

REMOVAL

HINT:

When repairing the oil pump, the oil pan and strainer should be removed and cleaned.

1. REMOVE ENGINE UNDER COVER
2. DRAIN ENGINE OIL
3. DRAIN ENGINE COOLANT
4. REMOVE RADIATOR ASSEMBLY (See page CO-15)
5. REMOVE AIR CLEANER INLET NO.1

Remove the 2 bolts, 2 nuts and cleaner inlet.

6. REMOVE V-BANK COVER

Remove the 4 nuts and V-bank cover.

7. REMOVE AIR CLEANER ASSEMBLY LH AND RH WITH AIR FLOW METER

- (a) Disconnect the 2 air flow meter connectors and remove the wire harness from harness clamps.
- (b) Disconnect the 4 hoses.
- (c) Remove the 10 bolts and cleaner assembly LH and RH with air flow meter.

8. REMOVE EMISSION CONTROL VALVE SET

- (a) Disconnect the 4 hoses and 2 connectors.
- (b) Remove the 8 bolts and emission control valve set.

9. REMOVE THROTTLE BODY LH AND RH

- (a) Disconnect the 4 hoses from water by-pass pipe.
- (b) Disconnect the 4 connectors.
- (c) Remove the 8 bolts, throttle body LH and RH and 2 gaskets.

10. REMOVE IDLE-UP PIPE NO.2

Disconnect the 2 hose, and remove the 2 stud bolts and idle-up pipe No.2.

11. REMOVE IDLE-UP PIPE NO.1

Disconnect the hose, and remove the 2 bolts and idle-up pipe No.1.

12. REMOVE VACUUM TRANSMITTING PIPE NO.1 AND NO.2 WITH VACUUM CONTROL VALVE SET

- (a) Disconnect the vacuum hoses.
- (b) Remove the 6 nuts, 4 bolts and vacuum transmitting pipe No.2 with vacuum control valve.

13. REMOVE INTAKE SURGE TANK LH AND RH WITH INTAKE AIR CONNECTOR

- (a) Disconnect the 2 hoses.
- (b) Remove the 4 nuts, 10 bolts and intake surge tank LH and RH with intake air connector.

14. DISCONNECT ENGINE WIRE

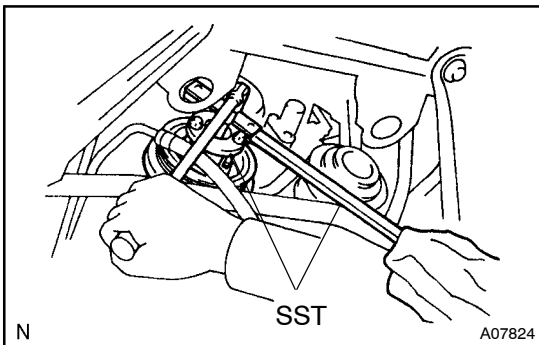
15. REMOVE 2 IGNITION COILS WITH RESISTIVE CORDS

16. REMOVE CYLINDER HEAD COVER LH AND RH (See page EM-32)

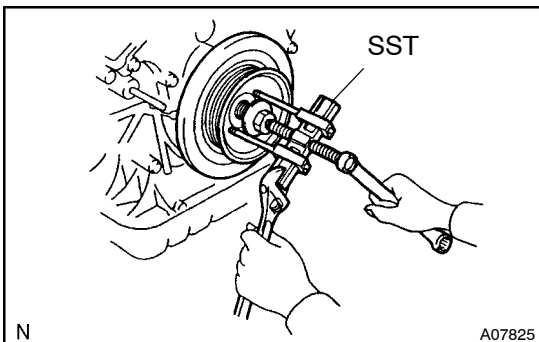
Remove the 22 bolts, cylinder head covers and gaskets.

17. REMOVE LH AND RH CYLINDER HEAD COVER

18. **REMOVE DRIVE BELT AND WATER PUMP PULLEY**
(See page CO-5)
19. **REMOVE IDLER PULLEY NO.1**
20. **REMOVE V-RIBBED BELT TENSIONER**
 - (a) Remove the bolt, idler pulley cover plate and pulley.
 - (b) Remove the nut, 4 bolts and tensioner.
21. **REMOVE IDLER PULLEY NO.2**
22. **REMOVE LH AND RH CYLINDER HEAD ASSEMBLY**
(See page EM-32)
23. **REMOVE ENGINE OIL LEVEL GAUGE WITH GUIDE**
Remove the bolt and level gauge with guide.
24. **REMOVE TRANSMISSION OIL LEVEL GAUGE WITH GUIDE**
Remove the bolt and level gauge with guide.
25. **REMOVE A/C COMPRESSOR**
 - (a) Remove the 4 bolts and A/C compressor with the high and low pressure hoses, and fix on the vehicle with wire.
26. **REMOVE CRANKSHAFT POSITION SENSOR**
 - (a) Remove the 2 bolts and crankshaft position sensor.
 - (b) Remove the bolt and crankshaft position sensor protector.

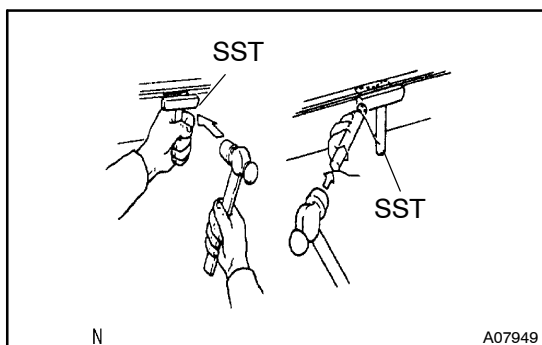


27. **REMOVE CRANKSHAFT DAMPER**
 - (a) Using SST, remove the pulley bolt.
SST 09213-70010, 09330-00021, 90105-08076
 - (b) Remove the crankshaft damper.

**HINT:**

If necessary, remove the damper with SST and crankshaft pulley bolt.

SST 09950-50010 (09951-05010, 09952-05010, 09953-05020, 09954-05030)

**28. REMOVE OIL PAN NO.2**

- (a) Remove the 14 bolts and 2 nuts.
- (b) Insert the blade of SST between the oil pan No.2 and oil pan, cut off applied sealer and remove the oil pan No.2.
SST 09032-00100

NOTICE:

Be careful not to damage the oil pan flanges of the oil pan No.2 and oil pan.

29. REMOVE OIL STRAINER

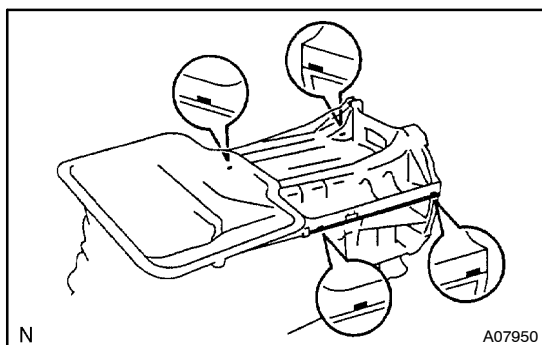
Remove the 2 bolt, oil strainer and gasket.

30. REMOVE OIL PUMP BRACKET

Remove the 4 bolts and bracket.

31. REMOVE OIL PAN

- (a) Remove the 20 bolts and the 2 nuts.



- (b) Remove oil pan No.1 by prying off the points shown in the figure with a flattened screwdriver.

NOTICE:

When removing the oil pan by prying off these points, don't give damage to the cylinder block.

32. REMOVE TIMING CHAIN COVER

- (a) Remove the 11 bolts and 2 nuts.
- (b) Using a plastic faced hammer, loosen the chain cover and remove the timing chain cover.

33. REMOVE CRANK ANGLE SENSOR PLATE NO.1**34. REMOVE TIMING CHAIN GUIDE**

Remove the 2 nuts and guide.

35. REMOVE 2 TIMING CHAINS**36. REMOVE CHAIN TENSIONER SLIPPER**

Remove the 2 bolts and 2 slippers.

37. REMOVE CHAIN VIBRATION DAMPER NO.1

Remove the 2 bolts and 2 dampers.

38. REMOVE CHAIN TENSIONER PLATE

Remove the bolt and then remove the tensioner plate and the tension spring.

39. REMOVE OIL PUMP

- (a) Remove the 4 bolts.
- (b) Remove the timing chain from the oil pump drive shaft gear and then remove the oil pump.
- (c) Remove the O-ring from the cylinder block.