

## ABS Pump Motor

### Diagnostic Trouble Code (DTC) 1-2: ABS Pump Motor Diagnosis

The ABS control unit checks the conditions at the pump motor relay drive (PMR) terminal and motor check (MCK) terminal during the initial diagnosis and regular diagnosis.

When the ABS control unit detects the following conditions during the diagnosis, it keeps the ABS indicator light on.

When the following conditions are detected after the ABS indicator light goes off, the ABS control unit turns the ABS indicator light on again.

- Battery voltage at the MCK terminal with an OFF signal at the PMR terminal
- 0 V at the MCK terminal with an ON signal at the PMR terminal

Possible causes:

- Open circuit or short to body ground between the RR DEF RLY/HEATER MOTOR RLY/COOLING FAN MOTOR RLY (7.5 A) fuse and under-hood ABS fuse/relay box
- Open circuit or short to body ground in the PMR circuit inside the under-hood ABS fuse/relay box
- Faulty pump motor relay
- Open circuit or short to body ground in the PMR circuit between the under-hood ABS fuse/relay box and ABS control unit
- Open circuit between the battery and under-hood ABS fuse/relay box
- Blown ABS MOTOR (40 A) fuse
- Blown ABS UNIT (10 A) fuse
- Open circuit or short to body ground in the motor drive circuit and MCK circuit inside the under-hood ABS fuse/relay box
- Open circuit or short to body ground in the MCK circuit between the under-hood ABS fuse/relay box and ABS control unit
- Open circuit or short to body ground between the under-hood ABS fuse/relay box and pump motor
- Faulty pump motor
- Open circuit between the pump motor and body ground or poor ground
- Faulty ABS control unit

- With engine running, ABS indicator light is ON.
- With the SCS short connector connected (see page 19-60), DTC 1-2 is indicated.

Check the ABS MOTOR (40 A) fuse in the under-hood ABS fuse/relay box.

Is the fuse OK?

NO

Replace the fuse and recheck.

YES

Check the ABS UNIT (10 A) fuse in the under-hood ABS fuse/relay box.

Is the fuse OK?

NO

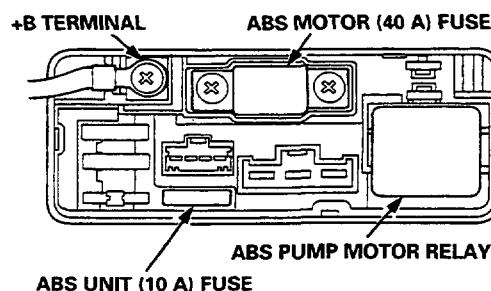
Replace the fuse and recheck.

YES

NOTE: Reinstall the fuse if it is OK.

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UNDER-HOOD ABS FUSE/RELAY BOX



(cont'd)

# Troubleshooting

## ABS Pump Motor (cont'd)

(From page 19-73)

Remove the ABS pump motor relay and check it (see page 19-142)

Is the relay OK?

NO

Replace the ABS pump motor relay.

NOTE: If the relay is stuck ON, the motor may be damaged.  
Check the pump motor operation.

YES

Bleed high pressure fluid from the modulator unit bleed screw (see page 19-132).

Connect the ABS pump motor relay connector +B and MOTOR terminals with a jumper wire for 1 second.

NOTE: Use a jumper wire with a diameter larger than 2 mm (0.08 in).

Does the pump motor run?

NO

(To page 19-76)  
To pump motor drive circuit check

YES

Remove the jumper wire.

Disconnect the under-hood ABS fuse/relay box 3P connector.

Turn the ignition switch ON.

Measure the voltage between the ABS pump motor relay connector MOTOR terminal and body ground.

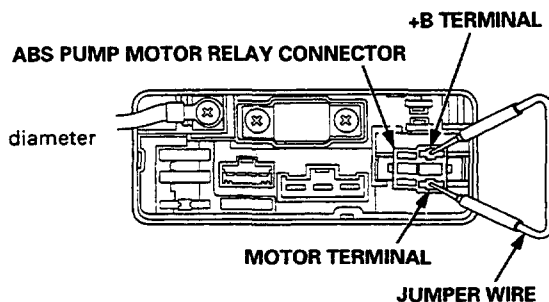
Is there battery voltage?

NO

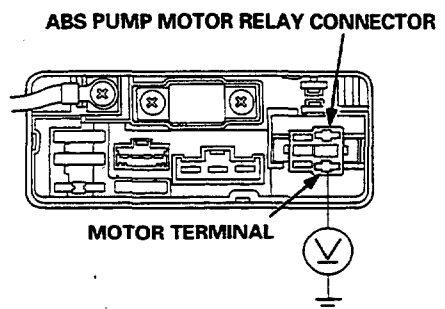
(To page 19-77)  
To motor check (MCK) circuit check

YES

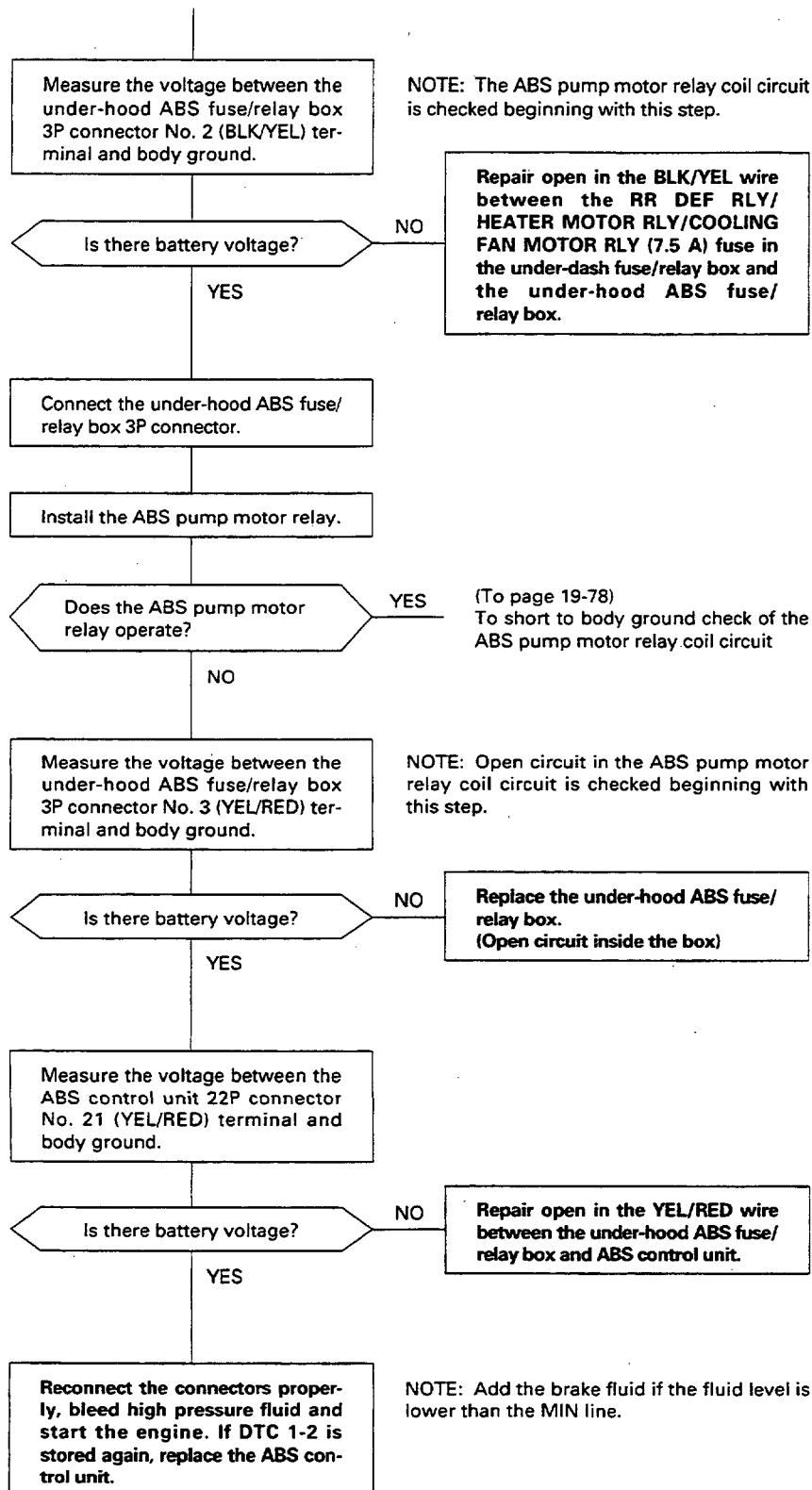
(To page 19-75)



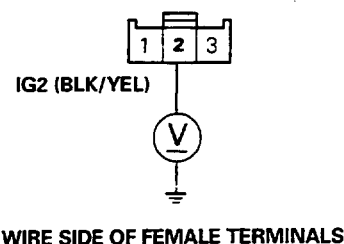
UNDER-HOOD ABS FUSE/RELAY BOX



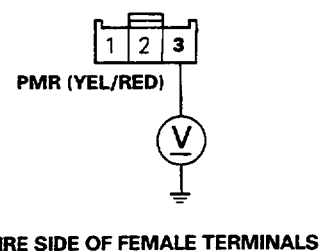
(From page 19-74)



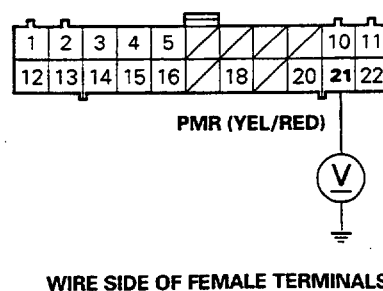
#### UNDER-HOOD ABS FUSE/RELAY BOX 3P CONNECTOR



#### UNDER-HOOD ABS FUSE/RELAY BOX 3P CONNECTOR



#### ABS CONTROL UNIT 22P CONNECTOR

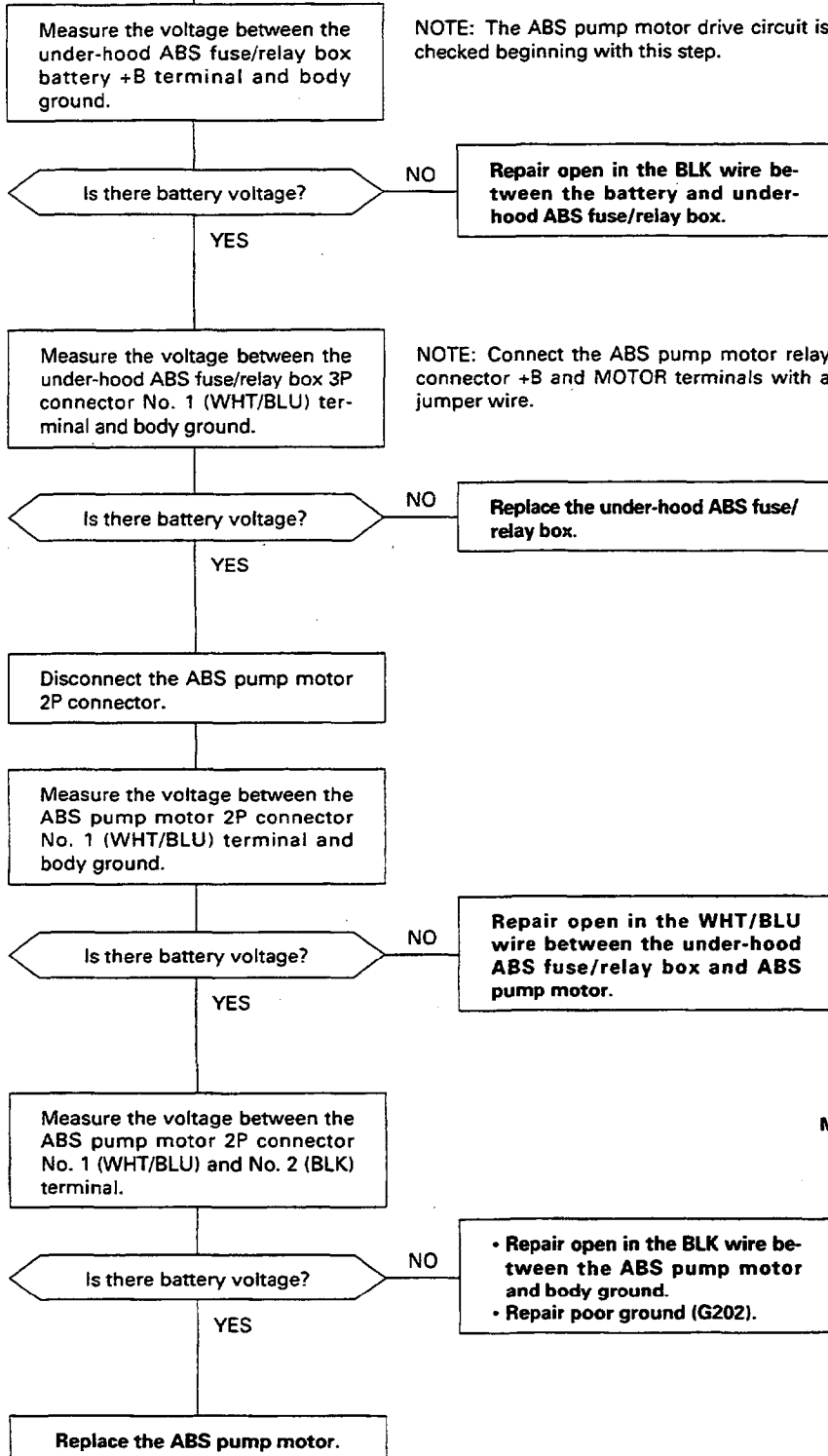


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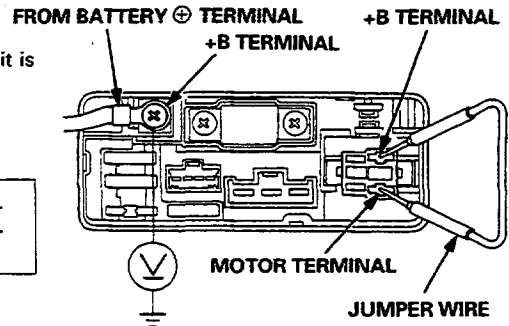
# Troubleshooting

## ABS Pump Motor (cont'd)

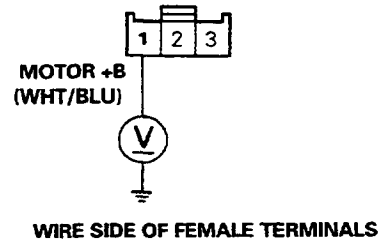
(From page 19-74)



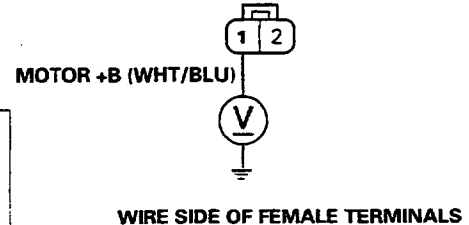
UNDER-HOOD ABS FUSE/RELAY BOX



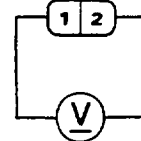
UNDER-HOOD ABS FUSE/RELAY BOX 3P CONNECTOR



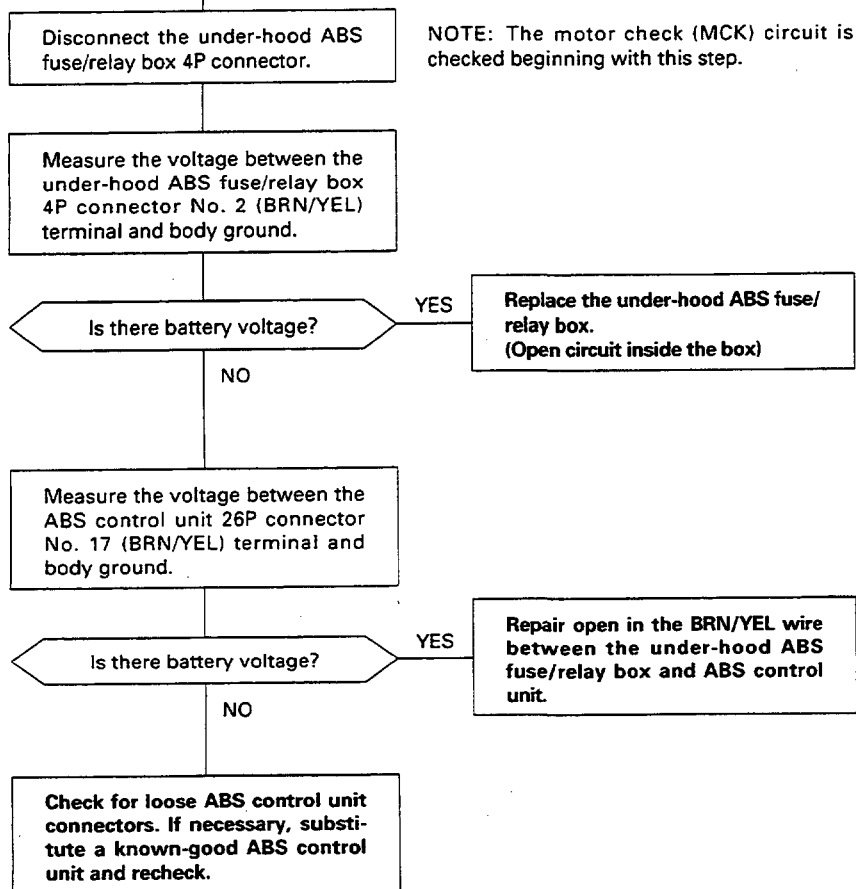
ABS PUMP MOTOR 2P CONNECTOR



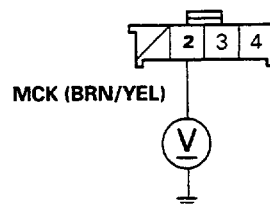
MOTOR +B (WHT/BLU) GND (BLK)



(From page 19-74)

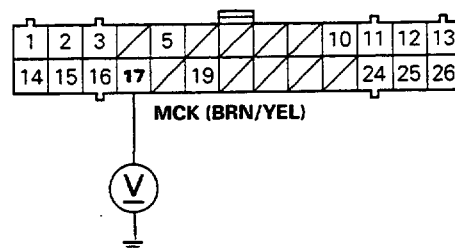


#### UNDER-HOOD ABS FUSE/RELAY BOX 4P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

#### ABS CONTROL UNIT 26P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS

(cont'd)

# Troubleshooting

## ABS Pump Motor (cont'd)

(From page 19-75)

Remove the ABS pump motor relay.

Disconnect the under-hood ABS fuse/relay box 3P connector.

Check for continuity between the ABS pump motor relay connector PMR terminal and body ground.

Is there continuity?

YES

Replace the under-hood ABS fuse/relay box.  
(Short circuit inside the box)

NO

Disconnect the ABS control unit 22P connector.

Check for continuity between the ABS control unit 22P connector No. 21 (YEL/RED) terminal and body ground.

Is there continuity?

YES

Repair short to body ground in the YEL/RED wire between the under-hood ABS fuse/relay box and ABS control unit.

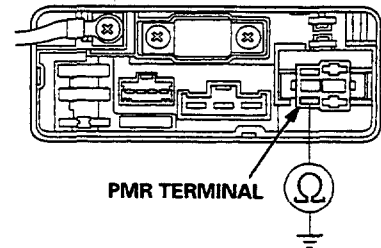
NO

Check for loose ABS control unit connectors. If necessary, substitute a known-good ABS control unit and recheck.

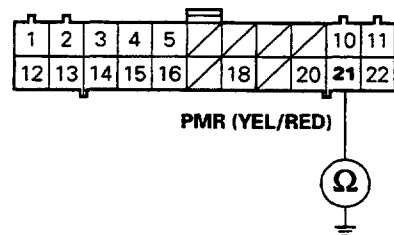
### NOTE:

- Short to body ground in the ABS pump motor relay coil circuit is checked beginning with this step.
- If the motor relay coil is shorted to body ground, the motor may be damaged. Check the pump motor operation.

UNDER-HOOD ABS FUSE/RELAY BOX



ABS CONTROL UNIT 22P CONNECTOR



WIRE SIDE OF FEMALE TERMINALS