

ANTI-LOCK BRAKE SYSTEM

1992 Infiniti G20

1990-92 BRAKES
Infiniti Anti-Lock Brake System

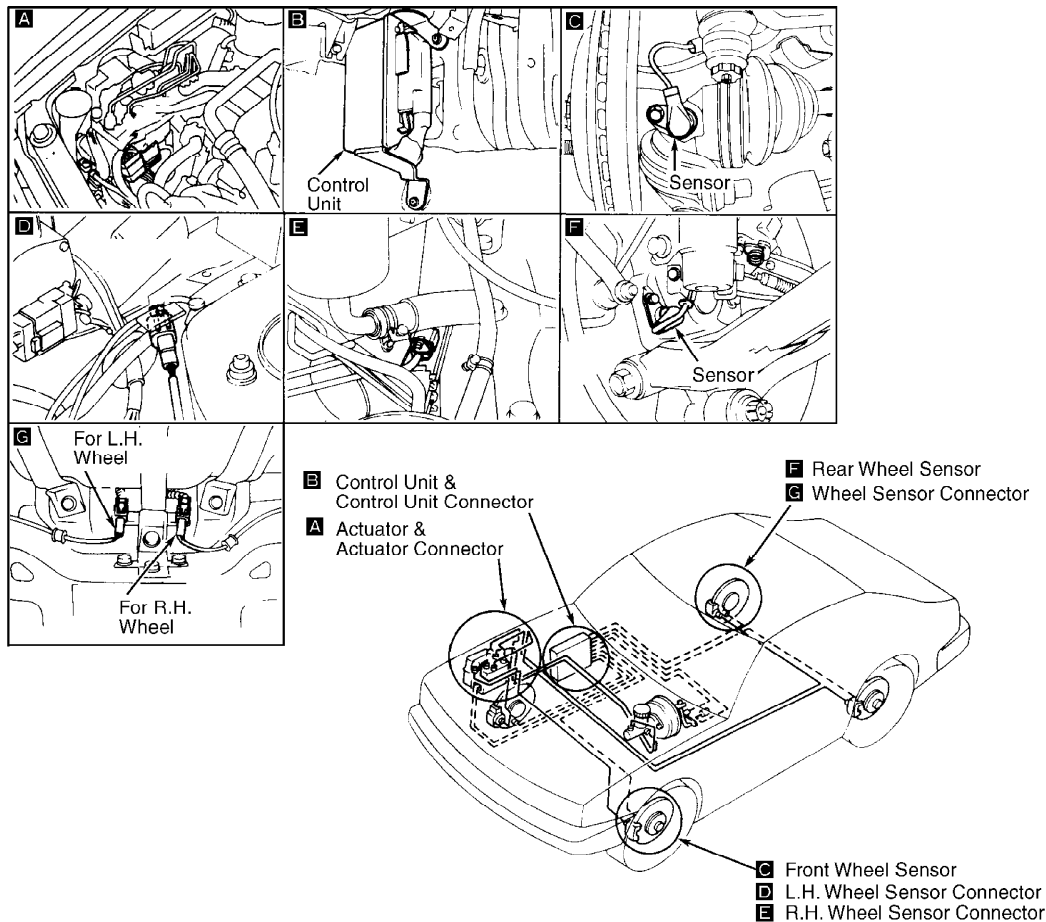
Infiniti; G20, M30, Q45

DESCRIPTION & OPERATION

The Anti-Lock Brake System (ABS) prevents wheel lock-up during abrupt braking. The system detects wheel rotation rate and electronically controls fluid pressure applied to the brakes.

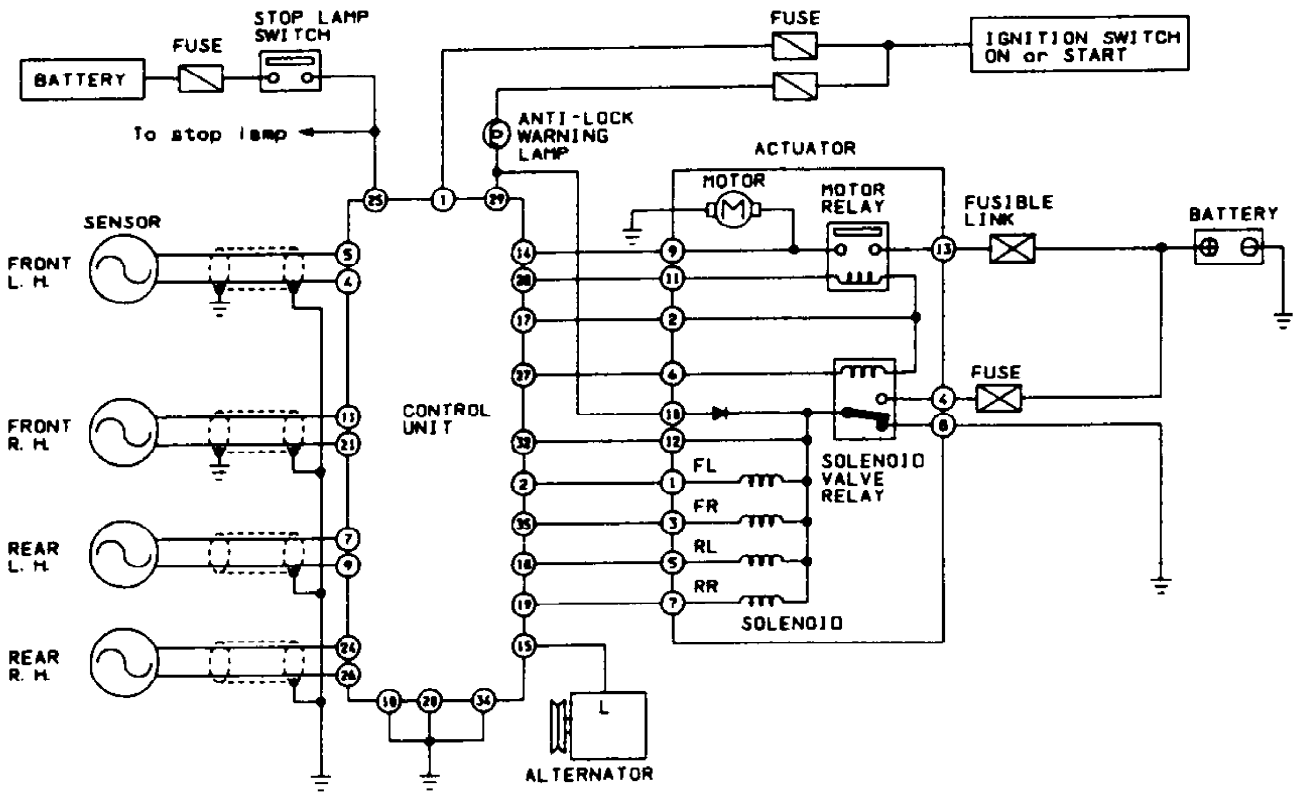
A slight vibration and noise may be noticed during hard braking. These conditions are normal and indicate the anti-lock brake system is functioning properly. If a malfunction occurs in the system, anti-lock feature will not function but conventional brakes will continue to operate normally. See Figs. 1-9.

NOTE: For more information on brake system, see BRAKE SYSTEM article.



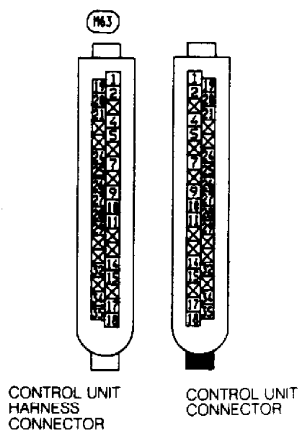
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Fig. 1: ABS Component Locations (G20)
Courtesy of Nissan Motor Co., U.S.A.



93A03904

Fig. 2: ABS Wiring Schematic (G20)
 Courtesy of Nissan Motor Co., U.S.A.



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Fig. 3: ABS Control Unit Connectors (G20)
 Courtesy of Nissan Motor Co., U.S.A.

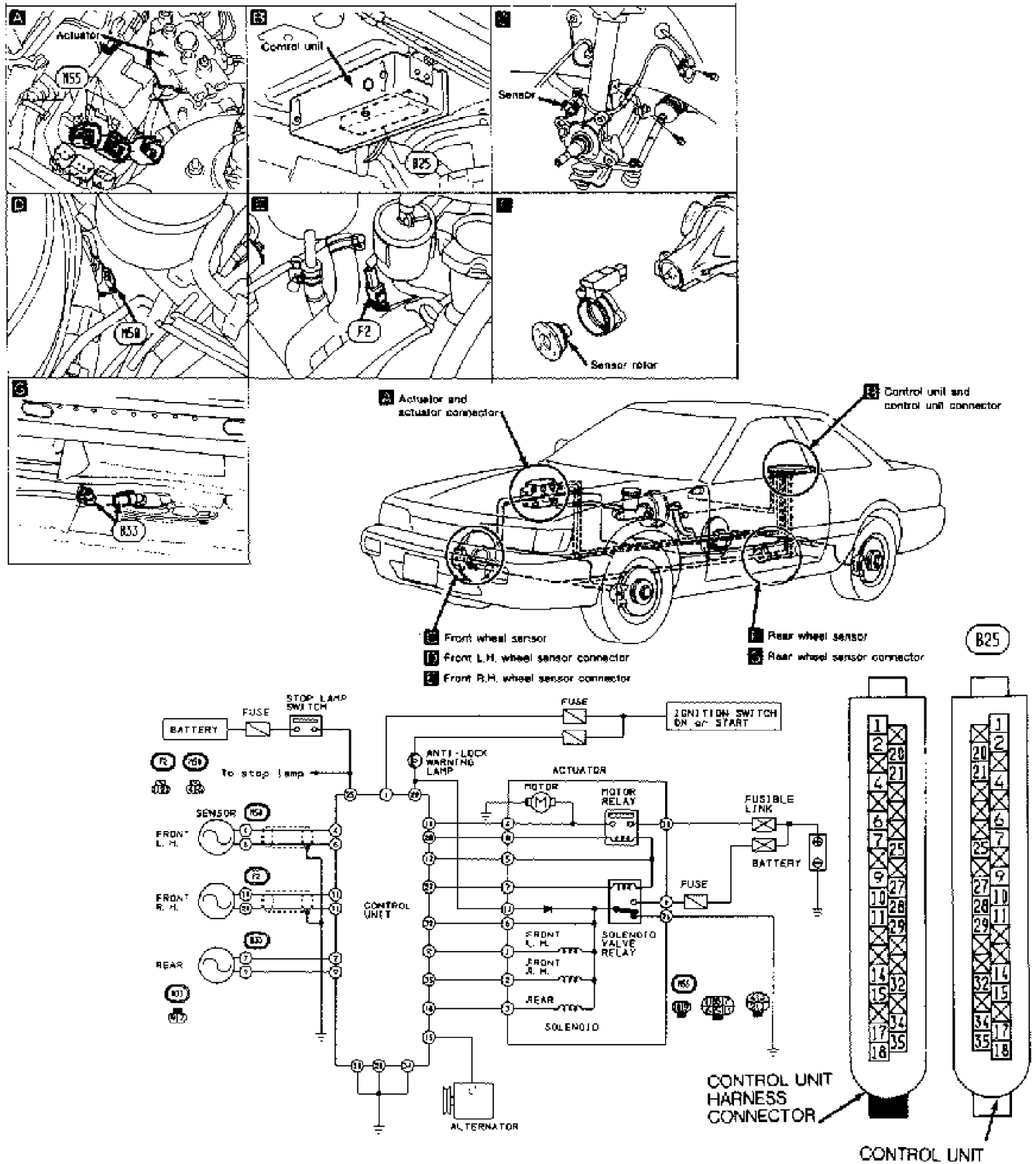
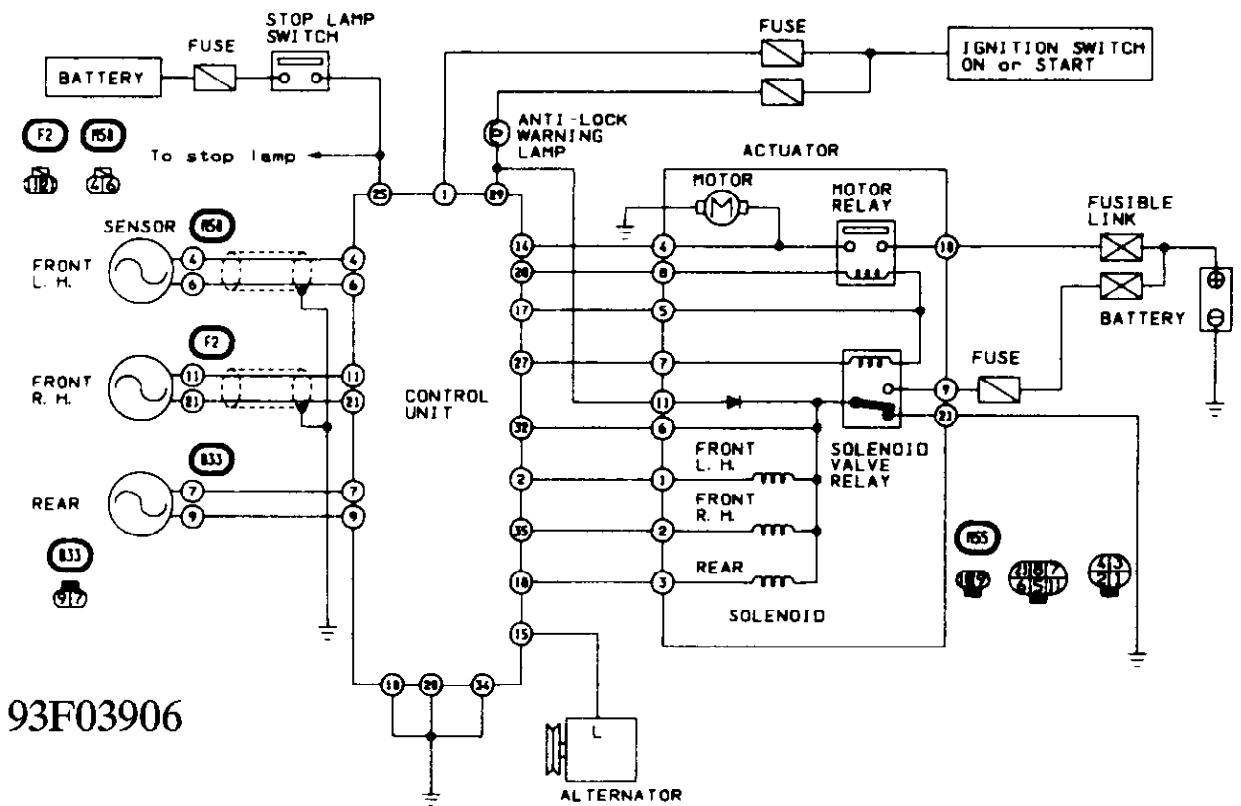
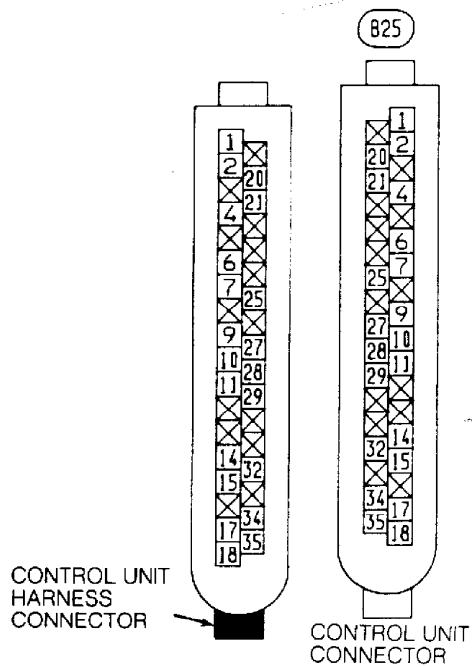


Fig. 4: ABS Component Locations (M30)
 Courtesy of Nissan Motor Co., U.S.A.



93F03906

Fig. 5: ABS Wiring Schematic (M30)
 Courtesy of Nissan Motor Co., U.S.A.



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Fig. 6: ABS Control Unit Connectors (M30)
 Courtesy of Nissan Motor Co., U.S.A.

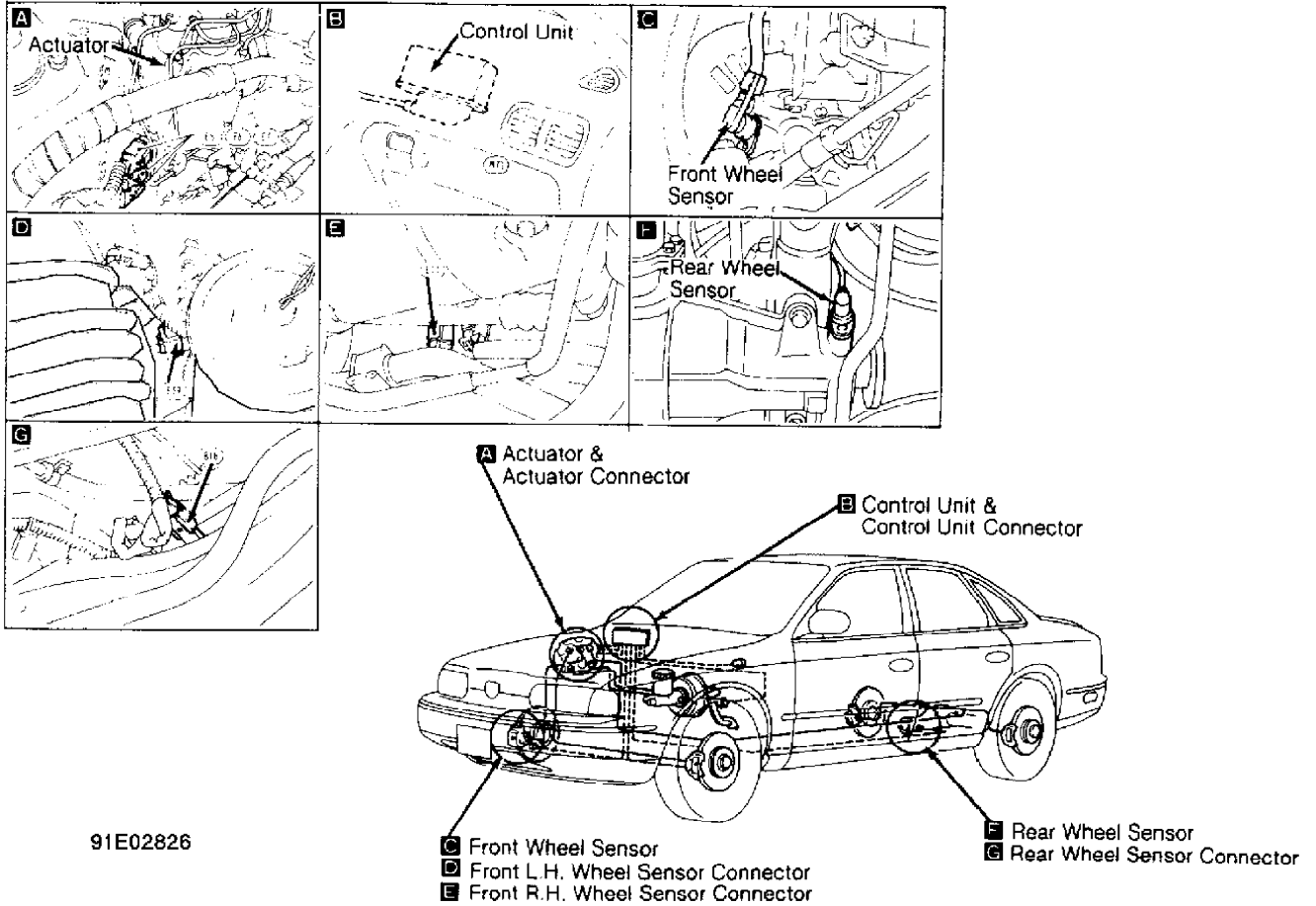
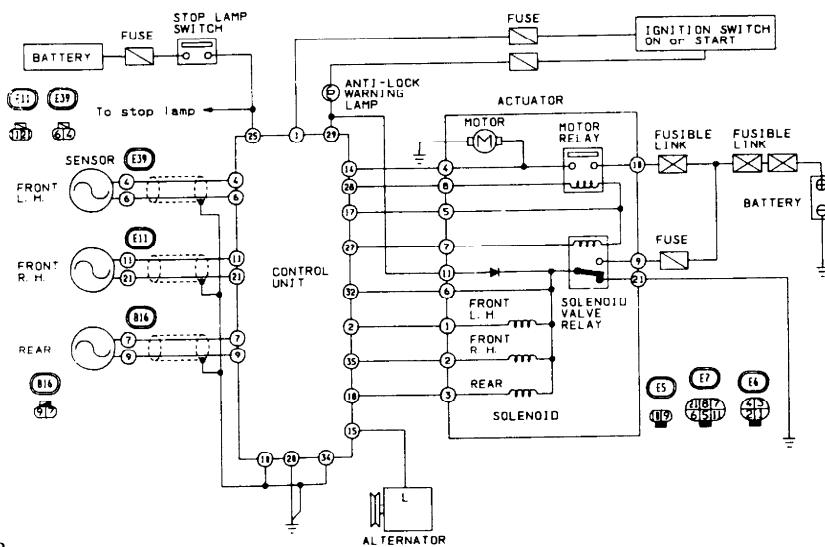


Fig. 7: ABS Component Locations & Wiring Schematic (Q45)
 Courtesy of Nissan Motor Co., U.S.A.



93J03908
 Fig. 8: ABS Wiring Schematic (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

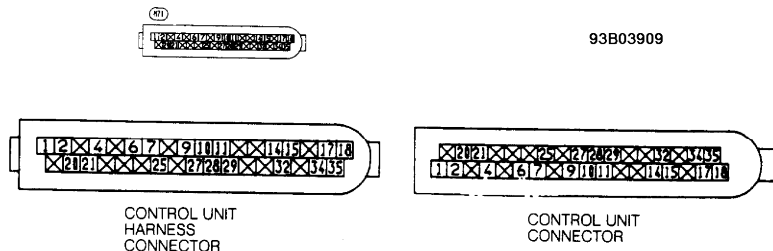


Fig. 9: ABS Control Unit Connectors (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

SERVICING

CHECKING BRAKE FLUID LEVEL

Fluid level should be between maximum and minimum lines on master cylinder reservoir. If fluid level is extremely low, check brake system for leaks. When BRAKE warning light comes on (parking brake lever released), check brake system for leaks. Use DOT 3 brake fluid to replenish reservoir.

ANTI-LOCK BRAKE SAFETY PRECAUTIONS

- * NEVER open a bleeder valve or loosen a hydraulic line while ABS is pressurized
- * NEVER disconnect or reconnect any electrical connectors while ignition is on. Damage to ABS control unit may result.
- * DO NOT attempt to bleed hydraulic system without first referring to the appropriate article.
- * Only use specially designed brake hoses/lines on ABS-equipped vehicles.
- * DO NOT tap on speed sensor components (sensor, sensor rings). Speed rings must be pressed, NOT hammered into hubs. Striking these components can cause demagnetization or a loss of polarization, affecting the accuracy of the speed signal returning to the ABS control unit.
- * DO NOT mix tire sizes. Increasing the width, as long as tires remain close to the original diameter, is acceptable. Rolling diameter must be identical for all 4 tires. Some manufacturers recommend tires of the same brand, style and type. Failure to follow this precaution may cause inaccurate wheel speed readings.
- * DO NOT contaminate speed sensor components with grease. Only use recommended anti-corrosion coating.
- * When speed sensor components have been removed, ALWAYS check sensor-to-ring air gaps when applicable. These specifications can be found in each appropriate article.
- * ONLY use recommended brake fluids. DO NOT use silicone brake fluids in an ABS-equipped vehicle.
- * When installing transmitting devices (CB's, telephones, etc.) on ABS-equipped vehicles, DO NOT locate the antenna near the ABS control unit (or any control unit).
- * Disconnect all on-board computers, when using electric welding equipment.
- * DO NOT expose the ABS control unit to prolonged periods of high heat (185°F/85°C for 2 hours is generally considered a maximum limit).

BLEEDING BRAKE SYSTEM

BRAKELINE BLEEDING

1) Carefully monitor brake fluid level at master cylinder during bleeding operation. Fill reservoir with DOT 3 brake fluid. Ensure reservoir is full at all times while bleeding air out of system. Bleed brakes in sequence. See BRAKELINE BLEEDING SEQUENCE table.

2) Connect a transparent vinyl tube to air bleeder valve. Fully depress brake pedal several times. With brake pedal depressed, open air bleeder valve to release air. Close air bleeder valve. Release brake pedal slowly. Repeat procedure until clear brake fluid comes out of air bleeder valve.

BRAKELINE BLEEDING SEQUENCE TABLE

Application	Sequence
G20	LR, RF, RR, LF
M30 & Q45	LR, RR, LF, RF, Front ABS Actuator, Rear ABS Actuator

REMOVAL & INSTALLATION

ACTUATOR

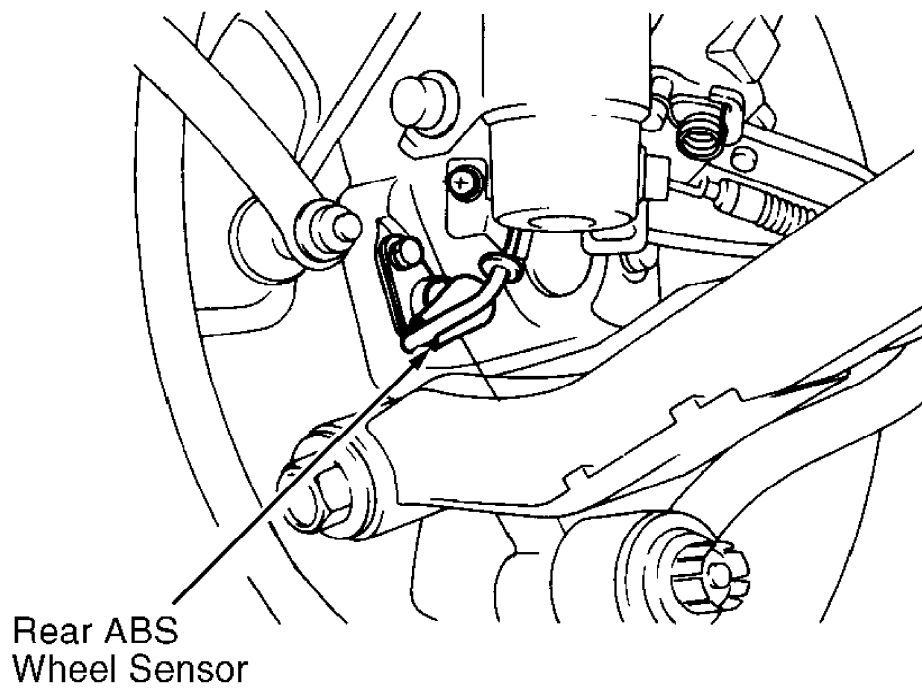
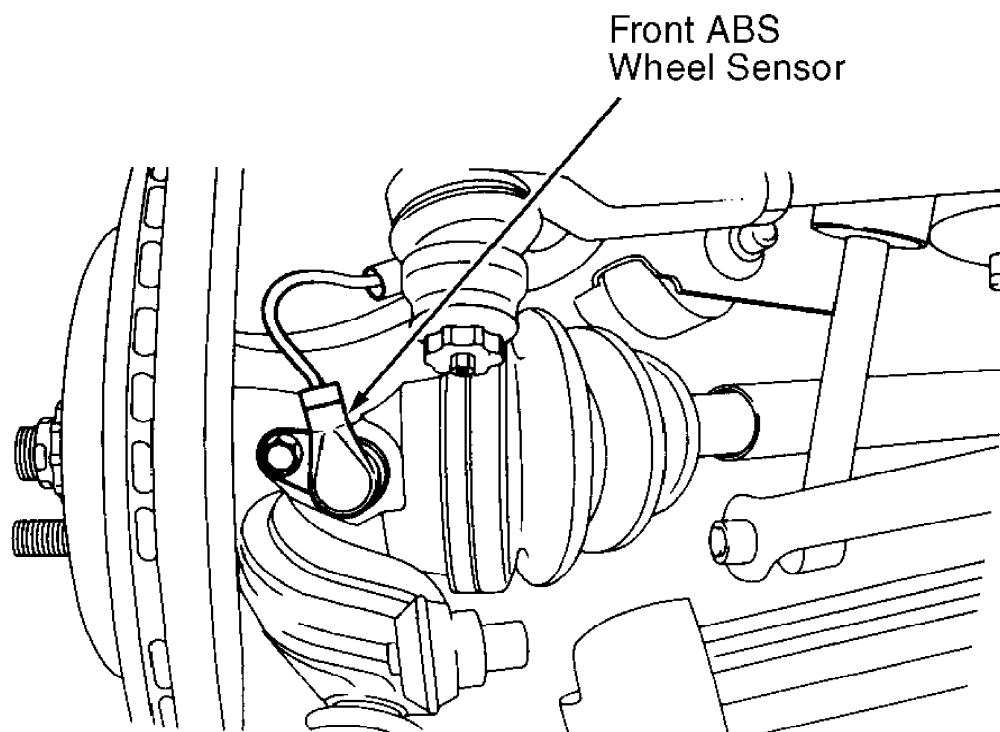
Removal & Installation

Disconnect negative battery cable. Drain brake fluid from brakelines. Mark brakelines for installation reference. Disconnect wiring harness and brakelines. Remove 3 actuator mounting nuts. To install, connect brakelines without tightening. Install and tighten actuator mounting nuts. Tighten brakelines. See TORQUE SPECIFICATIONS table under TORQUE SPECIFICATIONS. After installation, add brake fluid and bleed brakelines. See BLEEDING BRAKE SYSTEM.

FRONT/REAR WHEEL SENSORS

Removal & Installation

Removal and installation procedures are not available. Use illustration for guide. See Fig. 10, 11 or 12. DO NOT damage sensor edge and sensor rotor teeth.



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Fig. 10: Locating Front/Rear ABS Sensor (G20)
Courtesy of Nissan Motor Co., U.S.A.

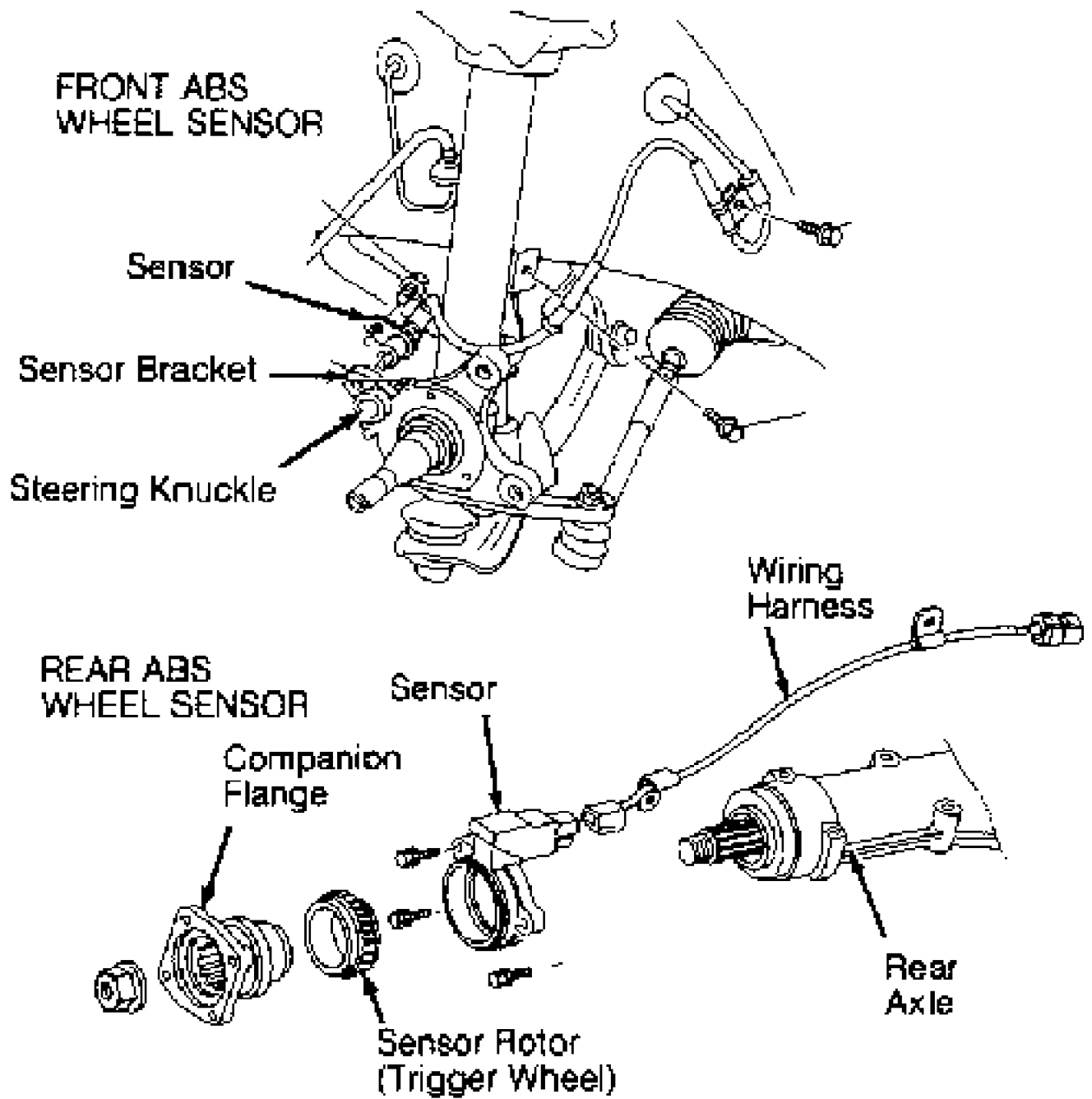
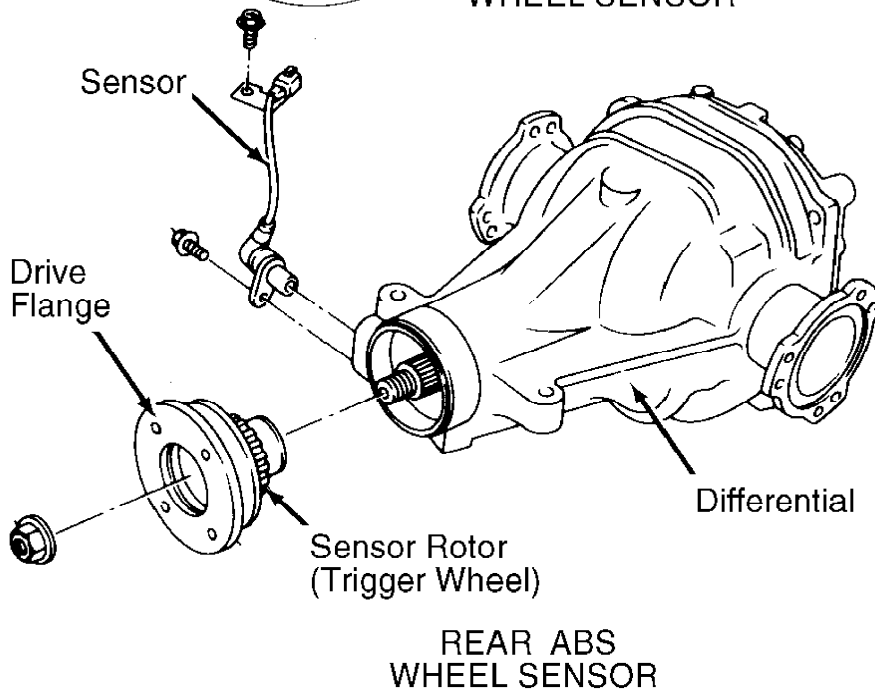
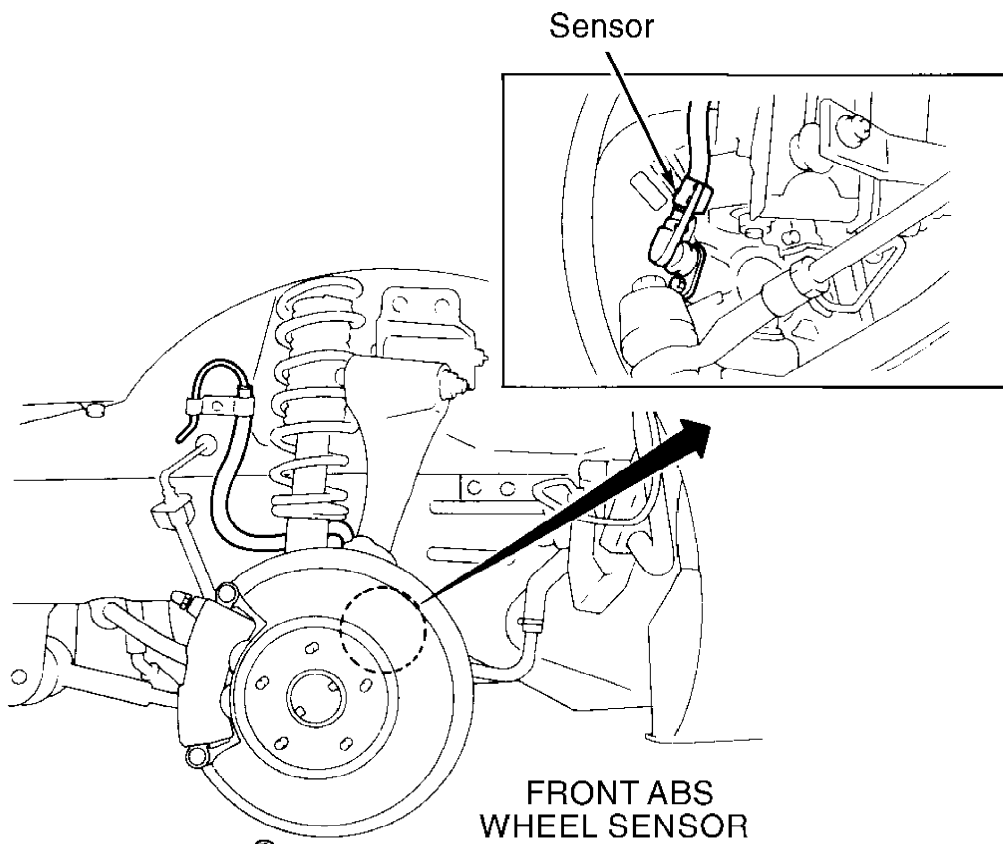


Fig. 11: Removing & Installing Front/Rear ABS Sensor (M30)
Courtesy of Nissan Motor Co., U.S.A.



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Fig. 12: Removing & Installing Front/Rear ABS Sensor (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Brakeline Flare Nuts	11-13 (15-18)
Companion Flange Nut (M30)	137-159 (186-216)
Drive Pinion Nut (Q45)	137-217 (186-294)
Rear Sensor Mounting Nut (Q45)	13-20 (18-26)
	INCH Lbs. (N.m)
Actuator Mounting Nuts	96-144 (11-16)
Front Harness Retainer Nut (M30)	34.8-51.6 (4.0-5.9)
Front Sensor Bracket (M30)	71-96 (8-11)
Front Sensor Mounting Nut	
G20	96-132 (11-15)
M30 & Q45	96-144 (11-16)
Rear Harness Retainer Nut (Q45)	38.4-51.6 (4.3-5.9)
Rear Sensor Mounting Nut (G20)	96-132 (11-15)
Rear Sensor-To-Axle Tube	71-96 (8-11)

DIAGNOSIS & TESTING

PRELIMINARY CHECKS

NOTE: Before starting ABS system checks, road test vehicle to confirm customer complaint.

Preliminary Check No. 1

Ensure brake fluid level is correct. Add fluid if necessary. Inspect mechanical condition of conventional brake system, including brake booster and component adjustments. See DISC article. Repair or adjust brake system as necessary.

Preliminary Check No. 2

Check wheel sensor clearance. See WHEEL SENSOR CLEARANCE table. Check rear sensor rotor (trigger wheel) teeth for damage. Check for dust, foreign materials and/or improper installation. If necessary, replace sensor rotor with wheel hub or companion flange as a set.

WHEEL SENSOR CLEARANCE TABLE

Application	In. (mm)
G20	.008-.039 (0.20-1.00)
M30	.012-.020 (0.30-0.51)
Q45	
Front	.0083-.0280 (.200-.710)
Rear	.0138-.0246 (.350-.625)

Preliminary Check No. 3

Measure each wheel sensor resistance. Resistance should be 800-1200 ohms. If resistance is not as specified, replace sensor(s).

Preliminary Check No. 4

1) Check anti-lock warning light for proper operation when ignition is turned on. If light does not glow, check ABS fuse and bulb.

2) If light glows, start engine. If light goes out, go to next step. If light does not go out, keep engine running. On M30, locate ABS control unit in trunk (on rear shelf, next to speakers). See Fig. 4. On G20 and Q45, ABS control unit is under right side of dash (behind glove box). See Fig. 1 or 7. On all models, count number of LED flashes during 5-10 second OFF period and then go to SELF-DIAGNOSIS.

3) Road test vehicle at least one minute at speed greater than 19 MPH (30 km/h). If anti-lock warning light remains off and ABS operation is abnormal, perform PRELIMINARY CHECK NO. 2. If light comes on, go to next step.

4) Keep engine running. Observe LED on ABS control unit. Count number of LED flashes during 5-10 second OFF period and then go to SELF-DIAGNOSIS.

SELF-DIAGNOSIS

1) When a problem occurs in anti-lock brake system, warning light on instrument cluster comes on. To obtain satisfactory self-diagnostic results, always road test vehicle at least one minute at speed greater than 19 MPH (30 km/h).

2) Stop vehicle, but keep engine running. On M30, locate ABS control unit in trunk (on rear shelf, next to speakers). See Fig. 4. On G20 and Q45, ABS control unit is under right side of dash (behind glove box). See Fig. 1 or 7. Count number of LED flashes during 5-10 second period, and go to appropriate SELF-DIAGNOSTICS CHART. See Fig. 7 or 8. If more than 2 circuits malfunction at same time, LED will display only one malfunction. After circuit has been repaired, LED will then display any remaining system malfunctions.

3) Turn ignition off after repairs. Road test vehicle to verify malfunction has been corrected. If ignition is not turned off, warning light and LED will continue to indicate problem exists even though malfunction has been repaired.

DIAGNOSING BY SYMPTOMS

To diagnose Anti-Lock Brake System (ABS) by symptom, refer to appropriate SYMPTOM CHART. See Fig. 13 or 15. Chart will indicate proper procedures to follow based on symptom observed.

NOTE: For diagnostic procedures, see appropriate DIAGNOSTIC PROCEDURES CHARTS. For preliminary check procedures, see PRELIMINARY CHECKS.

SYMPTOM CHART

PROCEDURE	Preliminary Check *				Diagnostic Procedure					Diagnostic Procedure (Select inspection with L.E.D.) Flashing No. **				Ground Circuit Check	Electrical Com- ponents Inspec- tion		
	Preliminary Check 1	Preliminary Check 2	Preliminary Check 3	Preliminary Check 4	Diagnostic Procedure 1	Diagnostic Procedure 2	Diagnostic Procedure 3	Diagnostic Procedure 4	Diagnostic Procedure 5	Diagnostic Procedure 6	Diagnostic Procedure 7	Diagnostic Procedure 8	Diagnostic Procedure 9	Diagnostic Procedure 10	Diagnostic Procedure 11	Diagnostic Procedure 12	Motor ground
SYMPTOM																	
Pedal vibration & noise			○	○	○					○	○	○	○	○	○		
Warning activates		○	○	○						○	○	○	○	○	○		
Long stopping distance	○			○		○				○	○	○	○	○	○		
Unexpected pedal action	○			○		○				○	○	○	○	○	○		
ABS doesn't work		○	○	○			○			○	○	○	○	○	○	○	○
ABS works but warning activates				○				○		○	○	○	○	○	○		
ABS works frequently	○	○							○								

* See PRELIMINARY CHECKS under DIAGNOSIS & TESTING.

** See SELF-DIAGNOSTICS CHART for reference to appropriate diagnostic procedure number.

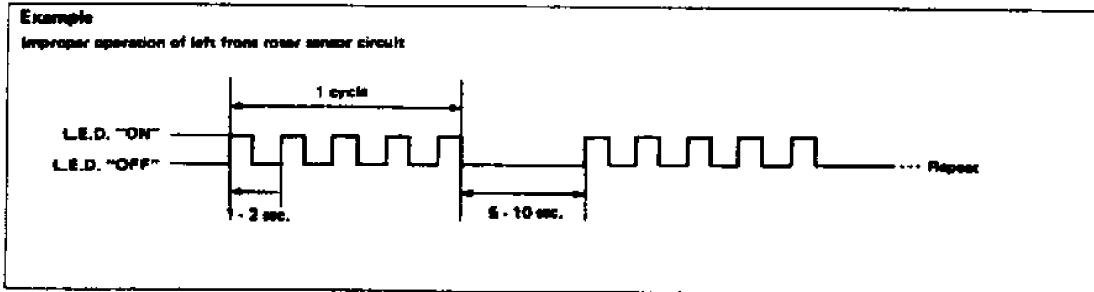
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Fig. 13: ABS Symptom Charts (G20)
Courtesy of Nissan Motor Co., U.S.A.

SELF-DIAGNOSTICS CHART

SELF-DIAGNOSTICS CHART (G20)

No. Of LED Flashes	Malfunctioning Part Or Unit	Diagnostic Procedure No.
1	Left Front Actuator Solenoid Circuit	7
2	Right Front Actuator Solenoid Circuit	7
3	Right Rear Actuator Solenoid Circuit	7
4	Left Rear Actuator Solenoid Circuit	7
5	Left Front Wheel Sensor Circuit	8
6	Right Front Wheel Sensor Circuit	8
7	Right Rear Wheel Sensor Circuit	8
8	Left Rear Wheel Sensor Circuit	8
9	Motor & Motor Relay	9
10	Solenoid Valve Relay	10
16	Control Unit	11
Warning Activates/ LED Off	Power Supply Or Ground Circuit For Control Unit	12



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Fig. 14: Front Rotor Sensor Circuit Input Chart (G20)
 Courtesy of Nissan Motor Co., U.S.A.

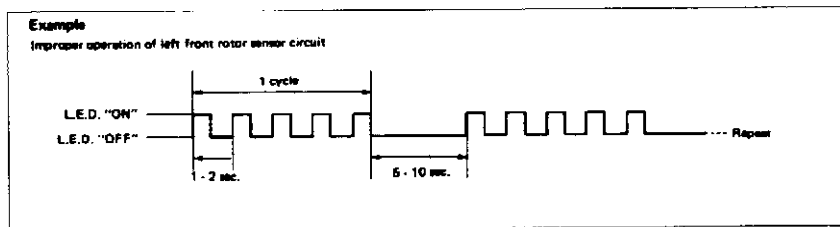
SYMPTOM CHART

PROCEDURE	Preliminary Check *				Diagnostic Procedure						Diagnostic Procedure (Select inspection with L.E.D. flashing No.)					Ground Circuit Check		Electrical Components inspection
	Preliminary Check 1	Preliminary Check 2	Preliminary Check 3	Preliminary Check 4	Diagnostic Procedure 1	Diagnostic Procedure 2	Diagnostic Procedure 3	Diagnostic Procedure 4	Diagnostic Procedure 5	Diagnostic Procedure 6	Diagnostic Procedure 7	Diagnostic Procedure 8	Diagnostic Procedure 9	Diagnostic Procedure 10	Diagnostic Procedure 11	Control unit ground	Motor ground	Actuator inspection
SYMPTOM																		
Pedal vibration & noise			○	○	○					○	○	○	○	○				
Warning activates	○	○	○	○					○	○	○	○	○	○				
Long stopping distance	○			○	○				○	○	○	○	○	○				
Abnormal pedal action	○			○		○			○	○	○	○	○	○				
A.B.S. doesn't work	○	○	○	○					○	○	○	○	○	○	○	○	○	
A.B.S. works but warning activates				○					○	○	○	○	○	○				

* See PRELIMINARY CHECKS under DIAGNOSIS & TESTING.

SELF-DIAGNOSTICS CHART

No. of L.E.D. flashes	Malfunctioning part or unit	Diagnostic Procedure
1	Left front actuator solenoid circuit	Diagnostic Procedure 6
2	Right front actuator solenoid circuit	
3 or 4	Rear actuator solenoid circuit	
5	Left front wheel sensor circuit	Diagnostic Procedure 7
6	Right front wheel sensor circuit	
7 or 8	Rear wheel sensor circuit	
9	Motor and motor relay	Diagnostic Procedure 8
10	Solenoid valve relay	Diagnostic Procedure 9
16 or continuous	Control unit	Diagnostic Procedure 10
Warning activates and L.E.D. "OFF"	Power supply or ground circuit for control unit	Diagnostic Procedure 11



91G02827

Fig. 15: ABS Symptom & Front Rotor Sensor Circuit Input Chart (M30 & Q45)

Courtesy of Nissan Motor Co., U.S.A.

SELF-DIAGNOSTICS CHART (M30 & Q45)

No. Of LED Flashes	Malfunctioning Part Or Unit	Diagnostic Procedure No.
1	Left Front Actuator Solenoid Circuit	6
2	Right Front Actuator Solenoid Circuit	6
3 or 4	Rear Actuator Solenoid Circuit	6
5	Left Front Wheel Sensor Circuit	7
6	Right Front Wheel Sensor Circuit	7
7 or 8	Rear Wheel Sensor Circuit	7
9	Motor & Motor Relay	8
10	Solenoid Valve Relay	9
16 or Continuous Warning Activates/LED Off	Control Unit Power Supply Or Ground Circuit For Control Unit	10 11

DIAGNOSTIC PROCEDURE CHARTS (G20)

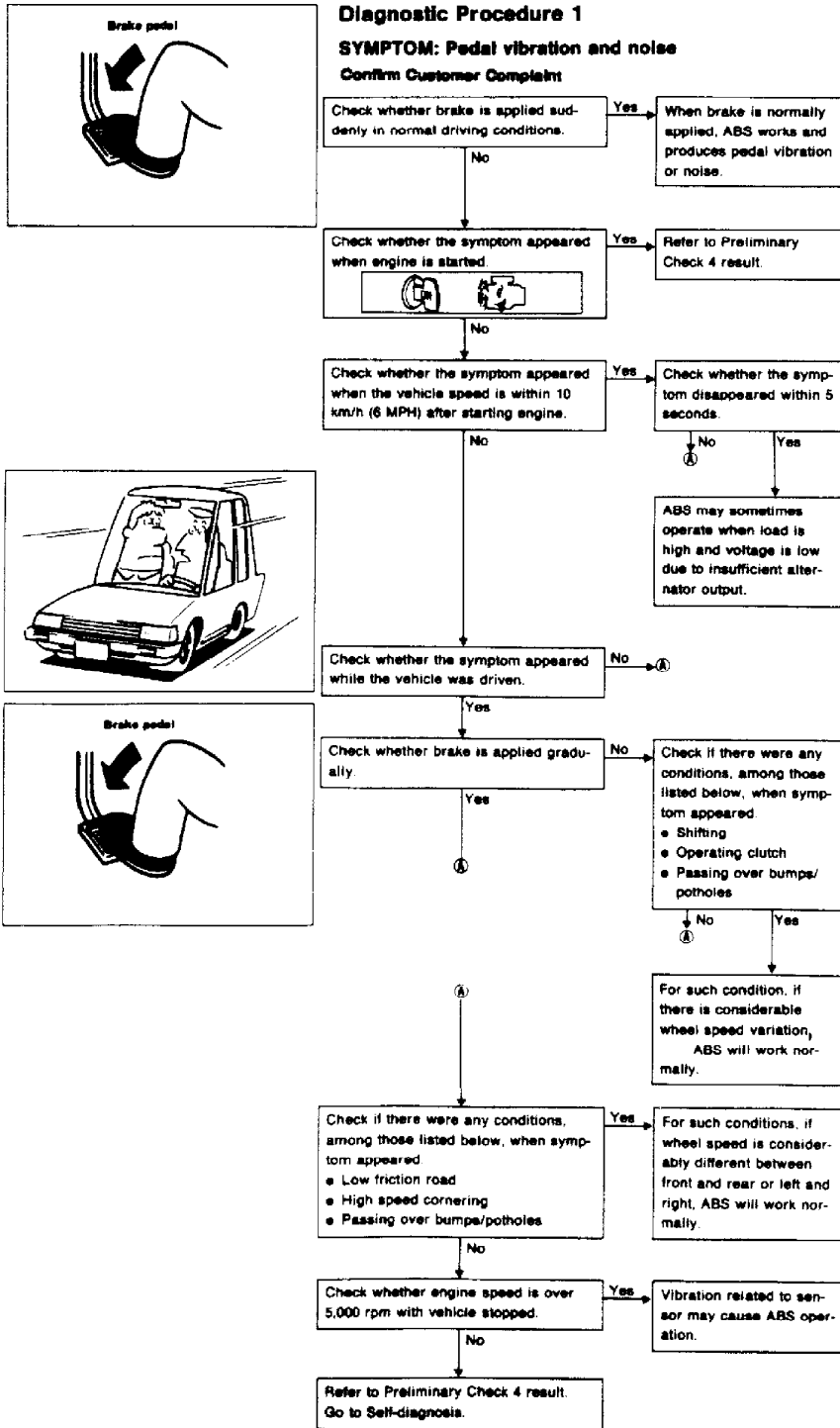
For component locations and wiring schematics of Anti-Lock Brake System (ABS), see Figs. 1-3. For ground check, see Fig. 16. For diagnostic procedures No. 1-12, see Figs. 17-27. For electronic components check, see Figs. 29 and 30.

NOTE: For additional wiring diagrams, see Figs. 57-59 at end of article and appropriate chassis wiring diagrams in WIRING DIAGRAMS.



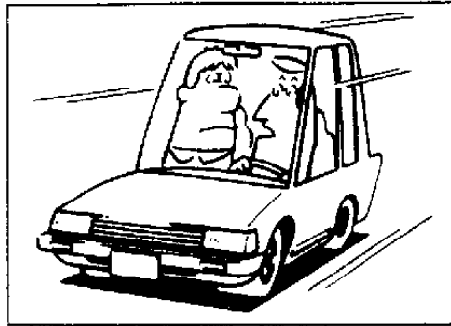
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Fig. 16: ABS Ground Circuit Check (G20)
Courtesy of Nissan Motor Co., U.S.A.



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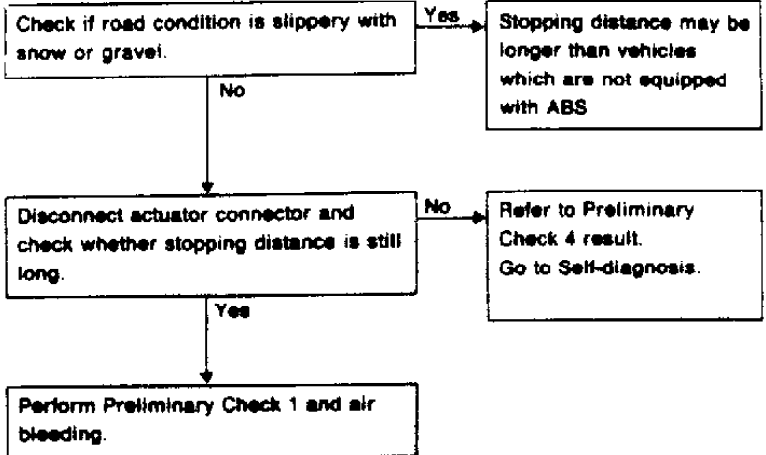
Fig. 17: ABS Diagnostic Procedure No. 1 (G20)
 Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 2

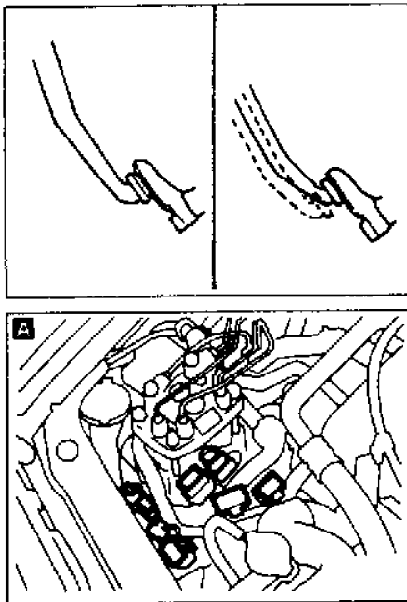
SYMPTOM: Long stopping distance

Confirm Customer Complaint



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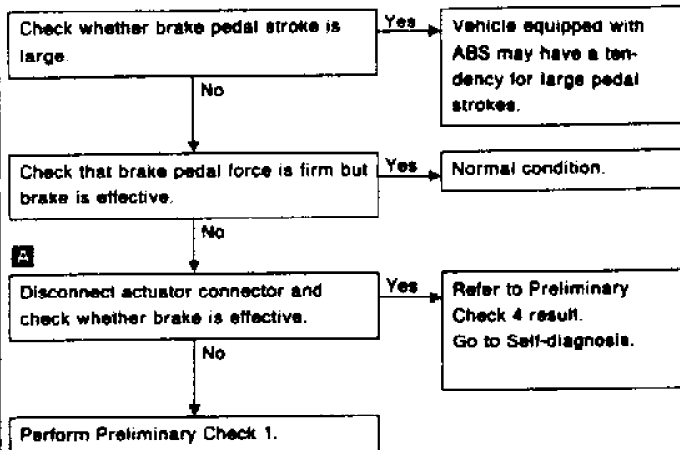
Fig. 18: ABS Diagnostic Procedure No. 2 (G20)
 Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 3

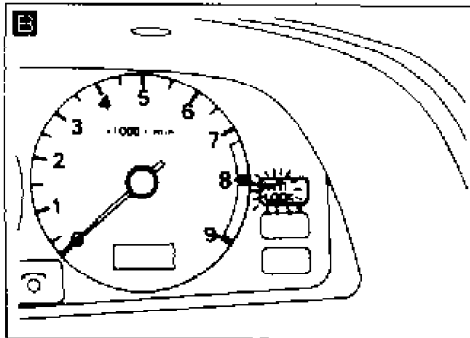
SYMPTOM: Unexpected pedal action

Confirm Customer Complaint



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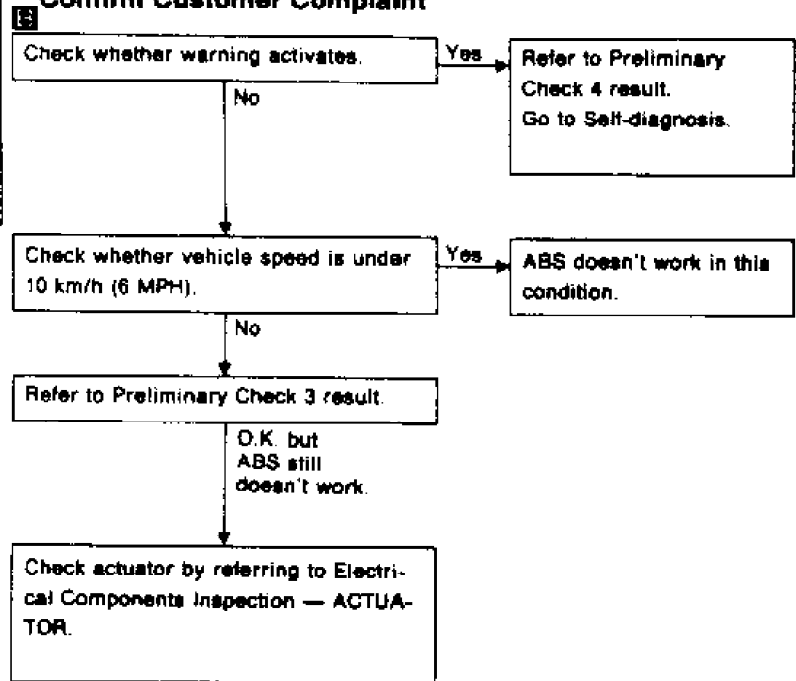
Fig. 19: ABS Diagnostic Procedure No. 3 (G20)
 Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 4

SYMPTOM: ABS doesn't work.

Confirm Customer Complaint

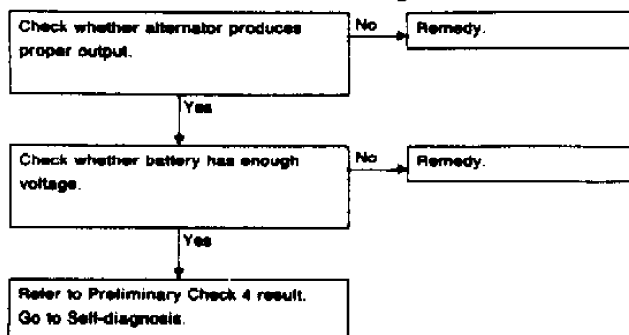


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Fig. 20: ABS Diagnostic Procedure No. 4 (G20)
 Courtesy of Nissan Motor Co., U.S.A.

Diagnostic Procedure 5

SYMPTOM: ABS works but warning activates.



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Fig. 21: ABS Diagnostic Procedure No. 5 (G20)
 Courtesy of Nissan Motor Co., U.S.A.

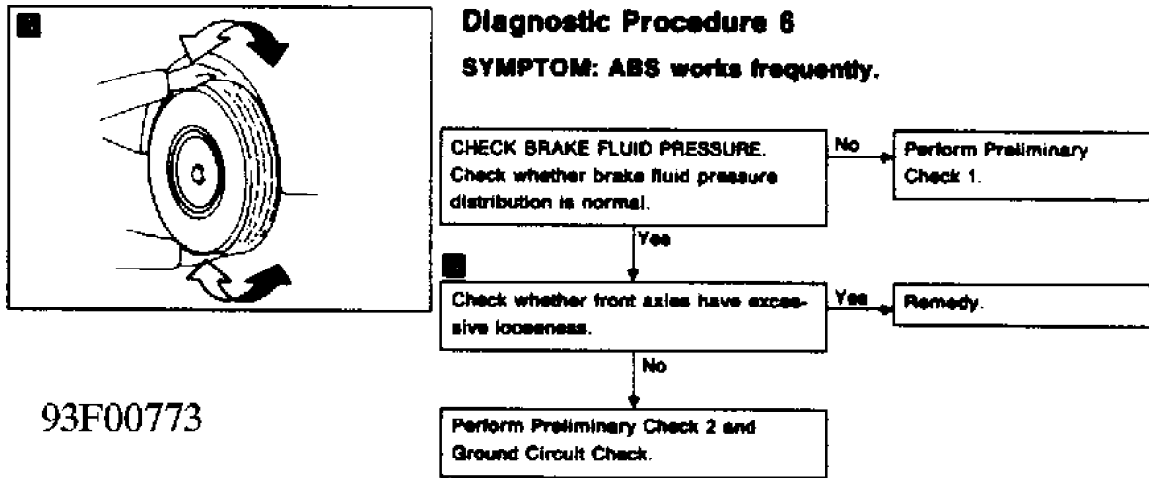


Fig. 22: ABS Diagnostic Procedure No. 6 (G20)
 Courtesy of Nissan Motor Co., U.S.A.

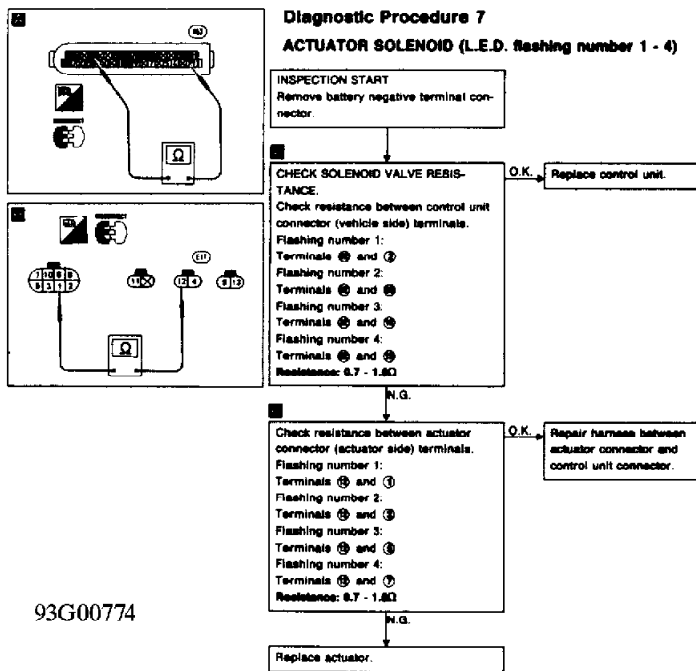
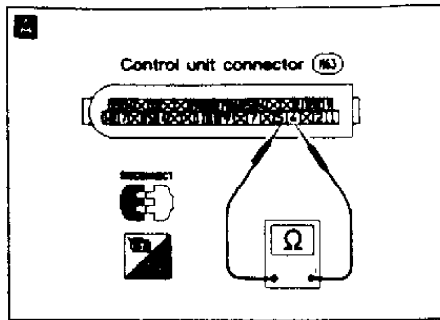
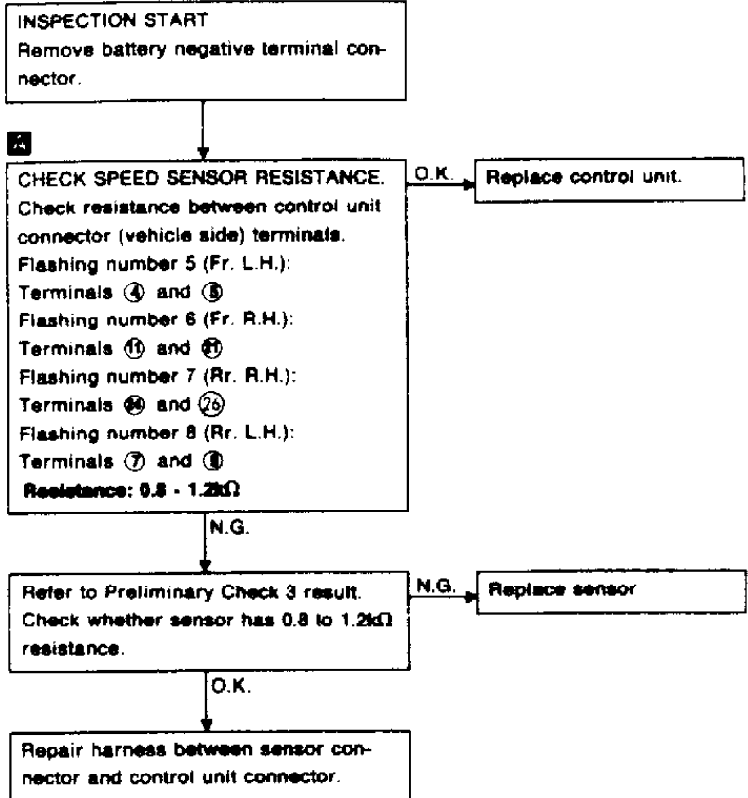


Fig. 23: ABS Diagnostic Procedure No. 7 (G20)
 Courtesy of Nissan Motor Co., U.S.A.



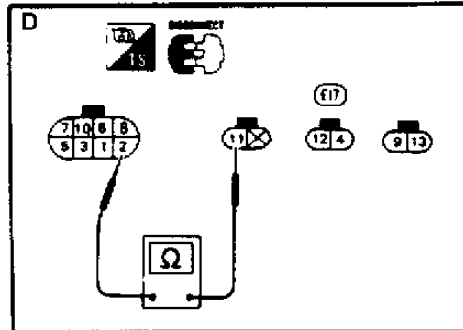
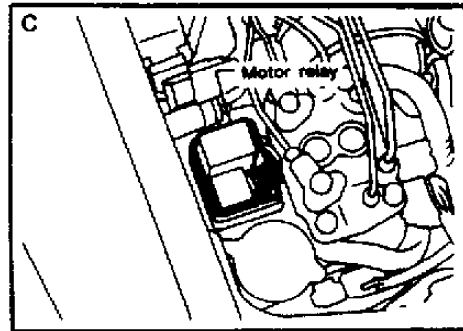
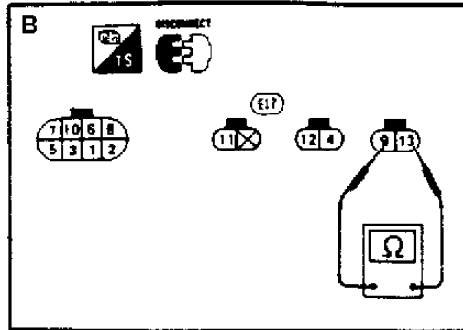
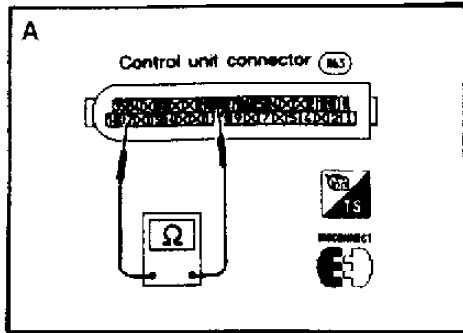
Diagnostic Procedure 8

WHEEL SPEED SENSOR (L.E.D. flashing number 5 - 8)



93H00775

Fig. 24: ABS Diagnostic Procedure No. 8 (G20)
Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 9

ACTUATOR MOTOR RELAY (L.E.D. flashing number 9)

INSPECTION START

Remove battery negative terminal connector.

A

CHECK MOTOR RELAY SOLENOID RESISTANCE.

Check resistance between control unit connector (vehicle side) terminals ⑪ and ⑫.

Resistance: 33 - 80Ω

O.K.

B

CHECK MOTOR RELAY DEACTIVATION.

Check continuity between actuator connector (actuator side) terminals ⑬ and ⑭.

No

Check if motor fusible link is blown.

No

Perform Electrical Components Inspection — ACTUATOR.

O.K.

Replace control unit.

D

Check resistance between actuator connector (actuator side) terminals ⑬ and ⑭.
Resistance: 33 - 80Ω

O.K.

Repair harness between actuator and control unit.

N.G.

Replace motor relay.

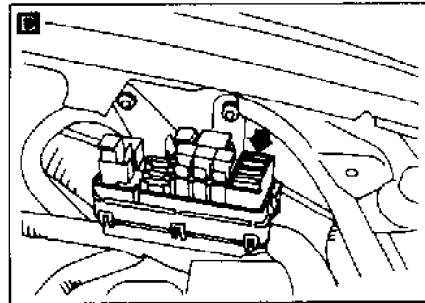
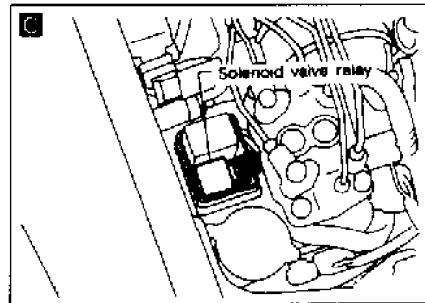
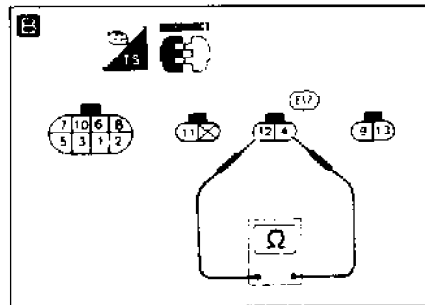
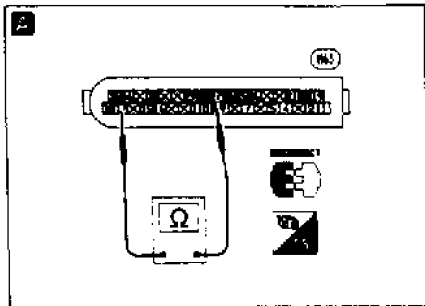
C

Replace motor relay.

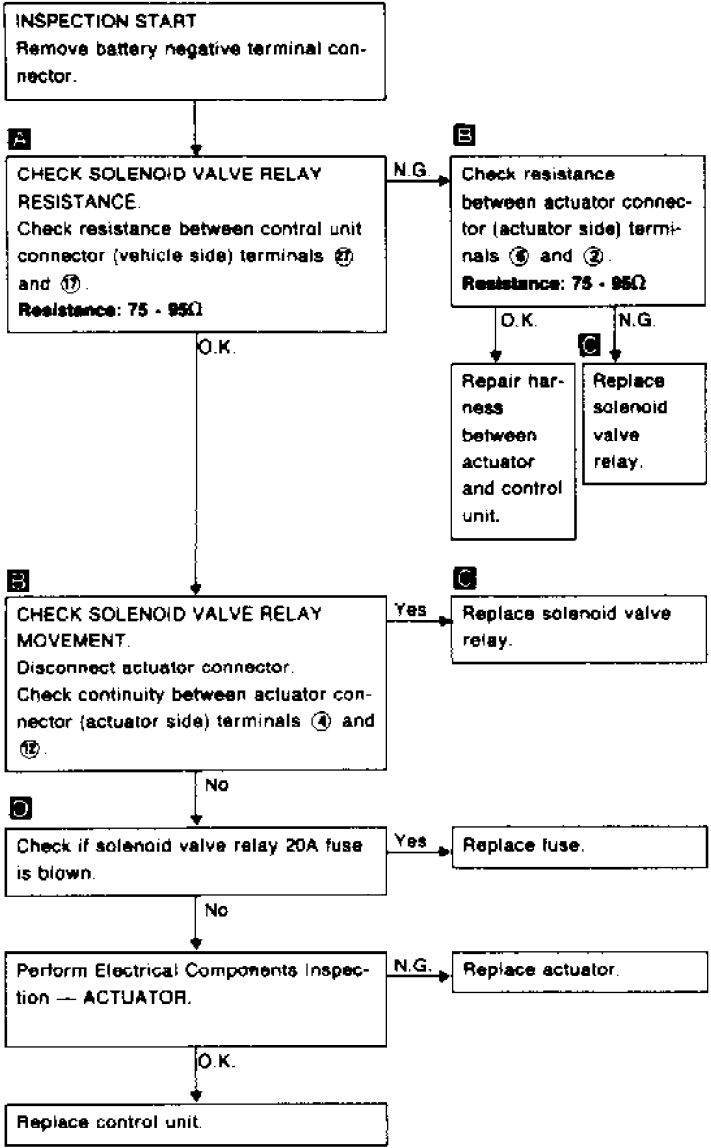
Replace actuator.

93100776

Fig. 25: ABS Diagnostic Procedure No. 9 (G20)
Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 10
ACTUATOR SOLENOID VALVE RELAY (L.E.D. flashing number 10)

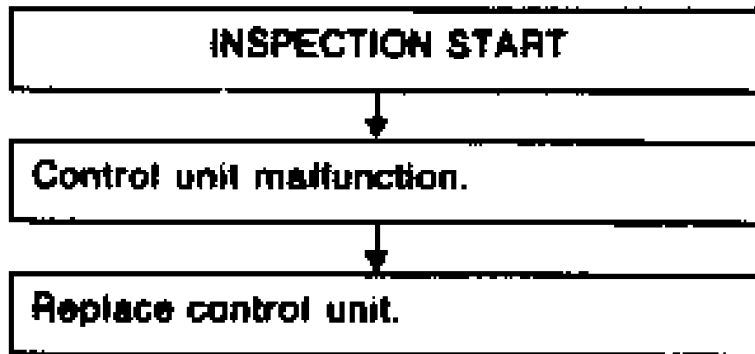


93F00781

Fig. 26: ABS Diagnostic Procedure No. 10 (G20)
 Courtesy of Nissan Motor Co., U.S.A.

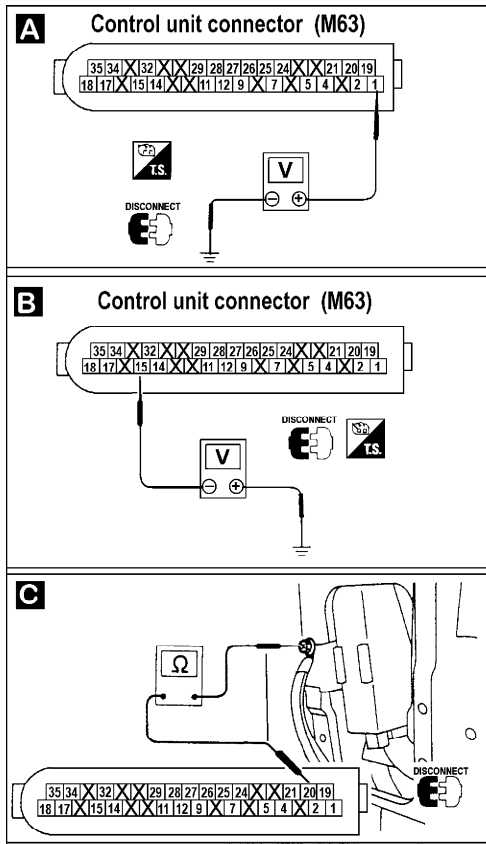
Diagnostic Procedure 11

CONTROL UNIT (L.E.D. flashing number 16)



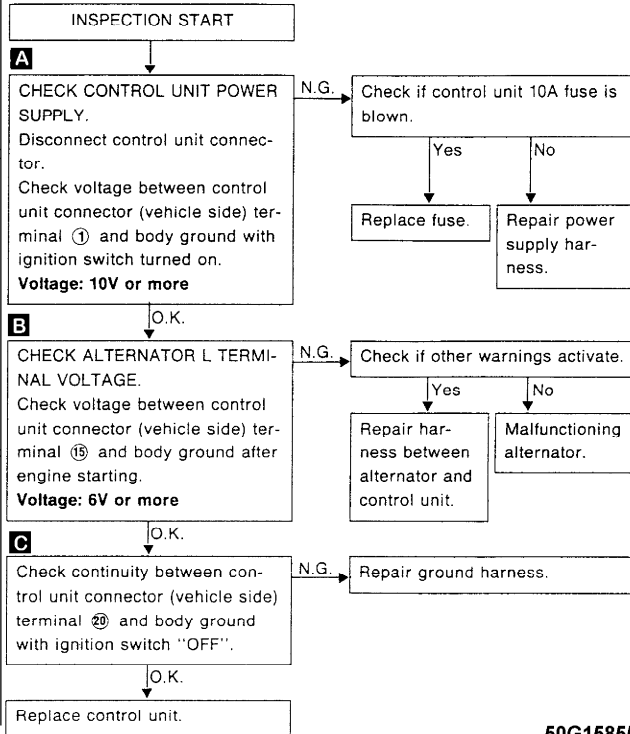
93A00778

Fig. 27: ABS Diagnostic Procedure No. 11 (G20)
Courtesy of Nissan Motor Co., U.S.A.



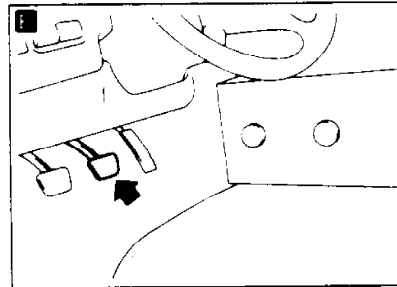
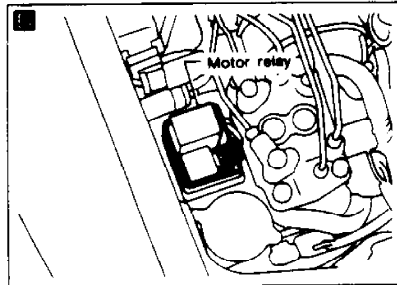
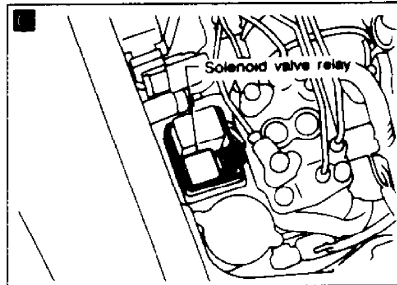
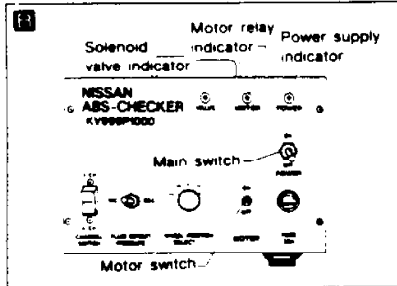
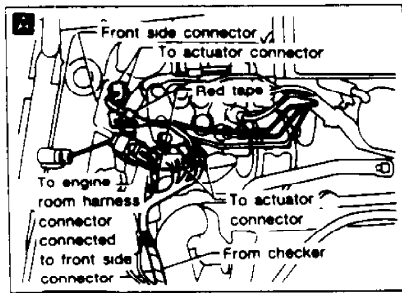
Diagnostic Procedure 12

CONTROL UNIT OR POWER SUPPLY AND GROUND CIRCUIT (Warning activates but L.E.D. comes off.)

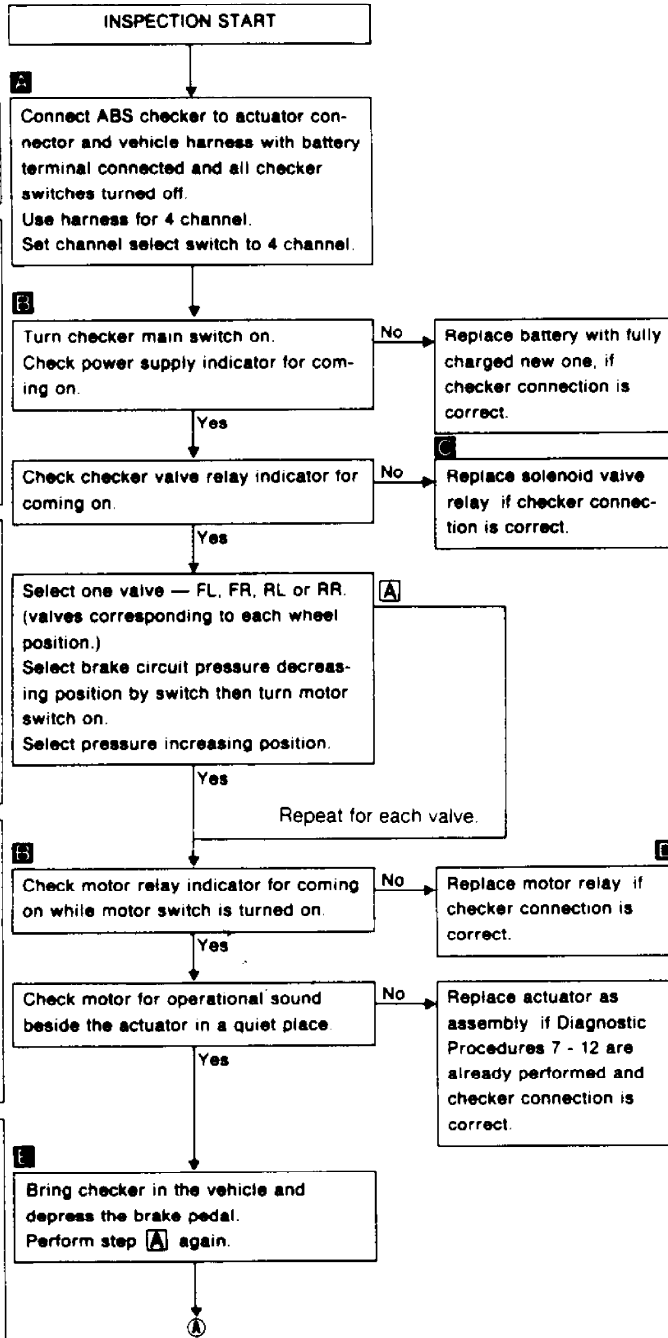


50G15855

Fig. 28: ABS Diagnostic Procedure No. 12 (G20)
Courtesy of Nissan Motor Co., U.S.A.



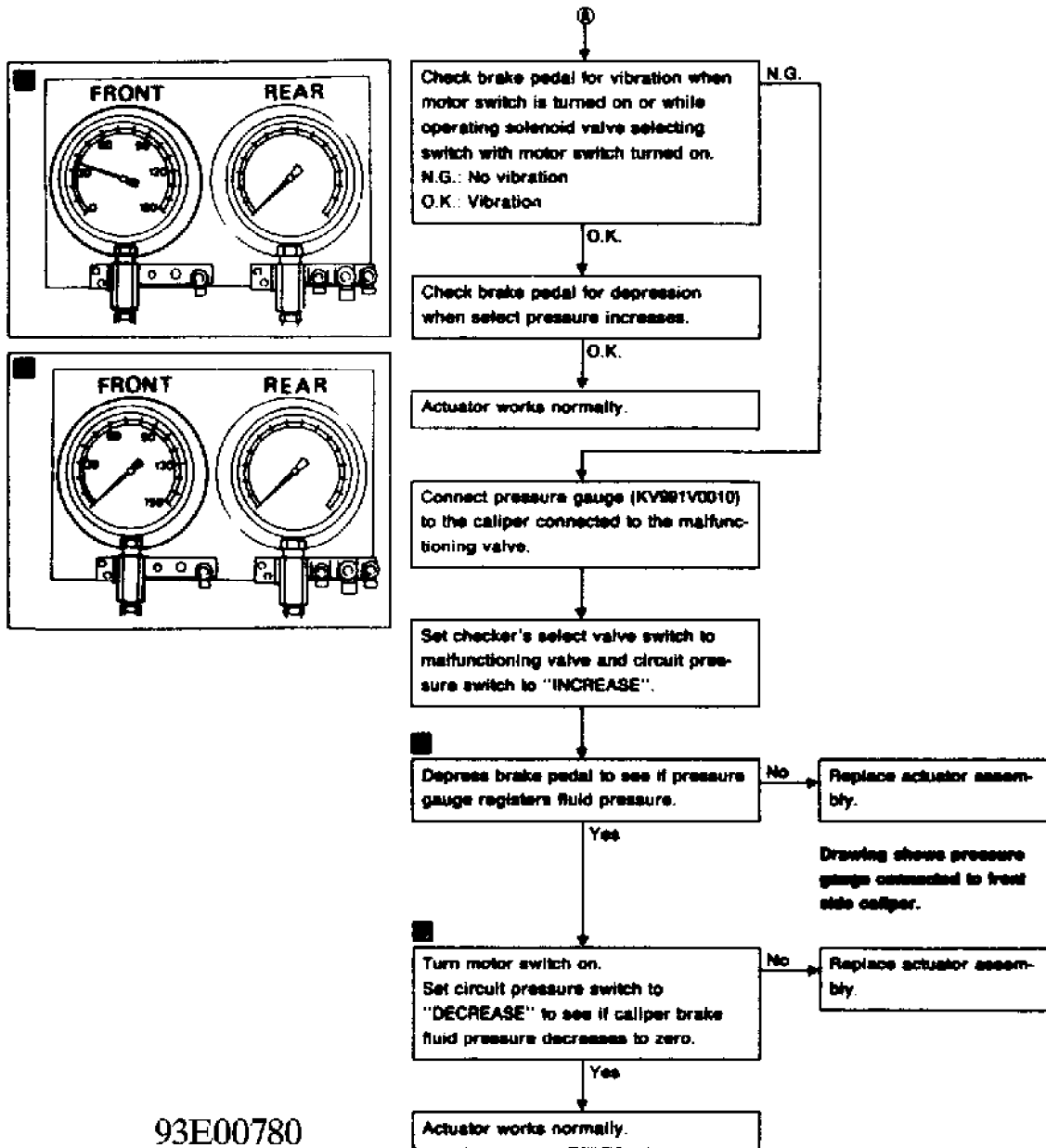
Electrical Components Inspection ACTUATOR (Not self-diagnostic item)



93B00779

Fig. 29: ABS Electrical Components Inspection (G20) (1 Of 2)
Courtesy of Nissan Motor Co., U.S.A.

Electrical Components Inspection (Cont'd)



93E00780

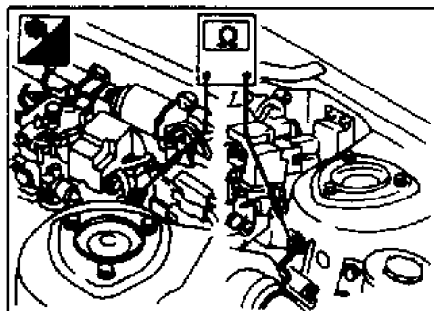
Fig. 30: ABS Electrical Components Inspection (G20) (2 Of 2)
Courtesy of Nissan Motor Co., U.S.A.

DIAGNOSTIC PROCEDURE CHARTS (M30)

For component locations and wiring schematics of Anti-Lock Brake System (ABS), see Figs. 4-6. For ground check, see Fig. 31. For

diagnostic procedures No. 1-11, see Figs. 32-42. For electronic components check, see Fig. 43.

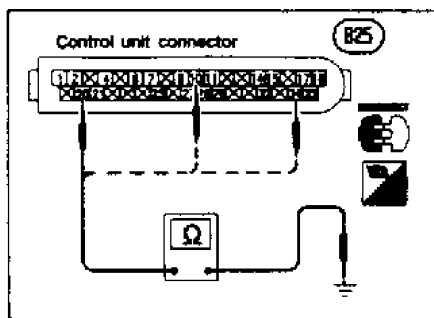
NOTE: For additional wiring diagrams, see Figs. 57-59 at end of article and appropriate chassis wiring diagrams in WIRING DIAGRAMS.



Ground Circuit Check

ACTUATOR MOTOR GROUND

- Check resistance between both terminals.
Resistance: 0Ω

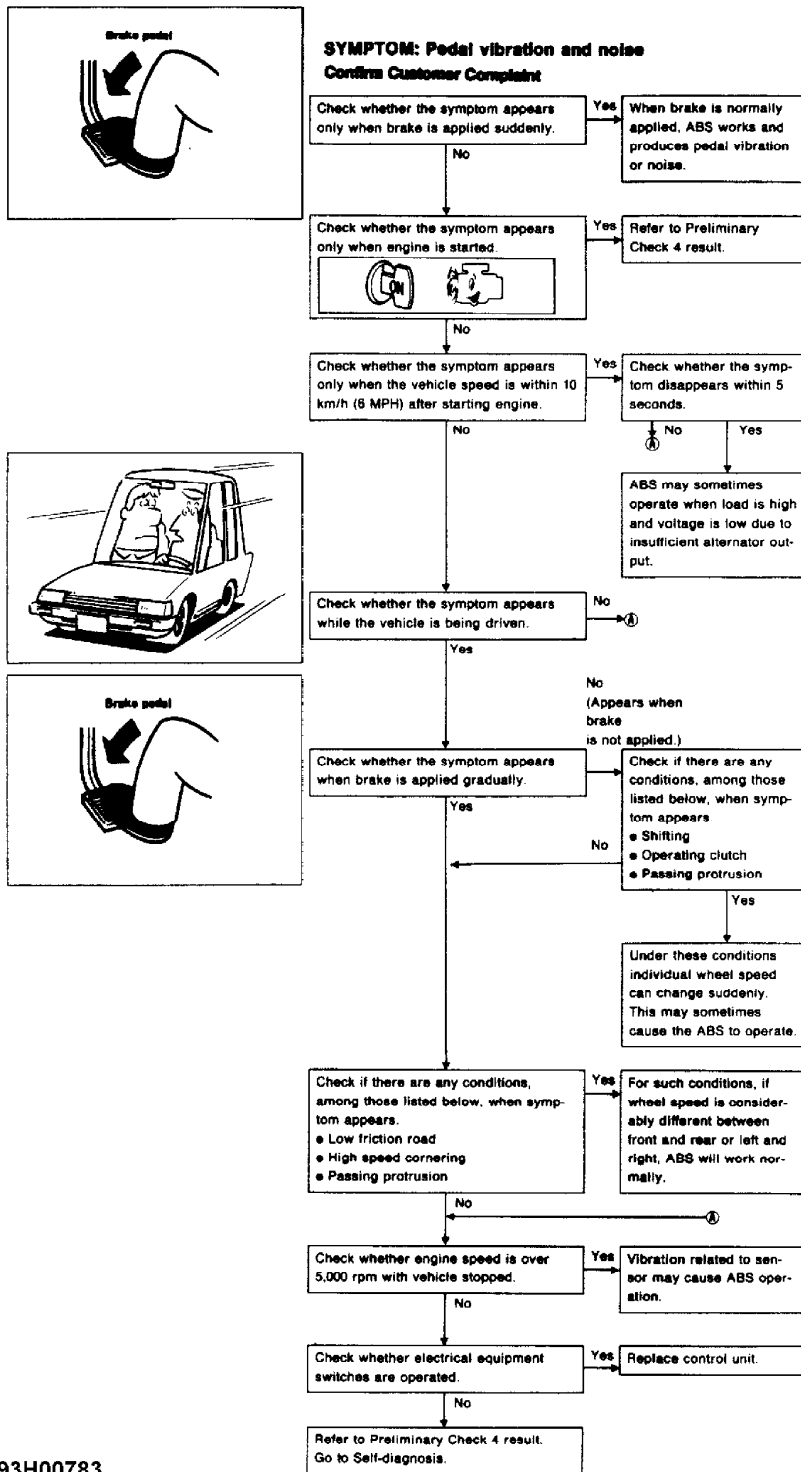


CONTROL UNIT GROUND

- Check resistance between both terminals.
Resistance: 0Ω

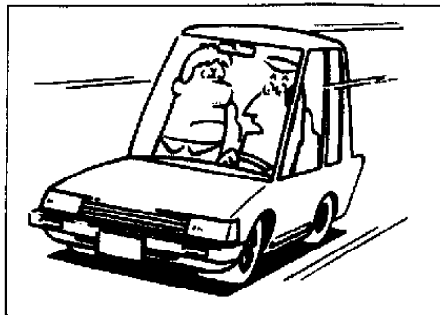
93G00782

Fig. 31: ABS Ground Circuit Check (M30)
Courtesy of Nissan Motor Co., U.S.A.



93H00783

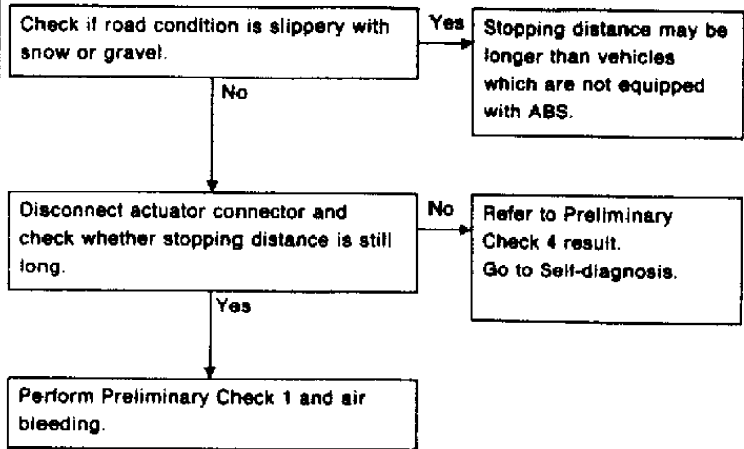
Fig. 32: ABS Diagnostic Procedure No. 1 (M30)
 Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 2

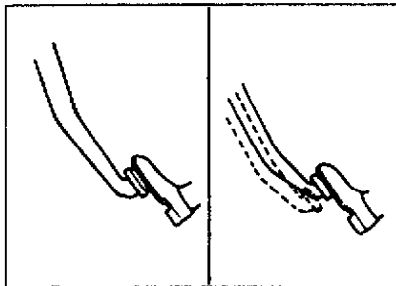
SYMPTOM: Long stopping distance

Confirm Customer Complaint



93I00784

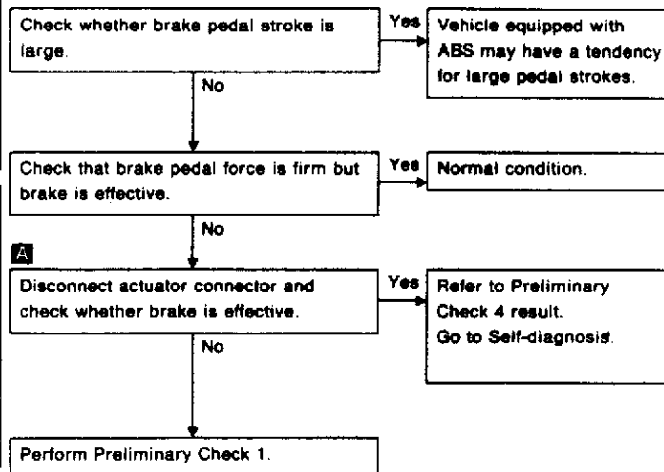
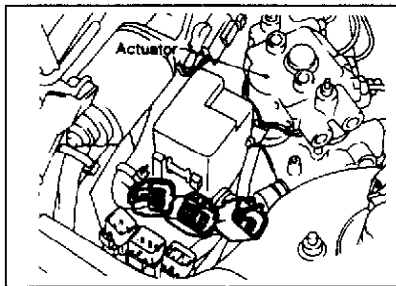
Fig. 33: ABS Diagnostic Procedure No. 2 (M30)
 Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 3

SYMPTOM: Unexpected pedal action

Confirm Customer Complaint



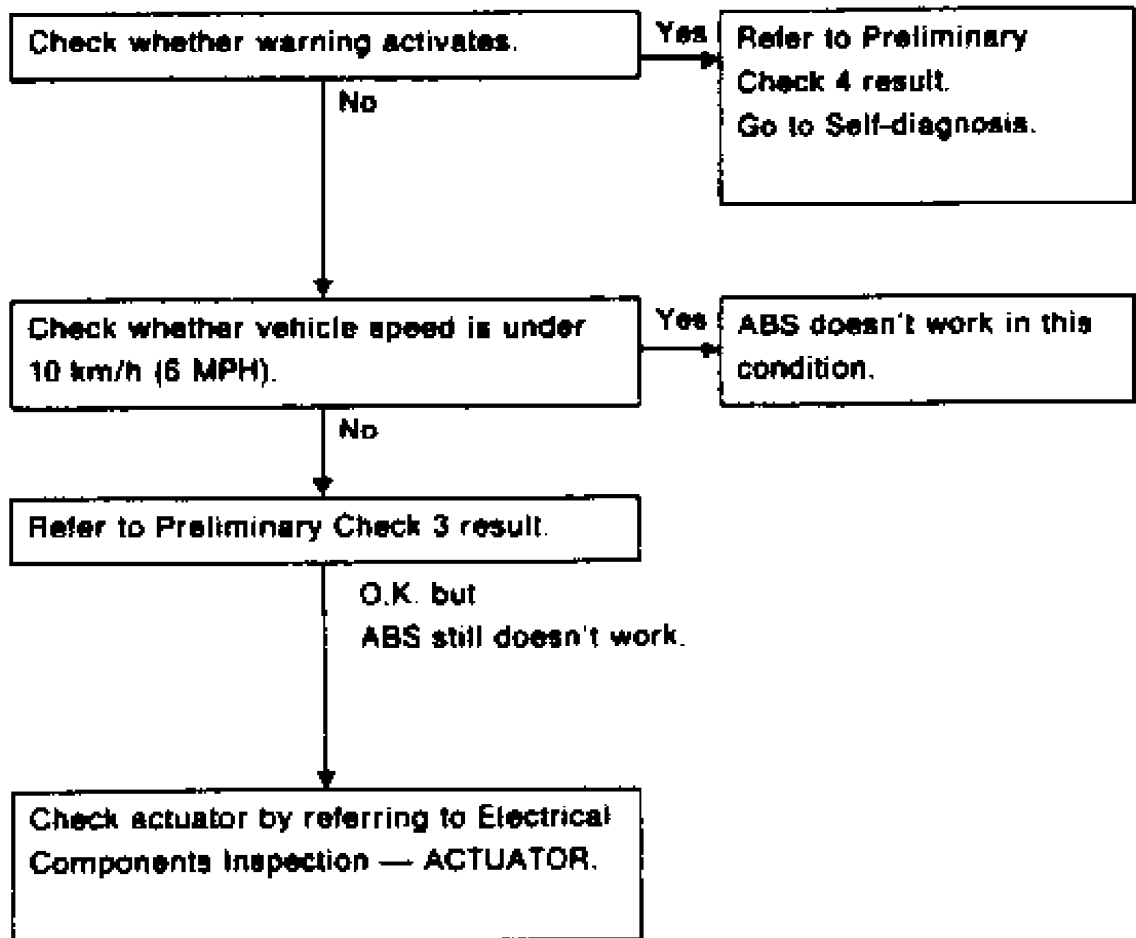
93J00785

Fig. 34: ABS Diagnostic Procedure No. 3 (M30)
 Courtesy of Nissan Motor Co., U.S.A.

Diagnostic Procedure 4

SYMPTOM: ABS doesn't work.

Confirm Customer Complaint

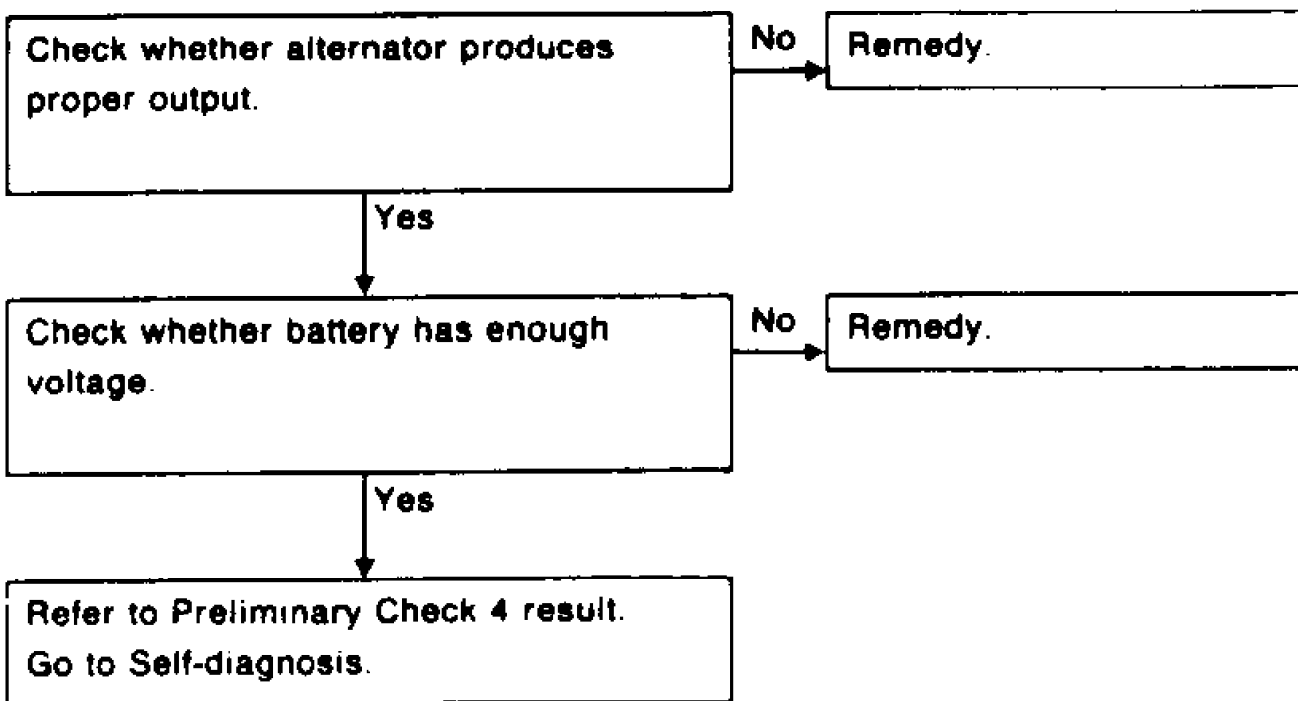


93A00786

Fig. 35: ABS Diagnostic Procedure No. 4 (M30)
Courtesy of Nissan Motor Co., U.S.A.

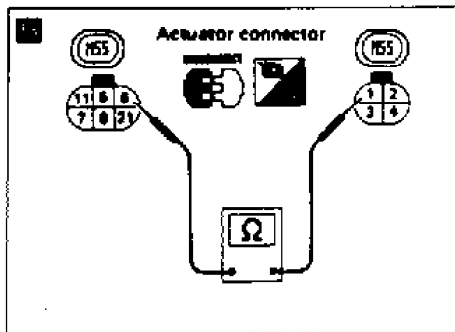
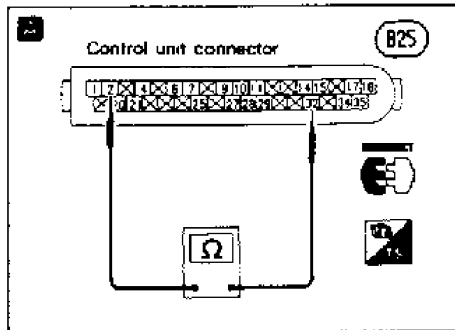
Diagnostic Procedure 5

SYMPTOM: ABS works but warning activates.



93B00787

Fig. 36: ABS Diagnostic Procedure No. 5 (M30)
Courtesy of Nissan Motor Co., U.S.A.



Diagnostic Procedure 6

ACTUATOR SOLENOID (L.E.D. flashing number 1 - 4)

INSPECTION START

Remove battery negative terminal connector.

4

CHECK SOLENOID VALVE RESISTANCE.

Disconnect control unit connector.
Check resistance between control unit connector (vehicle side) terminals.

Flashing number 1:

Terminals ⑫ and ②

Flashing number 2:

Terminals ⑬ and ⑮

Flashing number 3 or 4:

Terminals ⑫ and ⑰

Resistance: 0.7 - 1.6Ω

O.K.

Replace control unit.

N.G.

5

Disconnect actuator connector.

Check resistance between actuator connector (actuator side) terminals.

Flashing number 1:

Terminals ⑥ and ①

Flashing number 2:

Terminals ⑥ and ②

Flashing number 3 or 4:

Terminals ⑥ and ③

Resistance: 0.7 - 1.6Ω

O.K.

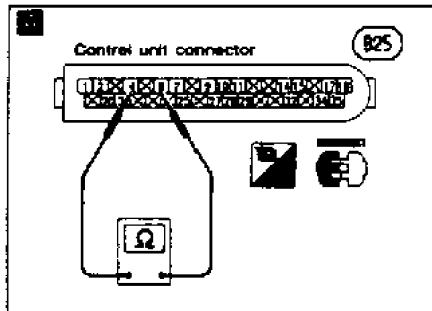
Repair harness between actuator connector and control unit connector.

N.G.

Replace actuator.

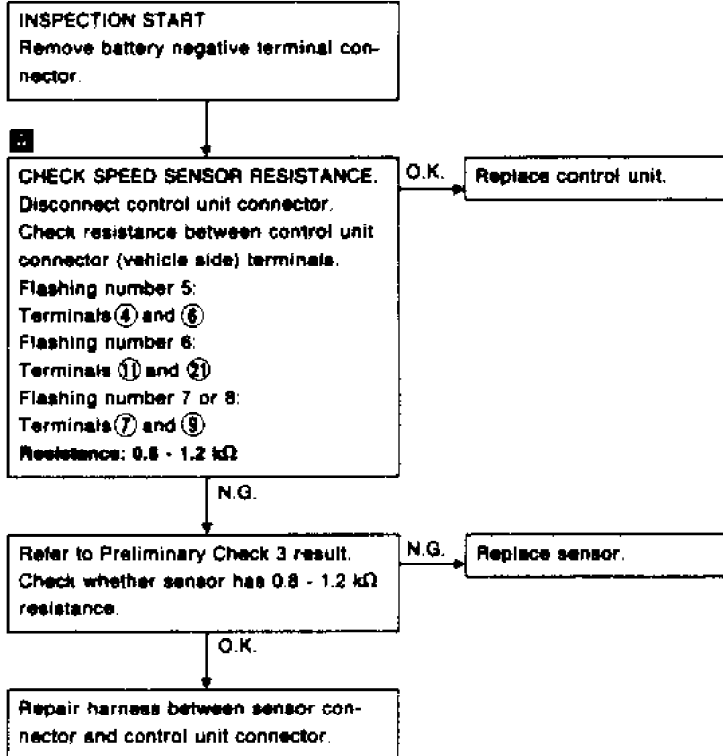
93C00788

Fig. 37: ABS Diagnostic Procedure No. 6 (M30)
Courtesy of Nissan Motor Co., U.S.A.



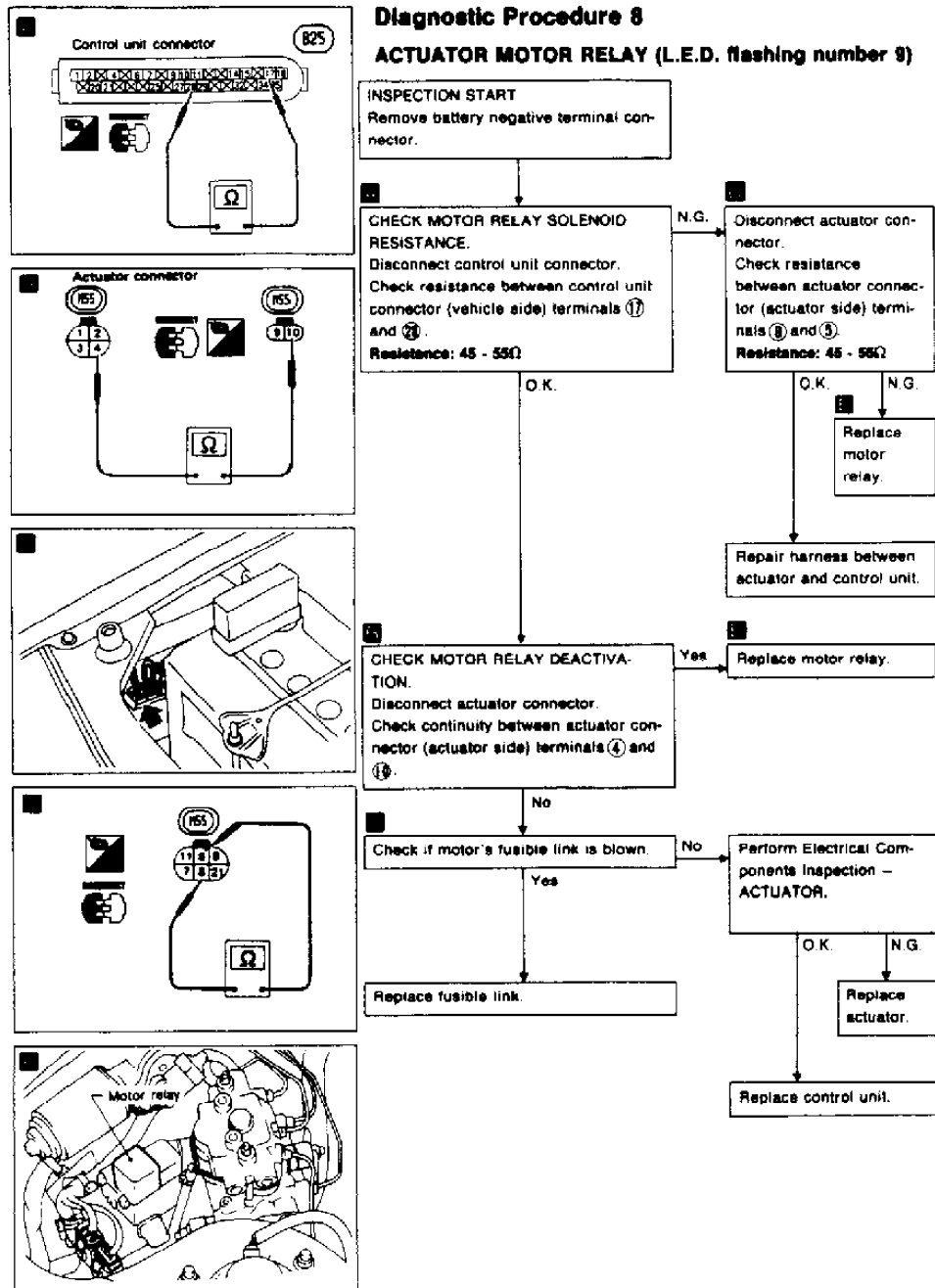
Diagnostic Procedure 7

WHEEL SPEED SENSOR (L.E.D. flashing number 5 - 8)



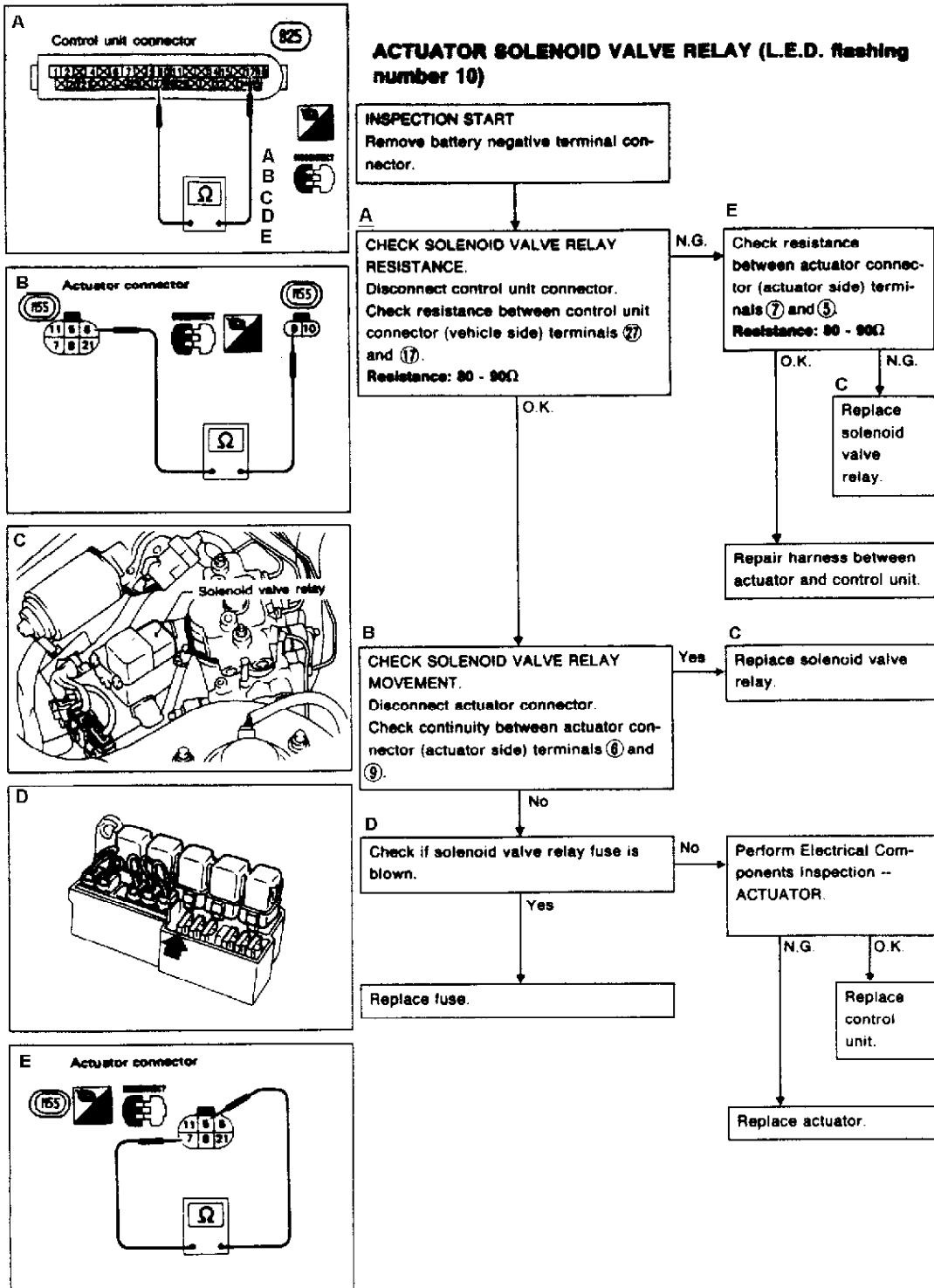
93D00789

Fig. 38: ABS Diagnostic Procedure No. 7 (M30)
Courtesy of Nissan Motor Co., U.S.A.



93G00790

Fig. 39: ABS Diagnostic Procedure No. 8 (M30)
Courtesy of Nissan Motor Co., U.S.A.

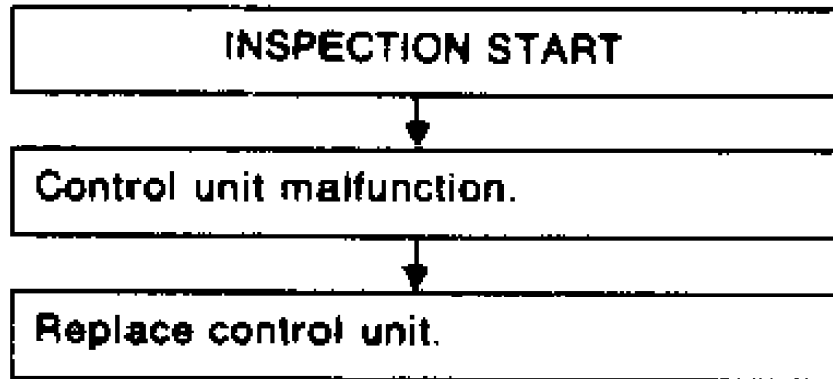


93H00791

Fig. 40: ABS Diagnostic Procedure No. 9 (M30)
Courtesy of Nissan Motor Co., U.S.A.

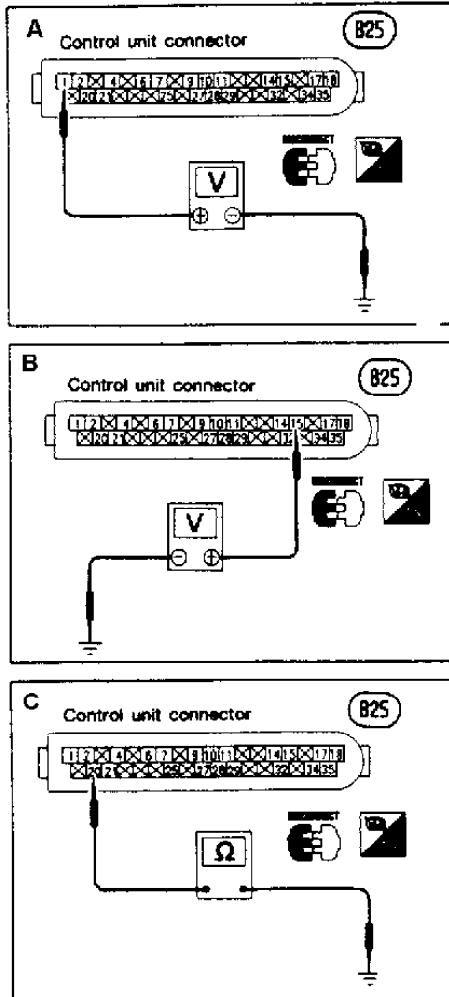
Diagnostic Procedure 10

CONTROL UNIT (L.E.D. flashing number 16)



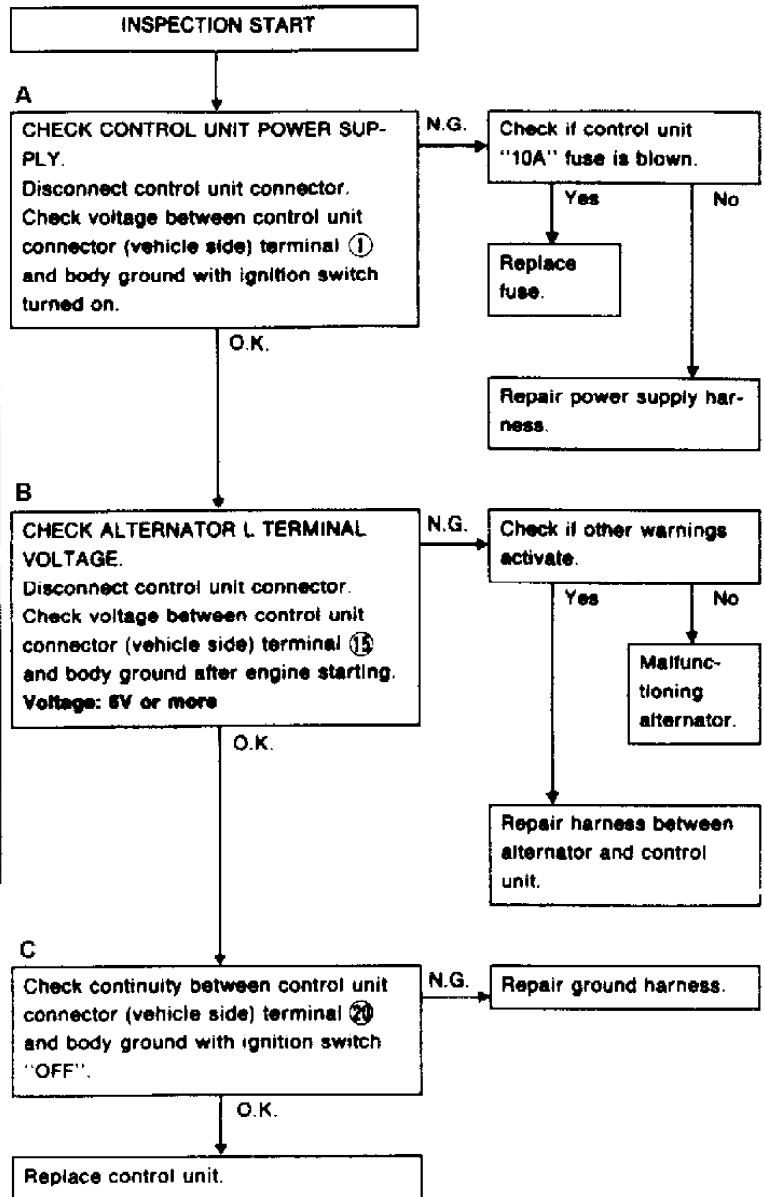
93100792

Fig. 41: ABS Diagnostic Procedure No. 10 (M30)
Courtesy of Nissan Motor Co., U.S.A.



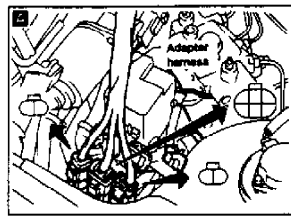
Diagnostic Procedure 11

CONTROL UNIT OR POWER SUPPLY AND GROUND CIRCUIT (Warning activates but L.E.D. comes off.)

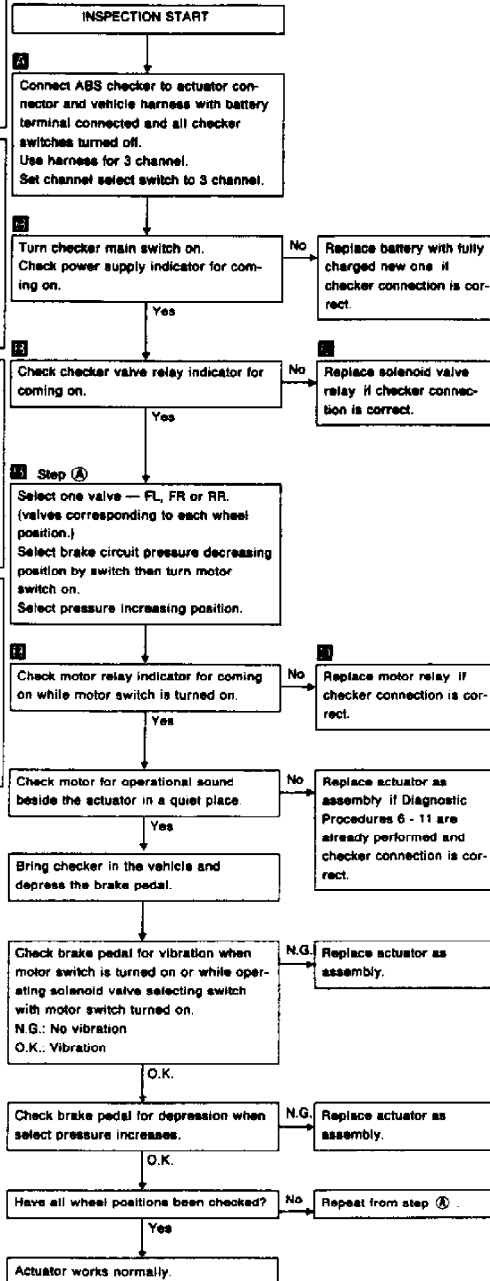
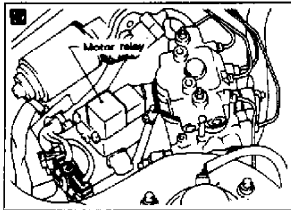
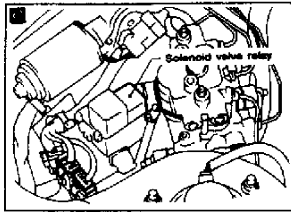
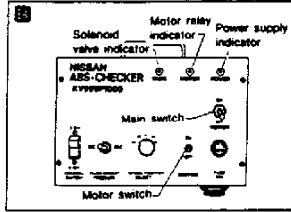


93J00793

Fig. 42: ABS Diagnostic Procedure No. 11 (M30)
 Courtesy of Nissan Motor Co., U.S.A.



Electrical Components Inspection ACTUATOR (Not self-diagnostic item)



93A00794

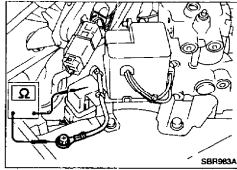
CAUTION:

Do not set checker at pressure decrease position for more than 5 seconds at a time. Actuator solenoid valve may be damaged.

Fig. 43: ABS Electrical Components Inspection (M30)
Courtesy of Nissan Motor Co., U.S.A.

For component locations and wiring schematics of Anti-Lock Brake System (ABS), see Figs. 7-9. For ground check, see Fig. 44. For diagnostic procedures No. 1-11, see Figs. 45-55. For electronic components check, see Fig. 56.

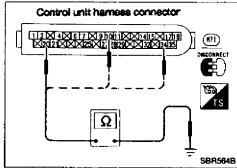
NOTE: For additional wiring diagrams, see Figs. 57-59 at end of article and appropriate chassis wiring diagrams in WIRING DIAGRAMS.



Ground Circuit Check

ACTUATOR MOTOR GROUND

- Check resistance between both terminals.
Resistance: 0Ω



CONTROL UNIT GROUND

- Check resistance between each terminal and ground.
Resistance: 0Ω

93B00795

Fig. 44: ABS Ground Circuit Check (Q45)
Courtesy of Nissan Motor Co., U.S.A.

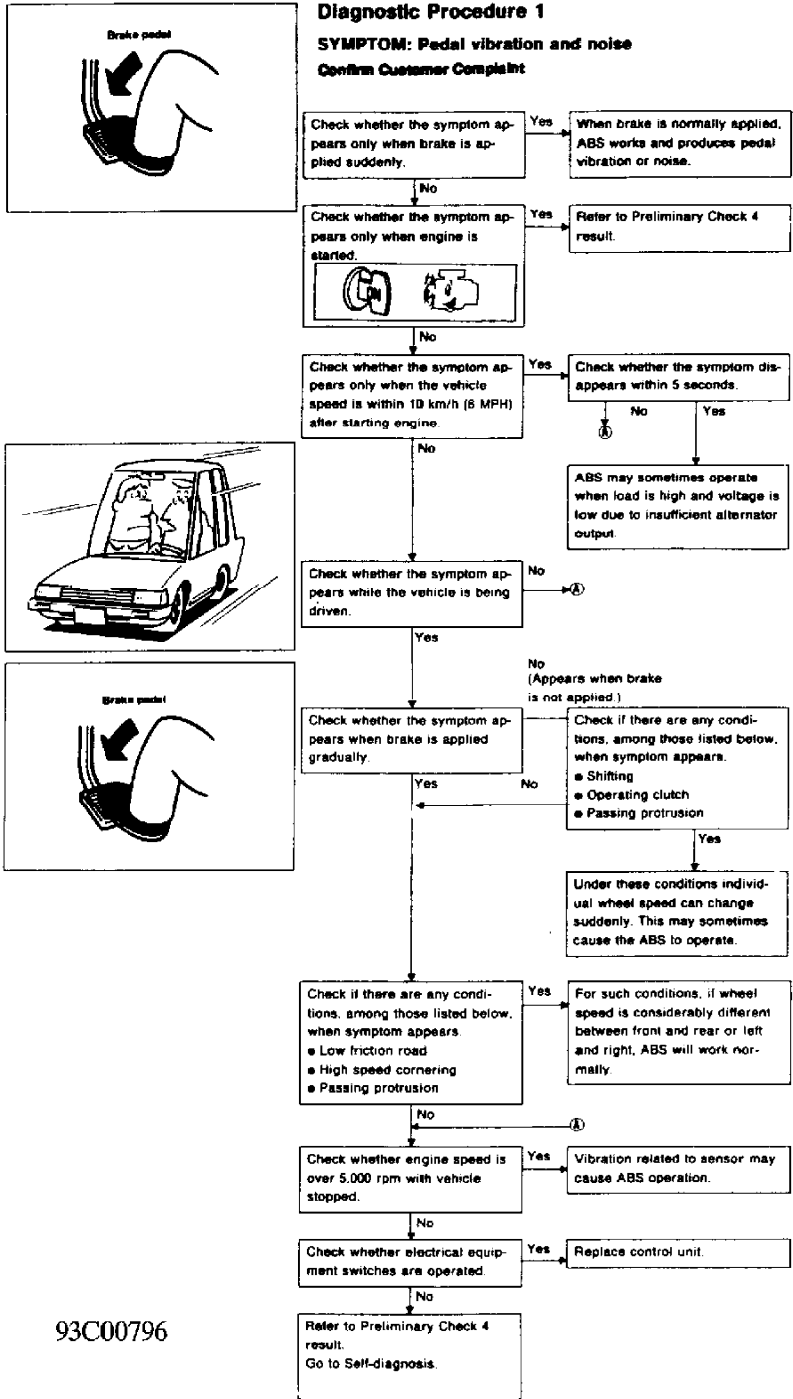
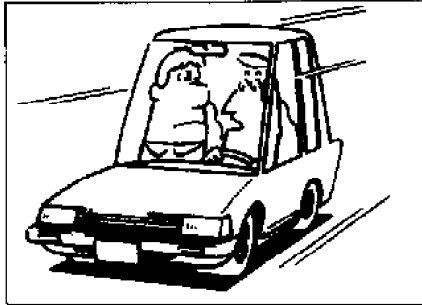


Fig. 45: ABS Diagnostic Procedure No. 1 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.



93D00797

Diagnostic Procedure 2

SYMPTOM: Long stopping distance

Confirm Customer Complaint

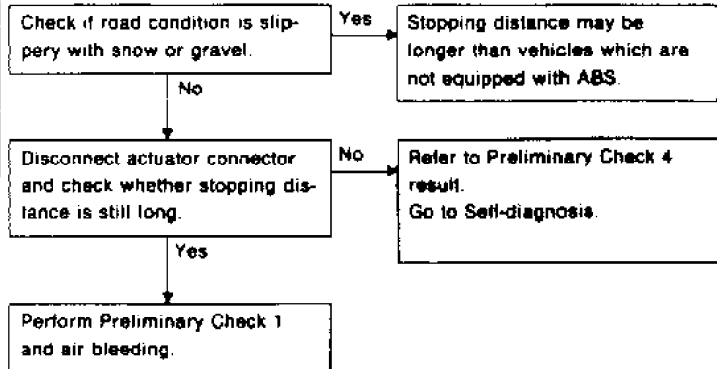
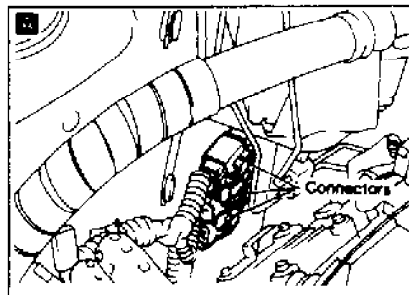
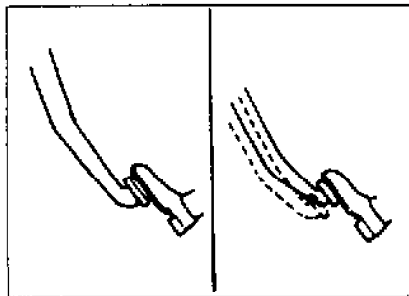


Fig. 46: ABS Diagnostic Procedure No. 2 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.



93E00798

Diagnostic Procedure 3

SYMPTOM: Abnormal pedal action

Confirm Customer Complaint

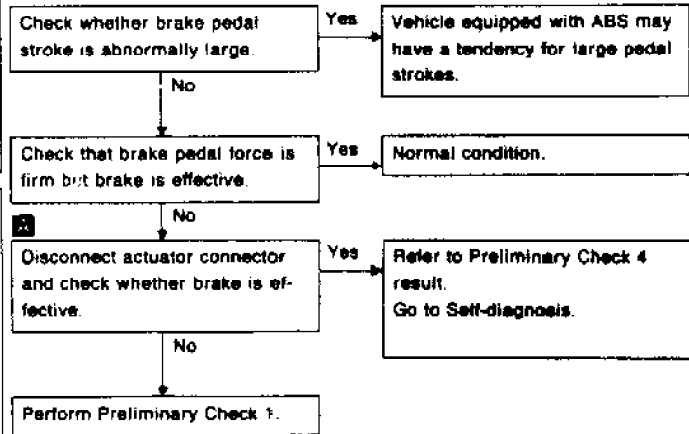
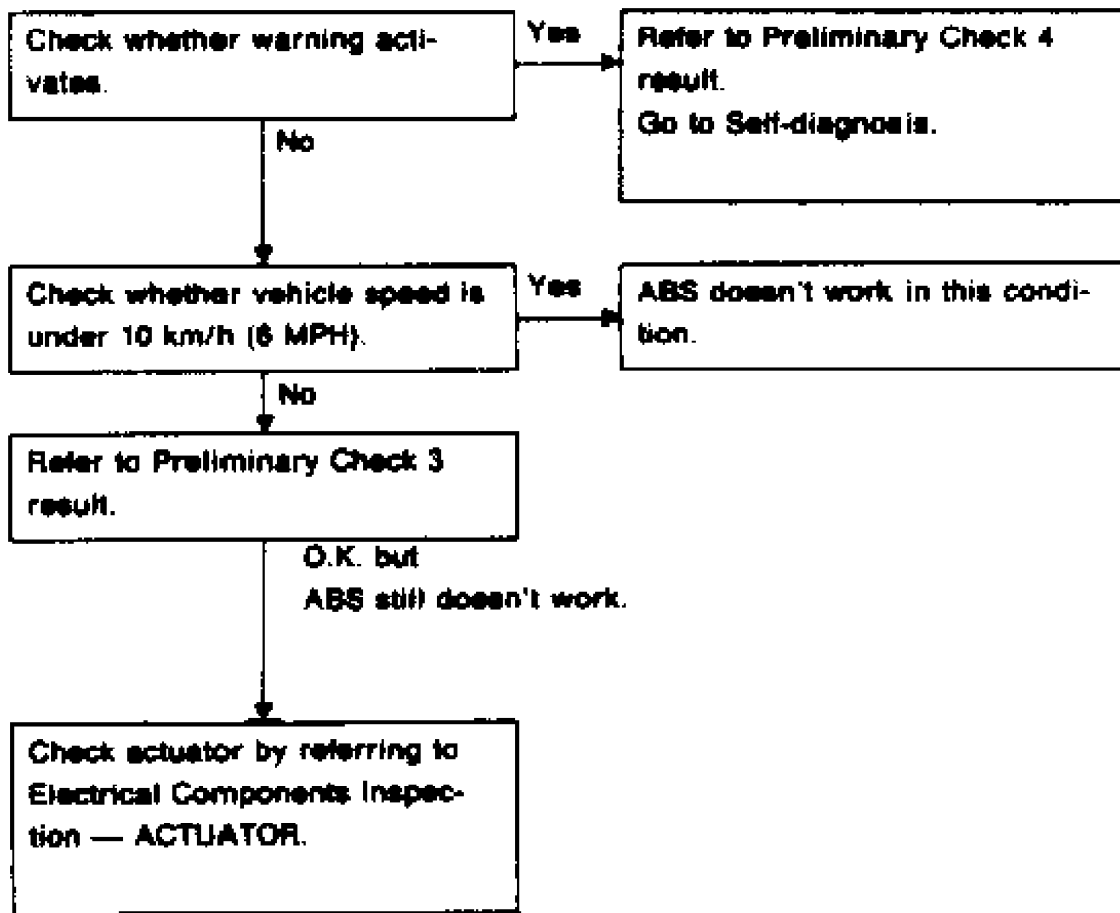


Fig. 47: ABS Diagnostic Procedure No. 3 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

Diagnostic Procedure 4

SYMPTOM: ABS doesn't work.

Confirm Customer Complaint

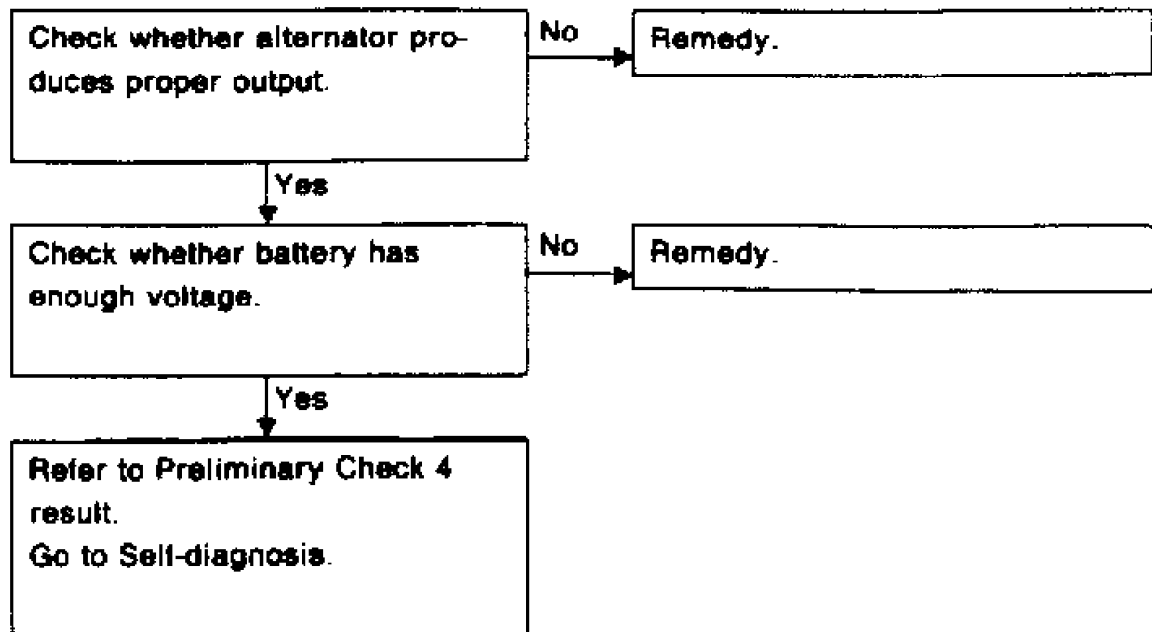


93F00799

Fig. 48: ABS Diagnostic Procedure No. 4 (Q45)
Courtesy of Nissan Motor Co., U.S.A.

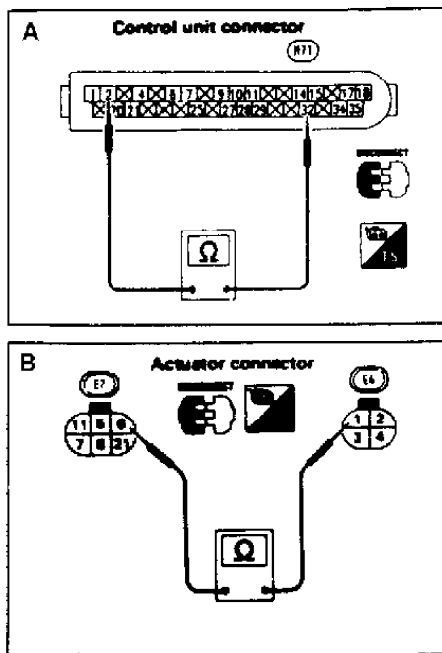
Diagnostic Procedure 5

SYMPTOM: ABS works but warning activates.



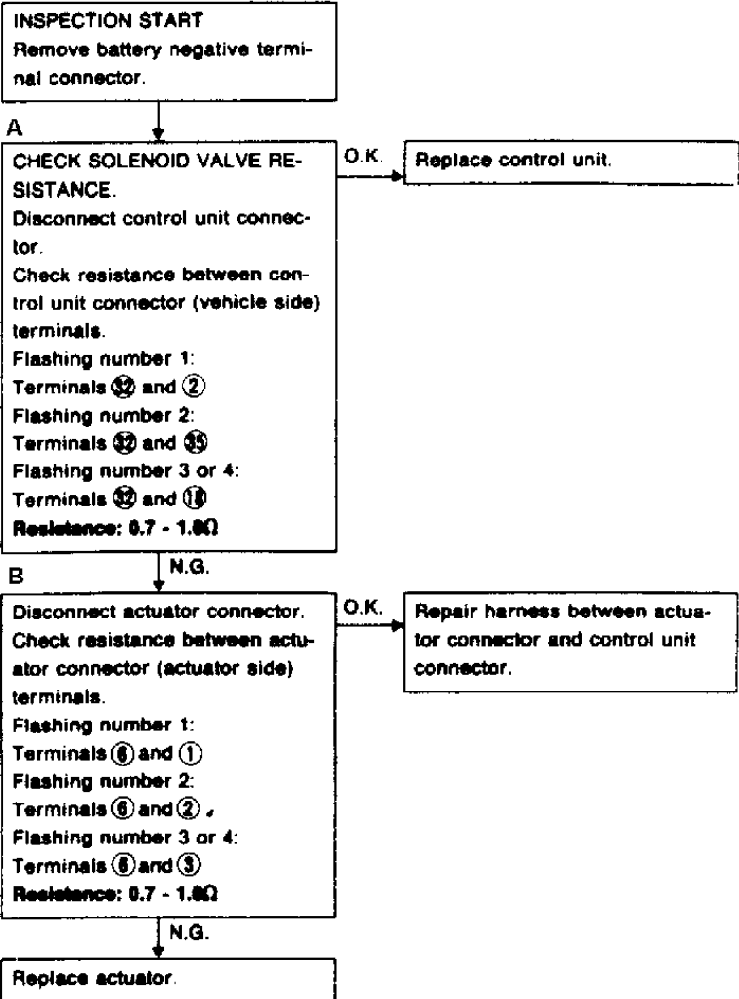
93I00800

Fig. 49: ABS Diagnostic Procedure No. 5 (Q45)
Courtesy of Nissan Motor Co., U.S.A.



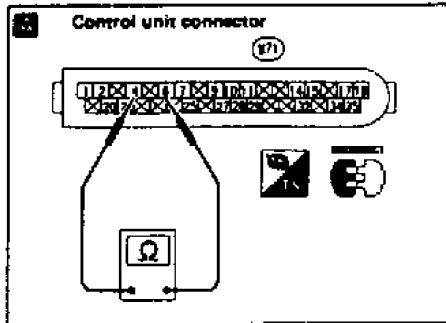
Diagnostic Procedure 6

ACTUATOR SOLENOID (L.E.D. flashing number 1 - 4)



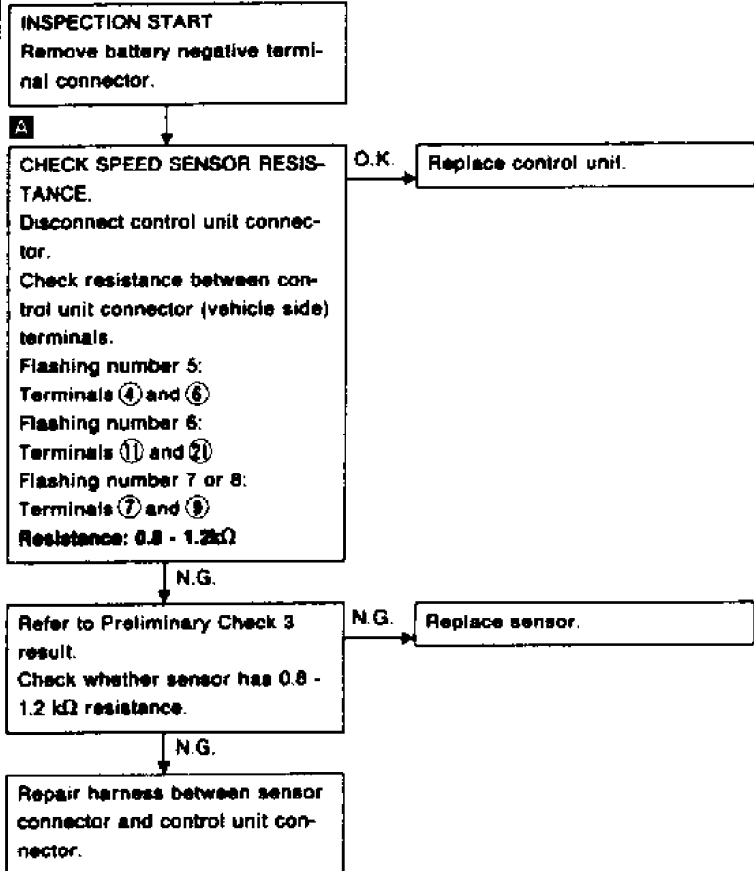
93J00801

Fig. 50: ABS Diagnostic Procedure No. 6 (Q45)
Courtesy of Nissan Motor Co., U.S.A.



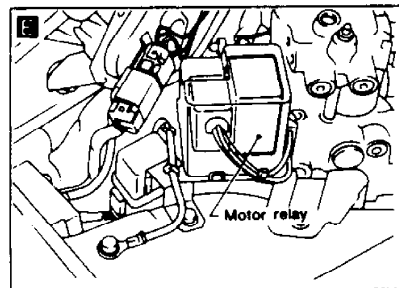
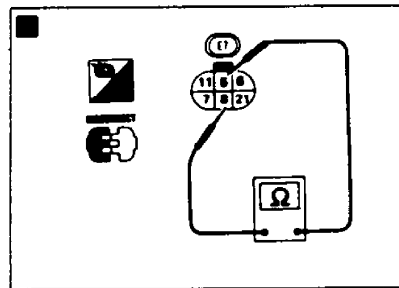
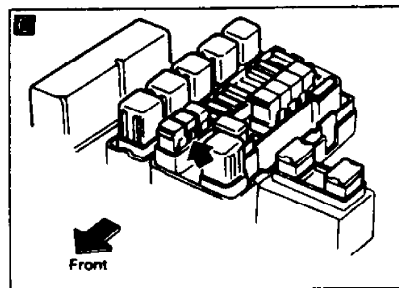
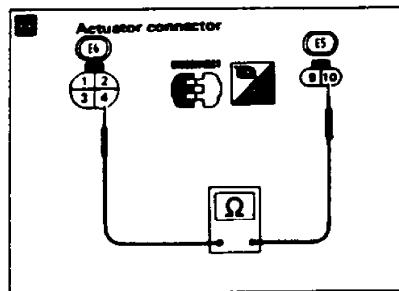
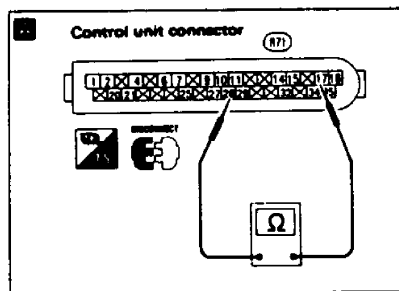
Diagnostic Procedure 7

WHEEL SPEED SENSOR (L.E.D. flashing number 5 - 8)



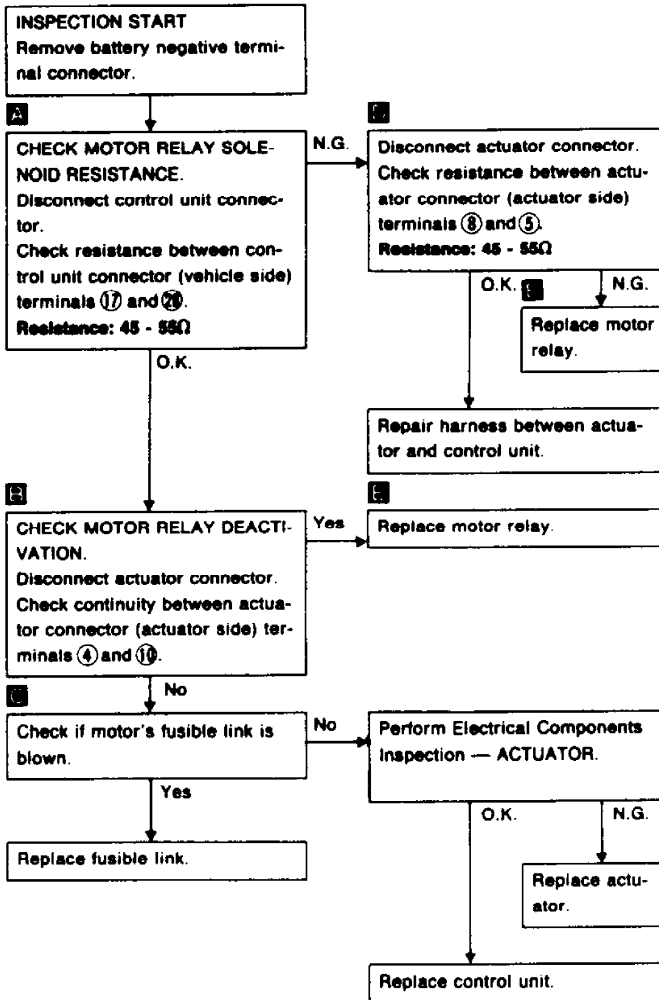
93A00802

Fig. 51: ABS Diagnostic Procedure No. 7 (Q45)
Courtesy of Nissan Motor Co., U.S.A.



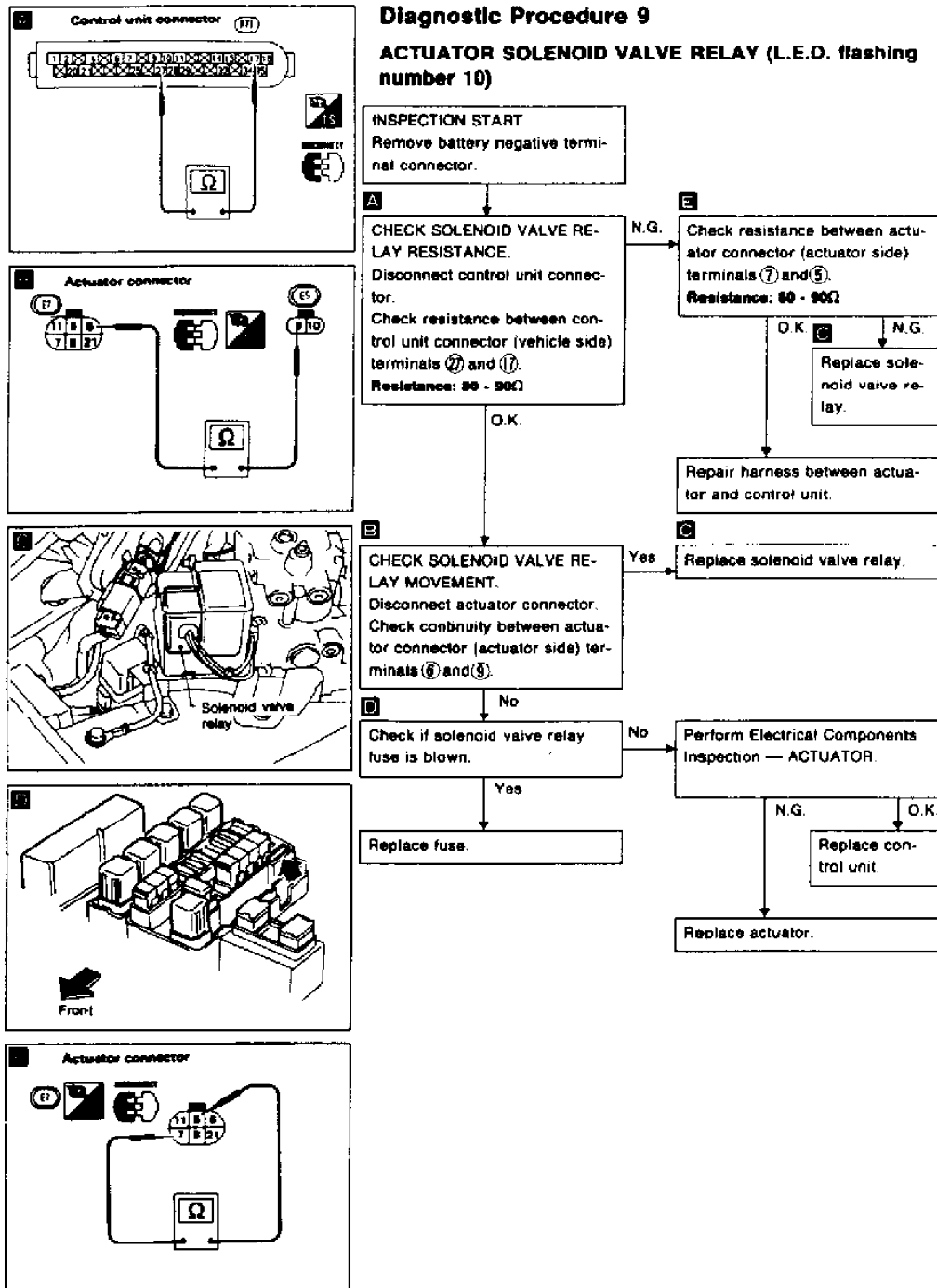
Diagnostic Procedure 8

ACTUATOR MOTOR RELAY (L.E.D. flashing number 9)



93B00803

Fig. 52: ABS Diagnostic Procedure No. 8 (Q45)
Courtesy of Nissan Motor Co., U.S.A.

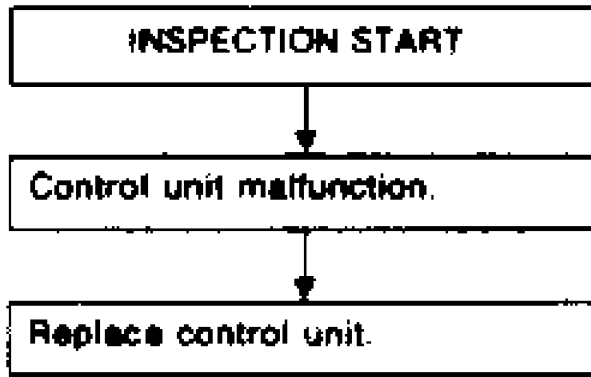


93C00804

Fig. 53: ABS Diagnostic Procedure No. 9 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

Diagnostic Procedure 10

CONTROL UNIT (L.E.D. flashing number 16)



93D00805

Fig. 54: ABS Diagnostic Procedure No. 10 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.

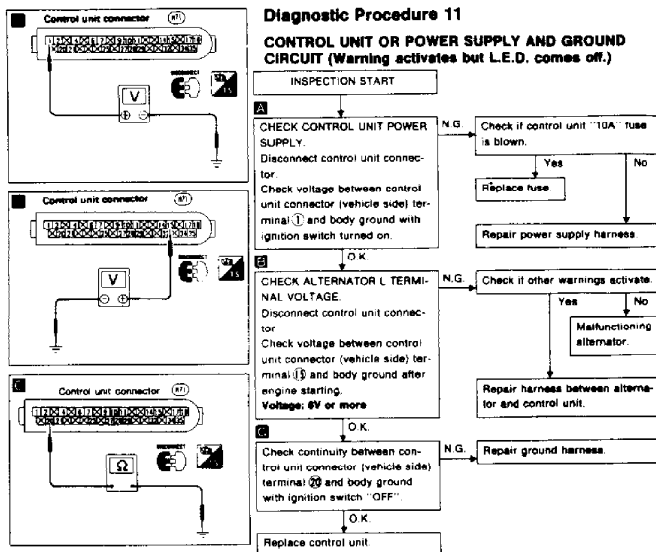
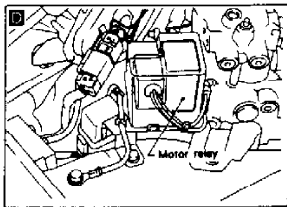
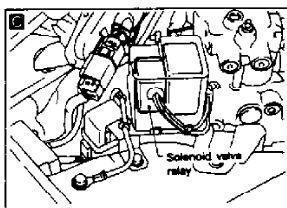
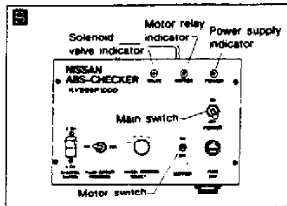
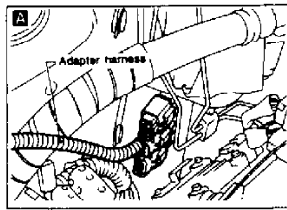
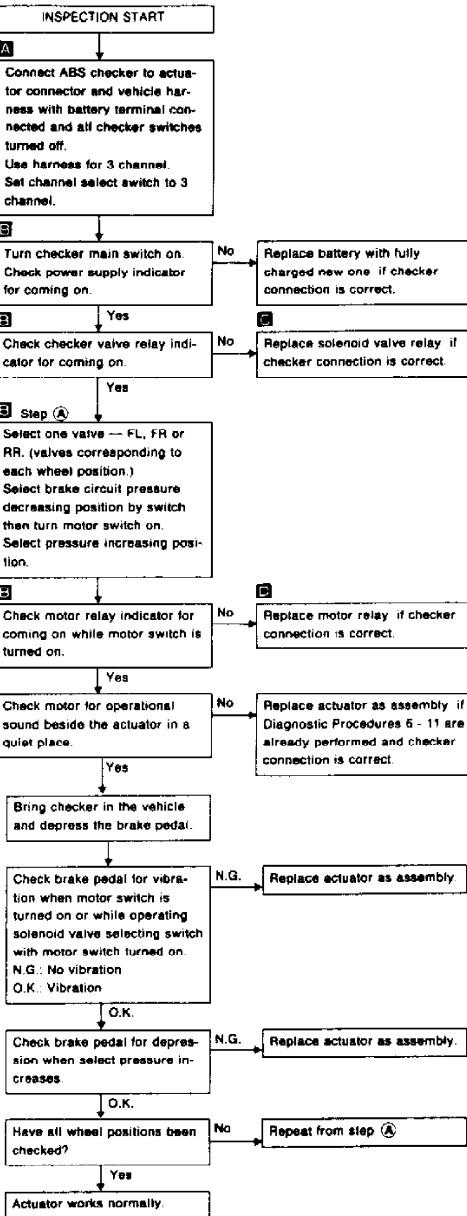


Fig. 55: ABS Diagnostic Procedure No. 11 (Q45)
 Courtesy of Nissan Motor Co., U.S.A.



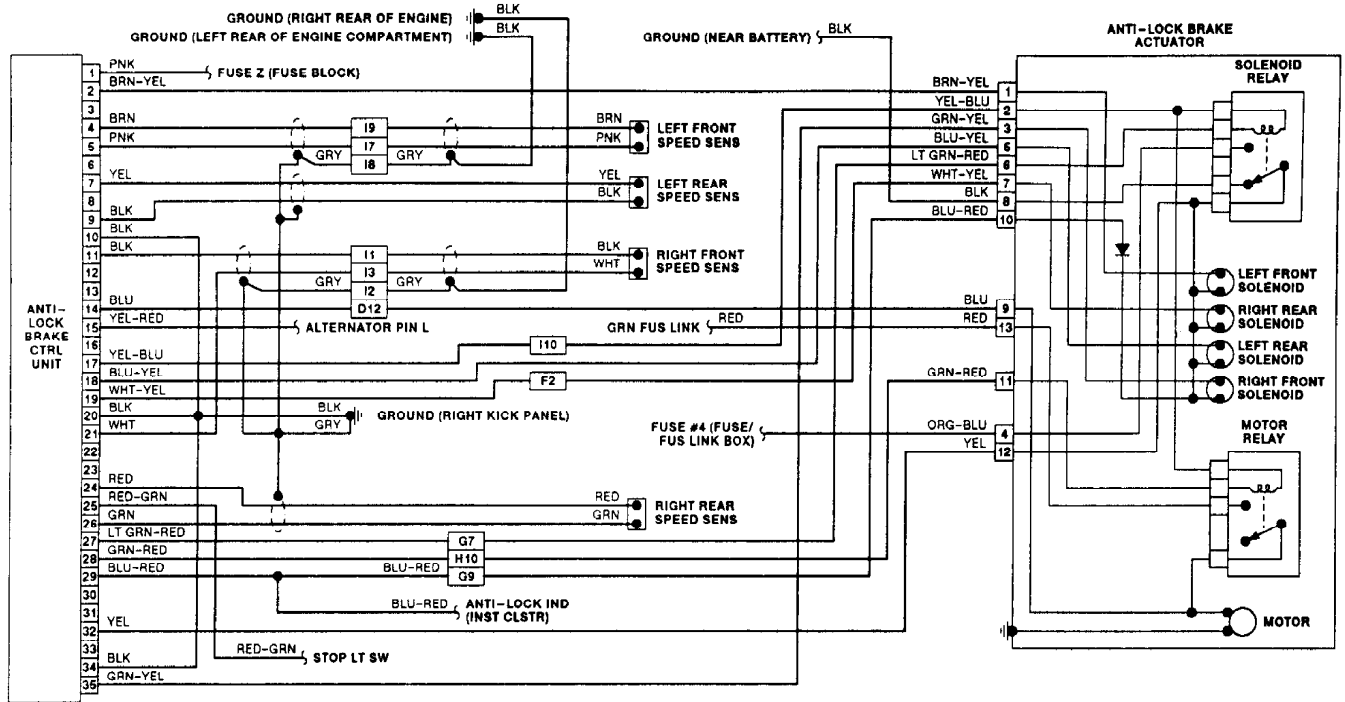
Electrical Components Inspection
ACTUATOR (Not self-diagnostic item)



93C01977

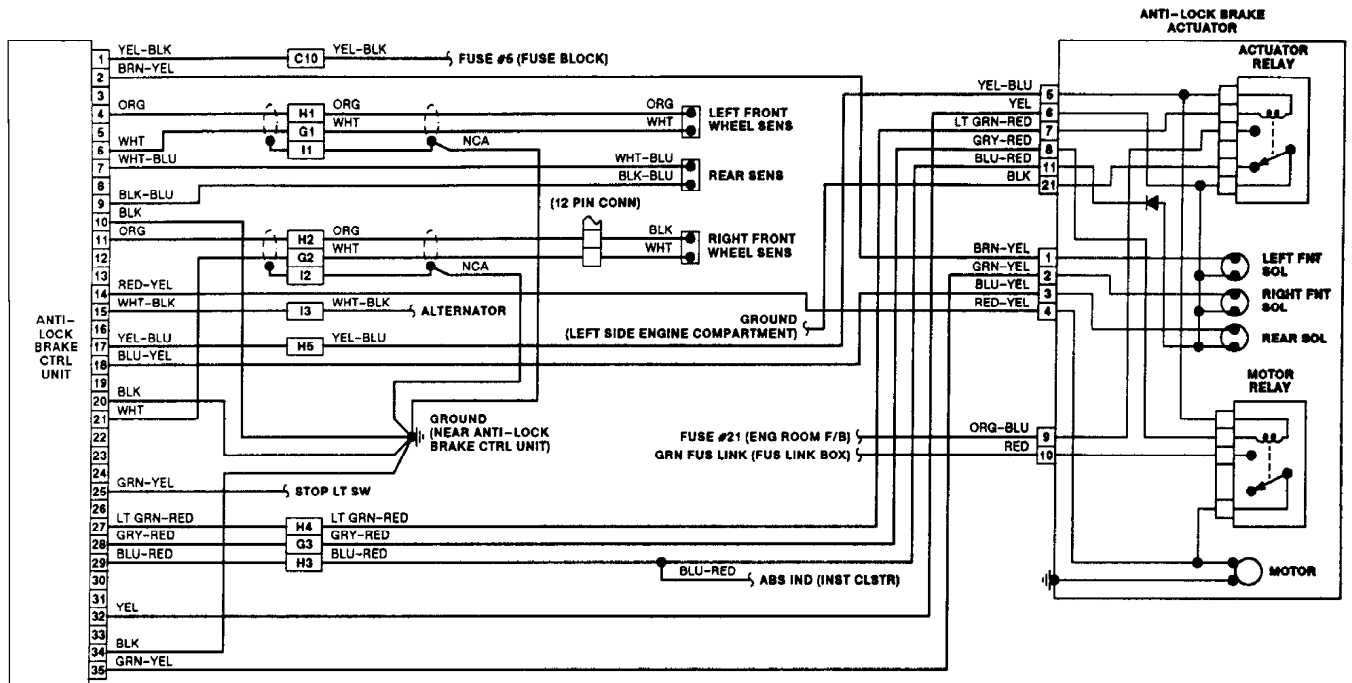
CAUTION:
Do not set checker at pressure decrease position for more than 5 seconds at a time. Actuator solenoid valve may be damaged.

Fig. 56: ABS Electrical Components Inspection (Q45)
Courtesy of Nissan Motor Co., U.S.A.



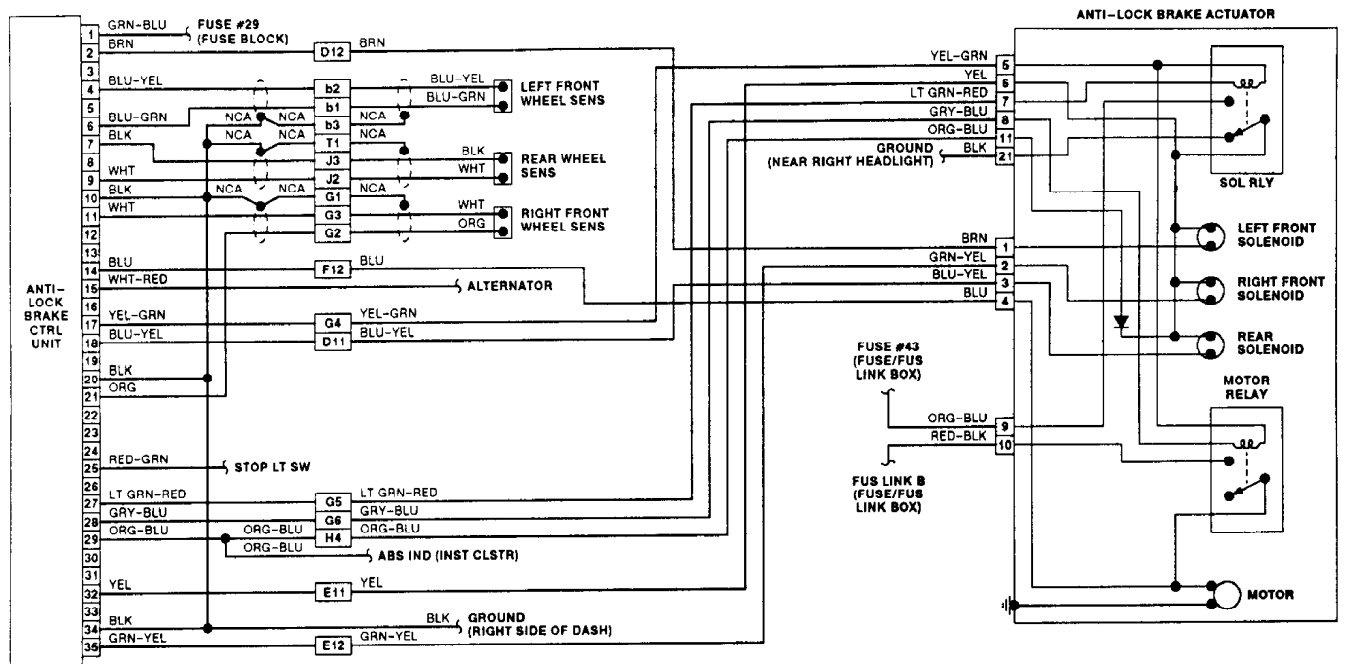
93E00749

Fig. 57: ABS Wiring Diagram (G20)



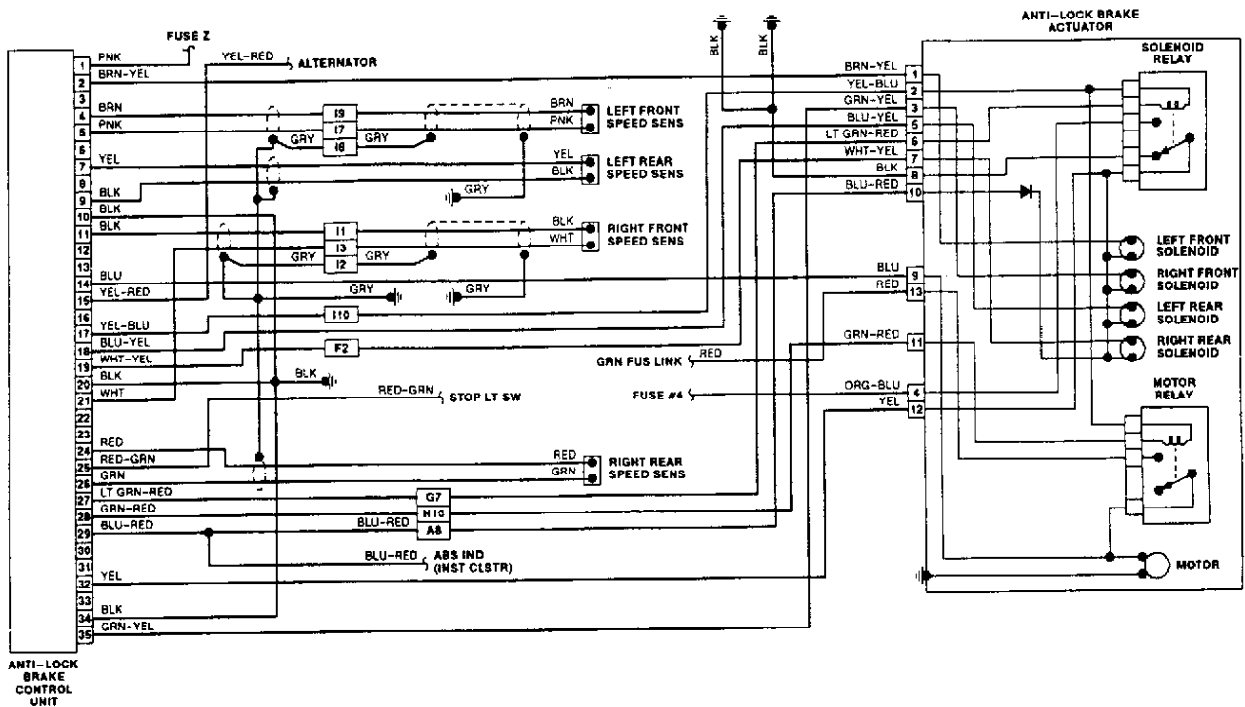
93I00750

Fig. 58: ABS Wiring Diagram (M30)



93J00751

Fig. 59: ABS Wiring Diagram (Q45)



92D00359

Fig. 60: ABS Wiring Diagram (G20)

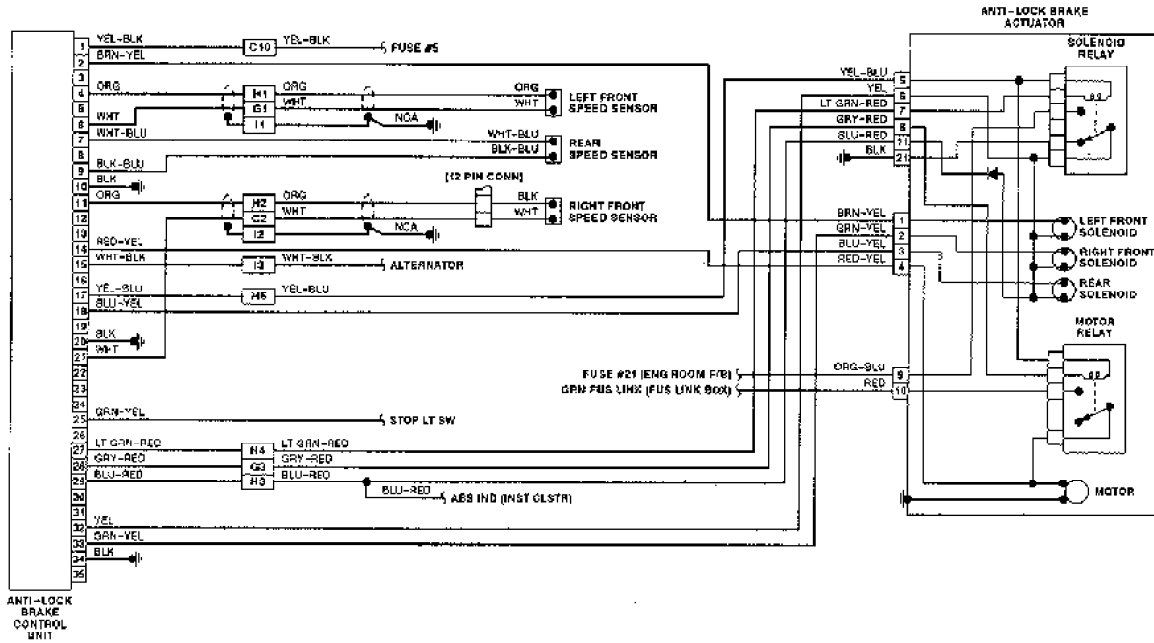


Fig. 61: ABS Wiring Diagram (M30)

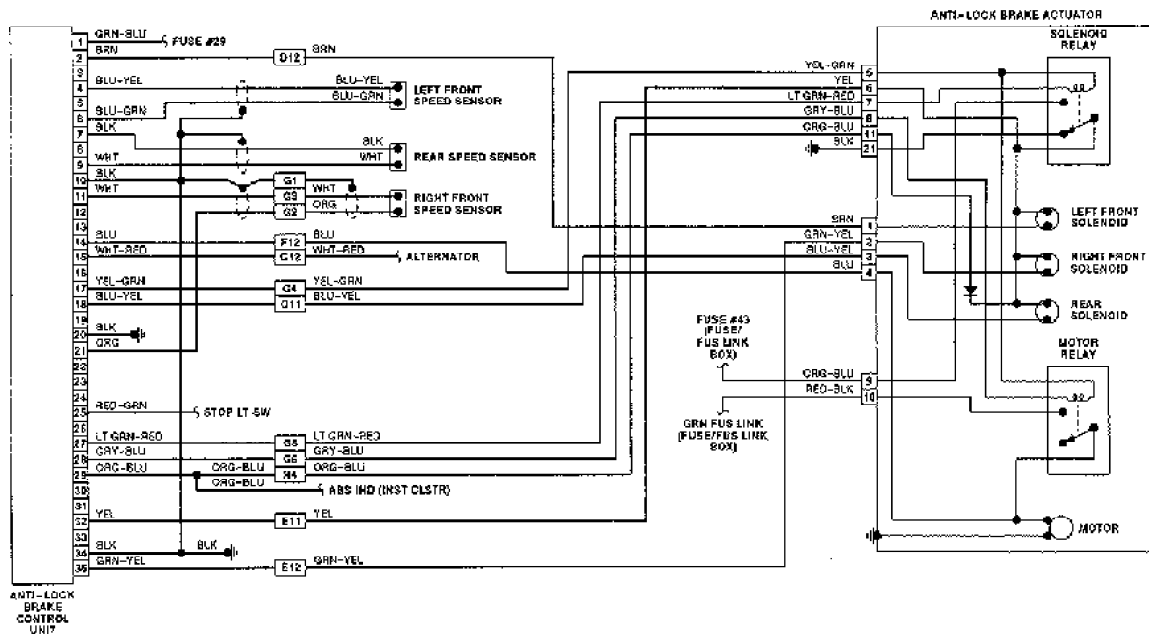


Fig. 62: ABS Wiring Diagram (Q45)