MAINTENANCE

SECTION MA

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MAINTENANCE SCHEDULE
(Except for Sweden, Switzerland and Australia)

The following tables list the periodic maintenance servicing required to ensure quality engine and emission control system performance and good mechanical conditions of NISSAN vehicles.

The first 1,000 km (600 miles) of service is one of the most important service periods and is vital to ensure the optimum condition.

MAINTENANCE OPERATION Periodic maintenance should be performed either at number of kilometers (miles) or months, whichever comes first	Number of kilometers in thousands	MAINTENANCE INTERVAL									Reference page ★
	(Number of miles in thousands)	1 (0.6)	10 (6)	20 (12)	30 (18)	40 (24)	50 (30)	60 (36)	70 (42)	80 (48)	
	Number of months	–	6	12	18	24	30	36	42	48	
UNDERHOOD MAINTENANCE											
Check drive belts for cracks, fraying, wear & tension		X		X		X		X		X	
Change engine oil (Use recommended oil)	Non-turbo models (1)		X	X	X	X	X	X	X	X	
	Turbo models (1)	Every 5,000 km (3,000 miles) or 6 months									
Change oil filter	(1)		X	X	X	X	X	X	X	X	
Change engine anti-freeze coolant (Ethylene glycol base)						X				X	
Change engine coolant (Soft water)			X	X	X	X	X	X	X	X	
Check cooling system				X		X		X		X	
Check & adjust idle rpm & mixture ratio (Check mixture ratio only on models bound for areas affected by emission regulations)		X	X	X	X	X	X	X	X	X	
Replace fuel filter						X				X	
Check fuel system						X				X	
Replace air cleaner filter (Viscous paper type)	(2)					X				X	
Clean & replace air cleaner filter (Dry paper type) (Gulf standard models only)	Clean (2)		X	X	X		X	X	X		
	Replace (2)					X				X	
Adjust ignition timing			X	X	X	X	X	X	X	X	
Check & replace spark plugs	Check		X		X		X		X		
	Replace			X		X		X		X	
Check ignition wires						X				X	
Check positive crankcase ventilation (P.C.V.) system				X		X		X		X	
Check vacuum fitting hoses & connections				X		X		X		X	
Check vapor lines (Hoses, connections, etc.) (Gulf standard models only)						X				X	
Replace timing belt		Every 100,000 km (60,000 miles)									MA-4
Check brake, clutch & automatic transmission fluid level & leaks			X	X	X	X	X	X	X	X	
Change brake fluid	(3)					X				X	
Check brake booster vacuum hoses, connections & check valve						X				X	
Check power steering fluid & lines			X	X	X	X	X	X	X	X	
UNDER VEHICLE MAINTENANCE											
Check brake, clutch, fuel & exhaust systems for proper attachment, leaks, cracks, chafing, abrasion, deterioration, etc.			X	X	X	X	X	X	X	X	
Check oil level in manual transmission & differential gear	(4)		X	X	X	X	X	X	X	X	
Check steering gear & linkage, suspension parts, propeller shaft & rear, drive shaft for damaged, loose & missing parts & lubrication	(5)	X		X		X		X		X	
OUTSIDE AND INSIDE MAINTENANCE											
Check tire condition		X									
Check wheel alignment. If necessary, rotate & balance wheels				X		X		X		X	
Check disc brake pads & other brake components for wear, deterioration & leaks	(6)		X	X	X	X	X	X	X	X	
Check front wheel bearing grease						X				X	
Lubricate locks, hinges & hood latch	(6)		X	X	X	X	X	X	X	X	MA-8
Check seat belts, buckles, retractors, anchors & adjuster				X		X		X		X	MA-8
Check foot brake, parking brake & clutch for free play, stroke & operation			X	X	X	X	X	X	X	X	

NOTE: **(1) Under severe driving conditions such as driving mainly short distance, city driving and driving under dusty conditions, change the following:**

- **Engine oil (Non-turbo models) and filter: Every 5,000 km (3,000 miles) or 3 months, whichever comes first.**
- **Engine oil (Turbo models): More frequently.**

(2) Under dusty driving conditions, more frequent maintenance should be necessary.

(3) When driving in high humidity areas or in mountainous areas, change every 20,000 km (12,000 miles) or 12 months, whichever comes first.

(4) When towing a trailer, change oil in transaxle every 40,000 km (24,000 miles) or 24 months, whenever comes first.

(5) Under the following driving conditions, check either every 10,000 km (6,000 miles) or 6 months, whichever comes first.

- **Driving in areas using salt or other corrosive materials**
- **Driving on muddy roads**
- **Driving in the desert**

(6) When driving in areas using salt or other corrosive materials, check or lubricate every 5,000 km (3,000 miles) or 3 months, whichever comes first.

Check: Check, correct and replace if necessary.

The above chart shows the normal maintenance schedule. Depending upon weather and atmospheric conditions, varing road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

★: Refer to the already-published Service Manual if not specified.

MAINTENANCE SCHEDULE
(For Sweden and Switzerland)

The following tables list the periodic maintenance servicing required to ensure quality engine and emission control system performance and good mechanical conditions of NISSAN vehicles.

The first 1,000 km (600 miles) of service is one of the most important service periods and is vital to ensure the optimum condition.

MAINTENANCE OPERATION Periodic maintenance should be performed either at number of kilometers (miles) or months, whichever comes first		MAINTENANCE INTERVAL											Reference page ★
	Number of kilometers in thousands	1	10	20	30	40	50	60	70	80	90	100	
	(Number of miles in thousands)	(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)	
	Number of months	–	6	12	18	24	30	36	42	48	54	60	
EMISSION CONTROL MAINTENANCE													
Check drive belts for cracks, fraying, wear & tension				X		X		X		X		X	
Replace engine oil & engine oil filter	(1)		X	X	X	X	X	X	X	X	X	X	
Change engine coolant (Ethylene glycol base)						X				X			
Check cooling system hoses & connections				X		X		X		X		X	
Check vacuum fitting hoses & connections				X		X		X		X		X	
Check & adjust idle rpm & mixture ratio				X		X		X		X		X	
Check air regulator hoses				X		X		X		X		X	
Replace fuel filter	(2)					X				X			
Check fuel lines (Hoses, piping, connections, etc.)						X				X			
Replace air cleaner filter (Viscous paper type)	(2)					X				X			
Adjust ignition timing				X		X		X		X		X	
Replace spark plugs				X		X		X		X		X	
Check ignition wiring						X				X			
Check P.C.V. valve (For Switzerland only)						X				X			
Check ventilation hoses						X				X			
Check EGR control system				X		X		X		X		X	
Replace air induction valve filter	(2)					X				X			
Replace timing belt		Every 100,000 km (60,000 miles)											MA-4
UNDERHOOD MAINTENANCE													
Check brake, clutch & automatic transmission fluid level & leaks			X	X	X	X	X	X	X	X	X	X	
Change brake fluid	(3)					X				X			
Check brake booster vacuum hoses, connections & check valve						X				X			
Check power steering fluid & lines			X	X	X	X	X	X	X	X	X	X	
UNDER VEHICLE MAINTENANCE													
Check brake, clutch, fuel & exhaust systems for proper attachment, leaks, chafing, abrasion, deterioration, etc.			X	X	X	X	X	X	X	X	X	X	
Check oil level in manual transmission & differential gear	(4)		X	X	X	X	X	X	X	X	X	X	
Check steering gear & linkage, suspension parts, propeller shaft & rear drive shaft for damaged, loose & missing parts & lubrication	(5)	X		X		X		X		X		X	
OUTSIDE AND INSIDE MAINTENANCE													
Check tire condition		X											
Check wheel alignment. If necessary, rotate & balance wheels				X		X		X		X		X	
Check disc brake pads & other brake components for wear, deterioration & leaks	(6)		X	X	X	X	X	X	X	X	X	X	
Check front wheel bearing grease						X				X			
Lubricate locks, hinges & hood latch	(6)		X	X	X	X	X	X	X	X	X	X	MA-8
Check seat belts, buckles, retractors, anchors & adjuster				X		X		X		X		X	MA-8
Check foot brake, parking brake & clutch for free play, stroke & operation			X	X	X	X	X	X	X	X	X	X	

NOTE: (1) If vehicle is operated under severe conditions: short distance driving, extensive idling or driving in dusty conditions, change engine oil and oil filter every 5,000 km (3,000 miles) or 3 months, whichever comes first.

(2) Under dusty driving conditions, more frequent maintenance should be necessary.

(3) When driving in high humidity areas or in mountainous areas, change every 20,000 km (12,000 miles) or 12 months, whichever comes first.

(4) When towing a trailer, change oil in differential gear every 40,000 km (24,000 miles) or 24 months, whichever comes first.

(5) Under the following driving conditions, check every 10,000 km (6,000 miles) or 6 months, whichever comes first.

- **Driving in areas using salt or other corrosive materials**
- **Driving on muddy roads**
- **Driving in the desert**

(6) When driving in areas using salt or other corrosive materials, check every 5,000 km (3,000 miles) or 3 months, whichever comes first.

Check: Check, correct-replace if necessary.

The above charts show the normal maintenance schedule.
Depending upon weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage, additional or more frequent maintenance may be required.

★: Refer to the already-published Service Manual if not specified.

Replacing Timing Belt

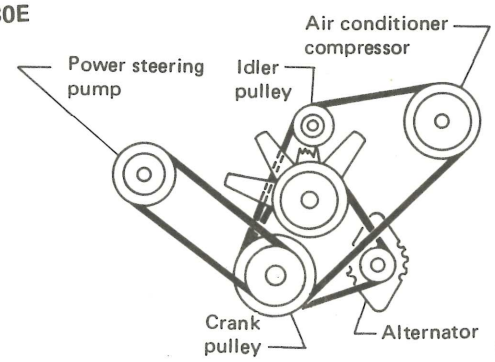
CAUTION:
After removing timing belt, do not rotate crankshaft and camshaft separately, because valves will hit piston heads.

1. Remove engine undercover and drain coolant from radiator.
2. Remove air intake duct, radiator upper hose and radiator upper shroud. Then remove radiator lower hose.

Be careful not to allow coolant to contact drive belts.

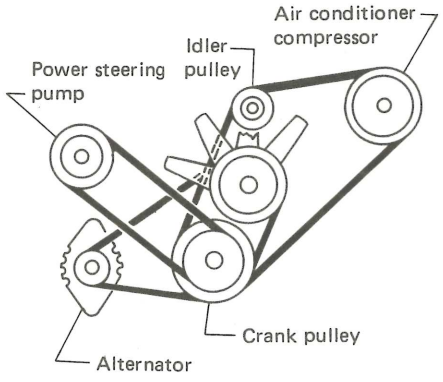
3. Remove the following belts.
   - Power steering drive belt
   - Compressor drive belt
   - Alternator drive belt

VG30E



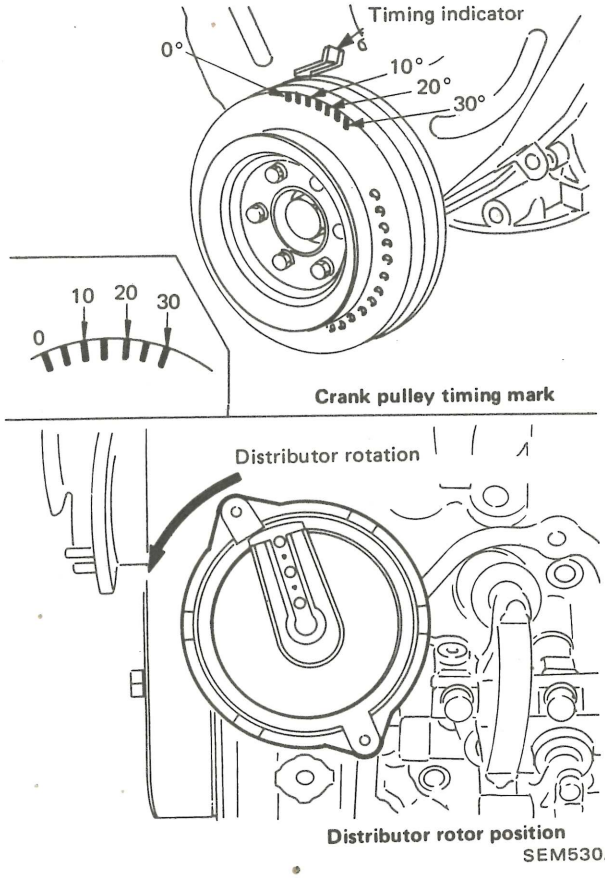
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VG30ET



SMA458B

4. Remove fan and fan pulley.
5. Remove the compressor from the compressor bracket and secure the compressor to the body with a suitable wire or rag.
6. Remove idler pulley bracket of the compressor drive belt.
7. Remove spark plugs.
8. Set No. 1 cylinder at T.D.C. on its compression stroke.

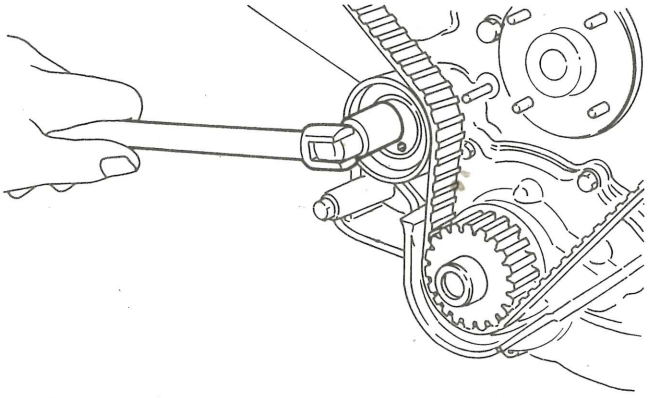


SEM530A

9. Remove crank pulley.
10. Remove front upper and lower belt covers.

Replacing Timing Belt (Cont'd)

11. Loosen timing belt tensioner and return spring then remove timing belt.

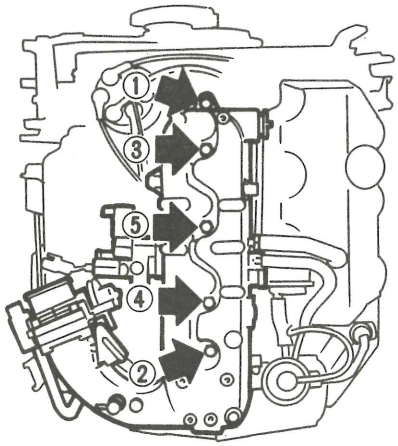


SEM240A

12. Check timing belt for any sign of wear or damage.

Refer to section EM.

13. Remove accelerator wire, hoses and harness connectors attached to the intake collector.
14. Remove collector cover and collector.



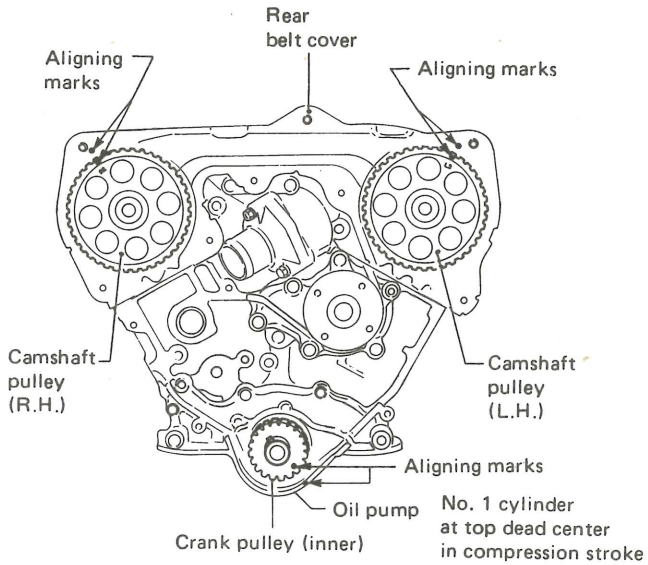
Loosen in numerical order and tighten in reverse order of removal.

SEM251A

15. Remove both rocker covers and loosen all rocker shaft securing bolts.

Loosen all rocker shaft securing bolts thoroughly so that timing belt tension can be adjusted correctly. Otherwise, proper belt tension cannot be obtained.

16. Confirm that No. 1 cylinder is set at T.D.C. on its compression stroke.

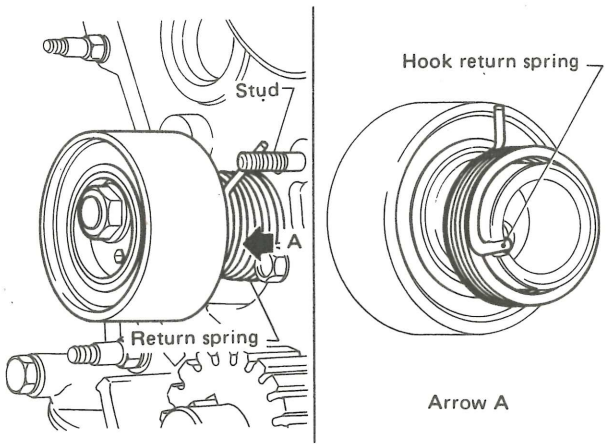


SEM241A

17. Install tensioner and return spring.

If the coarse stud is removed, apply locking sealer to threads of stud before installing.

18. Turn tensioner clockwise with hexagon wrench and temporarily tighten tension lock nut.

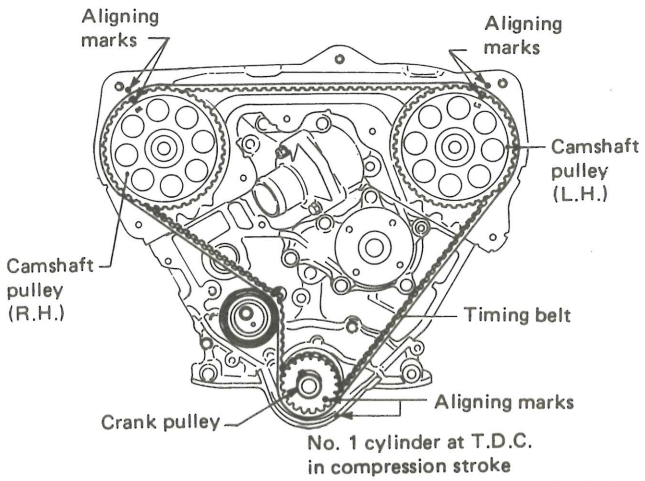


SEM243A

Replacing Timing Belt (Cont'd)

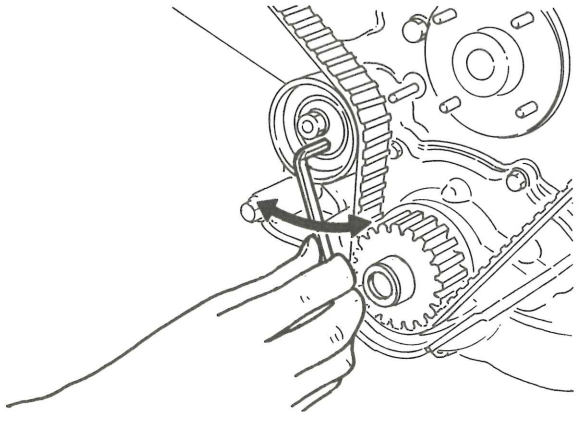
19. Set timing belt.

a. **Ensure that timing belt is clean and free of oil or water. Do not bend it.**
b. **Align white lines on timing belt with punch mark on camshaft pulleys and crankshaft pulley.**
c. **Have arrow on timing belt pointing toward front belt covers.**
d. **Ensure that all rocker shaft securing bolts are loosened and spark plugs are removed.**



SEM242A

20. Loosen tensioner lock nut.
21. Slowly turn tensioner with hexagon wrench clockwise and counterclockwise two or three times. The last turn of the wrench should be in the clockwise direction.



SEM244A

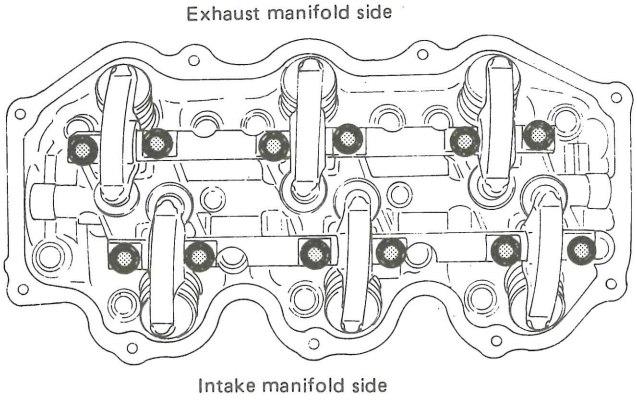
22. Tighten tensioner lock nut.

: 43 - 58 N·m (4.4 - 5.9 kg-m, 32 - 43 ft-lb)

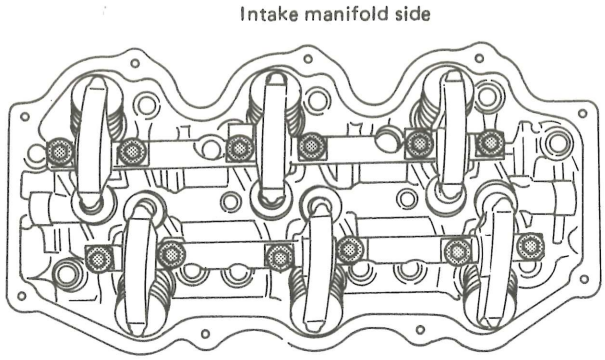
23. Tighten rocker shaft securing bolts in two or three stages.

18 - 22 N·m (1.8 - 2.2 kg-m, 13 - 16 ft-lb)

R.H. rocker shafts



L.H. rocker shafts

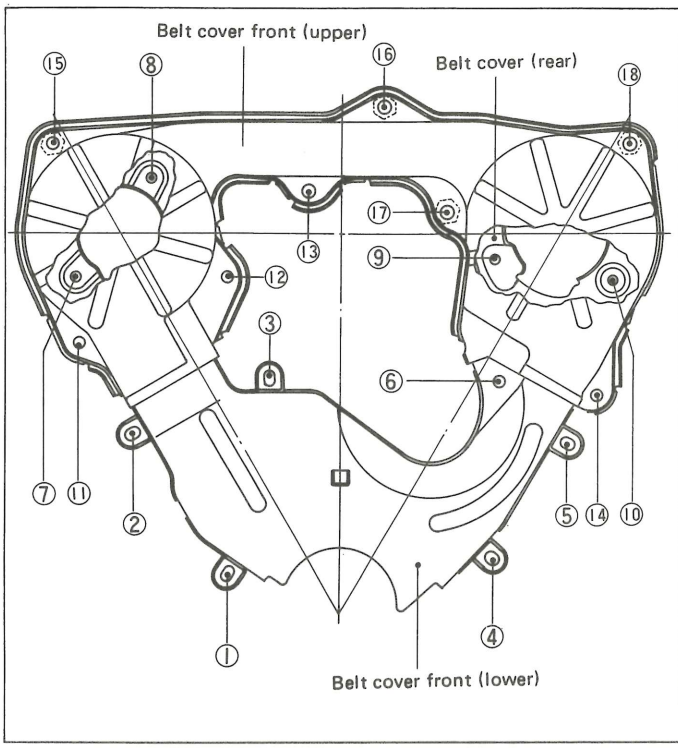


SEM245A

24. Install rocker covers.
25. Install intake collector and collector cover.
26. Connect accelerator wire, hoses and harness connectors attached to the intake collector.
27. Install lower and upper belt covers.

Before tightening, be sure to set camshaft lobe at the position where lobe is not lifted.

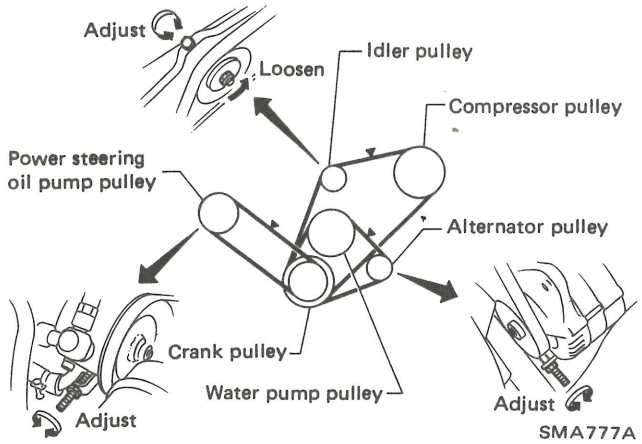
Replacing Timing Belt (Cont'd)



Tightened parts	Section	Parts tightened with bolts
Bolt A (6 pcs.), Rubber washer, Belt cover front (lower)	①, ②, ③, ④ ⑤, ⑭	①, ②, ③, ④: Cylinder block ⑤, ⑭: Compressor bracket Special bracket for VG20ET and those not equipped with A/C
Bolt B (1 pc.), Rubber wahser, Belt cover front (lower), Water pump mounting bolt	⑥	Water pump mounting bolt
Bolt C (4 pcs.), Belt cover (rear)	⑦, ⑧, ⑨, ⑩	Cylinder head
Bolt A (7 pcs.), Rubber washer, Belt cover front (upper), Belt cover front (lower), Welded nut (4 pcs.)	⑮, ⑯, ⑰, ⑱ ⑪, ⑫ ⑬	⑮, ⑯, ⑰, ⑱: Welded nuts ⑪, ⑫: Cylinder head ⑬: Water outlet

SEM248A

28. Install the following.
    - Crankshaft pulley
    - Idler pulley bracket of the compressor drive belt
    - Compressor
    - Fan pulley and fan
    - Drive belts
    - Spark plugs



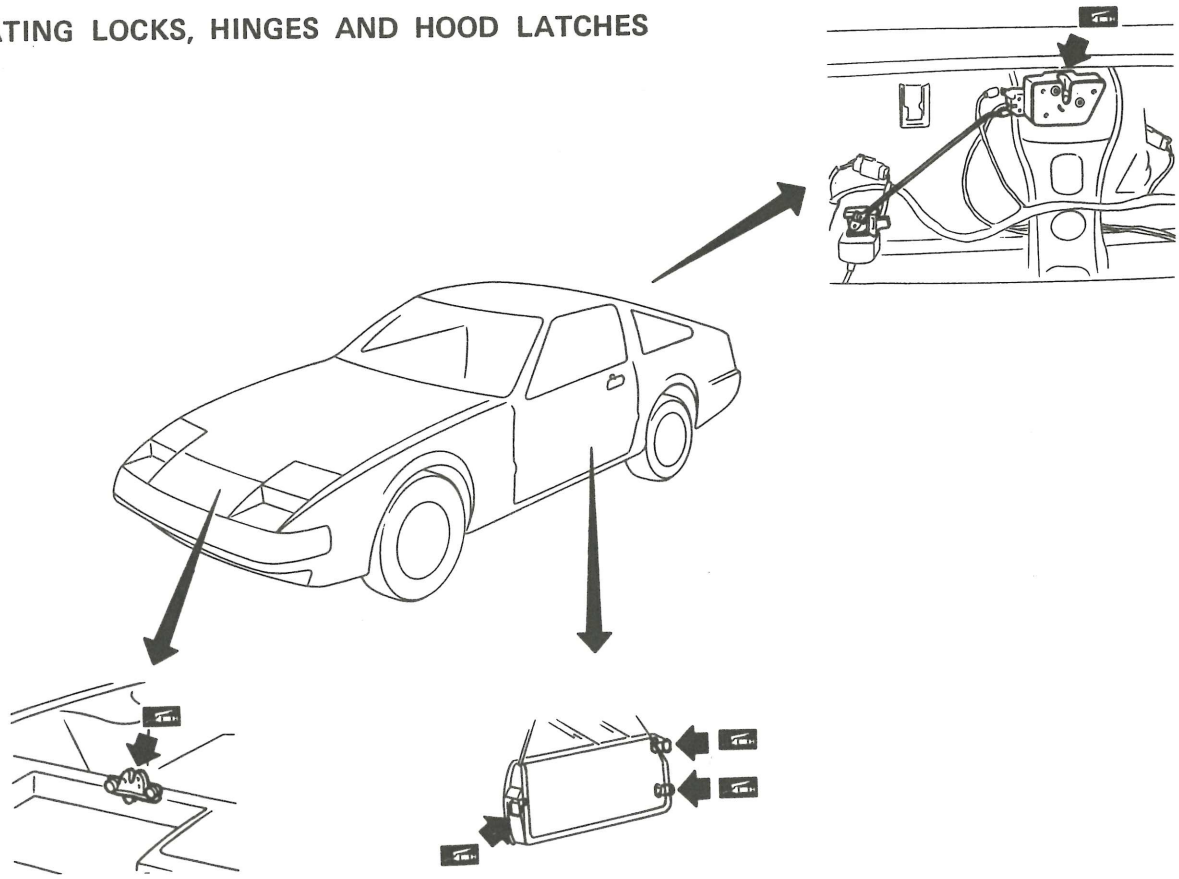
SMA777A

Unit: mm (in)

	Adjusted deflection of used belt	Set deflection of new belt
Alternator	6 - 8 (0.24 - 0.31)	5 - 7 (0.20 - 0.28)
Air conditioner compressor	9 - 11 (0.35 - 0.43)	7 - 9 (0.28 - 0.35)
Power steering oil pump	13 - 16 (0.51 - 0.63)	10 - 13 (0.39 - 0.51)
Applied pushing force	98 N (10 kg, 22 lb)	

29. Install radiator hoses, radiator upper shroud, air intake duct and engine undercover.
30. Refill radiator with engine coolant.
31. Fill reservoir tank up to "MAX" level. Then close radiator cap.
32. Run the engine at approximately 2,000 rpm for about one minute.
33. Check area around radiator hose and radiator drain plug for any sign of leakage.
34. Stop the engine and after it cools down, refill the radiator and engine with coolant up to the filler opening. Fill the reservoir tank with coolant up to "MAX" level.

LUBRICATING LOCKS, HINGES AND HOOD LATCHES



SMA707A

CHECKING SEAT BELTS, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTERS

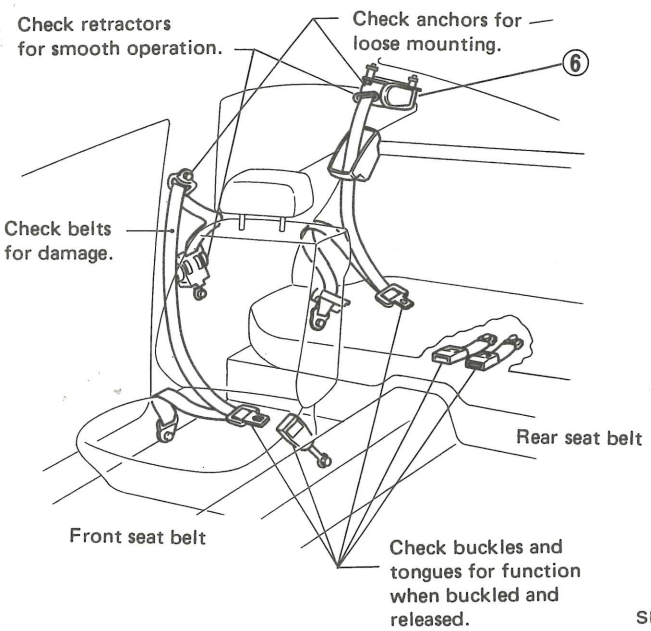
3-point type seat belt has been installed. For 2-point type seat belt, refer to former Service Manual.

CAUTION:

1. **If the vehicle is collided or overturned, replace the entire belt assembly, regardless of nature of accident.**
2. **If the condition of any component of a seat belt is questionable, do not have seat belt repaired, but replaced as a belt assembly.**
3. **If webbing is cut, frayed, or damaged, replace belt assembly.**
4. **Do not spill drinks, oil, etc. on inner lap belt buckle. Never oil tongue and buckle.**
5. **Use a NISSAN genuine seat belt assembly.**

⑥ **Install properly by observing installing directions in illustrations, otherwise belts may lock unnecessarily.**

Anchor bolt
24 - 31 N·m
(2.4 - 3.2 kg-m, 17 - 23 ft-lb)



SMA448B