QUICK REFERENCE SPECIFICATIONS

ASIST™ AUTOMOTIVE SERVICE INFORMATION SUPPORT TERMINAL

KA24DE

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Notes

Engine Oil	SAE 5W-30 (API SG, Energy Conserving Oil)
With Oil Filter	4 qt
Without Oil Filter	3 3/4 qt

Tune up

Spark Plugs

Standard Type	PFR5C-11
Cold Type	PFR6C-11 PFR7C-11
Plug Gap	0.039 - 0.043 in (1.0 -1.1mm)
Ignition Timing	20° ± 2° BTDC
Base Idle	650 ± 50 rpm
Curb Idle (Target)	700 ± 50 rpm
Idle Mixture Ratio	less than 7 % CO
Valve Clearance Hot	In/Ex 0.013 - 0.016 in (0.33 - 0.41 mm)

Throttle Position Sensor

T/P Closed	Approx. 2 kΩ
T/P Open	Approx. 10 kΩ
T/P/S Idle Volt	0.4 - 0.5 V

Radiator Fill

Coolant Type	Ethylene Glycol
Coolant Capacity	7 1/8 qt

Compression Test

Standard	179 psi
Minimum	151 psi
Diff Between Cyl.	14 psi

Fuel System

Fuel Pump Pressure @ Idle

	Vacuum applied at fuel pressure regulator 34 psi
	Vacuum released at fuel pressure regulator 43 psi
Recommended Fuel	87 Octane
Fuel Pump	0.2 - 5.0 Ω
Fuel Injector	10 - 14 Ω

Sensors

Mass Air Flow Sensor

Supply Volt.	11 - 14 v
Output Volt	1.3 - 1.7 v

Coolant Temperature Sensor

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
IACV-AAC Valve	Approx. 10 Ω
IACV Air Reg	Approx. 75 Ω

EGR Temp Sensor	@ 212°F (100°C) 85.3 ± 8.53 kΩ	

Electrical

Ignition System

Firing Order	1-3-4-2
Ignition Coil	
Primary Voltage	11 - 14 v
Primary	Approx 1 Ω
Secondary	Approx 10 kΩ
Ign Coil Resistor	Approx. 2.2 kΩ
Ignition Wires	Less than 9.1 kΩ/ft (30 kΩ/m)

Battery Specs.	**USA**	**Canada**
Type	**55D23R**	**65D26R**
Capacity	12v / 60ah	12v / 65ah
Cold Crank Amp	356 amps	413 amps
Discharge Amps	180 amps	195 amps

Charging System

Alternator Type	**LR180-729**	**A2T29892**
Nominal Rated Out	12v / 80a	12v / 80a
Regulated Volts	14.1 -14.7 v	14.1 -14.7 v
Hot Output Amps	More than 23/1300	More than 21/1300
(Amps/rpm)	More than 63/2500	More than 60/2500
	More than 77/5000	

EPA Mileage Estimate

(city/highway) 22/28 (MT) 21/26 (AT)

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. EGR valve operation (if equipped)
11. Throttle valve
12. 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".

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Notes

A/T Fluid Type	Nissan Matic 'D'
Oil Capacity	8 3/4 qt
A/T Cooler Type	Fin Type Structure

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

	HalfThrottle	Full Throttle
$D_1 \rightarrow D_2$	24 - 27 (39 - 43)	35 - 37 (56 - 60)
$D_2 \rightarrow D_3$	46 - 50 (74 - 80)	63 - 68 (101 - 109)
$D_3 \rightarrow D_4$	70 - 75 (112 - 120)	98 - 104 (158 - 168)

Lock-Up Clutch MPH(km/h)

HalfThrottle	**Lock Up ON**	**Lock Up OFF**
O/D Sw ON (D4)	70 - 75 (112 - 120)	63 - 68 (103 - 109)
O/D Sw OFF (D3)	57 - 62 (91 - 99)	53 - 58 (86 - 94)
Full Throttle		
O/D Sw ON (D4)	99 - 104 (159 - 167)	95 - 100 (153 - 161)
O/D Sw OFF (D3)	63 - 68 (101 - 99)	57 - 62 (91 - 99)

Stall Rpm	R, D, 2, 1 position	2,050 - 2,250 rpm

Line Pressure psi (kg/cm^2)

	At Curb Idle	At Stall rpm
D,2,1 - Position	61 - 67 (4.3 - 4.7)	148 - 159 (10.4 - 11.2)
R - Position	85 - 91 (6.0 - 6.4)	206 - 218 (14.5 - 15.3)

Shift Solenoids

Gear	**Solenoid A**	**Solenoid B**
1st	ON	ON
2nd	OFF	ON
3rd	OFF	OFF
4th	ON	OFF

Solenoid Valves	**Resistance**	**Pin Number**
Shift Solenoid **A**	20 - 40 Ω	6
Shift Solenoid **B**	20 - 40 Ω	7
Ovr. Clutch Solenoid	20 - 40 Ω	8
Line Pres. Solenoid	2.5 - 5 Ω	1
T/Conv. Clutch Sol	10 - 16 Ω	5

ATF Temp Sensor	
68° F (20° C)	2.5 kΩ
176° F (80° C)	0.3 kΩ
Rev Sensor	500 - 650 Ω
Drop Resistor	11.2 - 12.8 Ω
Brake Band	
Anchor end pin torq.	35 - 52 in lbs.
Num of return turns	2.5

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 'D' 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 'D' must be used in performing repairs paid by Nissan/Infiniti, such as warranty, service contract, or good-will repairs. There will not be reimbursement for repairs when non-genuine Nissan Matic 'D' is used.

240SX 1994 Quick Reference M/T

FS5W71C

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Notes

Clutch

Pedal Height "H"	7.32 - 7.72 in (186 - 196 mm)
Pedal Free Play “A”	0.039 - 0.118 in(1.0 - 3.0 mm)
Flywheel Run-out	Less than 0.0059 in (0.15 mm)
Clutch Disc Run-out	0.039 in (1.00 mm)
Clutch Cover Torque	7 - 14 ft/lbs (1 - 2 kg/m)
(Two Stages)	16 - 22 ft/lbs (2.2 - 3.0 kg/m)

Diaphragm Spring Toe Height (Uneven Limit)

0.028 in (0.7 mm)

Refill Capacity

(75W-90 API GL-4) 5 1/8 pt

Gear End Play

1st gear	0.0122 - 0.0161 in (0.31 - 0.41 mm)
2nd & 3rd gear	0.0043 - 0.0083 in (0.11 - 0.21 mm)
OD gear	0.0094 - 0.0161 in (0.24 - 0.41 mm)

Clearance Between Baulk Ring And Gear

	Standard	Wear Limit
1st,3rd,4th & OD Gear	0.047 - 0.063 in (1.2 - 1.6 mm)	0.031 in (0.8 mm)
2nd Gear Inner (A)	0.028 - 0.035 in (0.7 - 0.9 mm)	0.008 in (0.2 mm)
2nd Gear Outer (B)	0.024 - 0.043 in (0.6 - 1.1 mm)	0.008 in (0.2 mm)
Reverse Gear	**Standard**	**Wear Limit**
(Dimension A)	0.0433 - 0.061 in (1.1 -1.55 mm)	0.028 in (0.7 mm)

Main Drive Gear Bearing Snap Ring Allowable Clearance Thickness

0 - 0.0051 in (0 - 0.13mm)

Mainshaft Front Snap Ring Allowable Clearance Thickness

0 - 0.0071 in (0 - 0.18mm)

Mainshaft Rear Bearing Snap Ring Allowable Clearance Thickness

0 - 0.0055 in (0 - 0.14mm)

Countershaft Drive Gear Bearing Snap Ring Allowable Clearance Thickness

0 - 0.0071 in (0 - 0.18mm)

Countershaft Front Bearing Shim Allowable Clearance Thickness

0 - 0.0063 in (0 - 0.16mm)

PRECAUTIONS

- Nissan 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.

AIR CONDITIONER

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Notes

Compressor

Make	Calsonic
Type	V-5 Var. Displacement

Compressor Clutch

Disc-to-Pulley Clearance	0.12 - 0.024 in (0.3 - 0.6 mm)

Refrigerant

Type	HFC-134a (R134a)
Capacity	1.8 - 2.0 lb

Refrigerant Oil

Type	SUNISO 5GS or Equal	
Capacity	8.0 fl oz	
Oil to Add Per	Evaporator	1.5 - 2.5 oz (45 - 75 ml)
	Condenser	1.0 - 1.7 oz (30 - 50 ml)
	*Liquid Tank	0.5 - 0.8 oz (15 - 25 ml)
	Large Refrig. Leak Compressor	1.0 - 1.7 oz (30 - 50 ml)
	(*Add only if comp. is not replaced.)	
Engine Idle with A/C On	Approx. 1000 ± 50 rpm in Neutral	

Performance Test

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 %	77°(25°)	44 - 48° (7 - 9°)
	86°(30°)	50 - 54° (10 - 12°)
	95°(35°)	56 - 61° (13 - 17°)
	104° (40°)	64 - 69° (18 - 21°)
60 - 70 %	77°(25°)	48 - 52° (9 - 11°)
	86°(30°)	54 - 59° (12 - 15°)
	95°(35°)	61 - 66° (16 - 19°)
	104° (40°)	69 - 74° (21 - 23°)

Ambient Air Temp-to-Operating Pressure

Air temperature F°(C°)	**Relative Humidity 50-70% High-pres. PSI**	**Low-pres. PSI**
77°(25°)	108 - 132	26 - 31
86°(30°)	128 - 158	23 - 28
95°(35°)	151 - 185	24 - 31
104° (40°)	173 - 210	26 - 37

Dual-Pres Switch	**High Side Line Pres. PSI**	**Operation/Continuity**
	Inc.26 - 34	On/Exists
	Dec. 270 - 327	
	Inc.356 - 412	Off/No Continuity

	Dec. 26 - 31			
Thermo Control Amp	**F°(C°)**	**Voltage**		
	Dec. 35 - 37 (1.5 - 2.5)	Off (12V)		
	Inc.37 - 39 (3 - 4)	On (0V)		

Coolant Temp Switch

F°(C°)	**Switch Op.**	**Continuity**		
185 - 196 (85 - 91)	Off	No		
198 - 208 (92 - 98)	On	Yes		

Ambient Temp Switch

F°(C°)	**Switch Op.**	**Continuity**		
66 - 72 (19 - 22)	Off	No		
72 - 77 (22 - 25)	On	Yes		

A/C Drive Belt Deflection

Engine Cold	**Used Beltin (mm)**	**New Beltin (mm)**	
Deflection Limit	0.47 (12)	0.47 (12)	
Deflection After Adjustment			
	0.30 - 0.34 (8 - 9)	0.26 - 0.30 (7 - 8)	

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 1500 RPM
- Verify heater cock is closed
- 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.

WHEEL ALIGNMENT (UNLADEN)

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Notes

Toe-in	**Range**	**Nominal**
Total toe-in (A - B)	0.012 - 0.091 in (0.3 - 2.3 mm)	0.098 in (2.5 mm)
Total toe-in angle (left plus right)	0.13° - 0.33° (2' - 13')	0.23° (7')
Front Wheel Turning Angle (full turn)		
	Power Steering	
In/Wheel Range	39.00° - 43.00° (39° 00' - 43° 00')	
In/Wheel Nominal	42.00° (42° 00')	
Out/Wheel Nominal	33.00° (33° 00')	
Camber		
Range	-1.50° - 0.00° (-1° 30' - 0° 00')	
Nominal	-0.75° (-0° 45')	
Caster		
Range	6.00° - 7.50° (6° 00' - 7° 30')	
Nominal	6.75° (6° 45')	
Kingpin Inclination		
Range	12.92° - 14.42° (12° 30' - 14° 00')	
Nominal	13° 67' (13° 40')	
Set Back	0.0in +/- (0.0 mm +/-)	

Rear Wheel Alignment

Toe-in	**Range**	**Nominal**
Total toe-in (A - B)	0.020 in - 0.177 in (0.5 - 4.5 mm)	0.88 in (2.2 mm)
Total toe-in angle (left plus right)	-0.00° - 0.47° (3' - 25')	0.23° (14')
Camber		
Range	-1.67° - -0.67° (-1° 36' - -0° 36')	
Nominal	-1.00° (-1° 00')	
Thrust Angle	0.0° +/- (0°00' +/-)	
Ball Joint End Play	Vertical End Play	0 in(0 mm)
Front Wheel Bearing		
Axial End Play	0.0020 in (0.05 mm) or less	
Lock nut torque	108 - 159 ft/lb (15 - 22 kg/m)	
Rear Wheel Bearing		
Axial End Play	0.0020 in (0.05 mm) or less	
Lock nut torque	152 - 202 ft/lb (21.0 - 27.9 kg/m)	
Wheel Runout	**Aluminum Wheel**	**Steel Wheel**
Max. Lateral Runout:	0.012 in (0.3 mm)	0.031 in (0.8 mm)
Max. Radial Runout:	0.012 in (0.3 mm)	0.020 in (0.5 mm)
Wheelarch Height (Unladen)		
	Front Height (Hf)	Rear Height (Hr)
	27.32 in (694 mm)	26.38 in (670 mm)
W/Lug Nut Torque	72-87 ft/lb (10-12 kg/m)	

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.

BRAKE SYSTEM

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Notes

Brake Model Code	**W / O ABS**	**W / ABS**	
	CL22VB	**CL25VA**	
Brake Fluid	DOT 3 (Recommended)		
Master Cyl. Bore Dia.	7/8 in (22.22 mm)	15/16 in (23.81)	
Front Caliper Bore Dia.	2.126 in (54.0 mm)	2.252 in (57.2 mm)	
Frt Brake Pad Dims			
Length	4.44 in (112.8 mm)	4.94 in (125.6 mm)	
Width	1.764 in (44.8 mm)	1.783 in (45.3 mm)	
Thickness	0.394 in (10.0 mm)	0.433 in (11.0 mm)	
Front Brake Pad Wear Limit			
Min. Thickness	0.079 in (2.0 mm)		☐ ☐
Front Brake Rotor Dimensions			
Outer Diameter	9.92 in (252.0 mm)	10.12 in (257.0 mm)	
Standard Thickness	0.79 in (20.0 mm)	0.87 in(22.0 mm)	
Front Brake Rotor Repair/Wear Limits			
Max. Runout	0.0028 in (0.07 mm)	0.0028 in (0.07 mm)	☐ ☐
Min. Thickness	0.709 in (18.0 mm)	0.787 in(20.0 mm)	☐ ☐
Max. Thk. Variation	0.0008 in (0.02 mm)	0.0008 in (0.02 mm)	☐ ☐
Rear Brake Code	**CL9H**		
Rear Cylinder/Caliper	1.337 in (33.96mm)		
Rear Pad Dimensions			
Length	2.95 in (75 mm)		
Width	1.57 in (40.0 mm)		
Thickness	0.37 in (9.5 mm)		
Rr Pad Min Thk	0.79 in (2.0 mm)		
Rear Rotor Dimensions			
Rotor Thickness	0.35 in (9 mm)		☐ ☐
Rotor outside diameter	10.16 in (258 mm)		☐ ☐
Rear Brake Rotor Repair/Wear Limits			
Minimum Thickness	0.315 in (8.0 mm)		☐ ☐
Maximum Runout	0.0028 in (0.07 mm)		☐ ☐
Max Thk Variation	0.0008 in (0.02 mm)		☐ ☐
Brake Pedal Dimen.	**Manual Trans**	**Auto Trans**	
Free Height 'H'	6.97 - 7.36 in (177 - 187 mm)	7.32 - 7.72 in (186 - 196 mm)	☐
Depressed Height 'D'	3.94 in (100.0 mm)		☐
Pedal Free Play 'A'	0.04 - 0.12 in (1.0 - 3.0 mm)		☐
Switch Clearance 'C'	0.012 - 0.039 in (.3 - 1.0 mm)		☐
Brake Booster			
Output Rod Length	0.404 - 0.414 in (10.275 - 10.525 mm)		☐
Clevis Length	Approx 4.9 in (125 mm)		☐
Parking Brake Control			
Number of Notches	6 - 8 [Under force of 44 lb (20 kg)]		☐
ABS Wheel Sensor			
ClearanceFrt	0.011 - 0.029 in (0.275 -0.75 mm)		☐ ☐
Clearance Rr	0.014 - 0.025 in (0.35 -0.625 mm)		☐ ☐
Resistance	0.8 - 1.2 kΩ		☐ ☐ ☐ ☐
Wheel Lug Nut	72-87 ft lb (10-12 kg-m)		

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.

ELECTRICAL

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Notes

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:

Type	55D23R
Capacity	12 V / 60 AH
Cold cranking current	356

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	M1T72781A MITSUBISHI Gear Reduction type
No-load current	50 - 75
No-load RPM	3,000 - 4,000

Alternator:

Type	LR180-729 HITACHI
Nominal Rating	12 V / 80 A
Regulated Output Voltage	14.1 - 14.7
Output current	More Than 23 A /1,300 rpm
(with 13.5 V applied)	More Than 63 A / 2,500 rpm More Than 77 A / 5,000 rpm

Thermal Transmitter (Water Temp. Sensor For Gauge)

Water Temperature	Resistance
140°F (60°C)	Approx. 70 - 90 Ω
212°F (100°C)	Approx. 21 - 24 Ω

Oil Pressure Switch:

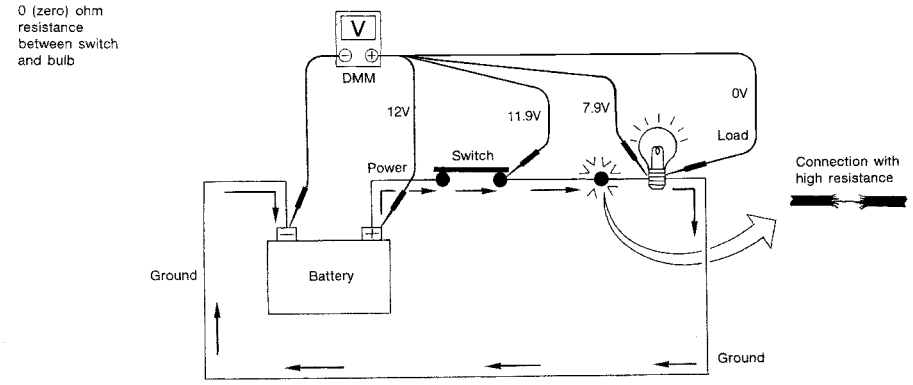
Oil pressure PSI	Continuity
More Than 10 - 20	NO
Less Than 10 - 20	YES

Bulb Specifications:

Item	Wattage (12V).
Headlamp High/Low	65/35
Fog Lamp	55
Front Turn signal	27
Parking Lamp	8
Front Side Marker	3.8
Rear Side Marker	3.8
Rear Turn Signal	27
Stop/Tail Lamp	27/8
Center Stop Lamp	18
Back-up Lamp	27
License Plate Lamp	5
Spot Lamp	8
Interior Lamp	10
Step Lamp	3

How to perform voltage drop test: See Illustrations

Symptom: Dim bulb or no operation



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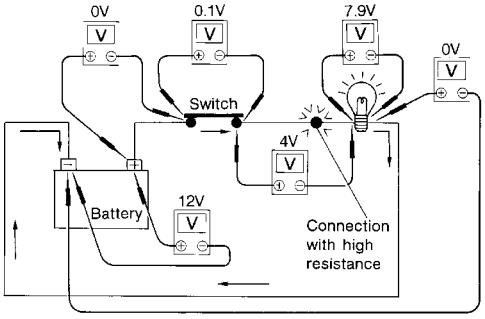

1. Connect the voltmeter as shown, starting at the battery and working your way around the circuit.
2. An unusually large voltage drop will indicate a component or wire that needs to be repaired. In the illustration, the poor connection causes a 4 volt drop.

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.