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# NISSAN XTERRA

MODEL N50 SERIES

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## QUICK REFERENCE INDEX

<b>A GENERAL INFORMATION</b>	<b>GI General Information</b>
<b>B ENGINE</b>	<b>EM Engine Mechanical</b>
	<b>LU Engine Lubrication System</b>
	<b>CO Engine Cooling System</b>
	<b>EC Engine Control System</b>
	<b>FL Fuel System</b>
	<b>EX Exhaust System</b>
	<b>STR Starting System</b>
	<b>ACC Accelerator Control System</b>
	<b>HBC Hybrid Control System</b>
	<b>HBB Hybrid Battery System</b>
<b>C HYBRID</b>	<b>CL Clutch</b>
<b>D TRANSMISSION &amp; DRIVE-LINE</b>	<b>TM Transaxle &amp; Transmission</b>
	<b>DLN Driveline</b>
	<b>FAX Front Axle</b>
	<b>RAX Rear Axle</b>
	<b>FSU Front Suspension</b>
<b>E SUSPENSION</b>	<b>RSU Rear Suspension</b>
	<b>SCS Suspension Control System</b>
	<b>WT Road Wheels &amp; Tires</b>
	<b>BR Brake System</b>
	<b>PB Parking Brake System</b>
<b>F BRAKES</b>	<b>BRC Brake Control System</b>
	<b>ST Steering System</b>
	<b>STC Steering Control System</b>
<b>G STEERING</b>	<b>SB Seat Belt</b>
<b>H RESTRAINTS</b>	<b>SBC Seat Belt Control System</b>
	<b>SR SRS Airbag</b>
	<b>SRC SRS Airbag Control System</b>
	<b>VTL Ventilation System</b>
<b>I VENTILATION, HEATER &amp; AIR CONDITIONER</b>	<b>HA Heater &amp; Air Conditioning System</b>
	<b>HAC Heater &amp; Air Conditioning Control System</b>
	<b>INT Interior</b>
<b>J BODY INTERIOR</b>	<b>IP Instrument Panel</b>
	<b>SE Seat</b>
	<b>ADP Autodrive Positioner System</b>
	<b>AP Adjustable Pedals</b>
	<b>DLK Door &amp; Lock</b>
<b>K BODY EXTERIOR, DOORS, ROOF &amp; VEHICLE SECURITY</b>	<b>SEC Security Control System</b>
	<b>GW Glass &amp; Window System</b>
	<b>PWC Power Window Control System</b>
	<b>RF Roof</b>
	<b>EXT Exterior</b>
	<b>BRM Body Repair Manual</b>
	<b>MIR Mirrors</b>
<b>EXL Exterior Lighting System</b>	
<b>L DRIVER CONTROLS</b>	<b>INL Interior Lighting System</b>
	<b>WW Wiper &amp; Washer</b>
	<b>DEF Defogger</b>
	<b>HRN Horn</b>
	<b>PWO Power Outlet</b>
	<b>BCS Body Control System</b>
	<b>LAN LAN System</b>
	<b>PCS Power Control System</b>
<b>CHG Charging System</b>	
<b>M ELECTRICAL &amp; POWER CONTROL</b>	<b>PG Power Supply, Ground &amp; Circuit Elements</b>
	<b>MWI Meter, Warning Lamp &amp; Indicator</b>
	<b>WCS Warning Chime System</b>
	<b>SN Sonar System</b>
	<b>AV Audio, Visual &amp; Navigation System</b>
<b>O CRUISE CONTROL</b>	<b>CCS Cruise Control System</b>
<b>P MAINTENANCE</b>	<b>MA Maintenance</b>

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# FOREWORD

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This manual contains maintenance and repair procedure for the 2008 NISSAN XTERRA.

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.

## IMPORTANT SAFETY NOTICE

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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.



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Technical Publications Department



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

**PUBLICATION NO. (Refer to Quick Reference Index):** \_\_\_\_\_

Please describe any Service Manual 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**

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**What information should be included in INFINITI 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: XTERRA

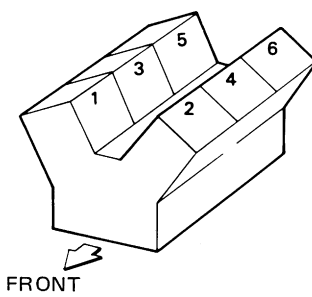
Engine Tune-up Data

INFOID:000000006179694

GENERAL SPECIFICATIONS

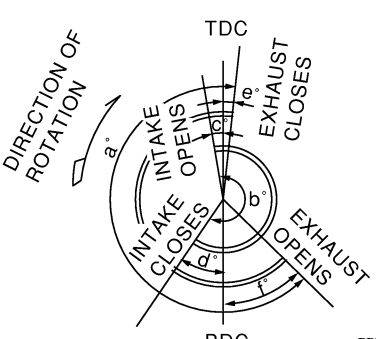
Cylinder arrangement		V-6
Displacement cm <sup>3</sup> (cu in)		3,954 (241.30)
Bore and stroke mm (in)		95.5 × 92.0 (3.76 × 3.622)
Valve arrangement		DOHC
Firing order		1-2-3-4-5-6
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		4
Compression ratio		9.7
Compression pressure kPa (kg/cm <sup>2</sup> , psi)/300 rpm	Standard	1,275 (13.0, 185)
	Minimum	981 (10.0, 142)
	Differential limit between cylinders	98 (1.0, 14)

Cylinder number



SEM713A

Valve timing  
(Intake valve timing control - "OFF")



PBIC0187E

Unit: degree

a	b	c	d	e	f
244	240	-4	64	6	58

DRIVE BELT

Tension of drive belts	Auto adjustment by auto tensioner
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SPARK PLUG

# QUICK REFERENCE CHART: XTERRA

2008

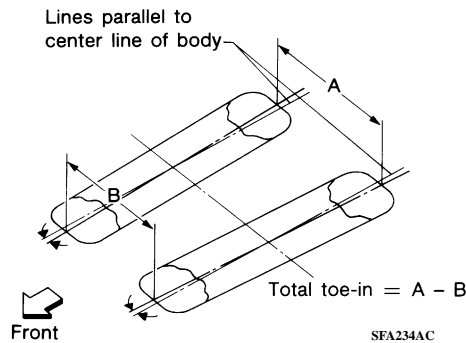
Make	NGK
Standard type*	DILFR5A-11
Gap (nominal)	1.1 mm (0.043 in)

\*: Always check with the Parts Department for the latest parts information

## Front Wheel Alignment (Unladen\*1)\*6

INFOID:000000006179693

Drive type		2WD	4WD
Camber Degree minute (decimal degree)	Minimum	-0° 30' (-0.50°)	-0° 15' (-0.25°)
	Nominal	0° 15' (0.25°)	0° 30' (0.50°)
	Maximum	1° 0' (1.00°)	1° 15' (1.25°)
	Cross camber	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Caster Degree minute (decimal degree)	Minimum	2° 15' (2.25°)	2° 0' (2.00°)
	Nominal	3° 0' (3.00°)	2° 45' (2.75°)
	Maximum	3° 45' (3.75°)	3° 30' (3.50°)
	Cross caster	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Kingpin inclination Degree minute (decimal degree)	Nominal	13° 0' (13.00°)	12° 45' (12.75°)



Total toe-in	Distance (A – B)	Minimum	3.0 mm (0.12 in)	3.0 mm (0.12 in)
		Nominal	4.0 mm (0.16 in)	4.0 mm (0.16 in)
		Maximum	5.0 mm (0.20 in)	5.0 mm (0.20 in)
	Angle (left wheel or right wheel) Degree minute (decimal degree)	Minimum	0° 7' (0.12°)	0° 7' (0.12°)
		Nominal	0° 9' (0.15°)	0° 9' (0.15°)
		Maximum	0° 11' (0.18°)	0° 11' (0.18°)
Wheel turning angle (full turn)	Inside Degree minute (Decimal degree)	33° 27' – 35° 27' *2 (33.45° – 35.45°)	33° 41' – 35° 41' *4 (33.68° – 35.68°)	
	Outside Degree minute (Decimal degree)	29° 25' – 31° 25' *3 (29.42° – 31.42°)	29° 57' – 31° 57' *5 (29.95° – 31.95°)	

\*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

\*2: Target value 35° 27' (35.45°)

\*3: Target value 31° 25' (31.42°)

\*4: Target value 35° 41' (35.68°)

\*5: Target value 31° 57' (31.95°)

\*6: Some vehicles may be equipped with straight (non-adjustable) lower link bolts and washers. In order to adjust camber and caster on these vehicles, first replace the lower link bolts and washers with adjustable (cam) bolts and washers.

# QUICK REFERENCE CHART: XTERRA

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## General Specification (Rear)

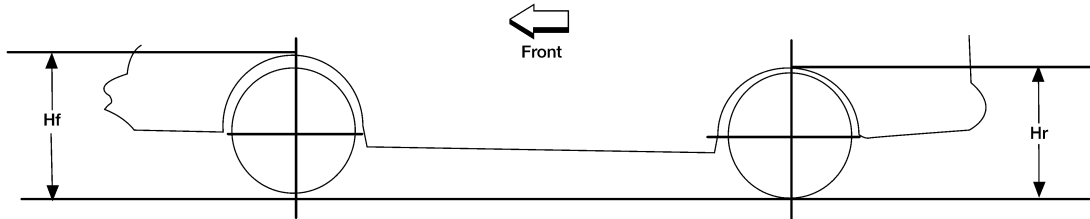
INFOID:000000006179691

Suspension type	Rigid axle with semi-elliptic leaf springs
Shock absorber type	Double-acting hydraulic

## Wheelarch Height (Unladen\*<sup>1</sup>)

INFOID:000000006179692

Unit: mm (in)



LEIA0085E

Engine type	VQ40DE				
Drive type	2WD		4WD		
Applied models	X and S	SE	X and S	O/R	SE
Tire size	265/70R16	265/65R17	265/70R16	265/75R16	265/65R17
Front wheelarch height (Hf)	839 (33.03)	841 (33.11)	858 (33.78)	870 (34.25)	859 (33.82)
Rear wheelarch height (Hr)	872 (34.33)	872 (34.33)	892 (35.12)	904 (35.59)	892 (35.12)

\*1: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

## Brake Specifications

INFOID:000000006179689

Unit: mm (in)

Front brake	Brake model	CLZ33VA
	Rotor outer diameter × thickness	296 × 28 (11.654 × 1.102)
	Pad length × width × thickness	140 × 50.5 × 10.0 (5.512 × 1.988 × 0.394)
	Cylinder bore diameter (each)	46.4 (1.83)
Rear brake	Brake model	CLZ14VA
	Rotor outer diameter × thickness	286 × 18 (11.260 × 0.709)
	Pad length × width × thickness	87.6 × 34 × 11.0 (3.449 × 1.339 × 0.433)
	Cylinder bore diameter	38.1 (1.50)
Control valve	Valve model	Electric brake force distribution
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.465)

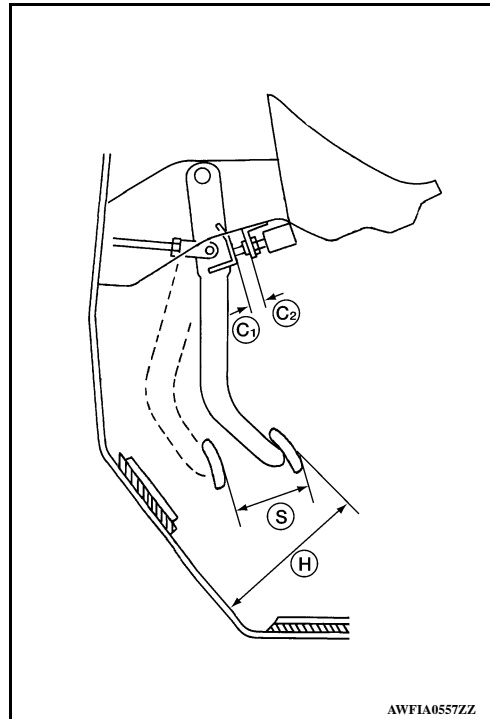
# QUICK REFERENCE CHART: XTERRA

2008

## Brake Pedal

INFOID:000000006179690

Unit: mm (in)



Pedal free height (H)	M/T	174.7 (6.88)
	A/T	182.1 (7.17)
Pedal full stroke (S) [Depressed under a force of 490 N (50 kg, 110 lb) with engine running]		153 (6.02)
Clearance between pedal stopper and threaded end of stop lamp switch and ASCD switch (C1) or (C2)		0.74 - 1.96 (0.029 - 0.077)

## Front Disc Brake

INFOID:000000006179687

Unit: mm (in)

Brake model		CLZ33VA
Brake pad	Standard thickness (new)	10.0 (0.394)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	28.0 (1.102)
	Repair limit thickness	26.0 (1.024)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.0020)

## Rear Disc Brake

INFOID:000000006179688

Unit: mm (in)

Brake model		CLZ14VA
Brake pad	Standard thickness (new)	11.0 (0.433)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	18.0 (0.709)
	Repair limit thickness	16.0 (0.630)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.0020)

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## Fluids and Lubricants

INFOID:000000006179686

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		80 ℓ	21 1/8 gal	17 5/8 gal
Engine oil Drain and refill	With oil filter change	5.1 ℓ	5 3/8 qt	4 1/2 qt
	Without oil filter change	4.8 ℓ	5 1/8 qt	4 1/4 qt
Dry engine (engine overhaul)		6.3 ℓ	6 5/8 qt	5 1/2 qt
Cooling system (with reservoir at "MAX" level)		10.2 ℓ	2 3/4 gal	2 1/4 gal
Automatic transmission fluid (ATF)		10.3 ℓ	10 7/8 qt	9 1/8 qt
Manual transmission fluid (MTF)	2WD	3.98 ℓ	4 1/4 qt	3 1/2 qt
	4WD	4.18 ℓ	4 3/8 qt	3 5/8 qt
Rear final drive oil	C200	1.6 ℓ	3 3/8 pt	2 7/8 pt
	M226	2.01 ℓ	4 1/4 pt	3 1/2 pt
Transfer fluid	TX15B	2.0 ℓ	2 1/8 qt	1 3/4 qt
Front final drive oil	R180A	0.85 ℓ	1 3/4 pt	1 1/2 pt
Power steering fluid (PSF)		1.0 ℓ	2 1/8 pt	1 3/4 pt
Brake and clutch fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	1 1/4 gal	1 gal
A/C system refrigerant		0.70 ± 0.05 kg	1.54 ± 0.11 lb	1.54 ± 0.11 lb
A/C system oil		180 m ℓ	6.1 fl oz	6.3 fl oz