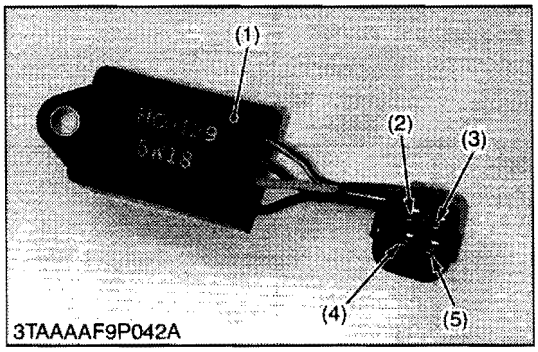
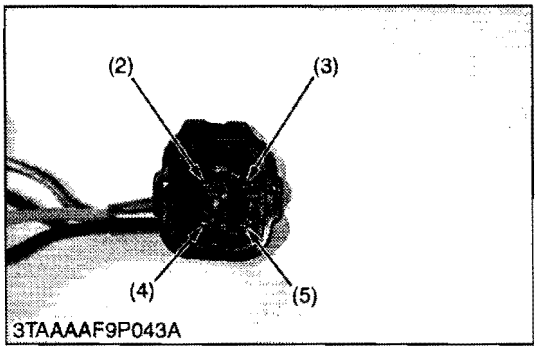
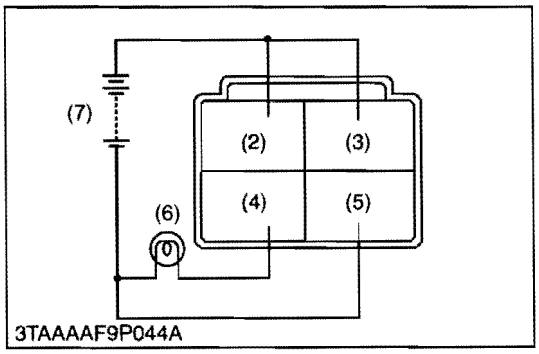






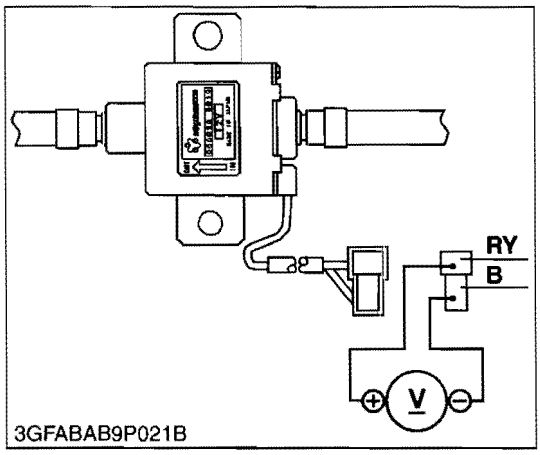
Checking OPC Timer

1. Remove the OPC timer. (The OPC timer is located under the fender center stay.)
2. Connect the jumper leads across the battery terminal and the Red / White terminal (2), and across the battery positive terminal and the Yellow terminal (3).
3. Connect the jumper lead across the battery negative terminal and the Black terminal (5), and across the battery negative terminal and the Blue terminal.
4. Connect the jumper lead across the Red terminal (4) and the bulb terminal.
5. The bulb lights up when disconnecting the jumper lead from the Red / White terminal (2) 0.7 to 1.3 seconds, the OPC timer (1) is proper.

(1) OPC Timer
(2) Red / White Terminal (From Battery)
(3) Yellow Terminal (From OPC Switch)
(4) Red Terminal (To Key Stop Solenoid)
(5) Black Terminal (To Frame Earth)
(6) Bulb (Load)
(7) Battery

W10647550

(7) Fuel Pump



Connector Voltage

1. Disconnect the **2P** connector from the fuel pump.
2. Turn the main switch key to the **"ON"** position, and measure the voltage with a voltmeter between the connector terminals.
3. If the voltage differs from the battery voltage, the wiring harness or main switch is faulty.

Voltage	Between connector terminals	Approx. battery voltage

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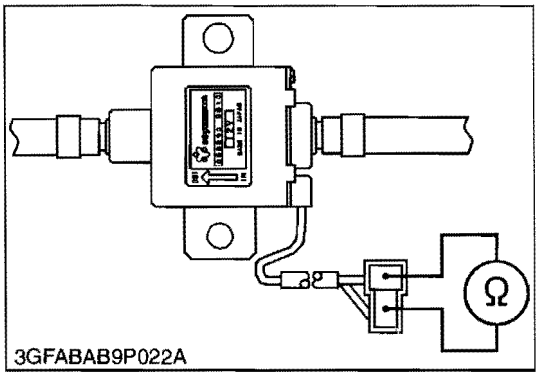
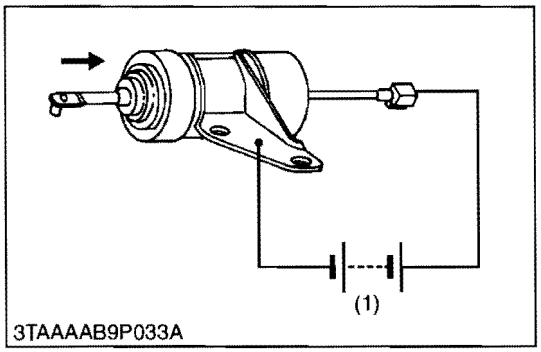


Fuel Pump Continuity

1. Disconnect the **2P** connector from the fuel pump.
2. Check the continuity between the connector terminals with an ohmmeter.
3. If it does not conduct, the fuel pump is faulty.

W1016134

(8) Engine Stop Solenoid



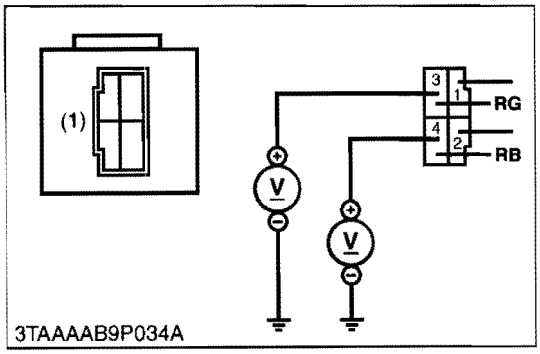
Engine Stop Solenoid Test

1. Disconnect the **1P** connector from the engine stop solenoid.
2. Remove the engine stop solenoid from the engine.
3. Connect the jumper leads from the battery positive terminal to the **1P** connector, and from the battery negative terminal to the engine stop solenoid body.
4. If the solenoid plunger is not attracted, the engine stop solenoid is faulty.

(1) Battery (12 V)

W1019658

(9) Timer Relay



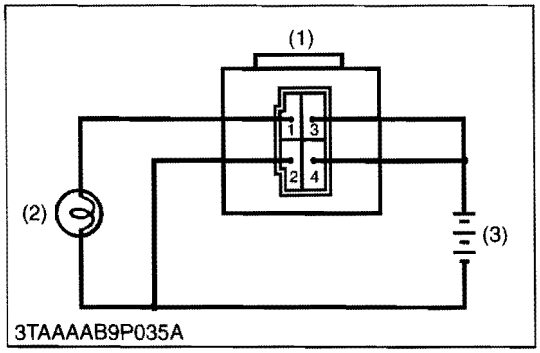
Timer Relay Connector Voltage

1. Disconnect the connector from the timer relay after turning the main switch off.
2. Measure the voltage with a voltmeter across the connector terminal **4** and chassis.
3. Turn the main switch on, and measure the voltage across the connector terminal **3** and chassis.
4. If these voltages differ from the battery voltage, the wiring harness or main switch is faulty.

Voltage	Connector terminal **4**-chassis	Approx. battery voltage
	Connector terminal **3**-chassis	Approx. battery voltage

(1) Timer Relay

W1016544



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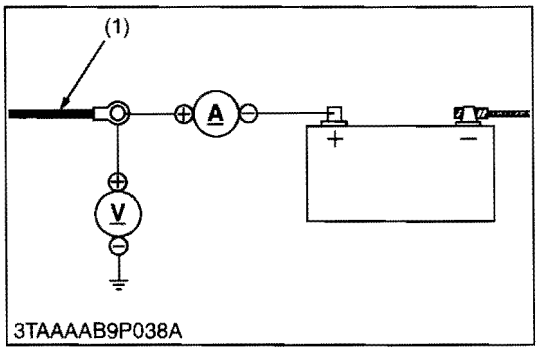
Test of Timer Relay

1. Remove the timer relay from the tractor.
2. Connect jumper leads across the battery positive terminal and the timer relay terminal **3**, and across the battery positive terminal and the timer relay terminal **4**.
3. Connect jumper leads across the battery negative terminal and the timer relay terminal **2**, and across the battery negative terminal and the bulb terminal.
4. Connect jumper lead across the timer relay terminal **1** and the bulb terminal.
5. The bulb lights up when disconnecting a jumper lead from the terminal **3** arid goes off 6 to 13 seconds late, the timer relay is proper.

(1) Timer Relay
(2) Load (Lamp)
(3) Battery (12V)

W1016721

(10) Charging System



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Battery Charging Current

1. After starting the engine, disconnect the battery positive cord (+), and connect an ammeter and voltmeter. Then switch on all electrical loads (such as head lights) and measure the charging current.

■ **NOTE**

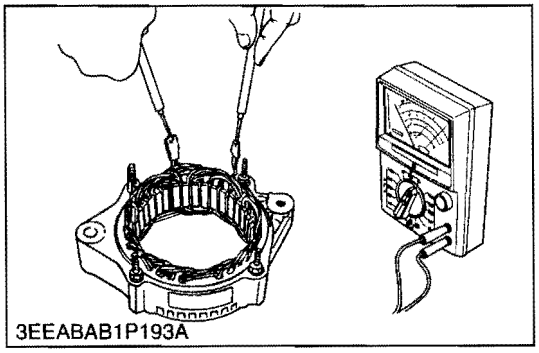
- **Connect an ammeter only after starting the engine.**
- **When the electrical loads is considerably low or the battery is fully charged, the specified reading may not be obtained.**

Factory spec.	Current	14 to 15 A
	Voltage	14 to 15 V
	Alternator speed	5200 min^{-1} (rpm)

(1) Battery Positive Cord

W1048417

(11) Alternator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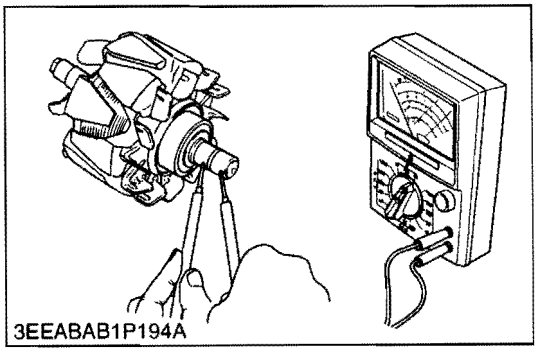
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Stator

1. Measure the resistance across each lead of the stator coil with resistance range of circuit tester.
2. If the measurement is not within factory specification, replace it.
3. Check the continuity across each stator coil lead and core with resistance range of circuit tester.
4. If infinity is not indicated, replace it.

Resistance	Factory spec.	Less than 1.0 Ω

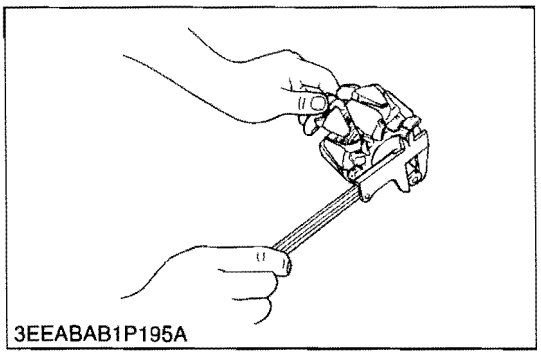
W1019964

Rotor

1. Measure the resistance across the slip rings.
2. If the resistance is not the factory specification, replace it.
3. Check the continuity across the slip ring and core with resistance range of circuit tester.
4. If infinity is not indicated, replace it.

Resistance	Factory spec.	2.9 Ω

W1020094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Slip Ring

1. Check the slip ring for score.
2. If scored, correct with an emery paper or on a lathe.
3. Measure the O.D. of slip ring with vernier calipers.
4. If the measurement is less than the allowable limit, replace it.

Slip ring O.D.	Factory spec.	14.4 mm 0.567 in.
	Allowable limit	14.0 mm 0.551 in.

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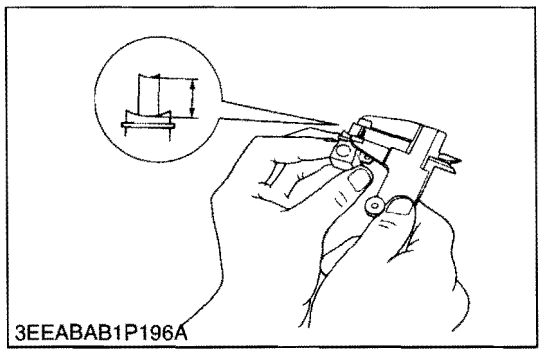
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Brush Wear

1. Measure the brush length with vernier calipers.
2. If the measurement is less than allowable limit, replace it.
3. Make sure that the brush moves smoothly.
4. If the brush is defective, replace it.

Brush length	Factory spec.	10.5 mm 0.413 in.
	Allowable limit	8.4 mm 0.331 in.

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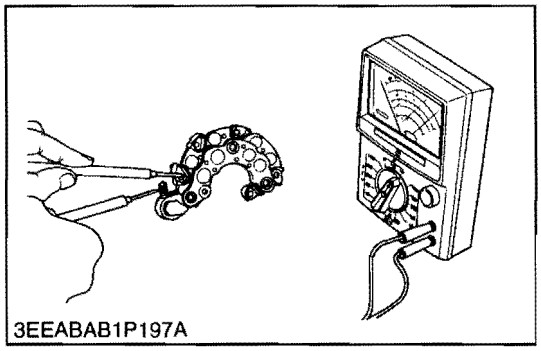
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Rectifier

1. Check the continuity across each diode of rectifier with resistance range of circuit tester.
2. The rectifier is normal if the diode in the rectifier conducts in one direction and does not conduct in the reverse direction.

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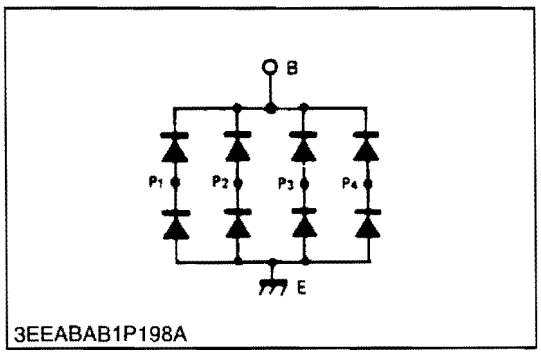

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