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

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P

FOREWORD

This manual contains maintenance and repair procedure for the 2012 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.*

Please describe the issue or problem in detail: _____

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

Please comment: _____

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

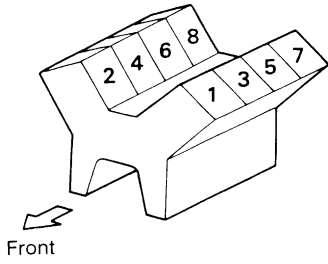
Engine Tune-up Data

INFOID:000000007829954

GENERAL SPECIFICATIONS

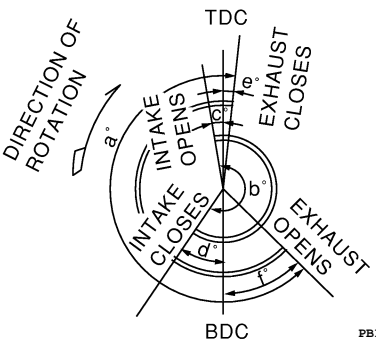
Cylinder arrangement		V-8
Displacement cm ³ (in ³)		5,552 (338.80)
Bore and stroke mm (in)		98 x 92 (3.86 x 3.62)
Valve arrangement		DOHC
Firing order		1-8-7-3-6-5-4-2
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		5
Compression ratio		9.8:1
Compression pressure kPa (kg/cm ² , psi)/rpm	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



FBIC0187E

Unit: degree

a	b	c	d	e	f
244°	232°	-8°	60°	10°	54°

DRIVE BELTS

Tension of drive belts	Auto adjustment by auto-tensioner
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SPARK PLUG

QUICK REFERENCE CHART: TITAN

2012

Unit: mm (in)

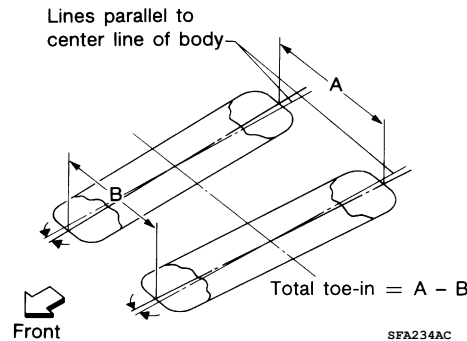
Make	NGK	
Model	Standard model	FFV model
Standard type*	DILFR5A-11	DILFR5A-11D
Gap (Nominal)	1.1 (0.043)	1.1 (0.043)

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

Front Wheel Alignment (Unladen*1)

INFOID:000000007829953

Drive type		2WD	4WD
Camber *6 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 *6 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	In 0.5 mm (0.02 in)	In 0.5 mm (0.02 in)
		Nominal	In 2.5 mm (0.10 in)	In 2.5 mm (0.10 in)
		Maximum	In 4.5 mm (0.17 in)	In 4.5 mm (0.17 in)
	Angle Degree minute (decimal degree)	Minimum	In 0° 0' 36" (0.01°)	In 0° 0' 36" (0.01°)
		Nominal	In 0° 10' 12" (0.17°)	In 0° 10' 12" (0.17°)
		Maximum	In 0° 19' 48" (0.33°)	In 0° 19' 48" (0.33°)
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°)

*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: TITAN

2012

General Specification (Rear)

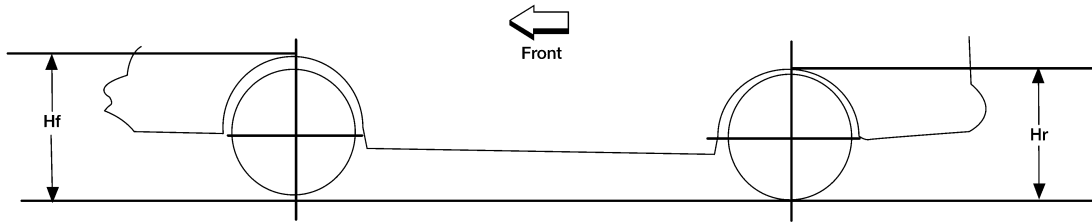
INFOID:000000007829951

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

Wheelarch Height (Unladen*1)

INFOID:000000007829952

Unit: mm (in)



LEIA0085E

Drive type	2WD				4WD*2				4WD*3				
	Short		Long		Short		Long		Short		Long		
Wheel base	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	
Body	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	King Cab	Crew Cab	
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 Specifications

INFOID:000000007829949

Unit: mm (in)

Front brake	Brake model	AD41VA
	Rotor outer diameter × thickness	350 × 30 (13.78 × 1.181)
	Pad Length × width × thickness	151.6 × 56.5 × 12.0 (5.97 × 2.22 × 0.472)
	Cylinder bore diameter (each)	50.8 (2.00)
Rear brake	Brake model	AD14VE
	Rotor outer diameter × thickness	320 × 14 (12.6 × 0.551)
	Pad Length × width × thickness	83.0 × 33.0 × 12.0 (3.268 × 1.299 × 0.472)
	Cylinder bore diameter	48 (1.89)
Control valve	Valve model	Electric brake force distribution

QUICK REFERENCE CHART: TITAN

2012

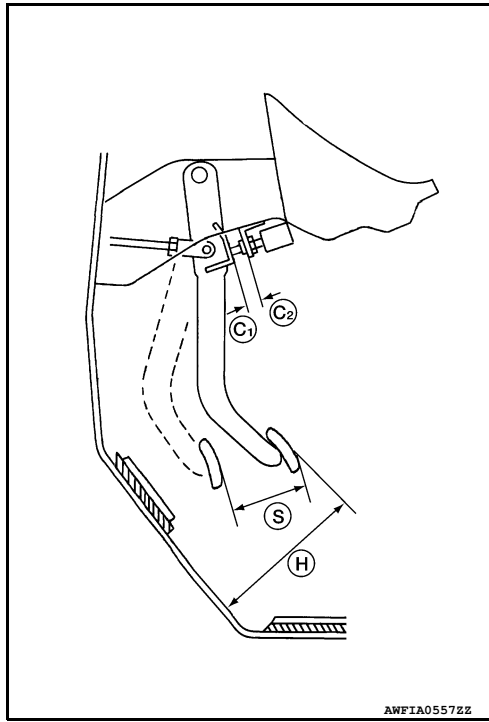
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.46)

Brake Pedal

INFOID:000000007829950

STANDARD PEDAL

Unit: mm (in)



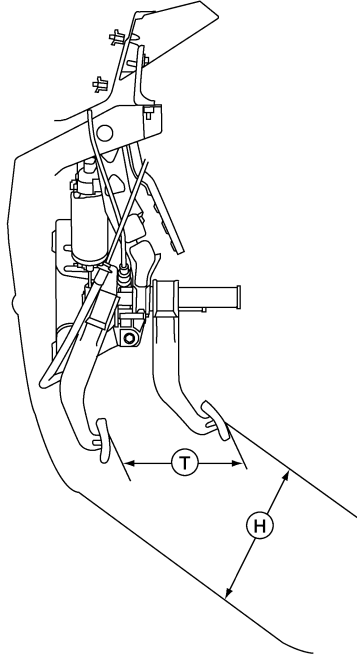
Free height (H)	182.3 +10/-0 (7.18 +0.39/-0)
Pedal full stroke (S)	152.3 (6.00)
Clearance between brake pedal bracket and the threaded end of stop lamp switch (C1) and ASCD cancel switch [if equipped] (C2)	0.74 – 1.96 (0.029 – 0.077)

ADJUSTABLE PEDAL

QUICK REFERENCE CHART: TITAN

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Unit: mm (in)



ALFIA0149ZZ

Pedal free height (H) with pedal in forward most position	182.3 +10/-0 (7.18 +0.39/-0)
Pedal full stroke (T)	153.3 (6.04)
Stop lamp switch and ASCD cancel switch threaded end to brake pedal bracket gap	0.74 - 1.96 (0.029 - 0.077)

CAUTION:

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

Front Disc Brake

INFOID:000000007829947

Unit: mm (in)

Brake model	AD41VA	
Brake pad	Standard thickness (new)	12.0 (0.472)
	Minimum thickness	1.0 (0.039)
Disc rotor	Standard thickness (new)	30.0 (1.181)
	Minimum thickness	28.5 (1.122)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.03 (0.001)

Rear Disc Brake

INFOID:000000007829948

Unit: mm (in)

Brake model	AD14VE	
Brake pad	Standard thickness (new)	12.0 (0.472)
	Minimum thickness	1.0 (0.039)
Disc rotor	Standard thickness (new)	14.0 (0.551)
	Minimum Thickness	12.5 (0.492)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.002)

QUICK REFERENCE CHART: TITAN

2012

FOR NORTH AMERICA : Fluids and Lubricants

INFOID:000000007829941

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		105.8 ℓ	28 gal	23 1/4 gal
Engine oil Drain and refill	With oil filter change	6.5 ℓ	6 7/8 qt	5 3/4 qt
	Without oil filter change	6.2 ℓ	6 1/2 qt	5 1/2 qt
Dry engine (engine overhaul)		7.6 ℓ	8 qt	6 3/4 qt
Cooling system	With reservoir at MAX level	12.2 ℓ	12 7/8 qt	10 3/4 qt
Automatic transmission fluid (ATF)		10.6 ℓ	11 1/4 qt	9 3/8 qt
Rear differential gear 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 differential gear oil		1.6 ℓ	3 3/8 pt	2 7/8 pt
Power steering fluid (PSF)		1.0 ℓ	1 1/8 qt	7/8 qt
Brake fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	4 3/4 qt	4 qt
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

FOR MEXICO : Fluids and Lubricants

INFOID:000000007829944

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		105.8 ℓ	28 gal	23 1/4 gal
Engine oil Drain and refill	With oil filter change	6.5 ℓ	6 7/8 qt	5 3/4 qt
	Without oil filter change	6.2 ℓ	6 1/2 qt	5 1/2 qt
Dry engine (engine overhaul)		7.6 ℓ	8 qt	6 3/4 qt
Cooling system	With reservoir at MAX level	12.2 ℓ	12 7/8 qt	10 3/4 qt
Automatic transmission fluid (ATF)		10.6 ℓ	11 1/4 qt	9 3/8 qt
Rear differential gear 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 differential gear oil		1.6 ℓ	3 3/8 pt	2 7/8 pt
Power steering fluid (PSF)		1.0 ℓ	1 1/8 qt	7/8 qt
Brake fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	4 3/4 qt	4 qt
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