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**QUICK REFERENCE INDEX**

**NISSAN  
FRONTIER**  
**MODEL D40 SERIES**

<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>	
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	<b>EX Exhaust System</b>	
	<b>ACC Accelerator Control System</b>	
	<b>CL Clutch</b>	
<b>C TRANSMISSION/  TRANSAXLE</b>	<b>MT Manual Transmission</b>	
	<b>AT Automatic Transmission</b>	
	<b>TF Transfer</b>	
<b>D DRIVELINE/AXLE</b>	<b>PR Propeller Shaft</b>	
	<b>FFD Front Final Drive</b>	
	<b>RFD Rear Final Drive</b>	
	<b>FAX Front Axle</b>	
	<b>RAX Rear Axle</b>	
	<b>FSU Front Suspension</b>	
	<b>RSU Rear Suspension</b>	
<b>E SUSPENSION</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>PS Power Steering System</b>	
	<b>SB Seat Belts</b>	
<b>G STEERING</b>	<b>SRS Supplemental Restraint System (SRS)</b>	
<b>H RESTRAINTS</b>	<b>BL Body, Lock &amp; Security System</b>	
	<b>GW Glasses, Window System &amp; Mirrors</b>	
<b>I BODY</b>	<b>RF Roof</b>	
	<b>EI Exterior &amp; Interior</b>	
	<b>IP Instrument Panel</b>	
	<b>SE Seat</b>	
	<b>MTC Manual Air Conditioner</b>	
	<b>J AIR CONDITIONER</b>	<b>SC Starting &amp; Charging System</b>
	<b>K ELECTRICAL</b>	<b>LT Lighting System</b>
<b>DI Driver Information System</b>		
<b>WW Wiper, Washer &amp; Horn</b>		
<b>BCS Body Control System</b>		
<b>LAN LAN System</b>		
<b>AV Audio Visual &amp; Telephone System</b>		
<b>ACS Auto Cruise Control System</b>		
<b>PG Power Supply, Ground &amp; Circuit Elements</b>		
<b>L MAINTENANCE</b>		<b>MA Maintenance</b>
<b>M INDEX</b>		<b>IDX Alphabetical Index</b>

**A**  
**B**  
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# FOREWORD

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This manual contains maintenance and repair procedures for the 2007 NISSAN FRONTIER.

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 NORTH AMERICA, INC.**  
Technical Publications Department



## 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 print this form and type or write 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: (248) 488-3910

**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**  
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: FRONTIER

PFP:00000

Engine Tune-Up Data  
QR25DE Engine Specifications

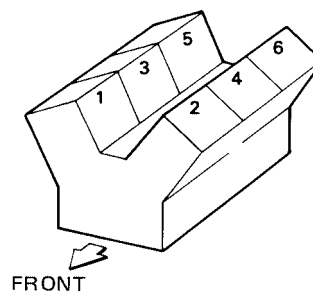
EL50029P

Cylinder arrangement		In-line 4
Displacement		2,488 cm <sup>3</sup> (151.82 in <sup>3</sup> )
Bore and stroke		89.0 x 100.0 mm (3.504 x 3.937 in)
Valve arrangement		DOHC
Firing order		1-3-4-2
Number of piston rings	Compression	2
	Oil	1
Compression ratio		9.5:1
Compression pressure	Standard	1,304 kPa (13.3 kg/cm <sup>2</sup> , 189 psi)/250 rpm
	Minimum	1,108 kPa (11.3 kg/cm <sup>2</sup> , 161 psi)/250 rpm
	Differential limit between cylinders	100 kPa (1.0 kg/cm <sup>2</sup> , 14 psi)/250 rpm

VQ40DE Engine Specifications

Cylinder arrangement		V-6
Displacement		3,954 cm <sup>3</sup> (241.30 in <sup>3</sup> )
Bore and stroke		95.5 x 92.0 mm (3.76 x 3.622 in)
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		9.7:1
Compression pressure	Standard	1,275 kPa (13.0 kg/cm <sup>2</sup> , 185 psi)/300 rpm
	Minimum	981 kPa (10.0 kg/cm <sup>2</sup> , 142 psi)/300 rpm
	Differential limit between cylinders	98 kPa (1.0 kg/cm <sup>2</sup> , 14 psi)/300 rpm

Cylinder number



SEM713A

QR25DE and VQ40DE Engine Drive Belt Deflection and Tension

Tension of drive belt	Auto adjustment by auto-tensioner
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QR25DE Engine Spark Plug

Make	NGK
Standard type	PLZKAR6A-11
Gap (nominal)	1.1 mm (0.043 in)

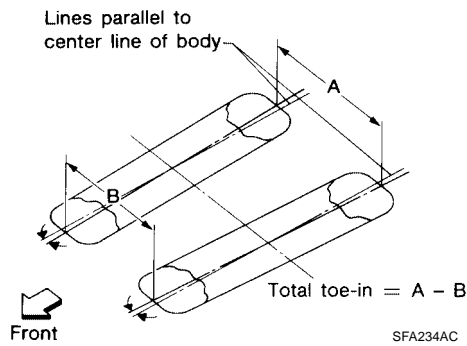
VQ40DE Engine Spark Plug

Make	NGK
Standard type	PLFR5A-11
Gap (nominal)	1.1 mm (0.043 in)

Wheel Alignment (Unladen\*1)\*6

ELS0029Q

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)	2.1 mm (0.08 in)	2.1 mm (0.08 in)
		3.1 mm (0.12 in)	3.1 mm (0.12 in)
		4.1 mm (0.16 in)	4.1 mm (0.16 in)
	Angle (left wheel or right wheel) Degree minute (Decimal degree)	0° 5' (0.08°)	0° 5' (0.08°)
		0° 7' (0.12°)	0° 7' (0.12°)
0° 9' (0.15°)		0° 9' (0.15°)	
Wheel turning angle (full turn)	Inside Degree minute (Decimal degree)	33° 26' - 35° 26' *2 (33.43° - 35.43°)	33° 36' - 35° 36' *4 (33.60° - 35.60°)
	Outside Degree minute (Decimal degree)	29° 22' - 31° 22' *3 (29.37° - 31.37°)	29° 44' - 31° 44' *5 (29.73° - 31.73°)

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

\*2: Target value 35° 26' (35.43°)

\*3: Target value 31° 22' (31.37°)

\*4: Target value 35° 36' (35.60°)

\*5: Target value 31° 44' (31.73°)

\*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.

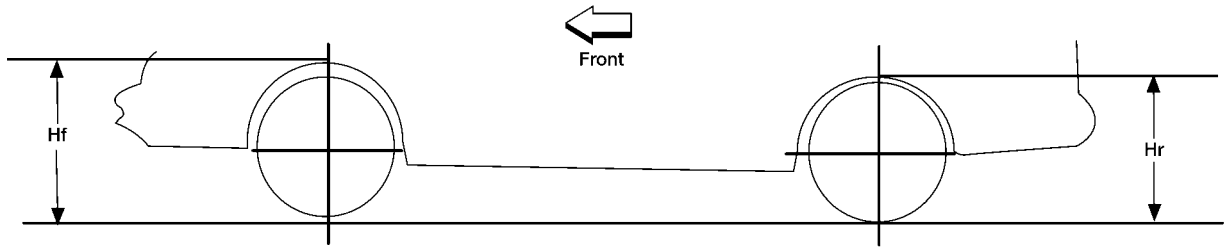
# QUICK REFERENCE CHART: FRONTIER

2007

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

EES001XX

Unit: mm (in)



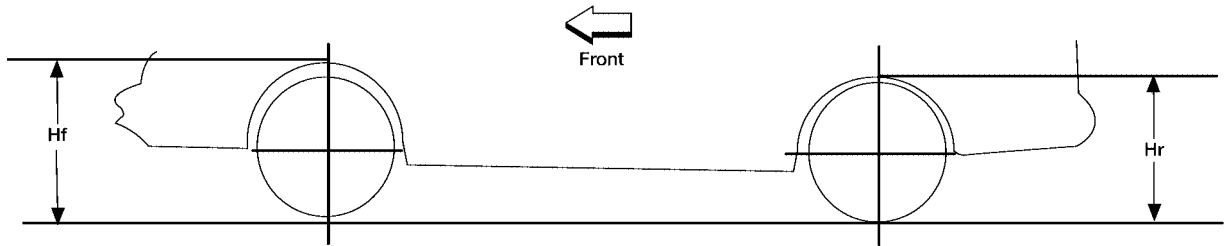
LEIA0085E

Engine type	QR25DE	VQ40DE					
Drive type	2WD	2WD			4WD		
Applied model	XE	SE	OR	LE	SE	OR	LE
Tire size	235/75R15	265/70R16	265/75R16	265/65R17	265/70R16	265/75R16	265/65R17
Front wheelarch height (Hf)	866 (34.09)	868 (34.17)	880 (34.65)	869 (34.21)	880 (34.65)	892 (35.12)	881 (34.68)
Rear wheelarch height (Hr)	886 (34.88)	894 (35.20)	905 (35.63)	895 (35.24)	903 (35.55)	915 (36.02)	904 (35.59)

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

## Crew Cab

Unit: mm (in)



LEIA0085E

Engine type	VQ40DE					
Drive type	2WD			4WD		
Applied model	SE	OR	LE	SE	OR	LE
Tire size	265/70R16	265/75R16	265/65R17	265/70R16	265/75R16	265/65R17
Front wheelarch height (Hf)	868 (34.17)	880 (34.65)	869 (34.21)	880 (34.65)	892 (35.12)	881 (34.68)
Rear wheelarch height (Hr)	891 (35.08)	903 (35.55)	892 (35.12)	901 (35.47)	913 (35.94)	902 (35.51)

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

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## Brake

ELS0029R

Unit: mm (in)

Engine	QR25DE	VQ40DE
Front brake	Brake model	CLZ33VB
	Rotor outer diameter × thickness	283 × 18 (11.14 × 0.71)      296 × 28 (11.65 × 1.10)
	Pad Length × width × thickness	140 × 49 × 10 (5.51 × 1.93 × 0.39)
	Cylinder bore diameter (Dual piston)	46.4 (1.83)
Rear brake	Brake model	CLZ11VA
	Rotor outer diameter × thickness	286 × 18 (11.26 × 0.71)
	Pad Length × width × thickness	87.6 × 35 × 11 (3.45 × 1.38 × 0.433)
	Cylinder bore diameter (Single piston)	38.1 (1.50)
Control valve	Valve model	EBD
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.46)
Recommended brake fluid		Genuine NISSAN Super Heavy Duty Brake Fluid or equivalent DOT 3 (US FMVSS No. 116)

## Disc Brake - Repair Limits FRONT DISC BRAKE

ELS0029S

### QR25DE

Unit: mm (in)

Brake model		CLZ33VB
Brake pad	Standard thickness (new)	10 (0.394)
	Repair limit thickness	2 (0.079)
Disc rotor	Standard thickness (new)	18 (0.71)
	Repair limit thickness	16 (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)

### VQ40DE

Unit: mm (in)

Brake model		CLZ33VB
Brake pad	Standard thickness (new)	10 (0.394)
	Repair limit thickness	2 (0.079)
Disc rotor	Standard thickness (new)	28 (1.10)
	Repair limit thickness	26 (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

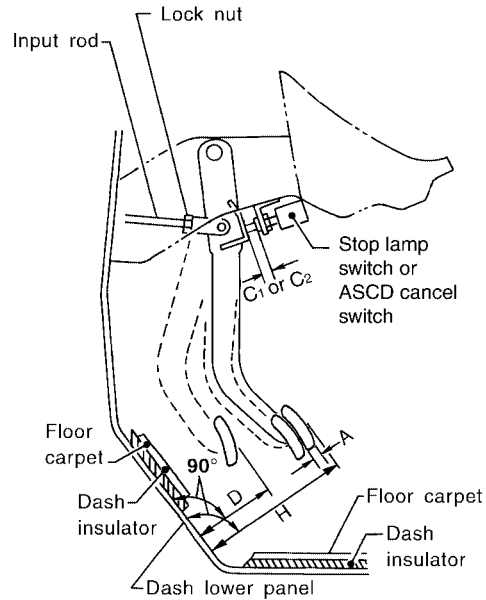
Unit: mm (in)

Brake model		CLZ11VA
Brake pad	Standard thickness (new)	11 (0.433)
	Repair limit thickness	2 (0.079)
Disc rotor	Standard thickness (new)	18 (0.71)
	Repair limit thickness	16 (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)

Brake Pedal

ELS0029T

Unit: mm (in)



WFIA0160E

Free height "H"	A/T	182.1 - 192.1 (7.17 - 7.56)
	M/T	174.7 - 184.7 (6.88 - 7.27)
Depressed pedal height ("D" [under a force of 490 N (50 kg, 110 lb) with engine running])		103 - 123 (4.06 - 4.84)
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)
Pedal play "A"		3 - 11 (0.12 - 0.43)



# QUICK REFERENCE CHART: FRONTIER

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ELS0029U

## Refill Capacities QR25DE Engine

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	4.9 ℓ	5 1/8 qt	4 3/8 qt
	Without oil filter change	4.6 ℓ	4 7/8 qt	4 qt
Dry engine (engine overhaul)		5.0 ℓ	5 1/4 qt	4 3/8 qt
Cooling system	With reservoir at MAX level	9.4 ℓ	2 1/2 gal	2 1/8 gal
Automatic transmission fluid (ATF)		10.3 ℓ	10 7/8 qt	9 1/8 qt
Manual transmission fluid (MTF) (5 M/T)		2.89 ℓ	6 1/8 pt	5 1/8 pt
Rear final drive oil	C200	1.6 ℓ	3 3/8 pt	2 7/8 pt
Power steering fluid (PSF)		1.0 ℓ	2 1/8 pt	1 3/4 pt
Windshield washer fluid		4.5 ℓ	1 1/4 gal	1 gal
Air conditioning system refrigerant		0.70 ± 0.05 kg	1.54 ± 0.11 lb	1.54 ± 0.11 lb
Air conditioning system oil		180 m ℓ	6.1 fl oz	6.3 fl oz

## VQ40DE Engine

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) (6M/T)	2WD	3.98 ℓ	8 3/8 pt	7 pt
	4WD	4.18 ℓ	8 7/8 pt	7 3/8 pt
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		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
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