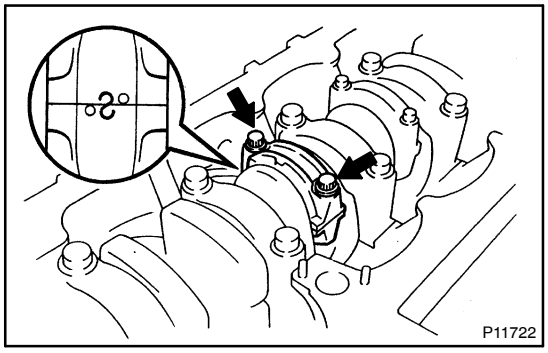


CYLINDER BLOCK

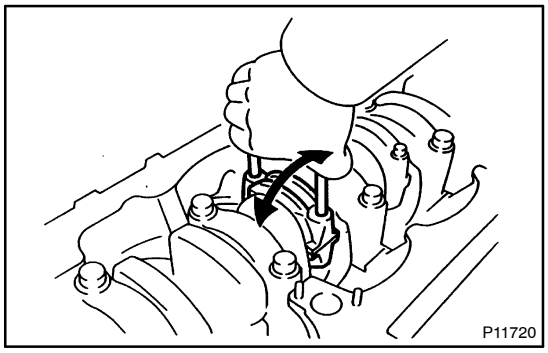
EM1LS–01

DISASSEMBLY

1. REMOVE CONNECTING ROD CAPS AND CHECK OIL CLEARANCE

(a) Using a punch or numbering stamp, place matchmarks on the connecting rod and cap to ensure correct reassembly.

(b) Remove the connecting rod cap bolts.



(c) Using the 2 removed connecting rod bolts, pry the connecting rod cap back and forth, and remove the connecting cap.

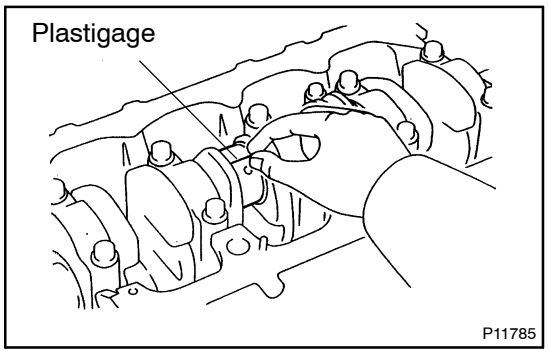
HINT:

Keep the lower bearing inserted with the connecting rod cap.

(d) Clean the crank pin and bearing.

(e) Check the crank pin and bearing for pitting and scratches.

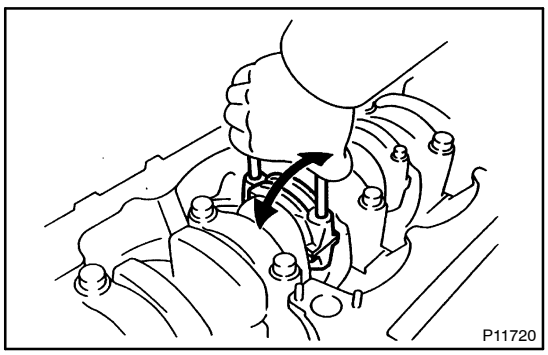
If the crank pin or bearing is damaged, replace the bearings. If necessary, grind or replace the crankshaft.



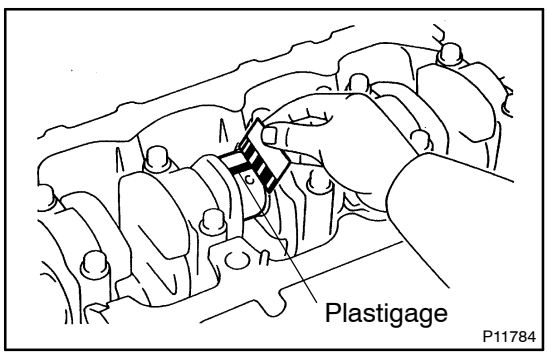
(f) Lay a strip of Plastigage across the crank pin.

(g) Install the connecting rod cap with the 2 bolts.
(See Pub. No. RM710E, page EM–94)
Torque:
1st: 29.5 N·m (300 kgf·cm, 22 ft·lbf)
2nd: Turn 90 °

NOTICE:
Do not turn the crankshaft.

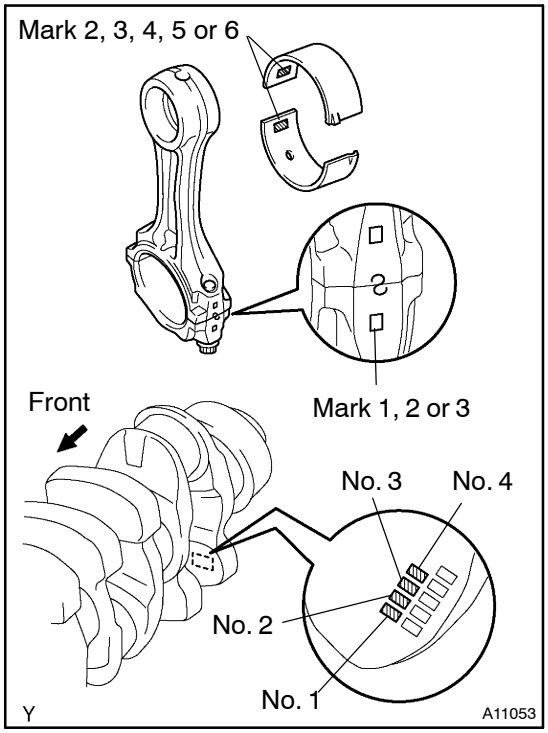


(h) Remove the 2 bolts, connecting rod cap and lower bearing (See procedure (b) and (c) above).



(i) Measure the Plastigage at its widest point.
Standard oil clearance:
0.036 – 0.054 mm (0.0014 – 0.0021 in.)
Maximum oil clearance: 0.10 mm (0.0039 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 inprinted on the crankshaft and connecting rod, then selecting the bearing with the same number as the total. There are 5 sizes of standard bearings, marked ”2”, ”3”, ”4”, ”5” and ”6” accordingly.

	Number Marked								
Connecting rod	1			2			3		
Crankshaft	1	2	3	1	2	3	1	2	3
Use bearing	2	3	4	3	4	5	4	5	6

EXAMPLE: Connecting rod ”2” + Crankshaft ”1”
= Total number 3 (Use bearing ”3”)

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Reference

Connecting rod big end inner diameter:

Mark ”1”	62.014 – 62.020 mm (2.4415 – 2.4417 in.)
Mark ”2”	62.020 – 62.026 mm (2.4417 – 2.4420 in.)
Mark ”3”	62.026 – 62.032 mm (2.4420 – 2.4422 in.)

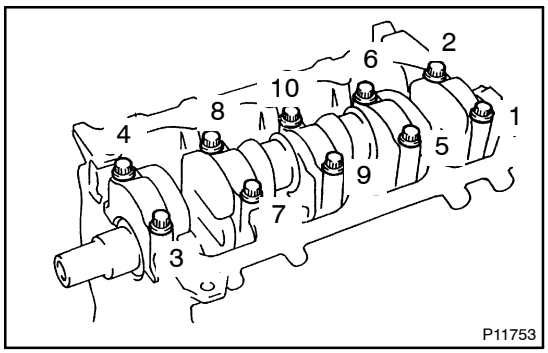
Crankshaft pin diameter:

Mark ”1”	58.994 – 59.000 mm (2.3226 – 2.3228 in.)
Mark ”2”	58.988 – 58.994 mm (2.3224 – 2.3226 in.)
Mark ”3”	58.982 – 58.988 mm (2.3221 – 2.3224 in.)

Standard sized bearing center wall thickness:

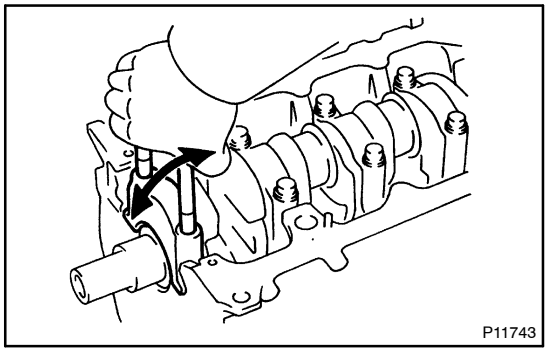
Mark ”2”	1.486 – 1.489 mm (0.0585 – 0.0586 in.)
Mark ”3”	1.489 – 1.492 mm (0.0586 – 0.0587 in.)
Mark ”4”	1.492 – 1.495 mm (0.0587 – 0.0589 in.)
Mark ”5”	1.495 – 1.498 mm (0.0589 – 0.0590 in.)
Mark ”6”	1.498 – 1.501 mm (0.0590 – 0.0591 in.)

(j) Completely remove the Plastigage.



2. REMOVE MAIN BEARING CAPS AND CHECK OIL CLEARANCE

(a) Uniformly loosen and remove the main bearing cap bolts in several passes, in the sequence shown.



(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.5 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.

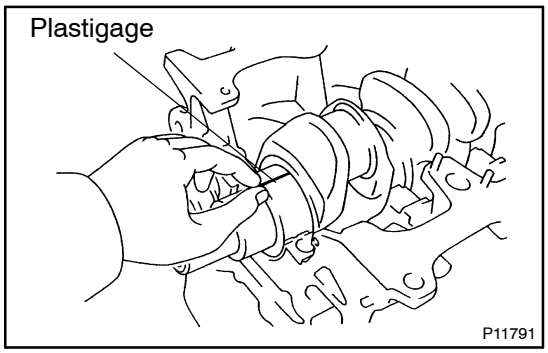
HINT:

Keep the upper bearings 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.

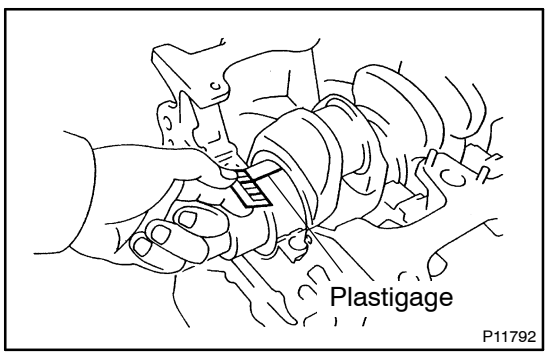
(h) Install the main bearing caps (See Pub. No. RM710E, page EM–94).

Torque:
1st: 50 N·m (500 kgf·cm, 36 ft·lbf)
2nd: Turn 90 °

NOTICE:

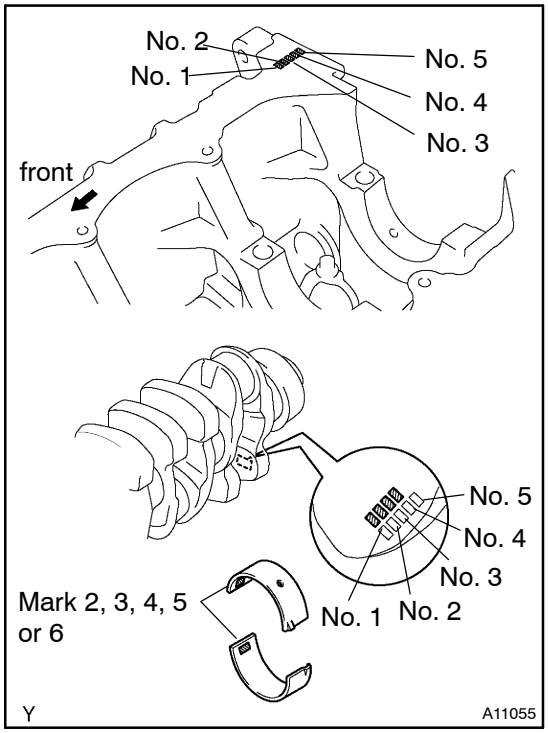
Do not turn the crankshaft.

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



(j) Measure the Plastigage at its widest point.

Standard clearance:
0.036 – 0.054 mm (0.0014 – 0.0021 in.)
Maximum clearance: 0.10 mm (0.0039 in.)



HINT:

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

0.036 – 0.054 mm (0.0014 – 0.0021 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 5 sizes of standard bearings, marked "2", "3", "4", "5" and "6" accordingly.

	Number Marked								
Cylinder block	1			2			3		
Crankshaft	1	2	3	1	2	3	1	2	3
Use bearing	2	3	4	3	4	5	4	5	6

EXAMPLE: Cylinder block "2" + Crankshaft "1"
= Total number 3 (Use bearing "3")

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Reference

Cylinder block main journal bore diameter:

Mark "1"	75.000 – 75.006 mm (2.9528 – 2.9530 in.)
Mark "2"	75.006 – 75.012 mm (2.9530 – 2.9532 in.)
Mark "3"	75.012 – 75. 018 mm (2.9532 – 2.9535 in.)

Crankshaft journal diameter:

Mark "1"	69.994 – 70.000 mm (2.7557 – 2.7559 in.)
Mark "2"	69.988 – 69.994 mm (2.7554 – 2.7557 in.)
Mark "3"	69.982 – 69.988 mm (2.7552 – 2.7554 in.)

Standard sized bearing center wall thickness:

Mark "2"	2.482 – 2.485 mm (0.0977 – 0.0978 in.)
Mark "3"	2.485 – 2.488 mm (0.0978 – 0.0980 in.)
Mark "4"	2.488 – 2.491 mm (0.0980 – 0.0981 in.)
Mark "5"	2.491 – 2.494 mm (0.0981 – 0.0982 in.)
Mark "6"	2.494 – 2.497 mm (0.0982 – 0.0983 in.)

(k) Completely remove the Plastigage.