



LUBRICATION SYSTEM

Oil	Oil	Oil



CHECK & CHANGE OF ENGINE OIL**OIL QUALITY & LEVEL CHECK****WARNING:**

- Be sure to perform this inspection when the engine oil is not hot, to prevent you from getting scalded.

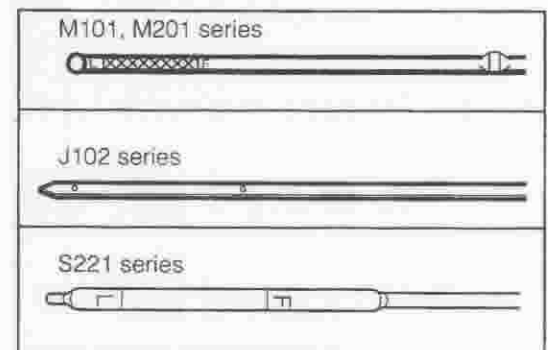
1. Park the vehicle on a level surface.
 2. Pull out the oil level gauge.
- YLU00002-00000
3. Check the engine oil for deterioration, ingress of water, discoloring or dilution.
If oil quality is poor, change the engine oil.
(As for the procedure, see "CHANGE OF ENGINE OIL AND REPLACEMENT OF OIL FILTER" section.)
 4. Wipe off the engine oil from the oil level gauge.
 5. Reinsert the oil level gauge as far as it will go.
 6. Pull out the oil level gauge again.
 7. Ensure that the engine oil level is between the "L" level and "F" level on the oil level gauge.
If the engine oil level is below the "L" level, replenish the specified engine oil to the "F" level after the checking of the oil quality and leakage.
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CAUTION:

- Use API grade SH or higher multi-grade viscosity, fuel efficient oil. (As for the procedure, see "CHANGE OF ENGINE OIL AND REPLACEMENT OF OIL FILTER" section.)

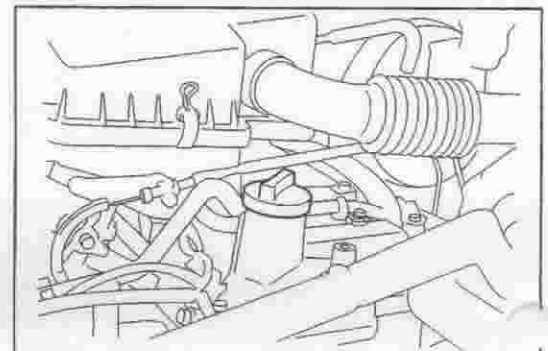
NOTE:

- The amount of oil whose level is between "L" level and "F" level equals to 1.5 liter.

**CHANGE OF ENGINE OIL & REPLACEMENT OF OIL FILTER****WARNING:**

- Protect your eyes by wearing safety goggles.
 - Be very careful not to burn yourself with hot engine oil or hot engine components.
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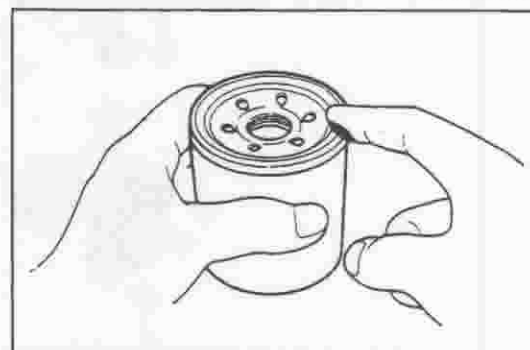
1. Drain engine oil
 - (1) Park the vehicle on a level surface.
 - (2) Place a suitable container under the oil drain plug.
 - (3) Remove the drain plug and gasket, and drain the engine oil into the placed container completely.
 - (4) Remove the oil filler cap.



- (3) Remove the oil filter by hand.
- (4) Wipe off the engine oil from the oil filter attaching part of the engine.
- (5) Thinly apply engine oil to the O-ring of the new oil filter.
- (6) Screw in the oil filter by hand, until the O-ring of the oil filter contacts the oil filter installing surface.

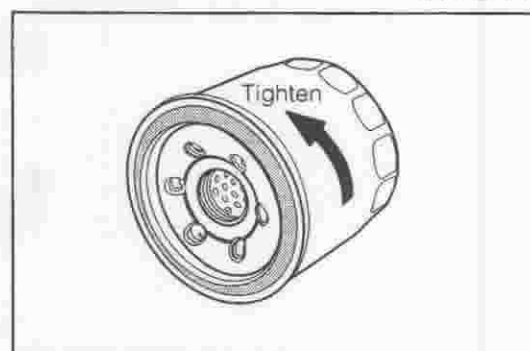


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- (7) Tighten the oil filter three fourth to one complete turn, using a suitable oil filter wrench or the following SST.
SST: 09228-87201-000



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CAUTION:

- Do not overtighten the oil filter. Failure to observe this caution will cause oil leakage or damage of the oil pump or oil filter.

3. Filling of engine oil

- (1) Clean the drain plug. Tighten the drain plug to the specified torque with a new gasket interposed.
Tightening Torque: 23.6 - 35.4 N·m

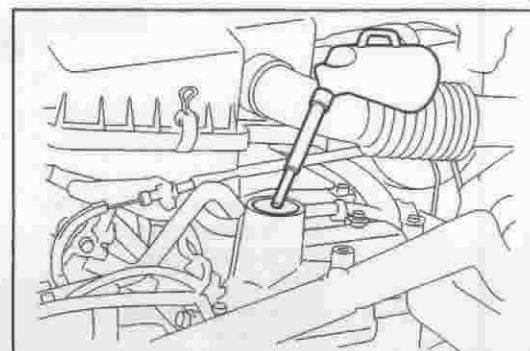
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- (2) Detach the filler cap. Pour oil into the engine through the filler cap port.

NOTE:

- Use multigrade viscosity, fuel-efficient engine oil of API grade SH or higher.

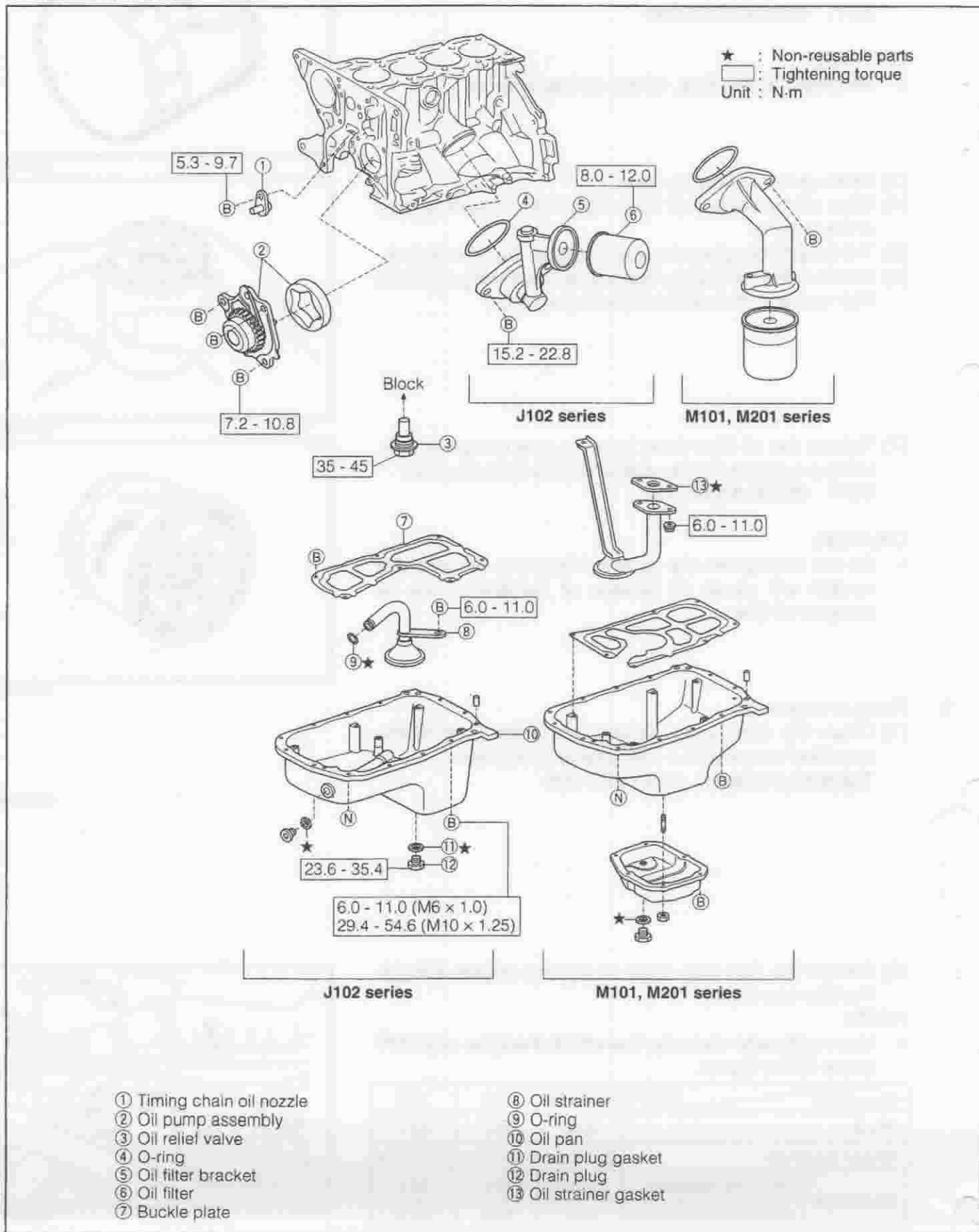
Oil capacity	Model	M101, M201	J102	S221
Whole		4.1 l	3.6 l	4.1 l
Oil pan (Low/Full)		2.0 l / 3.5 l	1.5 l / 3.0 l	1.7 l / 3.2 l
Oil change	with oil filter replacement	3.6 l	3.2 l	3.4 l
	without oil filter replacement	3.3 l	3.0 l	3.1 l



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OIL PUMP COMPONENTS

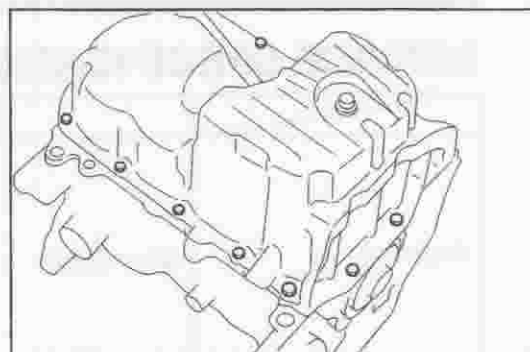


REMOVAL

1. Removal of oil pan

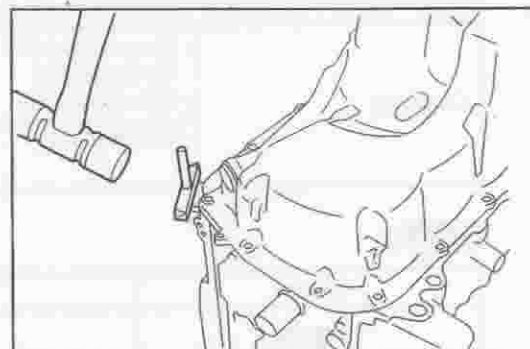
M101, M201 & J102 series

(1) Remove the oil pan retaining bolts and nuts.



(2) Detach the oil pan from the cylinder block, using the following SST.

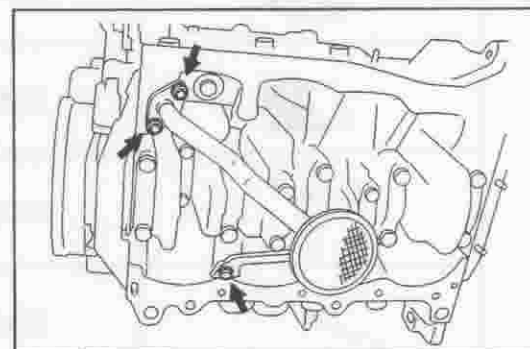
SST: 09032-00100-000



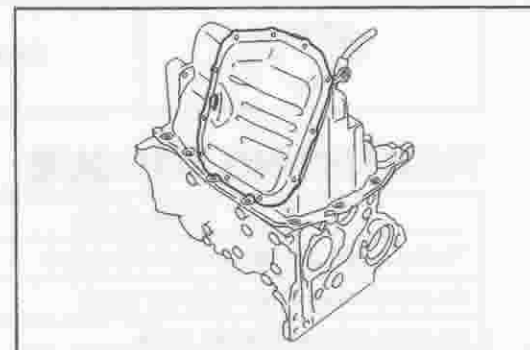
(3) Remove the oil strainer and gasket.

NOTE:

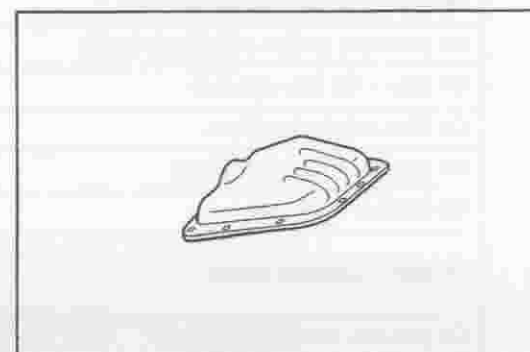
- On the J102 series, the oil strainer is mounted on the oil pan.

**S221 series**

(1) Remove the oil pan No. 2 retaining bolts and nuts.



(2) Detach the oil pan No. 2 and gasket from the oil pan No. 1.







SERVICE SPECIFICATIONS

	Grade	Capacity		
Engine oil	SH or higher	With oil filter replacement	M101, M201	3.6 ℓ
			J102	3.2 ℓ
			S221	3.4 ℓ
		Without oil filter replacement	M101, M201	3.3 ℓ
			J102	3.0 ℓ
			S221	3.1 ℓ

Oil pump	Body clearance	0.155 - 0.265 mm
	Tip clearance	0.080 - 0.160 mm
	Side clearance	0.030 - 0.080 mm
	Oil pressure	at 700 rpm at 3000 rpm
		39 kPa 225 kPa

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SSTs

Shape	Part No.	Part name	Remarks
	09228-87201-000	Oil filter wrench	
	09990-87702-000	Oil pressure gauge	
	09032-00100-000	Oil pan seal cutter	
	09991-87402-000	Tachometer pulse pick-up wire	Measurement of engine revolution speed
	09991-87404-000	Engine control system inspection wire	Measurement of engine revolution speed

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TIGHTENING TORQUE

Components	N·m	kgf·m	Remarks
Timing chain oil nozzle x Cylinder block	5.3 - 9.7	0.53 - 0.97	
Oil pump assembly x Cylinder block	7.2 - 10.8	0.72 - 1.08	
Oil relief valve x Cylinder block	35 - 45	3.5 - 4.5	
Oil filter bracket x Cylinder block	15.2 - 22.8	1.52 - 2.28	
Oil pressure switch x Cylinder block	10.5 - 19.5	1.05 - 1.95	
Oil filter x Oil filter bracket	8.0 - 12.0	0.8 - 1.2	M101, M201, J102
Oil filter x Cylinder block	8.0 - 12.0	0.8 - 1.2	S221 series
Oil strainer x Cylinder block	6.0 - 11.0	0.6 - 1.1	M101, M201 series
Oil strainer x Oil pan	6.0 - 11.0	0.6 - 1.1	J102, S221 series
Oil pan x Cylinder block	6.0 - 11.0	0.6 - 1.1	M6 x 1.0
	29.4 - 54.6	2.94 - 5.46	M10 x 1.25
Oil pan No. 1 x Oil pan No. 2	6.8 - 10.2	0.68 - 1.02	S221 series
Drain plug x Oil pan	23.6 - 35.4	2.36 - 3.54	

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