

SECTION

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ENGINE LUBRICATION SYSTEM

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# PRECAUTIONS

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## PRECAUTION

### PRECAUTIONS

#### Precaution for Working Range at a Regular Dealership

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##### **CAUTION:**

The service items unmentioned on this manual are recommended to be performed by a GT-R certified NISSAN dealer. Because those service items require special equipment and a GT-R certified technical staff who completed special training.

#### Precaution for Battery Service

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Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### General Precautions

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##### **CAUTION:**

After finishing servicing, check that all the tools and waste are stored in a customary place.

#### Liquid Gasket

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#### LIQUID GASKET APPLICATION PROCEDURE

1. Remove old liquid gasket adhering to the liquid gasket application surface and the mating surface.
  - Remove liquid gasket completely from the liquid gasket application surface, mounting bolts, and bolt holes.
2. Wipe the liquid gasket application surface and the mating surface with white gasoline (lighting and heating use) to remove adhering moisture, grease and foreign materials.
3. Apply liquid gasket to the liquid gasket application surface.

**Use Genuine RTV Silicone Sealant or equivalent. Refer to [GI-18, "Recommended Chemical Products and Sealants"](#).**

  - Within five minutes of liquid gasket application, install the mating component.
  - If liquid gasket protrudes, wipe it off immediately.
  - Do not retighten mounting bolts or nuts after the installation.
  - After 30 minutes or more have passed from the installation, fill engine oil and engine coolant.

# PREPARATION

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## PREPARATION

### PREPARATION

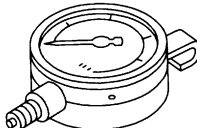
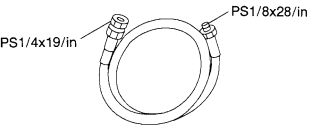
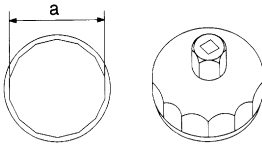
#### Special Service Tools

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
ST25051001 (J-25695-1) Oil pressure gauge  NT050	Measuring oil pressure <b>Maximum measuring range: 2,452 kPa (25 kg/cm<sup>2</sup>, 356 psi)</b>
ST25052000 (J-25695-2) Hose  S-NT559	Adapting oil pressure gauge to oil pan (upper)
KV10115801 (J-38956) Oil filter wrench  S-NT375	Removing and installing oil filter <b>a: 64.3 mm (2.531 in)</b>

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## PERIODIC MAINTENANCE

### ENGINE OIL

#### Inspection

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#### ENGINE OIL TEMPERATURE HISTORY

Check that engine oil temperature history is not stored in ECM. (This work is recommended to be performed by GT-R certified NISSAN dealer.)

#### ENGINE OIL LEVEL

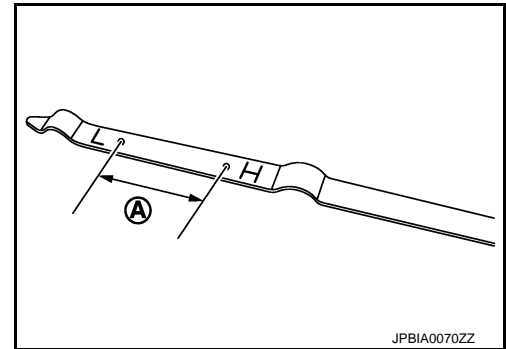
##### NOTE:

Before starting engine, put vehicle horizontally and check the engine oil level. If engine is already started, stop it and allow 5 minutes before checking.

1. Pull out oil level gauge and wipe it clean.
2. Insert oil level gauge and check the engine oil level is within the range (A) shown in the figure.
3. If it is out of range, adjust it.
  - Adjust the engine oil level 10 mm below the H level within the range A.

##### NOTE:

- Engine oil level check and oil refill must be performed constantly [at least every 3000 km (1800 miles)].
- If the customer does not drive on following condition, it can be filled up to H level:
  - Higher-RPM (approaching redline) operation
  - Frequent high pedal force braking from moderate and higher speeds
  - Frequent throttle activation
  - Fast revving throughout the RPM range
- Engine oil is consumed by driving, and engine oil consumption increases under driving conditions listed below:



**Maximum engine oil consumption : 0.5L (1/2 US qt, 1/2 Imp qt) / 1000km (621-3/8 mile)**

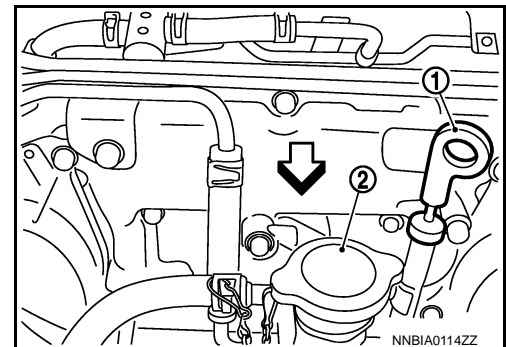
- Frequent heavy load and high rpm.
- Frequent acceleration and deceleration.
- Traveling distance per driving is 10 km or less.
- Engine starting on a slope (e.g. hill).

##### NOTE:

When checking the engine oil level, insert oil level gauge (1) with its tip aligned with oil level gauge guide.

2 : Radiator cap

⇐ : Engine front



#### ENGINE OIL APPEARANCE

- Check engine oil for white turbidity or heavy contamination.
- If engine oil becomes turbid and white, it is highly probable that it is contaminated with engine coolant. Repair or replace damaged parts.

#### ENGINE OIL LEAKAGE

Visually check engine assembly surrounding area for smears and leakage of engine oil.

# ENGINE OIL

## < PERIODIC MAINTENANCE >

Oil smears/leakage status from transmission assembly		Required operation	Reference
Smears <sup>*1</sup>	Smears from each part on the engine assembly	<ol style="list-style-type: none"> <li>1. Use part cleaner or an equivalent to wipe out smeared oil.</li> <li>2. Check again for oil leakage.</li> </ol>	—
	Mating surface of oil pan (upper and lower)	<ol style="list-style-type: none"> <li>1. Remove oil pan (upper and/or lower).</li> <li>2. Remove old liquid gasket completely, and then install oil pan (upper and/or lower).</li> <li>3. Check for oil leakage.</li> </ol>	*3
Leakage <sup>*2</sup>	Drain plug	Replace the drain plug washer, and then check for oil leakage.	*3
	Oil filter	<ol style="list-style-type: none"> <li>1. Remove oil filter.</li> <li>2. Remove foreign materials adhering to oil filter installation surface.</li> <li>3. Install oil filter.</li> <li>4. Check for oil leakage.</li> </ol>	*3
	Oil filter bracket	<ol style="list-style-type: none"> <li>1. Check the mounting condition of oil filter bracket, oil pressure sensor, oil cooler hose, and oil thermostat.</li> <li>2. Remove and reinstall above parts if there is malfunction.</li> <li><b>CAUTION:</b> <b>Replace the O-ring and gasket when reinstalling the parts.</b></li> <li>3. Check for oil leakage.</li> </ol>	*3
	Oil cooler, oil cooler hose, and oil cooler pipe	<ol style="list-style-type: none"> <li>1. Specify oil leakage point.</li> <li>2. If oil leakage is from connection of parts, remove foreign materials from mating surface.</li> <li>3. Replace with a new gasket.</li> <li>4. If oil leakage is from the part itself, replace with a new part.</li> <li>5. Check for oil leakage.</li> </ol>	* 3
	Mating surface of flywheel housing	<ol style="list-style-type: none"> <li>1. Remove flywheel housing assembly.</li> <li>2. Remove flywheel.</li> <li>3. Remove rear oil seal, and then check the oil seal mounting surface and crankshaft.</li> <li>4. Replace the rear oil seal if there is not malfunction.</li> <li>5. Check for oil leakage.</li> </ol>	*3
	Front oil seal	<ol style="list-style-type: none"> <li>1. Remove front oil seal, and then check the oil seal mounting surface and crankshaft.</li> <li>2. Replace the front oil seal if there is not malfunction.</li> <li>3. Check for oil leakage.</li> </ol>	*3
	Turbocharger	<ol style="list-style-type: none"> <li>1. Specify oil leakage point.</li> <li>2. If oil leakage is from oil tube connected, remove foreign materials from mating surface.</li> <li>3. Replace with a new gasket.</li> <li>4. If oil leakage is from the part itself, replace turbocharger only.</li> <li>5. Check for oil leakage.</li> </ol>	<a href="#">EM-26. "Exploded View"</a>

- \*1: When the oil does not drop.
- \*2: When the oil drops.
- \*3: This work is recommended to be performed by GT-R certified NISSAN dealer.

### LIST OF CHECKING POINTS FOR OIL LEAKAGE

Check for engine oil leakage around the following areas:

- Oil pans (lower and upper)
- Oil pan drain plug
- Oil pressure sensor
- Oil level sensor

# ENGINE OIL

## < PERIODIC MAINTENANCE >

- Oil temperature sensor
- Oil filter
- Oil filter bracket
- Valve timing control cover
- Intake valve timing control solenoid valve
- Mating surface between cylinder head and rocker cover
- Mating surface between front timing chain case and rear timing chain case
- Mating surface between rear timing chain case and cylinder head
- Mating surface between rear timing chain case and cylinder block
- Mating surface between rear timing chain case and oil pan (upper)
- Mating surface between cylinder block and cylinder head
- Mating surface between lower cylinder block and cylinder block
- Crankshaft oil seals (front and rear)
- Camshaft position sensor (PHASE)
- Turbocharger

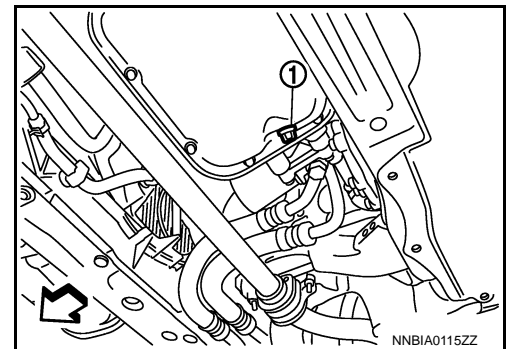
## Draining

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### **WARNING:**

- **Be careful not to get burned, as engine oil may be hot.**
  - **Prolonged and repeated contact with used engine oil may cause skin cancer. Try to avoid direct skin contact with used engine oil. If skin contact is made, wash thoroughly with soap or hand cleaner as soon as possible.**
1. Warm up the engine, and check for engine oil leakage from engine components. Refer to [LU-4, "Inspection"](#).
  2. Stop the engine and wait for 5 minutes.
  3. Loosen oil filler cap.
  4. Remove front undercover. Refer to [EXT-37, "FRONT UNDER COVER : Exploded View"](#).
  5. Remove drain plug (1) and then drain engine oil.

⇐ : Vehicle front



## Refilling

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1. Install drain plug with new washer.

### **CAUTION:**

**Be sure to clean drain plug and install with new washer.**

**Tightening torque : 34.3 N·m (3.5 kg-m, 25 ft-lb)**

2. Refill with new engine oil.  
**Engine oil specification and viscosity:** Refer to [MA-22, "Fluids and Lubricants"](#).

**Engine oil capacity : Refer to [LU-9, "Periodical Maintenance Specification"](#).**

### **CAUTION:**

- **When filling engine oil, never pull out oil level gauge.**
  - **The refill capacity depends on the engine oil temperature and drain time. Use these specifications for reference only.**
  - **Always use oil level gauge to determine the proper amount of engine oil in engine.**
3. Warm up the engine and check area around drain plug and oil filter for engine oil leakage.

## ENGINE OIL

### < PERIODIC MAINTENANCE >

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4. Stop the engine and wait for 5 minutes.
5. Check the engine oil level. Refer to [LU-4, "Inspection"](#).

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# OIL FILTER

< PERIODIC MAINTENANCE >

## OIL FILTER

### Removal and Installation

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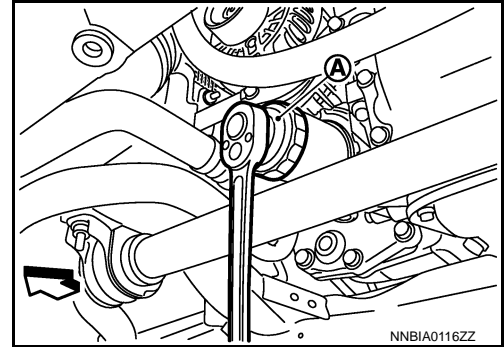
#### REMOVAL

##### CAUTION:

- Oil filter is provided with relief valve. Use genuine NISSAN oil filter or equivalent.
- Be careful not to get burned when engine and engine oil may be hot.
- When removing, prepare a shop cloth to absorb any engine oil leakage or spillage.
- Never allow engine oil to adhere to drive belt.
- Completely wipe off any engine oil that adheres to engine and vehicle.

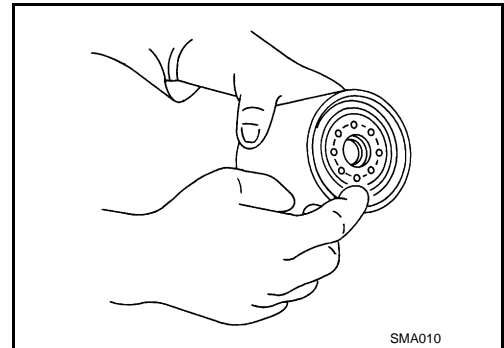
1. Remove front undercover. Refer to [EXT-37. "FRONT UNDER COVER : Exploded View"](#).
2. Using oil filter wrench [SST: KV10115801 (J-38956)] (A), remove oil filter.

⇐ : Vehicle front



#### INSTALLATION

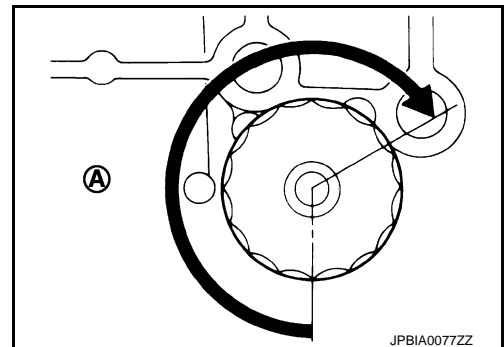
1. Remove foreign materials adhering to oil filter installation surface.
2. Apply engine oil to the oil seal contact surface of new oil filter.



3. Screw oil filter manually until it touches the installation surface, then tighten it by 2/3 turn (A). Or tighten to the specification.

##### Oil filter:

: 17.7 N·m (1.8 kg-m, 13 ft-lb)



#### Inspection

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#### INSPECTION AFTER INSTALLATION

1. Check the engine oil level. Refer to [LU-4. "Inspection"](#).
2. Start the engine, and check there is no leakage of engine oil.
3. Stop the engine and wait for 5 minutes.
4. Check the engine oil level, and adjust the level. Refer to [LU-4. "Inspection"](#).

## SERVICE DATA AND SPECIFICATIONS (SDS)

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## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Periodical Maintenance Specification

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#### ENGINE OIL CAPACITY (APPROXIMATELY)

Unit: ℓ (US qt, Imp qt)

Drain and refill	With oil filter change	5.0 (5-1/4, 4-3/8)
	Without oil filter change	4.5 (4-3/4, 4)
Dry engine (Overhaul)		6.2 (6-4/8, 5-4/8)

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