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NISSAN TITAN

MODEL A60 SERIES



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QUICK REFERENCE INDEX

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

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FOREWORD

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

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

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.*

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.*

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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 NISSAN Service Manuals to better support you in servicing or repairing customer vehicles?

DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

CITY: _____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERENCE CHART: TITAN

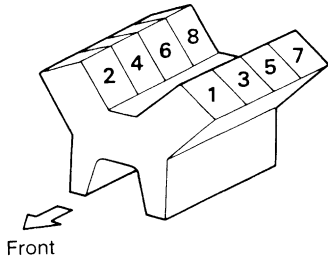
Engine Tune-up Data

INFOID:000000001711124

GENERAL SPECIFICATIONS

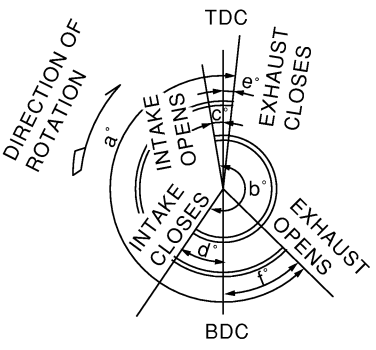
Cylinder arrangement		V-8
Displacement cm ³ (in ³)		5,552 (338.80)
Bore and stroke mm (in)		98 x 92 (3.86 x 3.62)
Valve arrangement		DOHC
Firing order		1-8-7-3-6-5-4-2
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		5
Compression ratio		9.8:1
Compression pressure (kg/cm ² , psi)/rpm	kPa	
	Standard	1,520 (15.5, 220)/200
	Minimum	1,324 (13.5, 192)/200
Differential limit between cylinders		98 (1.0, 14)/200

Cylinder number



SEM957C

Valve timing



PBIC0187E

Unit: degree

a	b	c	d	e	f
244°	232°	-8°	60°	10°	54°

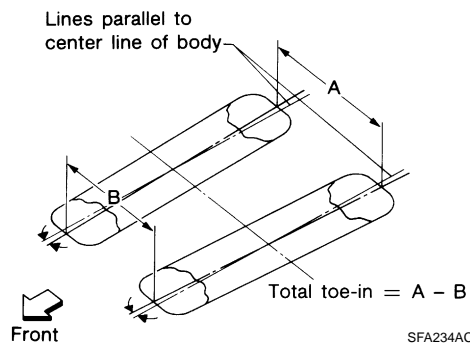
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2008

Front Wheel Alignment (Unladen*1)

INFOID:000000001711125

Drive type		2WD	4WD
Camber Degree minute (decimal degree)	Minimum	-0° 57' (-0.95°)	-0° 27' (-0.45°)
	Nominal	-0° 12' (-0.20°)	0° 18' (0.30°)
	Maximum	0° 33' (0.55°)	1° 03' (1.05°)
	Cross camber	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Caster Degree minute (decimal degree)	Minimum	2° 15' (2.25°)	1° 27' (1.45°)
	Nominal	3° 0' (3.00°)	2° 12' (2.20°)
	Maximum	3° 45' (3.75°)	2° 57' (2.95°)
	Cross caster	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Kingpin inclination (reference only) Degree minute (decimal degree)		13° 33' (13.55°)	13° 0' (13.00°)



Total toe-in	Distance (A - B)	Minimum	1.8 mm (0.07 in)	1.8 mm (0.07 in)
		Nominal	2.8 mm (0.11 in)	2.8 mm (0.11 in)
		Maximum	3.8 mm (0.15 in)	3.8 mm (0.15 in)
	Angle (left plus right) Degree minute (decimal degree)	Minimum	0° 3' (0.05°)	0° 3' (0.05°)
		Nominal	0° 5' (0.08°)	0° 5' (0.08°)
		Maximum	0° 7' (0.12°)	0° 7' (0.12°)
Wheel turning angle (full turn)	Inside Degree minute (decimal degree)	34° 30' - 38° 30' *2 (34.50° - 38.50°)	34° 56' - 38° 56' *4 (34.93° - 38.93°)	
	Outside Degree minute (decimal degree)	30° 58' - 34° 58' *3 (30.97° - 34.97°)	31° 01' - 35° 01' *5 (31.02° - 35.02°)	

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

*2: Target value 37° 30' (37.50°)

*3: Target value 33° 58' (33.97°)

*4: Target value 37° 56' (37.93°)

*5: Target value 34° 01' (34.02°)

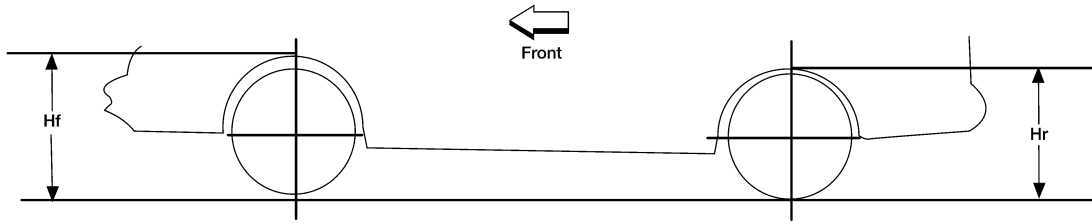
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Wheelarch Height (Unladen*1)

INFOID:000000001711126

Unit: mm (in)



LEIA0085E

Drive type		2WD				4WD*2				4WD*3			
Wheel base		Short		Long		Short		Long		Short		Long	
Body		King Cab	Crew Cab	King Cab	Crew Cab	King Cab*2	Crew Cab*2	King Cab*2	Crew Cab*2	King Cab*2	Crew Cab*2	King Cab*2	Crew Cab*2
Front wheel arch height (Hf)	P265/70R18	912 (35.91)	914 (35.98)	912 (35.91)	914 (35.98)	949 (37.36)	951 (37.44)	949 (37.36)	951 (37.44)	949 (37.36)	951 (37.44)	949 (37.36)	951 (37.44)
	P275/70R18	922 (36.30)	925 (36.42)	922 (36.30)	925 (36.42)	960 (37.80)	962 (37.87)	959 (37.76)	962 (37.87)	960 (37.80)	962 (37.87)	959 (37.76)	962 (37.87)
	P275/60R20	917 (36.10)	919 (36.18)	917 (36.10)	920 (36.22)	955 (37.60)	957 (37.68)	954 (37.56)	957 (37.68)	955 (37.60)	957 (37.68)	954 (37.56)	957 (37.68)
Rear wheel arch height (Hr)	P265/70R18	952 (37.48)	954 (37.56)	950 (37.40)	951 (37.44)	991 (39.02)	994 (39.13)	989 (38.94)	991 (39.02)	991 (39.02)	993 (39.09)	989 (38.94)	991 (39.02)
	P275/70R18	962 (37.87)	965 (37.99)	960 (37.80)	962 (37.87)	1002 (39.45)	1004 (39.53)	1000 (39.37)	1002 (39.45)	1001 (39.41)	1004 (39.53)	1000 (39.37)	1002 (39.45)
	P275/60R20	957 (37.68)	959 (37.76)	955 (37.60)	956 (37.64)	996 (39.21)	999 (39.33)	995 (39.17)	996 (39.21)	996 (39.21)	998 (39.29)	995 (39.17)	996 (39.21)

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

*2: Without tow package.

*3: With tow package.

Brake General Specification

INFOID:000000001711128

Unit: mm (in)

Front brake	Brake model	CLZ31VC
	Rotor outer diameter × thickness	320 × 26 (12.60 × 1.02)
	Pad Length × width × thickness	111.0 × 73.5 × 11.88 (4.73 × 2.894 × 0.374)
	Cylinder bore diameter (each)	51 (2.01)
Rear brake	Brake model	AD14VE
	Rotor outer diameter × thickness	320 × 14 (12.60 × 0.55)
	Pad Length × width × thickness	83.0 × 33.0 × 8.5 (3.268 × 1.299 × 0.335)
	Cylinder bore diameter	48 (1.89)
Control valve	Valve model	Electric brake force distribution
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.46)
Recommended brake fluid		Refer to MA-6, "Fluids and Lubricants" .

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Brake Pedal

INFOID:000000001711129

Brake pedal height (from dash panel top surface)	182.3 – 192.3 mm (7.18 – 7.57 in)
Depressed pedal height [under a force of 490 N (50 kg-f, 110 lb-f) with engine running]	More than 90.3 mm (3.55 in)
Clearance between stopper rubber and the threaded end of stop lamp switch and ASCD cancel switch	0.74 – 1.96 mm (0.029 – 0.077 in)
Pedal play	3 – 11 mm (0.12 – 0.43 in)

When equipped with adjustable pedal, the pedal must be in the forward most (closest to the floor) position for pedal height measurement.

Front Disc Brake

INFOID:000000001711130

Brake model	CLZ31VC	
Brake pad	Standard thickness (new)	11.88 mm (0.468 in)
	Repair limit thickness	1.0 mm (0.039 in)
Disc rotor	Standard thickness (new)	26.0 mm (1.024 in)
	Repair limit thickness	24.5 mm (0.965 in)
	Maximum uneven wear (measured at 8 positions)	0.015mm (0.0006 in)
	Runout limit (with it attached to the vehicle)	0.03 mm (0.001 in)

Rear Disc Brake

INFOID:000000001711131

Brake model	AD14VE	
Brake pad	Standard thickness (new)	12.13 mm (0.478 in)
	Repair limit thickness	1.0 mm (0.039 in)
Disc rotor	Standard thickness (new)	14.0 mm (0.551 in)
	Repair limit thickness	12.0 mm (0.472 in)
	Maximum uneven wear (measured at 8 positions)	0.015 mm (0.0006 in)
	Runout limit (with it attached to the vehicle)	0.07 mm (0.003 in)

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Fluids and Lubricants

INFOID:000000001711132

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel	Short wheelbase	105.8 ℓ	28 gal	23 1/4 gal
	Long wheelbase	140 ℓ	37 gal	30 gal
Engine oil Drain and refill	With oil filter change	6.2 ℓ	6 1/2 qt	5 1/2 qt
	Without oil filter change	5.9 ℓ	6 1/4 qt	5 1/4 qt
Dry engine (engine overhaul)		7.6 ℓ	8 qt	6 3/4 qt
Cooling system	With reservoir at MAX level	12.2 ℓ	3 1/4 gal	2 5/8 gal
Automatic transmission fluid (ATF)		10.6 ℓ	11 1/4 qt	9 3/8 qt
Rear final drive oil		2.01 ℓ	4 1/4 pt	3 1/2 pt
Transfer fluid		2.0 ℓ	2 1/8 qt	1 3/4 qt
Front final drive oil		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
Brake fluid		—	—	—
Multi-purpose grease		—	—	—
Brake grease		—	—	—
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		200 m ℓ	6.8 fl oz	7.0 fl oz