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NISSAN
ROGUE HYBRID
MODEL T32 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	HBC	Hybrid Control System
		HBB	Hybrid Battery System
		TMS	Traction Motor System
		HCO	High Voltage Cooling System
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
		STC	Steering Control 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 Positioner
K	BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY	DLK	Door & Lock
		SEC	Security Control System
		GW	Glass & Window System
		PWC	Power Window Control System
		RF	Roof
		EXT	Exterior
		BRM	Body Repair Manual
L	DRIVER CONTROLS	MIR	Mirrors
		EXL	Exterior Lighting System
		INL	Interior Lighting System
		WW	Wiper & Washer
		DEF	Defogger
		HRN	Horn
		VSP	Approaching Vehicle Sound for Pedestrians
M	ELECTRICAL & POWER CONTROL	PWO	Power Outlet
		BCS	Body Control System
		LAN	LAN System
		PCS	Power Control System
		PG	Power Supply, Ground & Circuit Elements
N	DRIVER INFORMATION & MULTIMEDIA	MWI	Meter, Warning Lamp & Indicator
		WCS	Warning Chime System
		AV	Audio, Visual & Navigation System
O	CRUISE CONTROL	CCS	Cruise Control System
		DAS	Driver Assistance System
		DMS	Drive Mode System
P	MAINTENANCE	MA	Maintenance
Q	INDEX	IDX	Alphabetical Index

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FOREWORD

This manual contains maintenance and repair procedures for the 2017 NISSAN ROGUE HEV.

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.*

_____

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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: ROGUE HYBRID

Engine Tune-up Data

INFOID:0000000015307985

GENERAL SPECIFICATIONS

Engine type		MR20DD
Cylinder arrangement		In-line 4
Displacement cm^3 (cu in)		1,997 (121.86)
Bore and stroke mm (in)		84.0×90.1 (3.307×3.547)
Valve arrangement		DOHC
Firing order		1-3-4-2
Number of piston rings	Compression	2
	Oil	1
Compression ratio		11.2
Compression pressure kPa (bar, kg/cm^2, psi)/250 rpm	Standard	1,530 (15.3, 15.6, 222)
	Minimum	1,280 (12.8, 13.1, 186)
	Differential limit between cylinders	100 (1.0, 1.0, 15)

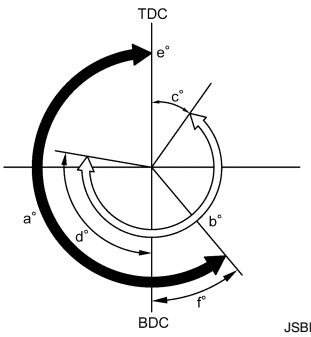
Unit: degree

Valve timing

⇦ : Intake valve

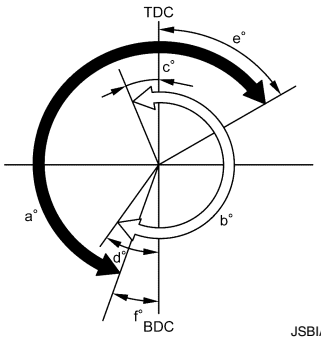
⬅ : Exhaust valve

VTC Minimum phasing (Mechanical)



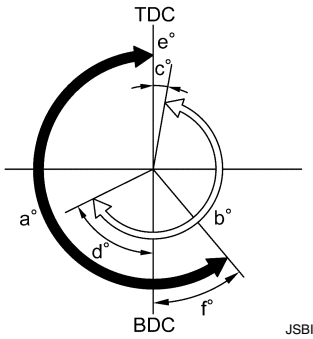
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VTC Maximum phasing (Mechanical)



JSBIA6491GB

Engine start (Mechanical)



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a EXH valve opening angle	b INT valve opening angle	c INT open	d INT close	e EXH close	f EXH open

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VTC Minimum phasing (Mechanical) *1	220	240	43 ATDC	103 ABDC	0 TDC	40 BBDC
VTC Maximum phasing (Mechanical) *2			22 BTDC	38 ABDC	60 ATDC	20 ABDC
Intermediate lock phasing (Mechanical) *3			8 ATDC	68 ABDC	0 TDC	40 BBDC

*1: When running at idle with engine coolant temperature more than 60°C (140°F).

*2: When the intake or exhaust valve opening angle is at the maximum.

*3: When starting the engine with engine coolant temperature 60°C (140°F) or less.

Spark Plug

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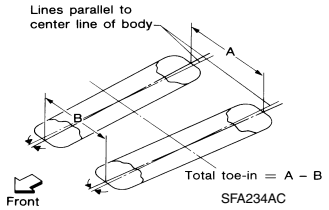
Unit: mm (in)

Make		NGK
Standard type		DILKAR7D11H
Gap (Nominal)	Standard	1.1 (0.043)
	Limit	1.3 (0.051)

Front Wheel Alignment (Unladen*1)

INFOID:0000000015308001

Axle type		FWD	AWD
Wheel diameter		17 or 18 inch	17 or 18 inch
Camber Degree minute (Decimal degree)	Minimum	–1° 29′ 24″ (–1.49°)	–1° 19′ 48″ (–1.33°)
	Nominal	–0° 39′ 36″ (–0.66°)	–0° 30′ 0″ (–0.50°)
	Maximum	0° 10′ 12″ (0.17°)	0° 19′ 48″ (0.33°)
	(LH) and (RH) difference	± 0° 36′ 0″ (±0.60°)	
Caster Degree minute (Decimal degree)	Minimum	4° 55′ 48″ (4.93°)	4° 45′ 36″ (4.76°)
	Nominal	5° 49′ 48″ (5.83°)	5° 39′ 36″ (5.66°)
	Maximum	6° 43′ 48″ (6.73°)	6° 33′ 36″ (6.56°)
	(LH) and (RH) difference	± 0° 36′ 0″ (±0.60°)	
Kingpin inclination Degree minute (Decimal degree)	Minimum	11° 19′ 48″ (11.33°)	10° 54′ 36″ (10.91°)
	Nominal	12° 4′ 48″ (12.08°)	11° 39′ 36″ (11.66°)
	Maximum	12° 49′ 48″ (12.83°)	12° 24′ 36″ (12.41°)



QUICK REFERENCE CHART: ROGUE HYBRID

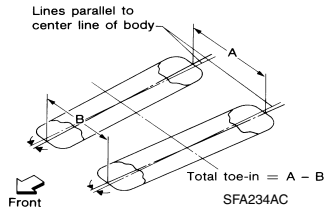
Total toe-in	Distance (A - B)	Minimum	Out 1.0 mm (Out 0.039 in)
		Nominal	In 1.5 mm (In 0.059 in)
		Maximum	In 4.0 mm (In 0.157 in)
	Angle (LH and RH) Degree minute (Decimal degree)	Minimum	Out 0° 4′ 48″ (Out 0.08°)
		Nominal	In 0° 7′ 12″ (In 0.12°)
		Maximum	In 0° 19′ 12″ (In 0.32°)

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

Rear Wheel Alignment (Unladen*1)

INFOID:0000000015307999

Drive Type		FWD	AWD
Camber Degree minute (Decimal degree)	Minimum	−1°′49′ 12″ (−1.82°)	−1° 34′ 12″ (−1.57°)
	Nominal	−0° 55′ 12″ (−0.92°)	−0° 40′ 12″ (−0.67°)
	Maximum	−0° 01′ 12″ (−0.02°)	0° 13′ 48″ (0.23°)



Total toe-in	Distance (A - B)	Minimum	In 0.2 mm (In 0.008 in)	
		Nominal	In 4.2 mm (In 0.165 in)	
		Maximum	In 8.2 mm (In 0.323 in)	
	Angle (LH and RH)*2 Degree minute (Decimal degree)	Minimum	In 0° 07′ 12″ (In 0.12°)	In 0° 01′ 48″ (In 0.03°)
		Nominal	In 0° 25′ 12″ (In 0.42°)	In 0° 19′ 48″ (In 0.33°)
		Maximum	In 0° 43′ 12″ (In 0.72°)	In 0° 37′ 48″ (In 0.63°)

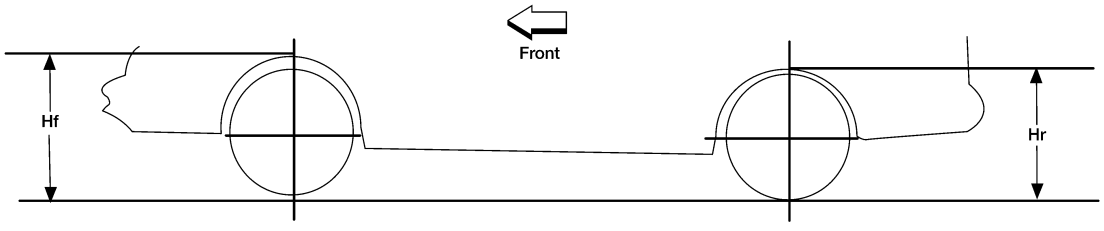
*1: Fuel, engine coolant, and lubricants are full. Spare tire, jack, hand tools, and mats are in designated positions.

*2: Since an adjustment mechanism is not included, the value of the left and right wheels must be used as the standard value.

Wheelarch Height (Unladen*)

INFOID:0000000015308000

Unit: mm (in)



LEIA0085E

Axle type	FWD		AWD	
Tire size	225/65R17	225/60R18	225/65R17	225/60R18
Front (Hf)	777 (30.59)	778 (30.63)	796 (31.34)	798 (31.42)
Rear (Hr)	772 (30.39)	774 (30.47)	792 (31.18)	793 (31.22)

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

Brake Specifications

INFOID:0000000015307994

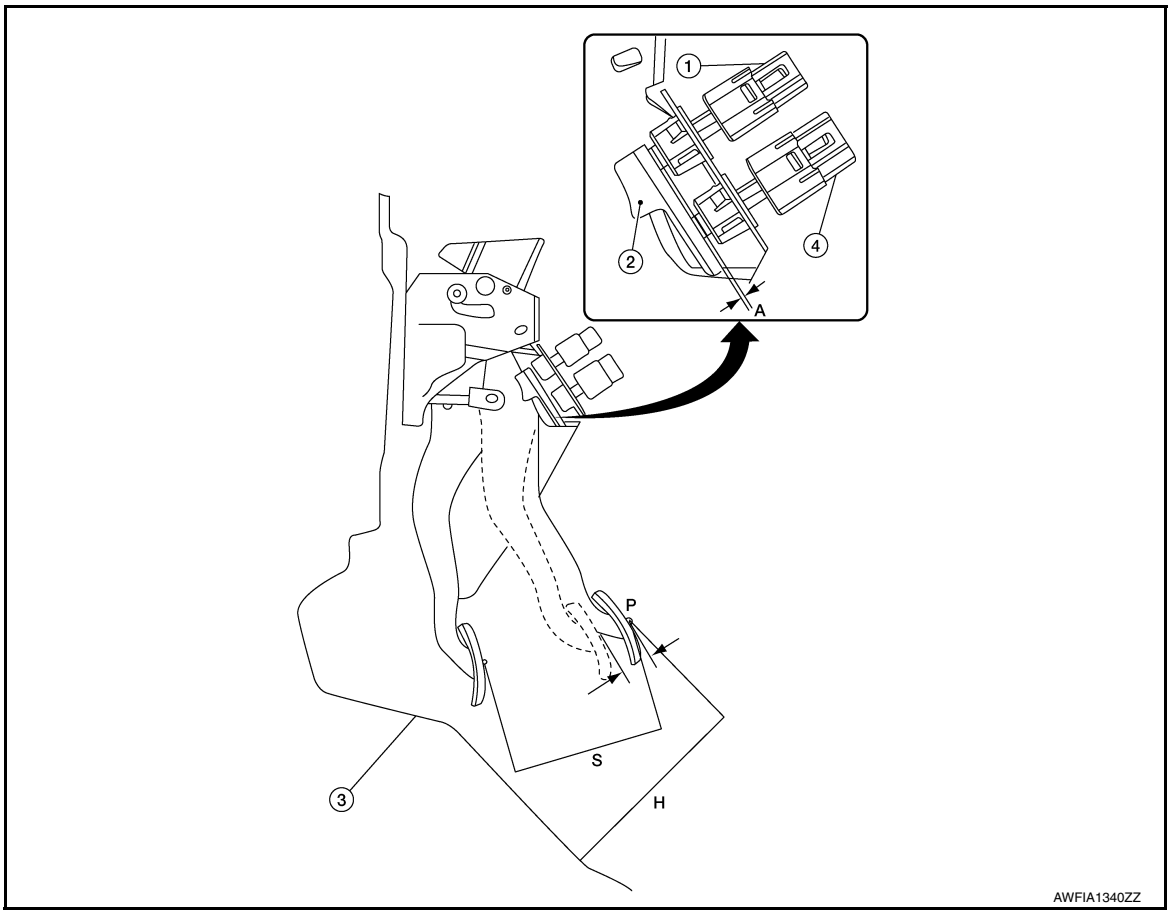
Unit: mm (in)

Front disc brake	Cylinder bore diameter	44.45 (1.750)
	Pad length × width × thickness	133.6 × 56.3 × 10.0 (5.26 × 2.256 × 0.394)
	Disc brake rotor outer diameter × thickness	320 × 28.0 (12.60 × 1.102)
Rear disc brake	Cylinder bore diameter	38.1 (1.5)
	Pad length × width × thickness	83.0 × 33.0 × 8.5 (3.268 × 1.299 × 0.335)
	Disc brake rotor outer diameter × thickness	292 × 16.0 (11.50 × 0.630)
Master cylinder	Cylinder bore diameter	23.8 (0.973)
Control valve	Valve type	Electric brake force distribution

Brake Pedal

INFOID:0000000015307995

Unit: mm (in)



Item	Standard
Brake pedal height (H)	175.9 – 185.9 (6.93 – 7.32)
Clearance (A) between brake pedal stopper bracket (2), stop lamp switch (4) and brake pedal position switch (1) contact ends	0.20 – 1.96 (0.0079 – 0.0772)
Brake pedal full stroke (S)	135.1 (5.32)
Brake pedal play	—

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Front Disc Brake

INFOID:0000000015307997

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc brake rotor	Wear thickness	26.0 (1.024)
	Thickness variation (measured at 8 positions)*	0.020 (0.0008)
	Runout limit (with it attached to the vehicle)	0.035 (0.0014)

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

Rear Disc Brake

INFOID:0000000015307998

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	1.5 (0.059)
Disc brake rotor	Wear thickness	14.0 (0.551)
	Thickness variation (measured at 8 positions)*	0.020 (0.0008)
	Runout limit (with it attached to the vehicle)	0.070 (0.0028)

*To check for rotor imbalance, rotor runout or rotor deformation.

Fluids and Lubricants

INFOID:0000000015307993

The following are approximate capacities. The actual 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		55 ℓ	14-1/2 gal	12-1/8 gal
Engine oil Drain and refill	With oil filter change	3.8 ℓ	4 qt	3-3/8 qt
	Without oil filter change	3.6 ℓ	3-7/8 qt	3-1/8 qt
Dry engine (Overhaul)		4.4 ℓ	4-5/8 qt	3-7/8 qt
Engine coolant	With reservoir tank	7.4 ℓ	7-7/8 qt	6-1/2 qt
Inverter coolant	With reservoir tank	2.3 ℓ	2-3/8 qt	2 qt
	Reservoir tank	0.45 ℓ	1/2 qt	3/8 qt
CVT fluid		5.9 ℓ	6-1/4 qt	5-1/4 qt
Differential gear oil		0.55 ℓ	1-1/8 pt	1 pt
Transfer oil		0.31 ℓ	5/8 pt	1/2 qt
Brake fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		5 ℓ	5-1/4 qt	4-3/8 qt
Air conditioning system refrigerant		0.50 kg	1.10 lb	1.10 lb
Air conditioning system oil		140 mℓ	4.7 fl oz	4.9 fl oz