



200SX 1997 Quick Reference SR Engine

SR20DE			to Confirm	Notes
Engine Oil With Oil Filter Without Oil Filter Fune up	SAE 5W-30 API SG, Ener 3 5/8 qt 3 3/8 qt	gy Conserving Oil		
Spark Plugs (Platinum)				
Plug Gap	0.039 - 0.043 in (1.0 - 1.1)	* -		
Standard Type	Standard BKR6E	Platinum PFR5B-11		
Standard Type Hot Type	BKR5E	PFR6B-11		
Cold Type	BKR7E	PFR7B-11		
Joid Type	DITITLE	1110011		
gnition Timing	$15^{\circ} \pm 2^{\circ}$ BTDC			
Base Idle	$750 \pm 50 \text{ rpm}$			
Curb Idle (Target)	800 ± 50 rpm			
dle Mixture Ratio	Less Than 11 % CO			
Throttle Position Sens	sor			
Γ/V Closed	Approx. 0.15 - 0.85 v			
Γ/V Open	Approx. 3.5 - 4.7 v			
dle Voltage	Between Open & Closed			
Radiator Fill				
Coolant Type	Ethylene Glycol			
Coolant Capacity	6 1/2 qts			
Compression				
Standard	178 psi			
Minimum	149 psi			
Diff Between Cyl	14 psi			
Fuel System				
Recommended Fuel Fuel Pressure @ Idle	87 Octane			
/acuum applied at fuel pr	essure regulator 34 psi			
/acuum released at fuel p	pressure regulator 43 psi			
Fuel Pump Ω	0.2 - 5.0 Ω			
Fuel Injector Ω	10 - 14 Ω			
Sensors				
Crank Position Sensor				
71°F(25°C)	166 - 204 Ω			
Mass Air Flow Sensor				
Supply Voltage	11 - 14 v			
Output Volt. Idle	1.3 - 1.7 v			

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Mass Air Flow	0. F. O. am/200		
At Idle 2500 RPM	2.5 - 5.0 gm/sec 7.1 - 12.5 gm/sec		
2300 KT W	7.1 - 12.5 giii/360		
Coolant Temp Sensor			
68°F (20°C)	2.1 - 2.9 kΩ		
122°F (50°C)	0.68 - 1.0 kΩ		
194°F (90°C)	0.236 - 0.260 kΩ		
EGR Temp Sensor			
32°F (0°C)	7.9 - 9.7 m Ω		
122°F (50°C)	0.57 - $0.70~\text{m}\Omega$		
212°F (100°C)	0.08 - $0.10~\text{m}\Omega$		
IACV-AAC Valve	10.0 Ω		
Intake Air Temperature	Sensor		
68°F (20°C)	2.1 - 2.9 kΩ		
176°F (80°C)	0.27 - 0.38 kΩ		
Ft 02 Sensor Heat			
77°F (25°C)	3.3 - 6.3Ω		
Rr 02 Sensor Heat	50.000		
77°F (25°C)	$5.2 - 8.2 \Omega$		
Electrical			
Ignition System			
Firing Order	1-3-4-2		
Ignition Coil			
Primary Volt	12 V		
Primary Ω	0.5 -1.0 Ω		
Secondary Ω	approx. 25.0 kΩ		
Ignition Coil Resistor	2.2 kΩ		
Battery Specs.	USA	Canada	
Battery Specs. Group	USA 21F	Canada 24F	
Battery Specs. Group Capacity			
Group	21F	24F	
Group Capacity Cold Crank Amps Reserve Capacity	21F 12V / 60AH 490 A 88 min	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps	21F 12V / 60AH 490 A	24F 12v / 65AH 550 A	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System	21F 12V / 60AH 490 A 88 min 245 A	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type	21F 12V / 60AH 490 A 88 min 245 A LR180-741H	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volts	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A 14.1 - 14.7 V	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A 14.1 - 14.7 V More than 23A/1300rpm	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volts	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A 14.1 - 14.7 V More than 23A/1300rpm More than 63A/2500rpm	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volts Hot Output Amps	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A 14.1 - 14.7 V More than 23A/1300rpm More than 63A/2500rpm More than 77A/5000rpm	24F 12v / 65AH 550 A 113 min	
Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volts	21F 12V / 60AH 490 A 88 min 245 A LR180-741H 12V / 80A 14.1 - 14.7 V More than 23A/1300rpm More than 63A/2500rpm More than 77A/5000rpm	24F 12v / 65AH 550 A 113 min	





200SX 1997 Quick Reference SR 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. 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".





200SX 1997 Quick Reference GA Engine

GA16DE			to Confirm	Notes
Engine Oil With Oil Filter Without Oil Filter	SAE 5W-30 API SG, Ener 3 3/8 qt 3 qt	rgy Conserving Oil		
Tune up Spark Plugs Plug Gap Standard Type Hot Type Cold Type Cold Type	0.039 - 0.043 in (1.0 - 1.1 BKR5E-11 BKR4E-11 BKR6E-11 BKR7E-11	mm)		
Ignition Timing Base Idle	8° ± 2° BTDC M/T 625 ± 50 RPM	A/T 725 ± 50 RPM		
Curb Idle (Target) Auto Trans Manual Trans Idle Mixture Ratio	USA 800 ± 50 rpm 675 ± 50 rpm 2 - 11 % CO	Canada 800 ± 50 rpm 750 ± 50 rpm		
Valve Clearance Cold Approx 68°F (20°C) Hot Approx 176°F (80°C)	Intake 0.010 - 0.013 in (0.25 - 0.33 mm) 0.008 - 0.019 in (0.21 - 0.49 mm)	Exhaust 0.013 - 0.016 in (0.32 - 0.40 mm) 0.012 - 0.023 in (0.30 - 0.58 mm)		
Throttle Position Sens T/V Closed T/V Open Idle Voltage		,		
Radiator Fill Coolant Type Coolant Capacity Compression	Ethylene Glycol M/T 5 1/2 qts	A/T 6 qts		
Standard Minimum Diff Between Cyl	199 psi 171 psi 14 psi			
Fuel System Fuel Pressure @ Idle				
	Vacuum applied at fuel pr 34 psi Vacuum released at fuel p 43 psi	•		
Recommended Fuel Fuel Pump Ω Fuel Injector Ω	87 Octane 0.2 - 5.0 Ω 10 - 14 Ω			

Sensors			
Mass Air Flow Sensor			
Supply Volt.	11 - 14v		
Output Volt. Idle	1.0 - 1.7v		
Mass Air Flow			
At Idle	1.0 - 4.0 gm/sec		
2500 RPM	5.0 - 10.0 gm/sec		
Coolant Temp Sensor	3		
68°F (20°C)	2.1 - 2.9 kΩ		
122°F (50°C)	0.68 - 1.0 kΩ		
194°F (90°C)	0.236 - 0.260 kΩ		
Ft/Rr 02 Sensor Heat Ω	2.3 - 4.3 Ω		
EGR Temp Sensor Ω	2.0 1.0 11		
32°F (0°C)	7.9 - 9.7 m $Ω$		
122°F (50°C)	$0.57 - 0.70 \text{ m}\Omega$		
212°F (100°C)	$0.08 - 0.10 \text{ m}\Omega$		
Intake Air Temp. Sensor			
68°F (20°C)	2.1 - 2.9 kΩ		
176°F (80°C)			
` '	0.27 - 0.38 kΩ		
Crank P/Sen (OBD)	M/T 432 - 528 Ω		
E/T	A/T 166 - 204 Ω	00 0710	
F/Tank Temp Sen	68°F (20°C)	2.3 - 2.7 kΩ	
	122°F (50°C)	0.79 - 0.90 kΩ	\vdash
IACV-AAC Valve Ω	50 - 100 Ω		
Electrical			
Electrical			
Ignition System	1-3-4-2		
Ignition System Firing Order	1-3-4-2		
Ignition System Firing Order Ignition Coil	1-3-4-2 11 - 14V		
Ignition System Firing Order Ignition Coil Primary Volt	11 - 14V		
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω	11 - 14V 1.0Ω		
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω	11 - 14V 1.0Ω 10.0 kΩ		
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω	11 - 14V 1.0Ω		
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ	Canada	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs.	11 - 14V 1.0Ω 10.0 kΩ	Canada 24F	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F	24F	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA		
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps	11 - 14V 1.0Ω 10.0 $kΩ$ 2.2 $kΩ$ USA 21F 12 / 60 V/AH 490 A	24F 12 / 65 V/AH	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity	11 - 14V 1.0Ω 10.0 $kΩ$ 2.2 $kΩ$ USA 21F 12 / 60 V/AH	24F 12 / 65 V/AH 550 A	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps	11 - 14V 1.0Ω 10.0 $kΩ$ 2.2 $kΩ$ USA 21F 12 / 60 V/AH 490 A 88 minutes	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity	11 - 14V 1.0Ω 10.0 $kΩ$ 2.2 $kΩ$ USA 21F 12 / 60 V/AH 490 A 88 minutes	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type	11 - 14V 1.0Ω 10.0 $kΩ$ 2.2 $kΩ$ USA 21F 12 / 60 V/AH 490 A 88 minutes	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F 12 / 60 V/AH 490 A 88 minutes 245 A	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volt	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F 12 / 60 V/AH 490 A 88 minutes 245 A LR180-751 12V / 80 A 14.1 - 14.7V	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volt Hot Output Amps	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F 12 / 60 V/AH 490 A 88 minutes 245 A LR180-751 12V / 80 A 14.1 - 14.7V More than 23A/1300 rpm	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volt	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F 12 / 60 V/AH 490 A 88 minutes 245 A LR180-751 12V / 80 A 14.1 - 14.7V More than 23A/1300 rpm More than 65A/2500 rpm	24F 12 / 65 V/AH 550 A 113 minutes	
Ignition System Firing Order Ignition Coil Primary Volt Primary Ω Secondary Ω Ignition Coil Resistor Battery Specs. Group Capacity Cold Crank Amps Reserve Capacity Discharge Amps Charging System Alternator Type Nom. Rated Out Regulated Volt Hot Output Amps	11 - 14V 1.0Ω 10.0 kΩ 2.2 kΩ USA 21F 12 / 60 V/AH 490 A 88 minutes 245 A LR180-751 12V / 80 A 14.1 - 14.7V More than 23A/1300 rpm	24F 12 / 65 V/AH 550 A 113 minutes	

EPA Mileage Estimate (GA Engine) (city/highway) 27/35 (MT)

26/33 (AT)





200SX 1997 Quick Reference GA Engine

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- 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".





200SX 1997 Quick Reference SR-A/T

RE4F03V			to Confirm	Notes
A/T Fluid Type Oil Capacity A/T Cooler Type	Nissan Matic 'D' 7 3/8 qt Fin Type Structure			
Up-Shift Schedule Range	e (at normal operating ten Half Throttle	np.) MPH(km/h) Full Throttle		
$\begin{array}{l} D_1 \rightarrow D_2 \\ D_2 \rightarrow D_3 \\ D_3 \rightarrow D_4 \end{array}$	18 - 23 (29 - 37) 40 - 45 (64 - 72) 68 - 73 (110 - 118)	35 - 40 (56 - 64) 66 - 71 (107 - 115) 105 - 110 (169 - 177)		
Lock-Up Clutch (Approx	. 1/4 Throttle) MPH(km/h) Lock-up ON	Lock-up OFF		
Gear Pos. D4 OD/on Gear Pos. D4 OD/off	65 - 70 (104 - 112) 53 - 58 (86 - 94)	57 - 62 (92 - 100) 52 - 57 (83 - 91)		
Stall RPM R, D, 2, 1 position	1,850 - 2,150 rpm			
Line Pressure	PSI (kg/cm ²) At Curb Idle	At Stall rpm		
R - Position D - Position 2, 1 - Position	131 (9.2) 84 (5.9) 87 (6.1)	247 (17.4) 159 (11.2) 159 (11.2)		
Shift Solenoids Gear	Solenoid A	Solenoid B		
1st	ON	ON		
2nd 3rd	OFF OFF	ON OFF		
4th	ON	OFF		
Solenoid Valves Shift Solenoid A	Resistance $20 - 30 \Omega$	Pin Number 6		
Shift Solenoid B	20 - 30 Ω	7		
Ovr. Clutch Solenoid Line Pres. Solenoid	20 - 30 Ω 2.5 - 5 Ω	8 1		
T/Conv. Clutch Sol	10 - 16 Ω	5		
ATF Temperature Senso	r			
68°F (20°C) 176°F (80° C)	2.5 kΩ 0.3 kΩ			
Rev Sensor	500 - 650 Ω			
Drop Resistor	11.2 - 12.8 Ω			
Brake Band	05 50 in lb -			
Anchor end pin torq. Num of return turns	35 - 52 in lbs. 2.5			

Lock nut torque

23 - 27 ft lbs.





200SX 1997 Quick Reference SR-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 '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.





200SX 1997 Quick Reference GA-A/T

RL4F03A			Mark Actual to Confirm	Notes
A/T Fluid Type Oil Capacity A/T Cooler Type Up-Shift Schedule Rang $D_1 \rightarrow D_2$ $D_2 \rightarrow D_3$ $D_3 \rightarrow D_4$	Nissan Matic 'D' 7 3/8 qt Fin Type Structure ge (at normal operating Half Throttle 18 - 23 (29 - 37) 32 - 37 (52 - 60) 63 - 68 (101 - 109)	temp.) mph(km/h) Full Throttle 32 - 37 (51 - 59) 60 - 65 (97 - 105) 85 - 90 (136 - 145)		
Lock-Up Clutch (Approx. 1/4 Throttle) Gear Position D4	MPH(km/h) Lock-up ON 66 - 71 (106 - 114)	Lock-up OFF 42 - 47 (68 - 76)		
Stall RPM R, D, 2, 1 position Line Pressure R - Position D - Position 2, 1 - Position	2,450 - 2,750 rpm PSI (kg/cm²) At Curb Idle 128 (9.0) 92 (6.5) 166 (11.7)	At Stall rpm 256 (18.0) 185 (13.0) 185 (13.0)		
Governor Pres	MPH (km/h) 0 (0) 10 (16) 20 (32) 50 (80)	PSI (kg/km²) 0 (0) 9 - 10 (0.6 - 0.7) 16 - 18 (1.1 - 1.3) 41 - 50 (2.9 - 3.5)		
Solenoid Valves O/D Cancel Solenoid Torq. Conv. Clutch Sol.	Resistance Approx. 25 Ω Approx. 25 Ω			
Throttle Wire Adjustme Throttle Wire Stroke	nt 1.57 - 1.65 in (40 - 42 i	mm)		
Brake Band Anchor end pin torq. Num of return turns	35 - 52 in lbs. 2.5 +/- 0.125			

23 - 27 ft lbs.

Lock nut torque





200SX 1997 Quick Reference GA-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°.
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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.





200SX 1997 Quick Reference SR-M/T **Mark Actual Notes** to Confirm RS5F32V Clutch Pedal height "H" 6.02 - 6.42 in (153 - 163 mm) 0.433 - 0.591 in (11 - 15 mm) Pedal free play "A" 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) **Refill Capacity** (80W-90 API GL-4) 77/8 - 81/4 pt Oil Level Check 1.34 - 1.57 in (34 - 40 mm) **Gear End Play** 1st gear 0.0071 - 0.0122 in (0.18 - 0.31 mm) 2nd gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 3rd gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 4th gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 0.0071 - 0.0122 in (0.18 - 0.31 mm) 5th gear Clearance Between Baulk Ring And Gear Standard **Wear Limit** 1st Gear 0.0374- 0.0571 in 0.028 in (0.95 - 1.45 mm) $(0.7 \, \text{mm})$ 4th Gear 0.0354 - 0.0571 in 0.028 in (0.9 - 1.45 mm) $(0.7 \, \text{mm})$ 5th Gear 0.035 - 0.059 in 0.028 in (0.9 - 1.5 mm) $(0.7 \, \text{mm})$ 2nd & 3rd Outer (A) 0.028 - 0.035 in 0.008 in $(0.7 - 0.9 \, \text{mm})$ $(0.2 \, \text{mm})$ 2nd & 3rd Inner (B) 0.024 - 0.043 in 0.008 in (0.6 - 1.1 mm) (0.2 mm)**Reverse Check Plugs Turning Torque** 43 - 65 in/lb (50 - 75 kg/cm) Input Shaft Front Bearing Snap Ring **Specified Clearance** 0 - 0.004 in (0 - 0.1mm) Input Shaft 5th Synchronizer Hub Snap Ring **Specified Clearance** 0 - 0.004 in (0 - 0.1mm) **Mainshaft Bearing Adjusting Spacer** Bearing Distance "C" 9.0610 - 9.0649 in (230.15 - 230.25 mm) Mainshaft C Ring Specified Clearance 0 - 0.004 in (0 - 0.1 mm) **Differential Side Gear Thrust Washer Specified Clearance** 0.004 - 0.008 in (0.1 - 0.2 mm) **Differential Side Bearing Preload** Preload Dimension 0.0098 - 0.0118 in (0.25 - 0.30 mm)

 Final Drive Turning Torque

 Final drive only
 26 - 61 in/lb (30 - 70 kg/cm)

 Torq. variation per rev.
 8.7 in/lb (10 kg/cm)

 Input Shaft Braking Mechanism

 Maximum height "H"
 2.6441 - 2.6630 in (67.16 - 67.64 mm)

 Clearance "C"
 0.0020 - 0.0049 in (0.05 - 0.125 mm)

 Mainshaft Bearing End Play

 Allowable End play
 0 - 0.004 in (0 - 0.1 mm)

Total Turning Torque

Total Torque 26 - 61 in/lb (30 - 70 kg/cm)





200SX 1997 Quick Reference SR-M/T

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.





200SX 1997 Quick Reference GA-M/T **Mark Actual Notes** to Confirm RS5F31A Clutch Pedal height "H" 6.02 - 6.42 in (153 - 163 mm) Pedal free play "A" 0.433 - 0.591 in (11.0 - 15.0 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 7.0 - 14 ft/lbs (1 - 2 kg/m) (Two Stages) 16 - 22 ft/lbs (2.2 - 3.0 kg/m) **Refill Capacity** (80W-90 API GL-4) 6 1/8 - 6 3/4 pt **Oil Level Check** 2.24 - 2.60 in (57 - 66 mm) **Gear End Play** 1st gear 0.0071 - 0.0122 in (0.18 - 0.31 mm) 2nd gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 3rd gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 4th gear 0.0079 - 0.0118 in (0.20 - 0.30 mm) 0.0071 - 0.0122 in (0.18 - 0.31 mm) 5th gear Clearance Between Baulk Ring And Gear **Standard Wear Limit** 1st - 5th Gear 0.0394 - 0.0531in 0.028 in (1.0 - 1.35 mm) $(0.7 \, \text{mm})$ **Reverse Check Plugs Turning Torque** 43 - 65 in/lb (50 - 75 kg/cm) Input Shaft Front Bearing Snap Ring **Specified Clearance** 0 - 0.004 in (0 - 0.1mm) Input Shaft 5th Synchronizer Hub Snap Ring Specified Clearance 0 - 0.004 in (0 - 0.1mm) Mainshaft C Ring Specified Clearance 0 - 0.004 in (0 - 0.1 mm) **Differential Side Gear Thrust Washer Specified Clearance** 0.004 - 0.008 in (0.1 - 0.2 mm) **Differential Side Bearing Preload** Preload Dimension 0.0094 - 0.0126 in (0.24 - 0.32 mm) **Final Drive Turning Torque** Final drive only 17 - 69 in/lb (20 - 80 kg/cm) Torq. variation per rev. 8.7 in/lb (10 kg/cm) **Mainshaft Bearing Preload** Preload dimension 0.0079 - 0.0098 in (0.20 - 0.25 mm) **Total Turning Torque**

35 - 122 in/lb (40 - 140 kg/cm)

Total Torque





200SX 1997 Quick Reference GA-M/T

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.





200SX 1997 Quick Reference

Heater & A/C

AIR CONDITIONER

Mark Actual to Confirm

Notes

Compressor

Model DKV-14D Type Vane Rotary

Compressor Clutch

Disc-to-Pulley Clearance

0.012 - 0.024 in (0.3 - 0.6 mm)

Refrigerant

Type HFC-134a (R134a) Capacity 1.32 - 1.54 lb.

Refrigerant Oil

Type Nissan Type "R" Lub.

Capacity 6.8 fl oz

Oil to AddPer Evaporator 2.5 oz (75 ml)

 Condenser
 2.5 oz (75 ml)

 *Liquid Tank
 0.2 oz (5 ml)

 Large Refrig. Leak
 1.0 oz (30 ml)

Compressor

(*Add only if comp. is not replaced.)

Engine Idle with A/C On

SR20DE Approx. 850 rpm
GA16DE Approx. 900 rpm

Performance Test

Recirculating-to-Discharge Air Temp

	Recirc .Air Temp. at Blower Assy. Inlet	Discharge Air Temp. at Center Ventilator	
Relative Humidity	F° (C°)	F° (C°)	
50 - 60 %	68° (20°)	40 - 45° (4 - 7°)	
	77° (25°)	46 - 52° (8 - 11°)	
	86° (30°)	53 - 60° (12 - 16°)	
	95° (35°)	60 - 69° (15 - 20°)	
	104° (40°)	67 - 79° (20 - 26°)	
60 - 70 %	68° (20°)	45 - 49° (7 - 9°)	
	77° (25°)	52 - 58° (11 - 15°)	
	86° (30°)	60 - 68° (16 - 20°)	
	95° (35°)	69 - 79° (20 - 26°)	
	104° (40°)	79 - 92° (26 - 34°)	

Ambient Air Temp-to-Operating Pressure					
Air temperature	Relative Humidity 50-709	%			
F°(C°)	High-pres.	Low-pres.			
68°(20°)	146 - 191 psi	16 - 30 psi			
77°(25°)	179 - 232 psi	17 - 33 psi			
86°(30°)	213 - 273 psi	20 - 38 psi			
95°(35°)	274 - 314 psi	23 - 47 psi			
104° (40°)	279 - 356 psi	28 - 57 psi			
Thermo Control Amp	F°(C°)				
Decreasing	37-38 (3 - 4)	Off (12V)			
Increasing	39-41 (4 - 5)	On (0V)			
Thermal Protector	F°(C°)				
Increasing	293-311 (145-155)	Compressor Off			
Decreasing	266-284 (130-140)	Compressor On			
Dual Pressure Switch PSI	On / Continuity	Off / No Continuity			
Low Pres. Side	23 - 31 inc.	23 - 28 dec			
High Pres. Side	270 - 327 dec	384 - 412 inc.			
A/C Drive Belt Deflection	n (Engine Cold)				
	Used Belt	New Belt			
SR20DE					
Deflection Limit	0.45 - 0.49 in (12 - 13 mm	,			
Deflection After Adj.	0.28 - 0.31 in	0.26 - 0.30 in			
	(7 - 8 mm)	(7 - 8 mm)			
GA16DE	0.074 : (0.5)				
Deflection Limit	0.374 in (9.5 mm)	0.00			
Deflection After Adj.	0.24 - 0.26 in	0.20 - 0.24 in			
	(6 - 6.5 mm)	(5 - 6 mm)			



200SX 1997 Quick Reference Heater & A/C

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.





200SX 1997 Quick Reference Suspension **Mark Actual Notes** to Confirm WHEEL ALIGNMENT (UNLADEN) **Nominal** Toe-in Range Total toe-in (A - B) 0.00 - 0.16 in 0.08 in (0 - 4 mm)(2 mm) Total toe-in angle 0.00° - 0.40° 0.20° (left plus right) (0' - 24') (12')Front Wheel Turning Angle (full turn) **Manual Steering Power Steering** 38.00° - 42.00° In/Wheel Range 34.00° - 38.00° (38° 00' - 42° 00') (34° 00' - 38° 00') In/Wheel Nominal 41.00° (41° 00') 37.00° (37° 00') 31.00° (31° 00') Out/Wheel Nominal 34.00° (34° 00') Camber Range -1.33° to 0.17° (-1° 20' to 0° 10') -0.58° (-0° 35') Nominal Left/Right Difference 1.00° (1° 00') Caster Range 0.67° - 2.17° (0° 40' - 2° 10') Nominal 1.42° (1° 25') Left/Right Difference 1.00° (1° 00') Kingpin Inclination 14.00° - 15.50° (14° 00' - 15° 30') Range Nominal 14.75° (14° 45') Set Back 0.0 in +/- (0.0 mm +/-)Wheelbase 99.8 in (2,535 mm) **Rear Wheel Alignment Nominal** Toe-in Range Total toe-in (A - B) 0.04 in -0.12 in to 0.20 in (-3 to 5 mm) (1 mm) Total toe-in angle -0.30° to 0.50° 0.10° (-0° 18' to 0° 30') (left plus right) $(0^{\circ} 6')$ Camber -1.75° to -0.25° (-1° 45' to -0° 15') Range Nominal -1.00° (-1° 00') **Thrust Angle** 0.0° +/- $(0^{\circ}00'$ +/-) **Ball Joint End Play** 0 in(0 mm) Vertical End Play Front Wheel Bearing **Axial End Play** 0.0020 in (0.05 mm) or less

145 - 202 ft/lb (20 - 28 kg/m)

Lock nut torque

Rear Wheel Bearing Axial End Play Lock nut torque	0.0020 in (0.05 mm) or les 137 - 188 ft/lb (19 - 26 kg/		
Wheel Runout Max. Lateral Run out: Max. Radial Run out:	Aluminum Wheel 0.012 in (0.3 mm) 0.012 in (0.3 mm)	Steel Wheel 0.031 in (0.8 mm) 0.020 in (0.5 mm)	
Wheel arch Height (Unla Tire Size 155SR13 175/70R13 175/65R14 195/55R15	Aden) Front Height (Hf) 25.94 in (659 mm) 25.94 in (659 mm) 26.22 in (666 mm) 26.34 in (669 mm)	Rear Height (Hr) 25.20 in (640 mm) 25.28 in (642 mm) 25.51 in (648 mm) 25.59 in (650 mm)	

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





200SX 1997 Quick Reference 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.





200SX 1997 Quick Reference **Brakes Mark Actual Notes** to Confirm **BRAKE SYSTEM Brake Model Code** SR20DE GA16DE CL22VD AD22VE DOT 3 (Recommended) **Brake Fluid** Master Cyl. Bore Dia. W/O ABS 13/16 in (20.64 mm) W/ABS 7/8 in (22.22 mm) Frt Caliper Bore Dia. 2.126 in (54.0 mm) 2.126 in (54.0 mm) **Frt Brake Pad Dimensions** Length 4.17 in (106 mm) 4.17 in (106 mm) Width 1.555 in (39.5 mm) 1.555 in (39.5 mm) **Thickness** 0.43 in (11.0 mm) 0.43 in (11.0 mm) **Frt Brake Pad Wear Limit** Min. Thickness 0.079 in (2.0 mm) 0.079 in (2.0 mm) **Frt Brake Rotor Dimensions** Outer Diameter 9.13 in (232.0 mm) 9.72 in (247.0) Standard Thickness 0.71 in (18.0 mm) 0.71 in (18.0 mm) Frt Brake Rotor Repair/Wear Limits Max. Runout 0.0028 in (0.07 mm) 0.0028 in (0.07 mm) Min. Thickness 0.630 in (16.0 mm) 0.630 in (16.0 mm) Max. Thk. Variation 0.0008 in (0.02 mm) 0.0008 in (0.02 mm) **Rear Drum Rear Disc Rear Brake Code** LT18C CL7HB Rear Cylinder/Caliper 5/8 in (15.87 mm) 1 1/4 in (30.23mm) **Rear Pad/Shoe Dimensions** Length 6.80 in (172.8 mm) 3.7 in (94mm) Width 1.18 in (30 mm) 1.14 in (29) **Thickness** 0.16 in (4.0 mm) 0.39 in (10 mm) Rr Pad/Shoe Min Thk 0.059 in (1.5mm) 0.059 in (1.5 mm) **Rear Drum/Rotor Dimensions** Drum inside diameter 7.09 in(180mm) Rotor Thickness 0.28 in (7 mm) Rotor outside diameter 9.21 in (234 mm)

Rear Brake Drum/Rotor Max. Inside Dia. Max Out-of-Round Minimum Thickness Maximum Runout Maximum Thickness Vari	7.13 in (181 mm) 0.0012 in (0.03 mm)	0.236 in (6.0 mm) 0.0028 in (0.07 mm) 0.0008 in (0.02 mm)	
Brake Pedal Dimen. Free Height 'H' Depressed Height 'D' Switch Clearance 'C' Pedal Free Play 'A'	Manual Trans 5.83 - 6.22 in (148 - 158 mm) 2.95 in (75 mm) 0.012 - 0.039 in (.3 - 1.0 r 0.039 - 0.118 in (1.0 - 3.0		
Brake Booster Output Rod Length Clevis Length	S205 or C205 or M195T 0.404 - 0.414 in(10.275 - 4.9 in(125 mm)	10.525 mm)	
Proportioning Valve Pre GA16DE SR20DE	Applied Pressure (Front Brakes) 1067 psi (75 kg/cm²) 924 psi (65 kg/cm²)	Output Pressure (Rear Brakes) 739 - 796 psi (52-56 kg/cm ²) 597 - 654 psi (42-46 kg/cm ²)	
Parking Brake Control Number of Notches	Drum 7 - 8 [Under force of 44 lb (20 kg)	Disc 8 - 9 (g)]	
ABS Wheel Sensor Clearance Frt/Rr Resistance Sensor Rotor to hub	0.004 - 0.043 in (0.1 -1.1 0.6 - 3.25 k Ω 0.177 - 0.217 in(4.5 - 5.5	·	

Wheel Lug Nut 72-87 ft lb (10-12 kg-m)





200SX 1997 Quick Reference 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.





200SX 1997 Quick Reference

Electrical

Mark Actual to Confirm

Notes

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 DG = Dark Green

When a wire color is striped, the base color is given first, followed

CH = Dark Brown

by the stripe color. Example L/W = Blue with white stripe

Battery specification:

Group size 21F

Capacity 12 V / 60 AH

Cold cranking current 490 A
Reserve capacity 88 minutes
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 full discharged battery.

If battery electrolyte temperature rises above 140°F, stop charging

Starter: (Engine GA)

	M0T80281ZC	M2T49283ZC	S114-802A
Type	MITSUE	BISHI	HITACHI
	Reduction	Non-reduction	Reduction
Applied Model	M/T		A/T
	Federal	California	
No-load Current	90 A Max.	53 A Max.	90 A Max.
No-load RPM	2750 Min.	6000 Min.	2750 Min

Starter: (Engine SR)

	M1T72985A	S114-701C
Type	MITSUBISHI	HITACHI
	Reduction	Reduction
No-load Current	90 A Max.	90 A Max.
No-load RPM	3000 Min.	2950 Min

Alternator:

Type HITACHI LR180-751 (engine GA)

HITACHI LR180-741H (engine SR)

Nominal Rating 12 V / 80 A Regulated Output Voltage 14.1 - 14.7

Output Current A/RPM More Than 23 /1,300 (with 13.5V applied) More Than 65 / 2,500 More Than 77 / 5,000

Thermal Transmitter (Water Temp. Sensor For Gauge)

Water Temperature Resistance

140°F (60°C) Approx. 170 - 210 Ω (engine GA) Approx. 70 - 90 Ω (engine SR) 212°F (100°C) Approx. 47 - 53 Ω (engine GA)

Approx. 21 - 24 Ω (engine SR)

Oil Pressure Switch:

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

Bulb Specifications:

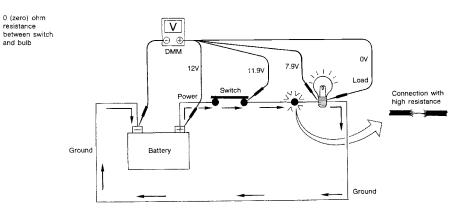
Item	Wattage (12V)	Bulb No.
Headlamp High/Low	65/45 (Sentra)	HB9004
	65/55 (200SX)	HB5 9007
Front Combination Lamp	27/8	1157NA
Front Fog Lamp	35	H3 (special)
Rear Turn Signal	27	1156
Stop/Tail Lamp	27/8	1157
Center Stop Lamp	13	912
Back-up Lamp	13 (Sentra)	921
	27 (200SX)	1156
License Plate Lamp	5	168

How to perform voltage drop test: See Illustrations

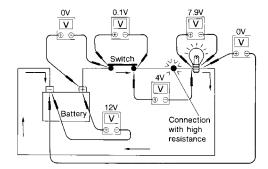
Symptom: Dim bulb or no operation

0 (zero) ohm

resistance



AGI069



- Connect the voltmeter as shown, starting at the battery and working your way around the circuit.
 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.

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

AGI055





200SX 1997 Quick Reference Electrical

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.