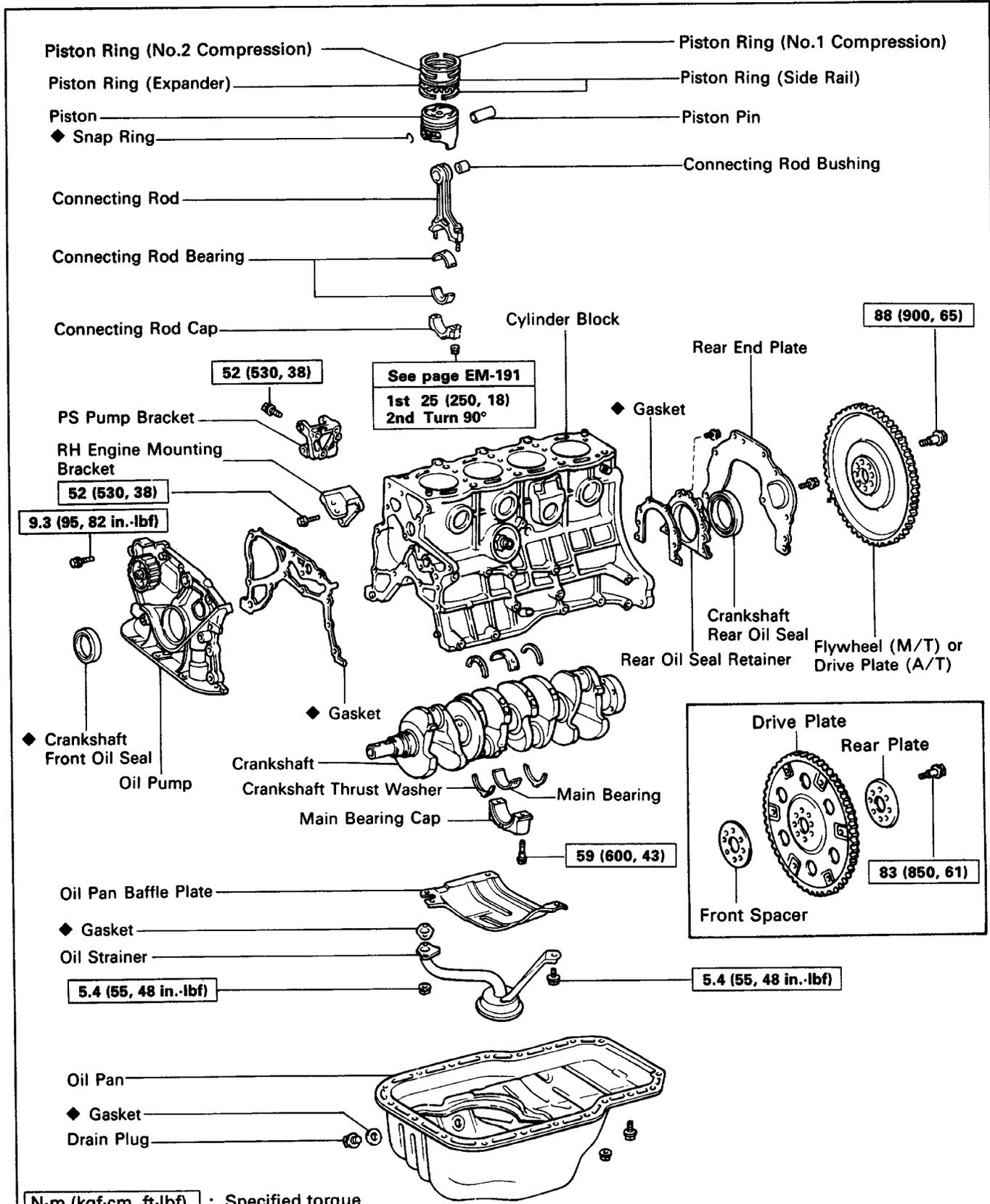


CYLINDER BLOCK (5S-FE) COMPONENTS



N·m (kgf·cm, ft·lbf) : Specified torque
 ◆ Non-reusable part
 ★ Precoated part

REMOVAL OF ENGINE

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

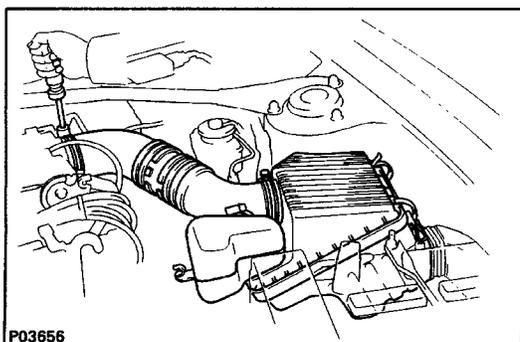
CAUTION: Work must be started after approx. 20 seconds or longer from the time the ignition switch is turned to the "LOCK" position and the negative (-) terminal cable is disconnected from the battery.

2. REMOVE HOOD

3. REMOVE ENGINE UNDER COVERS

4. DRAIN ENGINE COOLANT (See page [CO-6](#))

5. DRAIN ENGINE OIL (See page [LU-7](#))



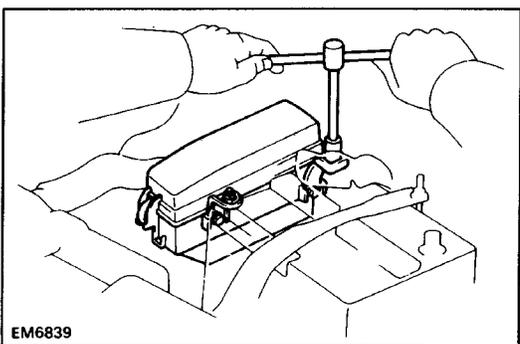
6. REMOVE AIR CLEANER

- (a) Disconnect the air intake temperature sensor connector.
- (b) Disconnect the four air cleaner cap clips.
- (c) Disconnect the air cleaner hose from the throttle body, and remove the air cleaner cap and filter.
- (d) Remove the three bolts and air cleaner case.

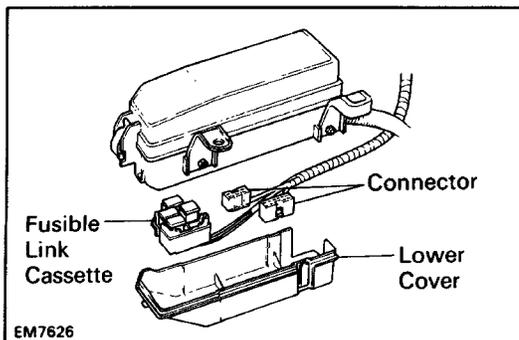
7. DISCONNECT ACCELERATOR CABLE FROM THROTTLE BODY

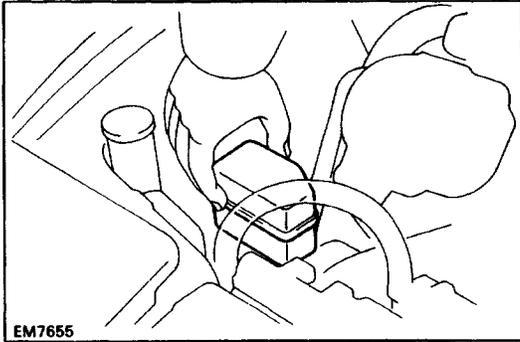
8. REMOVE ENGINE RELAY BOX, AND DISCONNECT ENGINE WIRE CONNECTORS

- (a) Remove the two nuts, and disconnect the relay box from the battery.



- (b) Remove the lower cover from the relay box.
- (c) Disconnect the fusible link cassette and two connectors of the engine wire from the relay box.

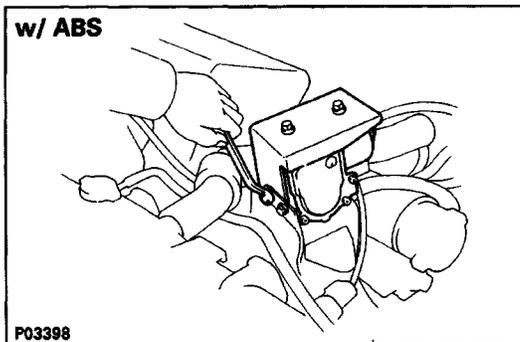




EM7655

9. REMOVE A/C RELAY BOX FROM BRACKET

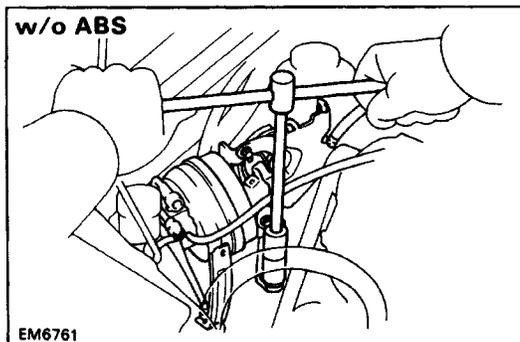
Remove the A/C relay box from the bracket.

10. REMOVE BATTERY**w/ ABS**

P03398

11. (w/ CRUISE CONTROL SYSTEM)**REMOVE CRUISE CONTROL ACTUATOR****(w/ ABS)**

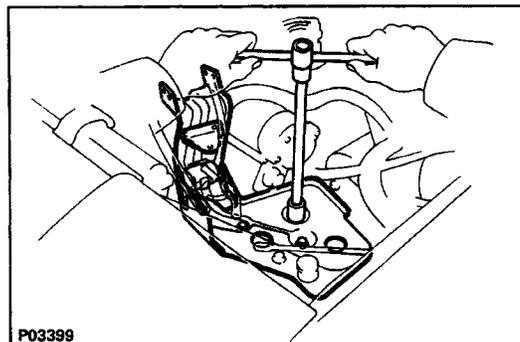
- (a) Disconnect the actuator connector.
- (b) Remove the four bolts, and disconnect the actuator from the bracket.

**w/o ABS**

EM6761

(w/o ABS)

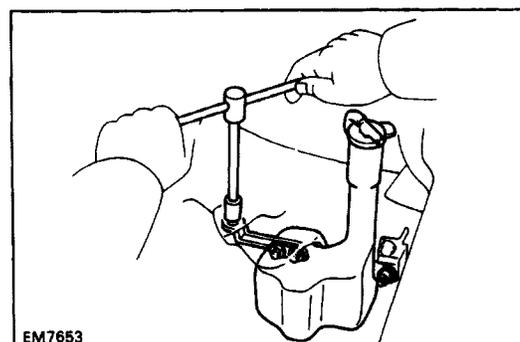
- (a) Remove the actuator cover.
- (b) Disconnect the actuator vacuum hose from the air intake chamber.
- (c) Disconnect the actuator connector
- (d) Disconnect the cable from the actuator.
- (e) Remove the three bolts and actuator.



P03399

12. (w/ CRUISE CONTROL SYSTEM (w/ ABS))**REMOVE CRUISE CONTROL ACTUATOR BRACKET**

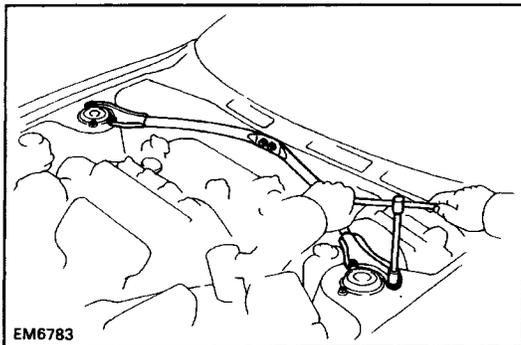
- (a) Remove the two bolts and nut.
- (b) Disconnect the actuator connector from the bracket
- (c) Remove the actuator bracket.

13. REMOVE RADIATOR (See pages CO-22 and 23)

EM7653

14. REMOVE RADIATOR RESERVOIR TANK

Remove the two nuts and reservoir tank.



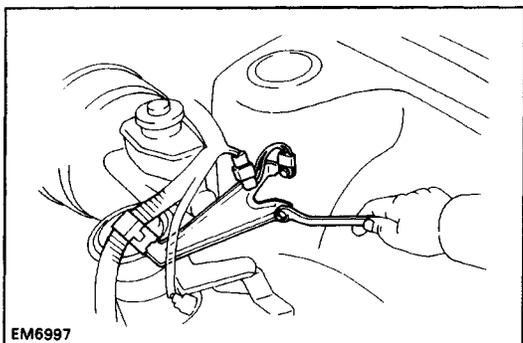
EM6783

15. REMOVE SUSPENSION UPPER BRACE

- (a) Remove the two wiper arms.
- (b) Remove outside lower windshield moulding.
- (c) Remove the two bolts, four nuts and upper brace.

16. DISCONNECT WIRES AND CONNECTORS

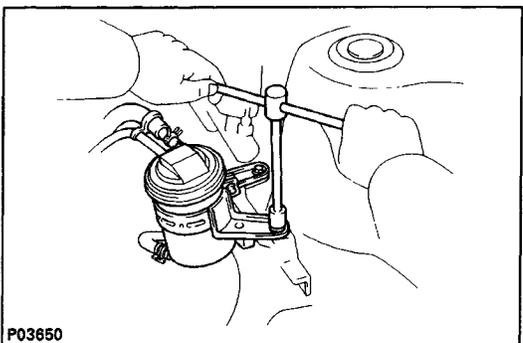
- (a) Data link connector 1
- (b) Igniter connector
- (c) Vacuum sensor connector
- (d) Ground strap from LH fender apron



EM6997

17. REMOVE ENGINE WIRE BRACKET

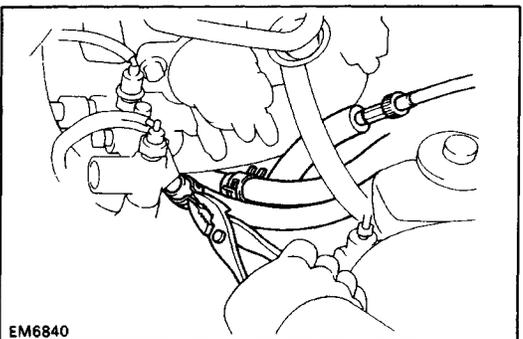
- (a) Disconnect the wire clamp from the wire bracket.
- (b) Remove the two bolts and wire bracket. Disconnect the noise filter.



P03650

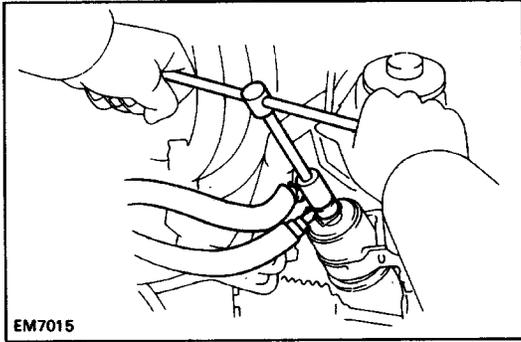
18. REMOVE CHARCOAL CANISTER

- (a) Disconnect the three hoses from the charcoal canister.
- (b) Remove the two bolts and charcoal canister.



EM6840

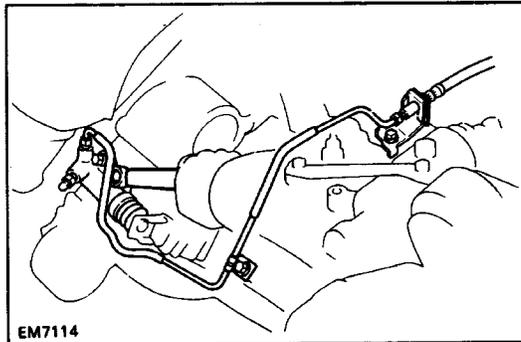
19. DISCONNECT HEATER HOSES**20. DISCONNECT SPEEDOMETER CABLE**

**21. DISCONNECT FUEL HOSES**

CAUTION: Catch leaking fuel in a container.

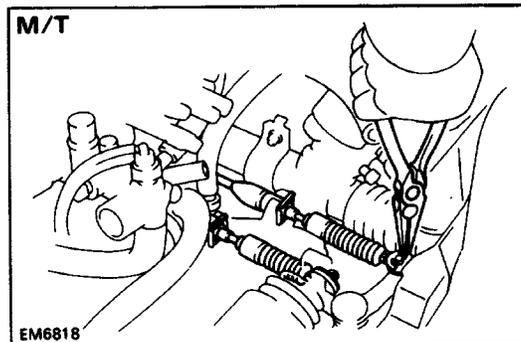
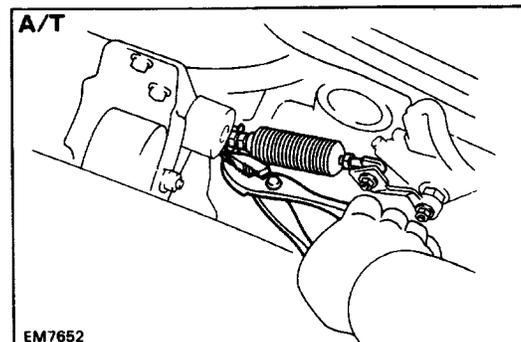
22. (M /T)

REMOVE STARTER (See page [ST-5](#))

**23. (M/T)**

REMOVE CLUTCH RELEASE CYLINDER WITHOUT DISCONNECTING TUBE

Remove the four bolts, release cylinder and tube from the transaxle.

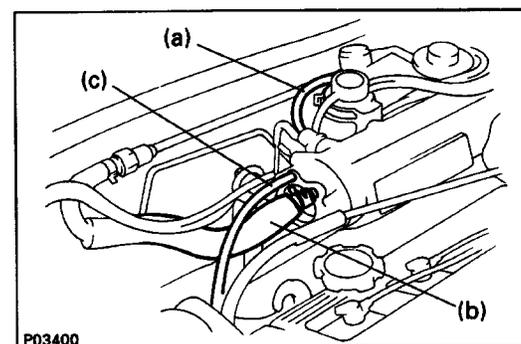
**24. DISCONNECT TRANSAXLE CONTROL CABLE(S) FROM TRANSAXLE****25. DISCONNECT VACUUM HOSES**

(a) Vacuum sensor hose from gas filter

(b) Brake booster vacuum hose from intake manifold

(c) (w/ Cruise Control System (w/o ABS)).

Actuator vacuum hose from intake manifold

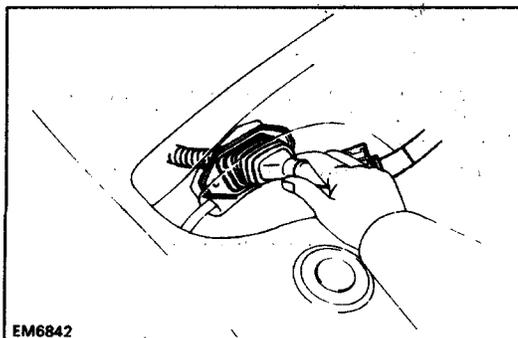
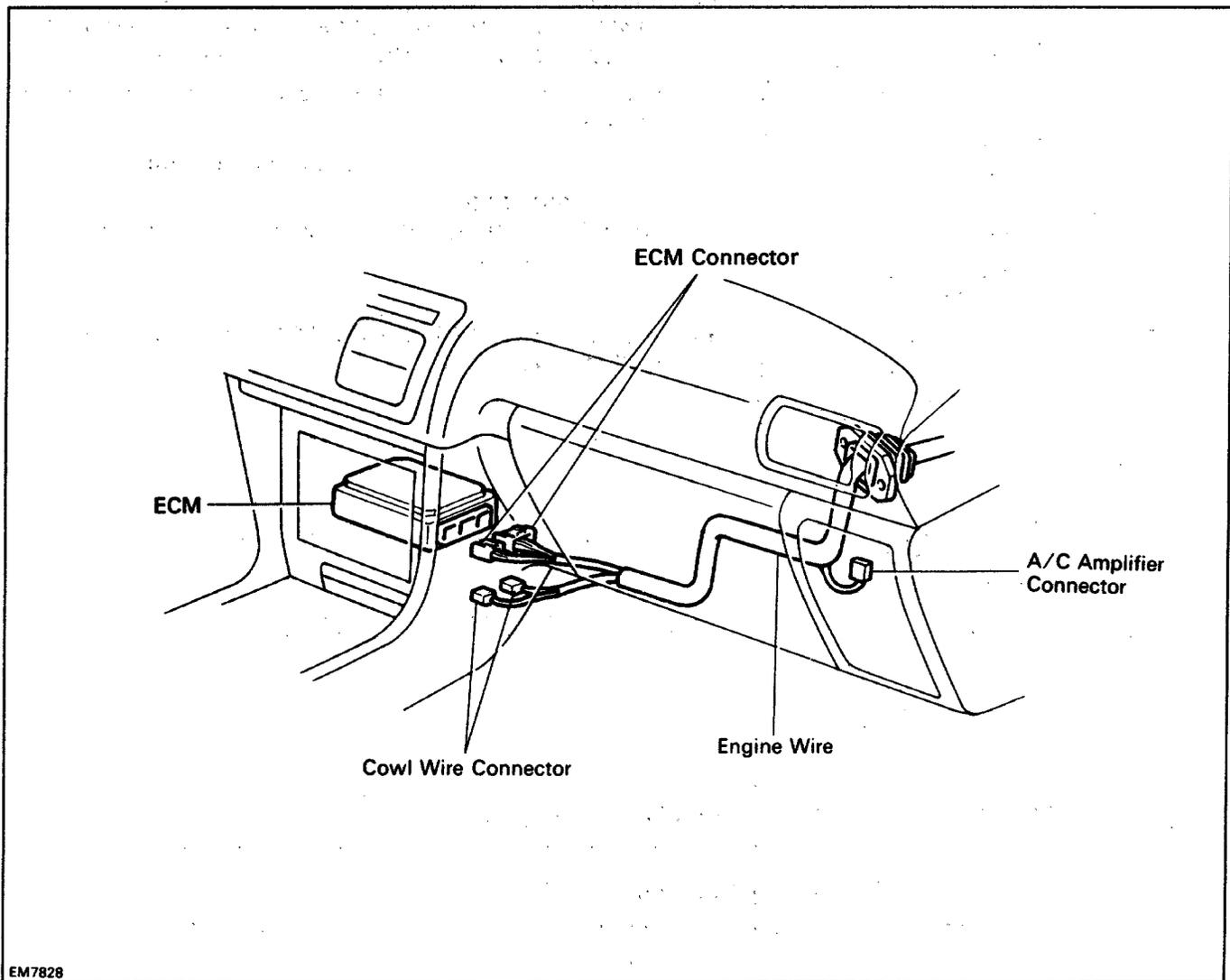


26. DISCONNECT ENGINE WIRE

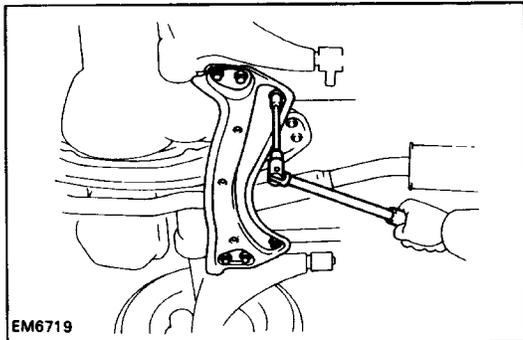
- (a) Engine wire clamp from wire bracket on RH fender apron
- (b) Two cowl wire connectors

27. DISCONNECT ENGINE WIRE FROM CABIN

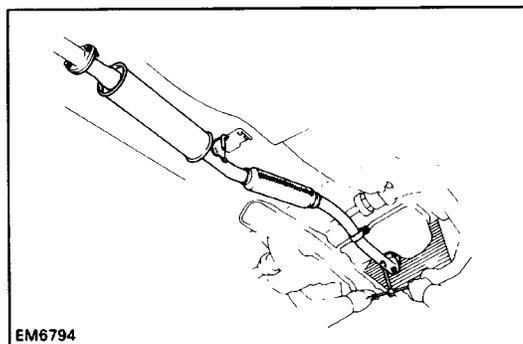
- (a) Disconnect the following connectors:
 - (1) Two engine ECM connectors
 - (2) Two cowl wire connectors
 - (3) A/C amplifier connector



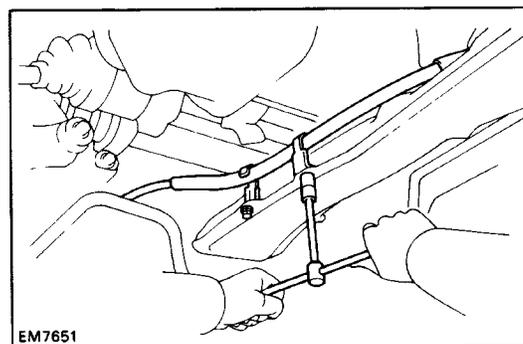
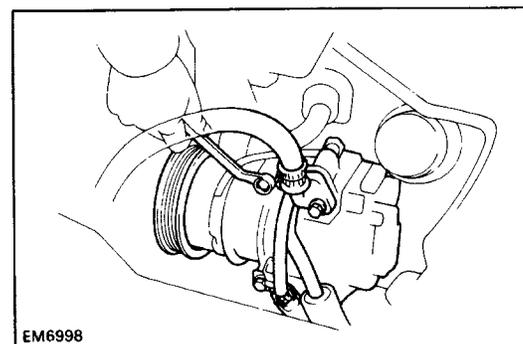
- (b) Remove the two nuts, and pull out the engine wire from the cowl panel.

**28. REMOVE SUSPENSION LOWER CROSSMEMBER**

Remove the four bolts, two nuts and lower crossmember.

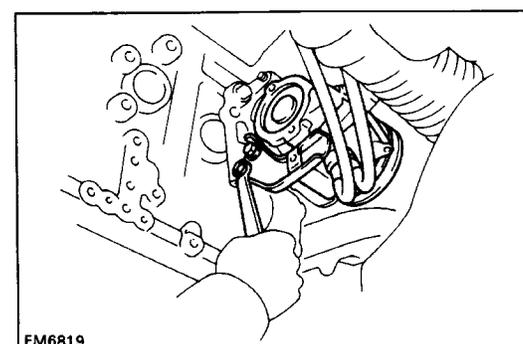
**29. REMOVE FRONT EXHAUST PIPE**

- (a) Loosen the bolt, and disconnect the clamp from the bracket.
- (b) Remove the two bolts and nuts holding the front exhaust pipe to the center exhaust pipe.
- (c) Using a 14 mm deep socket wrench, remove the three nuts holding the front exhaust pipe to the three-way catalytic converter.
- (d) Disconnect the support hook on the front exhaust pipe from the support bracket, and remove the front exhaust pipe and two gaskets.

**30. (A/T)****DISCONNECT TRANSAXLE CONTROL CABLE FROM ENGINE MOUNTING CENTER MEMBER****31. REMOVE DRIVE SHAFTS (See SA section)****32. (w/ A/C)****REMOVE A/C COMPRESSOR WITHOUT DISCONNECTING HOSES**

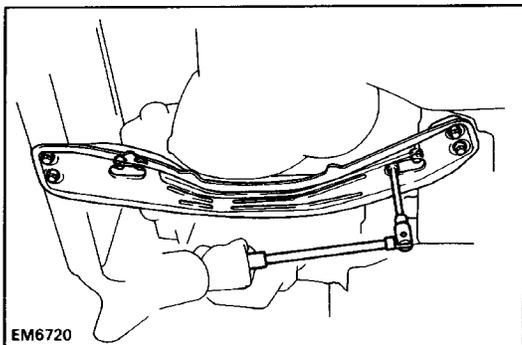
- (a) Disconnect the A/C compressor connector.
- (b) Remove the drive belt.
- (c) Remove the three bolts, and disconnect the A/C compressor.

HINT: Put aside the compressor, and suspend it to the radiator support with a string.

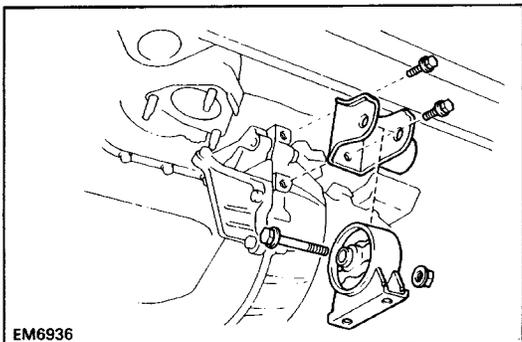
**33. REMOVE PS PUMP WITHOUT DISCONNECTING HOSES**

- (a) Disconnect the two air hoses from the air pipe.
- (b) Remove the PS drive belt.
- (c) Remove the four bolts, and disconnect the PS pump from the engine.

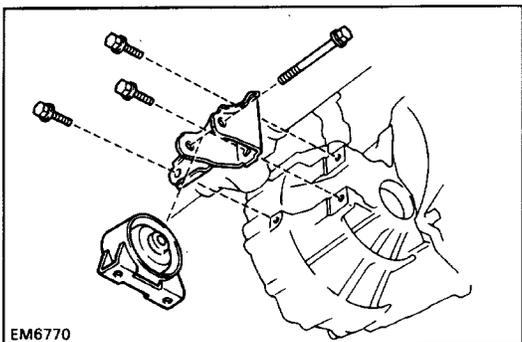
HINT: Put aside the pump and suspend it to the cow with a string.

**34. REMOVE ENGINE MOUNTING CENTER MEMBER**

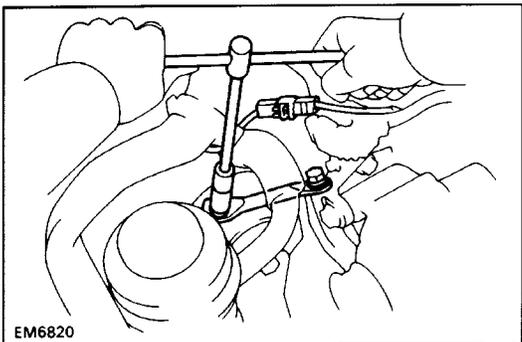
Remove the eight bolts and center member.

**35. REMOVE FRONT ENGINE MOUNTING INSULATOR AND BRACKET**

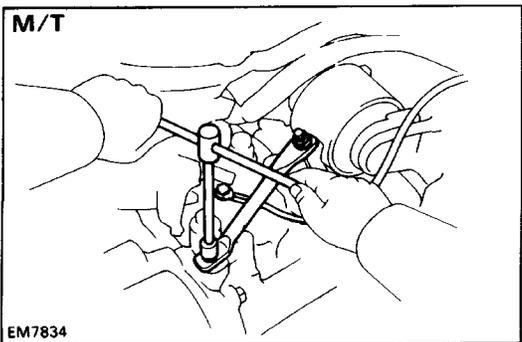
- (a) Remove the through bolt, nut and mounting insulator.
- (b) Remove the two bolts and mounting bracket.

**36. REMOVE REAR ENGINE MOUNTING INSULATOR AND BRACKET**

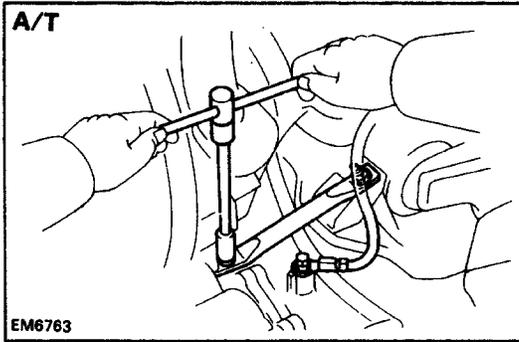
- (a) Remove the through bolt and mounting insulator.
- (b) Remove the three bolts and mounting bracket.

**37. REMOVE CONNECTOR FROM GROUND WIRE ON RH FENDER APRON****38. REMOVE RH ENGINE MOUNTING STAY**

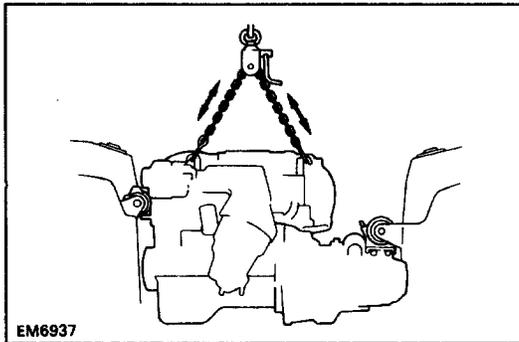
Remove the bolt, nut and mounting stay.

**39. REMOVE LH ENGINE MOUNTING STAY (M/T)**

- (a) Remove the two nuts and mounting stay.
- (b) Remove the bolt, and disconnect the ground strap.

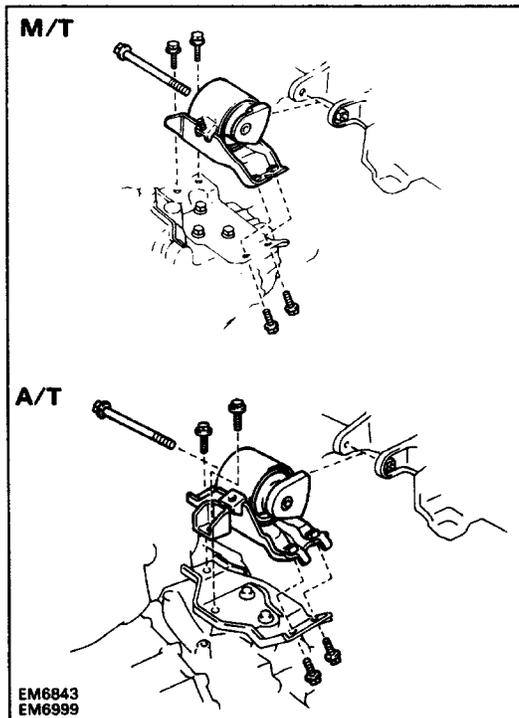
**(A/T)**

- (a) Remove the bolt, nut and mounting stay.
- (b) Remove the bolt, and disconnect the ground strap.

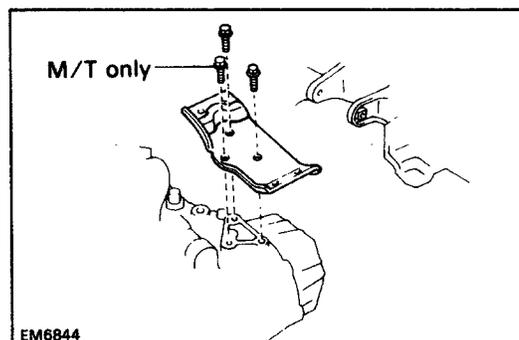


40. REMOVE ENGINE AND TRANSAXLE ASSEMBLY FROM VEHICLE

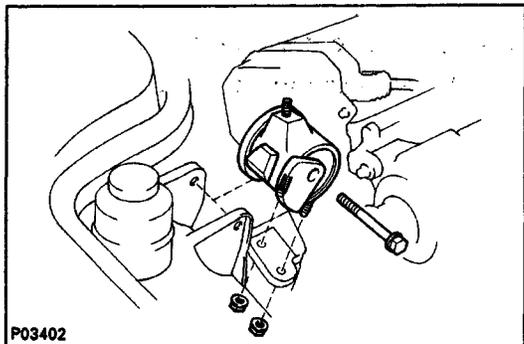
- (a) Attach the engine chain hoist to the engine hangers.



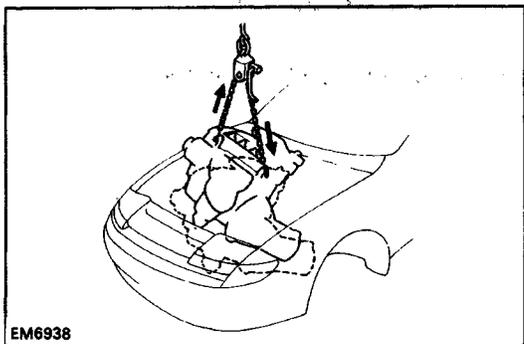
- (b) Remove the through bolt, four bolts and LH mounting insulator.



- (c) Remove the three (M/T) or two (A/T) bolts and LH mounting bracket.



- (d) Remove the through bolt, two nuts and RH mounting insulator.



- (e) Lift the engine out of the vehicle slowly and carefully.

NOTICE: Be careful not to hit the PS gear housing or park/neutral position switch (A/T).

- (f) Make sure the engine is clear of all wiring, hoses and cables.
- (g) Place the engine and transaxle assembly onto the stand.

41. (A/T)

REMOVE STARTER (See page [ST-5](#))

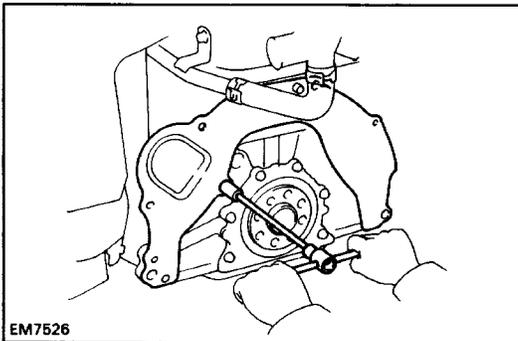
42. SEPARATE ENGINE AND TRANSAXLE

M/T (See MT section)

A/T (See AT section)

PREPARATION FOR DISASSEMBLY

1. (M/T)
REMOVE CLUTCH COVER AND DISC
2. (M/T)
REMOVE FLYWHEEL
3. (A/T)
REMOVE DRIVE PLATE



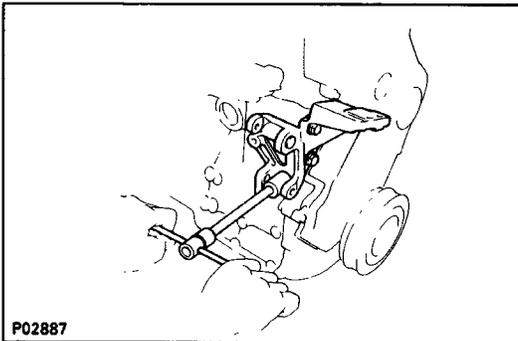
4. REMOVE REAR END PLATE

Remove the bolt and end plate.

5. INSTALL ENGINE TO ENGINE STAND FOR DISASSEMBLY

6. REMOVE GENERATOR (See page CH-9)

7. REMOVE DISTRIBUTOR (See page IG-31)



8. REMOVE RH ENGINE MOUNTING BRACKET

Remove the three bolts and mounting bracket.

9. REMOVE PS PUMP BRACKET

Remove the three bolts and PS pump bracket.

10. REMOVE TIMING BELT AND PULLEYS

(See pages EM-69 to 73)

11. REMOVE CYLINDER HEAD

(See pages EM-151 to 159)

12. REMOVE WATER PUMP AND GENERATOR

ADJUSTING BAR (See pages CO-12 and 13)

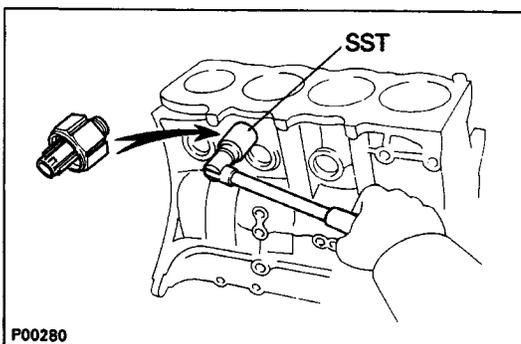
13. REMOVE OIL PAN AND OIL PUMP

(See pages LU-17 and 18)

14. REMOVE OIL FILTER (See page LU-7)

15. (Wi OIL COOLER)

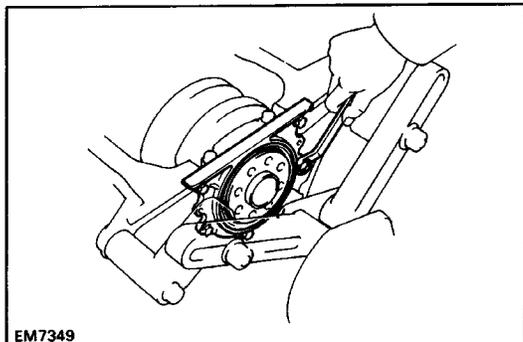
REMOVE OIL COOLER (See page LU-29)



16. REMOVE KNOCK SENSOR

Using SST, remove the knock sensor.

SST 09816-30010



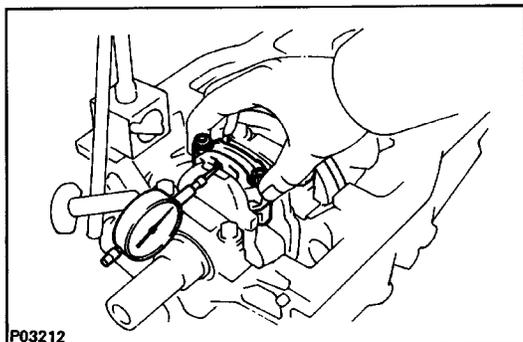
EM7349

DISASSEMBLY OF CYLINDER BLOCK

(See page EM-268)

1. REMOVE REAR OIL SEAL RETAINER

Remove the six bolts, retainer and gasket.



P03212

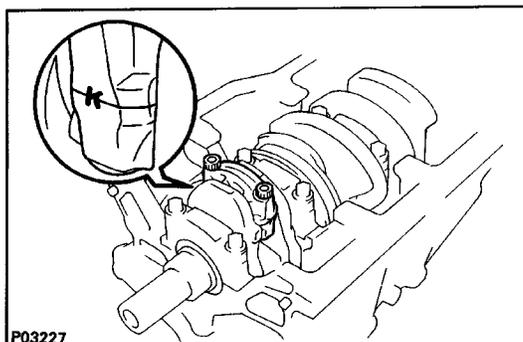
2. CHECK CONNECTING ROD THRUST CLEARANCE

Using a dial indicator, measure the thrust clearance while moving the connecting rod back and forth.

Standard thrust clearance: 0.160– 0.312 mm
(0.0063– 0.0123 in.)

Maximum thrust clearance: 0.35 mm (0.0138 in.)

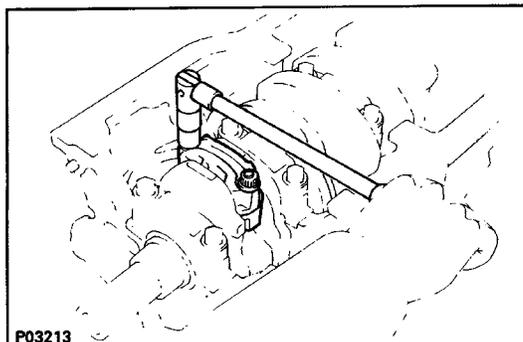
If the thrust clearance is greater than maximum, replace the connecting rod assembly. If necessary, replace the crankshaft.



P03227

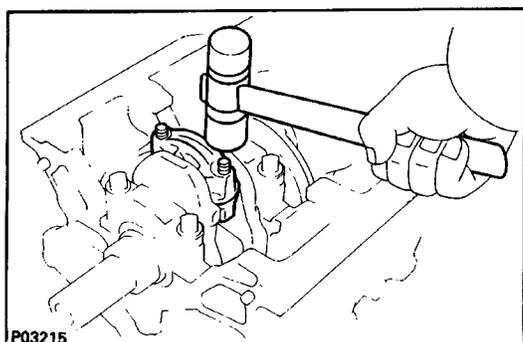
3. REMOVE CONNECTING ROD CAPS AND CHECK OIL CLEARANCE

(a) Check the matchmarks on the connecting rod and cap to ensure correct reassembly.



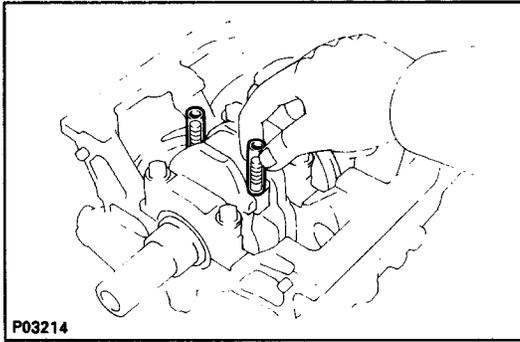
P03213

(b) Using SST, remove the connecting rod cap nuts.
SST 09011-38121

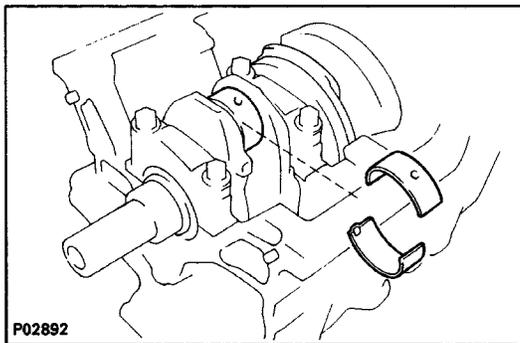


P03215

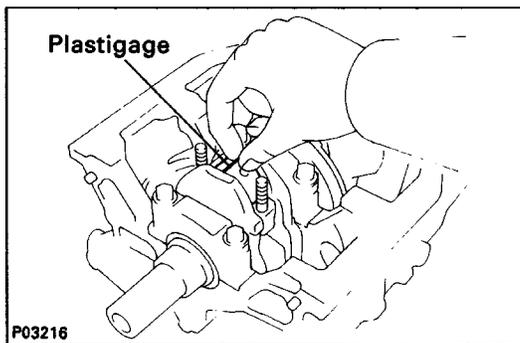
(c) Using a plastic-faced hammer, lightly tap the connecting rod bolts and lift off the connecting rod cap.
HINT: Keep the lower bearing inserted with the connecting cap.



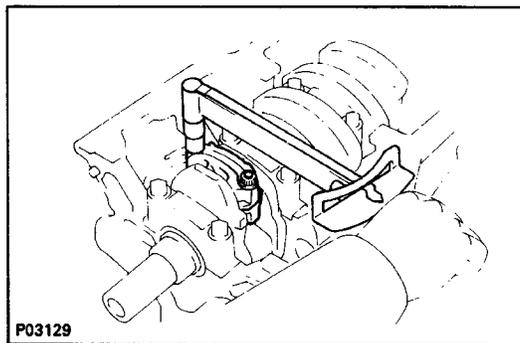
- (d) Cover the connecting rod bolts with a short piece of hose to protect the crankshaft from damage.



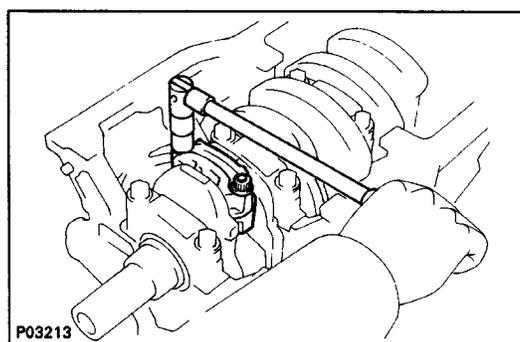
- (e) Clean the crank pin and bearing.
 (f) Check the crank pin and bearing for pitting and scratches.
 If the crank pin or bearing is damaged, replace the bearings. If necessary, grind or replace the crankshaft.



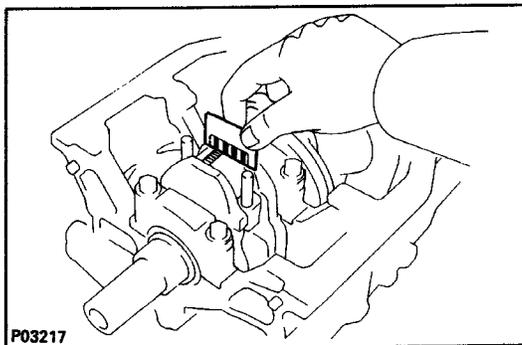
- (g) Lay a strip of Plastigage across the crank pin.



- (h) Install the connecting rod cap.
 (See step 6 on pages [EM-299](#) and 300)
Torque: 1 st 25 N-m (250 kgf-cm, 18 ft-lbf)
2nd Turn 90°
NOTICE: Do not turn the crankshaft.



- (i) Remove the connecting rod cap.
 (See procedure (b) and (c) above)



(j) Measure the Plastigage at its widest point.

Standard oil clearance:

STD	0.024–0.055 mm (0.0009–0.0022 in.)
U/S 0.25	0.023–0.069 mm (0.0009–0.0027 in.)

Maximum oil clearance: 0.08 mm (0.0031 in.)

If the oil clearance is greater than maximum, replace the bearings. If necessary, grind or replace the crankshaft.

HINT: If using a standard bearing, replace it with one having the same number marked on the connecting rod cap. There are three sizes of standard bearings, marked "1", "2" and "3" accordingly.

(Reference)

Standard sized bearing center wall thickness:

Mark "1"	1.484–1.488 mm (0.0584–0.0586 in.)
Mark "2"	1.488–1.492 mm (0.0586–0.0587 in.)
Mark "3"	1.492–1.496 mm (0.0587–0.0589 in.)

(k) Completely remove the Plastigage.

4. REMOVE PISTON AND CONNECTING ROD ASSEMBLIES

- Using a ridge reamer, remove all the carbon from the top of the cylinder.
- Cover the connecting rod bolts.
(See page [EM-280](#))
- Push the piston, connecting rod assembly and upper bearing through the top of the cylinder block.

HINT:

- Keep the bearings, connecting rod and cap together.
- Arrange the piston and connecting rod assemblies in correct order.

5. CHECK CRANKSHAFT THRUST CLEARANCE

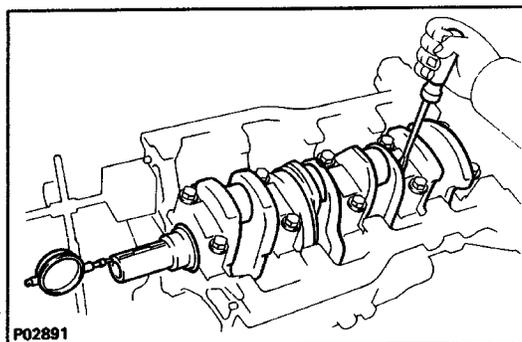
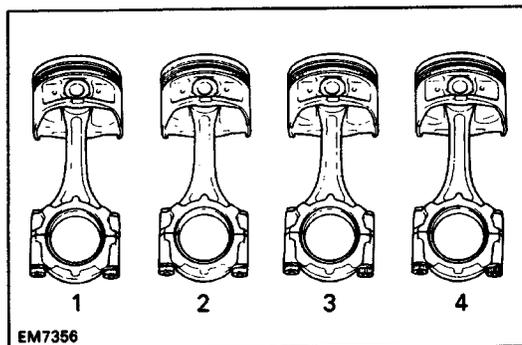
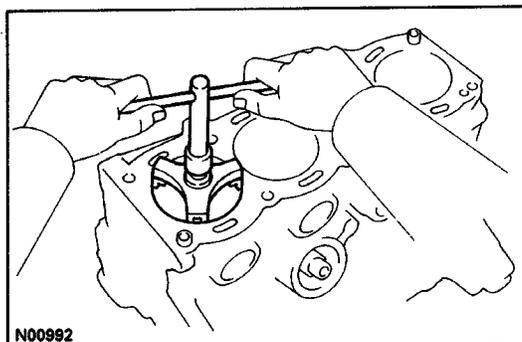
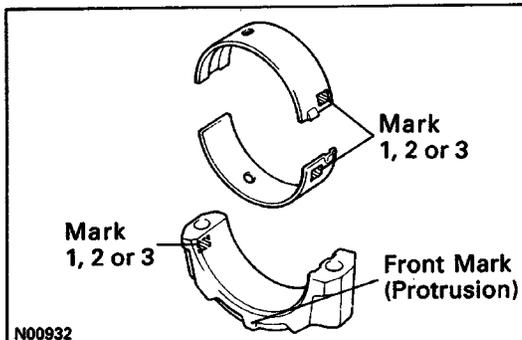
Using a dial indicator, measure the thrust clearance while prying the crankshaft back and forth with a screwdriver.

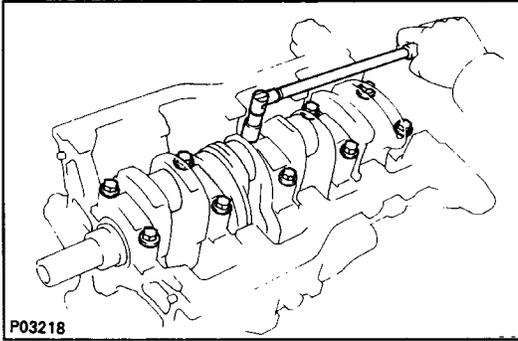
Standard thrust clearance: 0.020 – 0.220 mm
(0–0.008–0.0087 in.)

Maximum thrust clearance: 0.30 mm (0.0118 in.)

If the thrust clearance is greater than maximum, replace the thrust washers as a set.

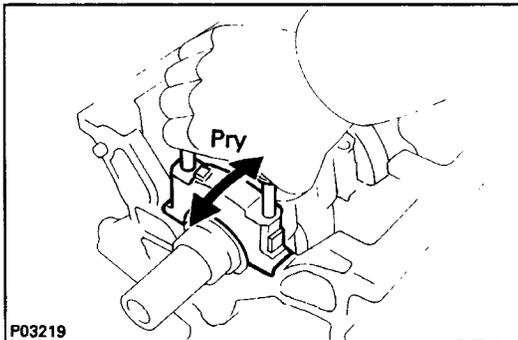
Thrust washer thickness: 2.440–2.490 mm
(0.0961–0.0980 in.)





6. REMOVE MAIN BEARING CAPS AND CHECK OIL CLEARANCE

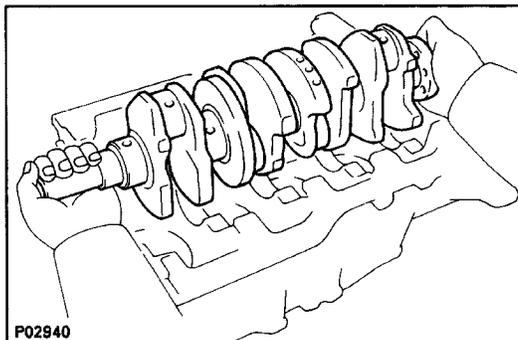
(a) Remove the main bearing cap bolts.



(b) Using the removed main bearing cap bolts, pry the main bearing cap back and forth, and remove the main bearing caps, lower bearings and lower thrust washers (No.3 main bearing cap only).

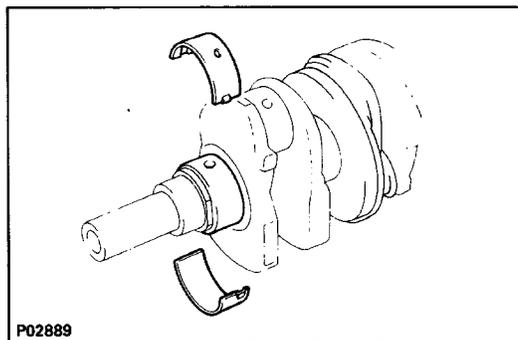
HINT:

- Keep the lower bearing and main bearing cap together.
- Arrange the main bearing caps and lower thrust washers in correct order.



(c) Lift out the crankshaft.

HINT: Keep the upper bearing and upper thrust washers together with the cylinder block.

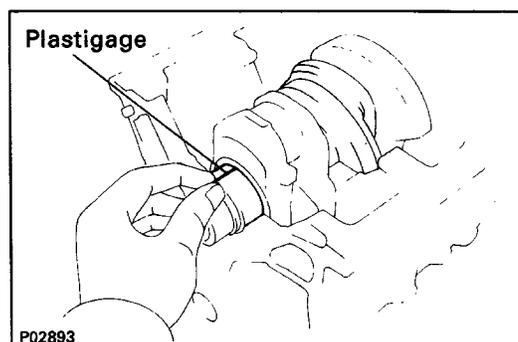


(d) Clean each main journal and bearing.

(e) Check each main journal and bearing for pitting and scratches.

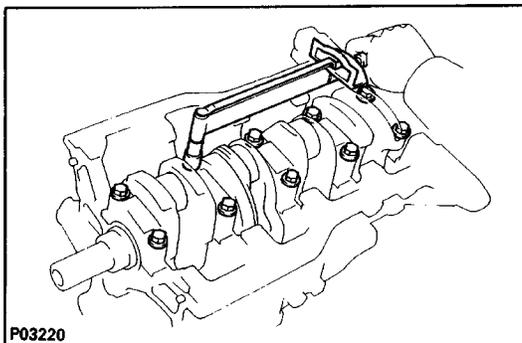
If the journal or bearing is damaged, replace the bearings.

If necessary, grind or replace the crankshaft.

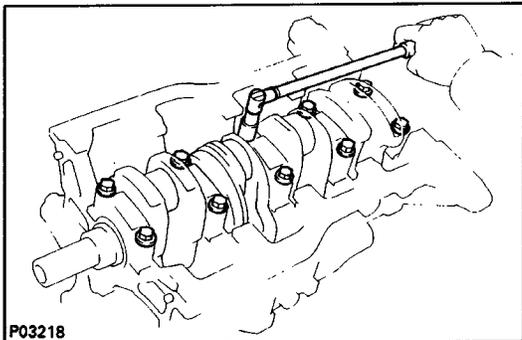


(f) Place the crankshaft on the cylinder block.

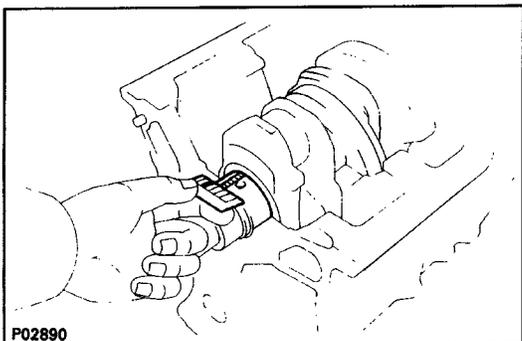
(g) Lay a strip of Plastigage across each journal.



(h) Install the main bearing caps.
 (See step 4 on page EM-298)
Torque: 59 N-m (600 kgf-cm, 43 ft-lbf)
NOTICE: Do not turn the crankshaft.



(i) Remove the main bearing caps.
 (See procedure (a) and (b) above)



(j) Measure the Plastigage at its widest point.

Standard clearance:

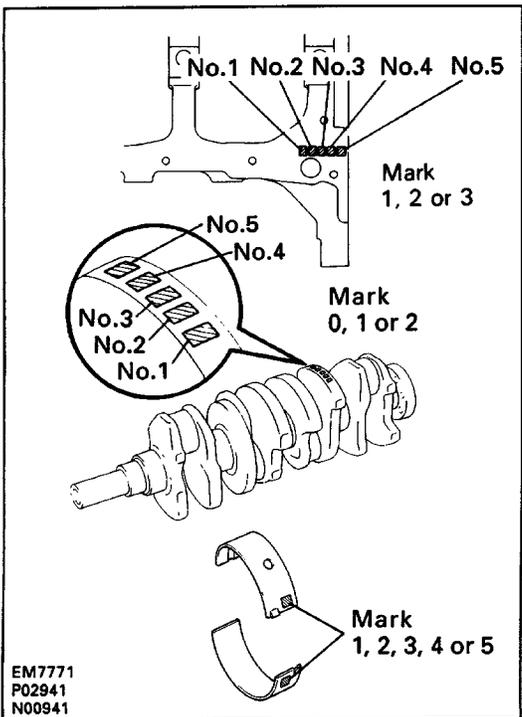
- No.3 STD 0.025-0.044 mm (0.0010-0.0017 in.)**
- U/S 0.25 0.027-0.067 m m (0.0011-0.0026 in.)**
- Others STD 0.015-0.034 mm (0.0006-0.0013 in.)**
- U/S 0.25 0.019-0.059 mm (0.0007-0.0023 in.)**

Maximum clearance: 0.08 mm (0.0031 in.)

HINT: If replacing the cylinder block subassembly, the bearing standard clearance will be:

- No. 3 0.027-0.054 m m (0.0011-0.0021 in.)**
- Others 0.017-0.044 mm (0.0007-0.0017 in.)**

If the oil clearance is greater than maximum, replace the bearings. If necessary, grind or replace the crankshaft.
HINT: If using a standard bearing, replace it with one having the same number. If the number of the bearing cannot be determined, select the correct bearing by adding together the numbers imprinted on the cylinder block and crankshaft, then selecting the bearing with the same number as the total. There are five sizes of standard bearings, marked "1", "2", "3", "4" and "5" accordingly.



	Number marked								
	1			2			3		
Cylinder block									
Crankshaft	0	1	2	0	1	2	0	1	2
Bearing	1	2	3	2	3	4	3	4	5

EXAMPLE:Cylinder block "2" + Crankshaft "1"
 = Bearing "3"

(Reference)**Cylinder block main journal bore diameter:**

Mark "1" 59.020–59.026 m m
(2.3236–2.3239 in.)

Mark "2" 59.026–59.032 m m
(2.3239–2.3241 in.)

Mark "3" 59.032–59.038 m m
(2.3241–2.3243 in.)

Crankshaft journal diameter:

Mark "0" 54.998–55.003 m m
(2.1653–2.1655 in.)

Mark "1" 54.993–54.998 m m
(2.1651–2.1653 in.)

Mark "2" 54.988–54.993 m m
(2.1649–2.1651 in.)

Standard sized bearing center wall thickness:

No. 3 Mark "1" 1.992–1.995 m m
(0.0784–0.0785 in.)

Mark "2" 1.995–1.998 m m
(0.0785–0.0787 in.)

Mark "3" 1.998–2.001 m m
(0.0787–0.0788 in.)

Mark "4" 2.001–2.004 m m
(0.0788–0.0789 in.)

Mark "5" 2.004–2.007 m m
(0.0789–0.0790 in.)

Others Mark "1" 1.997–2.000 m m
(0.0786–0.0787 in.)

Mark "2" 2.000–2.003 m m
(0.0787–0.0789 in.)

Mark "3" 2.003–2.006 m m
(0.0789–0.0790 in.)

Mark "4" 2.006–2.009 m m
(0.0790–0.0791 in.)

Mark "5" 2.009–2.012 m m
(0.0791–0.0792 in.)

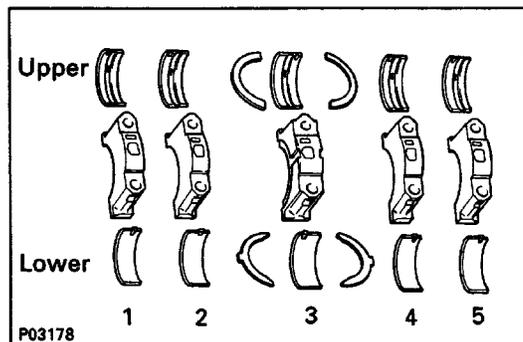
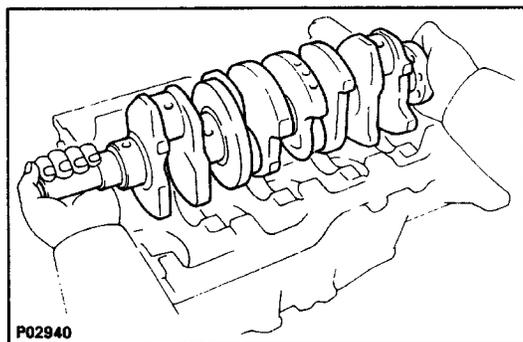
(k) Completely remove the Plastigage.

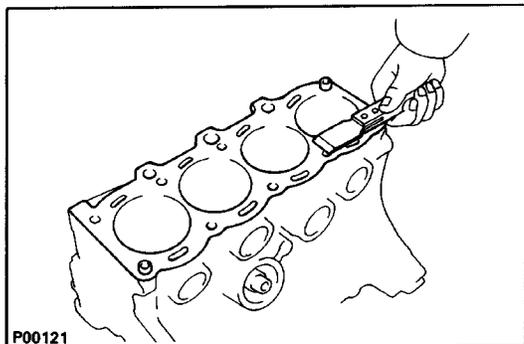
7. REMOVE CRANKSHAFT

(a) Lift out the crankshaft.

(b) Remove the upper bearings and upper thrust washers from cylinder block.

HINT: Arrange the main bearing caps, bearings and thrust washers in correct order.





INSPECTION OF CYLINDER BLOCK

1. CLEAN CYLINDER BLOCK

A. Remove gasket material

Using a gasket scraper, remove all the gasket material from the surface contacting cylinder head.

B. Clean cylinder block

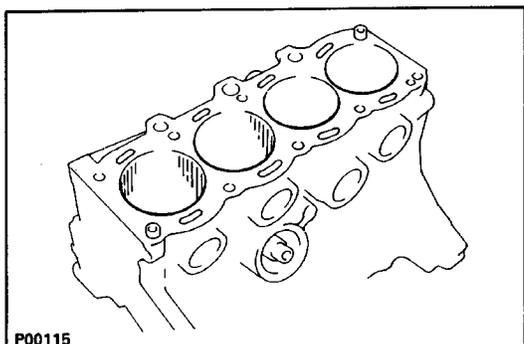
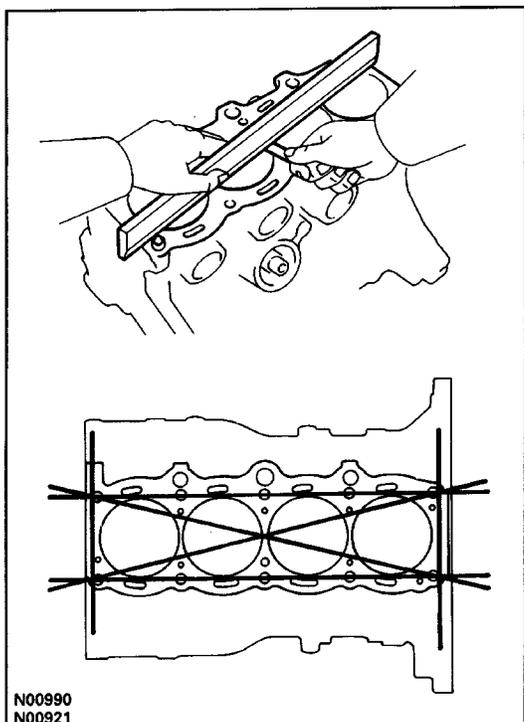
Using a soft brush and solvent, thoroughly clean the cylinder block.

2. INSPECT TOP SURFACE OF CYLINDER BLOCK FOR FLATNESS

Using a precision straight edge and feeler gauge, measure the surface contacting the cylinder head for warpage.

Maximum warpage: 0.05 mm (0.0020 in.)

If warpage is greater than maximum, replace the cylinder block.

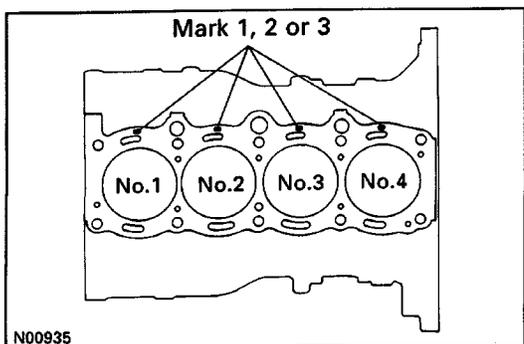


3. INSPECT CYLINDER FOR VERTICAL SCRATCHES

Visually check the cylinder for vertical scratches.

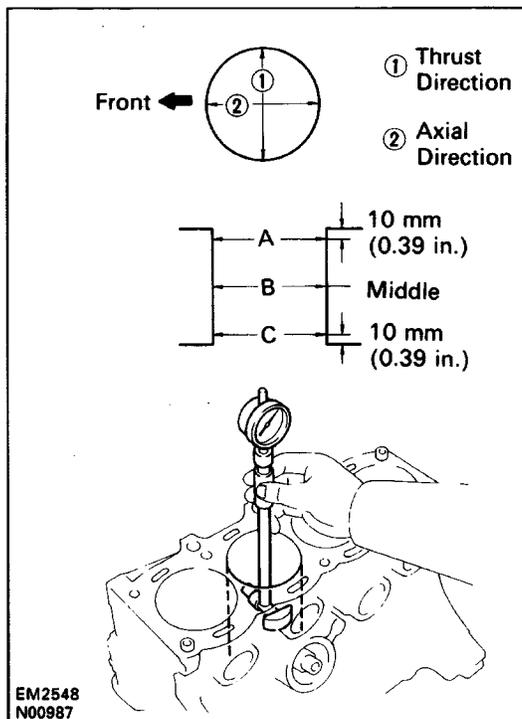
If deep scratches are present, rebore all the four cylinders.

If necessary, replace the cylinder block.



4. INSPECT CYLINDER BORE DIAMETER

HINT: There are three sizes of the standard cylinder bore diameter, marked "1", "2" and "3" accordingly. The mark is stamped on the top of the cylinder block.



Using a cylinder gauge, measure the cylinder bore diameter at positions A, B and C in the thrust and axial directions.

Standard diameter:

STD Mark "1" 87.000–87.010 m m

(3.4252–3.4256 in.)

Mark "2" 87.010–87.020 m m

(3.4256–3.4260 in.)

Mark "3" 87.020–87.030 m m

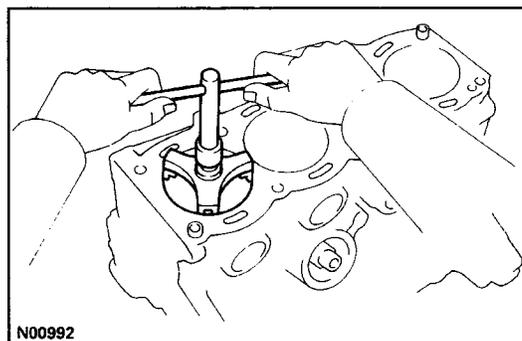
(3.4260–3.4264 in.)

Maximum diameter:

STD 87.23 m m (3.4342 in.)

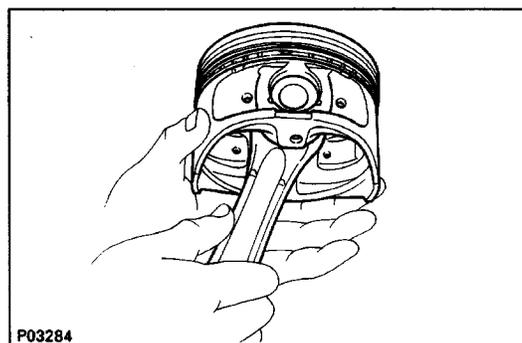
O/S 0.50 87.73 m m (3.4350 in.)

If the diameter is greater than maximum, rebore all the four cylinders. If necessary, replace the cylinder block.



5. REMOVE CYLINDER RIDGE

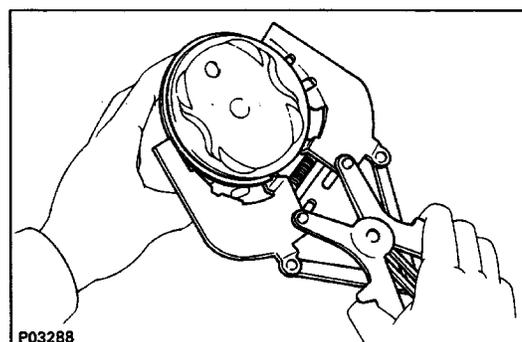
If the wear is less than 0.2 mm (0.008 in.), using a ridge reamer, grind the top of the cylinder.



DISASSEMBLY OF PISTON AND CONNECTING ROD ASSEMBLIES

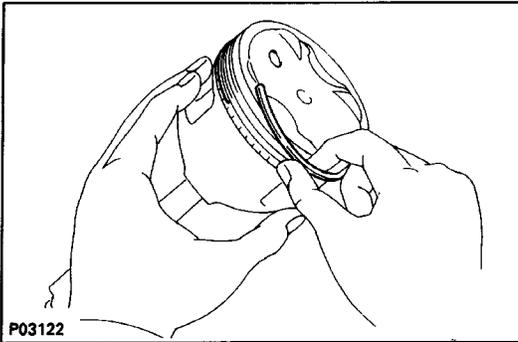
1. CHECK FIT BETWEEN PISTON AND PISTON PIN

Try to move the piston back and forth on the piston pin. If any movement is felt, replace the piston and pin as a set.



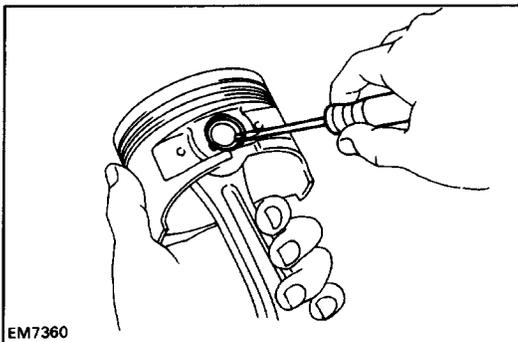
2. REMOVE PISTON RINGS

(a) Using a piston ring expander, remove the two compression rings.



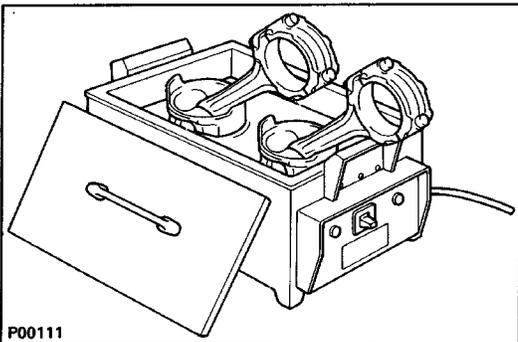
(b) Remove the two side rails and oil ring expander by hand.

HINT: Arrange the rings in correct order only.

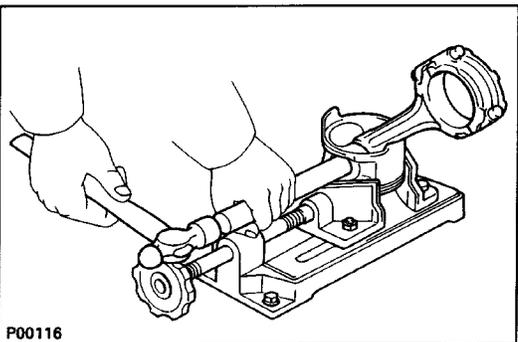


3. DISCONNECT CONNECTING ROD FROM PISTON

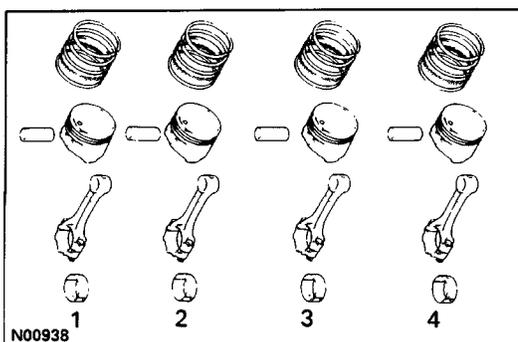
(a) Using a small screwdriver, pry out the two snap rings.



(b) Gradually heat the piston to 80–90°C (176–194°F).



(c) Using plastic-faced hammer and brass bar, lightly tap out the piston pin and remove the connecting rod.



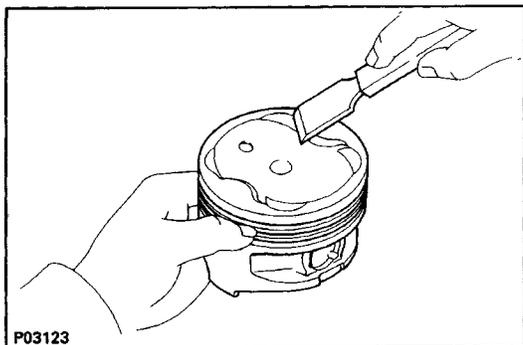
HINT:

- The piston and pin are a matched set. _ .
- Arrange the pistons, pins, rings, connecting rods and bearings in correct order.

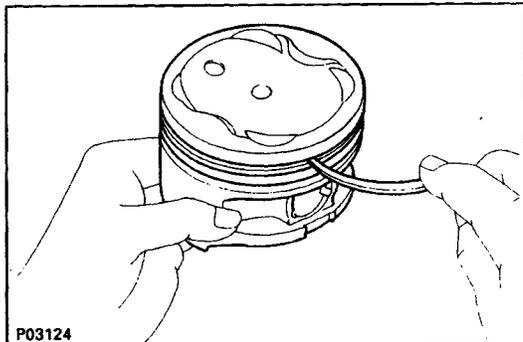
INSPECTION OF PISTON AND CONNECTING ROD ASSEMBLIES

1. CLEAN PISTON

(a) Using a gasket scraper, remove the carbon from the piston top.

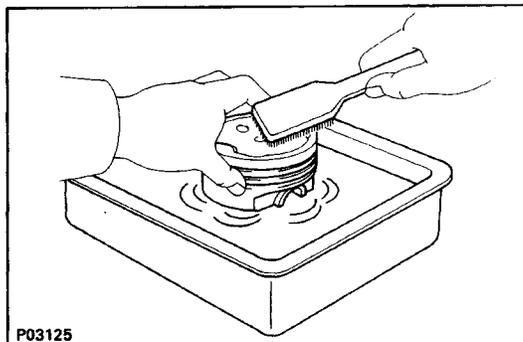


(b) Using a groove cleaning tool or broken ring, clean the piston ring grooves.



(c) Using solvent and a brush, thoroughly clean the piston.

NOTICE: Do not use a wire brush.



2. INSPECT PISTON

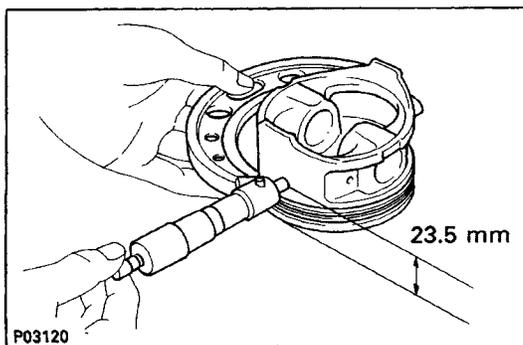
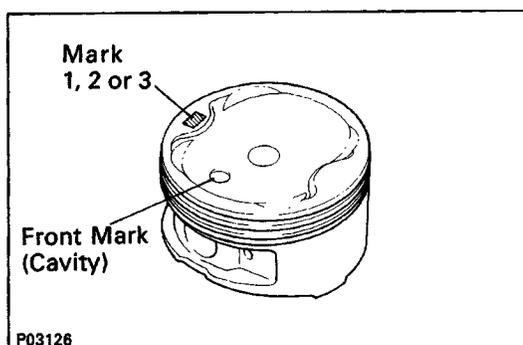
A. Inspect piston oil clearance

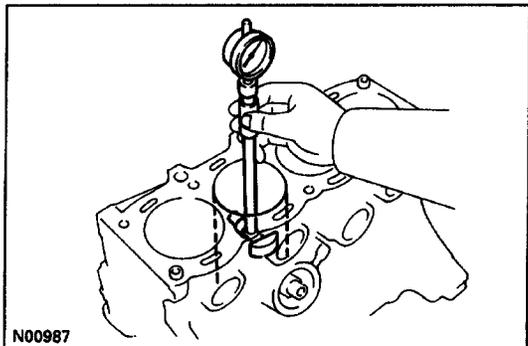
HINT: There are three sizes of the standard piston diameter, marked "1", "2" and "3" accordingly. The mark is stamped on the piston top.

(a) Using a micrometer, measure the piston diameter at right angles to the piston pin center line, 23.5 mm (0.925 in.) from the piston head.

Piston diameter:

STD Mark "1"	86.850–86.860 mm (3.4193–3.4197 in.)
Mark "2"	86.860–86.870 mm (3.4197–3.4201 in.)
Mark "3"	86.870–86.880 mm (3.4201–3.4205 in.)
O/S 0.50	87.350–87.380 mm 13.4390–3.4402 in.)





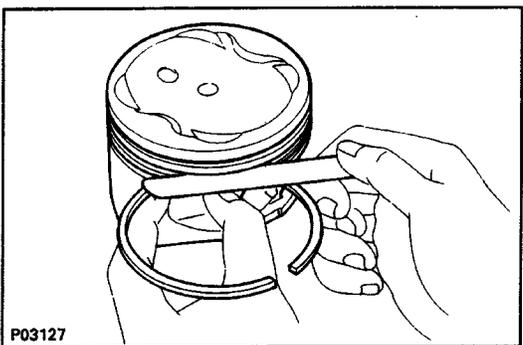
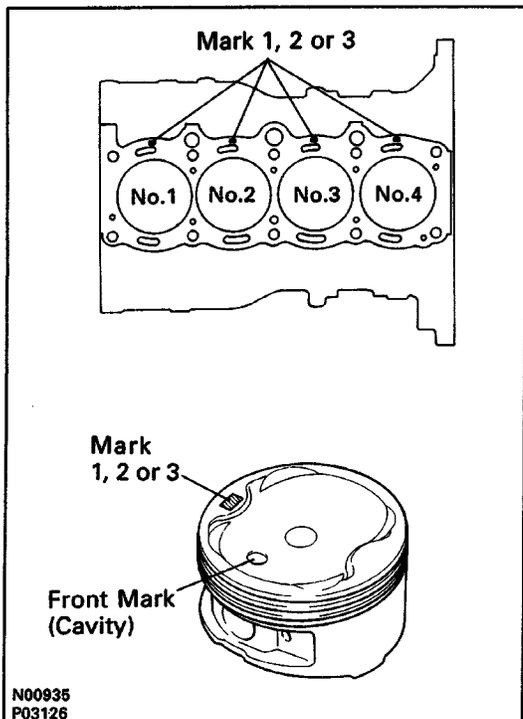
- (b) Measure the cylinder bore diameter in the thrust directions.
(See step 4 on page [EM-286](#))
- (c) Subtract the piston diameter measurement from the cylinder bore diameter measurement.

**Standard oil clearance: 0.140–0.160 mm
(0.0055–0.0063 in.)**

Maximum oil clearance: 0.18 mm (0.0071 in.)

If the oil clearance is greater than maximum, replace all the four pistons and rebore all the four cylinders. If necessary, replace the cylinder block.

HINT (Use new cylinder block): Use a piston with the same number mark as the cylinder bore diameter marked on the cylinder block.



B. Inspect piston ring groove clearance

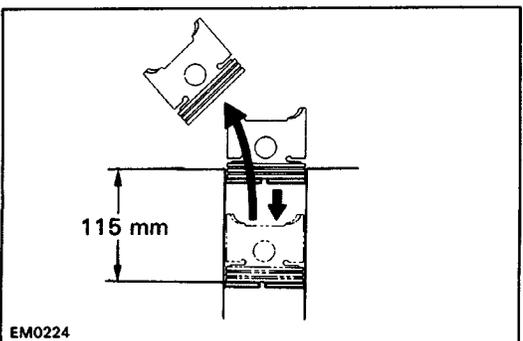
Using a feeler gauge, measure the clearance between new piston ring and the wall of the piston ring groove.

Ring groove clearance:

No.1 0.040–0.080 mm (0.0016–0.0031 in.)

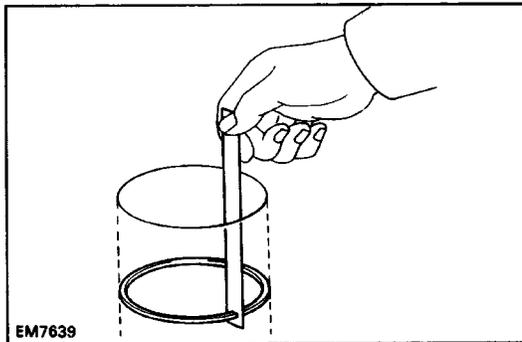
No.2 0.030–0.070 mm (0.0012–0.0028 in.)

If the clearance is greater than maximum, replace the piston.



C. Inspect piston ring end gap

- (a) Insert the piston ring into the cylinder bore.
- (b) Using a piston, push the piston ring a little beyond the bottom of the ring travel, 115 mm (4.53 in.) from the top of the cylinder block.



(c) Using a feeler gauge, measure the end gap.

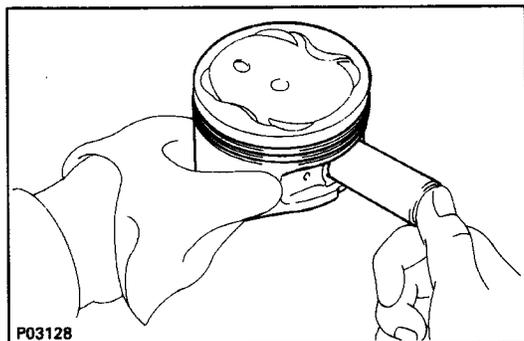
Standard end gap:

No. 1	0.270–0.500 mm (0.0106–0.0197 in.)
No. 2	0.350–0.600 mm (0.0138–0.0234 in.)
Oil (Side rail)	0.200–0.550 mm (0.0079–0.0217 in.)

Maximum end gap:

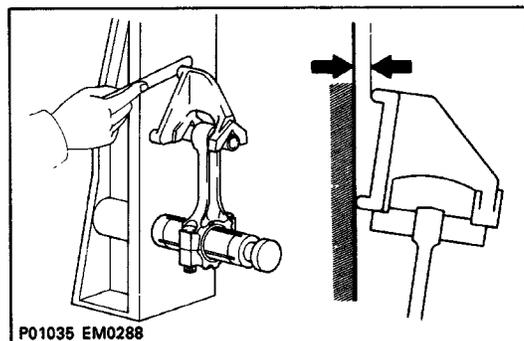
No.1	1.10 mm (0.0433 in.)
No.2	1.20 mm (0.0472 in.)
Oil (Side rail)	1.15 mm (0.0453 in.)

If the end gap is greater than maximum, replace the piston ring. If the end gap is greater than maximum, even with a new piston ring, rebore all the four cylinders or replace the cylinder block.



D. Inspect piston pin fit

At 60°C (140°F), you should be able to push the piston pin into the piston pin hole with your thumb.



3. INSPECT CONNECTING ROD

A. Inspect connecting rod alignment

Using rod aligner and feeler gauge, check the connecting rod alignment.

- Check for bending.

Maximum bending:

0.05 mm (0.0020 in.) per 100 mm (3.94 in.)

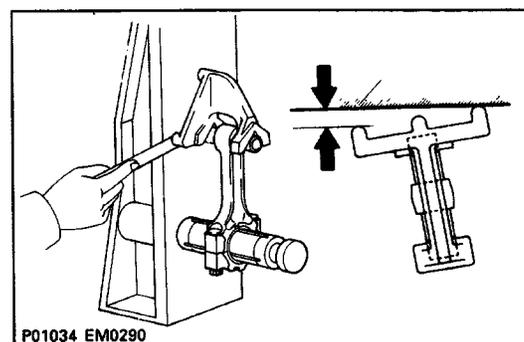
If bend is greater than maximum, replace the connecting rod assembly.

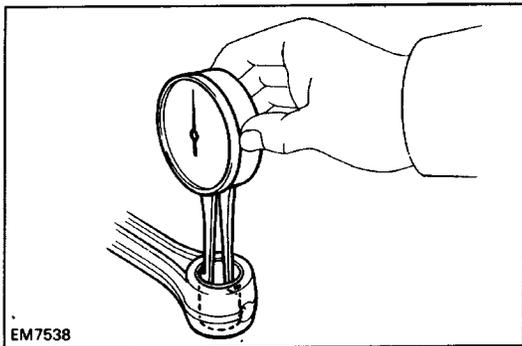
- Check for twist.

Maximum twist:

0.15 mm (0.0059 in.) per 100 mm (3.94 in.)

If twist is greater than maximum, replace the connecting rod assembly.

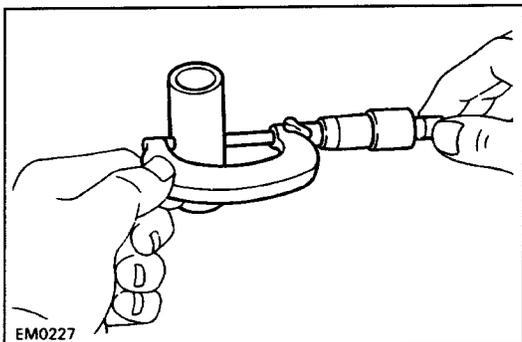




B. Inspect piston pin oil clearance

- (a) Using a caliper gauge, measure the inside diameter of the connecting rod bushing.

**Bushing inside diameter: 22.005–22.017 mm
(0.8663–0.8668 in.)**



- (b) Using a micrometer, measure the piston pin diameter.

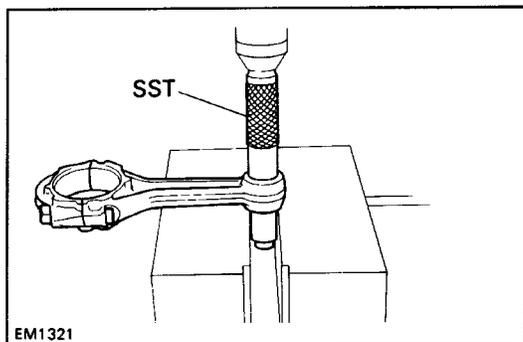
**Piston pin diameter: 21.997–22.009 mm
(0.8660–0.8665 in.)**

- (c) Subtract the piston pin diameter measurement from the bushing inside diameter measurement.

**Standard oil clearance: 0.005–0.011 mm
(0.0002–0.0004 in.)**

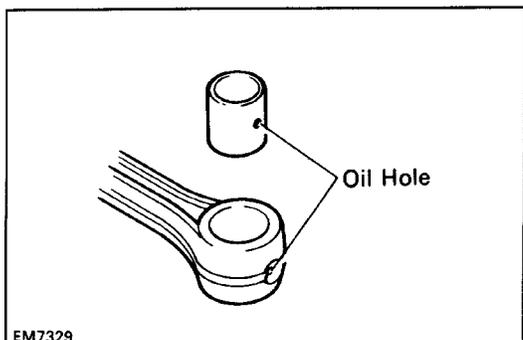
Maximum oil clearance: 0.05 mm (0.0020 in.)

If the oil clearance is greater than maximum, replace the bushing: If necessary, replace the piston and piston pin as a set.



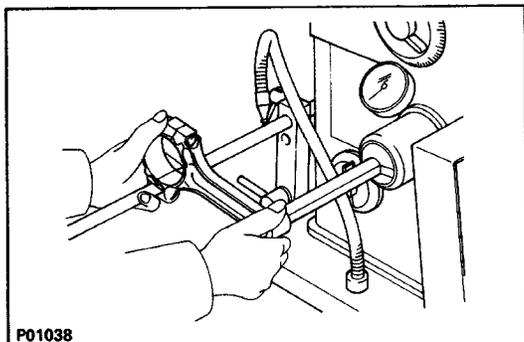
C. If necessary, replace connecting rod bushing

- (a) Using SST and a press, press out the bushing.
SST 09222-30010



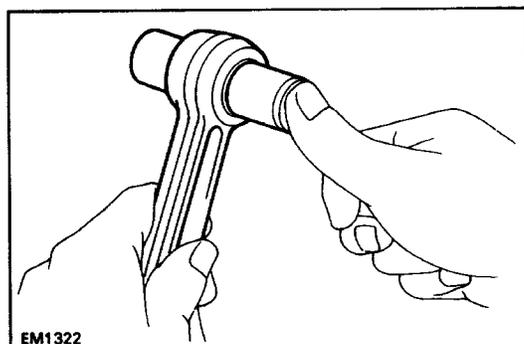
- (b) Align the oil holes of a new bushing and the connecting rod.

- (c) Using SST and a press, press in the bushing.
SST 09222-30010



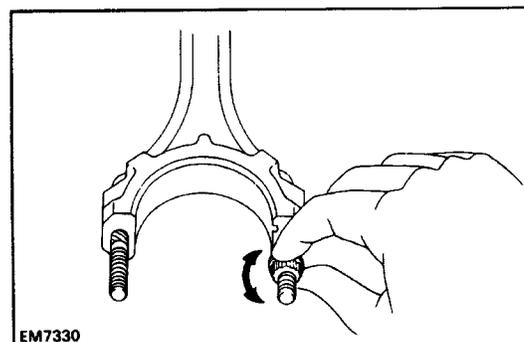
P01038

- (d) Using a pin hole grinder, hone the bushing to obtain the standard specified clearance (see step B above) between the bushing and piston pin.



EM1322

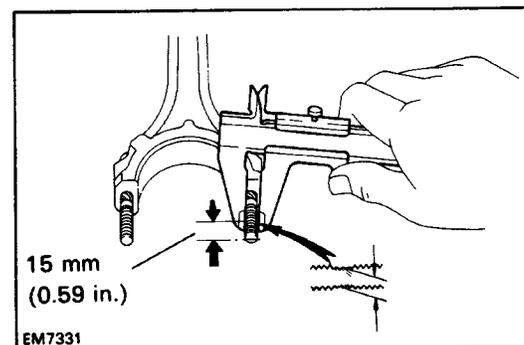
- (e) Check the piston pin fit at normal room temperature. Coat the piston pin with engine oil, and push it into the connecting rod with your thumb.



EM7330

D. Inspect connecting rod bolts

- (a) Install the cap nut to the connecting rod bolt. Check that the cap nut can be turned easily by hand to the end of the thread.



15 mm
(0.59 in.)

EM7331

- (b) If the cap nut cannot be turned easily, measure the outside diameter of the connecting rod bolt with a vernier caliper.

Standard diameter: 7.860–8.000 mm

(0.3094–0.3150 in.)

Minimum diameter: 7.60 mm (0.2992 in.)

HINT: If the location of this area cannot be judged by visual inspection, measure the outer diameter at the location shown in the illustration.

If the outside diameter is less than minimum, replace the connecting rod bolt and cap nut as a set.

BORING OF CYLINDERS

HINT:

- Bore all the four cylinders for the oversized piston outside diameter.
- Replace all the piston rings with ones to match the oversized pistons.

1. KEEP OVERSIZED PISTONS

Oversized piston diameter:

O/S 0.50 87.350–87.380 mm
(3.4390–3.4402 in.)

2. CALCULATE AMOUNT TO BORE CYLINDERS

(a) Using a micrometer, measure the piston diameter at right angles to the piston pin center line, 23.5 mm (0.925 in.) from the piston head.

(b) Calculate the amount each cylinder is to be rebored as follows:

Size to be rebored = $P + C - H$

P = Piston diameter

C = Piston clearance

0.140–0.960 mm (0.0055–0.0063 in.)

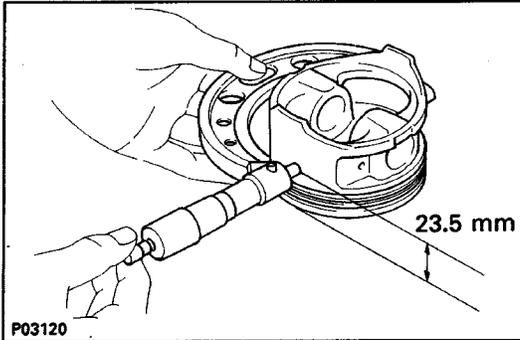
H = Allowance for honing

0.02 mm (0.0008 in.) or less

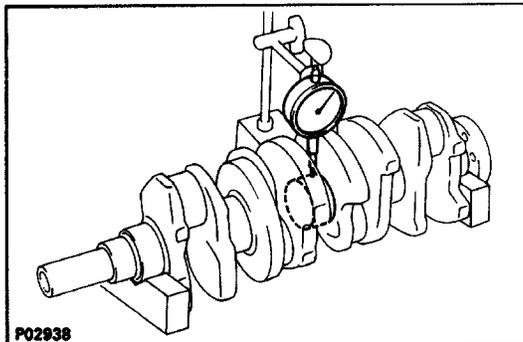
3. BORE AND HONE CYLINDERS TO CALCULATED DIMENSIONS

Maximum honing: **0.02 mm (0.0008 in.)**

NOTICE: Excess honing will destroy the finished roundness.



P03120



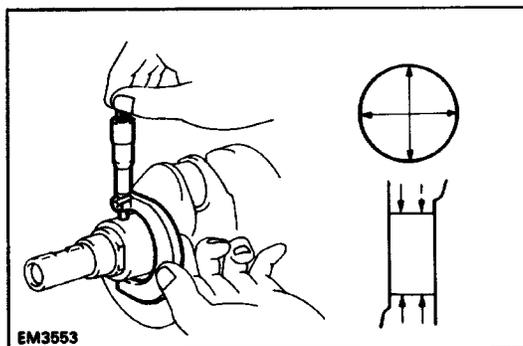
INSPECTION AND REPAIR OF CRANKSHAFT

1. INSPECT CRANKSHAFT FOR RUNOUT

- (a) Place the crankshaft on V-blocks.
- (b) Using a dial indicator, measure the circle runout at the center journal.

Maximum circle runout: 0.06 mm (0.0024 in.)

If the circle runout is greater than maximum, replace the crankshaft.



2. INSPECT MAIN JOURNALS AND CRANK PINS

- (a) Using a micrometer, measure the diameter of each main journal and crank pin.

Main journal diameter:

STD	54.998–55.003 mm (2.1653–2.1655 in.)
U/S 0.25	54.745–54.755 mm (2.1553–2.1557 in.)

Crank pin diameter:

STD	51.985–52.000 m m (2.0466–2.0472 in.)
U/S 0.25	51.745–51.755 mm (2.0372–2.0376 in.)

If the diameter is not as specified, check the oil clearance (See pages [EM-279](#) to 283). If necessary, grind or re-place the crankshaft.

- (b) Check each main journal and crank pin for taper and out-of-round as shown.

Maximum taper and out-of-round: 0.02 mm
(0.0008 in.)

If the taper and out-of-round is greater than maximum, replace the crankshaft.

3. IF NECESSARY, GRIND AND HONE MAIN JOURNALS AND/OR CRANK PINS

Grind and hone the main journals and/or crank pins to the finished undersized diameter (See procedure in step 2).

Install new main journal and/or crank pin undersized bearings.

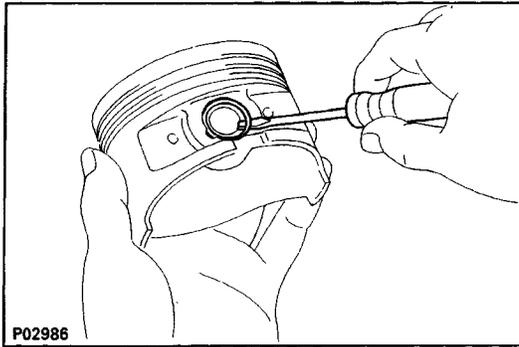
REPLACEMENT OF CRANKSHAFT OIL SEALS

(See pages [EM-249](#) and 250)

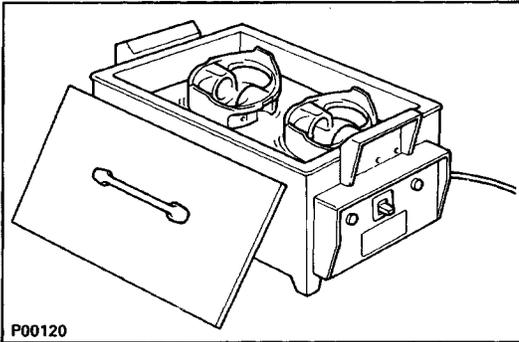
ASSEMBLY OF PISTON AND CONNECTING ROD ASSEMBLIES

1. ASSEMBLE PISTON AND CONNECTING ROD

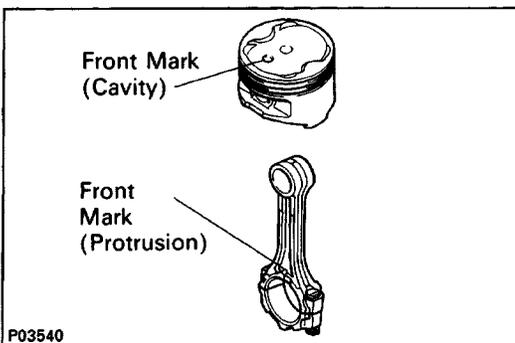
- (a) Using a small screwdriver, install a new snap ring on one side of the piston pin hole.



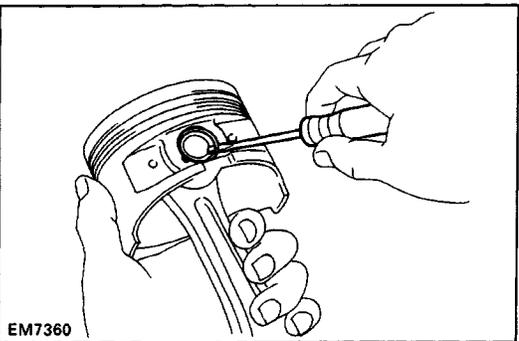
- (b) Gradually heat the piston to 80–90°C (176–194°F).



- (c) Coat the piston pin with engine oil.
 (d) Align the front marks of the piston and connecting rod, and push in the piston pin with your thumb.

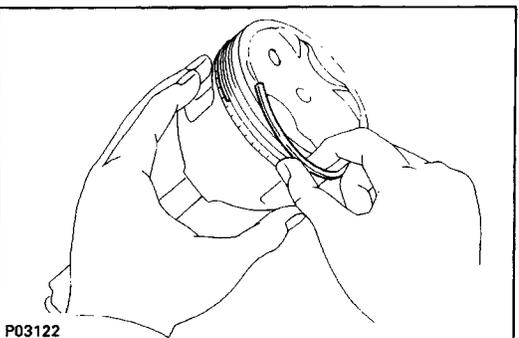


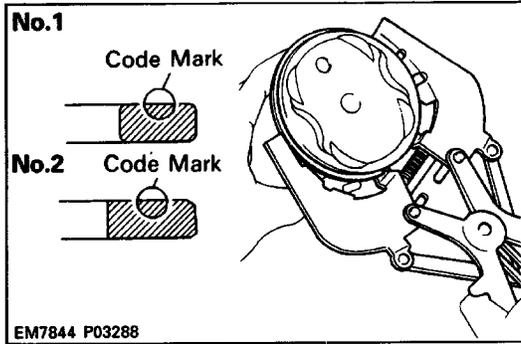
- (e) Using a small screwdriver, install a new snap ring on the other side of the piston pin hole.



2. INSTALL PISTON RINGS

- (a) Install the oil ring expander and two side rails by hand.

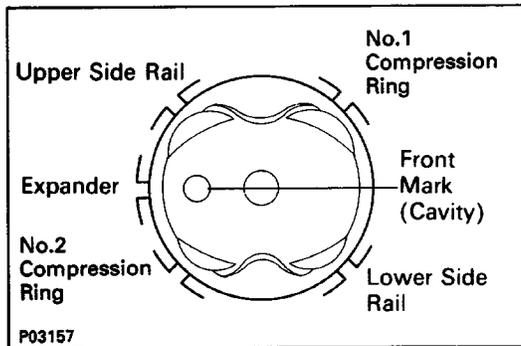




(b) Using a piston ring expander, install the two compression rings with the code mark facing upward.

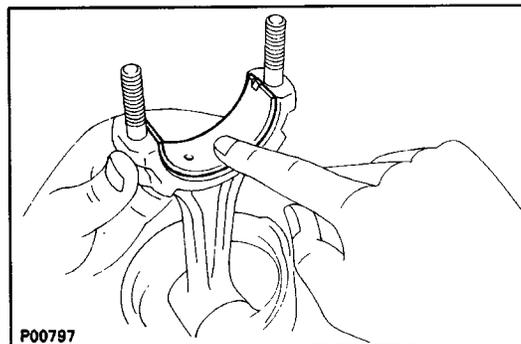
Code mark: No.1 1 N or T

No.2 2N or 2T



(c) Position the piston rings so that the ring ends are as shown.

NOTICE: Do not align the ring ends.



3. INSTALL BEARINGS

(a) Align the bearing claw with the groove of the connecting rod or connecting cap.

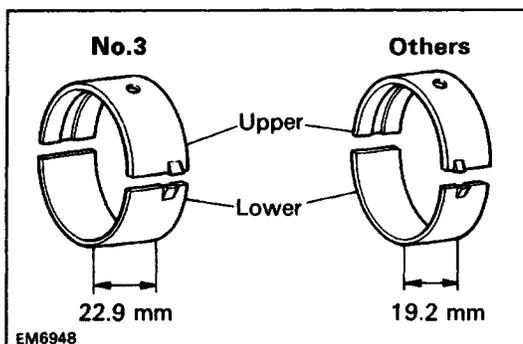
(b) Install the bearings in the connecting rod and connecting rod cap.

ASSEMBLY OF CYLINDER BLOCK

(See page EM-268)

HINT:

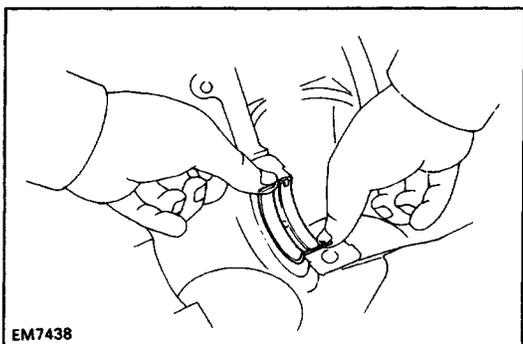
- Thoroughly clean all parts to be assembled.
- Before installing the parts, apply new engine oil to all sliding and rotating surfaces.
- Replace all gaskets, O-rings and oil seals with new parts.



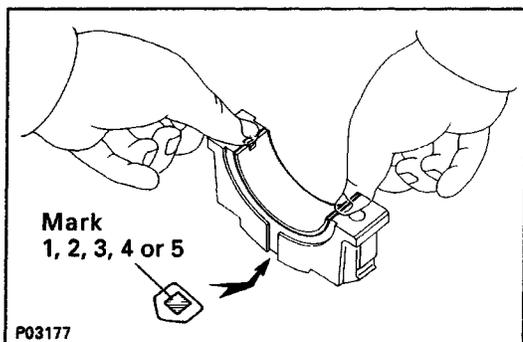
1. INSTALL MAIN BEARINGS

HINT:

- Main bearings come in widths of 19.2 mm (0.756 in.) and 22.9 mm (0.902 in.). Install the 22.9 mm (0.902 in.) bearings in the No.3 cylinder block journal position with the main bearing cap. Install the 19.2 mm (0.756 in.) bearings in the other positions.
- Upper bearings have an oil groove and oil holes; lower bearings do not.

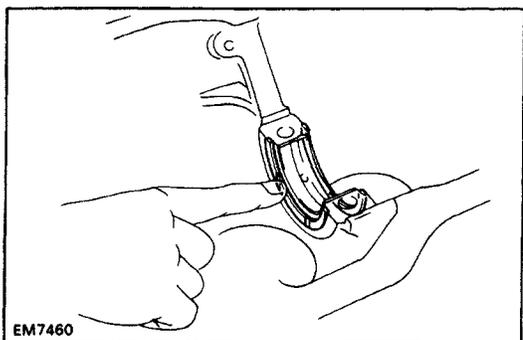


- (a) Align the bearing claw with the claw groove of the cylinder block, and push in the five upper bearings.



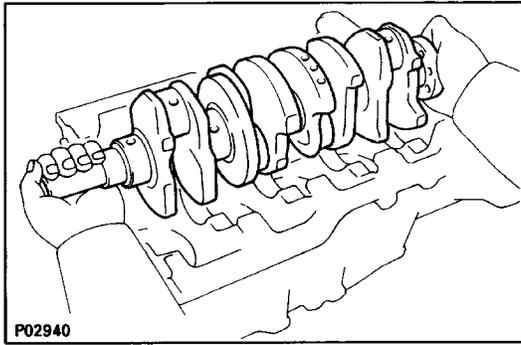
- (b) Align the bearing claw with the claw groove of the main bearing cap, and push in the five lower bearings.

HINT: A number is marked on each main bearing cap to indicate the installation position.



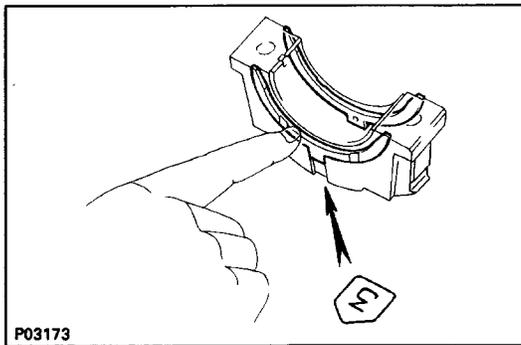
2. INSTALL UPPER THRUST WASHERS

Install the two thrust washers under the No.3 journal position of the cylinder block with the oil grooves facing outward.



P02940

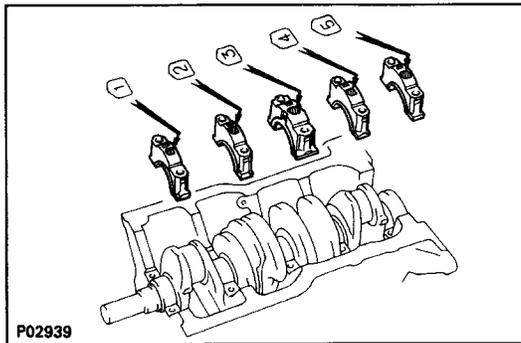
3. PLACE CRANKSHAFT ON CYLINDER BLOCK



P03173

4. INSTALL MAIN BEARING CAPS AND LOWER THRUST WASHERS

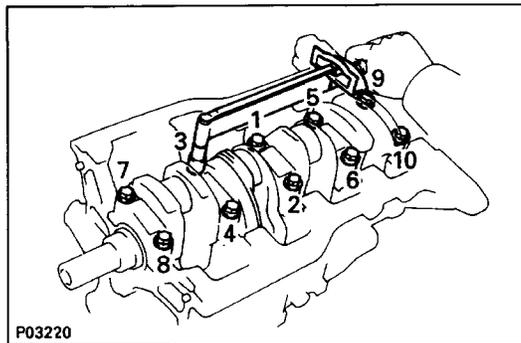
- (a) Install the two thrust washers on the No.3 bearing cap with the grooves facing outward.



P02939

- (b) Install the five main bearing caps in their proper locations.

HINT: Each bearing cap has a number and front mark.



P03220

- (c) Apply a light coat of engine oil on the threads and under the heads of the main bearing caps.

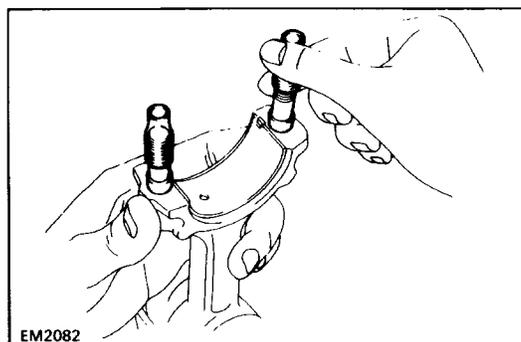
- (d) Install and uniformly tighten the ten bolts of the main bearing caps in several passes in the sequence shown.

Torque: 59 N-m (600 kgf-cm, 43 ft-lbf)

- (e) Check that the crankshaft turns smoothly.

- (f) Check the crankshaft thrust clearance.

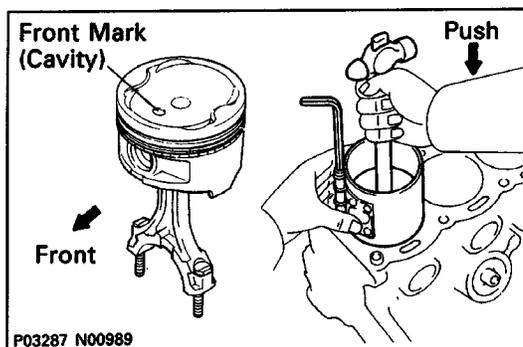
(See step 5 on page [EM-281](#))



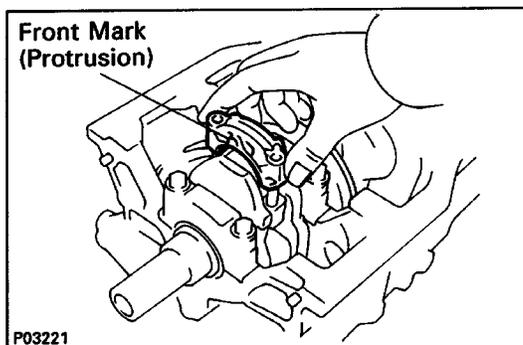
EM2082

5. INSTALL PISTON AND CONNECTING ROD ASSEMBLIES

- (a) Cover the connecting rod bolts with a short piece of hose to protect the crankshaft from damage.



- (b) Using a piston ring compressor, push the correctly numbered piston and connecting rod assemblies into each cylinder with the front mark of the piston facing forward.



6. INSTALL CONNECTING ROD CAPS

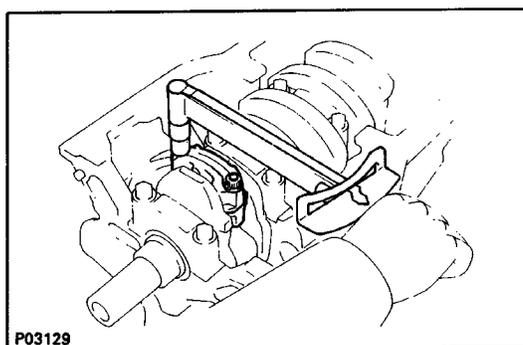
A. Place connecting rod cap on connecting rod

- (a) Match the numbered connecting rod cap with the connecting rod.
- (b) Install the connecting rod cap with the front mark facing forward.

B. Install connecting rod cap nuts

HINT:

- The cap nuts are tightened in two progressive steps (steps (b) and (d)).
- If any one of the connecting rod bolts is broken or deformed, replace it.

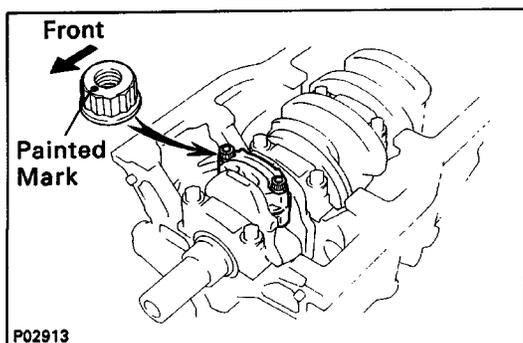


- (a) Apply a light coat of engine oil on the threads and under the cap nuts.
- (b) Using SST, install and alternately tighten the cap nuts in several passes.

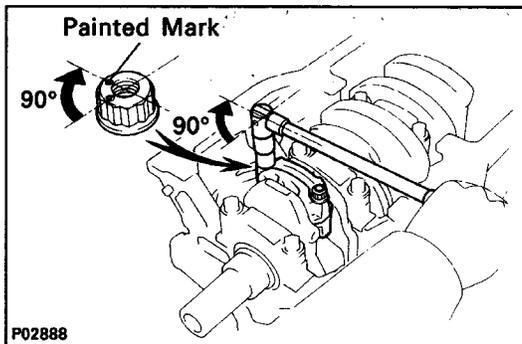
SST 09011-38121

Torque: 25 N-m (250 kgf-cm, 18 ft-lbf)

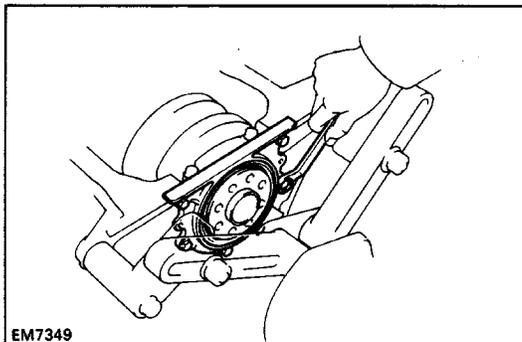
If any one of the cap nuts does not meet the torque specification, replace the connecting rod bolt and cap nut as a set.



- (c) Mark the front of the cap nut with the paint.

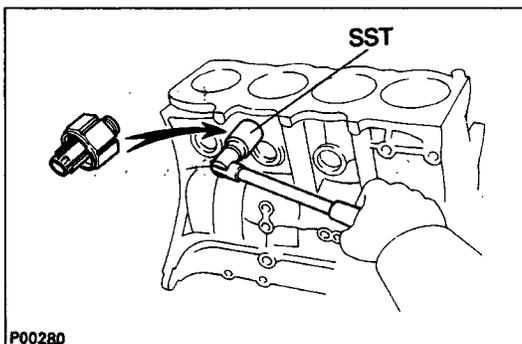


- (d) Retighten the cap nuts 90° in the numerical order shown.
- (e) Check that the painted mark is now at a 90° angle to the front.
- (f) Check that the crankshaft turns smoothly.
- (g) Check the connecting rod thrust clearance.
(See step 2 on page [EM-279](#))



7. INSTALL REAR OIL SEAL RETAINER

Install a new gasket and the retainer with the six bolts.
Torque: 9.3 N-m (95 kgf-cm, 82 MAW)



POST ASSEMBLY

1. INSTALL KNOCK SENSOR

Using SST, install the knock sensor.
SST 09816-30010

Torque: 37 N-m (380 kgf-cm, 27 ft-lbf)

2. (w/ OIL COOLER)

INSTALL OIL COOLER (See page [LU-30](#))

3. INSTALL OIL FILTER

 (See page [LU-7](#))

4. INSTALL OIL PUMP AND OIL PAN

(See pages [LU-21](#) and 22)

5. INSTALL WATER PUMP AND GENERATOR

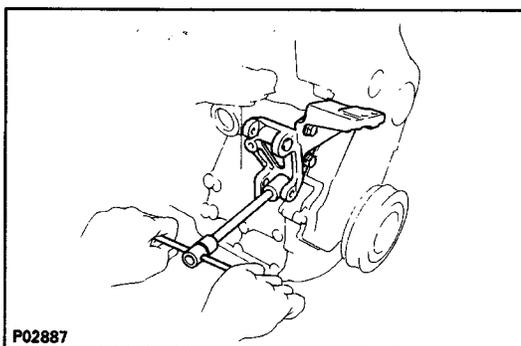
ADJUSTING BAR (See pages [CO-14](#) and 15)

6. INSTALL CYLINDER HEAD

(See pages [EM-173](#) to 182)

7. INSTALL PULLEYS AND TIMING BELT

(See pages [EM-75](#) to 79)



8. INSTALL RH ENGINE MOUNTING BRACKET

Install the mounting bracket with the three bolts.
Torque: 52 N-m (530 kgf-cm, 38 ft-lbf)

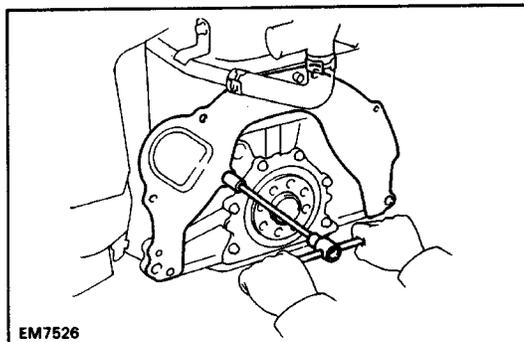
9. INSTALL PS PUMP BRACKET

Install the PS pump bracket with the three bolts.
Torque: 43 N-m (440 kgf-cm, 32 ft-lbf)

10. INSTALL GENERATOR (See page [CH-25](#))

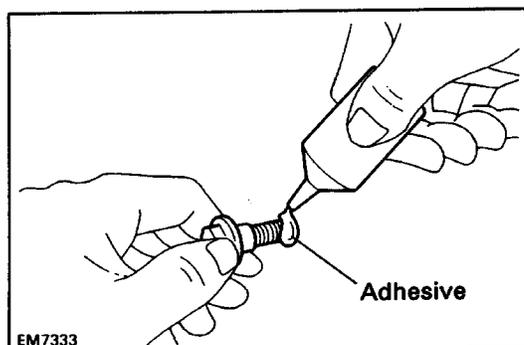
11. INSTALL DISTRIBUTOR (See page [IG-35](#))

12. REMOVE ENGINE STAND



13. INSTALL REAR END PLATE

Torque: 9.3 N-m (95 kgf-cm, 82. in.-lbf)

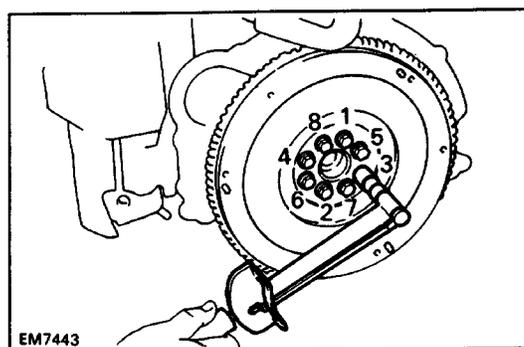


14. (M/T)

INSTALL FLYWHEEL

(a) Apply adhesive to two or three threads of the mounting bolt end.

Adhesive: Part No. 08833-00070, THREE BOND 1324 or equivalent



(b) Install the flywheel on the crankshaft.

(c) Install and uniformly tighten the mounting bolts in several passes in the sequence shown.

Torque: 88 N-m (900 kgf-cm, 65 ft-lbf)

15. (A/T)

INSTALL DRIVE PLATE (See procedure in step 14)

Torque: 83 N-m (850 kgf-cm, 61 ft-lbf)

16. (M/T)

INSTALL CLUTCH DISC AND COVER

(See CL section)

INSTALLATION OF ENGINE

1. ASSEMBLE ENGINE AND TRANSAXLE

M/T (See NIT section)

A/T (See AT section)

2. (A/T)

INSTALL STARTER (See page [ST-23](#))

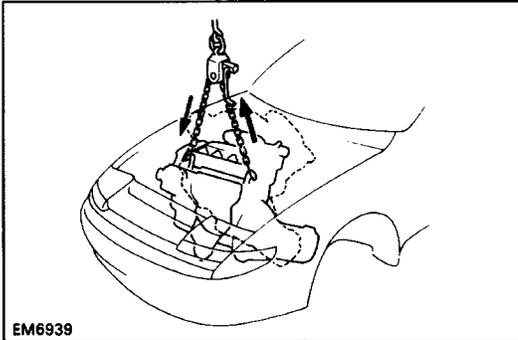
3. INSTALL ENGINE AND TRANSAXLE ASSEMBLY IN VEHICLE

(a) Attach the engine chain hoist to the engine hangers.

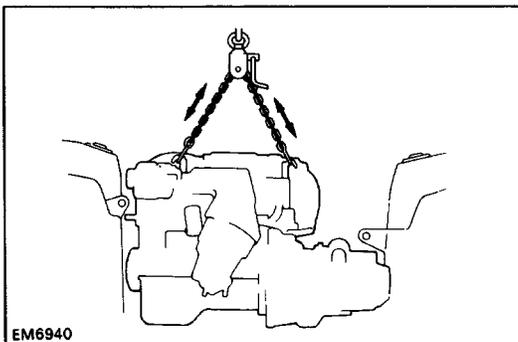
(b) Lower the engine into the engine compartment.

Tilt the transaxle downward, lower the engine and clear the LH mounting.

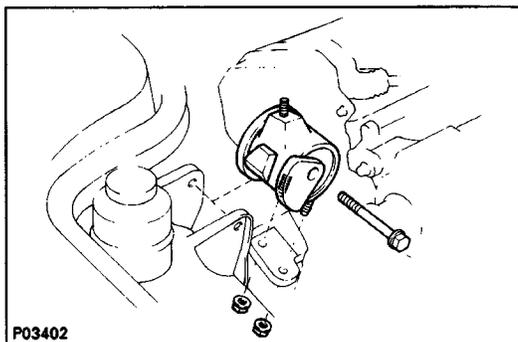
NOTICE: Be careful not to hit the PS gear housing or park/neutral position switch (A/T).



(c) Keep the engine level, and align RH and LH mountings with the body bracket.

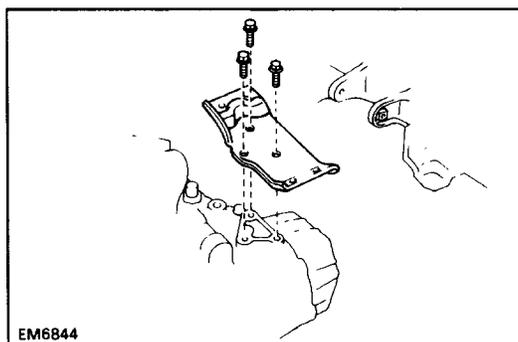


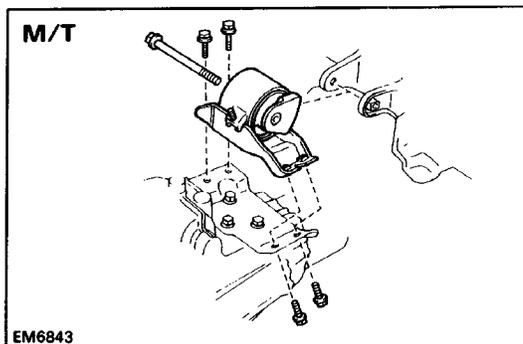
(d) Attach the RH mounting insulator to the mounting bracket and body, and temporarily install the through bolt and two nuts.



(e) Install the LH mounting bracket to the transaxle case with the three bolts.

Torque: 52 N-m (530 kgf-cm, 38 ft-lbf)





- (f) Attach the LH mounting insulator to the mounting bracket and body with the through bolt and four bolts. Torque the bolts.

Torque:

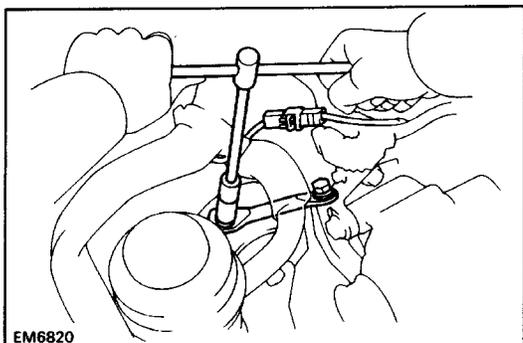
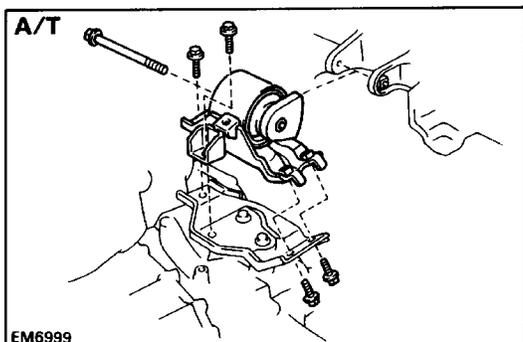
Bolt 63 N-m (650 kgf-cm, 47 ft-lbf)
Through bolt 87 N-m (890 kgf-cm, 64 ft-lbf)

- (g) Torque the through bolt and two nuts of the RH mounting insulator.

Torque:

Nut 52 N-m (530 kgf-cm, 38 ft-lbf)
Through bolt 87 N-m (890 kgf-cm, 64 ft-lbf)

- (h) Remove the engine chain hoist from the engine.

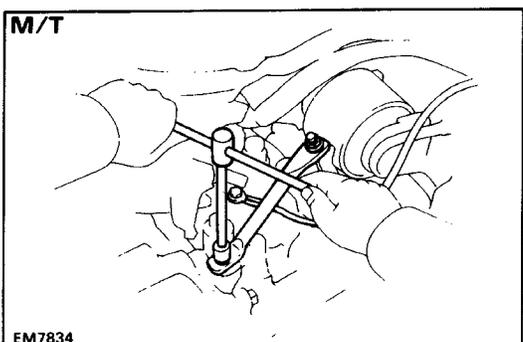


4. INSTALL RH ENGINE MOUNTING STAY

Install the mounting stay with the bolt and nut.

Torque: 73 N-m (740 kgf-cm, 54 ft-lbf)

5. CONNECT GROUND CONNECTOR TO GROUND WIRE ON RH FENDER APRON

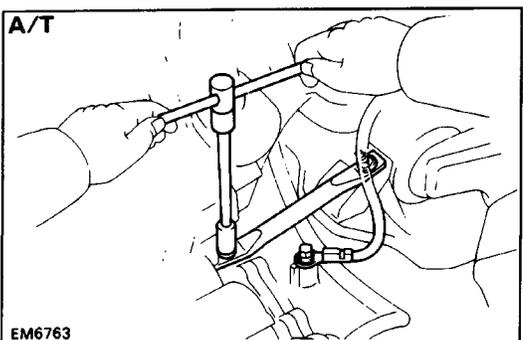


6. INSTALL LH ENGINE MOUNTING STAY

(M/T)

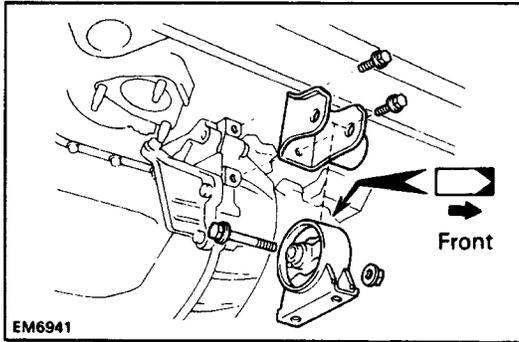
- (a) Install the mounting stay with the two nuts.
 (b) Connect the ground strap.

Torque: 21 N-m (210 kgf-cm, 15 ft-lbf)



(A/T)

- (a) Install the mounting stay with the bolt and nut.
Torque: 27 N-m (210 kgf-cm, 15 ft-lbf)
 (b) Connect the ground strap to the transaxle with the bolt.

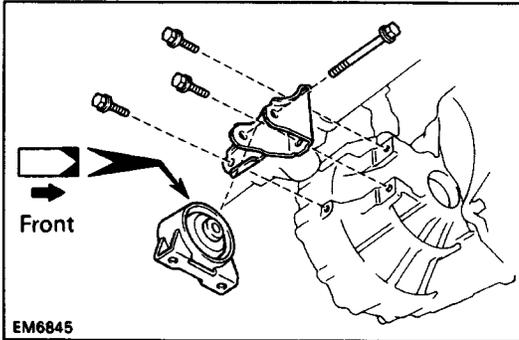


7. INSTALL FRONT ENGINE MOUNTING BRACKET AND INSULATOR

(a) Install the mounting bracket with the two bolts.

Torque: 77 N-m (790 kgf-cm, 57 ft-lbf)

(b) Temporarily install the mounting insulator with the through bolt and nut.

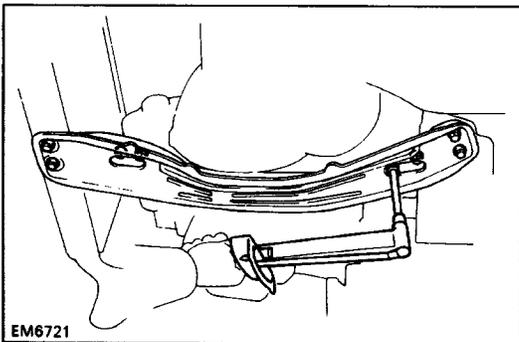


8. INSTALL REAR ENGINE MOUNTING BRACKET AND INSULATOR

(a) Install the mounting bracket with the three bolts.

Torque: 77 N-m (790 kgf-cm, 57 ft-lbf)

(b) Temporarily install the mounting insulator with the through bolt.



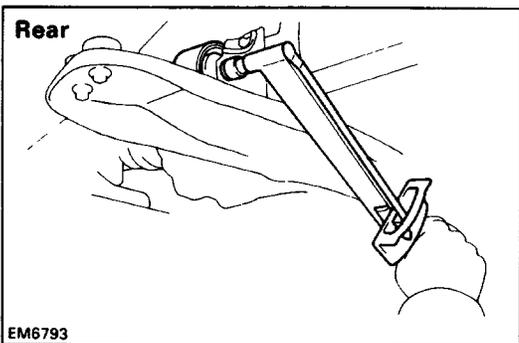
9. INSTALL ENGINE MOUNTING CENTER MEMBER

(a) Install the engine mounting center member with the four bolts.

Torque: 52 N-m (530 kgf-cm, 38 ft-lbf)

(b) Install and torque the four bolts holding the insulators to the center member.

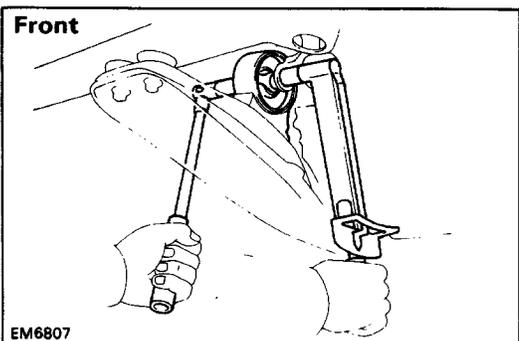
Torque: 73 N-m (740 kgf-cm, 54 ft-lbf)



10. TIGHTEN FRONT AND REAR ENGINE MOUNTING THROUGH BOLTS

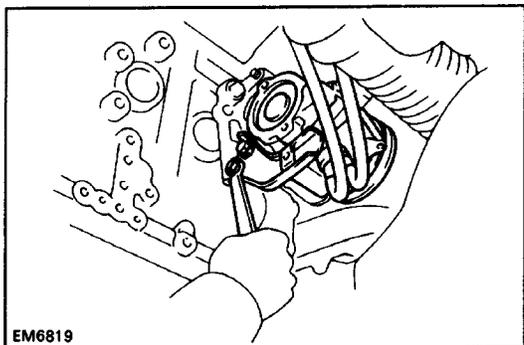
(a) Tighten the rear through bolt.

Torque: 87 N-m (890 kgf-cm, 64 ft-lbf)



(b) Tighten the front through bolt.

Torque: 87 N-m (890 kgf-cm, 64 ft-lbf)

**11. INSTALL PS PUMP**

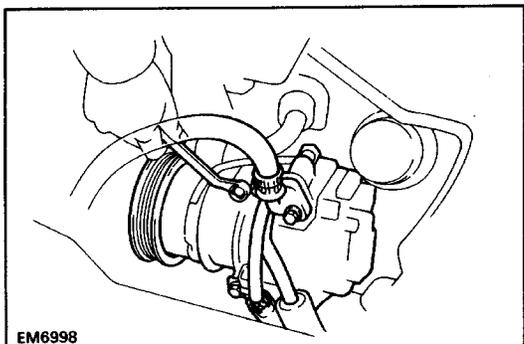
(a) Install the PS pump with the four bolts.

Torque:

Adjusting bolt 39 N-m (400 kgf-cm, 29 ft-lbf)
Others 43 N-m (440 kgf-cm, 32 ft-lbf)

(b) Install the drive belt.

(c) Connect the two air hoses to the air pipe.

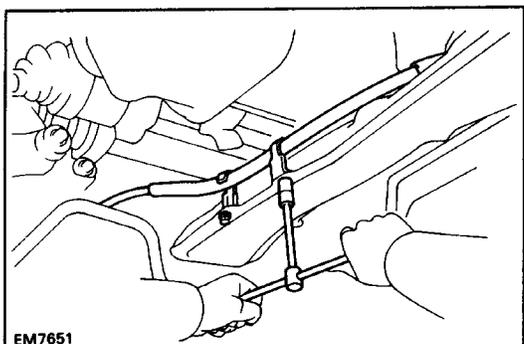
**12. (w/ A/C)****INSTALL A/C COMPRESSOR**

(a) Install the compressor with the three bolts.

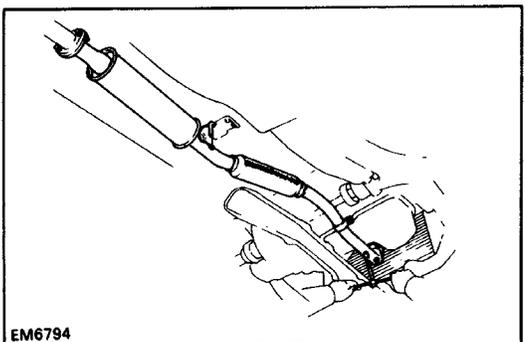
Torque: 27 N-m (280kgf-cm, 20 ft-lbf)

(b) Connect the two connectors.

(c) Connect the A/C compressor connector.

13. INSTALL DRIVE SHAFTS (See SA section)**14. (A/T)****INSTALL TRANSAXLE CONTROL CABLE TO ENGINE MOUNTING CENTER MEMBER**

Install the control cable with the two clamps and bolts.

**15. INSTALL FRONT EXHAUST PIPE**

(a) Install the support hook on the front exhaust pipe to the support bracket.

(b) Place two new gaskets on the front and rear of the front exhaust pipe.

(c) Temporarily install the two bolts and new nuts holding the exhaust pipe to the center exhaust pipe.

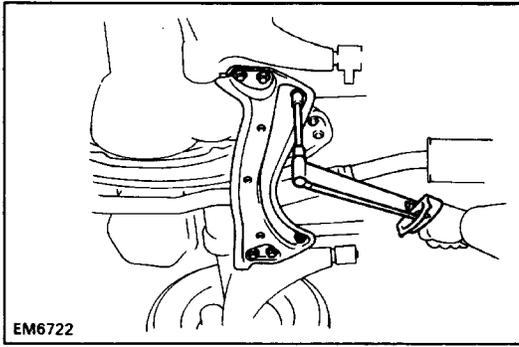
(d) Using a 14 mm deep socket wrench, install the three new nuts holding the exhaust pipe to the three-way catalytic converter..

Torque: 62 N-m (630 kgf-cm, 46 ft-lbf)

(e) Tighten the two bolts and nuts holding the exhaust pipe to the center exhaust pipe.

Torque: 43 N-m (440 kgf-cm, 32 ft-lbf)

(f) Install the clamp with the bolt.

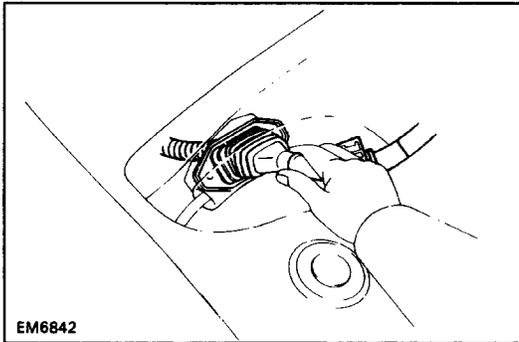


EM6722

16. INSTALL SUSPENSION LOWER CROSSMEMBER

Install the lower crossmember with the four bolts and two nuts.

Torque: 152 N-m (1,550 kgf-cm, 112 ft-lbf)



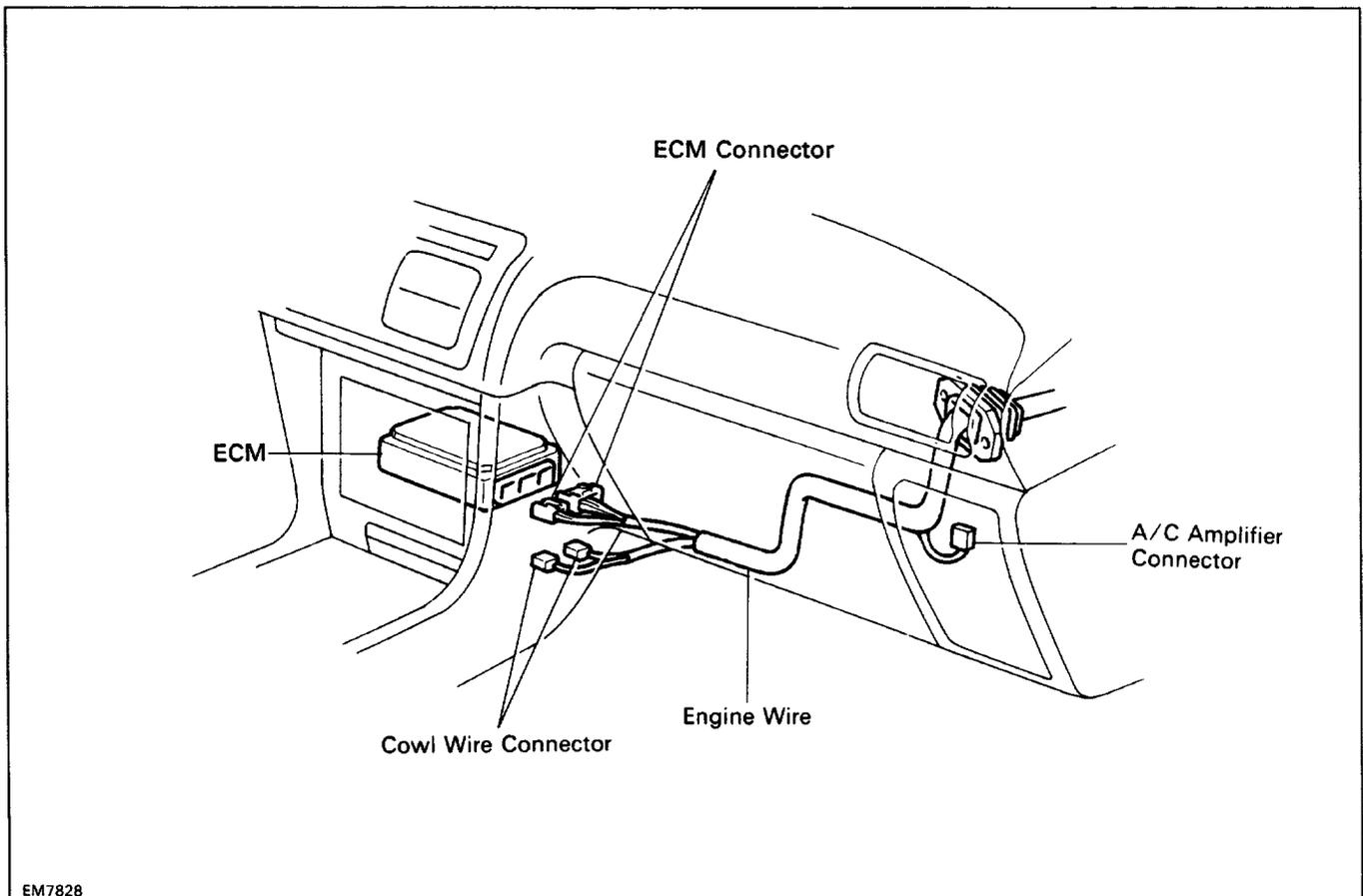
EM6842

17. CONNECT ENGINE WIRE TO CABIN

(a) Push in the engine wire through the cowl panel. Install the two nuts.

(b) Connect the following connectors:

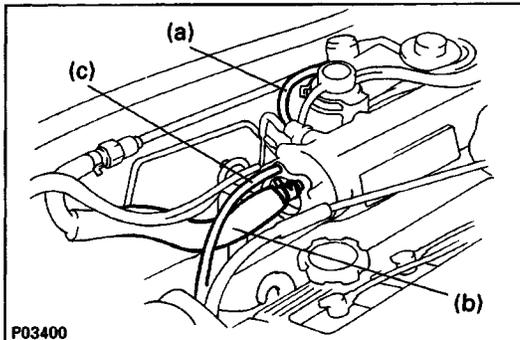
- (1) Two ECM connectors
- (2) Two cowl wire connectors
- (3) A/C amplifier connector



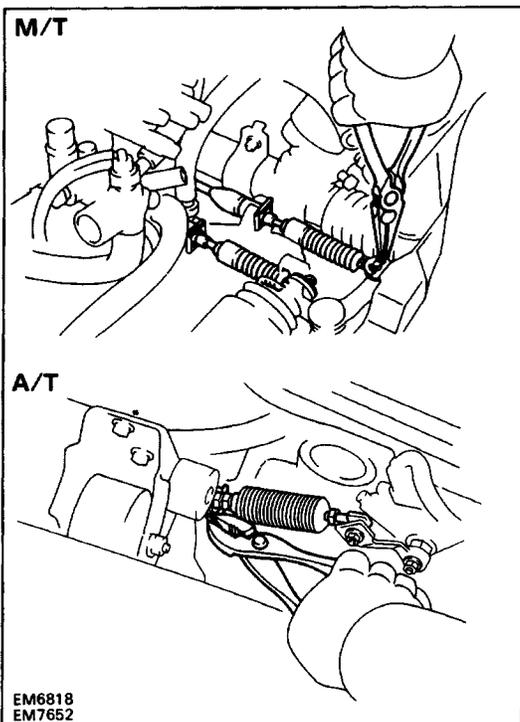
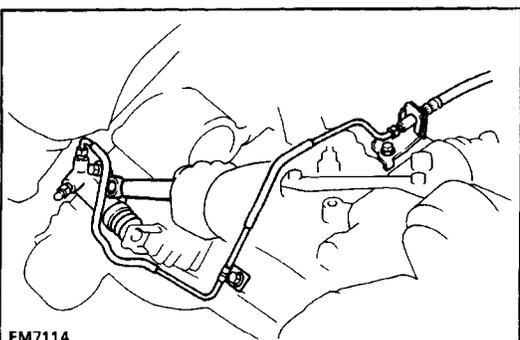
EM7828

18. CONNECT ENGINE WIRE

- (a) Engine wire clamp to wire bracket on RH fender apron
- (b) Two cowl wire connectors

**19. CONNECT VACUUM HOSES**

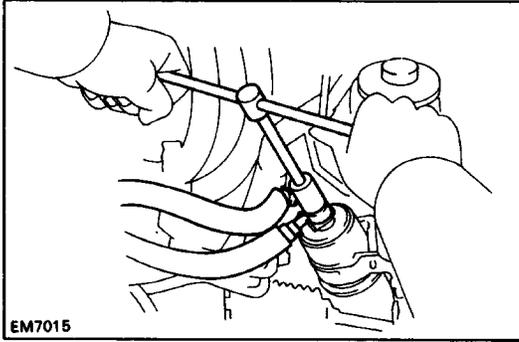
- (a) Vacuum sensor hose to gas filter
- (b) Brake booster vacuum hose to intake manifold
- (c) (w/ Cruise Control System (w/o ABS))
Actuator vacuum hose to intake manifold

**20. CONNECT TRANSAXLE CONTROL CABLE(S) TO TRANSAXLE .****21. (M /T)****INSTALL CLUTCH RELEASE CYLINDER**

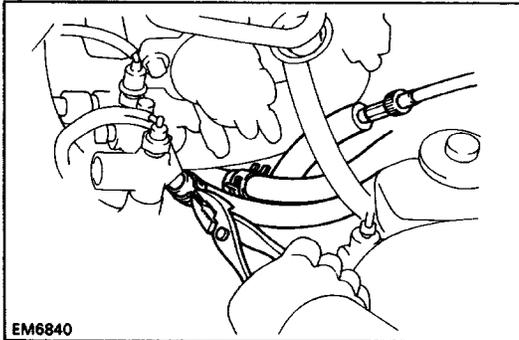
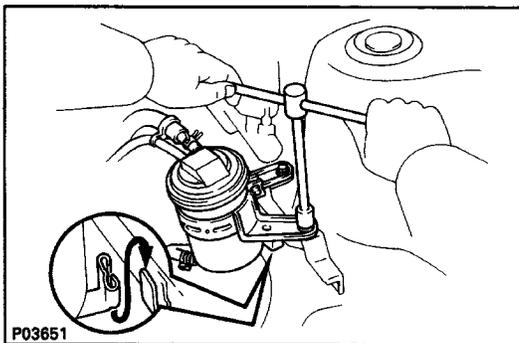
Install the release cylinder and tube with the four bolts.

22. (M/T)

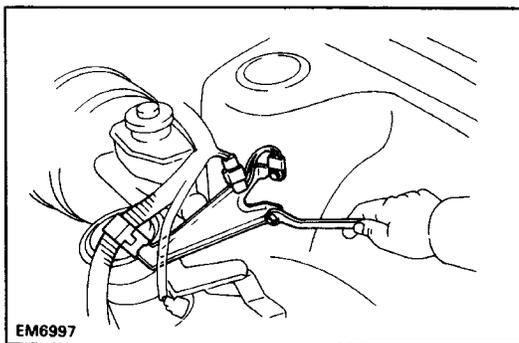
INSTALL STARTER (See page [ST-23](#))

**23. CONNECT FUEL HOSES**

Torque (Union bolt): 29 N·m (300 kgf·cm, 22 ft·lbf)

**24. CONNECT SPEEDOMETER CABLE****25. CONNECT HEATER HOSES****26. INSTALL CHARCOAL CANISTER**

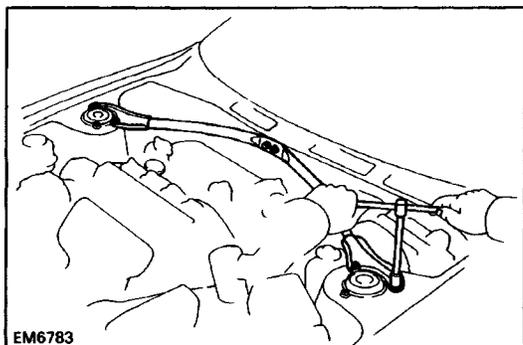
- (a) Install the charcoal canister with the two bolts.
- (b) Connect the three hoses.

**27. INSTALL ENGINE WIRE BRACKET**

- (a) Install the wire bracket with the two bolts. Install the noise filter.
- (b) Install the wire clamp to the wire bracket.

28. CONNECT WIRES AND CONNECTORS

- (a) Data link connector 1
- (b) Ignite connector
- (c) Vacuum sensor connector
- (d) Ground straps from LH fender apron



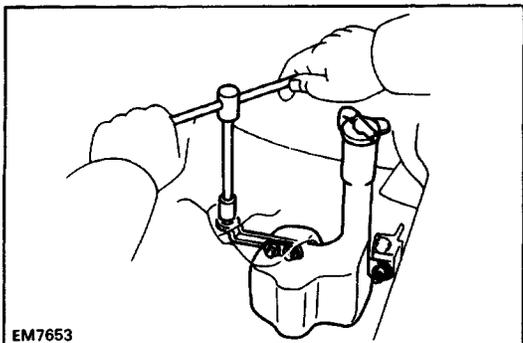
EM6783

29. INSTALL SUSPENSION UPPER BRACE

- (a) Install the suspension upper brace with the two bolts and four nuts.

Torque: Bolt 21 N-m (210 kgf-cm, 15 ft-lbf)
Nut 64 N-m (650 kgf-cm, 47 ft-lbf)

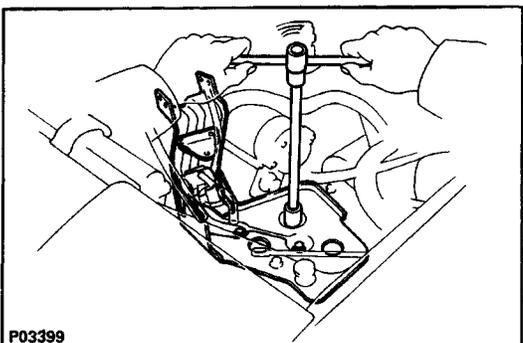
- (b) Install the outside lower windshield moulding.
 (c) Install the two wiper arms.



EM7653

30. INSTALL RADIATOR RESERVOIR TANK

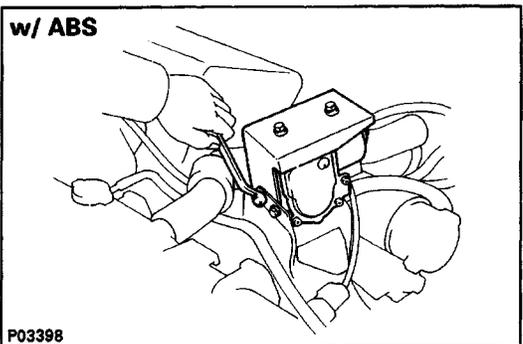
Install the reservoir tank with the two nuts.

31. INSTALL RADIATOR (See Rages CO-24 and 25)

P03399

**32. (w/ CRUISE CONTROL SYSTEM (w/ ABS))
INSTALL CRUISE CONTROL ACTUATOR BRACKET**

- (a) Install the actuator bracket with the two bolts and nut.
 (b) Install the actuator connector to the bracket.

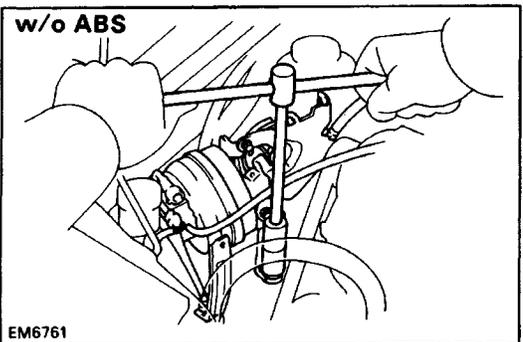


P03398

w/ ABS

**33. (w/ CRUISE CONTROL SYSTEM)
INSTALL CRUISE CONTROL ACTUATOR
(w/ ABS)**

- (a) Install the actuator with the four bolts.
 (b) Connect the actuator connector.



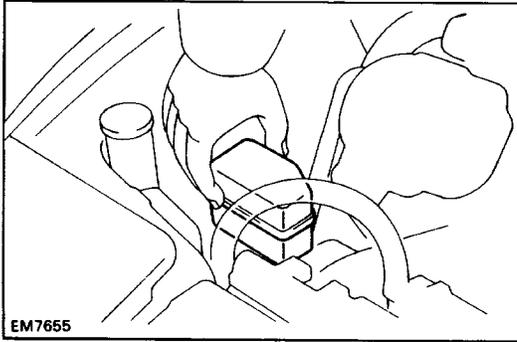
EM6761

w/o ABS

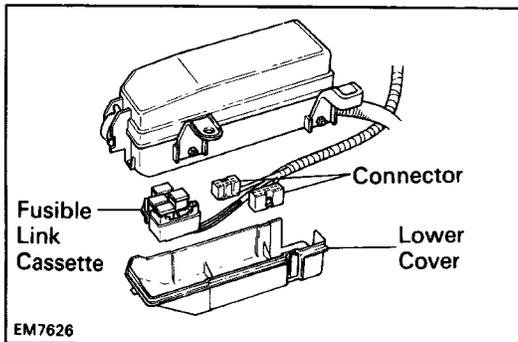
(w/o ABS)

- (a) Install the actuator with the three bolts.
 (b). Connect the cable to the actuator.
 (c) Connect the actuator connector.
 (d) Connect the actuator vacuum hose.
 (e) Install the actuator cover.

34. INSTALL BATTERY

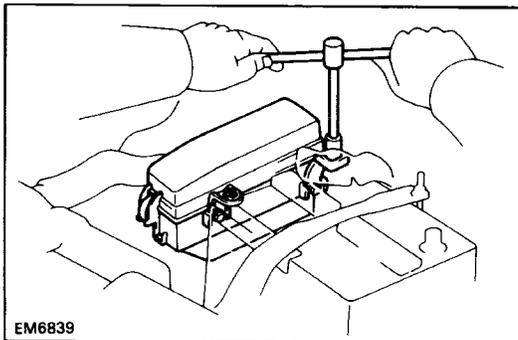


35. INSTALL A/C RELAY BOX



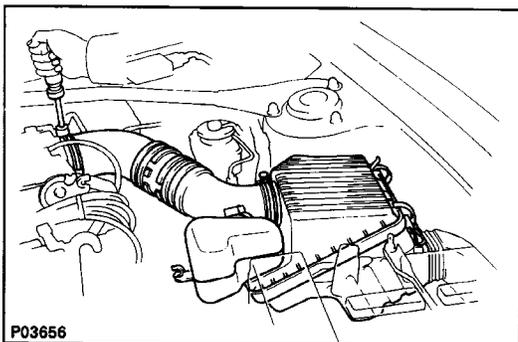
36. CONNECT ENGINE WIRE, AND INSTALL ENGINE RELAY BOX

- (a) Connect the fusible link cassette and two connectors of the engine wire to the relay box.
- (b) Install the lower cover to the relay box.



37. INSTALL ACCELERATOR CABLE, AND ADJUST IT

- (c) Install the relay box with the two nuts.



38. INSTALL AIR CLEANER ASSEMBLY

- (a) Install the air cleaner case with the three bolts.
- (b) Install the air cleaner filter.
- (c) Connect the air cleaner hose to the throttle body.
- (d) Install the air cleaner cap.
- (e) Connect the intake air temperature sensor connector.

39. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

40. FILL WITH ENGINE COOLANT (See page [CO-6](#))

Capacity (w/ Heater):

M/T 6.2 liters (6.6 US qts, 5.5 Imp. qts)

A/T 6.1 liters (6.4 US qts, 5.4 Imp. qts)

41. FILL WITH ENGINE OIL (See page [LU-8](#))**Capacity (w/ Oil cooler):****Drain and refill****w/ Oil filter change****4.2 liters (4.4 US qts, 3.7 Imp. qts)****w/o Oil filter change****3.8 liters (4.0 US qts, 3.3 Imp. qts)****Dry fill 4.6 liters (4.9 US qts, 4.0 Imp. qts)****Capacity (w/ Oil cooler):****Drain and refill****w/ Oil filter change****4.1 liters (4.3 US qts, 3.6 Imp. qts)****w/o Oil filter change****3.7 liters (3.9 US qts, 3.3 Imp. qts)****Dry fill 4.5 liters (4.8 US qts, 4.0 Imp. qts)****42. START ENGINE AND CHECK FOR LEAKS****43. PERFORM ENGINE ADJUSTMENT**

(a) Adjust the generator drive belt.

(See page [CH-3](#))**Drive belt tension:****w/ A/C New belt 165 ± 10 lbf****Used belt 110 ± 10 lbf****w/o A/C New belt 125 ± 25 lbf****Used belt 95 ± 20 lbf**(b) Adjust the PS drive belt. (See page [SR-38](#))**Drive belt tension: New belt 125 ± 25 lbf****Used belt 80 ± 20 lbf**(c) Adjust the ignition timing. (See page [IG-37](#))**Ignition timing:****10° BTDC @ idle****(w/ Terminals TE1 and E1 connected)****44. INSTALL ENGINE UNDER COVERS****45. INSTALL HOOD****46. PERFORM ROAD TEST**

Check for abnormal noise, shock, slippage, correct shift points and smooth operation.

47. RECHECK ENGINE COOLANT AND ENGINE OIL LEVELS