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NISSAN TITAN
MODEL A61 SERIES

QUICK REFERENCE INDEX

FOREWORD

This manual contains maintenance and repair procedures for the 2017 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.

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
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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

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?

_____

_____

_____

_____

DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

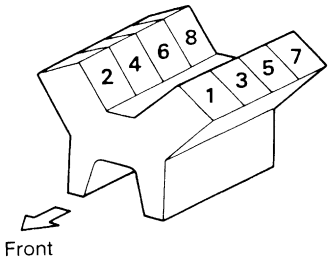
CITY:_____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERENCE CHART: TITAN

Engine Tune-up Data: VK56VD

INFOID:0000000014844757

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:0000000014844756

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

Spark Plug

INFOID:0000000014844755

Unit: mm (in)

Make	NGK
Standard type	DILKAR7B11

Gap	Standard	1.1 (0.043)
	Limit	1.25 (0.049)

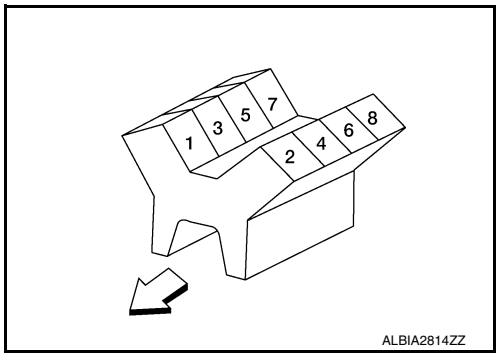
Engine Tune-up Data: Cummins 5.0L V8D

INFOID:0000000014844754

GENERAL SPECIFICATIONS

Cylinder arrangement		V-8
Displacement $cm^3(in^3)$		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 kPa (kg/cm^2, 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 (if equipped) °F (°C)		0 (-18) or less

Cylinder number



DRIVE BELT

INFOID:0000000014844753

Tension of drive belt	Auto adjustment by auto-tensioner

General Specification

INFOID:0000000014844752

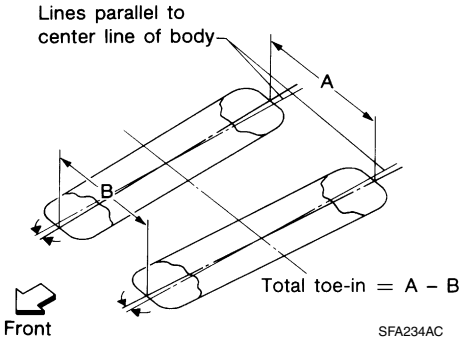
Suspension type	Independent double wishbone coil over shock
Shock absorber type	Double-acting hydraulic
Stabilizer	Standard equipment

Front Wheel Alignment (Unladen*1)

INFOID:0000000014844751

XD MODELS

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°)



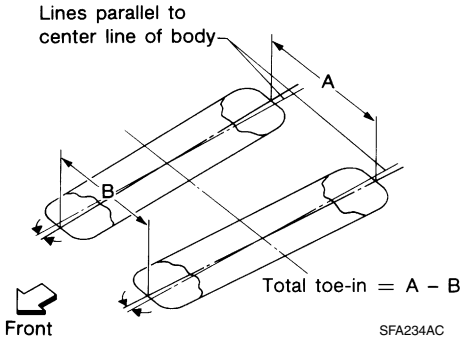
Total toe-in	Total toe-in Distance (A – B)	Minimum	In 5.0 mm (In 0.20 in)
		Nominal	In 7.5 mm (In 0.30 in)
		Maximum	In 10.0 mm (In 0.39 in)
	Total toe-in Angle Degree minute (decimal degree)	Minimum	In 0° 20′ 00″ (In 0.37°)
		Nominal	In 0° 30′ 00″ (In 0.50°)
		Maximum	In 0° 40′ 00″ (In 0.66°)

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

NON-XD MODELS

Drive Type		2WD	4WD	
Grade		ALL	S/SV	SL/PRO4X/Platinum
Camber Degree minute (decimal degree)	Minimum	-0° 55′ (-0.92°)	-0° 50′ (-0.83°)	-0° 27′ (-0.45°)
	Nominal	- 0° 10′ (-0.17°)	-0° 05′ (-0.08°)	0° 18′ (0.30°)
	Maximum	0° 35′ (0.58°)	0° 40′ (0.67°)	1° 03′ (1.05°)
	Cross camber	0° 45′ (0.75°) or less		
Caster Degree minute (decimal degree)	Minimum	2° 20′ (2.33°)	2° 05′ (2.08°)	1° 35′ (1.58°)
	Nominal	3° 05′ (3.08°)	2° 50′ (2.83°)	2° 20′ (2.33°)
	Maximum	3° 50′ (3.83°)	3° 35′ (3.58°)	3° 05′ (3.08°)
	Cross caster	0° 45′ (0.75°) or less		
Kingpin inclination (reference only) Degree minute (decimal degree)		13° 35′ (13.58°)	13° 20′ (13.33°)	13° 00′ (13.00°)

Drive Type	2WD	4WD	
Grade	ALL	S/SV	SL/PRO4X/Platinum



Total toe-in	Total toe-in Distance (A – B)	Minimum	In 0.5 mm (In 0.02 in)
		Nominal	In 2.5 mm (In 0.10 in)
		Maximum	In 4.5 mm (In 0.17 in)
	Total toe-in Angle Degree minute (decimal degree)	Minimum	In 0° 0′ 36″ (In 0.01°)
		Nominal	In 0° 10′ 12″ (In 0.17°)
		Maximum	In 0° 19′ 48″ (In 0.33°)

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

General Specification (Rear)

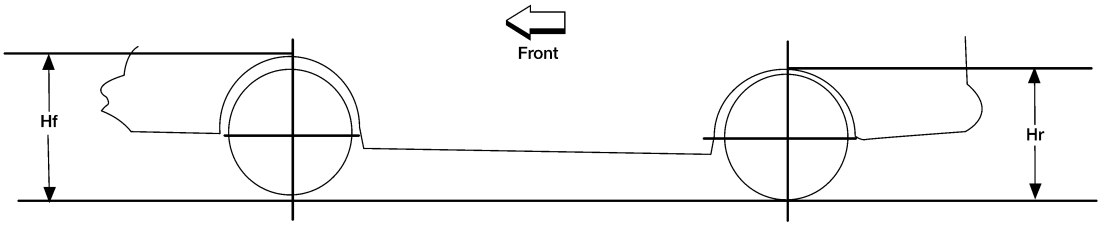
INFOID:0000000014844750

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

Wheelarch Height (Unladen*1)

INFOID:0000000014844749

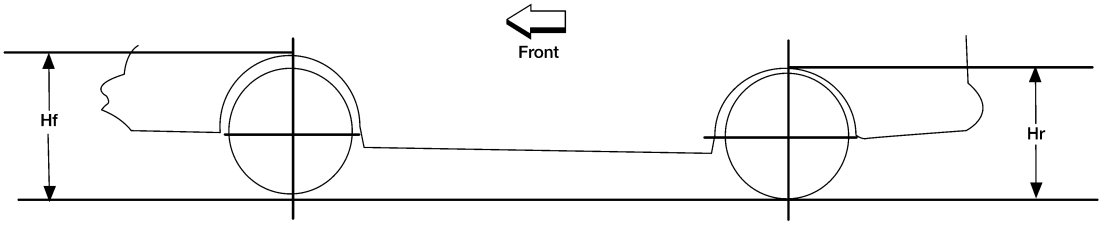
XD MODELS



Drive type	2WD		4WD		
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.

NON-XD 2WD MODELS

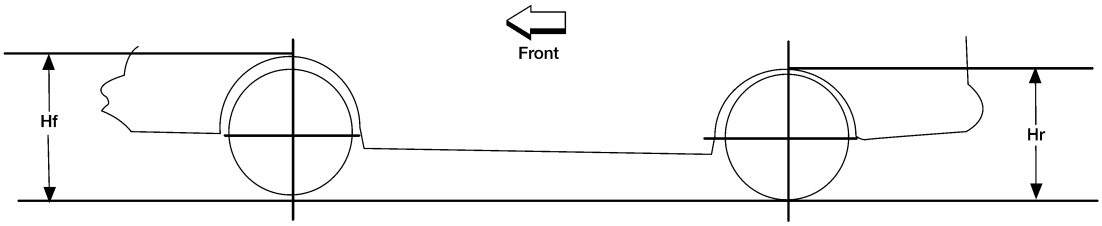


LEIA0085E

Drive type	2WD			
Grade	S BASE	SV BASE	SV COMF	SL BASE
Body	CREW CAB			
Tire size	265/70R18	265/70R18	265/70R18	275/60R20
Front wheel arch height (Hf)	920 mm (36.22 in)	921 mm (36.26 in)		927 mm (36.50 in)
Rear wheel arch height (Hr)	960 mm (37.80 in)	961 mm (37.83 in)		966 mm (38.03 in)

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

NON-XD 4WD MODELS



LEIA0085E

Drive type	4WD				
Grade	S BASE	SV BASE	SV COMF	PRO-4X	SL BASE
Body	CREW CAB				
Tire size	265/70R18	265/70R18	265/70R18	275/70R18	275/60/R20
Front wheel arch height (Hf)	934 mm (36.77 in)	935 mm (36.81 in)		965 mm (37.99 in)	965 mm (37.99 in)
Rear wheel arch height (Hr)	976 mm (38.43 in)	976 mm (38.43 in)		1007 mm (39.65 in)	1006 mm (39.61 in)

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

Brake Specification

INFOID:0000000014844748

Unit: mm (in)

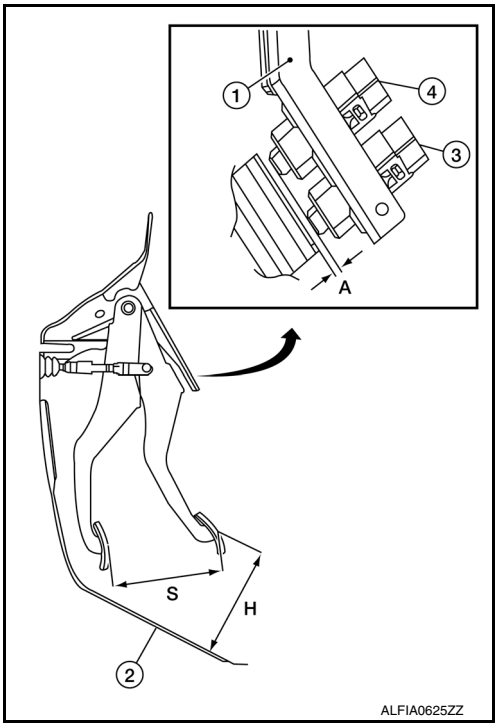
Front brake (Non-XD Models)	Cylinder bore diameter	50.8 (2.00) × 2
	Pad length × width × thickness	151.6 (5.97) × 56.5 (2.22) x 12.0 (0.47)
	Rotor outer diameter × thickness	350 (13.78) × 30 (1.18)
Front brake (XD Models)	Cylinder bore diameter	57.15 (2.25) × 2
	Pad length × width × thickness	192.0 (7.56) × 45.6 (1.80) x 13.0 (0.51)
	Rotor outer diameter × thickness	359.75 (14.16) × 38.0 (1.50)

Rear brake (Non-XD Models)	Cylinder bore diameter	50.8 (2.0)
	Pad length × width × thickness	123.6 (4.87) × 40.0 (1.57) x 12.0 (0.47)
	Rotor outer diameter × thickness	345.00 (13.58) × 20.0 (0.79)
Rear brake (XD Models)	Cylinder bore diameter	42.86 (1.69) × 2
	Pad length × width × thickness	192.0 (7.56) × 45.6 (1.80) x 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:0000000014844747

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)

Front Disc Brake

INFOID:0000000014844746

Unit: mm (in)

Model	Item		Limit
XD Models	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)

Model	Item		Limit
Non-XD Models	Brake pad	Standard thickness (new)	12.0 (0.47)
		Wear thickness	1.0 (0.04)
	Disc rotor	Standard thickness (new)	38.0 (1.50)
		Wear thickness	28.5 (1.12)
		Thickness variation (measured at 8 positions)*	0.004 (0.0002)
		Runout (with it attached to the vehicle)	0.03 (0.0012)

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

Rear Disc Brake

INFOID:0000000014844745

Unit: mm (in)

Model	Item		Limit
XD Models	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)
Non-XD Models	Brake pad	Standard thickness	12.0 (0.47)
		Wear thickness	1.0 (0.04)
	Disc rotor	Standard thickness	20.0 (0.79)
		Wear thickness	18.0 (0.71)
		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:0000000014844744

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

Fluid type			Capacity (Approximate)		
			Metric Measure	US Measure	Imperial Measure
Fuel			98.4 ℓ	26 gal	21-5/8 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
Engine coolant	XD Models	With reservoir tank at MAX level	14.8 ℓ	15-5/8 qt	13 qt
	Non-XD Models	With reservoir tank at MAX level	15.23 ℓ	16-1/8 qt	13-3/8 qt
Automatic transmission fluid			10.0 ℓ*1	10-5/8 qt*1	8-3/4 qt*1
Power steering fluid	XD Models		2.0 ℓ	4 1/4 pt.	3 1/2 pt.
	Non-XD Models		1.4 ℓ	3 pt.	2 1/2 pt.
Brake fluid			—	—	—

Fluid type			Capacity (Approximate)		
			Metric Measure	US Measure	Imperial Measure
Transfer fluid	XD Models		1.8 ℓ	1-7/8 qt	1-5/8 qt
	Non-XD Models		1.5 ℓ	1-5/8 qt	1-3/8 qt
Differential gear oil	Front	XD Models	1.51 ℓ	3-1/4 pt	2-5/8 pt
		Non-XD Models	1.25 ℓ	2-5/8 pt	2-1/4 pt
	Rear	XD Models	2.6 ℓ	5-1/2 pt	4-5/8 pt
		Non-XD Models	2.3 ℓ	4-7/8 pt	4 pt
Multi-purpose grease			—	—	—
Windshield washer fluid			4.5 ℓ	4-3/4 pt	4 qt
Air conditioning system refrigerant		XD Models	0.80 ± 0.05 kg	1.76 ± 0.11 lb	1.76 ± 0.11 lb
		Non-XD Models	0.75 ± 0.05 kg	1.60 ± 0.11 lb	1.60 ± 0.11 lb
Air conditioning system oil			150 mℓ	5.1 fl oz	5.3 fl oz

*1: The fluid capacity is the reference value.

Cummins 5.0L Engine : Fluids and Lubricants

INFOID:0000000014844743

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

Fluid types		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		98.4 ℓ	26 gal	21-5/8 gal
Diesel exhaust fluid (DEF)		17.65 ℓ	4-5/8 gal	3-7/8 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
High to Low (Engine Dipstick)		1.9 ℓ	2 qt	1-5/8 qt
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	1-7/8 qt	1-5/8 qt
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)		2.0 ℓ	4 1/4 pt.	3-1/2 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 mℓ	5.1 fl oz	5.3 fl oz