

# ENGINE LUBRICATION AND COOLING SYSTEMS

SECTION LC

- GI
- EM
- LC
- EC
- FE
- RS
- AC
- AV
- EL
- WH
- CL
- MT
- AT
- FA
- RA
- BR
- ST
- BT

## CONTENTS

PRECAUTIONS AND PREPARATION

Precautions .....

Preparation .....

ENGINE LUBRICATION SYSTEM

Lubrication Circuit.....

SERVICE DATA

Engine Lubrication System .....

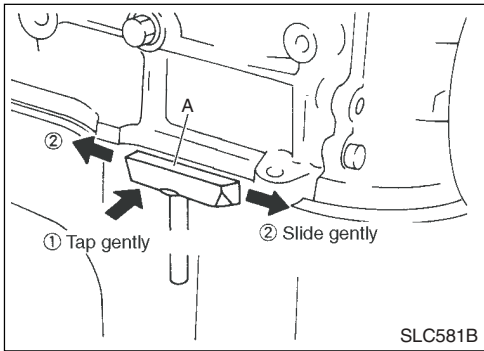
2

3

4

5

## Precautions



## Liquid Gasket Application

### REMOVING THE APPLIED LIQUID GASKET

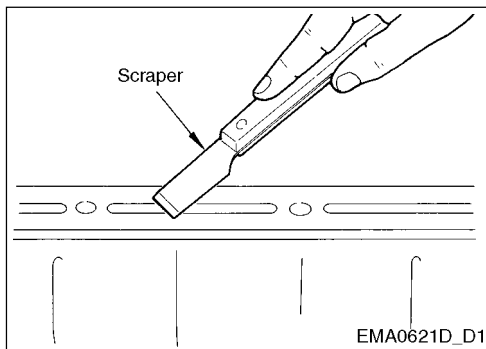
- After removing the bolts and nuts, remove the liquid gasket using a seal cutter (A: KV10111100).

#### CAUTION:

- **Be careful not to damage the mating surfaces.**
- Use a plastic hammer to tap gently for locations hard to use the seal cutter during removal.

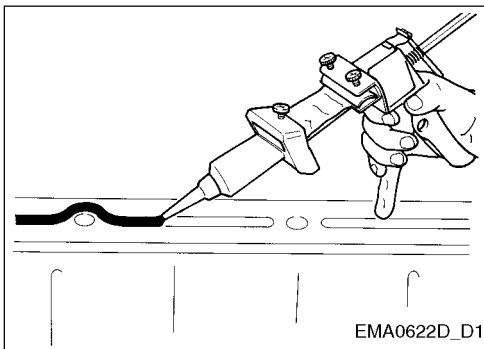
#### CAUTION:

- **When it is necessary to use the minus (-) screwdriver, be careful not to damage the mating surfaces.**



### LIQUID GASKET APPLICATION PROCEDURE

1. Remove the liquid gasket on the applied surfaces and mating surfaces with a scraper.
  - Completely remove all liquid gasket at grooves, bolts and bolt hole threads.
2. Clean these surfaces with white gasoline and completely remove all moisture, oil and other foreign particles.
3. Apply genuine liquid gasket with the tube pressure (commercial tool).
4. Apply the liquid gasket at designated locations with correct lengths.
  - Apply the liquid gasket at the surfaces grooves.
  - Apply the inner side of the bolt hole.
  - Assemble within 5 minutes from liquid gasket application.
  - Wipe out the stained liquid gasket.
  - Do not tighten the bolts temporarily after installation.
  - Wait at least 30 minutes before refilling engine oil and coolant.

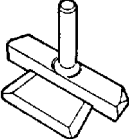


#### CAUTION:

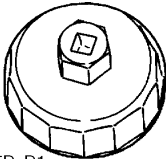
- **If instructed in this Manual, follow the instructions.**

## Preparation

## Special Service Tool

Item	Description	
Seal cutter KV10111100	 ZZA0013D_D1	Removing applied liquid gasket GI EM LC

## Commercial Service Tool

Item	Description	
Oil filter wrench	 ZZA1085D_D1	Removing oil filter EC FE RS AC

AV

EL

WH

CL

MT

AT

FA

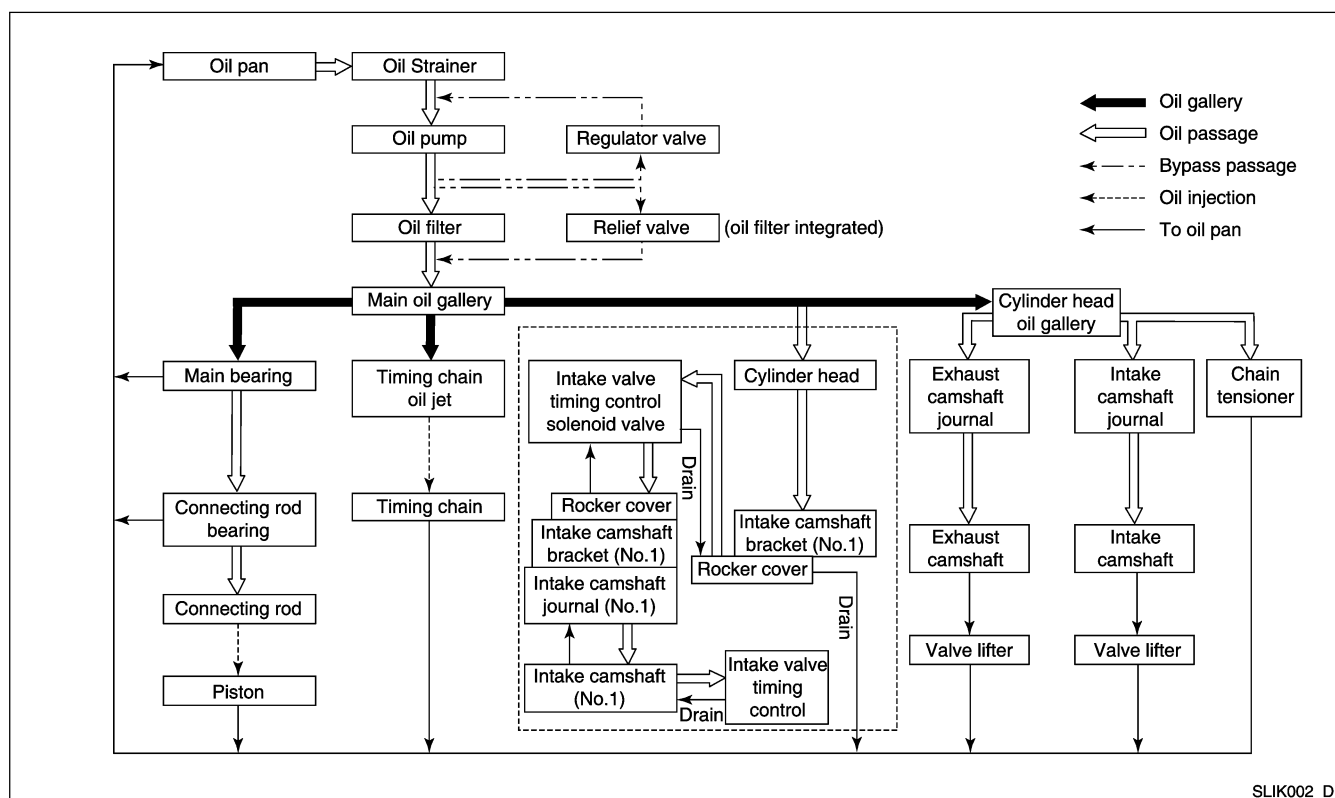
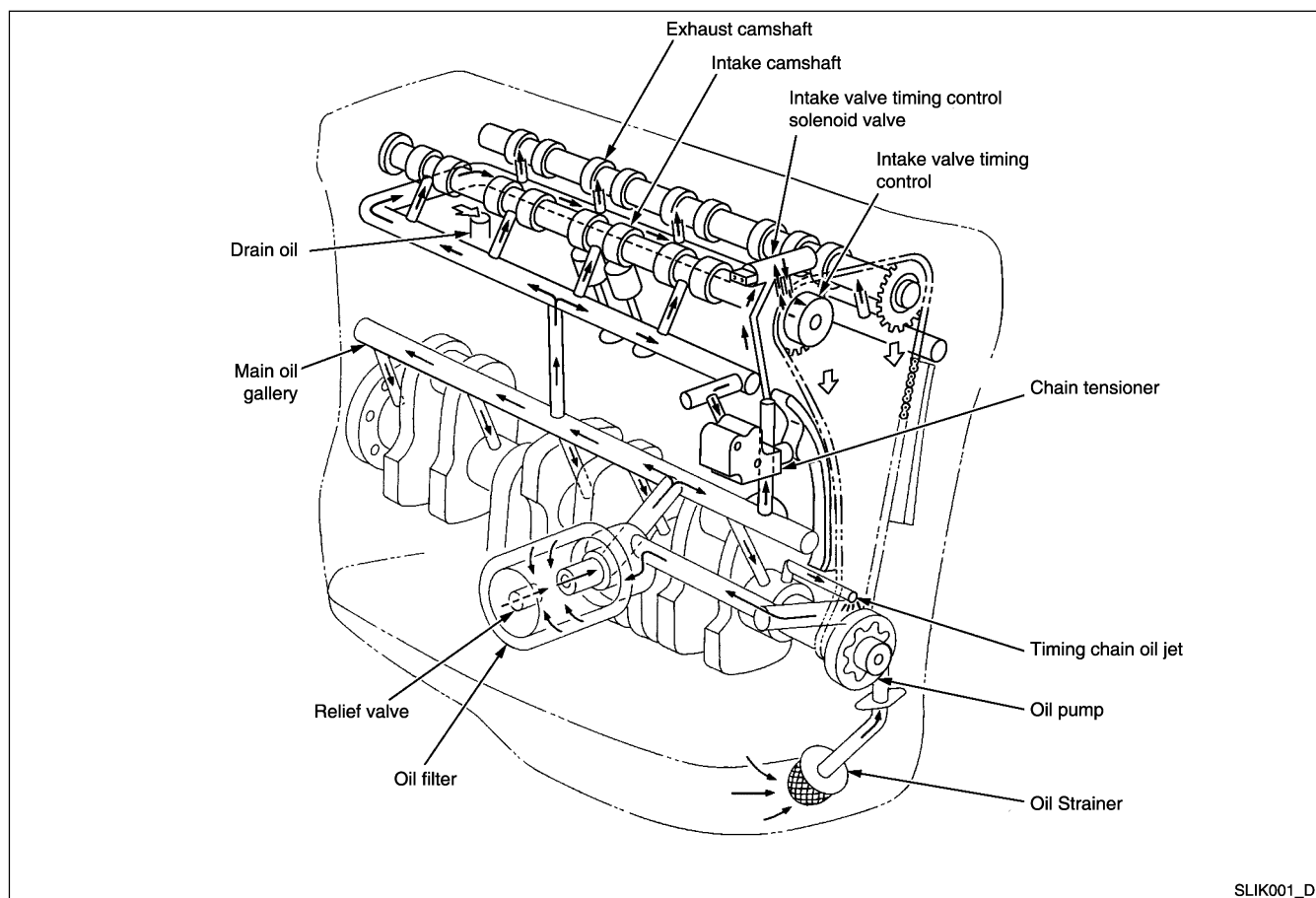
RA

BR

ST

BT

## Lubrication Circuit



## Engine Lubrication System

## Standard Value • Limit Value

Engine oil pressure MPa (kgf/cm <sup>2</sup> ) *Oil temperature at 80°C.	When idling 2,000 rpm 6,000 rpm	Approx. more than 0.07 (0.7) Approx. more than 0.28 (2.9) Approx. more than 0.42 (4.3)	GI
Engine oil change (with SH, SJ or SL grades)		Refer to MA section.	EM
Engine oil capacity (L)	H level	2.7	LC
	L level	2.0	
	Without oil filter	Approx. 2.5	EC
	With oil filter	Approx. 2.7	
	Whole capacity (factory capacity)	3.1	
Oil filter replacement		Refer to MA section.	
Oil pump clearances (mm)		0.114 ~ 0.200	FE
Between the outer rotor and front cover		Less than 0.180	
Between the inner rotor and outer rotor tip		0.030 ~ 0.070	RS
Between the inner rotor and front cover		0.030 ~ 0.090	
Between the outer rotor and front cover		0.045 ~ 0.091	AC
Between the inner rotor and front cover inner		0.040 ~ 0.097	
Regulator valve			

## Tightening Torque

Unit: N•m (kgf-m)

Oil pressure switch	12.3 - 17.2 (1.25 - 1.75)	WH
Oil pump cover	5.9 - 7.8 (0.60 - 0.80)	
Oil strainer	6.3 - 8.3 (0.60 - 0.85)	
Regulator	39.2 - 58.8 (4.0 - 6.0)	CL

