

# NISSAN PATHFINDER

MODEL R50 SERIES

## QUICK REFERENCE INDEX

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ACCELERATOR CONTROL, FUEL & _____ EXHAUST SYSTEMS	FE
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# FOREWORD

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This manual contains maintenance and repair procedures for the 1997 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.

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## 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



**PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!**

Your comments are important to NISSAN and will help us to improve our Service Manuals. Use this form to report any issues or comments you may have regarding our Service Manuals. Please photocopy this form and type or print your comments below. Mail or fax to:

Nissan North America, Inc.  
Technical Service Information  
39001 Sunrise Drive, P.O. Box 9200  
Farmington Hills, MI USA 48331  
FAX: (810) 488-3910

**SERVICE MANUAL: Model:** \_\_\_\_\_ **Year:** \_\_\_\_\_

**PUBLICATION NO. (Please photocopy back cover):** \_\_\_\_\_

**VEHICLE INFORMATION VIN:** \_\_\_\_\_ **Production Date:** \_\_\_\_\_

Please describe any issues or problems in detail:

Page number(s) \_\_\_\_\_ *Note: Please include a copy of each page, marked with your comments.*

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**Are the trouble diagnosis procedures logical and easy to use? (circle your answer) YES NO**

If no, what page number(s)? \_\_\_\_\_ *Note: Please include a copy of each page, marked with your comments.*

Please describe the issue or problem in detail: \_\_\_\_\_

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**Is the organization of the manual clear and easy to follow? (circle your answer) YES NO**

Please comment: \_\_\_\_\_

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**What information should be included in NISSAN Service Manuals to better support you in servicing or repairing customer vehicles?**

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**DATE:** \_\_\_\_\_ **YOUR NAME:** \_\_\_\_\_ **POSITION:** \_\_\_\_\_

**DEALER:** \_\_\_\_\_ **DEALER NO.:** \_\_\_\_\_ **ADDRESS:** \_\_\_\_\_

**CITY:** \_\_\_\_\_ **STATE/PROV./COUNTRY:** \_\_\_\_\_ **ZIP/POSTAL CODE:** \_\_\_\_\_

# QUICK REFERENCE CHART: PATHFINDER 1997

## ENGINE TUNE-UP DATA

Engine model		VG33E	
Firing order		1-2-3-4-5-6	
Idle speed	rpm	750±50	
	M/T (in "N" position)	750±50	
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)	
Alternator	Limit	Used belt	
		Deflection after adjustment	Deflection of new belt
	With air conditioner compressor	16.5 (0.650)	10.5 - 11.5 (0.413 - 0.453)
Without air conditioner compressor	10.5 (0.413)	6 - 7 (0.24 - 0.28)	5.5 - 6.5 (0.217 - 0.256)
Power steering oil pump	18 (0.71)	11 - 13 (0.43 - 0.51)	9 - 10 (0.35 - 0.39)
Applied pressed force		N (kg, lb)	
		98 (10, 22)	
Radiator cap relief pressure		kPa (kg/cm <sup>2</sup> , psi)	
		78 - 98 (0.8 - 1.0, 11 - 14)	
Cooling system leakage testing pressure		kPa (kg/cm <sup>2</sup> , psi)	
		157 (1.6, 23)	
Compression pressure		kPa (kg/cm <sup>2</sup> , psi)/rpm	
Standard		1,196 (12.20, 173.4)/300	
Minimum		883 (9.01, 128.0)/300	
Spark plug		Type	
		BKR5ES-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°)	
	Inside	Nominal	33°00' (33.00°)	35°00' (35.00°)
		Maximum	34°00' (34.00°)	36°00' (36.00°)
Outside	Minimum	28°00' (28.00°)	30°00' (30.00°)	
	Nominal	32°00' (32.00°)	34°00' (34.00°)	

\* Fuel, radiator coolant and engine oil full.

## 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
Fuel tank		80	21-1/8 gal
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	2.8	5-7/8 pt
Power steering system		0.9	1 qt
Air conditioning system	Refrigerant	0.60 - 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	78 - 98 (8 - 10, 58 - 72)
	Tightening torque	N-m (kg-m, ft-lb)
	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	N (kg, lb)
	Turning angle	degree
	Starting force at wheel hub bolt	N (kg, lb)
Wheel bearing preload at wheel hub bolt B - A	N (kg, lb)	7.06 - 20.99 (0.72 - 2.14, 1.59 - 4.72)

**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 <sup>2</sup>
	EVAP control system purge flow monitoring	P1447	06H	83H	Min.	20mV
HO2S	Heated oxygen sensor 1 (Bank 1)	P0130	09H	04H	Max.	10ms
		P0130	0AH	84H	Min.	10mV
		P0130	0BH	04H	Max.	10mV
		P0130	0CH	04H	Max.	10mV
		P0130	0DH	04H	Max.	1s
	Heated oxygen sensor 1 (Bank 2)	P0150	11H	05H	Max.	10ms
		P0150	12H	85H	Min.	10mV
		P0150	13H	05H	Max.	10mV
		P0150	14H	05H	Max.	10mV
		P0150	15H	05H	Max.	1s
	Heated oxygen sensor 2 (Bank 1)	P0136	19H	86H	Min.	10mV/500ms
		P0136	1AH	86H	Min.	10mV
		P0136	1BH	06H	Max.	10mV
		P0136	1CH	06H	Max.	10mV
	Heated oxygen sensor 2 (Bank 2)	P0156	21H	87H	Min.	10mV/500ms
		P0156	22H	87H	Min.	10mV
P0156		23H	07H	Max.	10mV	
P0156		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
		P0400	35H	0CH	Max.	1°C
	EGRC-BPT valve function	P0402	36H	0CH	Max.	1count
		P0402	37H	8CH	Min.	1count