

Timing Components: All Technical Service Bulletins

Removal of Lower Timing Chain

1. Drain coolant by removing the cylinder block drain plug and opening the radiator drain cock (Refer to MA section of the Service Manual).
2. Drain engine oil.
3. Remove the oil pan (Refer to "Removal" under "Oil Pan" in the Service Manual).
4. Remove the power steering pump and position it to the side. Remove the idler pulley and bracket as well.
5. Set # 1 piston at TDC on its compression stroke.
6. Remove the crankshaft pulley.
7. Remove the oil separator.
8. Remove the front cover.

NOTE:

Engine may need to be lowered to provide clearance for the chain tensioner housing of the timing cover to clear the frame. Engine height may need to be adjusted when removing the cover.

CAUTION:

Be careful not to tear or damage the cylinder head gasket.

9. Remove the following parts:
 - ^ Lower timing chain tensioner (push piston in and insert a suitable pin into the hole).
 - ^ Chain tension arm.
 - ^ Lower timing chain guide.
10. Remove the upper timing chain (refer to "Removal of Upper Timing Chain" in this bulletin).

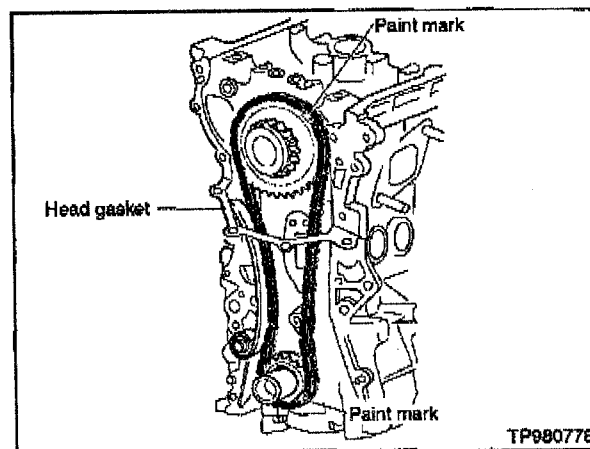


Figure 3

11. Wipe off the links of the timing chain next to the timing marks on the sprockets. Apply paint marks to the lower timing chain, matching them with the mating marks on the crankshaft sprocket and idler sprocket (see Figure 3).
12. Remove the lower timing chain and sprocket.

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Installation of Lower Timing Chain

1. Install the crankshaft sprocket, making sure the mating marks face the front of the engine.
2. Install the idler sprocket and lower timing chain using the mating marks and the paint marks made during the removal process.

CAUTION:

Be careful not to tear or damage the cylinder head gasket.

3. Install chain guide and chain tension arm.
4. Install lower chain tensioner and remove the pin securing the piston into the tensioner body.
5. Front cover installation:
 - a. Using a scraper or other suitable tool remove all traces of liquid gasket from the cylinder block, oil separator (pre-98' models) and front cover mating surfaces.

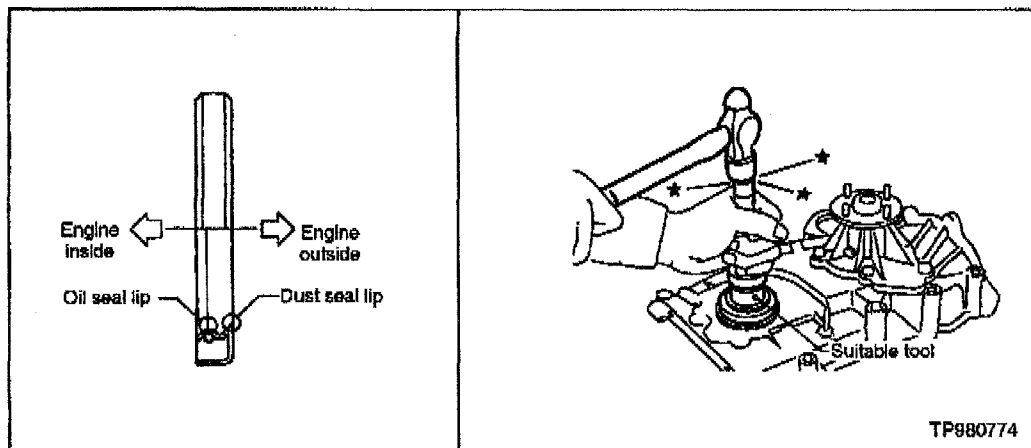


Figure 4

- b. Install new crankshaft seal in front cover (see Figure 4).

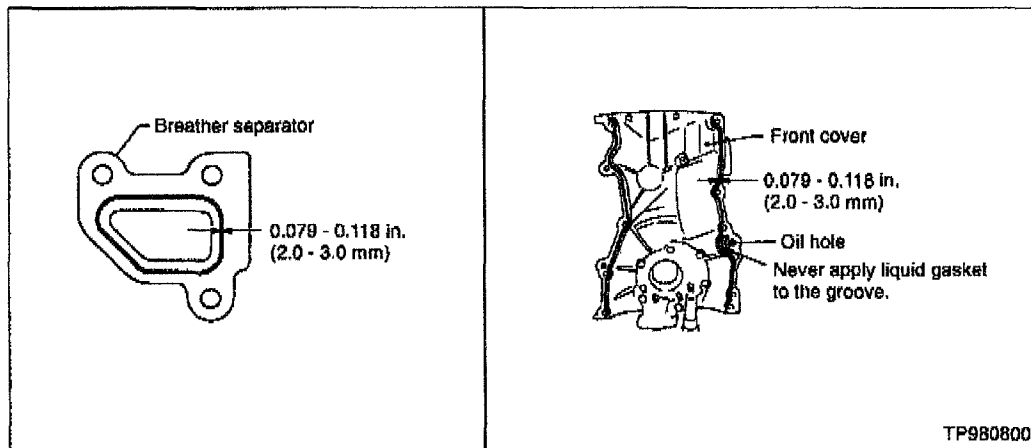


Figure 5

Apply a continuous bead of RTV sealant to the breather separator (pre-98' models) and to the front cover (see Figure 5).

NOTE:

Use Genuine Nissan RTV silicone sealant P/N 999MP-A7007, Three Bond P/N TB1207D or equivalent.

NOTE:

1998-1999 models use a paper gasket, not RTV silicone, for the breather separator.

- d. Also place RTV sealant on the head gasket surface.

- e. Install the front cover to the engine.

CAUTION:

Be careful not to tear or damage the cylinder head gasket.

- f. Install the oil separator to the front cover.

- 6. Install oil pan, referring to "Installation" in the "OIL PAN" section of the Service Manual.

- 7. Install the following parts:

- a. Crankshaft pulley.
- b. A/C compressor and idler pulley bracket.
- c. Power steering pump.

Engine: All Technical Service Bulletins**Engine - New Timing Chain/Front Cover Service Procedure**

Classification:

EM98-007

Reference:

NTB98-093

Date:

November 15, 1998

1993-99 ALTIMA TIMING CHAIN/FRONT COVER REVISED SERVICE PROCEDURE

APPLIED ENGINE:

KA24DE

SERVICE INFORMATION

A revised service procedure for the engine front cover/timing chain has been adopted for the KA24DE. It is no longer recommended to remove the cylinder head when removing the timing chain/front cover(s). Utilize the following steps when servicing the front cover, timing chain, guides or tensioner(s).

DESCRIPTION	PART #/PFP	QUANTITY
Genuine Nissan RTV sealant	999MP-A7007*	as needed

*Use Expense Code "009" for reimbursement of the portion of the RTV tube that is actually used for the repair. DO NOT put the RTV P/N on the claim.

PARTS INFORMATION**CLAIMS INFORMATION**

Please reference the "Revision B" pages of the Nissan "1992-1999 Warranty Flat Rate Information Manual", Section "AG", Op Codes AG14AA, AG143A, AG144A, AG22AA, and AG24AA. You will note that the descriptions and flat rate times applicable to the U13/L30 vehicles for these Op Codes have been revised to reflect this new procedure. also note that Op Codes AG50AA and AG504A have been deleted.

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Removal of Upper Timing Chain

1. Remove the spark plug wires.
2. Set # 1 piston at TDC on its compression stroke.
3. Remove vacuum hoses, electrical harness, connectors, and harness clamps.
4. Remove the power steering pump, A/C compressor, and alternator belts.
5. Remove the power steering reservoir tank and reposition it for clearance.
6. Install engine support eye bracket at right rear of cylinder head, then support engine.
7. Remove upper right engine mount and bracket.
8. Remove the rocker cover.
9. Remove camshaft sprocket cover.

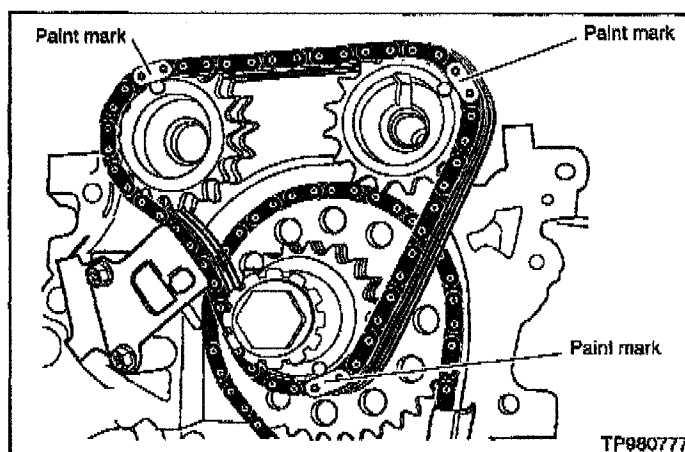


Figure 1

10. Wipe off the links of the timing chain next to the timing marks on the sprockets. Put paint marks on the timing chain, matching them with the timing marks on the cam sprockets and idler sprocket (see Figure 1).
11. Remove cam sprocket bolts, cam sprockets, upper timing chain guides (if equipped) and upper timing chain.

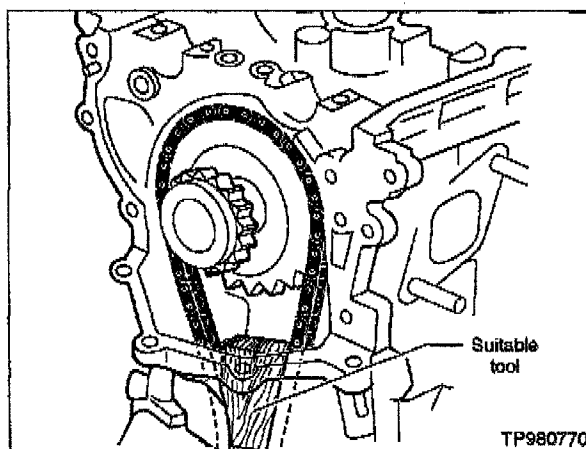


Figure 2

12. Support lower timing chain by using a suitable tool as shown in Figure 2 to avoid chain tensioner spring from coming out.

NOTE:

This step is only to be applied when the lower cover is not being removed.

13. Remove the idler sprocket.