2004 G35 Coupe – VQ Engine

Mark Actual To Confirm

Notes

VQ35DE

Engine Oil	SAE 5W-30 API SG/SH I & II or SJ, Energy Conserving Oil	
With Oil Filter	5.0 qt	
Without Oil Filter	4 5/8 qt	

Tune up

Spark Plugs	(Platinum)	
Standard Type	PLFR5A-11	
Hot Type	PLFR4A-11	
Cold Type	PLFR6A-11	
Plug Gap	0.043 in. (1.1mm)	
Ignition Timing	15° ± 5° btdc	☐
Idle Speed	650 ± 50 rpm	☐
Idle Mixture Ratio	0.7 - 9.9 % CO	☐
Valve Clearance	**Intake**	**Exhaust**
cold	0.010 - 0.013 in (0.26 - 0.34 mm)	0.011 - 0.015 in (0.29 - 0.37 mm) ☐ ☐ ☐
hot (176° F)	0.012 - 0.016 in (0.304 - 0.416 mm)	0.012 - 0.017 in (0.308 - 0.432 mm) ☐ ☐ ☐
T/Position Sensor 1		
T/V Closed	More than 0.36 V	☐
T/V Open	Less than 4.75 V	☐
T/Position Sensor 2		
T/V Closed	Less than 4.75 V	☐
T/V Open	More than 0.36 V	☐
Radiator Fill		
Coolant Type	Ethylene Glycol	
Coolant Capacity	9-1/4 qt	☐
Compression		
Standard	185 psi	☐ ☐ ☐
Minimum	142 psi	☐ ☐ ☐
Diff Between Cyl.	14 psi	

Fuel System

Fuel Pressure @ Idle	51 psi	☐
Recommended Fuel	91 Octane	
Fuel Pump Ω		
At 77°F (25°C)	Approx. 1.0 Ω	☐
Fuel Injector Ω		
At 77°F (25°C)	13.5 - 17.5 Ω	☐

Sensors

Mass Air Flow Sen		
Supply Volt.	11 - 14 V	☐
Output Volt. Idle	1.1 - 1.5 V	☐
Mass Air Flow		
At Idle	2.0 - 6.0 gm/sec	☐
2500 rpm	7.0 - 20.0 gm/sec	☐

Coolant Temp Sensor Ω		
68°F (20°C)	2.1 - 2.9 kΩ	☐
122°F (50°C)	0.68 - 1.00 kΩ	☐
194°F (90°C)	0.236 - 0.260 kΩ	☐
O_2 Sen Heater 1 Ω		
At 77°F (25°C)	3.3 - 4.0 Ω	☐
O_2 Sen Heater 2 Ω		
At 77°F (25°C)	5.0 - 7.0 Ω	☐
Intake Air Temp Sensor		
77°F (25°C)	1.9 - 2.1 kΩ	☐
176°F (80°C)	0.31 - 0.37 kΩ	☐
Crankshaft/Camshaft P/Sen POS/Phase		
At 77°F (25°C)	Except 0 Ω or infinite Ω	☐
Fuel Tank Temp Sensor		
68°F (20°C)	2.3 - 2.7 kΩ	☐
122°F (50°C)	0.79 - 0.90 kΩ	☐
Throttle Control Motor Ω		
At 77°F (25°C)	Approx. 1 - 15 Ω	☐

Electrical

Ignition System

Firing Order	1-2-3-4-5-6

Battery Specs.

Type USA	80D23L	
Capacity (V/AH)	12 V/ 52AH	
Cold Crank Current	582 A @ 0°F (-18°C)	☐

Charging System

Alternator Type	**A3TG0191**	
Nom. Rated Out	12 V/ 110 A	
Reg. Volt	14.1 - 14.7 V	
Hot Out Amp (A/rpm)	More than 37 /1300	☐
	More than 92 /2500	☐
	More than 103 /5000	☐

VQ35DE - Coupe

EPA Mileage Estimate	**A/T**	**M/T**
(city/highway)	19/26	20/27

2004 G35 Coupe – VQ Engine

PREPARATION

Make sure that the following parts are in order.

1. Battery
2. Ignition system
3. Engine oil and coolant levels
4. Fuse
5. ECM harness connector
6. Vacuum hoses
7. Air intake system (Oil filler cap, oil level, etc.)
8. Fuel pressure
9. Engine compression
10. Throttle valve
11. Evaporative emission canister purge control valve.

Note:

- On A/C equipped vehicles, turn A/C "Off" for testing.
- Transmission should be in "Park" or "Neutral".
- "CO" probe should be inserted into exhaust approximately 16 inches.
- Turn off headlamps, heater blower, rear defogger, etc.
- Front wheels pointed straight.
- Perform inspection with cooling fans "Off".

2004 G35 Coupe – A/T

Mark Actual To Confirm

Notes

RE5R05A

Trans Code **91x18**

A/T Fluid Type Nissan **Matic 'J'** ONLY (P/N 999MP-MTJ00P)
Oil Capacity 10 7/8 qt
A/T Cooler Type Fin Type Structure

Up-Shift Schedule Range (at normal operating temp.) mph(km/h)

	Half Throttle	**Full Throttle**
$D_1 \rightarrow D_2$	29 - 31 (46 - 50)	36 - 39 (58 - 62)
$D_2 \rightarrow D_3$	44 - 49 (71 - 79)	56 - 61 (90 - 98)
$D_3 \rightarrow D_4$	66 - 73 (107 - 117)	87 - 93 (140 - 150)
$D_4 \rightarrow D_5$	84 - 90 (135 - 145)	125 - 131 (201 - 211)

Complete Clutch Lock-Up mph(km/h)

	Lock-up ON	**Lock-up OFF**
Closed Throttle	35 - 40 (56 - 64)	33 - 38 (53 - 61)
Half Throttle	104 - 109 (168 - 176)	81 - 86 (131 – 139)

Slip Lock-Up **mph(km/h)**

Closed Throttle	**Lock-up ON**	**Lock-up OFF**
Slip Lock-up OFF (D4)	23 - 28 (37 - 45)	21 - 26 (34 - 42)
Slip Lock-up ON (D5)	27 - 32 (44 - 52)	25 - 30 (41 - 49)

Stall Rpm
R, D, 2, 1 position 2,600 - 2,900 rpm

Line Pressure psi(kg/cm^2)

	At Curb Idle	**At Stall rpm**
R - Position	57 - 64 (4.0 - 4.5)	247 - 274 (17.3 - 19.3)
D,M - Position	54 - 61 (3.8 - 4.3)	190 - 218 (13.3 - 15.3)

Solenoid Valves	**Resistance**	**Pin Number**
Line Pressure Sol. Valve	3 - 9 Ω	7
Torque Converter Clutch Sol. Valve	3 - 9 Ω	8
Input Clutch Sol. Valve	3 - 9 Ω	6
High & Low Rev. Clutch Sol. Valve	3 - 9 Ω	3
Front Brake Sol. Valve	3 - 9 Ω	5
Direct Clutch Sol. Valve	3 - 9 Ω	4
Low Coast Brake Sol. Valve	20 - 40 Ω	2

A/T Fluid Temp. Sensor

Condition	**ATF Temp Sensor 1**	**ATF Temp Sensor 2**
32° F (0° C)	2.2 V, 15 kΩ	2.2 V, 10 kΩ
68° F (20° C)	1.8 V, 6.5 kΩ	1.7 V, 4 kΩ
176° F (80° C)	0.6 V, 0.9 kΩ	0.45 V, 0.5 kΩ

Revolution Sensor
Test Condition: Use CONSULT-II pulse frequency measuring function.
Sensor. 1: Veh. Speed 31 mph in 4th gear, with closed throttle position switch "OFF".
Sensor. 2, & Rev sensor: Veh. Speed 12 mph in 1st gear, with closed throttle position switch "OFF".
Turbine Rev. Sensor 1 & 2 1.3 kHz
Rev Sensor 185 Hz

2004 G35 Coupe – A/T

PRECAUTIONS

- Before performing any diagnostic test, vehicle should be driven for approximately 10 minutes to raise transmission to the proper operating temperature of 122° to 176°.
- During stall testing, never hold throttle wide open for more than 5 seconds at a time. Extended stall testing can overheat transmission and cause serious damage.
- Nissan **Matic 'J'** ATF is the only fluid accepted for warranty, service contracts and goodwill repairs.
- Before performing any internal repairs, thoroughly clean the outside of the transmission case to prevent contamination.
- Use lint free cloth or towels for wiping parts. Common shop towels can leave contaminating fibers on the transmission parts and cause improper transmission operation.
- When servicing the valve body, valves, sleeves, plugs, etc. should slide along the bores in the valve body under their own weight.
- Before assembly, apply a coat of ATF to all internal transmission parts. Use petroleum jelly to protect o-rings and seals, or to hold bearings and washers in place during assembly.

Important Note: Nissan **Matic 'J'** must be used in performing repairs paid by Infiniti for the 2003 and later G35 Coupe, such as warranty, service contract, or good-will repairs. There will not be reimbursement for repairs when non-genuine Nissan **Matic 'J'** is used.

2004 G35 Coupe – M/T

Mark Actual To Confirm | Notes

FS6R31A

Clutch

Clutch Control System	Hydraulic
Master Cyl. Inner Dia.	5/8 in (15.87 mm)
Operating Cyl. Inner Dia.	3/4 in (19.05 mm)
Clutch Disc (outer, inner, thickness)	9.84 x 6.69 x 0.126 in (250 x 170 x 3.2 mm)
Wear Limit	0.012 in (0.3 mm)
Runout Limit	0.028 in (0.7 mm) or less [measured at 9.45 in (240 mm) diameter]
Clutch Cover	Model 250
Set-load	880 kg (8,630 N)
Diaphragm spring Lever height	1.555 - 1.634 in (39.5 - 41.5 mm)
Uneven limit of diaphragm spring toe height	0.02 in (0.5 mm)
Clutch Pedal Clearance “C”	0.004 - 0.039 in (0.1 - 1.0)

Refill Capacity (75W-85 API GL-4)

FS6R31A	3-1/4 qt

Gear End Play

Counter gear	0.0 - 0.004 in (0.0 - 0.1 mm)
Main drive gear	0.0 - 0.004 in (0.0 - 0.1 mm)
Main shaft front side	0.0 - 0.004 in (0.0 - 0.1 mm)
Main shaft rear side	0.0 - 0.004 in (0.0 - 0.1 mm)

Clearance Between Baulk Ring And Gear

	Standard	Wear Limit
1st 3rd, & 4th gear Inner (A)	0.02 - 0.028 in (0.5 - 0.7 mm)	0.012 in (0.3 mm)
1st gear Outer (B)	0.039 - 0.059 in (1.0 - 1.5 mm)	0.028 in (0.7 mm)
3rd, & 4th gear (B)	0.033 - 0.059 in (0.85 - 1.35 mm)	0.028 in (0.7 mm)
2nd gear Inner (A)	0.02 - 0.028 in (0.5 - 0.7 mm)	0.012 in (0.3 mm)
2nd gear Outer (B)	0.02 - 0.028 in (0.5 - 0.7 mm)	0.012 in (0.3 mm)
2nd Main gear taper cone (C)	0.028 - 0.049 in (0.7 - 1.25 mm)	0.012 in (0.3 mm)
5th & 6th Gear	0.028 - 0.049 in (0.7 - 1.25 mm)	0.02 in (0.5 mm)
Reverse	0.03 - 0.047 in (0.75 - 1.2 mm)	0.02 in (0.5 mm)

Snap Rings

See service manual MT section, “Service Data and Specifications (SDS) for details.

2004 G35 Coupe – M/T

PRECAUTIONS

- Infiniti does not recommend flywheel resurfacing. If flywheel is not within specification, replacement is recommended.
- Refill transmission with the proper viscosity and amount of gear lube for the anticipated temperatures.
- To help prevent clutch judder, avoid excessive grease to clutch disc splines, input shaft and throwout bearing. Be sure to clean off any excessive grease.
- On rear wheel drive vehicles, inspect the shift control lever bushing for wear and proper alignment prior to reinstallation of a removed transmission.
- To avoid transmission contamination, inspect the shift lever dust boot for cracks or damage, and replace if needed. Install plastic wire ties to insure a tight fit of the boot to the shifter and housing.
- Before reinstallation of a removed transmission, inspect the engine to transmission alignment dowels for damage. Damaged dowels can cause misalignment of the engine to transmission, and this can cause the transmission to jump out of gear.

2004 G35 Coupe – Htr & A/C

Mark Actual To Confirm

Notes

AIR CONDITIONER

Compressor

Make	Calsonic Kansei V-6	
Type	V-6 Variable Displacement	
Compressor Clutch		
Disc-to-Pulley Clearance	0.012 - 0.024 in (0.25 - 0.60 mm)	
Refrigerant		
Type	HFC-134a (R134a)	
Capacity	1.21 lb (.55 kg)	
Refrigerant Oil		
Type	Nissan Type "S" Lub.	
Capacity	6.0 fl oz	
Oil to AddPer	Evaporator	2.5 oz (75 ml)
	Condenser	1.2 oz (35 ml)
	*Liquid Tank	0.3 oz (10 ml)
	Large Refrig. Leak	1.0 oz (30 ml)
	Compressor	
	(*Add only if comp. is not replaced.)	
Engine Idle w/A/C On		
(in Neutral)	More than 775 rpm	

Performance Test (approximate values for Sedan and Coupe)

Recirculating-to-Discharge Air Temp

Relative Humidity	**Recirc. Air Temp. at Blower Assy. Inlet F° (C°)**	**Discharge Air Temp. at Center Ventilator F° (C°)**
50 - 60 %	68°(20°)	49 - 51° (9.2 - 10.4°)
	77°(25°)	54 - 57° (12.0 - 14.0°)
	86°(30°)	58 - 63° (14.4 - 17.4°)
	95°(35°)	65 - 72° (18.2 - 22.0°)
	104°(40°)	75 - 81° (23.8 - 27.4°)
60 - 70 %	68°(20°)	51 - 53° (10.4 - 11.8°)
	77°(25°)	57 - 61° (14.0 - 16.0°)
	86°(30°)	63 - 69° (17.4 - 20.8°)
	95°(35°)	72 - 78° (22.0 - 25.2°)
	104°(40°)	81 - 88° (27.4 - 31.0°)

Ambient Air Temp-to-Operating Pressure

Air temperature	**Relative Humidity 50-70%**	
F° (C°)	**High-pres.**	**Low-pres.**
68°(20°)	118 - 145 psi	32 - 38 psi
77°(25°)	139 - 168 psi	33 - 41 psi
86°(30°)	178 - 218 psi	37 - 44 psi
95°(35°)	174 - 212 psi	42 - 51 psi
104°(40°)	193 - 236 psi	49 – 59 psi

PERFORMANCE TEST CONDITIONS

- Vehicle indoors or in the shade
- Doors closed
- Windows open
- Hood open
- Temperature on "Max" setting
- Discharge air on "Face Vent"
- Recirculation switch on "Recirc"
- Fan speed on "High"
- A/C switch "On" and verify A/C Clutch engagement
- Engine speed at idle
- Operate the A/C system for 10 minutes before taking measurements

Precautions:

1. When removing the compressor, store it in the same position as it is mounted in the vehicle. Failure to do so may cause lubricant to enter the low pressure chamber and cause compressor damage.
2. Allow components stored in cool areas to warm to area temperatures before removing seals. This prevents condensation from forming inside A/C components.

Mark Actual To Confirm

Notes

WHEEL ALIGNMENT (UNLADEN)

Suspension Inspection

Ball Joint End Play

Axial End Play	0 in (0 mm)

Front Wheel Bearing

Axial End Play	0.0020 in (0.05 mm) or less

Rear Wheel Bearing

Axial End Play	0.00 in (0.0 mm)
Wheel Runout	Max. Lateral / Radial Runout: 0.012 in (0.3 mm) or less

Wheel arch Height (Unladen)

	Front Height (Hf)	Rear Height (Hr)
225/50 R17 (Front)	27.2 in (691 mm)	27.64 in (702 mm)
235/50 R17 (Rear)		
225/45 R18 (Front)	27.32 in (694 mm)	27.95 in (710 mm)
245/45 R18 (Rear)		

Front Wheel Alignment

Toe-in	Range	Nominal
Total toe-in	0.08 - 0.0 in (2 - 0 mm)	0.04 in (1 mm)

Front Wheel Turning Angle (full turn)

In/Wheel Range	35.75° - 39.75° (35° 45’ - 39° 45’)
In/Wheel Nominal	38.75° (38° 45’)
Out/Wheel Nominal	30.75° (30° 45’)

Camber

Range	-1.25° to 0.75° (-1° 15’ to 0° 45’)
Nominal	-0.50° (-0° 30’)
Lt/Rt Difference	0.75° (0° 45’) or less

Caster	17” Wheels	18” Wheels
Range	7.42° - 8.92° (7° 25’ - 8° 55’)	7.25° - 8.75° (7° 15’ - 8° 45’)
Nominal	8.17° (8° 10’)	8.00° (8° 00’)
Lt/Rt Difference	0.75° (0° 45’) or less	

Kingpin Offset

Range	4.17° - 5.67° (4° 10’ - 5° 40’)
Nominal	4.92° (4°55’)

Rear Wheel Alignment

Toe-in	Range	Nominal
Total toe-in	0.0 - 0.22 in (0.0 - 5.6 mm)	0.11 in (2.8 mm)

Camber

Range	-1.75° to -0.75° (-1°45’ to -0°45’)
Nominal	-1.25° (-1°15’)

W/Lug Nut Torque 72-87 ft/lb (10-12 kg/m)

2004 G35 Coupe – Suspension

PRELIMINARY INSPECTION

- Check tires for wear and proper inflation
- Check wheel runout
- Check front wheel bearings excessive play
- Check front suspension for excessive play
- Check steering linkage for excessive play
- Check struts for leakage and condition
- Check vehicle for proper ride height

Precautions

1. When installing rubber parts, final tightening must be carried out under unladen conditions with the tires on the ground.
2. Recheck alignment after installing removed suspension components.

2004 G35 Coupe – Brakes

BRAKE SYSTEM

Standard System

	Front Disc Brake	Rear Disc Brake	Mark Actual To Confirm	Notes
Brake Model Code	**CLZ25VD**	**AD14VE**		
Brake Fluid	DOT 3 (Recommended)			
Master Cyl. Bore Dia.	1.0 in (25.4 mm)		☐	
Cylinder Bore Dia.	2.252 in (57.2 mm)	1.6874 in (42.86 mm)		
Brake Pad Dimensions				
Length	4.94 in (125.6 mm)	3.268 in (83.0 mm)	☐	
Width	1.81 in (46.0 mm)	1.299 in (33.0 mm)	☐	
Thickness	0.43 in (11.0 mm)	0.335 in (8.5 mm)	☐	
Brake Pad Wear Limit				
Min. Thickness	0.079 in (2.0 mm)	0.079 in (2.0 mm)	☐ ☐ ☐ ☐	
Brake Rotor Dimensions				
Outer Diameter	11.665 in (296.0 mm)	11.50 in (292.0 mm)	☐	
Standard Thickness	0.945 in (24 mm)	0.63 in (16 mm)	☐	
Brake Rotor Repair/Wear Limits				
Max. Runout	0.0014 in (0.035 mm)	0.0039 in (0.1 mm)	☐ ☐ ☐ ☐	
Min. Thickness	0.886 in (22.0 mm)	0.55 in (14 mm)	☐ ☐ ☐ ☐	
Max. Thk. Variation	0.0006 in (0.015 mm)	0.0006 in (0.015 mm)	☐ ☐ ☐ ☐	

Brembo System

	Front Disc Brake	Rear Disc Brake	Mark Actual To Confirm	Notes
Brake Model Code	**OPB27VA**	**OPB13VB**		
Brake Fluid	DOT 3 (Recommended)			
Master Cyl. Bore Dia.	1.0626 in (26.99 mm)		☐	
Cylinder Bore Dia.	1.50 in x 2 + 1.73 in x 2 (38 mm x 2 + 44 mm x 2)	1.575 in x 2 (40.0 mm x 2)		
Brake Pad Dimensions				
Length	4.61 in (117.1 mm)	3.016 in (76.6 mm)	☐	
Width	2.098 in (53.3 mm)	1.77 in (45.0 mm)	☐	
Thickness	0.366 in (9.3 mm)	0.358 in (9.1 mm)	☐	
Brake Pad Wear Limit				
Min. Thickness	0.079 in (2.0 mm)	0.079 in (2.0 mm)	☐ ☐ ☐ ☐	
Brake Rotor Dimensions				
Outer Diameter	12.76 in (324 mm)	13.07 in (332.0 mm)	☐	
Standard Thickness	1.181 in (30.0 mm)	0.87 in (22.0 mm)	☐	
Brake Rotor Repair/Wear Limits				
Max. Runout	0.0020 in (0.050 mm)	0.0028 in (0.07 mm)	☐ ☐ ☐ ☐	
Min. Thickness	1.118 in (28.4 mm)	0.795 in (20.2 mm)	☐ ☐ ☐ ☐	
Max. Thk. Variation	0.0006 in (0.015 mm)	0.0006 in (0.015 mm)	☐ ☐ ☐ ☐	

Brake Pedal Dimen.			
Height (from dash panel top surface)	M/T: 6.06 - 6.46 in (154 - 164 mm) A/T: 6.38 - 6.77 in (162 - 172 mm)		☐
Depressed Height	M/T: 3.54 in (90 mm) or more A/T: 3.74 in (95 mm) or more		☐
Pedal Free Play	0.12 - 0.43 in (3.0 - 11.0 mm)		☐
Switch Clearance	0.0291 - 0.0772 in (0.74 - 1.96 mm)		☐
Brake Booster	**Vacuum Type**		
Input Rod Length	4.92 in (125 mm)		☐
Parking Drum Brake	**DS17HF**		
Inside Diameter	6.77 in (172 mm)		☐ ☐
Wear Limit Diameter	6.81 in (173 mm)		
Brake Shoe Dimension			
Thickness	0.126 in (3.2 mm)		☐ ☐
Wear limit thickness	0.059 in (1.5 mm)		
Parking Brake Control	**Foot Lever Type**	**Hand Lever Type**	
Number of Notches	3 – 4	6 – 7	☐
Warning Lamp On	1 Notch	1 Notch	
Wheel Lug Nut	72-87 ft-lb (10-12 kg-m)		

2004 G35 Coupe – Brakes

PRECAUTIONS

1. Never reuse drained brake fluid.
2. Be careful not to splash brake fluid on painted surfaces.
3. Use clean brake fluid to clean or wash master cylinder wheel cylinders, and disc brake calipers parts.
4. Mineral oils such as gasoline and kerosene should not be used. They can cause damage to rubber parts of the hydraulic system.
5. Use flare nut wrench when removing or installing brake line fittings.
6. Always torque brake lines.
7. Always replace brake pad shims when replacing brake pads.

Warning:

Clean brake pads and shoes with a dust collector to minimize the hazard of airborne particles or other materials.

2004 G35 Coupe – Electrical

ELECTRICAL

Wire Color Code

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	

When a wire color is striped, the base color is given first, followed by the stripe color. Example L/W = Blue with white stripe

Battery specification:

Type	80D23L
Capacity	12 V / 52 AH
Cold cranking current	582 A

Load test at 3 × AH for 15 seconds.

Battery charging rates:

Amps	Time
50	1 hour
25	2 hours
10	5 hours
5	10 hours

Do not charge battery over 50 ampere rate.
Do not "quick charge" a fully discharged battery.
If battery electrolyte temperature rises above 140°F, stop charging.

Starter:

Type	S114-880
	Hitachi
	Gear reduction type
No-load current	Less than 90 A
No-load RPM	More than 2,880

Alternator:

Type	A3TG0191
	Mitsubishi
Nominal Rating	12 V / 110 A
Output current A/RPM	More Than 37 / 1,300
(with 13.5 V applied)	More Than 92 A / 2,500
	More Than 103 A / 5,000

Regulated Output Voltage 14.1 - 14.7

Oil Pressure Switch:

Oil pressure PSI	Engine Speed (rpm)
More Than 14	Idle
More Than 43	2000
More Than 57	6000

Bulb Specifications:

Exterior

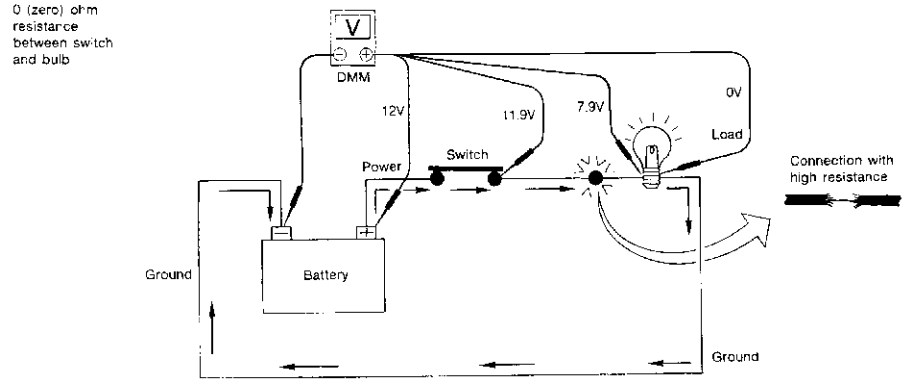
Item	Wattage (12V)
Headlamp Low	35 (D2R Xenon)
High/Fog	60/55 (HB2)
Front Turn Signal	21 (amber)
Rear Turn Signal	21
Front Side Marker	3.8
Rear Side Marker	3.8
Parking Lamp	5
Stop/Tail Lamp	LED
Center Stop Lamp	LED
Back-up Lamp	18
Front Side Marker	3.8
License Plate Lamp	5

Interior

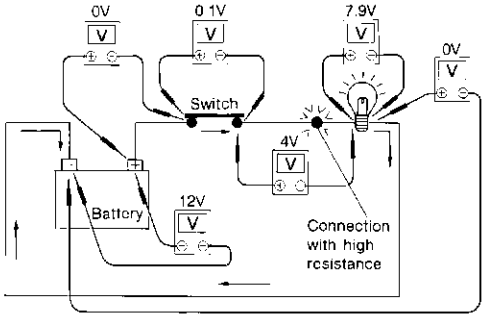
Item	Wattage (12V)
Glove box Lamp	1.4
Ignition Key Hole Lamp	1.4
Ashtray Lamp	1.4
Cigarette Lighter Lamp	1.4
Map Lamp	8
Step Lamp	5
Trunk Room Lamp	3.4
Vanity Mirror Lamp	1.32

How to perform voltage drop test: See Illustrations

Symptom: Dim bulb or no operation



AGI069



1. Connect the voltmeter as shown, starting at the battery and working your way around the circuit.
2. An unusually large voltage drop will indicate a component or wire that needs to be repaired. In the illustration, the poor connection causes a 4 volt drop.

The chart that follows illustrates some maximum allowable voltage drops. These values are given as a guideline, the exact value for each component may vary.

COMPONENT	VOLTAGE DROP
Wire	negligible <.001 volts
Ground Connections	Approx. 0.1 volts
Switch Contacts	Approx. 0.3 volts

AGI055

BATTERY CONDITION

Battery Sulphation:
A battery will be completely discharged if it is left unattended for a long time and the specific gravity becomes less than 1.100. This may result in sulphation on the cell plates. To determine if a battery has been sulfated, note its voltage and current when charging. If low current and higher voltage are observed in the initial stages of charging a sulfated battery is likely. A sulfated battery may sometimes be brought back into service by means of a long slow charge, 12 hours or more.

Checking Battery Specific Gravity With Hydrometer
Hydrometer temperature correction

Battery electrolyte temp. °C (°F)	Add to specific gravity reading
71 (160)	0.032
66 (150)	0.028
60 (140)	0.024
54 (129)	0.020
49 (120)	0.016
43 (110)	0.012
38 (100)	0.008
32 (90)	0.004
27 (80)	0
21 (70)	–0.004
16 (60)	–0.008
10 (50)	–0.012
4 (39)	–0.016
–1 (30)	–0.020
–7 (20)	–0.024
–12 (10)	–0.028
–18 (0)	–0.032

Corrected specific gravity	Approximate charge condition
1.260 - 1.280	Fully charged
1.230 - 1.250	3/4 charged
1.200 - 1.220	1/2 charged
1.170 - 1.190	1/4 charged
1.140 - 1.160	Almost discharged

- Do not quick charge a fully discharged battery.
- After charging, if the specific gravity of any two cells varies more then .050, the battery should be replaced.