

C - SPECIFICATIONS

1993 Nissan Sentra

1993 ENGINE PERFORMANCE
Nissan - Service & Adjustment Specifications

Altima, Maxima, NX, Pathfinder, Pickup, Quest, Sentra, 240SX,
300ZX

INTRODUCTION

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. Use this quick-reference article when you are familiar with an adjustment procedure and only need a specification.

CAPACITIES

BATTERY SPECIFICATIONS

Application & Group	Amp Hr. Rating
Altima, NX, Pathfinder & Pickup	60
Quest, Sentra & 240SX	60
Maxima	50
300ZX	65

FLUID CAPACITIES - 4-CYLINDER

Application	Quantity
Crankcase (Includes Filter)	
Altima	4.2 Qts. (3.9L)
NX & Sentra	
1.6L	3.4 Qts. (3.2L)
2.0L	3.6 Qts. (3.4L)
Pickup	
2WD	4.1 Qts. (3.9L)
4WD	3.5 Qts. (3.3L)
240SX	4.0 Qts. (3.8L)
Cooling System (Includes Heater)	
Altima	8.3 Qts. (7.8L)
NX & Sentra	
1.6L	
A/T	5.6 Qts. (5.3L)
M/T	5.4 Qts. (5.1L)
2.0L	
A/T	6.1 Qts. (5.8L)
M/T	5.9 Qts. (5.6L)
Pickup	
2WD	8.6 Qts. (8.1L)
4WD	9.5 Qts. (9.0L)
240SX	7.1 Qts. (6.7L)
Manual Transaxle (SAE 80W-90/API GL-4)	
Altima	10.0 Pts. (4.7L)
NX & Sentra	
4-Speed (1.6L)	6.0 Pts. (2.8L)
5-Speed (1.6L)	6.1 Pts. (2.9L)
5-Speed (2.0L)	7.6 Pts. (3.6L)
Manual Transmission (SAE 80W-90/API GL-4)	
Pickup (1)	

2WD	4.2 Pts. (2.0L)
4WD	8.5 Pts. (4.0L)
240SX	5.1 Pts. (2.4L)
Automatic Transaxle (Dexron-II E) (2)	
Altima	10 Qts. (9.4L)
NX & Sentra	
3-Speed	6.3 Qts. (6.0L)
4-Speed	7.4 Qts. (7.0L)
Automatic Transmission (Dexron-II) (2)	
Pickup (2)	
2WD	8.3 Qts. (7.8L)
4WD	9.0 Qts. (8.5L)
240SX	8.8 Qts. (8.3L)
Differential (SAE 80W-90/API GL-5)	
Pickup (1)	
2WD (Rear)	3.2 Pts. (1.5L)
4WD (Front & Rear)	2.7 Pts. (1.3L)
240SX	
R200	2.7 Pts. (1.3L)
R200V	3.2 Pts. (1.5L)
Transfer Case	
Pickup	2.3 Qts. (2.2L)

- (1) - Start capacity. Fill to top of filler plug.
(2) - Start capacity. Fill to FULL mark on dipstick.

FLUID CAPACITIES - V6

Application	Quantity
Crankcase (Includes Filter)	
Maxima	4.1 Qts. (3.9L)
Pathfinder & Pickup	
2WD	4.2 Qts. (4.0L)
4WD	3.6 Qts. (3.4L)
Quest	4.3 Qts. (4.0L)
300ZX	3.6 Qts. (3.4L)
Cooling System (Includes Heater)	
Maxima	
VG30E	8.8 Qts. (8.3L)
VE30DE	11.2 Qts. (10.6L)
Pathfinder & Pickup	
2WD	11.4 Qts. (10.7L)
4WD	12.4 Qts. (11.7L)
Quest	
With Tow Package	
With Rear Heater	13.8 Qts. (13.0L)
Without Rear Heater	12.3 Qts. (11.6L)
Without Tow Package	
With Rear Heater	12.8 Qts. (12.1L)
Without Rear Heater	11.4 Qts. (10.7L)
300ZX	9.5 Qts. (9.0L)
Manual Transaxle (API GL-4)	
Maxima	10 Pts. (4.7L)
Manual Transmission (API GL-4/SAE 90)	
Pathfinder & Pickup (1)	
2WD	5.1 Pts. (2.4L)
4WD	7.6 Pts. (3.6L)
300ZX	6.0 Pts. (2.8L)
Automatic Transaxle (Dexron-II E) (2)	
Maxima	
VG30E	7.8 Qts. (7.4L)

VE30DE	9.9 Qts. (9.4L)
Quest	10.0 Qts. (9.5L)
Automatic Transmission (Dexron-II) (2)	
Pathfinder & Pickup	
2WD	16.7 Pts. (7.9L)
4WD	18.0 Pts. (8.5L)
300ZX	
Non-Turbo	8.8 Qts. (8.3L)
Turbo	8.6 Qts. (8.2L)
Differential (SAE 80W-90/API GL-5)	
Pathfinder & Pickup (1)	
Front (4WD)	3.2 Pts. (1.5L)
Rear (2WD & 4WD)	5.9 Pts. (2.8L)
300ZX	
Non-Turbo	3.2 Pts. (1.5L)
Turbo	3.8 Pts. (1.8L)
Transfer Case	
Pathfinder & Pickup	4.6 Pts. (2.2L)

- (1) - Start capacity. Fill to top of filler plug.
(2) - Start capacity. Fill to FULL mark on dipstick.

QUICK-SERVICE

SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS

Component	Interval (Miles)
Air Filter	30,000
Coolant	(2) 60,000
Fuel Filter	As Needed
Oil & Filter	
300ZX Turbo	(1) 5000
Except 300ZX Turbo	(1) 7500
Spark Plugs	
Conventional	30,000
Platinum	60,000
Timing Belt (V6 Engines)	60,000

- (1) - Every 3000 miles for severe service.
(2) - Change engine coolant at 60,000 miles, then every 30,000 miles.

BELT ADJUSTMENT - 4-CYLINDER

Application	(1) Deflection - In. (mm)
Alternator	
Altima	1/4 (6)
NX & Sentra	5/16 (8)
Pickup	13/32 (10)
240SX	9/32 (7)
A/C Compressor	
Altima	3/16 (5)
NX & Sentra	9/32 (7)
Pickup	13/32 (10)
240SX	5/16 (8)
Power Steering Pump	

Altima	1/4 (6)
NX & Sentra	3/16 (5)
Pickup	3/8 (9)
240SX	
With SUPER HICAS	9/32 (7)
Without SUPER HICAS	5/16 (8)

(1) - Deflection is with 22 lbs. (10 kg) pressure applied midway on longest belt run.

BELT ADJUSTMENT - V6

Application	(1) Deflection In. (mm)
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Alternator

Maxima	5/16 (8)
Pathfinder, Pickup, Quest & 300ZX	9/32 (7)

A/C Compressor

Maxima & Quest	1/4 (6)
Pathfinder & Pickup	3/8 (9)
300ZX	5/16 (8)

Power Steering Pump

Maxima	
VG30E	13/32 (10)
VE30DE	5/16 (8)
Pathfinder, Pickup & Quest	7/16 (11)
300ZX	
Non-Turbo	7/16 (11)
Turbo	13/32 (10)

(1) - Deflection is with 22 lbs. (10 kg) pressure applied midway on longest belt run.

MECHANICAL CHECKS

ENGINE COMPRESSION

Check engine compression with engine at normal operating temperature at specified cranking speed, all spark plugs removed (on dual plugs, remove exhaust side only) and throttle wide open.

COMPRESSION SPECIFICATIONS - 4-CYLINDER

Application	Specification
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Compression Ratio

Altima	9.2:1
NX, Sentra & 240SX	9.5:1
Pickup	8.6:1

Normal Compression Pressure

Altima	178 psi (12.5 kg/cm ²)
NX & Sentra	
1.6L	192 psi (13.5 kg/cm ²)
2.0L	178 psi (12.5 kg/cm ²)
Pickup	192 psi (13.5 kg/cm ²)
240SX	179 psi (12.6 kg/cm ²)

Minimum Compression Pressure

Altima	149 psi (10.5 kg/cm ²)
NX & Sentra	

1.6L	164 psi (11.5 kg/cm ²)
2.0L	149 psi (10.5 kg/cm ²)
Pickup	142 psi (10.0 kg/cm ²)
240SX	151 psi (10.6 kg/cm ²)
Maximum Variation Between Cylinders ..	14 psi (1.0 kg/cm ²)

COMPRESSION SPECIFICATIONS - V6

Application	Specification
Compression Ratio	
Maxima	
VG30E	9.0:1
VE30DE	10.0:1
Pathfinder, Pickup & Quest	9.0:1
300ZX	
Non-Turbo	10.5:1
Turbo	8.5:1
Normal Compression Pressure	
Maxima	
VG30E	173 psi (12.2 kg/cm ²)
VE30DE	183 psi (12.9 kg/cm ²)
Pathfinder, Pickup & Quest	173 psi (12.2 kg/cm ²)
300ZX	
Non-Turbo	186 psi (13.1 kg/cm ²)
Turbo	171 psi (12.0 kg/cm ²)
Minimum Compression Pressure (1)	
Maxima	
VG30E	128 psi (9.0 kg/cm ²)
VE30DE	142 psi (10.0 kg/cm ²)
Pathfinder, Pickup & Quest	128 psi (9.0 kg/cm ²)
300ZX	
Non-Turbo	142 psi (10.0 kg/cm ²)
Turbo	128 psi (9.0 kg/cm ²)
Maximum Variation Between Cylinders ..	14 psi (1.0 kg/cm ²)

(1) - Minimum compression at 300-350 RPM.

VALVE CLEARANCE

NOTE: All engines, except KA24DE and GA16DE, are equipped with hydraulic lifters. Adjustments are not required.

VALVE CLEARANCE SPECIFICATIONS

Application	Hot - In. (mm)
Altima & 240SX (KA24DE Engine)	
Intake .....	.012-.015 (.30-.38)
Exhaust .....	.013-.016 (.33-.41)
NX 1.6L & Sentra 1.6L (GA16DE Engine)	
Intake .....	.008-.019 (.21-.49)
Exhaust .....	.012-.023 (.30-.58)

IGNITION SYSTEM

IGNITION COIL

IGNITION COIL RESISTANCE - 4-CYLINDER (Ohms @ 68°F (20°C))

Application	Primary	Secondary
Altima & 240SX	1.0	10,000
NX & Sentra		
1.6L	0.9	13,000
2.0L	1.0	10,000
Pickup	0.7	(1)

(1) - Secondary resistance cannot be read on Pickup.

IGNITION COIL RESISTANCE - V6 (Ohms @ 68°F (20°C))

Application	Primary	Secondary
Maxima		
VG30E	1.0	8200-12,400
VE30DE	0.8	Infinite
Pathfinder, Pickup & Quest	1.0	10,000
300ZX	0.7	(1)

(1) - Information not available at time of publication.

HIGH TENSION WIRE RESISTANCE

HIGH TENSION WIRE RESISTANCE

Application (1)	Ohms
Plug Wires	30,000 Maximum
Coil Wire	7000 Maximum

(1) - Not applicable to Distributorless Ignition Systems (DIS).

SPARK PLUGS

SPARK PLUG TYPE - 4-CYLINDER

Application	NGK
Altima & 240SX	BKR5E-11
NX & Sentra (1)	
1.6L	BKR5E
2.0L	
Standard	BKR6E
Platinum	PFR5B-11
Pickup	ZFR5E-11

(1) - Spark plug type for Sentra has been revised by manufacturer in Nissan Technical Service Bulletin number NTB93-022 to BKR5E-11 (standard), BKR4E-11 (hot type) and BKR6E-11 (cold type).

SPARK PLUG TYPE - V6

Application	NGK
Maxima	

VG30E	BKR5ES-11
VE30DE	PFR5C-11
Pathfinder & Pickup	BKR6EY
Quest	BKR5EY-11
300ZX	
Non-Turbo	PFR6B-11
Turbo	PFR5B-11B

SPARK PLUG SPECIFICATIONS - 4-CYLINDER

Application	Gap		Torque	
	In.	(mm)	Ft. Lbs.	(N.m)
Altima .....	.039-.043	(1.00-1.10)	.. 14-22	(20-29)
NX & Sentra				
1.6L .....	.039-.043	(1.00-1.10)	.. 14-22	(20-29)
2.0L .....	.031-.035	(0.80-0.90)	.. 14-22	(20-29)
Pickup .....	.039-.043	(1.00-1.10)	.. 14-22	(20-29)
240SX .....	.039-.043	(1.00-1.10)	.. 14-22	(20-29)

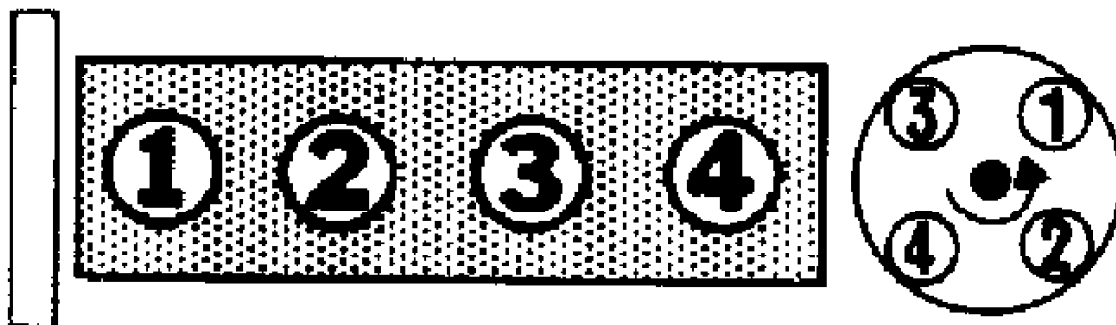
SPARK PLUG SPECIFICATIONS - V6

Application	Gap		Torque	
	In.	(mm)	Ft. Lbs.	(N.m)
Maxima & 300ZX ..	.039-.043	(1.00-1.10)	.. 14-22	(20-29)
Pathfinder .....	.031-.035	(0.80-0.90)	.. 14-22	(20-29)
Pickup .....	.031-.035	(0.80-0.90)	.. 14-22	(20-29)
Quest .....	.031-.035	(0.80-0.90)	.. 14-22	(20-29)

FIRING ORDER & DISTRIBUTOR ROTATION

NOTE: For firing order and distributor rotation, see Figs. 1-3.

↓ FRONT OF VEHICLE



FIRING ORDER 1-3-4-2

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Fig. 1: Firing Order & Distributor Rotation (Altima, NX, Pickup 2.4L & Sentra)

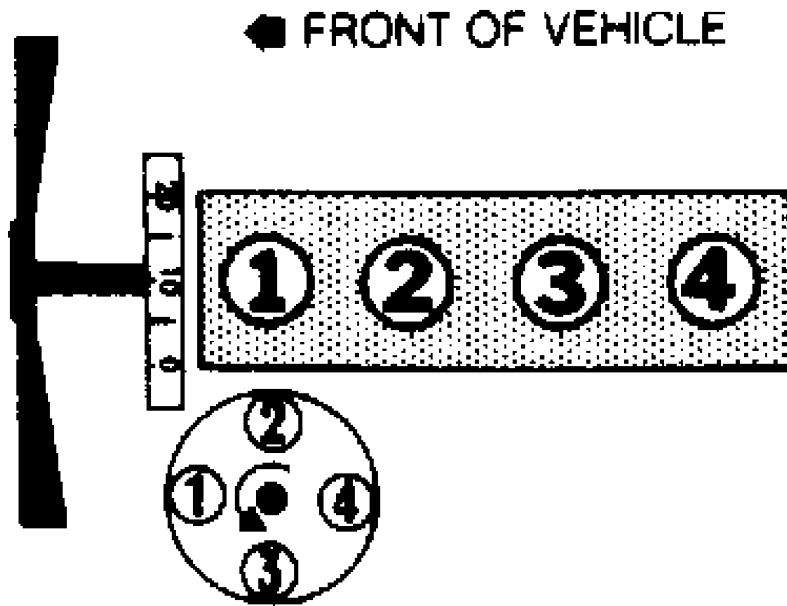


Fig. 2: Firing Order & Distributor Rotation (240SX)

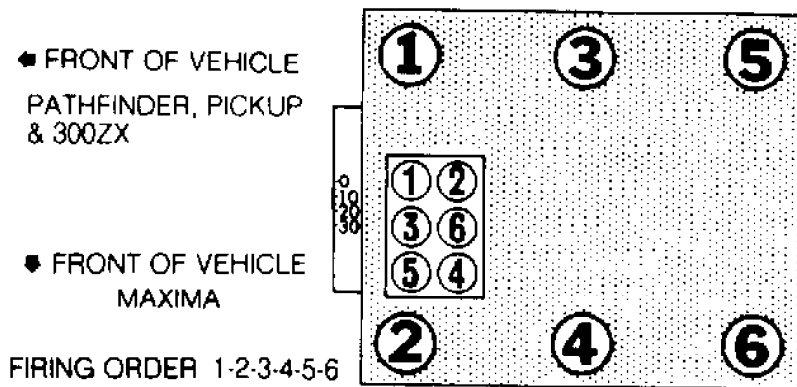


Fig. 3: Firing Order & Distributor Rotation (Maxima, Pathfinder, Pickup 3.0L, Quest & 300ZX)

IGNITION TIMING

NOTE: For ignition timing adjustment procedures, see information in D - ADJUSTMENTS article.

IGNITION TIMING - 4-CYLINDER (Degrees BTDC @ RPM)

Application	Man. Trans.	(1) Auto. Trans.
Altima & 240SX	18-22 @ 700-800	18-22 @ 700-800
NX & Sentra		
1.6L	8-12 @ 600-700	8-12 @ 800-900
2.0L	13-17 @ 800-900	13-17 @ 800-900
Pickup	8-12 @ 750-850	8-12 @ 750-850

(1) - Automatic transmission/transaxle in Neutral.

IGNITION TIMING - V6 (Degrees BTDC @ RPM)

Application	Man. Trans.	(1) Auto. Trans.
Maxima	13-17 @ 700-800	13-17 @ 700-800
Pathfinder	13-17 @ 700-800	13-17 @ 700-800
Pickup	13-17 @ 700-800	13-17 @ 700-800
Quest	13-17 @ 700-800	13-17 @ 700-800
300ZX		
Non-Turbo	13-17 @ 650-750	13-17 @ 720-820
Turbo	13-17 @ 650-750	13-17 @ 700-800

(1) - Automatic transmission/transaxle in Neutral.

FUEL SYSTEM

FUEL PUMP

REGULATED FUEL PRESSURE

Application	At Idle	At Idle
	W/O Vacuum psi (kg/cm ²)	W/Vacuum psi (kg/cm ²)
Altima	43 (3.0)	34 (2.4)
Maxima	44 (3.1)	36 (2.5)
NX & Sentra	36 (2.5)	43 (3.0)
Pathfinder	43 (3.0)	34 (2.4)
Pickup	43 (3.0)	33 (2.3)
Quest	43 (3.0)	34 (2.4)
240SX	43 (3.0)	34 (2.4)
300ZX	43 (3.0)	36 (2.5)

INJECTOR RESISTANCE

INJECTOR RESISTANCE SPECIFICATIONS

Application	Ohms
Altima	(1) 11
Maxima, Pathfinder, Quest & 300ZX	10-14
NX & Sentra	
1.6L	10
2.0L	10-14

Pickup		
4-Cylinder	.....	10-15
V6	.....	10-14
240SX	.....	11

(1) - Value given is approximate.

IDLE SPEED & MIXTURE

NOTE: For idle speed and mixture adjustment procedures, see D - ADJUSTMENTS article.

IDLE SPEED & CO LEVEL - 4-CYLINDER

Application	(1) Idle RPM	(2) Idle RPM	(3) Maximum CO Level
Altima	(4) 650-750	(4) 600-700	5.0%
NX & Sentra			
1.6L			
A/T	(4) 750-850	(4) 675-775	7.0%
M/T	600-700	550-650	7.0%
2.0L	(4) 750-850	(4) 700-800	10.0%
Pickup	(4) 750-850	(4) 700-800	5.0%
240SX	(4) 650-750	(4) 600-700	7.0%

- (1) - With throttle position sensor connected.
- (2) - With throttle position sensor disconnected.
- (3) - Measured in Self-Diagnostic Mode II.
- (4) - Automatic transmission/transaxle in Neutral.

IDLE SPEED & CO LEVEL - V6

Application	(1) Idle RPM	(2) Idle RPM	(3) CO Level
Maxima			
VG30E	(4) 650-750	(4) 700	0.2-8.0%
VE30DE	(4) 650-750	(4) 650-750	0.2-8.0%
Pathfinder	(4) 700-800	(4) 700	0.2-8.0%
Pickup	(4) 700-800	(4) 700	0.2-8.0%
Quest	(4) 650-750	(4) 700-800	0.2-8.0%
300ZX			
A/T			
Non-Turbo	(4) 720-820	(4) 720	0.2-8.0%
Turbo	(4) 700-800	(4) 700	0.2-8.0%
M/T	650-750	650	0.2-8.0%

- (1) - With Auxiliary Air Control (AAC) valve connected.
- (2) - With Auxiliary Air Control (AAC) valve disconnected.
- (3) - Measured in Self-Diagnostic Mode II.
- (4) - Automatic transmission/transaxle in Neutral.

THROTTLE POSITION SENSOR

For adjustment specifications, see appropriate adjustment procedures in D - ADJUSTMENTS article.

THROTTLE POSITION SWITCH

CLOSED THROTTLE POSITION SWITCH SPECIFICATIONS - 4-CYLINDER

Application	Terminals	(1) Ohms
Altima A/T, NX 2.0L A/T & Sentra 2.0L A/T		
Closed Throttle	1 & 2	Continuity
Open Throttle	1 & 2	No Continuity
240SX A/T		
Closed Throttle	B & C	Continuity
Open Throttle	B & C	No Continuity

(1) - With ignition off.

WOT POSITION SWITCH SPECIFICATIONS - 4-CYLINDER

Application	Terminals	(1) Ohms
Altima A/T, NX 2.0L A/T & Sentra 2.0L A/T		
Closed Throttle	2 & 3	No Continuity
Open Throttle	2 & 3	Continuity
240SX A/T		
Closed Throttle	A & B	No Continuity
Open Throttle	A & B	Continuity

(1) - With ignition off.

CLOSED THROTTLE POSITION SWITCH SPECIFICATIONS - V6

Application	Terminals	(1) Ohms
Maxima (VG30E)		
Closed Throttle	B & C	Continuity
Open Throttle	B & C	No Continuity
Pathfinder, Pickup, Quest & 300ZX		
Closed Throttle	A & B	Continuity
Open Throttle	A & B	No Continuity

(1) - With ignition off.

WOT POSITION SWITCH SPECIFICATIONS - V6

Application	Terminals	(1) Ohms
Maxima (VG30E)		
Closed Throttle	A & B	No Continuity
Open Throttle	A & B	Continuity
Pathfinder, Pickup & 300ZX		
Closed Throttle	B & C	No Continuity
Open Throttle	B & C	Continuity

(1) - With ignition off.
