

NISSAN PATHFINDER

MODEL R50 SERIES

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FOREWORD

This manual contains maintenance and repair procedures for the 1998 Nissan PATHFINDER.

In order to assure your safety and the efficient functioning of the vehicle, this manual should be read thoroughly. It is especially important that the PRECAUTIONS in the GI section be completely understood before starting any repair task.

All information in this manual is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

IMPORTANT SAFETY NOTICE

The proper performance of service is essential for both the safety of the technician and the efficient functioning of the vehicle.

The service methods in this Service Manual are described in such a manner that the service may be performed safely and accurately.

Service varies with the procedures used, the skills of the technician and the tools and parts available. Accordingly, anyone using service procedures, tools or parts which are not specifically recommended by NISSAN must first be completely satisfied that neither personal safety nor the vehicle's safety will be jeopardized by the service method selected.



NISSAN MOTOR CO., LTD.

Overseas Service Department

Tokyo, Japan

ENGINE TUNE-UP DATA

| | | | |
|---|------------------------------------|---|-----------------------------|
| Engine model | | VG33E | |
| Firing order | | 1-2-3-4-5-6 | |
| Idle speed | rpm | 750±50 | |
| | M/T | | |
| A/T (in "N" position) | rpm | 750±50 | |
| | M/T | | |
| Ignition timing (degree BTDC at idle speed) | | 15°±2° | |
| CO% at idle | | Idle mixture screw is preset and sealed at factory. | |
| Drive belt deflection (Cold) | mm (in) | Used belt | |
| | | Limit | Deflection after adjustment |
| Air conditioner compressor | | 9 - 11 (0.35 - 0.43) | 9 - 10 (0.35 - 0.39) |
| | | 16.5 (0.650) | |
| Alternator | | 6 - 7 (0.24 - 0.28) | 5.5 - 6.5 (0.217 - 0.256) |
| | | 10.5 (0.413) | |
| Power steering oil pump | | 9 - 10 (0.35 - 0.39) | 9 - 11 (0.35 - 0.43) |
| | | 18 (0.71) | |
| Applied pressed force | | 98 (10, 22) | |
| N (kg, lb) | | | |
| Radiator cap relief pressure | | 78 - 98 (0.8 - 1.0, 11 - 14) | |
| kPa (kg/cm ² , psi) | | | |
| Cooling system leakage testing pressure | | 157 (1.6, 23) | |
| kPa (kg/cm ² , psi) | | | |
| Compression pressure | Standard | 1,196 (12.20, 173.4)/300 | |
| | kPa (kg/cm ² , psi)/rpm | Minimum | |
| | | 883 (9.01, 128.0)/300 | |
| Spark plug | Type | BKR5E-II | |
| | Gap | mm (in) | |
| | | 1.0 - 1.1 (0.039 - 0.043) | |

CLUTCH PEDAL

| | | | |
|-----------------|--|-------------------------|--|
| | | Unit: mm (in) | |
| Pedal height | | 181 - 191 (7.13 - 7.52) | |
| Pedal free play | | 9 - 16 (0.35 - 0.63) | |

WHEEL ALIGNMENT (Unladen*)

| | | | |
|---------------------------------|---------------------------|---------------------|-----------------|
| Applied model | | 265/70 R15 tire | 235/70 R15 tire |
| Camber | Minimum | -0°35' (-0.58°) | |
| | Nominal | 0°10' (0.17°) | |
| | Maximum | 0°55' (0.92°) | |
| Degree minute (Decimal degree) | Left and right difference | 45' (0.75°) or less | |
| | | | |
| Caster | Minimum | 2°15' (2.25°) | |
| | Nominal | 3°00' (3.00°) | |
| | Maximum | 3°45' (3.75°) | |
| Degree minute (Decimal degree) | Left and right difference | 45' (0.75°) or less | |
| | | | |
| Kingpin inclination | Minimum | 13°35' (13.58°) | |
| | Nominal | 14°20' (14.33°) | |
| | Maximum | 15°05' (15.08°) | |
| Degree minute (Decimal degree) | | | |
| | | | |
| Total toe-in | Minimum | 1 (0.04) | |
| | Nominal | 2 (0.08) | |
| | Maximum | 3 (0.12) | |
| Distance (A - B) | | | |
| | mm (in) | | |
| Angle (left plus right) | Minimum | 5' (0.08°) | |
| | Nominal | 10' (0.17°) | |
| | Maximum | 15' (0.25°) | |
| Degree minute (Decimal degree) | | | |
| | | | |
| Wheel turning angle (Full turn) | Minimum | 30°00' (30.00°) | 32°00' (32.00°) |
| | Nominal | 33°00' (33.00°) | 35°00' (35.00°) |
| | Maximum | 34°00' (34.00°) | 36°00' (36.00°) |
| Degree minute (Decimal degree) | | | |
| | | | |
| Outside | Minimum | 28°00' (28.00°) | 30°00' (30.00°) |
| | Nominal | 31°00' (31.00°) | 33°00' (33.00°) |
| | Maximum | 32°00' (32.00°) | 34°00' (34.00°) |
| Degree minute (Decimal degree) | | | |
| | | | |

* Fuel, radiator coolant and engine oil full.
Spare tire, jack, hand tools and mats in designated positions.

BRAKE

| | | | |
|--------------------------|---------------------|-------------------------|--|
| | | Unit: mm (in) | |
| Front brake | Pad wear limit | 2.0 (0.079) | |
| | Rotor repair limit | 26.0 (1.024) | |
| Rear brake | Lining wear limit | 1.5 (0.059) | |
| | Drum repair limit | 296.5 (11.67) | |
| Pedal free height | M/T | 165 - 175 (6.50 - 6.89) | |
| | A/T | 175 - 185 (6.89 - 7.28) | |
| Pedal depressed height*1 | M/T | 65 (2.56) | |
| | A/T | 70 (2.76) | |
| Parking brake | Number of notches*2 | 6 - 8 | |
| | | | |

*1 Under force of 490 N (50 kg, 110 lb) with engine running
*2 At pulling force: 196 N (20 kg, 44 lb)

REFILL CAPACITIES

| | | | |
|-------------------------|--------------------|----------------|----------------|
| Unit | | Liter | US measure |
| Coolant with reservoir | | 10.6 | 11-1/4 qt |
| Engine | With oil filter | 3.7 | 3-7/8 qt |
| | Without oil filter | 3.4 | 3-5/8 qt |
| Transmission | M/T | 2WD | 2.4 |
| | | 4WD | 5.1 |
| | A/T | 2WD | 8.3 |
| | | 4WD | 8.5 |
| Transfer | | 2.2 | 2-3/8 qt |
| Differential carrier | Front | 2.05 | 4-3/8 pt |
| | Rear | 2.6 | 5-7/8 pt |
| Power steering system | | 0.9 | 1 qt |
| Air conditioning system | Refrigerant | 0.80 - 0.70 kg | 1.32 - 1.54 lb |
| | Compressor oil | 0.25 | 8.5 fl oz |

FRONT WHEEL BEARING

| | | |
|---|--|-------------------------------------|
| Preload (At hub bolt) N (kg, lb) | Wheel bearing lock nut | |
| | Tightening torque | 78 - 98 (8 - 10, 58 - 72) |
| | Retightening torque after loosening wheel bearing lock nut | 0.5 - 1.5 (0.05 - 0.15, 4.3 - 13.0) |
| | | N-m (kg-m, in-lb) |
| | Axial end play | mm (in) |
| | Starting force at wheel hub bolt | A |
| | Turning angle | degree |
| | Starting force at wheel hub bolt | B |
| Wheel bearing preload at wheel hub bolt | | |
| B - A | 7.06 - 20.99 (0.72 - 2.14, 1.59 - 4.72) | |
| | N (kg, lb) | |

TEST VALUE AND TEST LIMIT (GST ONLY — NOT APPLICABLE TO CONSULT-II)

The following is the information specified in Mode 6 of SAE J1979.

The test value is a parameter used to determine whether a system/circuit diagnostic test is “OK” or “NG” while being monitored by the ECM during self-diagnosis. The test limit is a reference value which is specified as the maximum or minimum value and is compared with the test value being monitored.

Items for which these data (test value and test limit) are displayed are the same as SRT code items.

These data (test value and test limit) are specified by Test ID (TID) and Component ID (CID) and can be displayed on the GST screen.

| SRT item | Self-diagnostic test item | DTC | Test value (GST display) | | Test limit | Conversion |
|--|---|-------|-----------------------------|------|------------|----------------------|
| | | | TID | CID | | |
| CATALYST | Three way catalyst function (Bank 1) | P0420 | 01H | 01H | Max. | 1/128 |
| | Three way catalyst function (Bank 2) | P0430 | 03H | 02H | Max. | 1/128 |
| EVAP SYSTEM | EVAP control system (Small leak) | P0440 | 05H | 03H | Max. | 1/128mm ² |
| | | P1440 | 05H | 03H | Max. | 1/128mm ² |
| | EVAP control system purge flow monitoring | P1447 | 06H | 83H | Min. | 20mV |
| HO2S | Heated oxygen sensor 1 (Bank 1) | P0133 | 09H | 04H | Max. | 16ms |
| | | P0131 | 0AH | 84H | Min. | 10mV |
| | | P0130 | 0BH | 04H | Max. | 10mV |
| | | P0132 | 0CH | 04H | Max. | 10mV |
| | Heated oxygen sensor 1 (Bank 2) | P0153 | 11H | 05H | Max. | 16ms |
| | | P0151 | 12H | 85H | Min. | 10mV |
| | | P0150 | 13H | 05H | Max. | 10mV |
| | | P0152 | 14H | 05H | Max. | 10mV |
| | | P0154 | 15H | 05H | Max. | 1s |
| | Heated oxygen sensor 2 (Bank 1) | P0139 | 19H | 86H | Min. | 10mV/500ms |
| | | P0137 | 1AH | 86H | Min. | 10mV |
| | | P0140 | 1BH | 06H | Max. | 10mV |
| | | P0138 | 1CH | 06H | Max. | 10mV |
| | Heated oxygen sensor 2 (Bank 2) | P0159 | 21H | 87H | Min. | 10mV/500ms |
| | | P0157 | 22H | 87H | Min. | 10mV |
| | | P0160 | 23H | 07H | Max. | 10mV |
| P0158 | | 24H | 07H | Max. | 10mV | |
| HO2S HTR | Heated oxygen sensor 1 heater (Bank 1) | P0135 | 29H | 08H | Max. | 20mV |
| | | P0135 | 2AH | 88H | Min. | 20mV |
| | Heated oxygen sensor 1 heater (Bank 2) | P0155 | 2BH | 09H | Max. | 20mV |
| | | P0155 | 2CH | 89H | Min. | 20mV |
| | Heated oxygen sensor 2 heater (Bank 1) | P0141 | 2DH | 0AH | Max. | 20mV |
| | | P0141 | 2EH | 8AH | Min. | 20mV |
| Heated oxygen sensor 2 heater (Bank 2) | P0161 | 2FH | 0BH | Max. | 20mV | |
| | P0161 | 30H | 8BH | Min. | 20mV | |
| EGR SYSTEM | EGR function | P0400 | 31H | 8CH | Min. | 1°C |
| | | P0400 | 32H | 8CH | Min. | 1°C |
| | | P0400 | 33H | 8CH | Min. | 1°C |
| | | P0400 | 34H | 8CH | Min. | 1°C |
| | EGRC-BPT valve function | P1402 | 35H | 0CH | Max. | 1°C |
| | | P0402 | 36H | 0CH | Max. | 1count |
| | | P0402 | 37H | 8CH | Min. | 1count |

GENERAL INFORMATION

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PRECAUTIONS

Precautions

Observe the following precautions to ensure safe and proper servicing. These precautions are not described in each individual section. NAG10001

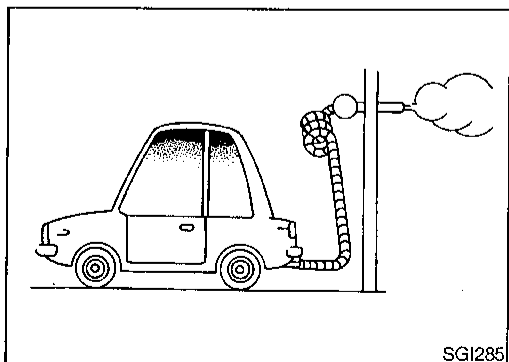


PRECAUTIONS FOR SUPPLEMENTAL RESTRAINT SYSTEM (SRS) "AIR BAG"

The Supplemental Restraint System "AIR BAG", used along with a seat belt, helps to reduce the risk or severity of injury to the driver and front passenger in a frontal collision. The Supplemental Restraint System consists of air bag modules (located in the center of the steering wheel and on the instrument panel on the passenger side), a diagnosis sensor unit, warning lamp, wiring harness and spiral cable. Information necessary to service the system safely is included in the **RS** section of this Service Manual. NAG10001S01

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or for the complete harness, for easy identification.

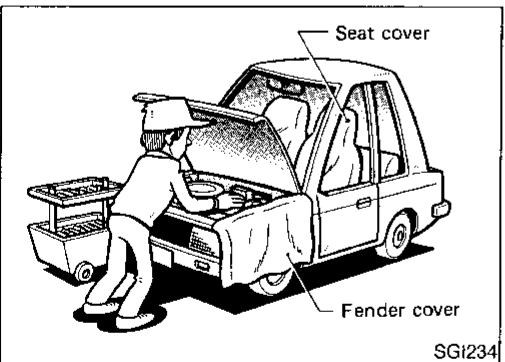
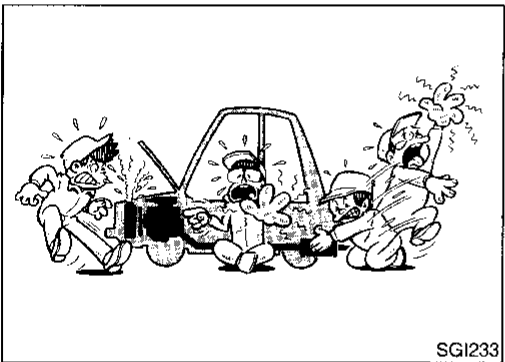
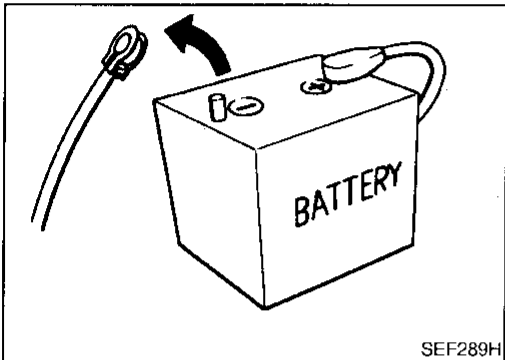
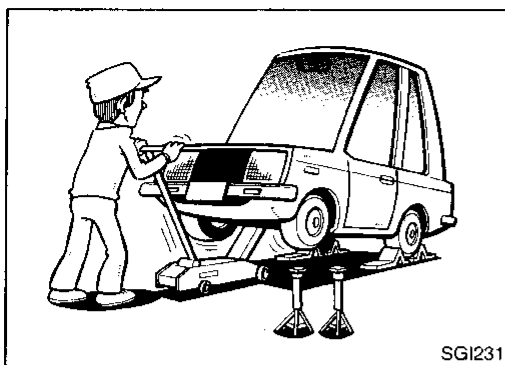


GENERAL PRECAUTIONS

- Do not operate the engine for an extended period of time without proper exhaust ventilation. NAG10001S02
Keep the work area well ventilated and free of any inflammable materials. Special care should be taken when handling any inflammable or poisonous materials, such as gasoline, refrigerant gas, etc. When working in a pit or other enclosed area, be sure to properly ventilate the area before working with hazardous materials.
Do not smoke while working on the vehicle.

PRECAUTIONS

Precautions (Cont'd)



- Before jacking up the vehicle, apply wheel chocks or other tire blocks to the wheels to prevent the vehicle from moving. After jacking up the vehicle, support the vehicle weight with safety stands at the points designated for proper lifting before working on the vehicle.
These operations should be done on a level surface.
- When removing a heavy component such as the engine or transaxle/transmission, be careful not to lose your balance and drop it. Also, do not allow it to strike adjacent parts, especially the brake tubes and master cylinder.
- Before starting repairs which do not require battery power:
Turn off ignition switch.
Disconnect the negative battery terminal.
- To prevent serious burns:
Avoid contact with hot metal parts.
Do not remove the radiator cap when the engine is hot.
- Before servicing the vehicle:
Protect fenders, upholstery and carpeting with appropriate covers.
Take caution that keys, buckles or buttons do not scratch paint.
- Clean all disassembled parts in the designated liquid or solvent prior to inspection or assembly.
- Replace oil seals, gaskets, packings, O-rings, locking washers, cotter pins, self-locking nuts, etc. with new ones.
- Replace inner and outer races of tapered roller bearings and needle bearings as a set.
- Arrange the disassembled parts in accordance with their assembled locations and sequence.
- Do not touch the terminals of electrical components which use microcomputers (such as ECMs).
Static electricity may damage internal electronic components.

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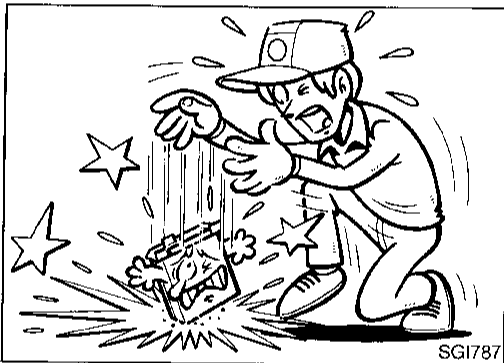
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PRECAUTIONS

- After disconnecting vacuum or air hoses, attach a tag to indicate the proper connection.
- Use only the fluids and lubricants specified in this manual.
- Use approved bonding agent, sealants or their equivalents when required.
- Use tools and recommended special tools where specified for safe and efficient service repairs.
- When repairing the fuel, oil, water, vacuum or exhaust systems, check all affected lines for leaks.
- Dispose of drained oil or the solvent used for cleaning parts in an appropriate manner.

WARNING:

To prevent ECM from storing the diagnostic trouble codes, do not carelessly disconnect the harness connectors which are related to the ECCS system and TCM (Transmission Control Module) system. The connectors should be disconnected only when working according to the WORK FLOW of TROUBLE DIAGNOSES in EC and AT sections.



PRECAUTIONS FOR MULTIPOINT FUEL INJECTION SYSTEM OR ECCS ENGINE

NAG10001S03

- Before connecting or disconnecting any harness connector for the multipoint fuel injection system or ECM (Engine Control Module):
Turn ignition switch to "OFF" position.
Disconnect negative battery terminal.
Otherwise, there may be damage to ECM.
- Before disconnecting pressurized fuel line from fuel pump to injectors, be sure to release fuel pressure.
- Be careful not to jar components such as ECM and mass air flow sensor.

PRECAUTIONS FOR THREE WAY CATALYST

NAG10001S04

If a large amount of unburned fuel flows into the catalyst, the catalyst temperature will be excessively high. To prevent this, follow the instructions below:

- Use unleaded gasoline only. Leaded gasoline will seriously damage the three way catalyst.
- When checking for ignition spark or measuring engine compression, make tests quickly and only when necessary.
- Do not run engine when the fuel tank level is low, otherwise the engine may misfire causing damage to the catalyst.

Do not place the vehicle on flammable material. Keep flammable material off the exhaust pipe and the three way catalyst.

PRECAUTIONS FOR ENGINE OILS

NAG10001S05

Prolonged and repeated contact with used engine oil may cause skin cancer. Try to avoid direct skin contact with used oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.

Health Protection Precautions

NAG10001S0501

- Avoid prolonged and repeated contact with oils, particularly used engine oils.

PRECAUTIONS

Precautions (Cont'd)

- Wear protective clothing, including impervious gloves where practicable. **GI**
- Do not put oily rags in pockets. **MA**
- Avoid contaminating clothes, particularly underpants, with oil. **EM**
- Heavily soiled clothing and oil-impregnated footwear should not be worn. Overalls must be cleaned regularly. **LC**
- First Aid treatment should be obtained immediately for open cuts and wounds. **EC**
- Use barrier creams, applying them before each work period, to help the removal of oil from the skin. **FE**
- Wash with soap and water to ensure all oil is removed (skin cleansers and nail brushes will help). Preparations containing lanolin replace the natural skin oils which have been removed. **CL**
- Do not use gasoline, kerosine, diesel fuel, gas oil, thinners or solvents for cleaning skin. **MT**
- If skin disorders develop, obtain medical advice without delay.
- Where practicable, degrease components prior to handling.
- Where there is a risk of eye contact, eye protection should be worn, for example, chemical goggles or face shields; in addition an eye wash facility should be provided.

Environmental Protection Precautions

Burning used engine oil in small space heaters or boilers can be recommended only for units of approved design. The heating system must meet the requirements of HM Inspectorate of Pollution for small burners of less than 0.4 MW. If in doubt check with the appropriate local authority and/or manufacturer of the approved appliance. NAG10001S0502 **AT**

Dispose of used oil and used oil filters through authorized waste disposal contractors to licensed waste disposal sites, or to the waste oil reclamation trade. If in doubt, contact the local authority for advice on disposal facilities. **TF** **PD**

It is illegal to pour used oil on to the ground, down sewers or drains, or into water courses. **AX**

The regulations concerning the pollution of the environment will vary between regions. **SU**

PRECAUTIONS FOR FUEL

Use unleaded gasoline with an octane rating of at least 87 AKI (Anti-Knock Index) number (research octane number 91). NAG10001S06 **BR**

CAUTION:

Use unleaded fuel only. Under no circumstances should leaded gasoline be used. It will damage your three way catalyst and increase dangerous emissions from your vehicle exhaust. **ST** **RS**

Using a fuel other than that specified could adversely affect the emission control devices and systems, and could also affect the warranty coverage validity. **BT**

PRECAUTIONS FOR AIR CONDITIONING

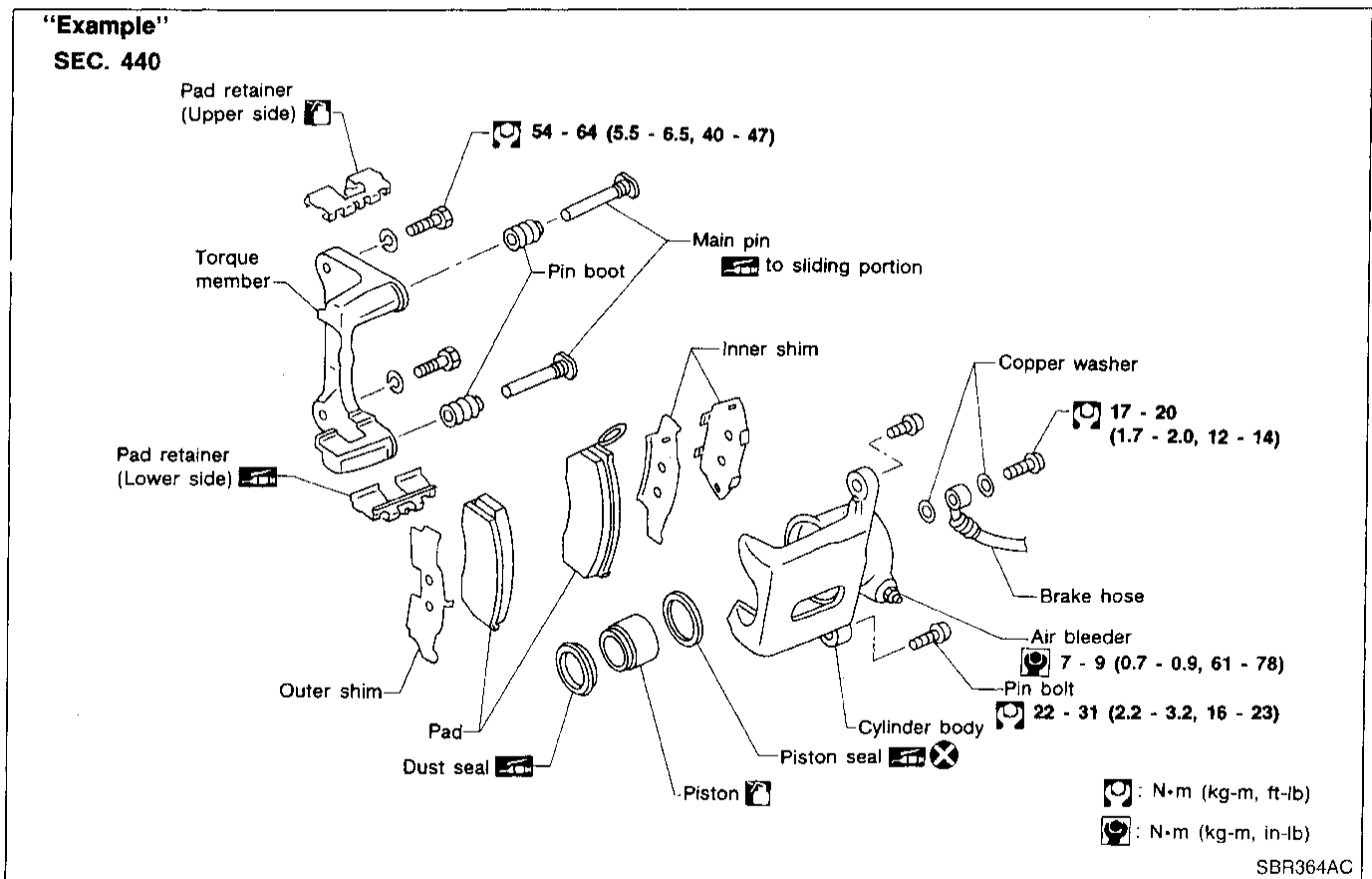
Use an approved refrigerant recovery unit any time the air conditioning system must be discharged. Refer to HA section ("HFC-134a (R-134a) Service Procedure", "SERVICE PROCEDURES") for specific instructions. NAG10001S07 **HA** **SC**

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HOW TO USE THIS MANUAL

- The captions **WARNING** and **CAUTION** warn you of steps that must be followed to prevent personal injury and/or damage to some part of the vehicle.
WARNING indicates the possibility of personal injury if instructions are not followed.
CAUTION indicates the possibility of component damage if instructions are not followed.
BOLD TYPED STATEMENTS except **WARNING** and **CAUTION** give you helpful information.
- **ALPHABETICAL INDEX** is provided at the end of this manual so that you can rapidly find the item and page you are searching for.
- **A QUICK REFERENCE INDEX**, a black tab (e.g. **ER**) is provided on the first page. You can quickly find the first page of each section by mating it to the section's black tab.
- **THE CONTENTS** are listed on the first page of each section.
- **THE TITLE** is indicated on the upper portion of each page and shows the part or system.
- **THE PAGE NUMBER** of each section consists of two letters which designate the particular section and a number (e.g. "BR-5").
- **THE LARGE ILLUSTRATIONS** are exploded views (See below) and contain tightening torques, lubrication points, section number of the **PARTS CATALOG** (e.g. SEC.440) and other information necessary to perform repairs.
 The illustrations should be used in reference to service matters only. When ordering parts, refer to the appropriate **PARTS CATALOG**.



- **THE SMALL ILLUSTRATIONS** show the important steps such as inspection, use of special tools, knacks of work and hidden or tricky steps which are not shown in the previous large illustrations. Assembly, inspection and adjustment procedures for the complicated units such as the automatic transaxle or transmission, etc. are presented in a step-by-step format where necessary.
- The **UNITS** given in this manual are primarily expressed as the SI UNIT (International System of Unit), and alternatively expressed in the metric system and in the yard/pound system.
"Example"












Tightening torque:

59 - 78 N·m (6.0 - 8.0 kg-m, 43 - 58 ft-lb)

- **TROUBLE DIAGNOSES** are included in sections dealing with complicated components.

HOW TO USE THIS MANUAL

- **SERVICE DATA AND SPECIFICATIONS** are contained at the end of each section for quick reference of data.
- The following **SYMBOLS AND ABBREVIATIONS** are used:

| SYMBOL | ABBREVIATION | SYMBOL | ABBREVIATION |
|---|---|----------------|---------------------------------------|
|  | Tightening torque | 2WD | 2-Wheel Drive |
|  | | | |
|  | Should be lubricated with grease. Unless otherwise indicated, use recommended multi-purpose grease. | A/C | Air Conditioner |
|  | Should be lubricated with oil. | P/S | Power Steering |
|  | Sealing point | SST | Special Service Tools |
|  | Checking point | SAE | Society of Automotive Engineers, Inc. |
|  | Always replace after every disassembly. | ATF | Automatic Transmission Fluid |
|  | Apply petroleum jelly. | D ₁ | Drive range 1st gear |
|  | | | |
|  | Apply ATF. | D ₂ | Drive range 2nd gear |
| ★ | Select with proper thickness. | D ₃ | Drive range 3rd gear |
| ☆ | Adjustment is required. | D ₄ | Drive range 4th gear |
| SDS | Service Data and Specifications | OD | Overdrive |
| LH, RH | Left-Hand, Right-Hand | 2 ₂ | 2nd range 2nd gear |
| FR, RR | Front, Rear | 2 ₁ | 2nd range 1st gear |
| M/T | Manual Transaxle/Transmission | 1 ₂ | 1st range 2nd gear |
| A/T | Automatic Transaxle/Transmission | 1 ₁ | 1st range 1st gear |
|  | 4-Wheel Drive | | |

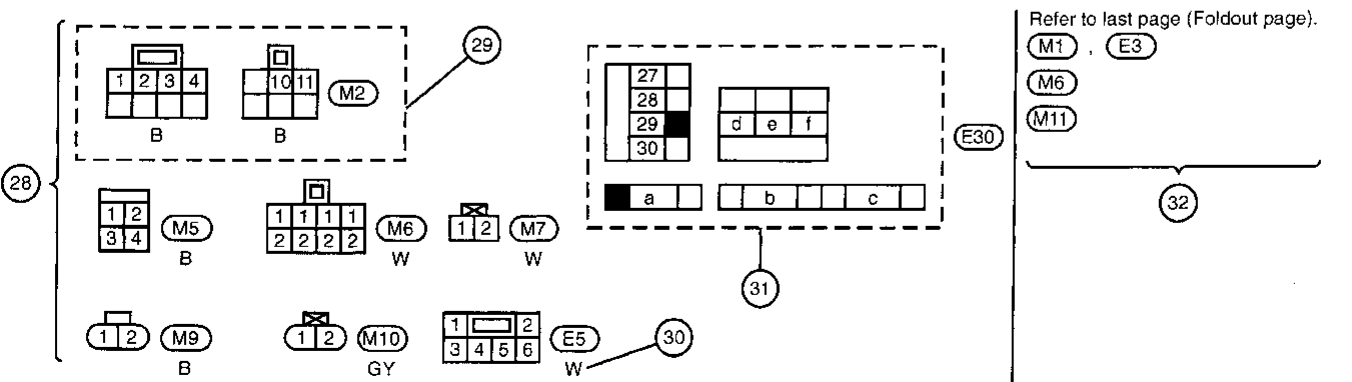
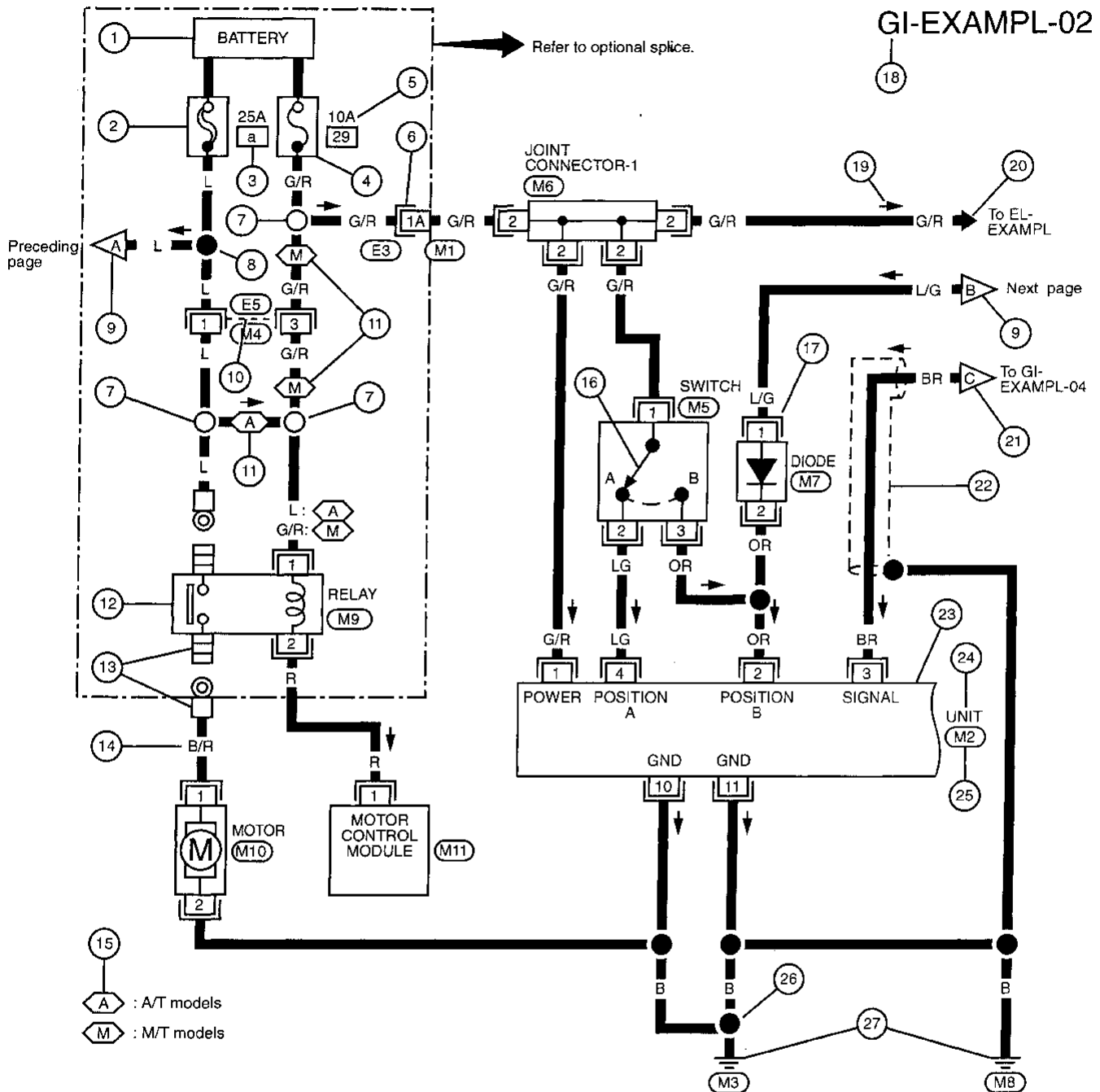
HOW TO READ WIRING DIAGRAMS

Sample/Wiring Diagram — EXAMPL —

Sample/Wiring Diagram — EXAMPL —

NAG10003S01

- For Description, refer to GI-10.



HOW TO READ WIRING DIAGRAMS

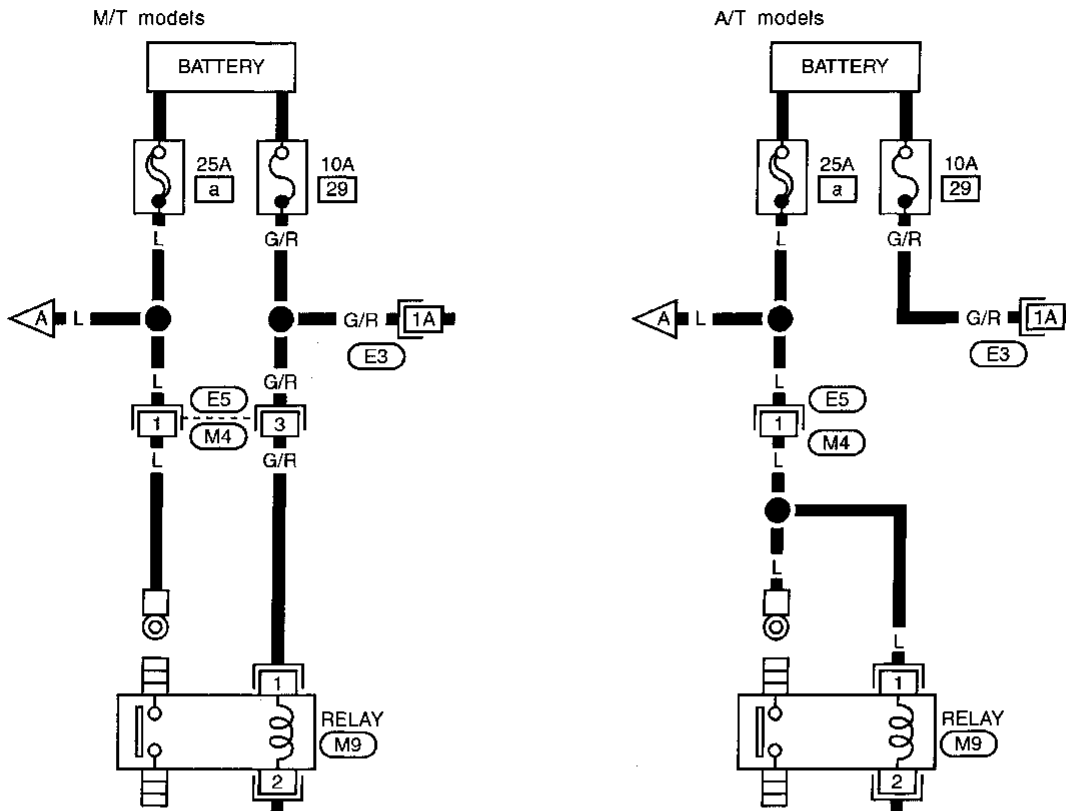
Sample/Wiring Diagram — EXAMPL — (Cont'd)

OPTIONAL SPLICE

NA61003S0101

GI

Optional splice



SG1942

MA

EM

LC

EC

FE

CL

MT

AT

TF

PD

AX

SU

BR

ST

RS

BT

HA

SC

EL

IDX

HOW TO READ WIRING DIAGRAMS

Description

=NAGI0003S02

Description

| Number | Item | Description | | | | | | | | | | | | | | | | |
|------------------|----------------------------|---|-----------|------------|-----------|-------------|---------|----------|-----------|-------------|----------|-----------|------------|---------------|------------------|-----------------|--|-----------------|
| 1 | Power condition | <ul style="list-style-type: none"> This shows the condition when the system receives battery positive voltage (can be operated). | | | | | | | | | | | | | | | | |
| 2 | Fusible link | <ul style="list-style-type: none"> The double line shows that this is a fusible link. The open circle shows current flow in, and the shaded circle shows current flow out. | | | | | | | | | | | | | | | | |
| 3 | Fusible link/fuse location | <ul style="list-style-type: none"> This shows the location of the fusible link or fuse in the fusible link or fuse box. For arrangement, refer to EL section ("POWER SUPPLY ROUTING"). | | | | | | | | | | | | | | | | |
| 4 | Fuse | <ul style="list-style-type: none"> The single line shows that this is a fuse. The open circle shows current flow in, and the shaded circle shows current flow out. | | | | | | | | | | | | | | | | |
| 5 | Current rating | <ul style="list-style-type: none"> This shows the current rating of the fusible link or fuse. | | | | | | | | | | | | | | | | |
| 6 | Connectors | <ul style="list-style-type: none"> This shows that connector E3 is female and connector M1 is male. The G/R wire is located in the 1A terminal of both connectors. Terminal number with an alphabet (1A, 5B, etc.) indicates that the connector is SMJ connector. Refer to GI-16. | | | | | | | | | | | | | | | | |
| 7 | Optional splice | <ul style="list-style-type: none"> The open circle shows that the splice is optional depending on vehicle application. | | | | | | | | | | | | | | | | |
| 8 | Splice | <ul style="list-style-type: none"> The shaded circle shows that the splice is always on the vehicle. | | | | | | | | | | | | | | | | |
| 9 | Page crossing | <ul style="list-style-type: none"> This arrow shows that the circuit continues to an adjacent page. The A will match with the A on the preceding or next page. | | | | | | | | | | | | | | | | |
| 10 | Common connector | <ul style="list-style-type: none"> The dotted lines between terminals show that these terminals are part of the same connector. | | | | | | | | | | | | | | | | |
| 11 | Option abbreviation | <ul style="list-style-type: none"> This shows that the circuit is optional depending on vehicle application. | | | | | | | | | | | | | | | | |
| 12 | Relay | <ul style="list-style-type: none"> This shows an internal representation of the relay. For details, refer to EL section ("STANDARDIZED RELAY"). | | | | | | | | | | | | | | | | |
| 13 | Connectors | <ul style="list-style-type: none"> This shows that the connector is connected to the body or a terminal with bolt or nut. | | | | | | | | | | | | | | | | |
| 14 | Wire color | <ul style="list-style-type: none"> This shows a code for the color of the wire. <table border="0"> <tr> <td>B = Black</td> <td>BR = Brown</td> </tr> <tr> <td>W = White</td> <td>OR = Orange</td> </tr> <tr> <td>R = Red</td> <td>P = Pink</td> </tr> <tr> <td>G = Green</td> <td>PU = Purple</td> </tr> <tr> <td>L = Blue</td> <td>GY = Gray</td> </tr> <tr> <td>Y = Yellow</td> <td>SB = Sky Blue</td> </tr> <tr> <td>LG = Light Green</td> <td>CH = Dark Brown</td> </tr> <tr> <td></td> <td>DG = Dark Green</td> </tr> </table> <p>When the wire color is striped, the base color is given first, followed by the stripe color as shown below: Example: L/W = Blue with White Stripe</p> | B = Black | BR = Brown | W = White | OR = Orange | R = Red | P = Pink | G = Green | PU = Purple | L = Blue | GY = Gray | Y = Yellow | SB = Sky Blue | LG = Light Green | CH = Dark Brown | | DG = Dark Green |
| B = Black | BR = Brown | | | | | | | | | | | | | | | | | |
| W = White | OR = Orange | | | | | | | | | | | | | | | | | |
| R = Red | P = Pink | | | | | | | | | | | | | | | | | |
| G = Green | PU = Purple | | | | | | | | | | | | | | | | | |
| L = Blue | GY = Gray | | | | | | | | | | | | | | | | | |
| Y = Yellow | SB = Sky Blue | | | | | | | | | | | | | | | | | |
| LG = Light Green | CH = Dark Brown | | | | | | | | | | | | | | | | | |
| | DG = Dark Green | | | | | | | | | | | | | | | | | |
| 15 | Option description | <ul style="list-style-type: none"> This shows a description of the option abbreviation used on the page. | | | | | | | | | | | | | | | | |
| 16 | Switch | <ul style="list-style-type: none"> This shows that continuity exists between terminals 1 and 2 when the switch is in the A position. Continuity exists between terminals 1 and 3 when the switch is in the B position. | | | | | | | | | | | | | | | | |
| 17 | Assembly parts | <ul style="list-style-type: none"> Connector terminal in component shows that it is a harness incorporated assembly. | | | | | | | | | | | | | | | | |
| 18 | Cell code | <ul style="list-style-type: none"> This identifies each page of the wiring diagram by section, system and wiring diagram page number. | | | | | | | | | | | | | | | | |
| 19 | Current flow arrow | <ul style="list-style-type: none"> Arrow indicates electric current flow, especially where the direction of standard flow (vertically downward or horizontally from left to right) is difficult to follow. A double arrow "↔" shows that current can flow in either direction depending on circuit operation. | | | | | | | | | | | | | | | | |
| 20 | System branch | <ul style="list-style-type: none"> This shows that the system branches to another system identified by cell code (section and system). | | | | | | | | | | | | | | | | |

HOW TO READ WIRING DIAGRAMS

Description (Cont'd)

| Number | Item | Description | GI |
|--------|----------------------------|--|----|
| 21 | Page crossing | <ul style="list-style-type: none"> This arrow shows that the circuit continues to another page identified by cell code. The C will match with the C on another page within the system other than the next or preceding pages. | MA |
| 22 | Shielded line | <ul style="list-style-type: none"> The line enclosed by broken line circle shows shield wire. | EM |
| 23 | Component box in wave line | <ul style="list-style-type: none"> This shows that another part of the component is also shown on another page (indicated by wave line) within the system. | LC |
| 24 | Component name | <ul style="list-style-type: none"> This shows the name of a component. | EC |
| 25 | Connector number | <ul style="list-style-type: none"> This shows the connector number. The letter shows which harness the connector is located in. Example: M: main harness. For detail and to locate the connector, refer to EL section ("Main Harness", "HARNESS LAYOUT"). A coordinate grid is included for complex harnesses to aid in locating connectors. | FE |
| 26 | Ground (GND) | <ul style="list-style-type: none"> The line spliced and grounded under wire color shows that ground line is spliced at the grounded connector. | CL |
| 27 | Ground (GND) | <ul style="list-style-type: none"> This shows the ground connection. | MT |
| 28 | Connector views | <ul style="list-style-type: none"> This area shows the connector faces of the components in the wiring diagram on the page. | AT |
| 29 | Common component | <ul style="list-style-type: none"> Connectors enclosed in broken line show that these connectors belong to the same component. | TF |
| 30 | Connector color | <ul style="list-style-type: none"> This shows a code for the color of the connector. For code meaning, refer to wire color codes, Number 14 of this chart. | PD |
| 31 | Fusible link and fuse box | <ul style="list-style-type: none"> This shows the arrangement of fusible link(s) and fuse(s), used for connector views of "POWER SUPPLY ROUTING" in EL section. The open square shows current flow in, and the shaded square shows current flow out. | AX |
| 32 | Reference area | <ul style="list-style-type: none"> This shows that more information on the Super Multiple Junction (SMJ) and Joint Connectors (J/C) exists on the foldout page. Refer to GI-16 for details. | SU |

SU

BR

ST

RS

BT

HA

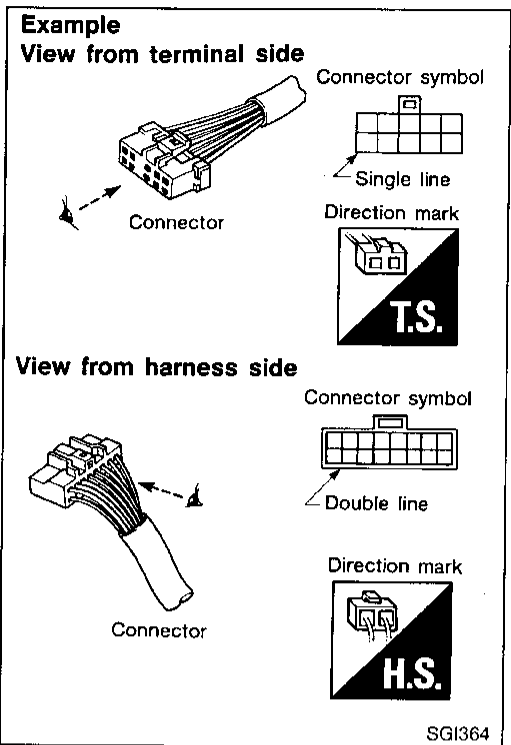
SC

EL

IDX

HOW TO READ WIRING DIAGRAMS

Description (Cont'd)

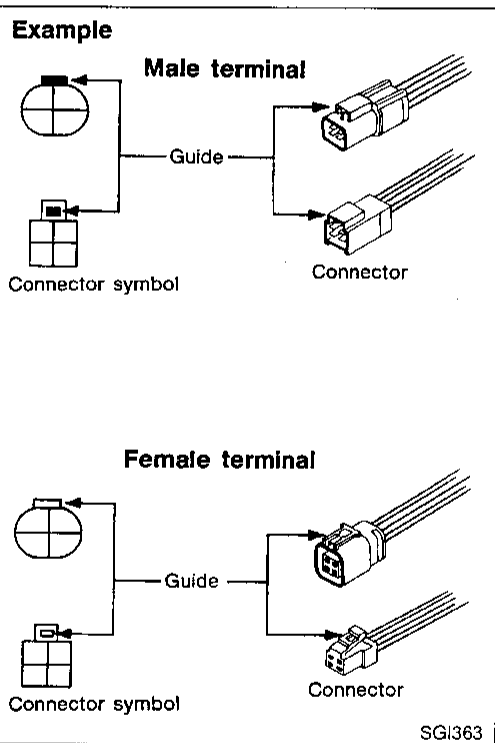


CONNECTOR SYMBOLS

-NAG1000350201

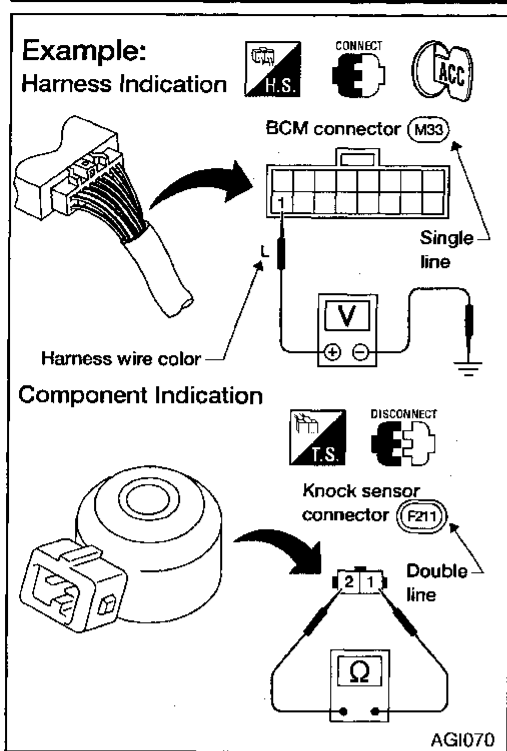
Most of connector symbols in wiring diagrams are shown from the terminal side.

- Connector symbols shown from the terminal side are enclosed by a single line and followed by the direction mark.
- Connector symbols shown from the harness side are enclosed by a double line and followed by the direction mark.



- Male and female terminals
Connector guides for male terminals are shown in black and female terminals in white in wiring diagrams.

GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX



HARNES INDICATION

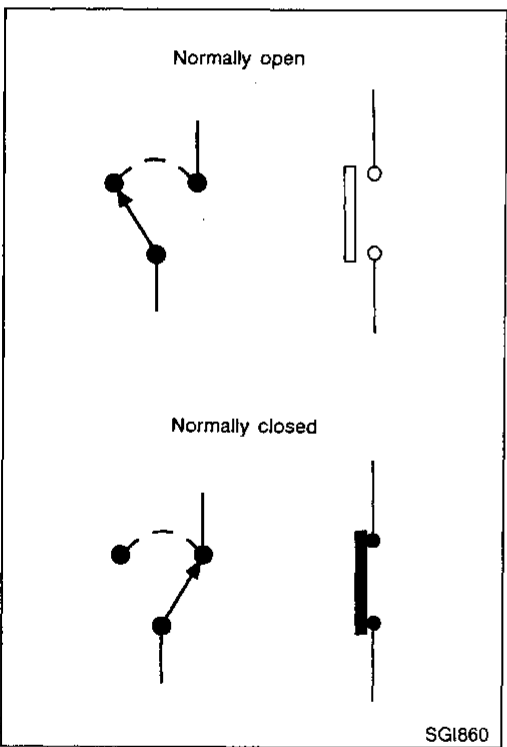
NAG10003S0206

- Letter designations next to test meter probe indicate harness (connector) wire color.
- Connector numbers in a single circle M33 indicate harness connectors.

COMPONENT INDICATION

NAG10003S0207

- Connector numbers in a double circle F211 indicate component connectors.



SWITCH POSITIONS

NAG10003S0202

Switches are shown in wiring diagrams as if the vehicle is in the "normal" condition.

A vehicle is in the "normal" condition when:

- ignition switch is "OFF",
- doors, hood and trunk lid/back door are closed,
- pedals are not depressed, and
- parking brake is released.

**Thank you very much
for your reading.**

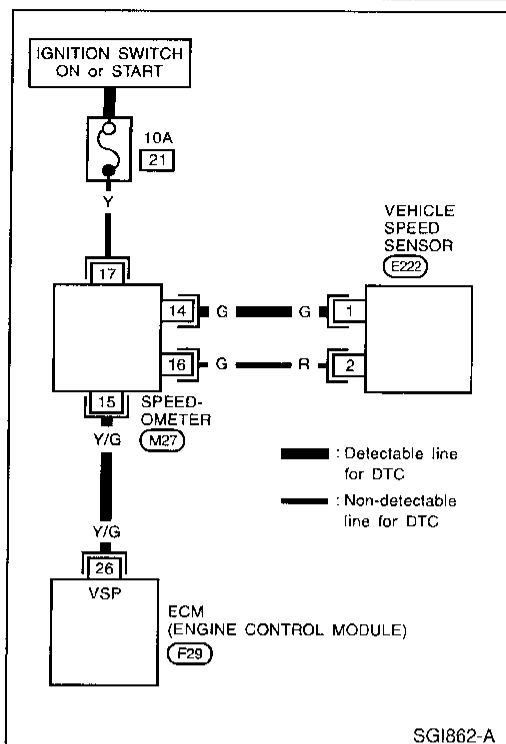
**Please click here and go
back to the website.**

**Then, you can
download the complete
manual instantly.**

No waiting.

HOW TO READ WIRING DIAGRAMS

Description (Cont'd)



DETECTABLE LINES AND NON-DETECTABLE LINES

NAC310003S0203

In some wiring diagrams, two kinds of lines, representing wires, with different weight are used.

- A line with regular weight (wider line) represents a “detectable line for DTC (Diagnostic Trouble Code)”. A “detectable line for DTC” is a circuit in which ECM (Engine Control Module) can detect its malfunctions with the on board diagnostic system.
- A line with less weight (thinner line) represents a “non-detectable line for DTC”. A “non-detectable line for DTC” is a circuit in which ECM cannot detect its malfunctions with the on board diagnostic system.

MULTIPLE SWITCH

=NAGI003S0204

The continuity of multiple switch is described in two ways as shown below.

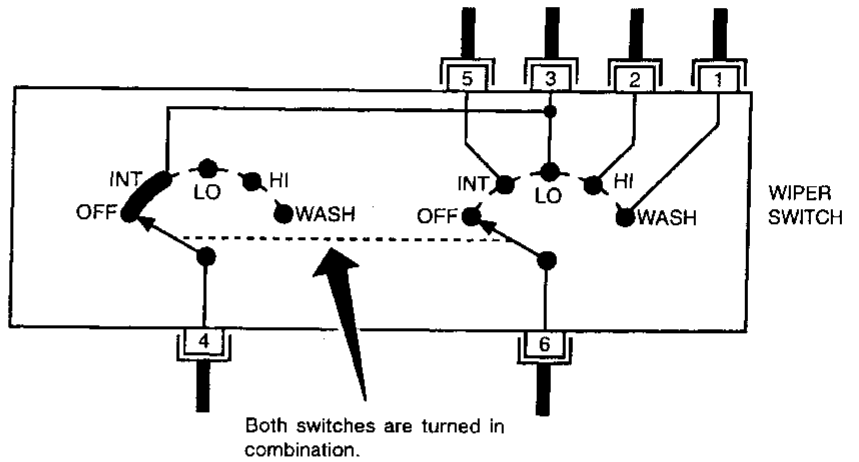
- The switch chart is used in schematic diagrams.
- The switch diagram is used in wiring diagrams.

Example

(SWITCH CHART)

| WIPER SWITCH | | OFF | INT | LO | HI | WASH |
|--------------|---|-----|-----|----|----|------|
| 1 | | | | | | ○ |
| 2 | | | | ○ | | |
| 3 | ○ | ○ | ○ | | | |
| 4 | ○ | ○ | | | | |
| 5 | | ○ | | | | |
| 6 | | ○ | ○ | ○ | | |

(SWITCH DIAGRAM)



Continuity circuit of wiper switch

| SWITCH POSITION | CONTINUITY CIRCUIT |
|-----------------|--------------------|
| OFF | 3-4 |
| INT | 3-4, 5-6 |
| LO | 3-6 |
| HI | 2-6 |
| WASH | 1-6 |

SGI875

GI
MA
EM
LC
EC
FE
CL
MT
AT
TF
PD
AX
SU
BR
ST
RS
BT
HA
SC
EL
IDX