

Edition: December 2015
Revision: March 2016
Pub. No. SM16EA0A61U1

NISSAN TITAN

MODEL A61 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 ELECTRIC POWER TRAIN	
D TRANSMISSION & DRIVE-LINE	TM Transaxle & Transmission
	DLN Driveline
	FAX Front Axle
	RAX Rear Axle
E SUSPENSION	FSU Front Suspension
	RSU Rear Suspension
	WT Road Wheels & Tires
F BRAKES	BR Brake System
	PB Parking Brake System
	BRC Brake Control System
G STEERING	ST Steering System
H RESTRAINTS	SB Seat Belt
	SR SRS Airbag
	SRC SRS Airbag Control System
I VENTILATION, HEATER & AIR CONDITIONER	VTL Ventilation System
	HA Heater & Air Conditioning System
	HAC Heater & Air Conditioning Control System
J BODY INTERIOR	INT Interior
	IP Instrument Panel
	SE Seat
	ADP Automatic Drive Postioner
K BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY	DLK Door & Lock
	SEC Security Control System
	GW Glass & Window System
	PWC Power Window Control System
	EXT Exterior
	TTS Trailer Towing System
	BRM Body Repair Manual
L DRIVER CONTROLS	MIR Mirrors
	EXL Exterior Lighting System
	INL Interior Lighting System
	WW Wiper & Washer
	DEF Defogger
	HRN Horn
M ELECTRICAL & POWER CONTROL	PWO Power Outlet
	BCS Body Control System
	LAN LAN System
	PCS Power Control System
	CHG Charging System
	PG Power Supply, Ground & Circuit Elements
N DRIVER INFORMATION & MULTIMEDIA	MWI Meter, Warning Lamp & Indicator
	WCS Warning Chime System
	SN Sonar System
	AV Audio, Visual & Navigation System
O CRUISE CONTROL	CCS Cruise Control System
	DAS Driver Assistance System
P MAINTENANCE	MA Maintenance
Q INDEX	IDX Alphabetical Index

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

FOREWORD

This manual contains maintenance and repair procedures for the 2016 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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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

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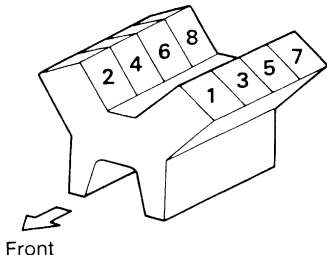
CITY: _____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERENCE CHART: TITAN

Engine Tune-up Data: VK56VD

INFOID:0000000014228982

GENERAL SPECIFICATIONS

Cylinder arrangement		V-8
Displacement cm ³ (cu in)		5,552 (338.80)
Bore and stroke mm (in)		98.0 x 92.0 (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		11.2
Compression pressure kPa (kg/cm ² , psi)/200 rpm	Standard	1,820 (18.5, 264)
	Minimum	1,670 (17.0, 242)
	Differential limit between cylinders	100 (1.0, 15)
Cylinder number	 SEM957C	

Unit: degree

Valve timing	Intake valve open (BTDC)	(-74) - (+ 68)
	Intake valve close (ABDC)	(+148) - (+290)
	Exhaust valve open (BBDC)	(+201) - (+236)
	Exhaust valve close (ATDC)	(+8) - (+43)

Drive Belts

INFOID:0000000014228983

Tension of drive belts	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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Spark Plug

INFOID:0000000014228984

Unit: mm (in)

Make	NGK
Standard type	DILKAR7B11

QUICK REFERENCE CHART: TITAN

2016

Gap	Standard	1.1 (0.043)
	Limit	1.25 (0.049)

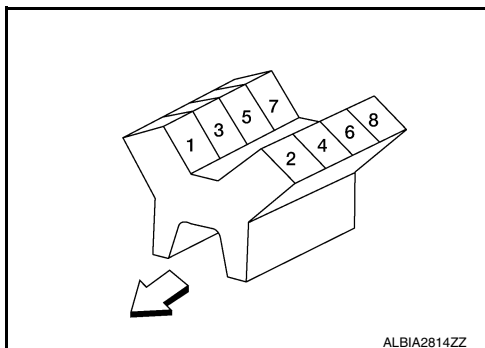
Engine Tune-up Data: Cummins 5.0L V8D

INFOID:0000000013551593

GENERAL SPECIFICATIONS

Cylinder arrangement		V-8
Displacement $\text{cm}^3(\text{in}^3)$		5,000 (305.12)
Bore and stroke mm (in)		94 x 90 (3.70 x 3.54)
Valve arrangement		DOHC
Firing order		1-2-7-8-4-5-6-3
Compression ratio		16.3:1
Engine weight kg (lbs.)		358.34 (790)
Crankshaft rotation	Viewed from engine front	Clockwise
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		5
Fuel rail pressure operating range $\text{kPa (kg/cm}^2, \text{psi)}$		25,000 - 200,000 (255 - 2,040, 3626 - 29,000)
Engine idle speed (RPM)		600 - 1000
Engine cranking speed (RPM)		100
Recommended ambient air temperature to use block heater (For Canada) $^{\circ}\text{C (}^{\circ}\text{F)}$		-18 (0) or less

Cylinder number



DRIVE BELT

INFOID:0000000013551592

Tension of drive belt	Auto adjustment by auto-tensioner
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General Specification

INFOID:0000000013551591

Suspension type	Independent double wishbone coil over shock
Shock absorber type	Double-acting hydraulic
Stabilizer	Standard equipment

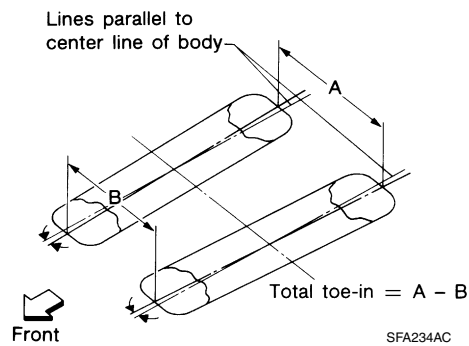
QUICK REFERENCE CHART: TITAN

2016

Front Wheel Alignment (Unladen*1)

INFOID:0000000013551590

Drive type		LT245/75R17	LT275/65R18	LT265/60R20
Camber Degree minute (decimal degree)	Minimum	-0° 25' (-0.42°)		
	Nominal	0° 05' (0.08°)		
	Maximum	0° 35' (0.58°)		
	Cross camber	0° 45' (0.75°) or less		
Caster Degree minute (decimal degree)	Minimum	5° 25' (5.42°)		
	Nominal	5° 55' (5.92°)		
	Maximum	6° 25' (6.42°)		
	Cross caster	0° 45' (0.75°) or less		
Kingpin inclination (reference only) Degree minute (decimal degree)		9° 00' (9.00°)		



Total toe-in	Total toe-in Distance (A - B)	Minimum	In 5.0 mm (In 0.20 in)
		Nominal	In 7.5 mm (In 0.30 in)
		Maximum	In 10.0 mm (In 0.39 in)
	Total toe-in Angle Degree minute (decimal degree)	Minimum	In 0° 20' 00" (In 0.37°)
		Nominal	In 0° 30' 00" (In 0.50°)
		Maximum	In 0° 40' 00" (In 0.66°)

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

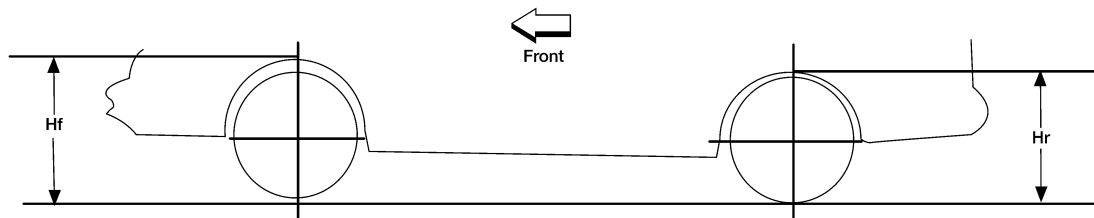
General Specification (Rear)

INFOID:0000000013551589

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

Wheelarch Height (Unladen*1)

INFOID:0000000013551588



LEIA0085E

Drive type	2WD	4WD
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QUICK REFERENCE CHART: TITAN

2016

Tire size	245/75R17	265/60R20	245/75R17	275/65R18	265/60R20
Front wheel arch height (Hf)	988 mm (38.90 in)	1011 mm (39.80 in)	986 mm (38.82 in)	1000 mm (39.37 in)	1010 mm (39.76 in)
Rear wheel arch height (Hr)	1025 mm (40.35 in)	1045 mm (41.14 in)	1025 mm (40.35 in)	1034 mm (40.71 in)	1045 mm (41.14 in)

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

Brake Specification

INFOID:0000000013551587

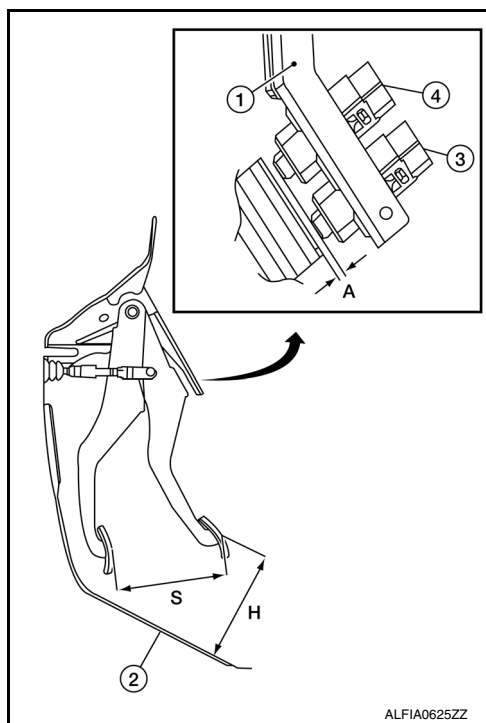
Unit: mm (in)

Front brake	Cylinder bore diameter	57.15 (2.25) × 2
	Pad length × width × thickness	192.0 (7.56) × 45.6 (1.80) × 13.0 (0.51)
	Rotor outer diameter × thickness	359.75 (14.16) × 38.0 (1.50)
Rear brake	Cylinder bore diameter	42.86 (1.69) × 2
	Pad length × width × thickness	192.0 (7.56) × 45.6 (1.80) × 11.0 (0.43)
	Rotor outer diameter × thickness	364.75 (14.36) × 30.0 (1.18)
Control valve	Valve type	Electric brake force distribution

Brake Pedal

INFOID:0000000013551586

Unit: mm (in)



Item	Standard
Brake pedal height (H) from dash lower panel (2)	142.3 (5.60)
Brake pedal full stroke (S)	175.6 (6.91)
Clearance (A) between brake pedal bracket (1), stop lamp switch (3), and brake pedal position switch (4) contact ends	0.74 (0.0291) – 1.96 (0.0772)

QUICK REFERENCE CHART: TITAN

2016

Front Disc Brake

INFOID:0000000013551585

Unit: mm (in)

Item		Limit
Brake pad	Standard thickness (new)	13.0 (0.51)
	Wear thickness	1.0 (0.04)
Disc rotor	Standard thickness (new)	38.0 (1.50)
	Wear thickness	36.5 (1.44)
	Thickness variation (measured at 8 positions)*	0.004 (0.0002)
	Runout (with it attached to the vehicle)	0.04 (0.0016)

*To check if rotor imbalance, rotor runout or rotor deformation exists.

Rear Disc Brake

INFOID:0000000013551584

Unit: mm (in)

Item		Limit
Brake pad	Standard thickness	11.0 (0.43)
	Wear thickness	1.0 (0.04)
Disc rotor	Standard thickness	30.0 (1.18)
	Wear thickness	28.5 (1.12)
	Thickness variation (measured at 8 positions)*	0.007 (0.0003)
	Runout (with it attached to the vehicle)	0.070 (0.0028)

*To check if rotor imbalance, rotor runout or rotor deformation exists.

VK56VD Gasoline Engine : Fluids and Lubricants

INFOID:0000000014228839

The following are approximate capacities. The actual refill capacities may be slightly different. When refilling, follow the procedures described elsewhere in this manual.

Fluid types		Capacity (Approximate)		
		US measure	Imp measure	Liter
Engine oil Drain and refill	With oil filter change	6-7/8 qt	5-3/4 qt	6.5
	Without oil filter change	6-1/2 qt	5-1/2 qt	6.2
Dry engine (engine overhaul)		8 qt	6-3/4 qt	7.6
Engine coolant	With reservoir tank	15-5/8 qt	13 qt	14.8
	Reservoir tank	1 qt	7/8 qt	1.0
Automatic transmission fluid		10-5/8 qt* ¹	8-3/4 qt* ¹	10.0* ¹
Power steering fluid		3.0 pt	2-1/2 pt	1.4
Brake fluid		—	—	—
Transfer fluid		3-7/8 pt	3-1/8 pt	1.8
Differential gear oil	Front	3-1/4 pt	2-5/8 pt	1.51
	Rear	5-1/2 pt	4-5/8 pt	2.6
Multi-purpose grease		—	—	—

*1: The fluid capacity is the reference value.

Cummins (5.0L V8D) Engine : Fluids and Lubricants

INFOID:0000000014228840

The following are approximate capacities. The actual capacities may be slightly different. When refilling, follow the procedure described elsewhere in this manual.

QUICK REFERENCE CHART: TITAN

2016

Fluid types		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		98.4 ℓ	26 gal	21-5/8 gal
Diesel exhaust fluid (DEF)		17 ℓ	4-1/2 gal	3-3/4 gal
Engine oil Drain and refill	With oil filter change	9.5 ℓ	10 qt	8-3/8 qt
	Without oil filter change	9.1 ℓ	9-5/8 qt	8 qt
Differential gear oil	Front	1.8 ℓ	3-7/8 pt	3-1/8 pt
	Rear	2.6 ℓ	5-1/2 pt	4-5/8 pt
Engine coolant	With reservoir at MAX level	16.5 ℓ	4-3/8 gal	3-5/8 gal
Automatic transmission fluid (ATF)		14.0 ℓ	14-3/4 qt	12-3/8 qt
Transfer fluid		1.8 ℓ	3-7/8 pt	3-1/8 pt
Differential gear oil	Front	1.51 ℓ	3-1/4 pt	2-5/8 pt
	Rear	2.6 ℓ	5-1/2 pt	4-5/8 pt
Power steering fluid (PSF)		1.4 ℓ	3 pt	2-1/2 pt
Brake fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	4-3/4 qt	4 qt
Air conditioning system refrigerant		0.80 ± 0.05 kg	1.76 ± 0.11 lb	1.76 ± 0.11 lb
Air conditioning system oil		150 m ℓ	5.1 fl oz	5.3 fl oz