Engine setpoints are also available in Menu 2, Engine Monitoring with Decision-Maker™ 550 controllers.

**Note:** The following information is subject to change.



**Figure 6** Coolant Temperature Test

|                |            |       | High Coolant Temperature Shutdown, °C (°F) | High Coolant Temperature Warning, °C (°F) | Low Oil Pressure Shutdown, kPa (psi) | Low Oil Pressure Warning, kPa (psi) |
|----------------|------------|-------|--------------------------------------------|-------------------------------------------|--------------------------------------|-------------------------------------|
| Model          | Engine     | Freq. |                                            |                                           |                                      |                                     |
| 20GS           | Ford       | 50/60 | 107 (225)                                  | 99 (210)                                  | 103 (15)                             | 138 (20)                            |
| 30-125GSG/GSGB | GM         | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 135-275GS/GSB  | DDC        | 50/60 | 103 (218)                                  | 99 (210)                                  | 103 (15)                             | 138 (20)                            |
| 400-800GSW     | Waukesha   | 50/60 | 102 (215)                                  | 96 (205)                                  | 241 (35)                             | 276 (40)                            |
| 20DSJB         | John Deere | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 20-230DSEJB    |            | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 80-180DSEJC    |            | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 200DSEJC       |            | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 600-1000DSM    | Mitsubishi | 50/60 | 103 (218)                                  | 99 (210)                                  | 276 (40)                             | 379 (55)                            |
| 2000DSM        |            | 60    | 98 (208)                                   | 92 (198)                                  | 296 (43)                             | 393 (57)                            |
| 200DSE/DSEB    | DDC        | 50/60 | 111 (232)                                  | 103 (218)                                 | 103 (15)                             | 138 (20)                            |
| 230-300DSEB    |            | 50/60 | 106 (223)                                  | 99 (210)                                  | 207 (30)                             | 241 (35)                            |
| 230-400DSE     |            | 50/60 | 106 (223)                                  | 99 (210)                                  | 207 (30)                             | 241 (35)                            |
| 450DSEB        |            | 50/60 | 106 (223)                                  | 99 (210)                                  | 207 (30)                             | 241 (35)                            |
| 450DSE-4       |            | 50    | 103 (217)                                  | 96 (205)                                  | 165 (24)                             | 234 (34)                            |
|                |            | 60    | 107 (225)                                  | 102 (215)                                 | 207 (30)                             |                                     |
| 500DS-4        |            | 50    | 107 (225)                                  | 102 (215)                                 | 572 (83)                             | 641 (93)                            |
|                |            | 60    | 103 (217)                                  | 96 (205)                                  | 207 (30)                             | 234 (34)                            |
| 600DS-4        |            | 50    | 107 (225)                                  | 102 (215)                                 | 572 (83)                             | 641 (93)                            |
|                |            | 60    | 107 (224)                                  |                                           | 614 (89)                             |                                     |
| 650-1000DSEB   |            | 50    | 102 (216)                                  | 97 (207)                                  | 393 (57)                             | 441 (64)                            |
| 650-1000DSEB   |            | 60    | 102 (216)                                  | 97 (207)                                  | 503 (73)                             | 552 (80)                            |
| 750DS-4        |            | 50    | 107 (225)                                  | 102 (215)                                 | 462 (67)                             | 552 (80)                            |
|                |            | 60    | 103 (217)                                  | 96 (205)                                  | 614 (89)                             | 641 (93)                            |
| 800DS-4        |            | 50    | 107 (225)                                  | 102 (215)                                 | 462 (67)                             | 552 (80)                            |
|                |            | 60    |                                            |                                           | 510 (74)                             |                                     |
| 900DS-4        |            | 50/60 | 103 (217)                                  | 96 (205)                                  | 462 (67)                             | 552 (80)                            |
| 1000DS-4       |            | 60    | 103 (217)                                  | 96 (205)                                  | 462 (67)                             | 552 (80)                            |
| 1250-2000DS-4  |            | 50    | 99 (210)                                   | 93 (199)                                  | 400 (58)                             | 483 (70)                            |
|                |            | 60    |                                            |                                           | 434 (63)                             |                                     |
| 1350-2000DSEB  |            | 50    | 99 (210)                                   | 97 (207)                                  | 303 (44)                             | 352 (51)                            |
|                |            | 60    |                                            |                                           | 372 (54)                             | 421 (61)                            |
| 2500/2800DSE   |            | 50    | 99 (210)                                   | 97 (207)                                  | 317 (46)                             | 352 (51)                            |
| 2500/2800DSE   |            | 60    | 99 (210)                                   | 97 (207)                                  | 393 (57)                             | 421 (61)                            |

**Figure 7** Factory Shutdown and Warning Setpoints

| Model                                                                                | Engine          | Governor Type | High Coolant Temp. Shutdown Fault |                                    | High Coolant Temp. Warning Fault |                                    | Low Coolant Temp. Warning Fault |             | Low Oil Pressure Shutdown Fault |                                                             | Low Oil Pressure Warning Fault |                                                             |
|--------------------------------------------------------------------------------------|-----------------|---------------|-----------------------------------|------------------------------------|----------------------------------|------------------------------------|---------------------------------|-------------|---------------------------------|-------------------------------------------------------------|--------------------------------|-------------------------------------------------------------|
|                                                                                      |                 |               | Test                              | Connections                        | Test                             | Connections                        | Test                            | Connections | Test                            | Connections                                                 | Test                           | Connections                                                 |
| 20GS                                                                                 | Ford            | Electronic    | 1                                 | Lead 34                            | 1                                | Lead 40A                           | 1                               | Lead 35A    | 1                               | Lead 13                                                     | 1                              | Lead 41A                                                    |
| 30-125GS/GSGB                                                                        | GM              |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 135-275GS/GSB                                                                        | DDC Gas         | ECM Control   |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 20-100DSJ/DSJB                                                                       | John Deere      | Mech./Elect.  | 1                                 | Lead 34                            | 1                                | Lead 40A                           | 1                               | Lead 35A    | 1                               | Lead 13                                                     | 1                              | Lead 41A                                                    |
| 20-230DSEJ/DSEJB                                                                     |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 80-180DSEJC                                                                          |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 200DSEJC                                                                             |                 | ECM Control   | 3                                 | A-Lead 461<br>B-Lead 914           | 3                                | A-Lead 461<br>B-Lead 914           | 1                               | Lead 35A    | 4                               | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 416 GRY            | 4                              | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 416 GRY            |
| 600-1000DSM                                                                          | Mitsubishi      | Electronic    | 1                                 | Lead 34                            | 1                                | Lead 40A                           | 1                               | Lead 35A    | 1                               | Lead 13                                                     | 1                              | Lead 41A                                                    |
| 2000DSM                                                                              |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 200DSE/DSEB                                                                          | DDC Series 40   |               | 1                                 | Lead 34                            | 1                                | Lead 40A                           | 1                               | Lead 35A    | 1                               | Lead 13                                                     | 1                              | Lead 41A                                                    |
| 230-300DSE/DSEB                                                                      | DDC Series 60   |               | 3                                 | A-Lead 452 BLK<br>B-Lead 133 PNK   | 3                                | A-Lead 452 BLK<br>B-Lead 133 PNK   | 1                               | Lead 35A    | 4                               | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    | 4                              | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    |
| 350/400DSE                                                                           |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 450DSE-4                                                                             | DDC Series 2000 |               | 3                                 | A-Lead 452M BLK<br>B-Lead 133M TAN | 3                                | A-Lead 452M BLK<br>B-Lead 133M TAN | 1                               | Lead 35A    | 4                               | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY | 4                              | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY |
| 500-1000DS-4                                                                         |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 650-2000DSEB                                                                         |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| 1250-2000DS-4                                                                        | DDC Series 4000 |               | 3                                 | A-Lead 452M BLK<br>B-Lead 120M TAN | 3                                | A-Lead 452M BLK<br>B-Lead 120M TAN | 1                               | Lead 35A    | 4                               | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    | 4                              | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    |
| 2500/2800DSE                                                                         |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |
| BLK Black; BLU Blue; BRN Brown; GRY Gray; GRN Green; ORG Orange; PNK Pink; WHT White |                 |               |                                   |                                    |                                  |                                    |                                 |             |                                 |                                                             |                                |                                                             |

**Figure 8** Fault Test Method for Decision-Maker™ 3+ and Decision-Maker™ 340 Controllers

| Model            | Engine        | Governor Type | High Coolant Temp. Shutdown Fault |                                                  | High Coolant Temp. Warning Fault |                                                  | Low Coolant Temp. Warning Fault |             | Low Oil Pressure Shutdown Fault |                                                  | Low Oil Pressure Warning Fault |                                                  |
|------------------|---------------|---------------|-----------------------------------|--------------------------------------------------|----------------------------------|--------------------------------------------------|---------------------------------|-------------|---------------------------------|--------------------------------------------------|--------------------------------|--------------------------------------------------|
|                  |               |               | Test                              | Connections                                      | Test                             | Connections                                      | Test                            | Connections | Test                            | Connections                                      | Test                           | Connections                                      |
| 30-125GSG/GSGB   | GM            | Electronic    |                                   | A-BLK (TB2-16)<br>B-RED (TB2-2)<br>C-WHT (TB2-1) |                                  | A-BLK (TB2-16)<br>B-RED (TB2-2)<br>C-WHT (TB2-1) |                                 |             |                                 | A-BLK (TB2-4)<br>B-RED (TB2-18)<br>C-WHT (TB2-3) |                                | A-BLK (TB2-4)<br>B-RED (TB2-18)<br>C-WHT (TB2-3) |
| 135-275GS/GSB    | DDC Gas       | Electronic    |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 400-800GSW       | Waukesha      | Electronic    |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 20-100DSJ/DSJB   | John Deere    | Mechanical    |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 20-100DSJ/DSJB   |               | Electronic    |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 20-230DSEJ/DSEJB |               | Mechanical    | 2                                 | A-BLK (TB2-16)<br>B-RED (TB2-2)<br>C-WHT (TB2-1) | 2                                | A-BLK (TB2-16)<br>B-RED (TB2-2)<br>C-WHT (TB2-1) | 1                               | Lead 35A    | 2                               | A-BLK (TB2-4)<br>B-RED (TB2-18)<br>C-WHT (TB2-3) | 2                              | A-BLK (TB2-4)<br>B-RED (TB2-18)<br>C-WHT (TB2-3) |
| 20-230DSEJ/DSEJB |               | Electronic    |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 200DSE/DSEB      | DDC Series 40 |               |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 600-1000DSM      | Mitsubishi    |               |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |
| 2000DSM          |               |               |                                   |                                                  |                                  |                                                  |                                 |             |                                 |                                                  |                                |                                                  |

BLK Black; BLU Blue; BRN Brown; GRY Gray; GRN Green; ORG Orange; PNK Pink; WHT White

**Figure 9** Fault Test Method for Decision-Maker™ 550 Controllers without Engine ECM Control

| Model           | Engine     | Governor Type | High Coolant Temp. Shutdown Fault |                                         | High Coolant Temp. Warning Fault |                                         | Low Coolant Temp. Warning Fault |                                         | Low Oil Pressure Shutdown Fault |                                                             | Low Oil Pressure Warning Fault |                                                             |
|-----------------|------------|---------------|-----------------------------------|-----------------------------------------|----------------------------------|-----------------------------------------|---------------------------------|-----------------------------------------|---------------------------------|-------------------------------------------------------------|--------------------------------|-------------------------------------------------------------|
|                 |            |               | Test                              | Connections                             | Test                             | Connections                             | Test                            | Connections                             | Test                            | Connections                                                 | Test                           | Connections                                                 |
| 80-135DSEJC     | John Deere |               | 3                                 | A-Lead 461<br>B-Lead 914                | 3                                | A-Lead 461<br>B-Lead 914                | 1                               | Lead 35A                                | 4                               | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 911                | 4                              | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 911                |
| 150-180DSEJC    |            |               | 3                                 | A-Lead 461<br>B-Lead 464                | 3                                | A-Lead 461<br>B-Lead 464                | 1                               | Lead 35A                                | 4                               | A/1-Lead 464<br>B/2-Lead 467<br>C/4-Lead 416 GRN            | 4                              | A/1-Lead 464<br>B/2-Lead 467<br>C/4-Lead 416 GRN            |
| 200DSEJC        |            |               | 3                                 | A-Lead 461<br>B-Lead 914                | 3                                | A-Lead 461<br>B-Lead 914                | 1                               | Lead 35A                                | 4                               | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 416 GRN            | 4                              | A/1-Lead 914<br>B/2-Lead 467<br>C/4-Lead 416 GRN            |
| 230-300DSE/DSEB |            | ECM Control   | 3                                 | A-Lead 452 BLK<br>B-Lead 133 PNK        | 3                                | A-Lead 452 BLK<br>B-Lead 133 PNK        | 1                               | Lead 35A                                | 4                               | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    | 4                              | A/1-Lead 452 BLK<br>B/2-Lead 530 BRN<br>C/4-Lead 416 GRY    |
| 350/400DSE      | DDC        |               | 3                                 | A-Lead 452M BLK<br>B-Lead 133M TAN      | 3                                | A-Lead 452M BLK<br>B-Lead 133M TAN      | 1                               | Lead 35A                                | 4                               | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY | 4                              | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY |
| 450DSE-4        |            |               | 3                                 | A-Lead 452M BLK<br>B-Lead 133M TAN      | 3                                | A-Lead 452M BLK<br>B-Lead 133M TAN      | 1                               | Lead 35A                                | 4                               | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY | 4                              | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY |
| 500-1000DS-4    |            |               | 3                                 | A-Lead 452M BLK<br>B-Lead 133M TAN      | 3                                | A-Lead 452M BLK<br>B-Lead 133M TAN      | 1                               | Lead 35A                                | 4                               | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY | 4                              | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY |
| 1250-2000DS-4   |            |               | 3                                 | A-Lead 452M BLK<br>B-Lead 120M TAN      | 3                                | A-Lead 452M BLK<br>B-Lead 120M TAN      | 1                               | Lead 35A                                | 4                               | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY | 4                              | A/1-Lead 452M BLK<br>B/2-Lead 530M BRN<br>C/4-Lead 416M GRY |
| 650-1000DSEB    |            |               | 6                                 | Harness Marker B6<br>A-Pin 1<br>B-Pin 2 | 6                                | Harness Marker B6<br>A-Pin 1<br>B-Pin 2 | 6                               | Harness Marker B6<br>A-Pin 1<br>B-Pin 2 | 4                               | Harness Marker B5<br>A/1-Pin 1<br>B/2-Pin 2<br>C/4-Pin 4    | 4                              | Harness Marker B5<br>A/1-Pin 1<br>B/2-Pin 2<br>C/4-Pin 4    |
| 1350-2000DSEB   |            |               |                                   |                                         |                                  |                                         |                                 |                                         |                                 |                                                             |                                |                                                             |
| 2500/2800DSE    |            |               |                                   |                                         |                                  |                                         |                                 |                                         |                                 |                                                             |                                |                                                             |

BLK Black; BLU Blue; BRN Brown; GRY Gray; GRN Green; ORG Orange; PNK Pink; WHT White

**Figure 10** Fault Test Method for Decision-Maker™ 550 Controllers with Engine ECM Control

