

## QUICK REFERENCE INDEX

# NISSAN

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

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# FOREWORD

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## IMPORTANT SAFETY NOTICE

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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 MOTOR CO., LTD.**

Engine model		MR16DDT
Firing order		1 - 3 - 4 - 2
Idle speed	rpm	
	CVT: No load* (in P or N position)	650 ± 50
	M/T: No load* (in Neutral position)	600 ± 50
Ignition timing (BTDC at idle speed)		
For NISMO RS models	CVT: No load* (in P or N position)	6° ± 2°
	M/T: No load* (in Neutral position)	8° ± 2°
Except for NISMO RS models	CVT: No load* (in P or N position)	5° ± 2°
	M/T: No load* (in Neutral position)	5° ± 2°
Tensions of drive belt		Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
Radiator cap relief pressure		kPa (kg/cm <sup>2</sup> , psi)
For NISMO RS models	Standard	78 - 98 (0.8 - 1.0, 11 - 14)
	Limit	59 (0.6, 9)
Except for NISMO RS models	Standard	80 - 100 (0.8 - 1.0, 11.6 - 14.5)
	Limit	60 (0.6, 8.7)
Cooling system leakage testing pressure		kPa (kg/cm <sup>2</sup> , psi)
For NISMO RS models		98 (1.0, 14)
Except for NISMO RS models		100 (1.0, 14.5)
Compression pressure		kPa (kg/cm <sup>2</sup> , psi)/rpm
For NISMO RS models	Standard	1,560 (15.9, 226.2)/250
	Minimum	1,190 (12.1, 172.6)/250
	Differential limit between cylinders	100 (1.0, 14.5)/250
Except for NISMO RS models	Standard	1,550 (15.81, 224.7)/200
	Minimum	1,290 (13.15, 187.0)/200
	Differential limit between cylinders	100 (1.0, 14.5)/200
Spark plug (Iridium-tipped type)		
For NISMO RS models	Make	NGK
	Standard type	DILKAR7C9H
Except for NISMO RS models	Make	NGK
	Standard type	DILKAR7E9HS
Gap (Nominal)	Standard	0.9 (0.035)
	Limit	1.1 (0.043)

\*: Under the following conditions

- A/C switch: OFF
- Electric load: OFF (Lights, heater fan & rear window defogger)
- Steering wheel: Kept in straight-ahead position

## FRONT WHEEL ALIGNMENT

ELS0003X

Item			Standard	
Axle type			2WD	AWD
Camber Degree minute (Decimal degree)		Minimum	-1° 10' (-1.16°)	
		Nominal	-0° 25' (-0.42°)	
		Maximum	0° 20' (0.33°)	
		Left and right difference*1	-0° 45' (-0.75°) - 0° 45' (0.75°)	
Caster Degree minute (Decimal degree)		Minimum	3° 45' (3.75°)	3° 50' (3.84°)
		Nominal	4° 30' (4.50°)	4° 35' (4.58°)
		Maximum	5° 15' (5.25°)	5° 20' (5.33°)
		Left and right difference*1	-0° 45' (-0.75°) - 0° 45' (0.75°)	
Kingpin inclination Degree minute (Decimal degree)		Minimum	10° 40' (10.67°)	
		Nominal	11° 25' (11.42°)	
		Maximum	12° 10' (12.16°)	
Toe-in	Total toe-in Distance	Minimum	0 mm (0.00 in)	
		Nominal	In 2 mm (In 0.08 in)	
		Maximum	In 4 mm (In 0.16 in)	
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 02' 00" (Out 0.03°)	
		Nominal	In 0° 10' 00" (In 0.17°)	
		Maximum	In 0° 22' 00" (In 0.36°)	

Measure value under unladen\*2 conditions.

\*1: A difference when assumed the left side a standard.

\*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

Item			Standard	
Camber Degree minute (Decimal degree)		Minimum	-2° 01' (-2.01°)	
		Nominal	-1° 31' (-1.52°)	
		Maximum	-1° 01' (-1.02°)	
Toe-in	Total toe-in Distance	Minimum	Out 1.1 mm (Out 0.043 in)	
		Nominal	In 2.9 mm (In 0.114 in)	
		Maximum	In 6.9 mm (In 0.272 in)	
	Toe angle (left wheel and right wheel)*1 Degree minute (Decimal degree)	Minimum	Out 0° 05' 00" (Out 0.08°)	
		Nominal	In 0° 15' 00" (In 0.25°)	
		Maximum	In 0° 35' 00" (In 0.58°)	

Measure value under unladen\*2 conditions.

\*1: Since adjustment mechanism is not included, the value of the left and right wheels (both wheels) must be used as the standard value.

\*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	-2° 01' (-2.01°)
		Nominal	-1° 31' (-1.52°)
		Maximum	-1° 01' (-1.02°)
Toe-in	Total toe-in Distance	Minimum	Out 1.2 mm (Out 0.047 in)
		Nominal	In 2.8 mm (In 0.11 in)
		Maximum	In 6.8 mm (In 0.268 in)
	Toe angle (left wheel and right wheel) *1 Degree minute (Decimal degree)	Minimum	Out 0° 06' 00" (Out 0.10°)
		Nominal	In 0° 14' 00" (In 0.23°)
		Maximum	In 0° 34' 00" (In 0.56°)

Measure value under unladen\*2 conditions.

\*1: Since adjustment mechanism is not included, the value of the left and right wheels (both wheels) must be used as the standard value.

\*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

Item			Standard	NISMO	NISMO RS
Tire Size			17 inch	18 inch	
Camber Degree minute (Decimal degree)		Minimum	−0° 45′ (−0.75°)	−0° 41′ (−0.68°)	
		Nominal	0° 00′ (0.00°)	0° 4′ (0.07°)	
		Maximum	0° 45′ (0.75°)	0° 49′ (0.81°)	
Toe-in	Total toe-in Distance	Minimum	In 1.0 mm (In 0.04 in)		
		Nominal	In 3.0 mm (In 0.12 in)		
		Maximum	In 5.0 mm (In 0.20 in)		
	Total toe-angle Degree minute (Decimal degree)	Minimum	In 0° 06′ 00″ (In 0.10°)	In 0° 11′ 00″ (In 0.18°)	
		Nominal	In 0° 16′ 00″ (In 0.27°)	In 0° 21′ 00″ (In 0.35°)	
		Maximum	In 0° 26′ 00″ (In 0.43°)	In 0° 31′ 00″ (In 0.52°)	

Measure value under unladen\* conditions.

\*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

Item			Standard	NISMO	NISMO RS
Tire Size			17 inch	18 inch	
Camber Degree minute (Decimal degree)		Minimum	−0° 43′ (−0.71°)		
		Nominal	0° 02′ (0.03°)		
		Maximum	0° 47′ (0.78°)		
Toe-in	Total toe-in Distance	Minimum	In 1.0 mm (In 0.04 in)		
		Nominal	In 3.0 mm (In 0.12 in)		
		Maximum	In 5.0 mm (In 0.20 in)		
	Total toe-angle Degree minute (Decimal degree)	Minimum	In 0° 05′ 00″ (In 0.08°)	In 0° 07′ 00″ (In 0.12°)	
		Nominal	In 0° 15′ 00″ (In 0.25°)	In 0° 17′ 00″ (In 0.28°)	
		Maximum	In 0° 25′ 00″ (In 0.42°)	In 0° 27′ 00″ (In 0.45°)	

Measure value under unladen\* conditions.

\*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

## BRAKE PEDAL

Unit: mm (in)

Brake pedal height	160.4 - 170.4 (6.31 - 6.71)
Depressed brake pedal height [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	70.0 (2.756) or more

## FRONT DISC BRAKE EXCEPT NISMO RS

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	24.0 (0.945)

## NISMO RS

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	26.0 (1.024)

## REAR DISC BRAKE EXCEPT NISMO RS

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	8.0 (0.315)

## NISMO RS

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	14.0 (0.551)

## REFILL CAPACITIES

UNIT				Liter	US measure
Fuel tank			2WD models	50.0	13-1/4 gal
			AWD models	45.0	11-7/8 gal
Engine Coolant (With reservoir tank) at MAX level	For NISMO RS models		CVT	8.1	8-1/2 qt
			M/T	7.9	8-3/8 qt
	Except for NISMO RS models		CVT	8.7	9-2/8 qt
			M/T	8.5	9 qt
Engine oil	Drain and refill	With oil filter change	For NISMO RS models	4.5	4-6/8 qt
			Except for NISMO RS models	4.3	4-4/8 qt
		Without oil filter change	For NISMO RS models	4.3	4-4/8 qt
			Except for NISMO RS models	4.1	4-3/8 qt
	Dry engine (Overhaul)		For NISMO RS models	5.4	5-6/8 qt
			Except for NISMO RS models	5.2	5-4/8 qt
Transaxle	CVT		RE0F10B	8.6	9-1/8 qt
			RE0F10D	7.9	8-3/8 qt
	M/T		RS6F94R	2.0	4-1/4 pt
			RS6F52H	1.9	4 pt
Transfer				0.37	3/4 pt
Final drive				0.4	7/8 pt
Air conditioning system	Compressor oil			0.12	4.1 fl oz
	Refrigerant			0.40 kg	0.9 lb