MAINTENANCE

MA

CONTENTS

PRE-DELIVERY INSPECTION ITEMS

Shown below are Pre-delivery Inspection Items required for the new vehicle. It is recommended that necessary items other than those listed here be added, paying due regard to the conditions in each country.

UNDERHOOD -engine off

- Radiator coolant level and coolant hose connections for leaks
- Battery fluid level, specific gravity and conditions of battery terminals
- Drive belts tension
- Fuel filter for water or dusts, and fuel lines and connections for leaks
- Engine oil level and oil leaks
- Clutch and brake reservoir fluid level and fluid lines for leaks
- Windshield and rear window washer reservoir fluid level

ON INSIDE AND OUTSIDE

- Operation of all instruments, gauges, lights and accessories
- Operation of horn(s), wiper and washer
- Steering lock for operation
- Check air conditioner for gas leaks
- Front and rear seats and seat belts for operation
- All moldings, trims and fittings for fit and alignment
- All windows for operation and alignment
- Hood, door panels for fit and alignment
- Latches, keys and locks for operation
- Weatherstrips for installation and fit
- Headlight aiming
- Tighten wheel nuts
- Tire pressures
- Check front wheels for side slip
- Check position of free-running hubs

UNDERBODY

- Manual transmission, transfer and differential gear oil level
- Brake and fuel lines for leaks
- Tighten bolts and nuts of steering linkage and gear box
- Tighten suspension bolts and nuts

ROAD TEST

- Clutch operation
- Parking brake operation
- Service brake operation
- Steering control and returnability
- Engine performance
- Squeaks and rattles

ENGINE OPERATING AND HOT

- Engine idling
- Adjust idle mixture, speed and ignition timing (Gasoline engine)
- Power steering reservoir fluid level and hose connections for leaks
- Automatic transmission fluid level and hose connections for leaks

FINAL INSPECTION

- Install necessary parts (outside mirror, wheel covers, seat belts, mat or carpet)
- Inspect for interior and exterior metal and paint damage
- Check for spare tire, jack, tools and literature
- Wash, clean interior and exterior

MAINTENANCE SCHEDULE (Except for Australia)

The following tables list the periodic maintenance servicing required to ensure quality engine performance and good mechanical condition in NISSAN.

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			MAINTENANCE INTERVAL								
Periodic maintenance should be performed either at number of kilometer (miles) or months, whichever comes first	Number of kilometers in thousands		1	10	20	30	40	50	60	70	80
	(Number of miles in thousands)		(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)
	Number of months		–	6	12	18	24	30	36	42	48
UNDERHOOD MAINTENANCE											
Torque check cylinder head bolts, manifolds & exhaust tube nuts & carburetor attaching nuts			X								
Adjust intake & exhaust valve clearance			X		X		X		X		X
Check drive belts for cracks, fraying, wear & tension			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 hoses & connections					X		X		X		X
Check fuel lines (Hoses, piping, connections, etc.)							X				X
Clean & replace air cleaner filter (Dry paper type)	Clean	(1)		X	X	X		X	X	X	
	Replace	(1)					X				X
Replace air cleaner filter (Viscous paper type)		(1)					X				X
Check cyclone pre-air cleaner							X				X
GASOLINE ENGINE: Change engine oil (Use API SE oil)		(2)		X	X	X	X	X	X	X	X
GASOLINE ENGINE: Change engine oil filter		(2)		X	X	X	X	X	X	X	X
GASOLINE ENGINE: 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
GASOLINE ENGINE: Replace fuel filter							X				X
GASOLINE ENGINE: Check & replace distributor breaker point	Check			X		X		X		X	X
	Replace				X		X		X		X
GASOLINE ENGINE: Adjust ignition timing				X	X	X	X	X	X	X	X
GASOLINE ENGINE: Check & replace spark plugs	Check			X		X		X		X	
	Replace				X		X		X		X
GASOLINE ENGINE: Check ignition wiring							X				X
GASOLINE ENGINE: Check positive crankcase ventilation (P.C.V.) system (L28 engine)					X		X		X		X
DIESEL ENGINE*: Replace fuel filter							X				X
DIESEL ENGINE*: Change engine oil & oil filter (Use API CC or CD oil)		(3)	X	Change every 5,000 km (3,000 miles) or 3 months							
DIESEL ENGINE*: Check nozzles				X	X	X	X	X	X	X	X
DIESEL ENGINE*: Check injection timing & idle speed			X	X	X	X	X	X	X	X	X
DIESEL ENGINE*: Check feed pump					X		X		X		X
DIESEL ENGINE*: Drain fuel from governor chamber				X	X	X	X	X	X	X	X
DIESEL ENGINE*: Lubricate injection pump governor diaphragm			X	X	X	X	X	X	X	X	X
Check brake, clutch, automatic transmission & steering gear fluid or oil level & leaks				X	X	X	X	X	X	X	X
Change brake fluid					X		X		X		X
Check brake booster vacuum hoses, connections & check valve							X				X
Check air conditioning system hoses, connections & refrigerant leaks					X		X		X		X
Check power steering fluid & lines				X	X	X	X	X	X	X	X

*: For the maintenance of diesel engine, refer to Service Manual for SD series diesel engine.

MAINTENANCE SCHEDULE (Except for Australia)

MAINTENANCE OPERATION		MAINTENANCE INTERVAL								
Periodic maintenance should be performed either at number of kilometer (miles) or months, whichever comes first	Number of kilometers in thousands	1	10	20	30	40	50	60	70	80
	(Number of miles in thousands)	(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)
	Number of months	–	6	12	18	24	30	36	42	48
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 electric fuel pump filter						X				X
Check level & change oil in manual transmission, transfer & differential gear	Check		X	X	X		X	X	X	
	Change					X				X
Grease nipples of front suspension	(5)		X	X	X	X	X	X	X	X
Grease front axle joints & knuckle flange bearing			X	X	X	X	X	X	X	X
Check hydraulic steering damper				X		X		X		X
Check steering gear box & linkage, suspension parts, propeller shafts & front drive shafts for damaged, loose & missing parts	(4)	X	X	X	X	X	X	X	X	X
Retighten body mountings		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	(5)		X	X	X	X	X	X	X	X
Check brake drums, lining & other brake components for wear, deterioration & leaks	(6)			X		X		X		X
Repack front wheel bearing grease				X		X		X		X
Lubricate locks, hinges & hood latch	(5)		X	X	X	X	X	X	X	X
Check seat belts, buckles, retractors, anchors & adjuster				X		X		X		X
Check foot brake & clutch for free play & operation			X	X	X	X	X	X	X	X
Check parking brake for stroke & operation		X	X	X	X	X	X	X	X	X

NOTE:
(1) Under dusty driving conditions, more frequent maintenance should be necessary.
(2) Under the following severe driving conditions, change every 5,000 km (3,000 miles) or 3 months, whichever comes first.
- **Driving mainly short distances**
- **City driving**
- **Driving under dusty conditions**

(3) If engine power is decreased or black exhaust smoke is emitted, check and, if necessary, adjust the fuel injection nozzle's starting pressure and the fuel spray pattern.
(4) Under the following driving conditions, check every 5,000 km (3,000 miles) or 3 months, whichever comes first.
- **Driving in areas using salt or other corrosive materials**
- **Driving on muddy roads**
- **Driving in the desert**

(5) 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.
(6) When driving in areas using salt or other corrosive materials, check every 10,000 km (6,000 miles) or 6 months, whichever comes first.

Check: Check, correct and 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.

MAINTENANCE SCHEDULE (For Australia)

The following tables list the periodic maintenance servicing required to ensure quality engine performance and good mechanical condition in DATSUN.

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										
	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 (Gasoline engine)												
Adjust intake & exhaust valve clearance		X		X		X		X		X		X
Check & adjust drive belts for cracks, fraying, wear & tension	Check			X		X		X		X		X
	Adjust	X										
Change engine oil and replace engine oil filter	(2)		X	X	X	X	X	X	X	X	X	X
Change engine coolant (L.L.C.)						X				X		
Check engine cooling system hoses and connections				X		X		X		X		X
Check vacuum fitting hoses & connections				X		X		X		X		X
Check & adjust carburetor idle rpm & mixture ratio		X		X		X		X		X		X
Check choke mechanism (Choke plate & linkage)				X		X		X		X		X
Replace fuel filter	(1)					X				X		
Checking electric fuel pump filter (Optional for L28 engine)						X				X		
Check fuel lines (Hoses, piping, connections, etc.)						X				X		
Replace air cleaner filter (Viscous paper type)	(1)					X				X		
Replace distributor breaker point				X		X		X		X		X
Adjust ignition timing				X		X		X		X		X
Replace spark plugs				X		X		X		X		X
Check ignition wiring						X				X		
Replace P.C.V. valve (L28 engine)						X				X		
Check ventilation hoses						X				X		
Check vapor lines (Hoses, connections, etc.) & fuel vapor control valve (N.S.W. and VIC)						X				X		
UNDERHOOD MAINTENANCE (Diesel engine)												
Torque check cylinder head bolts, manifolds & exhaust tube nuts		X										
Adjust intake & exhaust valve clearance		X		X		X		X		X		X
Check drive belts for cracks, fraying, wear & tension		X		X		X		X		X		X
Change engine coolant (L.L.C.)						X				X		
Check cooling system hoses & connections				X		X		X		X		X
Check fuel lines (Hoses, piping, connections, etc.)						X				X		
Replace air cleaner filter (Viscous paper type)	(3)					X				X		
Replace fuel filter						X				X		
Check cyclone pre-air cleaner						X				X		
Change engine oil & filter (Use API CC or CD oil)	(4)	X	Change every 5,000 km (3,000 miles)									
Check nozzles						X				X		
Check idle speed		X	X	X	X	X	X	X	X	X	X	X
Check injection timing						X				X		
Drain fuel from governor chamber			X	X	X	X	X	X	X	X	X	X
Lubricate injection pump governor diaphragm		X	X	X	X	X	X	X	X	X	X	X
UNDERHOOD MAINTENANCE												
Check brake, clutch, automatic transmission & steering gear fluid or oil level & leaks			X	X	X	X	X	X	X	X	X	X
Change brake fluid				X		X		X		X		X
Check brake booster vacuum hoses, connections & check valve						X				X		
Check air conditioning system hoses, connections & refrigerant leaks				X		X		X		X		X
Check power steering fluid & lines				X		X		X		X		X

MAINTENANCE SCHEDULE (For Australia)

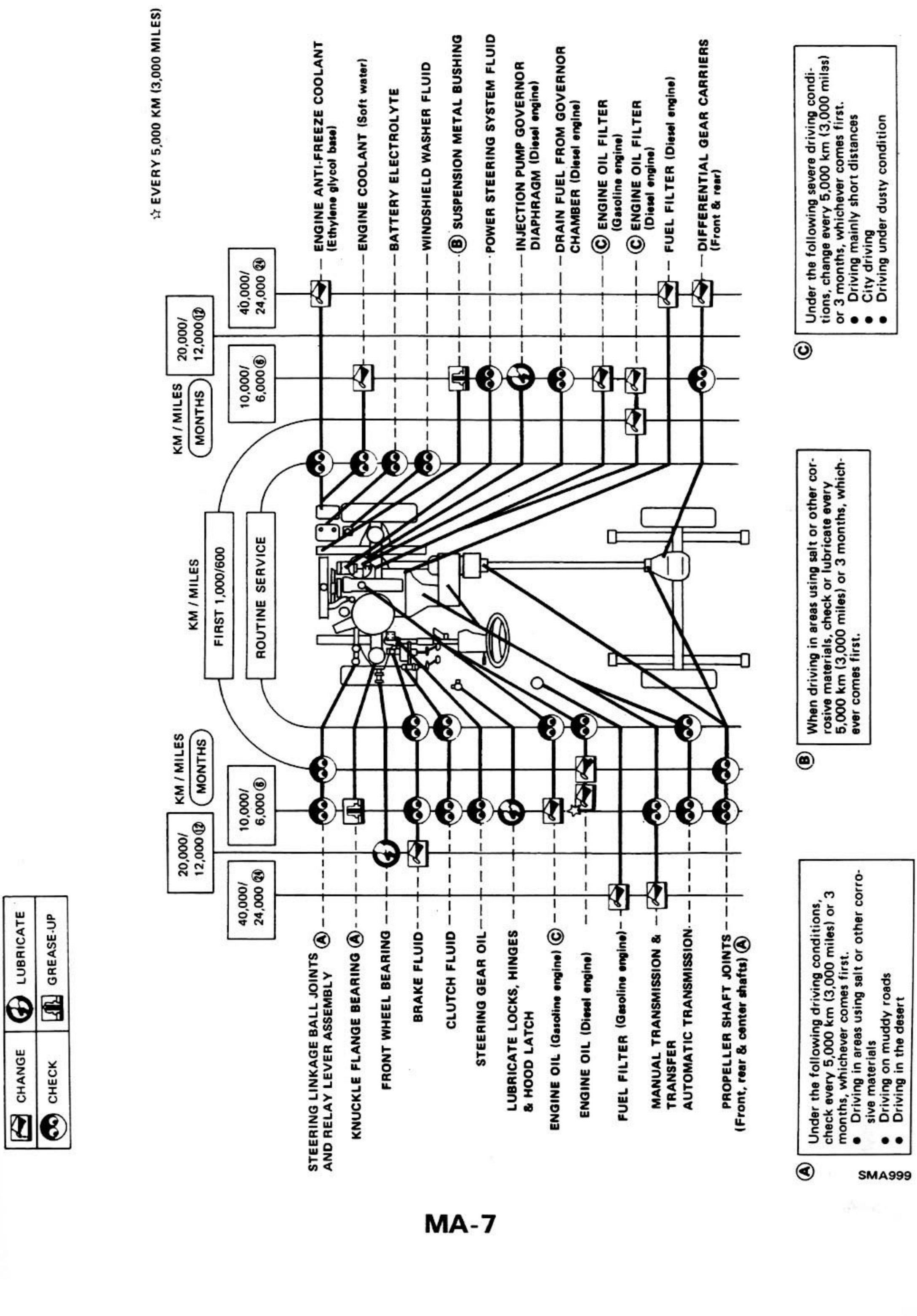
MAINTENANCE OPERATION		MAINTENANCE INTERVAL										
Periodic maintenance should be performed either at number of kilometers (miles) or months, whichever comes first	Number of kilometers in thousands	1	10	20	30	40	50	60	70	80	90	100
	(Number of miles in thousands)	(0.6)	(6)	(12)	(18)	(24)	(30)	(36)	(42)	(48)	(54)	(60)
	Number of months	–	6	12	18	24	30	36	42	48	54	60
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	X	X
Check level & change oil in manual transmission, transfer & differential gear	Check			X				X				X
	Change					X				X		
Grease nipples of front suspension & axle parts	Kingpin (5)		X	X	X	X	X	X	X	X	X	X
Grease front axle joints & knuckle flange bearing				X		X		X		X		X
Check hydraulic steering damper				X		X		X		X		X
Check steering gear box & linkage, suspension parts & propeller shaft, front drive shaft for damaged, loose & missing parts & lubrication	(4)	X	X	X	X	X	X	X	X	X	X	X
Retighten body mountings		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	(5)		X	X	X	X	X	X	X	X		X
Check brake drums, linings & other brake components for wear, deterioration & leaks	(6)			X		X		X		X		X
Repack front wheel bearing grease				X		X		X		X		X
Lubricate locks, hinges & hood latch	(5)			X		X		X		X		X
Check seat belts, buckles, retractors, anchors & adjuster				X		X		X		X		X
Check foot brake & clutch for free play & operation				X		X		X		X		X
Check parking brake for stroke & operation		X	X	X	X	X	X	X	X	X	X	X

NOTE:
(1) More frequent maintenance if under dusty driving conditions.
(2) If vehicle is operated under severe conditions:
Short distance driving, extensive idling or driving in dusty conditions, change engine oil every 5,000 km (3,000 miles) or 3 months, whichever comes first.
(3) Under dusty driving conditions, more frequent maintenance should be necessary.
(4) Under the following driving conditions, check every 5,000 km (3,000 miles) or 3 months, whichever comes first.
- **Driving in areas using salt or other corrosive materials**
- **Driving on muddy roads**
- **Driving in the desert**

(5) 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.
(6) When driving in areas using salt or other corrosive materials, check every 10,000 km (6,000 miles) or 6 months, whichever comes first.

Check: Check, correct-replace if necessary.

LUBRICATION CHART



Ⓒ Under the following severe driving conditions, change every 5,000 km (3,000 miles) or 3 months, whichever comes first.
- Driving mainly short distances
- City driving
- Driving under dusty condition

Ⓑ 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.

Ⓐ Under the following driving conditions, check every 5,000 km (3,000 miles) or 3 months, whichever comes first.
- Driving in areas using salt or other corrosive materials
- Driving on muddy roads
- Driving in the desert

CHANGE	LUBRICATE
CHECK	GREASE-UP

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RECOMMENDED FUEL AND LUBRICANTS

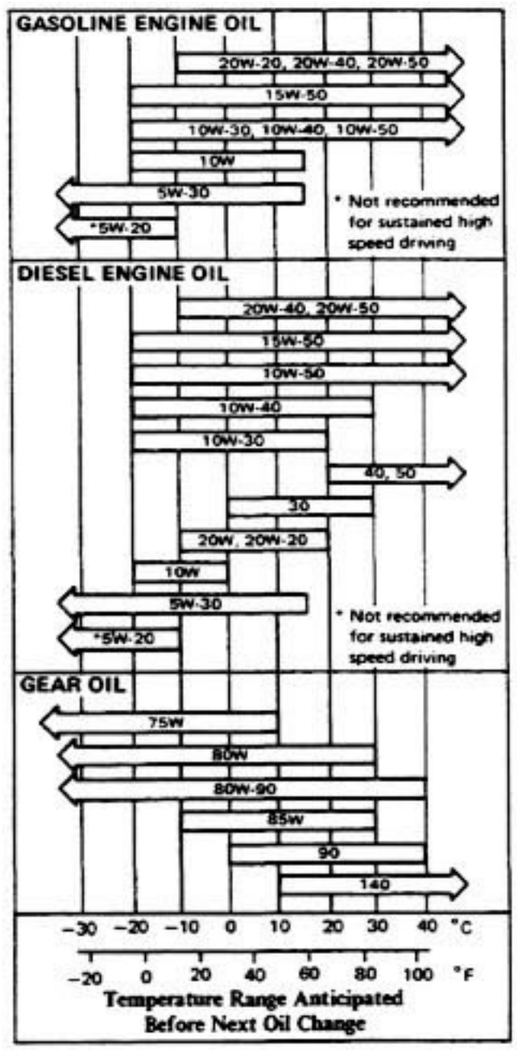
FUEL

Gasoline engine	Use a proper grade gasoline of above 88 octane number (RON).
Diesel engine	Use a diesel fuel of above 45 cetane

LUBRICANTS

Lubricant		Specifications	Remarks
Engine oil	Gasoline	API SE	Further details, refer to recommended SAE viscosity chart.
	Diesel	API CC or CD	
Gear oil	Manual transmission, transfer, manual steering gear and winch	API GL-4	
	Differential	API GL-5	–
	Limited slip differential	Gear Oil Hypoid L.S.D. (Service part number: KL430-14002-03)	–
Power steering and automatic transmission fluid		Type DEXRON	–
Multi-purpose grease		NLGI No. 2	Lithium soap base
Brake and clutch fluid		DOT 3	US FMVSS No. 116
Anti-freeze (L.L.C.)		–	Ethylene glycol base

SAE VISCOSITY NUMBER



APPROXIMATE REFILL CAPACITIES

			Liter	Imp measure
Fuel tank			82, 70 *1	18 gal, 15-3/8 gal *1
Coolant	With heater	L28	10.8	9-1/2 qt
		P40	14.8, 16.2 *1	13 qt, 14-1/4 qt *1
		SD33	12.9	11-3/8 qt
	Without heater	L28	9.9	8-3/4 qt
		P40	13.9, 15.3 *1	12-1/4 qt, 13-1/2 qt *1
		SD33	12.0	10-5/8 qt
Engine	With oil filter change	L28	4.4	3-7/8 qt
		P40	5.7, 6.5 *2	5 qt, 5-3/4 qt *2
		SD33	9.0	7-7/8 qt
	Without oil filter change	L28	3.9	3-3/8 qt
		P40	5.1, 5.9 *2	4-1/2 qt, 5-1/4 qt *2
		SD33	7.5	6-5/8 qt
Manual transmission		F4W81A	2.7	4-3/4 pt
Automatic transmission		3N71B	5.5	4-7/8 qt
Transfer		T130A	1.8	3-1/8 pt
		T100L	1.4	2-1/2 pt
Differential carrier		C200	FR 1.5, RR 1.3	FR 2-5/8 pt, RR 2-1/4 pt
		H233B	2.0	3-1/2 pt
Steering gear		VRB70	0.4	3/4 pt
		IPS56L *3	1.1	2 pt
Air conditioning system	Compressor oil		270 mℓ	9.5 fl oz
	Refrigerant		0.8 - 1.0 kg	1.8 - 2.2 lb
Winch *4			0.4	3/4 pt

*1 Model 61 series only *2 With oil cooler unit (For Middle East area only) *3 With oil pump and hoses
*4 Except for Europe & Australia

ENGINE MAINTENANCE —Gasoline Engine—

BASIC MECHANICAL SYSTEM

RETIGHTENING CYLINDER HEAD BOLTS, MANIFOLD AND EXHAUST TUBE NUTS

Cylinder head bolt

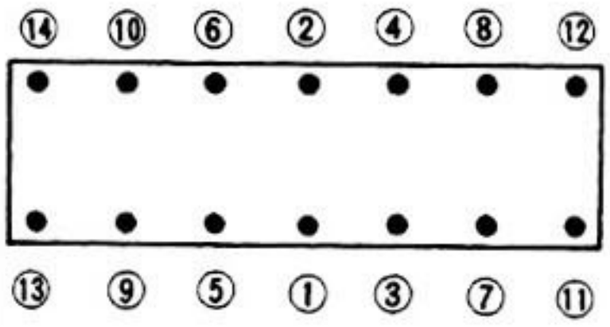
1. Start engine and warm up engine until water temperature indicator points to the middle of gauge, then stop engine.
2. Remove valve rocker cover.
3. Retighten cylinder head bolts according to the order shown in figure.

L28 engine

Ⓣ : **69 - 83 N·m (7.0 - 8.5 kg-m, 51 - 61 ft-lb)**

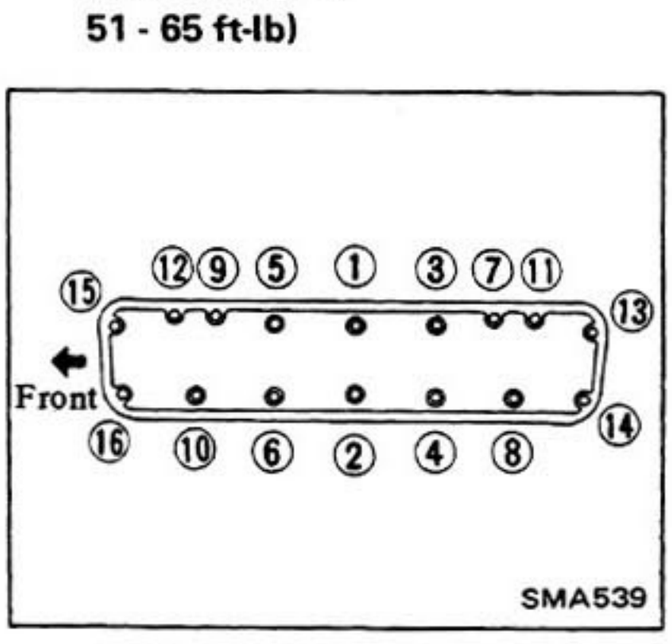
- **Tighten by using Tool ST10120000.**

Tightening sequence



P40 engine

Ⓣ : **69 - 88 N·m (7.0 - 9.0 kg-m, 51 - 65 ft-lb)**



4. Install valve rocker cover.

Manifold, exhaust tube, carburetor and P.C.V. valve attaching nuts

WARNING:
You should not check the exhaust system until it has been cooled off. Otherwise, you may burn yourself.

Tightening torque

L28 engine

Unit		N·m	kg-m	ft-lb
Manifold	Bolt	15 - 25	1.5 - 2.5	11 - 18
	Nut	12 - 16	1.2 - 1.6	9 - 12
Front exhaust tube		26 - 36	2.7 - 3.7	20 - 27
Carburetor		12 - 18	1.2 - 1.8	9 - 13
P.C.V. Valve		15 - 20	1.5 - 2.0	11 - 14

P40 engine

Unit	N·m	kg-m	ft-lb
Manifold	25 - 34	2.5 - 3.5	18 - 25
Front exhaust tube	26 - 36	2.7 - 3.7	20 - 27
Carburetor	14 - 18	1.4 - 1.8	10 - 13

ADJUSTING INTAKE AND EXHAUST VALVE CLEARANCE

Adjustment should be made while engine is hot.

1. Start engine and warm up engine until water temperature indicator points to the middle of gauge, then stop engine.

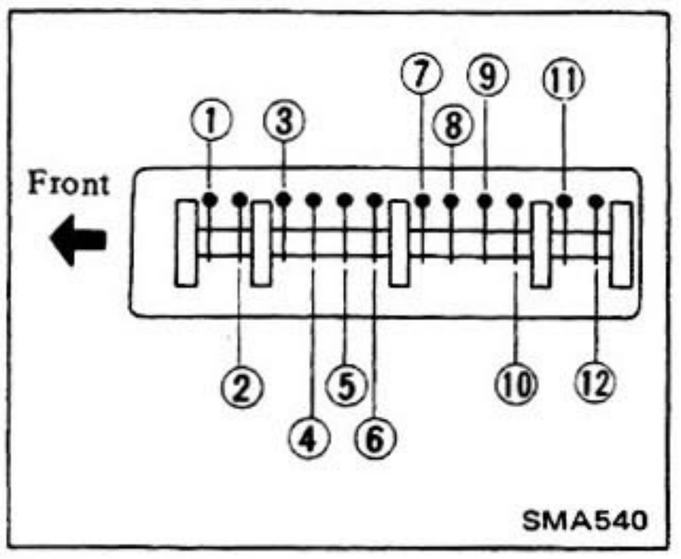
Adjustment cannot be made while engine is in operation.

2. Remove valve rocker cover.
3. Adjust valve clearance as follows:

L28 engine

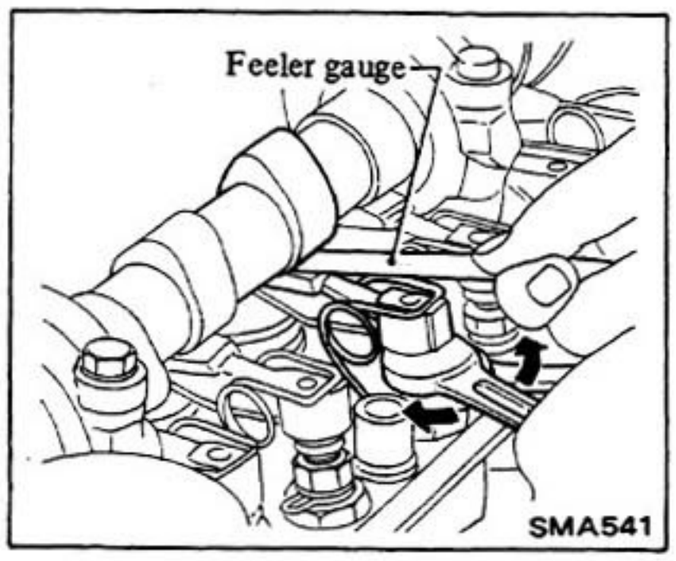
(1) Set so that high point of No. 1 cam lobe points above.
(2) Check valve clearances of ①, ③, ⑦, ⑧, ⑨ and ⑪.

Valve clearance (Hot)
Intake . . . ③ ⑧ ⑪ : **0.25 mm (0.010 in)**
Exhaust. . ① ⑦ ⑨ : **0.30 mm (0.012 in)**

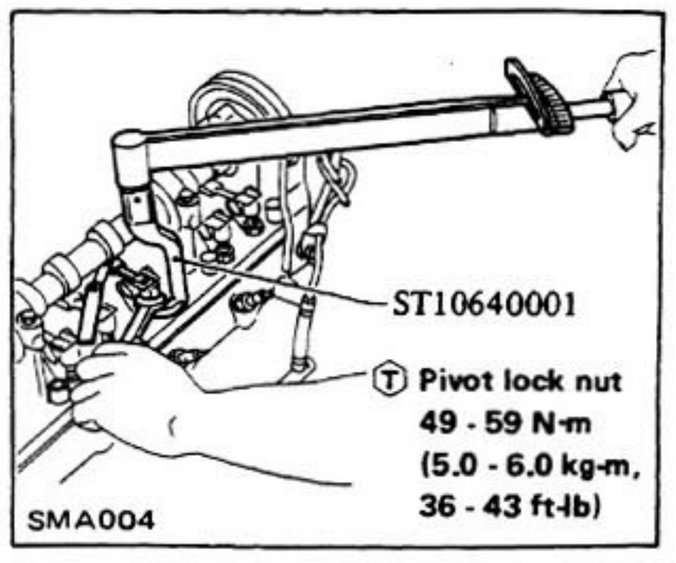


(3) If the clearance is not specified value, loosen pivot lock nut and turn valve rocker pivot to provide proper clearance.

Feeler gauge should move with a very slight drag.

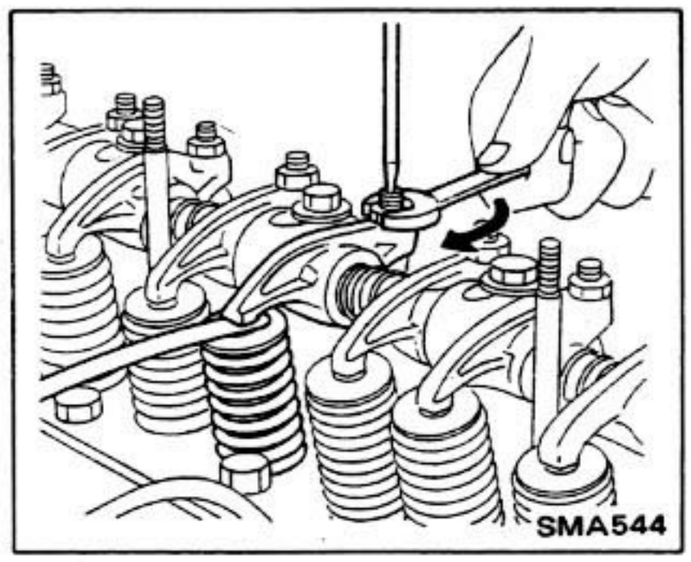


(4) Hold valve rocker pivot and tighten pivot lock nut **using Tool.**



(5) Turn crankshaft and set so that high point of No. 1 cam lobe points down.
(6) Check and adjust valve clearances of ②, ④, ⑤, ⑥, ⑩ and ⑫, following same procedure as for steps (2), (3) and (4).

Valve clearance (Hot)
Intake . . . ② ⑤ ⑩ : 0.25 mm (0.010 in)
Exhaust. . ④ ⑥ ⑫ : 0.30 mm (0.012 in)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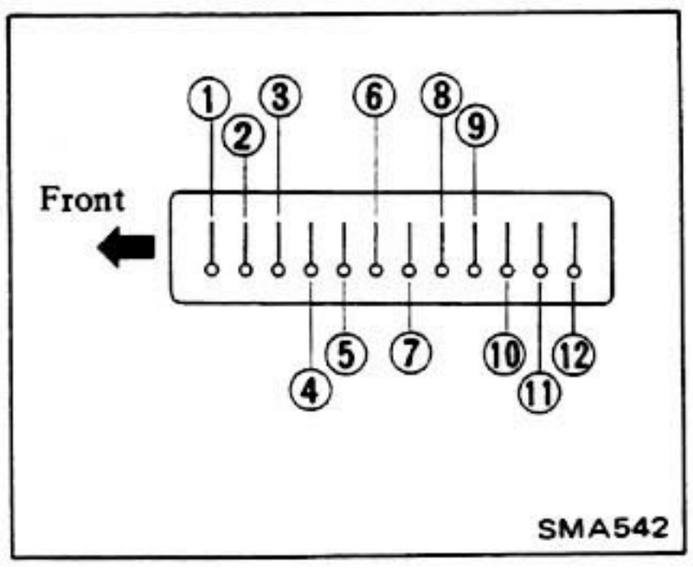
P40 engine

(1) Set No. 1 cylinder in top dead center on its compression stroke.
(2) Check valve clearances of ①, ②, ③, ⑥, ⑧ and ⑨.

Valve clearance (Hot):
0.38 mm (0.015 in)



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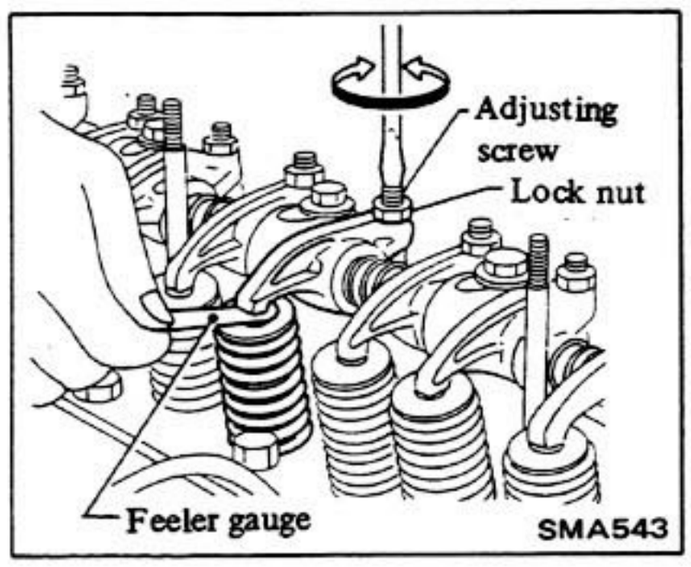
(3) If the clearance is not specified value, loosen valve rocker adjusting screw lock nut and turn adjusting screw to provide proper clearance.

Feeler gauge should move with a very slight drag.



SMA543

(4) Lock adjusting screw and tighten lock nut.

(5) Turn crankshaft and set No. 6 cylinder in top dead center on its compression stroke.
(6) Check and adjust valve clearances of ④, ⑤, ⑦, ⑩, ⑪, and ⑫, following same procedure as for steps (2), (3) and (4).
4. Install valve rocker cover.

CHECKING AND ADJUSTING DRIVE BELTS

1. Visually inspect for cracks or damage.

The belts should not touch the bottom of the pulley groove.

2. Check belt tension by pushing.

The belts should deflect by the specified amount.

Drive belt deflection:
8 - 12 mm
(0.31 - 0.47 in)
Pushing force:
98 N (10 kg, 22 lb)

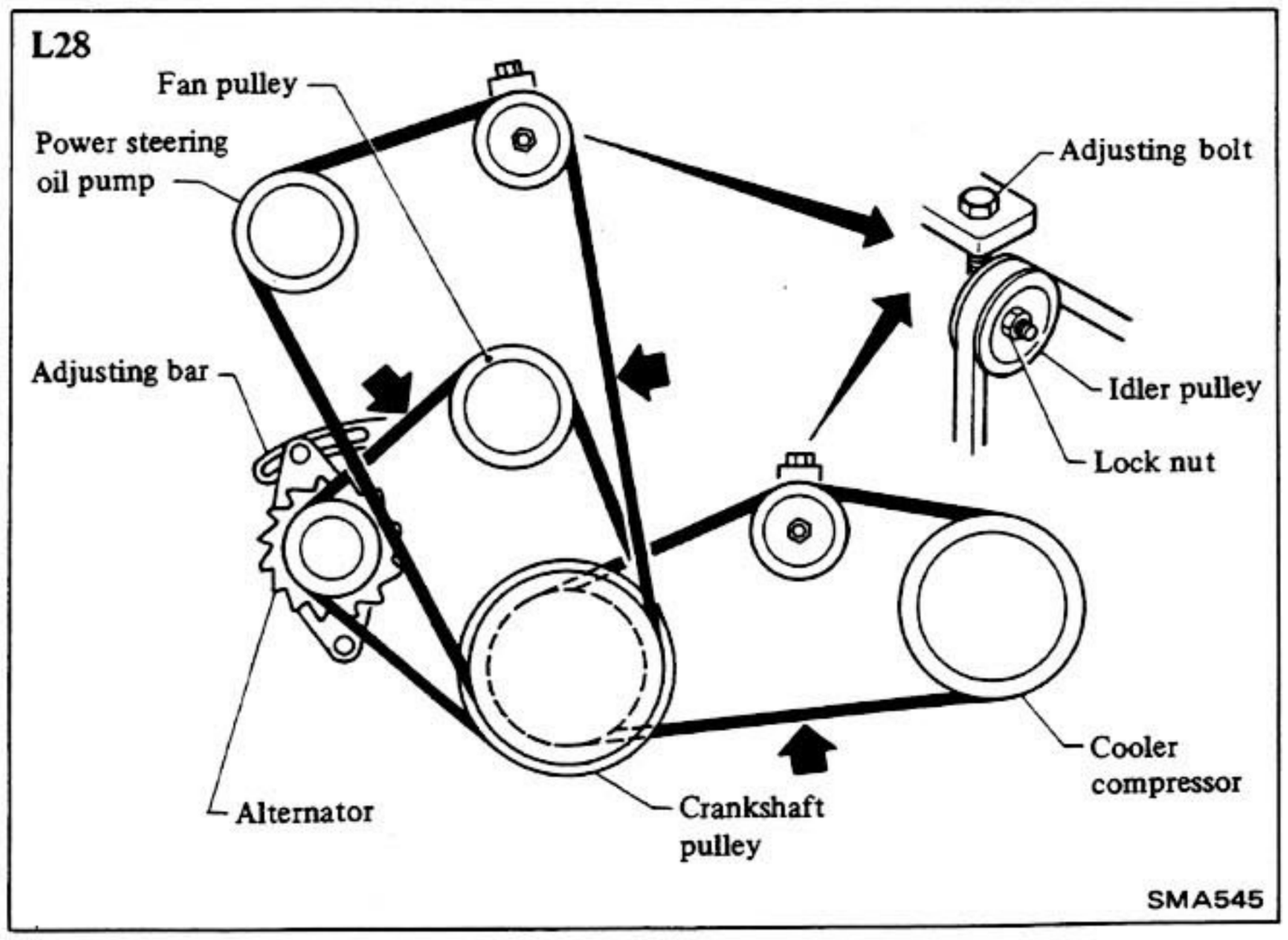
3. Adjust belt tension as follows:

Fan and alternator belt

1. Loosen the upper and lower alternator securing bolts until the alternator can be moved slightly.
2. Move the alternator with a prying bar until the belt tension is within the specified amount. Then tighten the bolts securely.

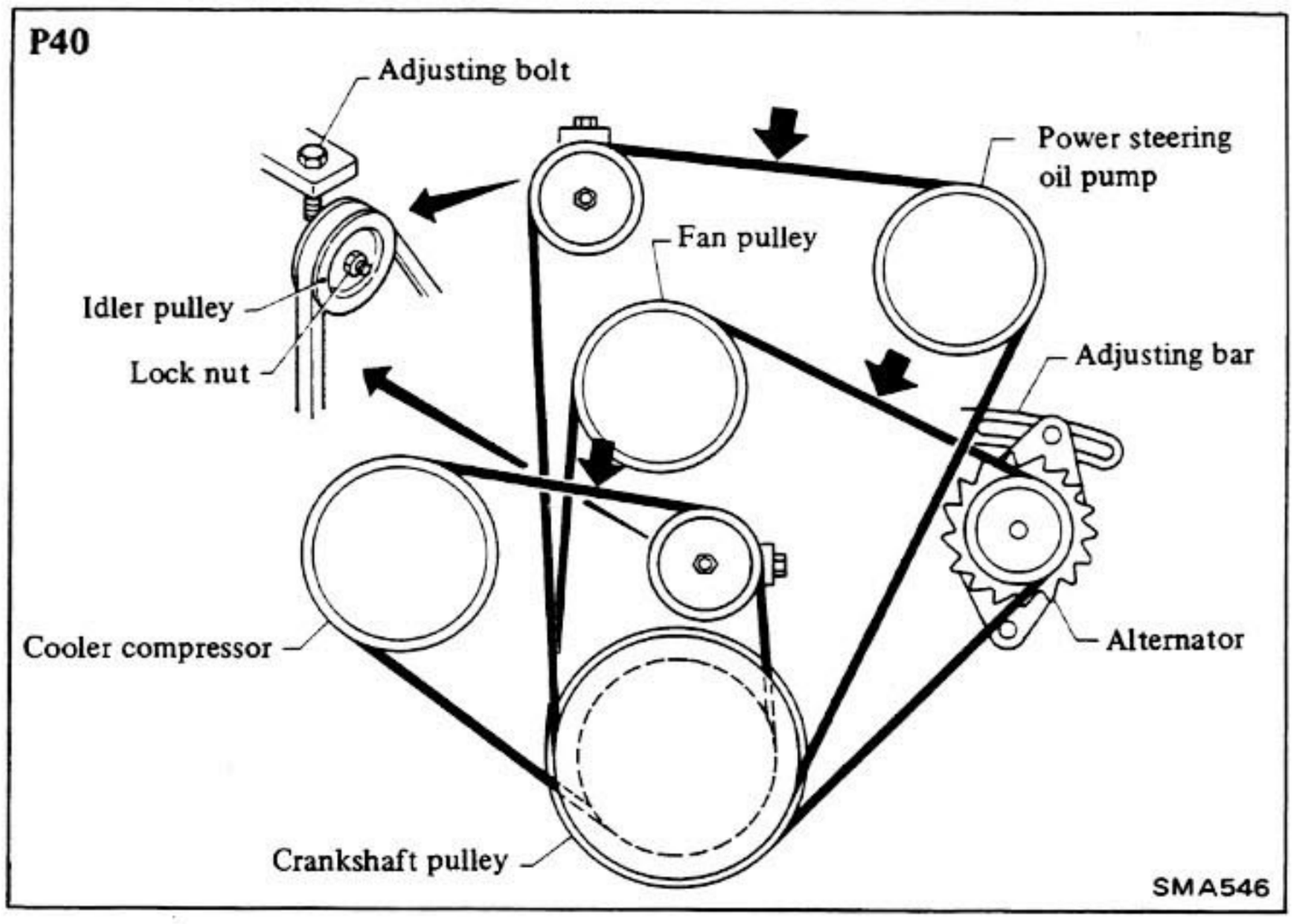
Air conditioner compressor and power steering oil pump belts

1. Loosen the idler pulley lock nut.
2. Adjust the adjusting bolt until the belt tension is within the specified amount.
3. Tighten the idler pulley lock nut securely.



SMA545

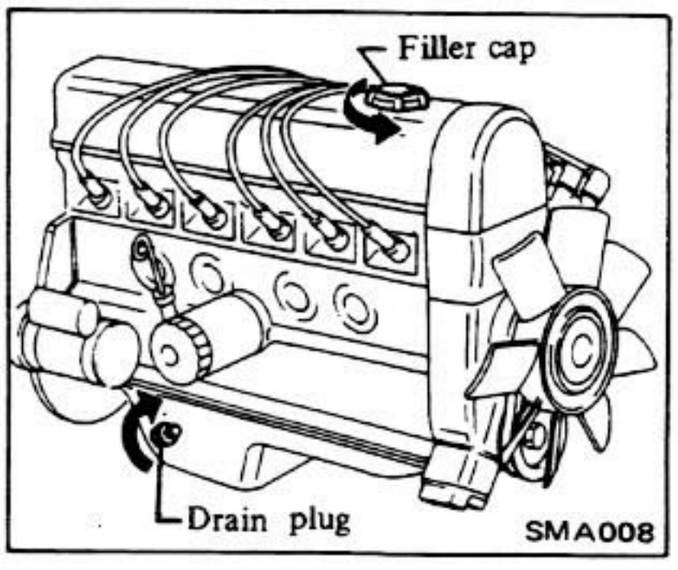
(4) Lock adjusting screw and tighten lock nut.



CHANGING ENGINE OIL AND OIL FILTER

1. Start engine and warm up engine until water temperature indicator points to the middle of gauge, then stop engine.
2. Remove oil filler cap and oil pan drain plug, and allow oil to drain.

WARNING:
Be careful not to burn yourself, as the engine oil may be hot.

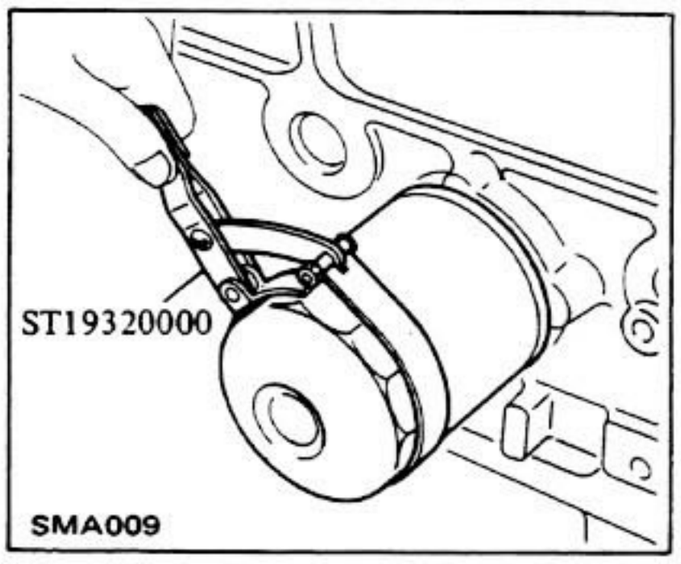


- **A milky oil indicates the presence of cooling water. Isolate the cause and take corrective measure.**
- **An oil with extremely low viscosity indicates dilution with gasoline.**

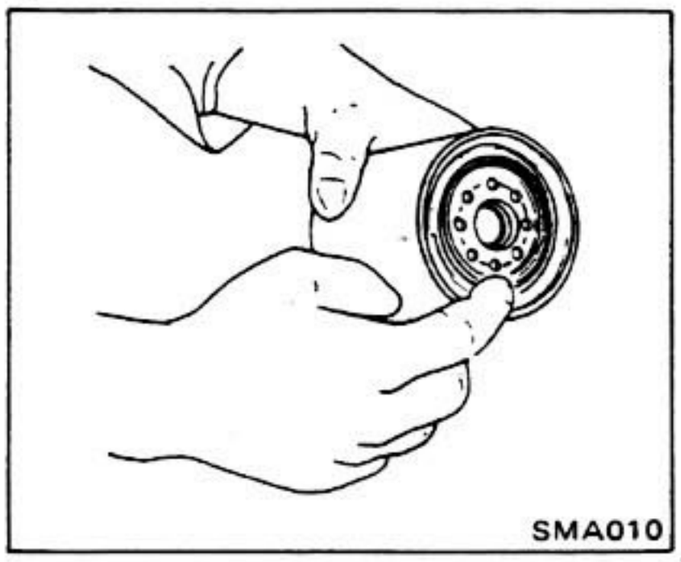
3. Clean and install oil pan drain plug with washer.

Ⓣ : Oil pan drain plug
L28 engine
20 - 29 N·m
(2.0 - 3.0 kg-m, 14 - 22 ft-lb)
P40 engine
20 - 39 N·m
(2.0 - 4.0 kg-m, 14 - 29 ft-lb)

4. Using **Tool**, remove oil filter.



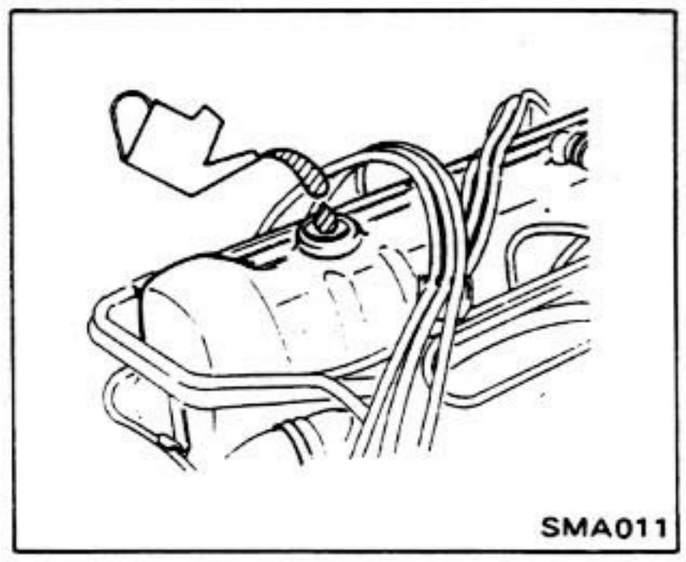
5. Wipe oil filter mounting surface with a clean rag.
6. Smear a little engine oil on rubber gasket of new oil filter.



7. Install new oil filter. **Hand-tighten ONLY. DO NOT use a wrench to tighten the filter.**
8. Refill engine with new engine oil, referring to RECOMMENDED LUBRICANTS.

Check oil level with dipstick.

Oil capacity:
L28 engine
With oil filter
4.4ℓ (3-7/8 Imp qt)
Without oil filter
3.9ℓ (3-3/8 Imp qt)
P40 engine
With oil filter
5.7ℓ (5 Imp qt)
With oil cooler unit
6.5ℓ (5-3/4 Imp qt)
Without oil filter
5.1ℓ (4-1/2 Imp qt)

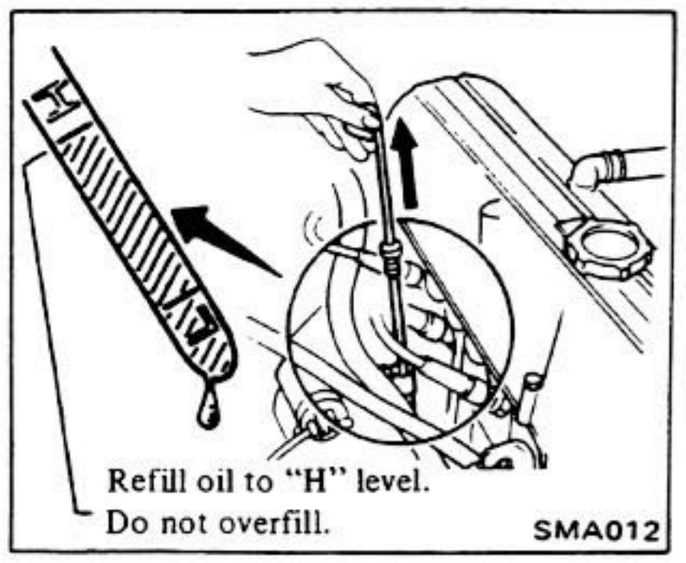


9. Start engine. Check area around drain plug and oil filter for any sign of oil leakage.

If any leakage is evident, these parts have not been properly installed.

10. Run engine until water temperature indicator points to the middle of gauge. Then stop engine and wait several minutes. Check oil level with dipstick. If necessary, add engine oil.

When checking oil level, park the vehicle on a level surface.

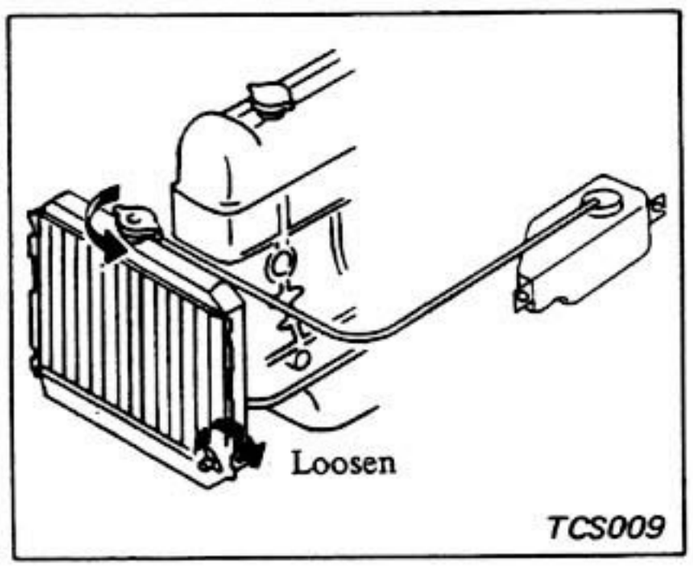


CHANGING ENGINE COOLANT

WARNING:
To avoid the danger of being scalded, never attempt to change the coolant when the engine is hot.

When changing engine coolant, on heater equipped models set heater "TEMP" control lever at fully "HOT" position.

1. Open drain cock at bottom of radiator, and remove radiator cap.

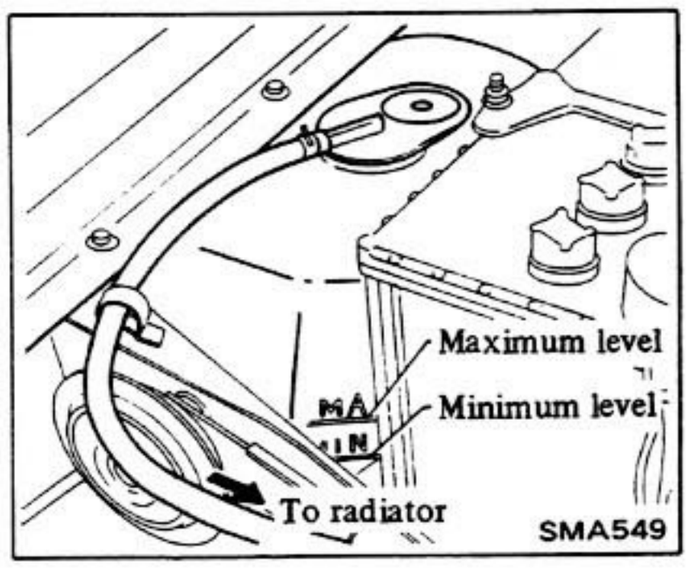


2. Remove cylinder block drain plug located at side of cylinder block.
3. Drain coolant completely. Then flush cooling system.
4. Close drain cock and plug.
5. Fill radiator with coolant up to filter opening. When using anti-freeze coolant, mix the anti-freeze coolant with water, observing instructions attached to anti-freeze continer.

Cooling water capacity:
With heater
P40
14.8 ℓ (13 Imp qt),
16.2 ℓ (14-1/4 Imp qt)*
L28
10.8 ℓ (9-1/2 Imp qt)
Without heater
P40
13.9 ℓ (12-1/4 Imp qt),
15.3 ℓ (13-1/2 Imp qt)*
L28
9.9 ℓ (8-3/4 Imp qt)

***Canvas Top model**

6. Run engine for a few minutes. Then stop engine, and check coolant level. If necessary, add coolant.
7. Fill reservoir tank with coolant up to "MAX" level.



8. Check drain cock and plug for any sign of leakage.

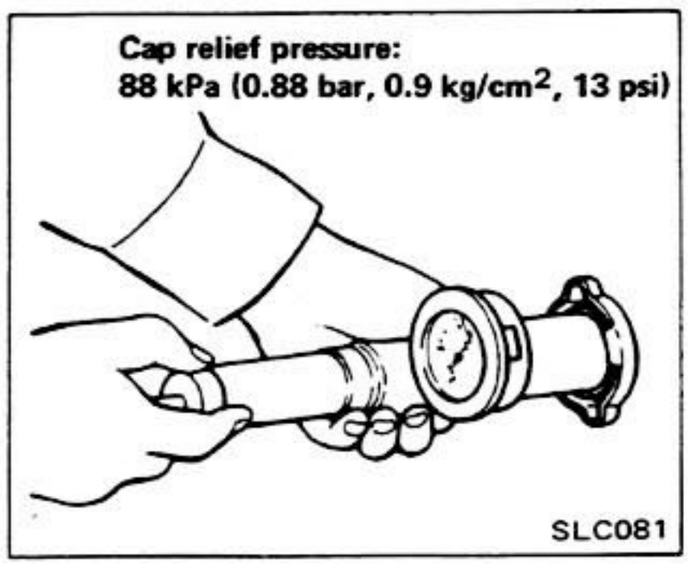
CHECKING COOLING SYSTEM, HOSES AND CONNECTIONS

Check hoses and fittings for loose connections or deterioration. Retighten or replace if necessary.

Checking radiator cap

Using cap tester, check the radiator cap relief pressure.

If the pressure gauge drops rapidly and excessively, replace the radiator cap.



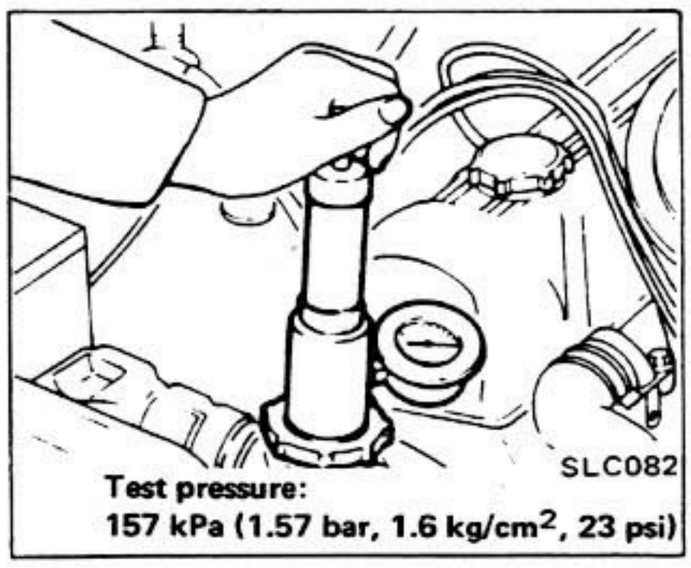
Checking cooling system for leaks

Attach pressure tester and pump tester to the specified pressure.

Check for drop in pressure.

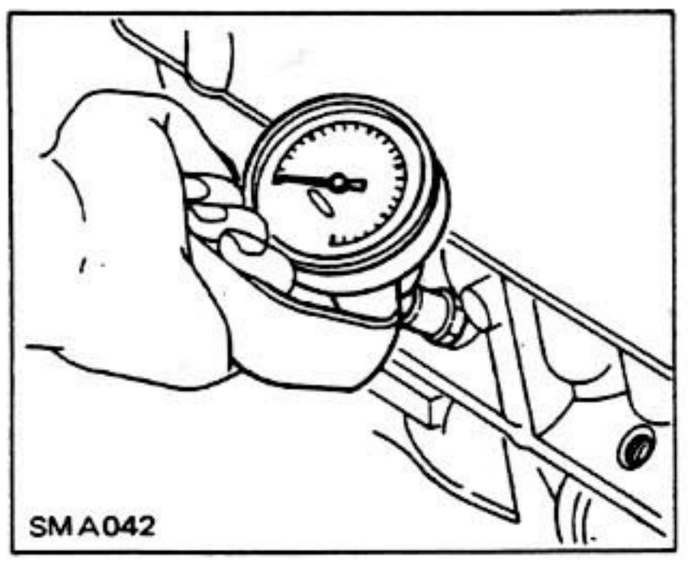
If the pressure drops, check for leaks from hoses, radiator, or water pump.

If no external leaks are found, check heater core, block and head.



CHECKING ENGINE COMPRESSION PRESSURE

1. Warm up engine until water temperature indicator points to the middle of gauge, then stop engine.
2. Disconnect all spark plugs.
3. Properly attach a compression tester to spark plug hole in cylinder being tested.



4. Fully open choke valve.
5. Depress accelerator pedal to open throttle valve.

Do not "pump" pedal.

6. Crank engine and read gauge indication.

- Engine compression measurement should be made as quickly as possible.

Compression pressure:

Unit: kPa (bar, kg/cm^2, psi)/at rpm

	Standard	Minimum
L28 engine	1,177 (11.77, 12.0, 171)/350	883 (8.83, 9.0, 128)/350
P40 engine	1,128 (11.28, 11.5 164)/250	1,030 (10.30, 10.5, 149)/250

7. If cylinder compression in one or more cylinders is low, pour a small quantity of engine oil into cylinders through the spark plug holes and retest compression.

- **If adding oil helps the compression pressure**, chances are that piston rings are worn or damaged.
- **If pressure stays low**, valve may be sticking or seating improperly.
- **If cylinder compression in any two adjacent cylinders is low, and if adding oil does not help the compression**, there is leakage past the gasketed surface.
  Oil and water in combustion chambers can result from this problem.

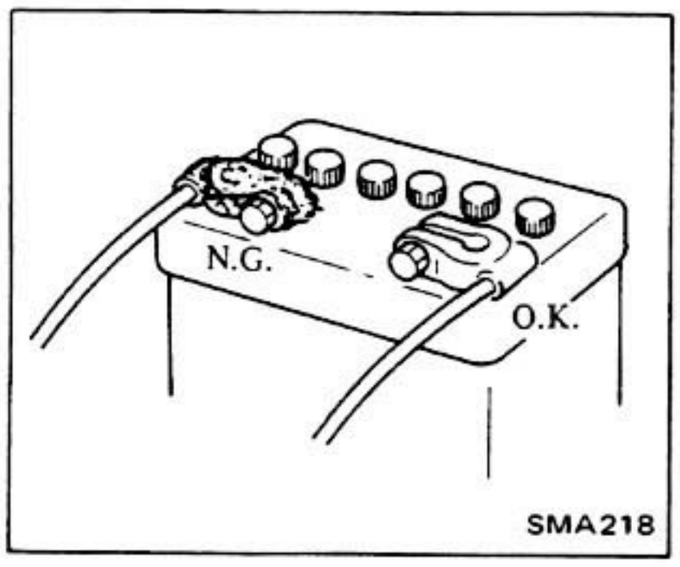
IGNITION AND FUEL SYSTEMS

CHECKING BATTERY

WARNING:
Do not expose the battery to flames or electrical sparks. Hydrogen gas generated by battery action is explosive. Do not allow battery fluid to come in contact with skin, eyes, fabrics, or painted surfaces. If the acid contacts the eyes, skin or clothing, immediately flush with water for 15 minutes and seek medical attention. In freezing weather, run the engine for a while after adding distilled water, to make sure that the water mixes properly with the fluid. Otherwise the water may freeze and damage the battery.

Visual check

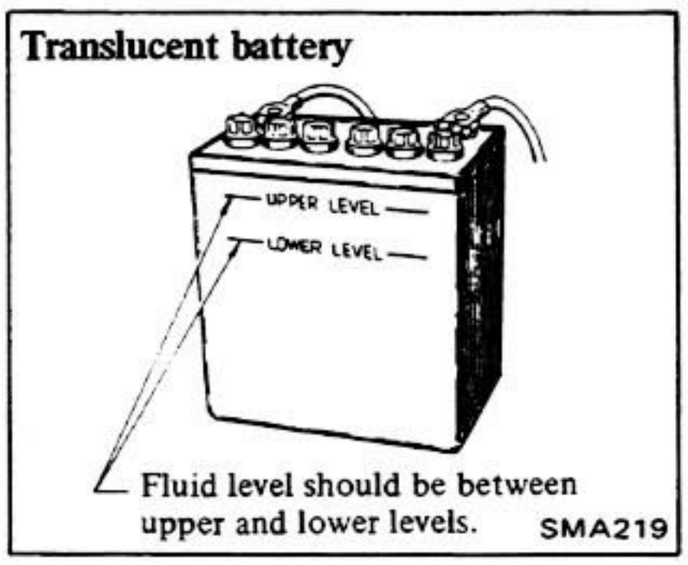
1. Rusted battery support.
2. Loose terminal connections.
3. Rusted or deteriorated terminals.
4. Damaged or leaking battery.



SMA218

Checking electrolyte level

Check the fluid level in each filler. If necessary, add only distilled water. Do not overfill.

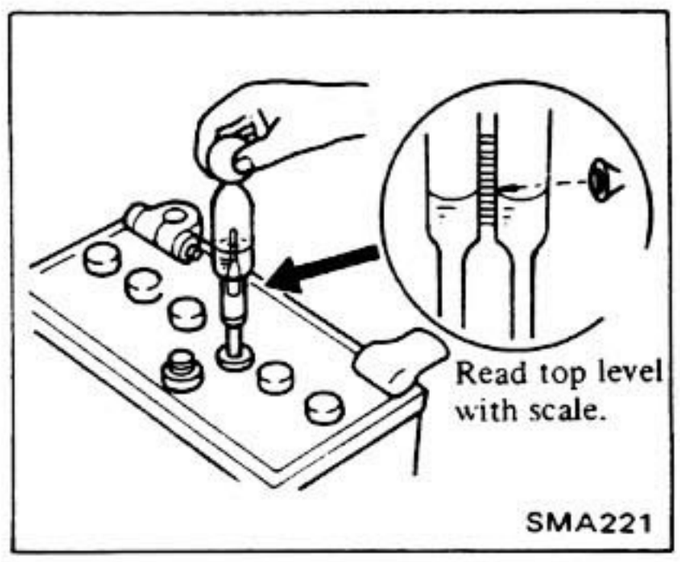


Fluid level should be between upper and lower levels. SMA219

Checking electrolyte gravity

1. Place the hydrometer in the cell. Be sure the float is not in contact with the cylinder wall.
2. Take in enough electrolyte into the hydrometer to allow the float to suspend freely between the top and bottom of the cylinder.
3. Read indication.

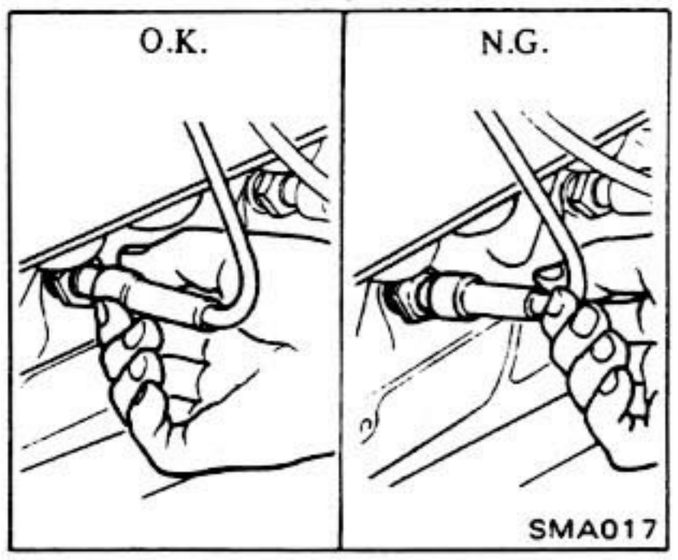
	Permissible valve	Fully charged value [at 20°C (68°F)]
Other climates	Over 1.20	1.26
Frigid climate	Over 1.22	1.28
Tropical climate	Over 1.18	1.24



SMA221

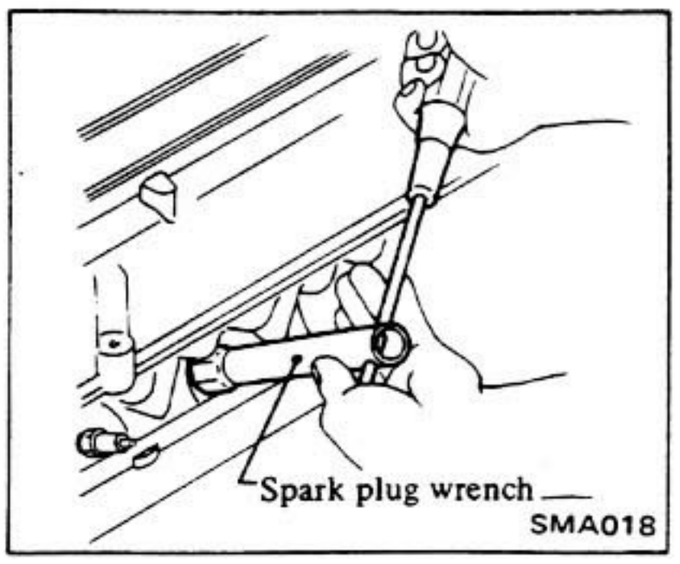
CHECKING AND REPLACING SPARK PLUGS

1. Disconnect spark plug wire at boot. Do not pull on the wires.



SMA017

2. Remove spark plugs with spark plug wrench.



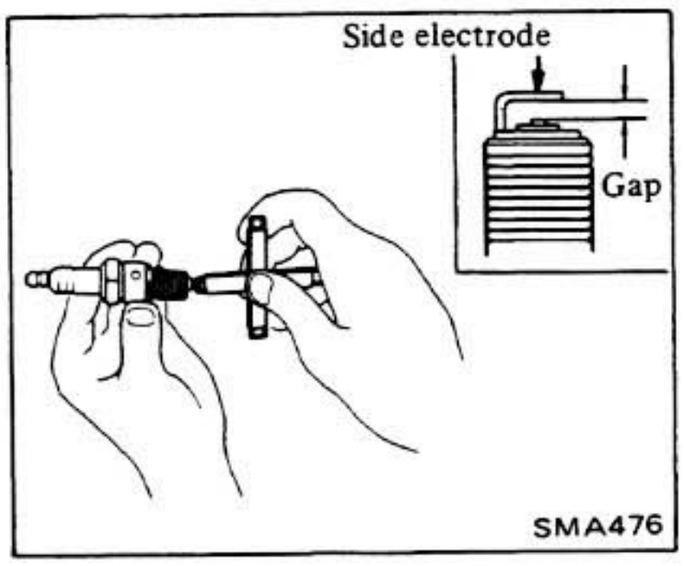
SMA018

3. Clean plugs in sand blast cleaner. And inspect insulation for cracks or chips. If they are excessively worn, replace with new spark plugs.

The spark plugs should be replaced in accordance with the periodic maintenance schedule.

4. Check spark plug gap.

If it is not within specified range, set gap by bending side electrode.



Spark plug gap:
L28 engine
0.8 - 0.9 mm
(0.031 - 0.035 in)
P40 engine
0.8 - 0.9 mm
(0.031 - 0.035 in)

Spark plug type:
Refer to S.D.S.

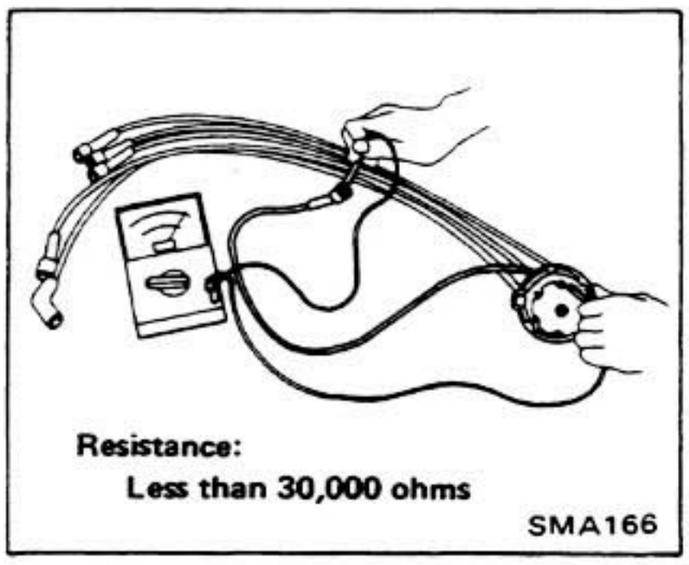
5. Install spark plugs. **Reconnect high tension cables according to Nos. indicated on them.**

Ⓣ : **Spark plug**
15 - 20 N·m
(1.5 - 2.0 kg-m,
11 - 14 ft-lb)

CHECKING IGNITION WIRING

1. Visually check wiring for cracks, and damaged and burned terminals.
2. Using an ohmmeter, measure the resistance between cable terminal on the spark plug side and corresponding electrode inside cap.

Shake the wire while measuring resistance to check for intermittent brakes.



CHECKING AND REPLACING DISTRIBUTOR BREAKER POINTS

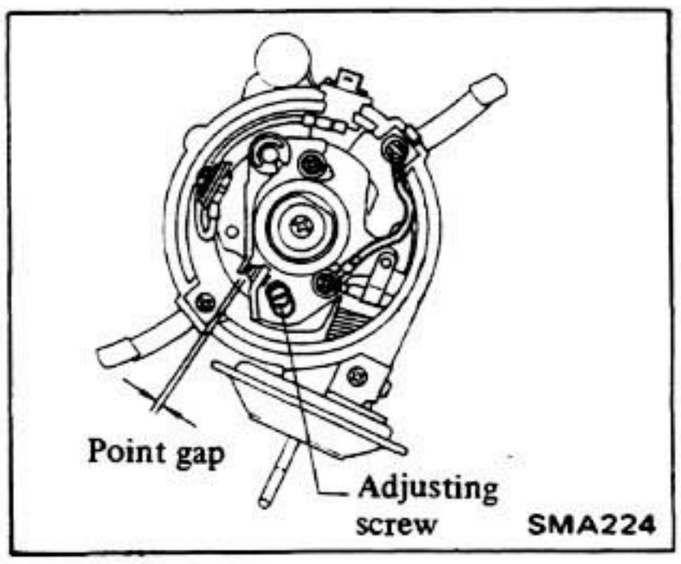
Visual check

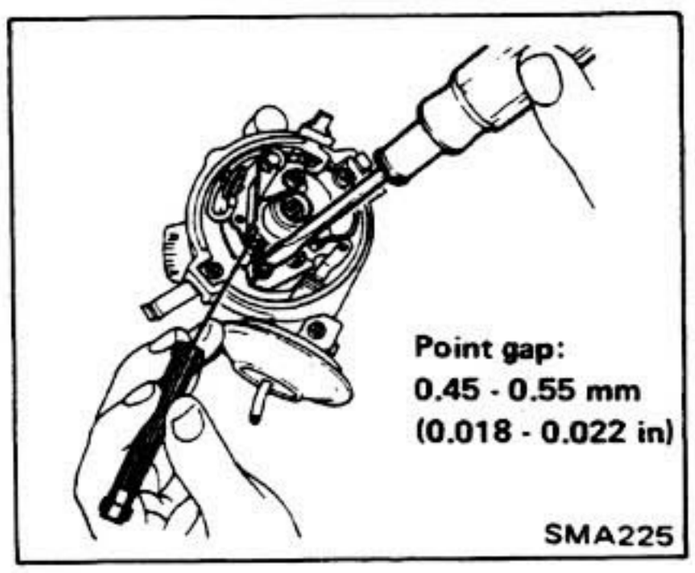
1. Inspect points for excessive burning or pitting. Replace points if necessary.
2. Use a point file to clean contact area and remove scale from points. Filing is done for cleaning purposes only.

Do not attempt to remove all roughness.

Checking point gap

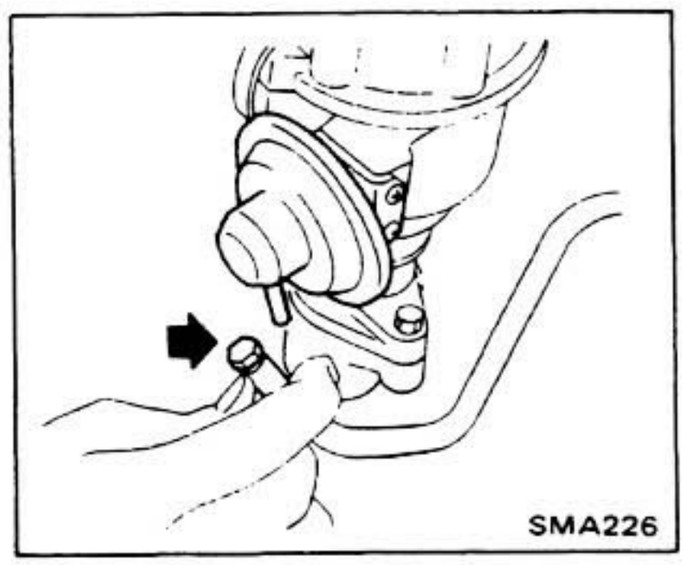
Check point gap with a feeler gauge. If necessary, adjust gap.





Checking dwell angle

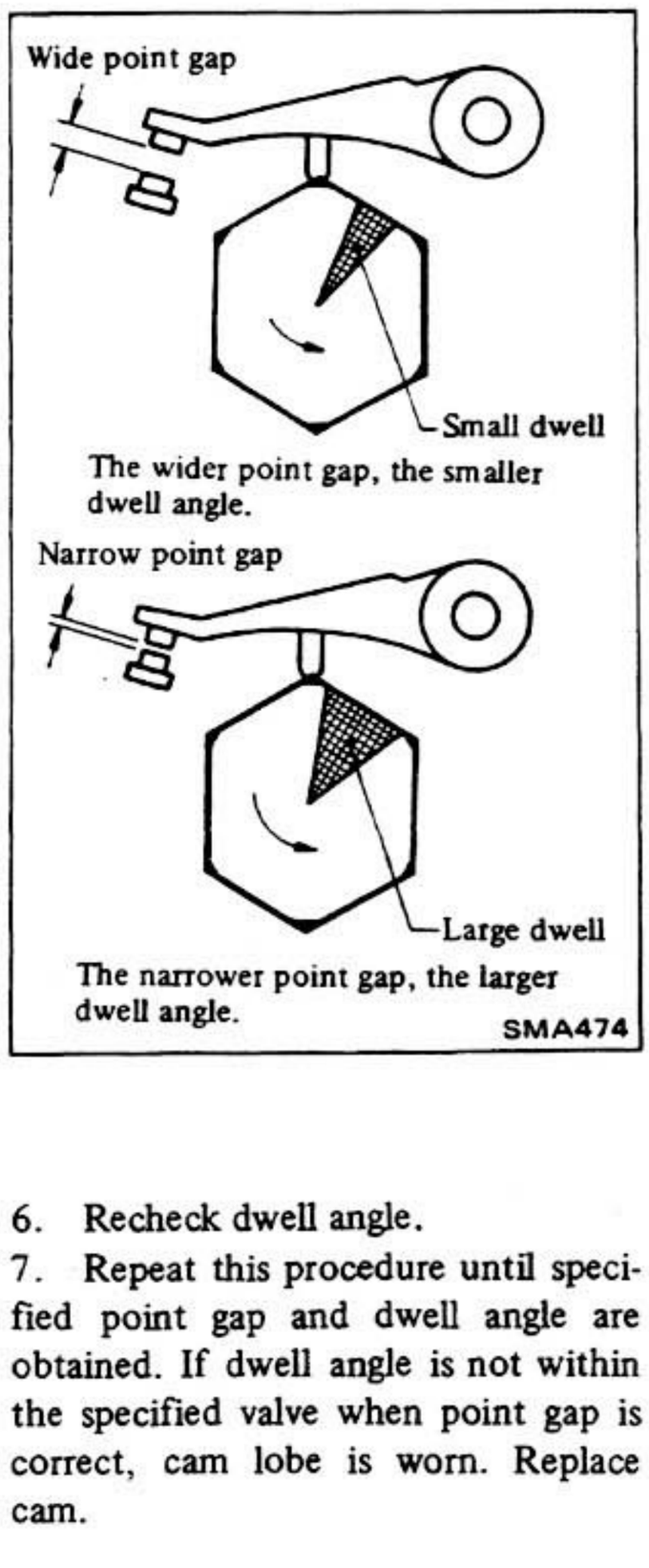
1. Connect dwell meter.
2. Disconnect distributor vacuum hose from distributor vacuum controller, and plug hose with proper plug.



3. Start engine and warm up engine until water temperature indicator points to the middle of gauge.
4. Run engine at idle speed and measure dwell angle.

Dwell angle:
35° - 41°

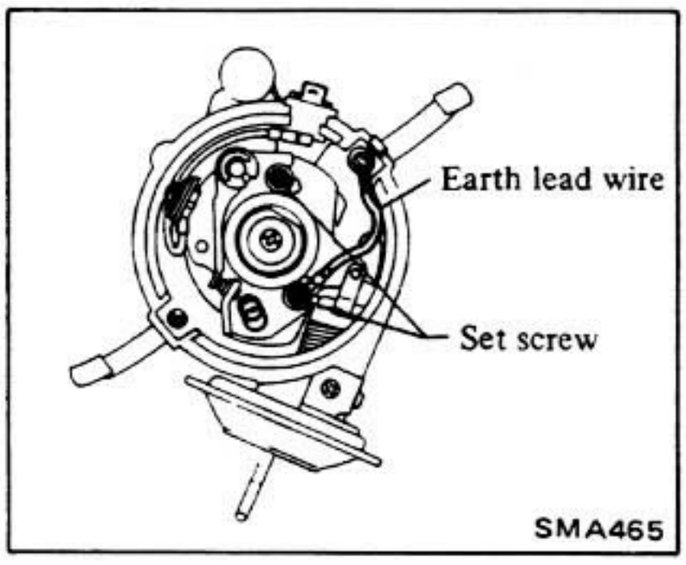
5. If dwell angle is not within the specified value turn off engine and adjust point gap.

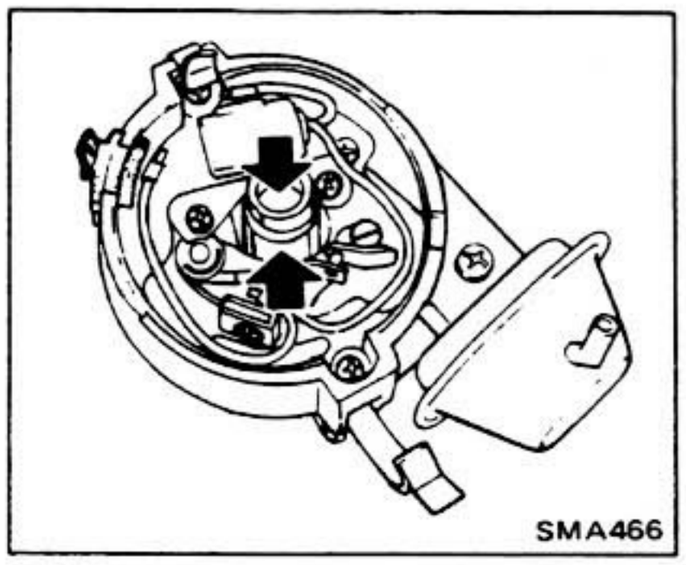


6. Recheck dwell angle.
7. Repeat this procedure until specified point gap and dwell angle are obtained. If dwell angle is not within the specified valve when point gap is correct, cam lobe is worn. Replace cam.

Replacing distributor breaker point

1. Remove earth lead wire and set screws and then remove breaker point.





2. Install new breaker point. Apply grease to distributor cam and head.

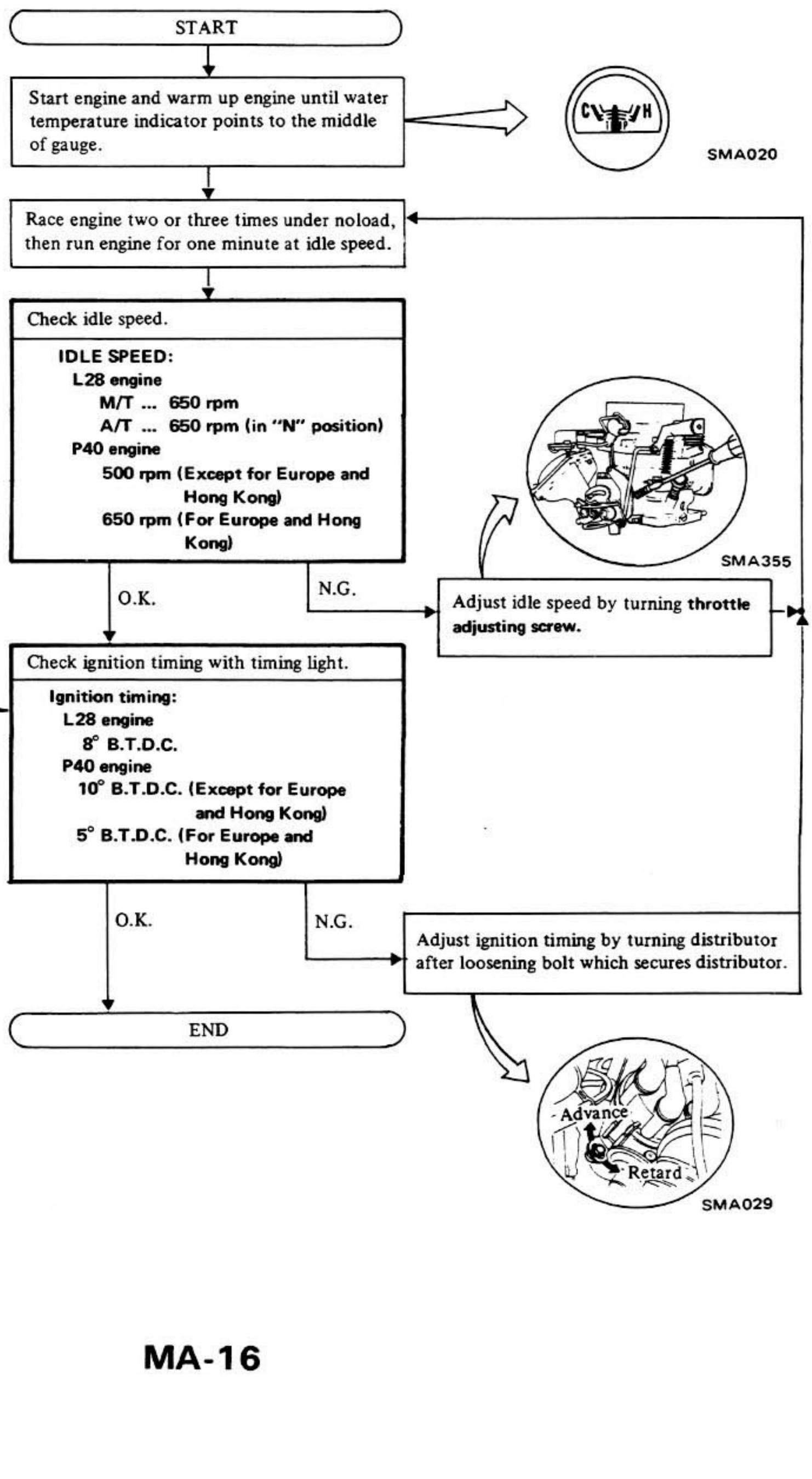
3. Adjust point gap and dwell angle.

CHECKING AND ADJUSTING IDLE RPM AND IGNITION TIMING

Preparation

1. On air conditioner equipped models, inspections should be carried out while the air conditioner is "OFF".
2. Inspection should be carried out while shift lever is in "Neutral" position. Be sure to engage parking brake and to lock both front and rear wheels with wheel chocks.

Maintenance procedure (Except for Australia)



CHECKING AND ADJUSTING MIXTURE RATIO

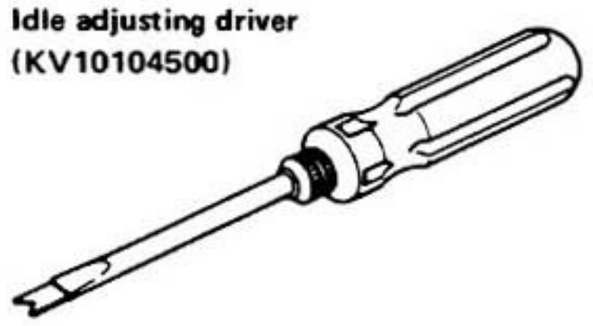
CAUTION:

a. Idle mixture ratio is adjusted at factory and requires no further adjustment. If it becomes necessary to adjust it, proceed with the following steps.
b. Do not attempt to screw the idle adjusting screw down completely. Doing so could cause damage to tip, which in turn will tend to cause malfunctions.
c. Idle limiter cap equipped with idle adjusting screw should not be removed.

Preparation

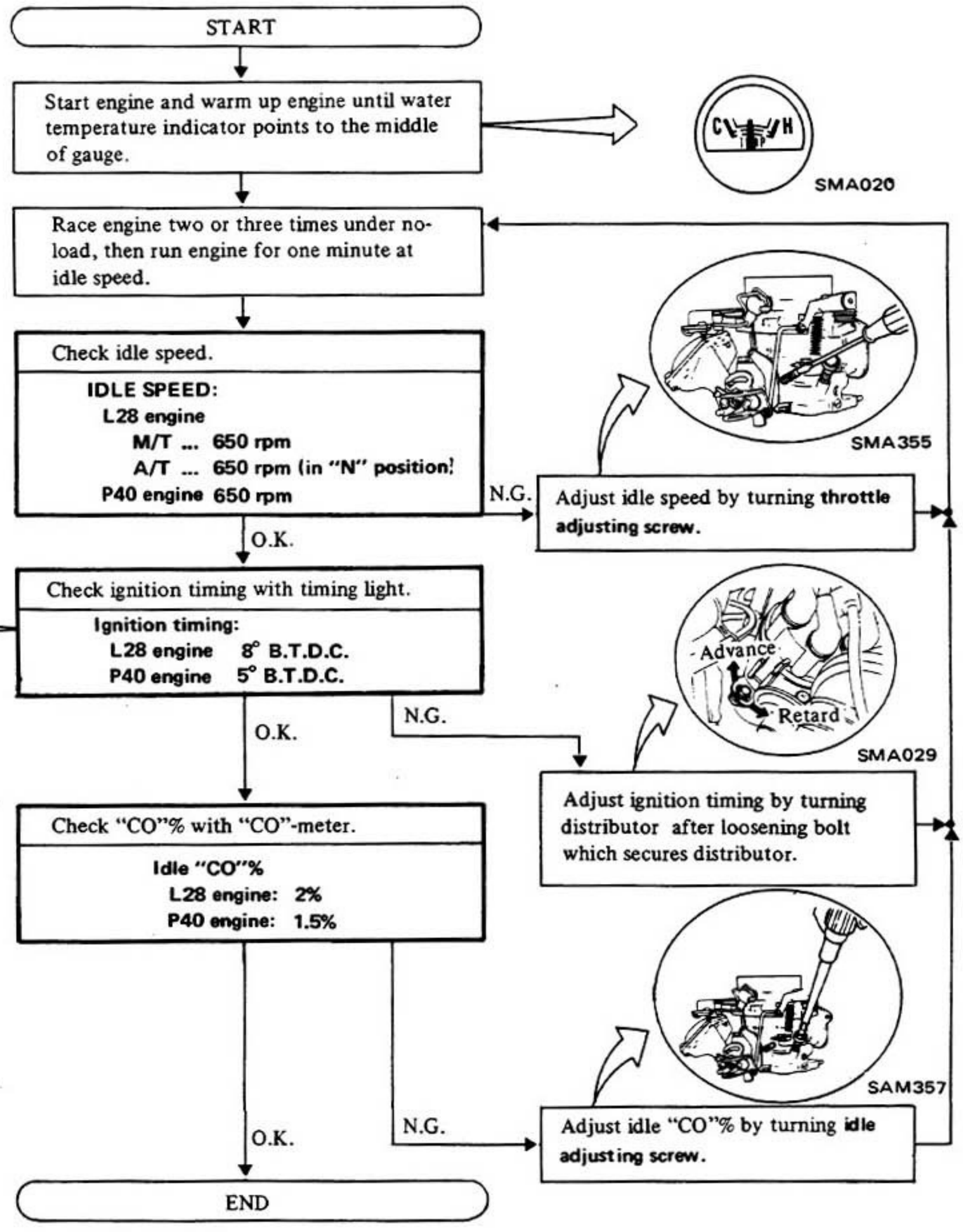
1. Inspection should be carried out while shift lever is in "Neutral" position. Be sure to engage parking brake and to lock both front and rear wheels with wheel chocks.
2. On air conditioner equipped modeles, checks should be carried out while the air conditioner is "OFF".
3. When checking mixture ratio, make sure that float level is correct at idling speed and choke knob is pushed all the way in.
4. Use "CO"-meter after it is fully warmed up.
5. When measuring "CO"%, insert probe into tail pipe more than 0.4 m (16 in).
6. Measure "CO"% with air cleaner installed.
7. On carburetor with metal idle limiter cap (For Europe and Hong Kong), adjust idle adjusting screw with idle adjusting driver.

Idle adjusting driver
(KV10104500)



SMA356

Maintenance procedure with "CO"-meter (For Europe and Hong Kong)



Maintenance procedure without "CO"-meter (Except for Australia)

START

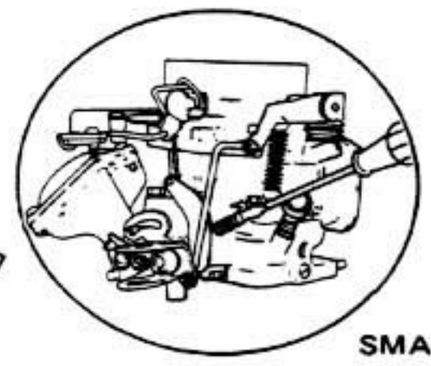
Start engine and warm up engine until water temperature indicator points to the middle of gauge.

SMA020

Race engine two or three times under no-load, then run engine for one minute at idle speed.

Check idle speed.

IDLE SPEED:
L28 engine
M/T ... 650 rpm
A/T ... 650 rpm (in "N" position)
P40 engine *1

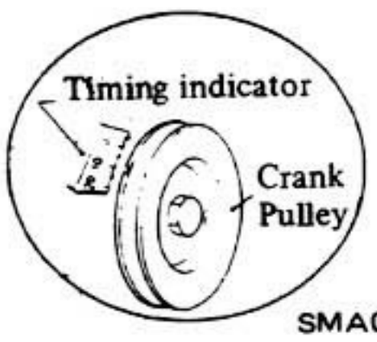

SMA355

N.G. → Adjust idle speed by turning **throttle adjusting screw.**

O.K.

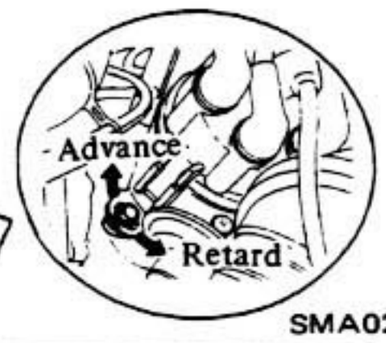
Check ignition timing with timing light.

Ignition timing (B.T.D.C.)
***2**



SMA028

N.G.

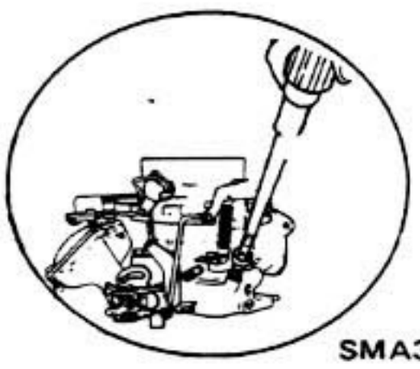


SMA029

Adjust ignition timing by turning distributor after loosening bolt which secures distributor.

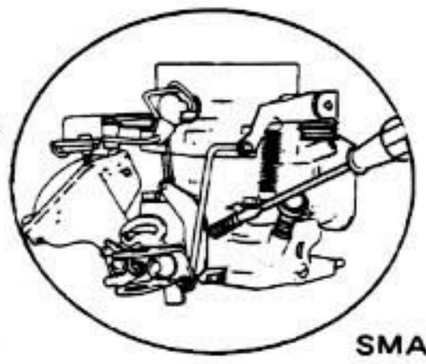
O.K.

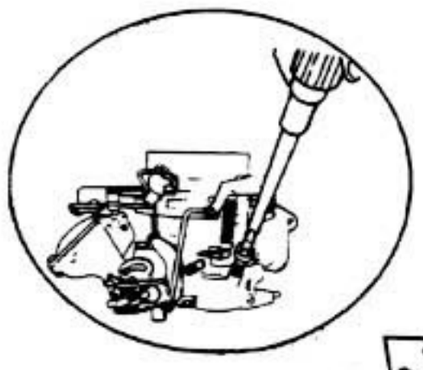
Turn out **idle adjusting screw** approximately two turns, starting from fully closed position.


SMA357

Adjust engine speed by turning **throttle adjusting screw.**

Engine Speed:
Except Europe and Hong Kong
L28 engine
M/T ... 650 rpm
A/T ... 650 rpm (in "N" position)
P40 engine
500 rpm
Europe and Hong Kong
L28 engine
M/T ... 680 rpm
P40 engine
680 rpm


SMA355


SMA357

Turn the **idle adjusting screw** until engine runs smoothly at highest speed.

Does engine speed not raise in spite of turning **idle adjusting screw.**

Yes → (back to Adjust engine speed by turning **throttle adjusting screw.**)

No: Europe and Hong Kong models

Adjust engine speed by turning in **idle adjusting screw.**

IDLE SPEED:
L28 engine
M/T ... 650 rpm
A/T ... 650 rpm (in "N" position)
P40 engine
***3**

No: Except Europe and Hong Kong models

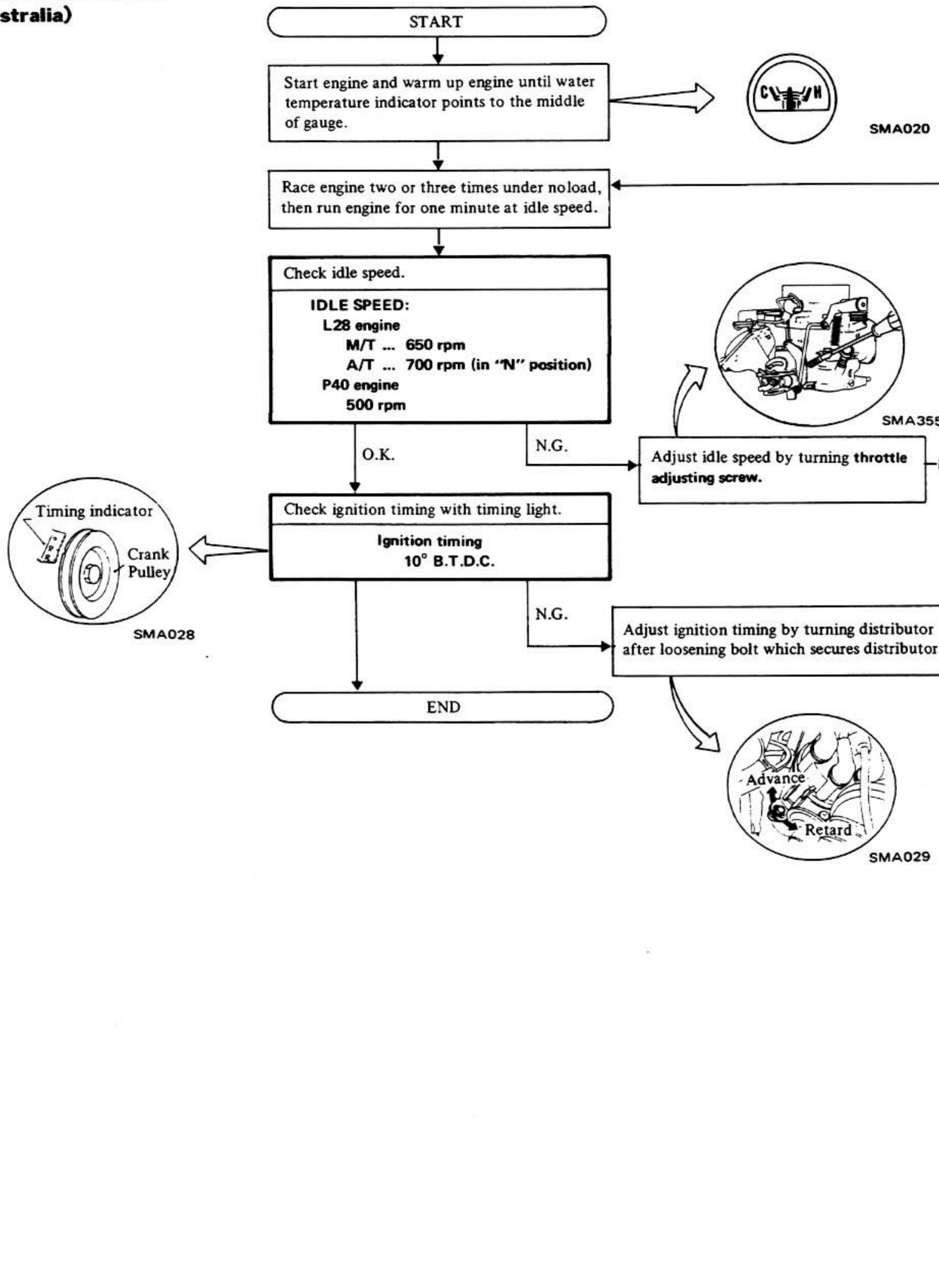
END

***1 P40 engine**
500 rpm (Except for Europe and Hong Kong)
650 rpm (For Europe and Hong Kong)

***2 Ignition timing (B.T.D.C.):**
L28 engine 8°
P40 engine 10° (Except for Europe and Hong Kong)
5° (For Europe and Hong Kong)

***3 P40 engine**
500 rpm (Except for Europe and Hong Kong)
650 rpm (For Europe and Hong Kong)

Maintenance procedure (For Australia)

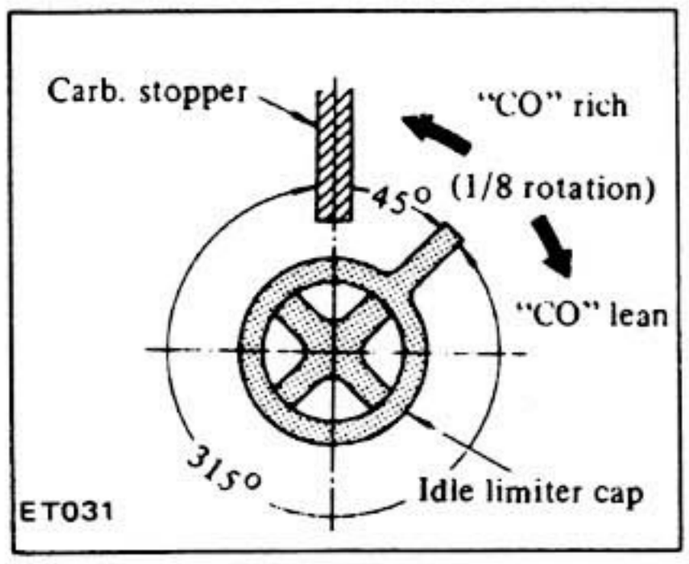


CHECKING AND ADJUSTING MIXTURE RATIO

Precaution

a. Carburetor idle adjusting screw is equipped with plastic idle limit cap. So the idle limiter cap should not be removed during routine maintenance except when directed by official inspections to lower exhaust emission.

b. If the idle limiter cap removed, install idle limiter cap in position. Making sure that the idle adjusting screw further turns 1/8 rotation in the "CO-RICH" direction.



c. Do not attempt to screw the idle adjusting screw down completely. Doing so could cause damage to tip, which in turn will tend to cause malfunctions.

Preparation

1. Inspection should be carried out while shift lever is in "Neutral" position. Be sure to engage parking brake and to lock both front and rear wheels with wheel chocks.
2. On air conditioner equipped modeles, checks should be carried out while the air conditioner is "OFF".
3. When checking mixture ratio, make sure that float level is correct at idling speed and choke knob is pushed all the way in.
4. Use "CO"-meter after it is fully warmed up.
5. When measuring "CO"%, insert probe into tail pipe more than 0.4 m (16 in).
6. Measure "CO"% with air cleaner installed.

Maintenance procedure with "CO"-meter (For Australia)

START

Start engine and warm up engine until water temperature indicator points to the middle of gauge.

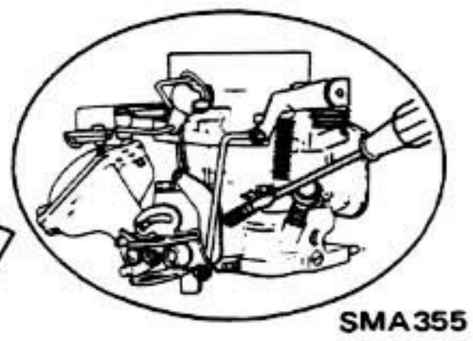
SMA020

Race engine two or three times under no-load, then run engine for one minute at idle speed.

Check idle speed.

IDLE SPEED:
L28 engine
M/T ... 650 rpm
A/T ... 700 rpm (in "N" position)
P40 engine 650 rpm

N.G.

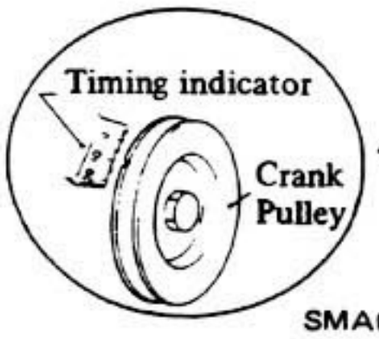

SMA355

Adjust idle speed by turning **throttle adjusting screw.**

O.K.

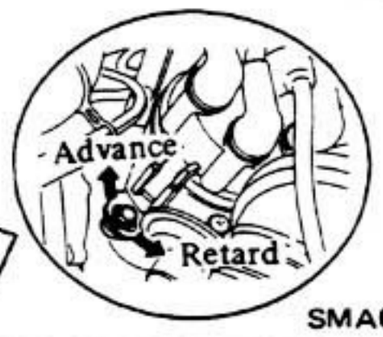
Check ignition timing with timing light.

Ignition timing (B.T.D.C.)
P40: 10° L28: 8°



SMA028

N.G.



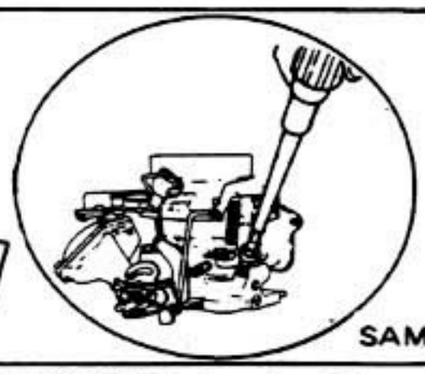
SMA029

Adjust ignition timing by turning distributor after loosening bolt which secures distributor.

O.K.

Check "CO"% with "CO"-meter.

Idle "CO"%
L28 engine: 2±0.5%
P40 engine: 3±0.5%


SAM357

O.K.

N.G.

Adjust idle "CO"% by turning **idle adjusting screw.**

END

Maintenance procedure without "CO"-meter (For Australia)

START

Start engine and warm up engine until water temperature indicator points to the middle of gauge.

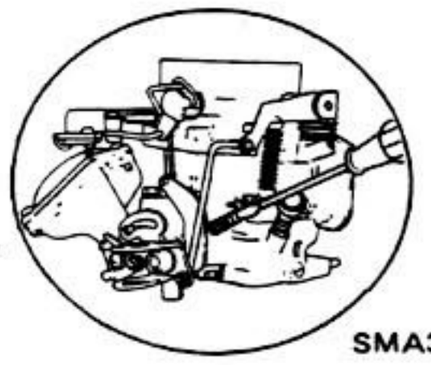

SMA020

Race engine two or three times under no-load, then run engine for one minute at idle speed.

Check idle speed.

IDLE SPEED:
L28 engine
M/T ... 650 rpm
A/T ... 700 rpm (in "N" position)
P40 engine 500 rpm

N.G.

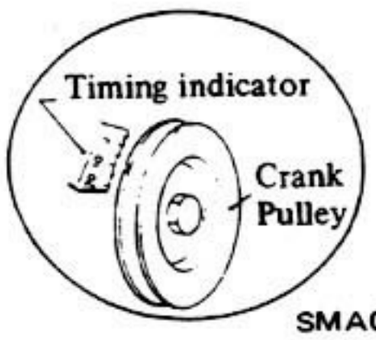

SMA355

Adjust idle speed by turning **throttle adjusting screw.**

O.K.

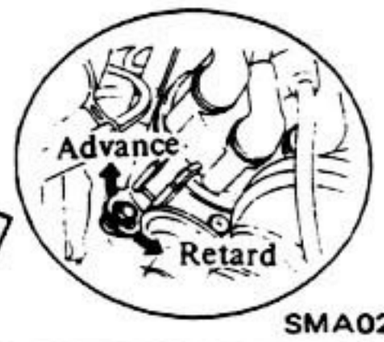
Check ignition timing with timing light.

Ignition timing (B.T.D.C.)
P40 engine L28: 8°



SMA028

N.G.

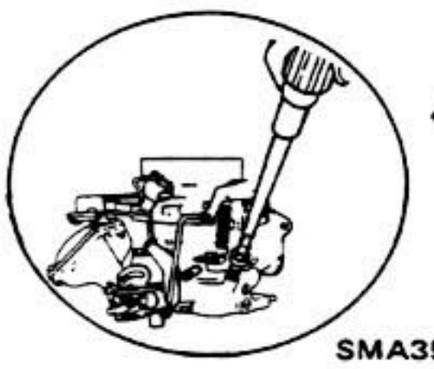


SMA029

O.K.

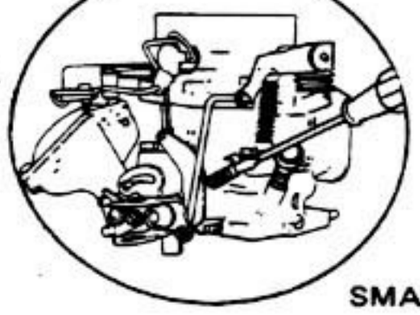
Turn out **idle adjusting screw** approximately two turns, starting from fully closed position.

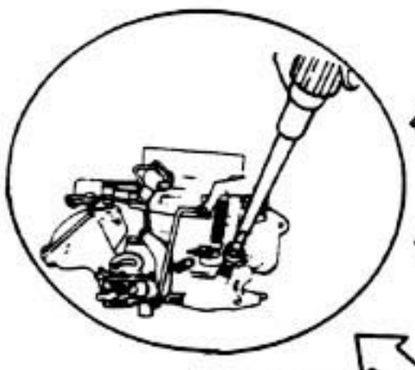
Adjust ignition timing by turning distributor after loosening bolt which secures distributor.


SMA357

Adjust engine speed by turning **throttle adjusting screw.**

Engine Speed:
L28 engine
M/T ... 680 rpm
A/T ... 730 rpm (in "N" position)
P40 engine
530 rpm


SMA355


SMA357

Turn the **idle adjusting screw** until engine runs smoothly at highest speed.

Does engine speed not raise in spite of turning **idle adjusting screw.**

Yes

No

Adjust engine speed by turning in **idle adjusting screw.**

IDLE SPEED:
L28 engine
M/T ... 650 rpm
A/T ... 700 rpm (in "N" position)
P40 engine
500 rpm

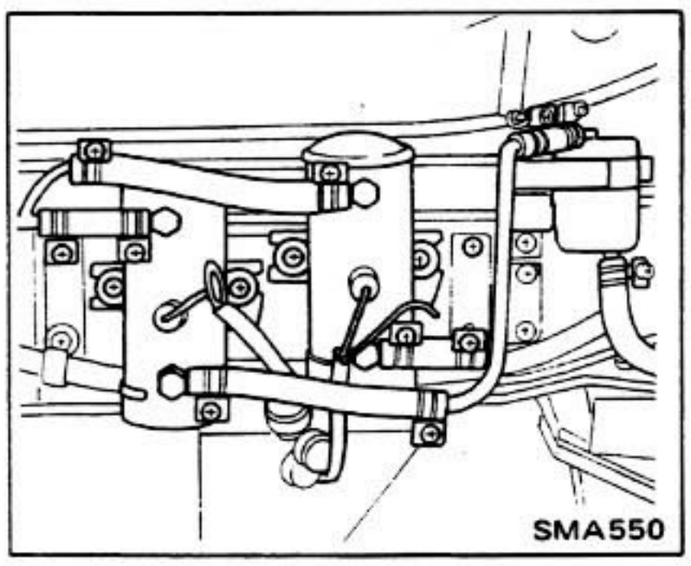
END

CHECKING ELECTRIC FUEL PUMP FILTER

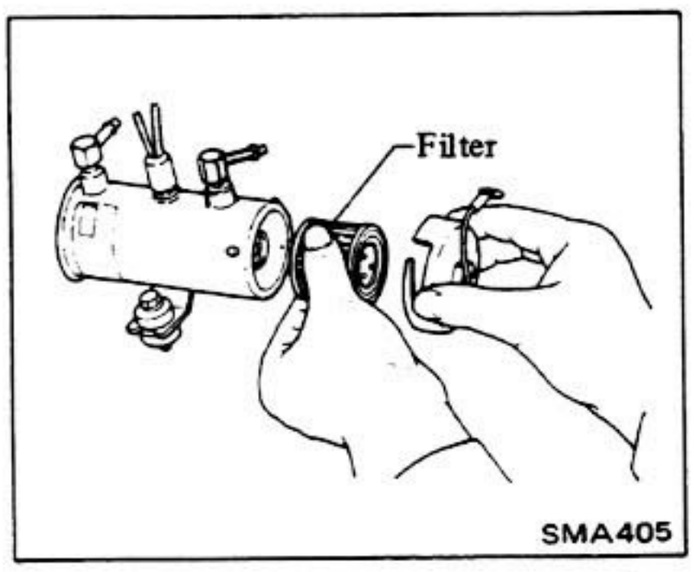
1. Disconnect battery ground cable.
2. Temporarily clamp hose between fuel tank and fuel filter, and disconnect inlet hose from fuel pump.

Be careful not to spill fuel. Place a rag to absorb fuel.

3. Disconnect outlet hose from fuel tube, **put fuel tube and hose into a suitable container, and plug the openings with a clean rag.**



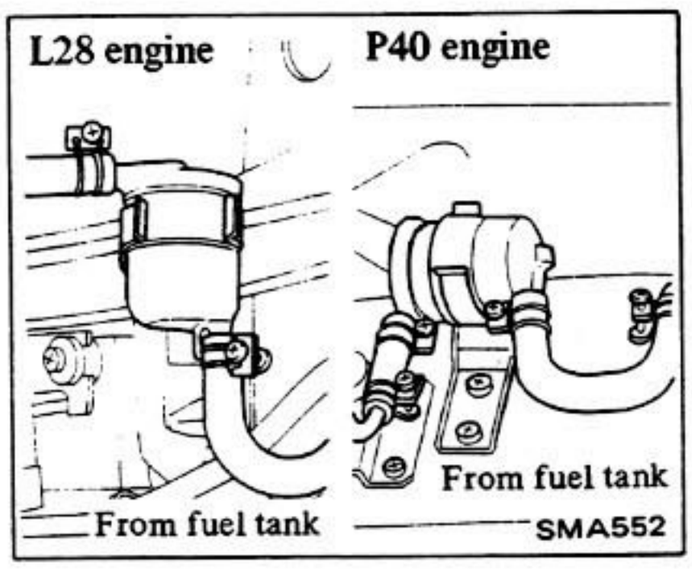
4. Remove fuel pump.
5. Remove cover, check filter and if necessary, replace filter with new one.



6. To install fuel pump and fuel filter, reverse the order of removal.

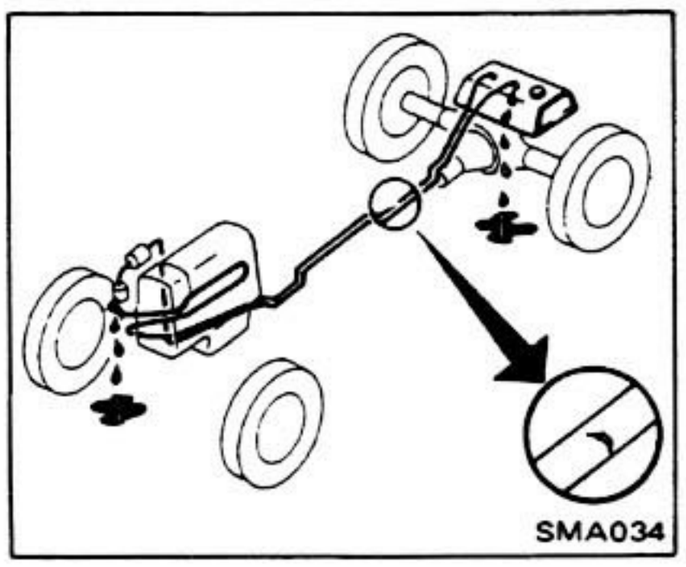
Be careful not to spill fuel over engine compartment. Place a rag to absorb fuel.

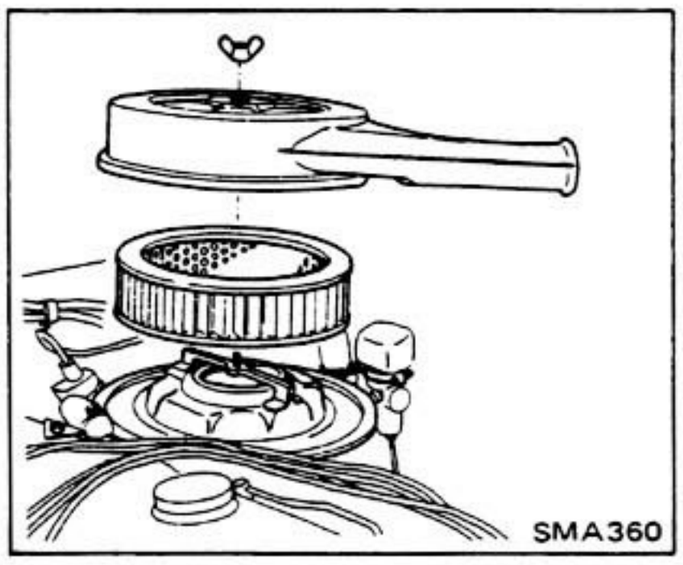
And plug open of fuel hose immediately.



CHECKING FUEL LINES (Hoses, piping, connections, etc.)

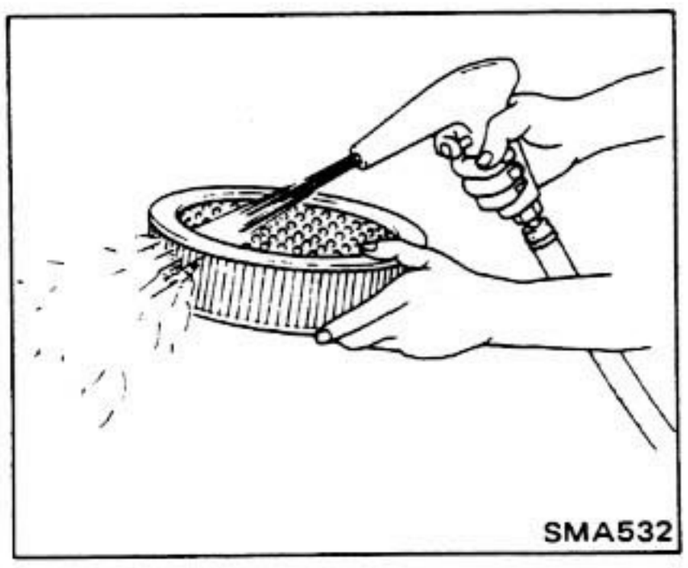
1. Check fuel line for leaks, particularly around connection of fuel pipe and fuel hose.
2. Retighten loose connections and replace any damage or deformed parts.





CLEANING OR REPLACING AIR CLEANER FILTER (Dry paper type)

It is necessary to clean the element or replace it at the recommended interval, more often under dusty driving conditions.



Cyclone pre-air cleaner

The pre-air cleaner is a cyclone type.

It should be checked periodically as recommended in ***Periodic Maintenance and Lubrication Schedule in Section GI.**

REPLACING FUEL FILTER

Fuel filter is a replaceable cartridge type.

Unfasten clamps securing fuel hoses to the outlet and inlet sides of fuel filter, and disconnect fuel hoses. And replace it.

REPLACING AIR CLEANER FILTER (Viscous paper type)

The viscous paper type air cleaner filter does not require any cleaning operation between renewal.

Remove air cleaner cover and remove air cleaner filter.

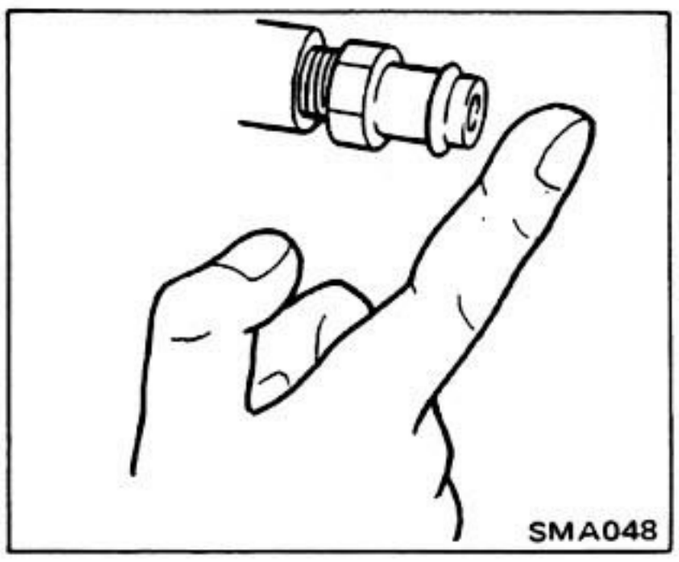
CHECKING POSITIVE CRANKCASE VENTILATION (P.C.V.) SYSTEM (L28 engine models)

Checking P.C.V. valve

Check positive crankcase ventilation (P.C.V.) valve as follows.

With engine running at idle, remove

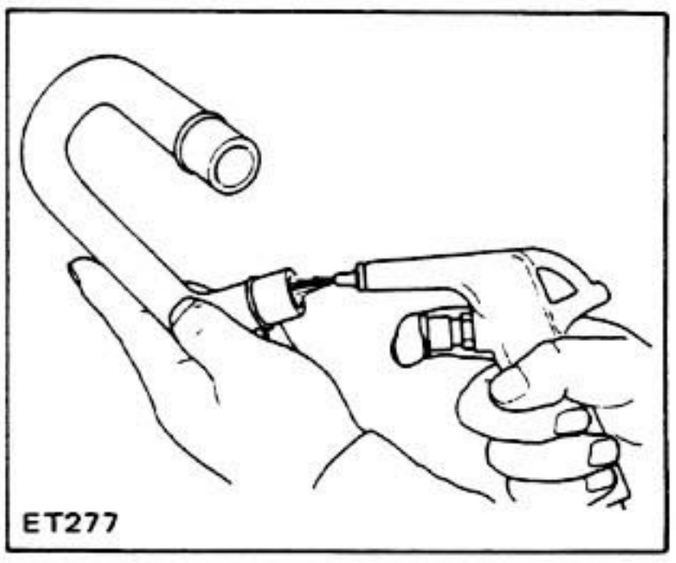
the ventilator hose from P.C.V. valve. If the valve is working, a hissing noise will be heard as air passed through the valve and a strong vacuum should be felt immediately when a finger is placed over the valve inlet.



If the valve is plugged or broken, replace with a new one.

Checking ventilation hoses

1. Check hoses and hose connections for leaks.
2. Check each hose for cracks or distortion.
3. Disconnect all hoses and blow them out with compressed air.



If any hose cannot be made free of obstructions, replace with a new one.

4. Insure that the flame arrester is surely inserted in the hose, between the air cleaner and rocker cover.

CHECKING CHOKE MECHANISM (Choke plate & linkage)

Check choke valve and mechanism to see they move freely, and clean, lubricate or replace if necessary. Binding can result from petroleum gum formation on choke shaft or from damage.

CHECKING VACUUM FITTING HOSES AND CONNECTIONS

Check fittings and hoses for loose connections or damage. Retighten loose parts and replace worn out parts.

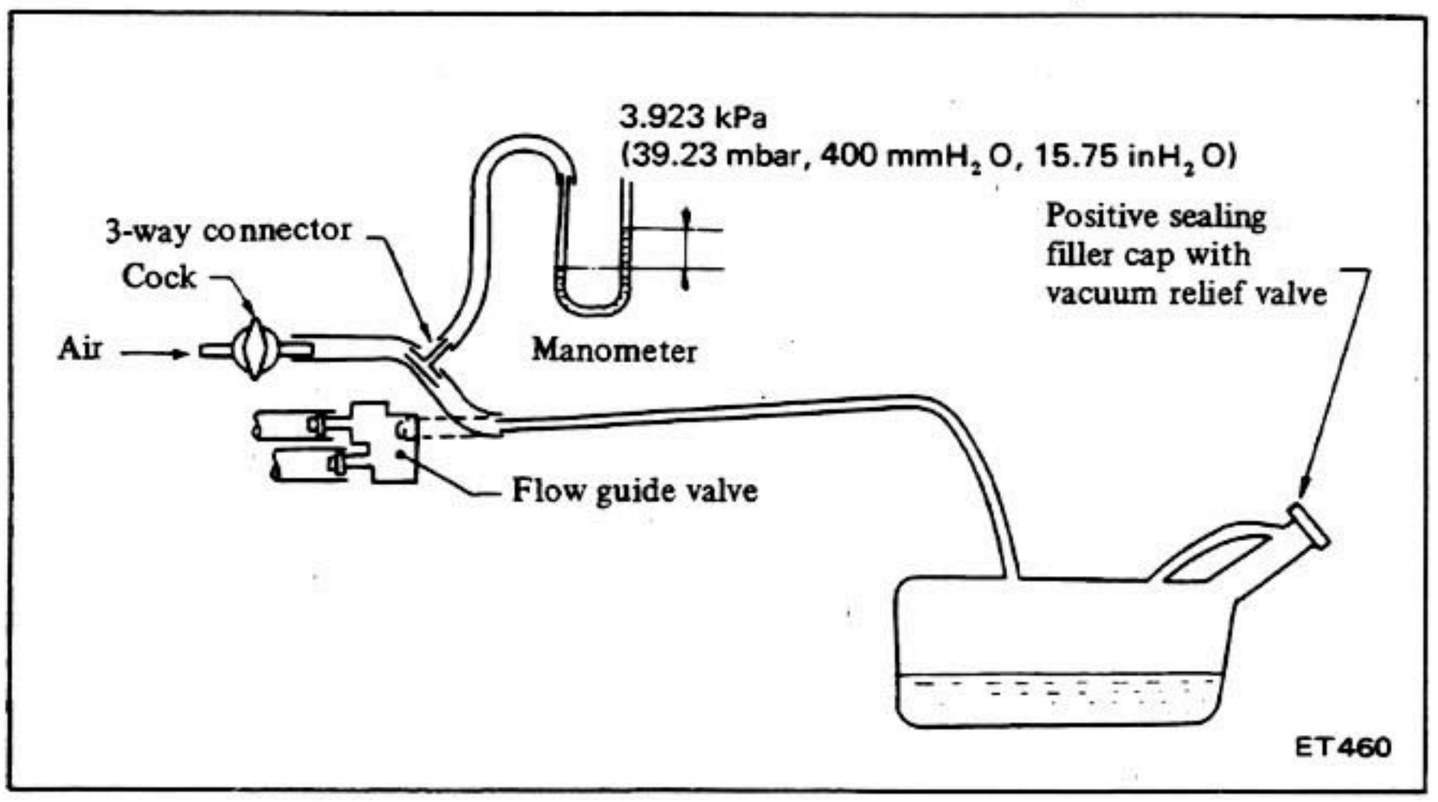
- Carburetor to distributor
- Intake manifold to brake booster
- Intake manifold to F.I.C.D. (Air conditioner equipped models)
- Intake manifold to flow guide valve.
- Intake manifold to idle compensator.

CHECKING VAPOR LINES (Hoses, connections, etc,) AND FUEL VAPOR CONTROL VALVE (N.S.W. and VIC in Australia)

Checking fuel tank, fuel liquid separator and vapor vent line

1. Check all hoses and fuel tank filler cap.
2. Disconnect the vapor vent line connecting flow guide valve to fuel liquid separator.
3. Connect a 3-way connector, a manometer and a cock (or an equivalent 3-way change cock) to the end of the vent line.
4. Supply fresh air into the vapor vent line through the cock little by little until the pressure beocmes 3.923 kPa (39.23 mbar, 400 mmH_2O, 15.75 inH_2O).
5. Shut the cock completely and leave it that way.
6. After 2.5 minutes, measure the height of the liquid in the manometer.
7. Variation in height should remain within 0.245 kPa (2.45 mbar, 25 mmH_2O, 0.98 inH_2O).
8. When the filler cap does not close completely the height should drop to zero in a short time.
9. If the height does not drop to zero in a short time when the filler cap is removed, it indicates a blocked hose.

In case the vent line is blocked, the breathing in fuel tank is not thoroughly made, thus causing insufficient delivery of fuel to engine or vapor lock. It must, therefore, be repaired or replaced.



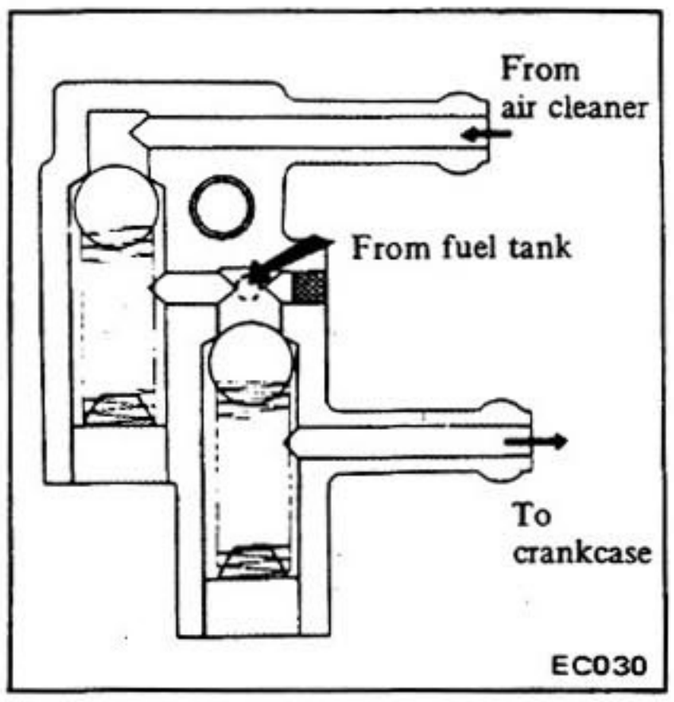
Checking flow guide valve

1. Disconnect all hoses connected to the flow guide valve.
2. While lower pressure air is pressed into the flow guide valve from the ends of vent line of fuel tank side, the air should go through the valve and flow to crankcase side. If the air does not flow, the valve should be replaced. But when the air is blown from crank-

case side, it should never flow to the other two vent lines.

3. While the air is pressed into the flow guide valve from the carburetor air cleaner side, it flows to the fuel tank side and/or crankcase side.

4. This valve opens when the inner pressure is 1.3 kPa (13 mbar, 10 mmHg, 0.39 inHg). In case of improper operations or breakage, replace it.



MINOR TROUBLE DIAGNOSES AND CORRECTIONS —Gasoline Engine—

Condition	Probable cause	Corrective action
CANNOT CRANK ENGINE OR SLOW CRANKING	Improper grade oil.	Replace with proper grade oil.
	Discharged battery.	Charge battery.
	Faulty battery.	Replace.
	Loose fan belt.	Adjust.
	Malfunction in charging system.	Inspect.
	Wiring connection loose in starting circuit.	Correct.
	Faulty ignition switch.	Repair or replace.
	Faulty starter motor.	Repair or replace.

(Trouble-shooting procedure on starting circuit)

Switch on the starter motor with light "ON".

When light goes off or dims considerably,

a. Check battery.
b. Check connection and cable.
c. Check starter motor.

When light stays bright,

a. Check wiring connection between battery and starter motor.
b. Check ignition switch.
c. Check starter motor.

Condition	Probable cause	Corrective action

ENGINE WILL CRANK NORMALLY BUT WILL NOT START

In this case, the following trouble causes may exist, but in many cases ignition system or fuel system is in trouble.

Ignition system in trouble
Fuel system in trouble
Valve mechanism does not work properly
Low compression

(Trouble-shooting procedure)

Check spark plug firstly by following procedure.
Disconnect high tension cable from one spark plug and hold it about 10 mm (0.39 in) from the engine metal part and crank the engine.

Good spark occurs.

a. Check spark plug.
b. Check ignition timing.
c. Check fuel system.
d. Check cylinder compression.

No spark occurs.

Very high current. — Inspect primary circuit for short.

Low or no current. — Check for loose terminal disconnection in primary circuit.

Ignition system out of order	Burned distributor point.	Repair or replace.
	Improper point gap.	Adjust.
	Faulty condenser.	Replace.
	Leak at rotor cap and rotor.	Clean or replace.
	Faulty spark plug.	Clean, adjust plug gap or replace.
	Improper ignition timing.	Adjust.
	Faulty ignition coil.	Replace.
	Disconnection of high tension cable.	Replace.
	Loose connection or disconnection in primary circuit.	Repair or replace.
Fuel system out of order	Lack of fuel.	Supply.
	Dirty fuel filter.	Replace.
	Dirty or clogged fuel pipe.	Clean.
	Fuel pump will not work properly.	Repair or replace.
	Carburetor choke will not work properly.	Check and adjust.
	Improper adjustment of float level.	Correct.
	Improper idling.	Adjust.
	Dirty or clogged carburetor.	Disassemble and clean.
	Clogged breather pipe of fuel tank.	Repair and clean.
	Malfunctioning anti-dieseling solenoid valve.	Check for loose terminal or wire harness.

Condition	Probable cause	Corrective action
Low compression	Incorrect spark plug tightening or faulty gasket.	Tighten to normal torque or replace gasket.
	Improper grade engine oil or low viscosity.	Replace with proper grade oil.
	Incorrect valve clearance.	Adjust.
	Compression leak from valve seat.	Remove cylinder head and lap valves.
	Sticky valve stem.	Correct or replace valve and valve guide.
	Weak or damaged valve springs.	Replace.
	Compression leak at cylinder head gasket.	Replace gasket.
	Sticking or damaged piston ring.	Replace piston rings.
	Worn piston ring or cylinder.	Overhaul engine.

(Trouble-shooting procedure)
Inject a small quantity of engine oil in spark plug hole, and then measure cylinder compression.

Compression increases.	Malfunctioning cylinder or piston ring.
Compression does not change.	Compression leaks from valve, cylinder head or head gasket.

IMPROPER ENGINE IDLING (Low engine idle speed)		
Fuel system out of order	Clogged or damaged carburetor jets.	Clean or replace.
	Incorrect idle adjustment.	Adjust.
	Clogged air cleaner filter.	Replace filter.
	Damaged manifold gaskets or carburetor insulator.	Replace gasket or insulator.
	Improper float level adjustment.	Adjust.
	Loose or cracked vacuum hoses or air hoses from carburetor and intake manifold.	Check for loose connections or cracks.
	Malfunctioning carburetor choke.	Check and adjust.
Low compression		Previously mentioned.
Others	Incorrect valve clearance.	Adjust.
	Extremely low revolution.	Adjust.
	Malfunction of the ignition system (spark plug, high tension cable, ignition coil, etc.)	Replace.
	Incorrect basic ignition timing.	Adjust.
	Faulty P.C.V. valve.	Replace.
	Loose manifold and cylinder head bolts.	Retighten bolts.
IMPROPER ENGINE IDLING (High engine idle speed)	Binding accelerator linkage.	Check and correct accelerator linkage.
	Incorrect idle adjustment.	Adjust.
	Malfunctioning carburetor choke.	Check and adjust.
	Improper dashpot adjustment.	Check and adjust.

Condition	Probable cause	Corrective action
ENGINE POWER NOT UP TO NORMAL		
Low compression		Previously mentioned.
Ignition system out of order	Incorrect ignition timing.	Adjust.
	Damaged spark plugs.	Clean, adjust or replace plugs.
Fuel system out of order	Malfunction of choke system.	Adjust.
	Clogged fuel pipe or needle valve.	Clean.
	Dirty or clogged fuel filter.	Replace.
	Fuel pump will not work properly.	Repair or replace.
	Clogged carburetor jets.	Disassemble and clean.
	Throttle valve does not open fully.	Readjust.
Air intake system out of order	Clogged air cleaner.	Replace filter.
	Air inhaling from manifold gasket or carburetor gasket.	Replace gasket.
	Faulty P.C.V. valve.	Replace.
Overheating	Insufficient coolant.	Replenish.
	Loose fan belt.	Adjust fan belt.
	Worn or oiled fan belt.	Replace.
	Inoperative thermostat.	Replace.
	Worn water pump.	Replace.
	Clogged or leaky radiator.	Flush, repair or replace.
	Faulty radiator filler cap.	Replace.
	Air in cooling system.	Retighten each part of cooling system.
	Improper engine oil grade.	Replace with proper grade oil.
	Incorrect ignition timing.	Adjust.
	Clogged carburetor (lean mixture).	Overhaul carburetor.
Overcooling	Inoperative thermostat.	Replace.
Others	Improper octane fuel.	Replace with specified octane fuel.
	Improper tire pressure.	Inflate to specified pressure.
	Dragging brake.	Adjust.
	Clutch slipping.	Adjust.
NOISY ENGINE		
Engine knocking	Overloaded engine.	Use right gear in driving.
	Carbon knocking.	Disassemble cylinder head and remove carbon.
	Timing knocking.	Adjust ignition timing.
	Fuel knocking.	Use specified octane fuel.
	Preignition (misusing of spark plug).	Use specified spark plug.

Condition	Probable cause	Corrective action
Mechanical knocking		
Crankshaft bearing knocking	This strong dull noise increases when engine is accelerated. To locate the place, cause a misfire in each cylinder. If the noise stops by the misfire, this cylinder generates the noise.	This is caused by worn or damaged bearings, or unevenly worn crankshaft. Renew bearings and adjust or change crankshaft. Check lubrication system.
Connecting rod bearing knocking	This is a little higher-pitched noise than the crankshaft knocking, and also increases when engine is accelerated. Cause a misfire in each cylinder and if the noise diminishes almost completely, this crankshaft bearing generates the noise.	Same as the case of crankshaft bearings.
Piston cylinder noise	When you hear an overlapping metallic noise which increases its magnitude with the revolution of engine and which decreases as engine is warmed up, this noise is caused by piston and cylinder. To locate the place, cause a misfire in each cylinder.	This may cause an abnormal wearing of cylinder and lower compression which in turn will cause a lower out-put power and excessive consumption of oil. Overhaul engine.
Piston pin noise	This noise is heard at each highest and lowest dead end of piston. To locate the place, cause a misfire in each cylinder.	This may cause a wear on piston pin, or piston pin hole. Renew piston and piston pin assembly.
Water pump noise	This noise may be caused by worn or damaged bearings, or by the uneven surface of sliding parts.	Replace water pump with a new one.
Others	An improper adjustment of valve clearance.	Adjust.
	Noise of timing chain.	Adjust the tension of chain.
	An excessive end-play on crankshaft.	Disassemble engine and renew main bearing.
	Wear on clutch pilot bushing.	Renew bushing and adjust drive shaft.
	This noise will be heard when clutch is disengaged.	
ABNORMAL COMBUSTION (Backfire, afterfire, run-on, etc.)		
Improper ignition timing	Improper ignition timing.	Adjust.
	Improper heat range of spark plugs.	Use specified spark plugs.
Fuel system out of order	Improper idle adjustment.	Adjust.
	Damaged carburetor or manifold gasket. (backfire, afterfire)	Replace them with new parts.
	Clogged carburetor jet.	Disassemble carburetor and check it.
	Improper function of the float.	Adjust the level, and check needle valve.
	Malfunction of anti-dieseling solenoid valve.	Check or replace.
	Uneven idling. (Run-on)	Adjust.

Condition	Probable cause	Corrective action
Faulty cylinder head, etc.	Improperly adjusted valve clearance.	Adjust.
	Excess carbon in combustion chamber.	Remove head and get rid of carbon.
	Damaged valve spring (backfire, afterfire).	Replace it with a new one.
EXCESSIVE OIL CONSUMPTION		
Oil leakage	Loose oil drain plug.	Tighten it.
	Loose or damaged oil pan gasket.	Renew gasket or tighten it.
	Loose or damaged chain cover gasket.	Renew gasket or tighten it.
	Worn oil seal in front and rear of crankshaft.	Renew oil seal.
	Loose or damaged rocker cover gasket.	Renew gasket or tighten it (but not too much).
	Improper tightening of oil filter.	Renew gasket and tighten it with the proper torque.
	Loose or damaged oil pressure switch.	Renew oil pressure switch or tighten it.
Excessive oil consumption	Cylinder and piston wear.	Overhaul cylinder and renew piston.
	Improper location of piston ring gap or reversely assembled piston ring.	Remount piston rings.
	Damaged piston rings.	Renew rings. Repair or renew piston and cylinder.
	Worn piston ring groove and ring.	Renew piston and piston ring.
	Fatigue of valve oil seal lip.	Replace seal lip with a new one.
	Worn valve stem.	Renew valve or guide.
Others	Inadequate quality of engine oil.	Use the designated oil.
	Engine overheat.	Previously mentioned.
	Malfunction of P.C.V. system.	Check or replace.
POOR FUEL ECONOMY **See the explanation of the power decrease**		
Others	Exceeding idling revolution.	Adjust it to the designated rpm.
	Faulty acceleration recovery.	Adjust it.
	Fuel leakage.	Repair or tighten the connection of fuel pipes.

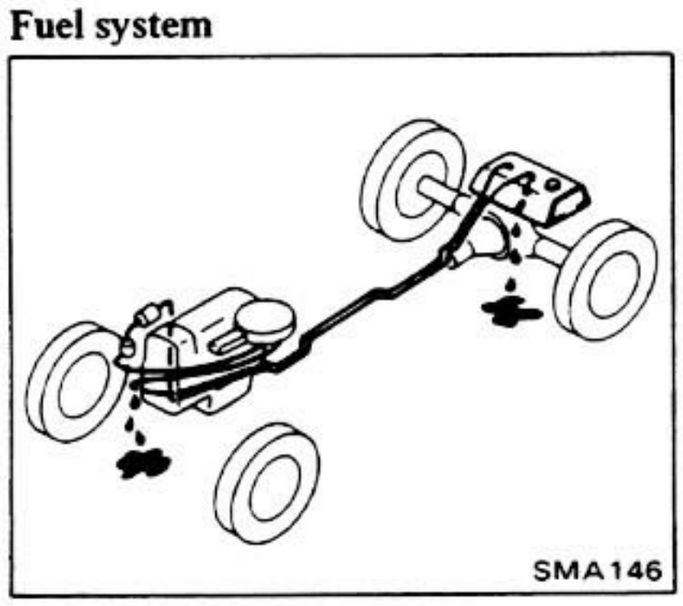
CHASSIS AND BODY MAINTENANCE

ENGINE CONTROL, FUEL AND EXHAUST SYSTEMS

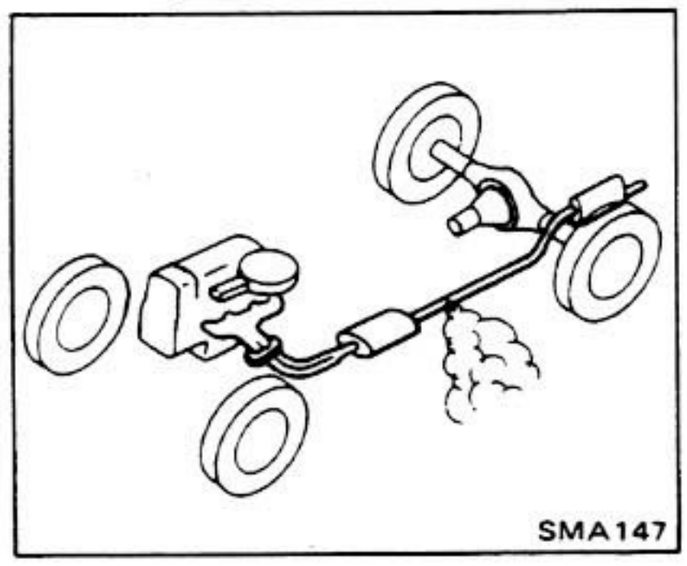
CHECKING FUEL AND EXHAUST SYSTEMS

Check fuel and exhaust systems for condition, connections and leaks.

Fuel system

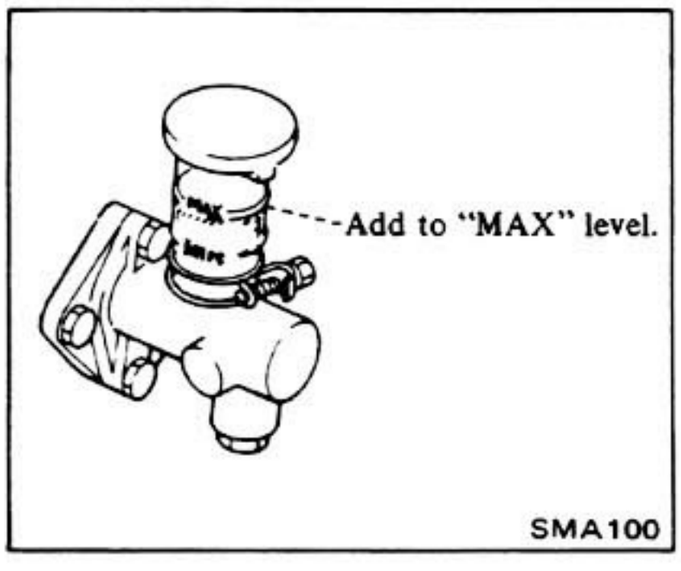


Exhaust system



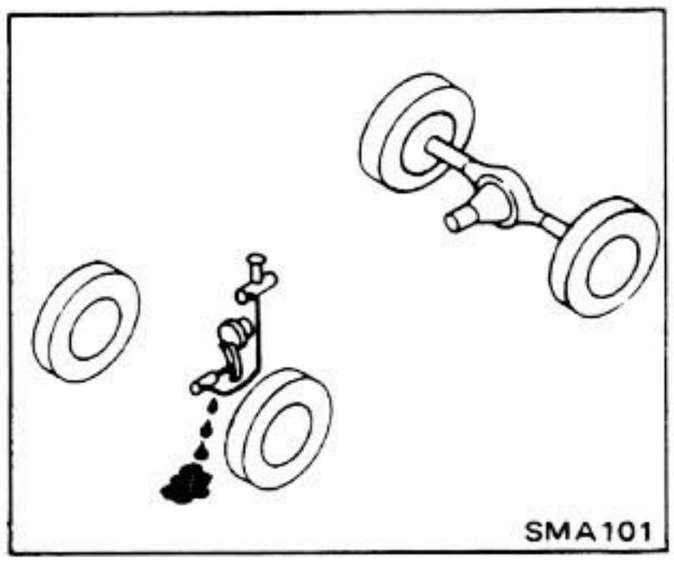
CLUTCH

CHECKING CLUTCH FLUID LEVEL AND LEAKS



CHECKING CLUTCH SYSTEM

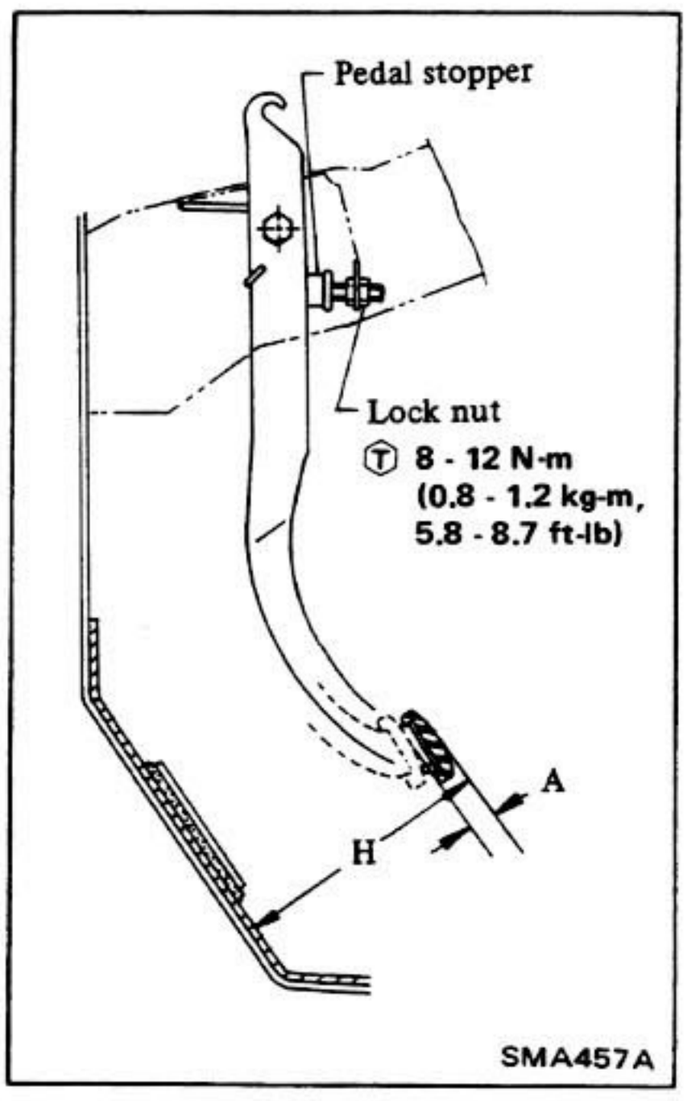
Check clutch system for proper attachment, leaks, chafing, abrasion, deterioration, etc.



CHECKING CLUTCH PEDAL HEIGHT AND FREE PLAY OR FREE TRAVEL

Check clutch pedal height and free play or free travel. Adjust if necessary.

Model 160 series



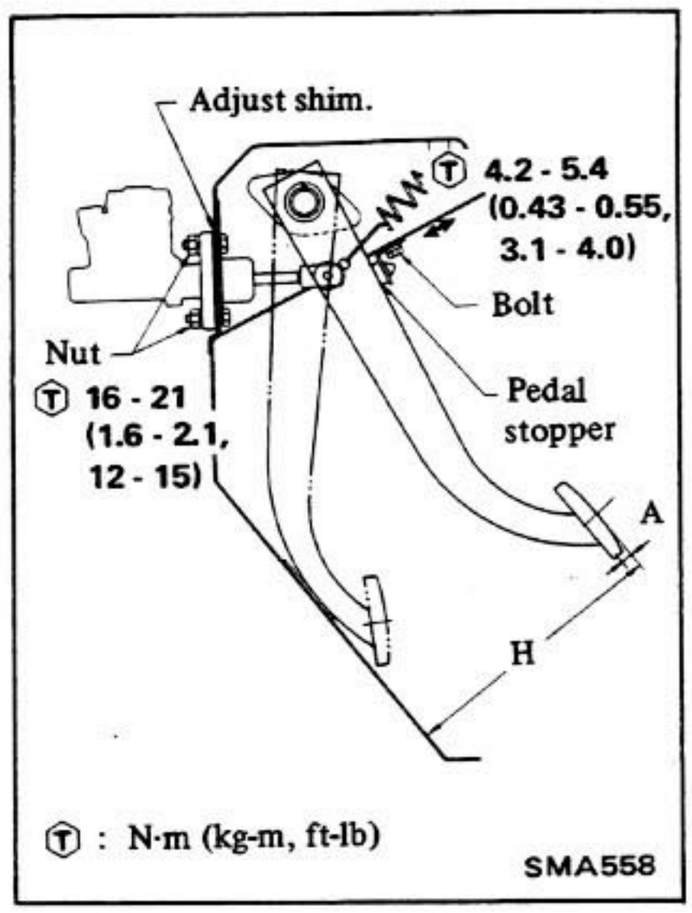
Pedal height "H":
190 - 196 mm
(7.48 - 7.72 in)
Pedal free play "A":
1 - 5 mm (0.04 - 0.20 in)

1. Adjust pedal height with pedal stopper. Then tighten lock nut.
2. Adjust pedal free play with master cylinder push rod. Then tighten lock nut.

a. Pedal free play means the following total measured at position of pedal pad.
- **Play due to clevis pin and clevis pin hole in pedal lever.**
- **Play due to piston and piston rod.**

b. Depress and release clutch pedal over its entire stroke to ensure that the clutch linkage operates smoothly without squeak noise, interference and binding.

Model 61 series

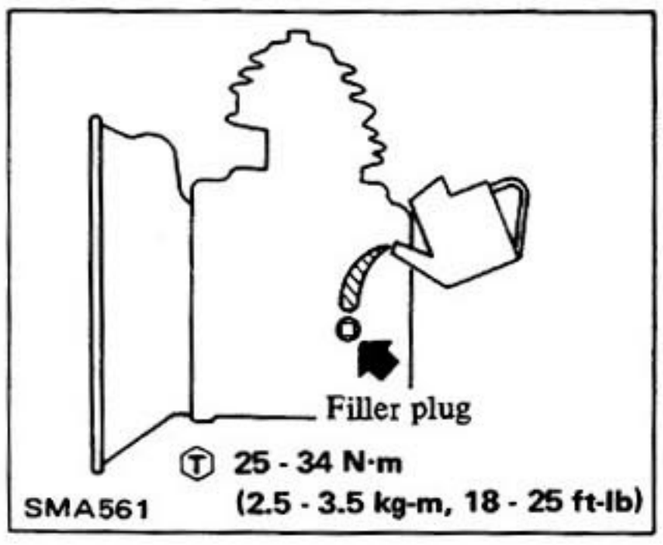


Pedal height "H":
181 - 187 mm (7.13 - 7.36 in)
Pedal free play "A":
1 - 5 mm (0.04 - 0.20 in)

1. Adjust clutch pedal height by sliding pedal stopper bracket back or forth.
2. After installing master cylinder, adjust pedal free play by increasing or decreasing number of shims.

a. Pedal free play means the following total measured at position of pedal pad.
   - Play due to clevis pin and clevis pin hole in pedal lever.
   - Play due to piston and piston rod.

b. Depress and release clutch pedal over its entire stroke to ensure that the clutch linkage operates smoothly without squeak noise, interference and binding.

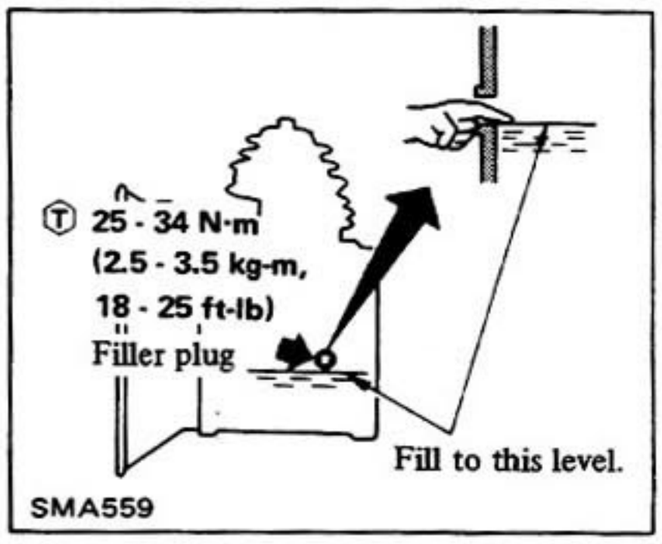


Oil capacity:
2.7 ℓ (4-3/4 Imp pt)

MANUAL TRANSMISSION

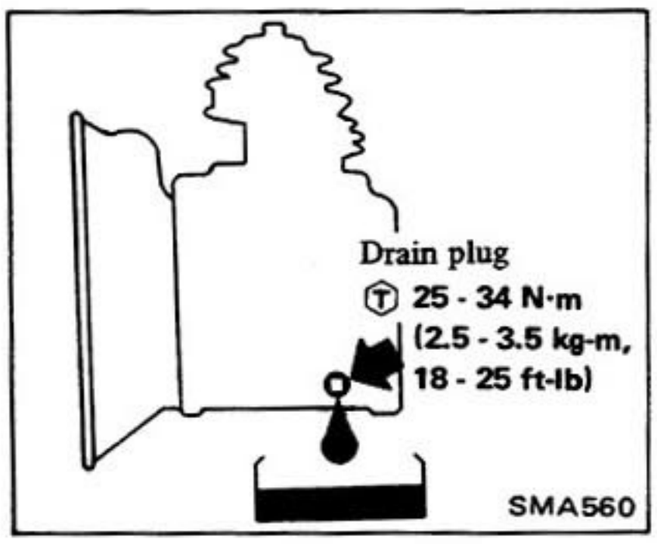
CHECKING MANUAL TRANSMISSION OIL LEVEL

Never start engine while checking oil level.



CHANGING MANUAL TRANSMISSION OIL

1. Drain oil completely.



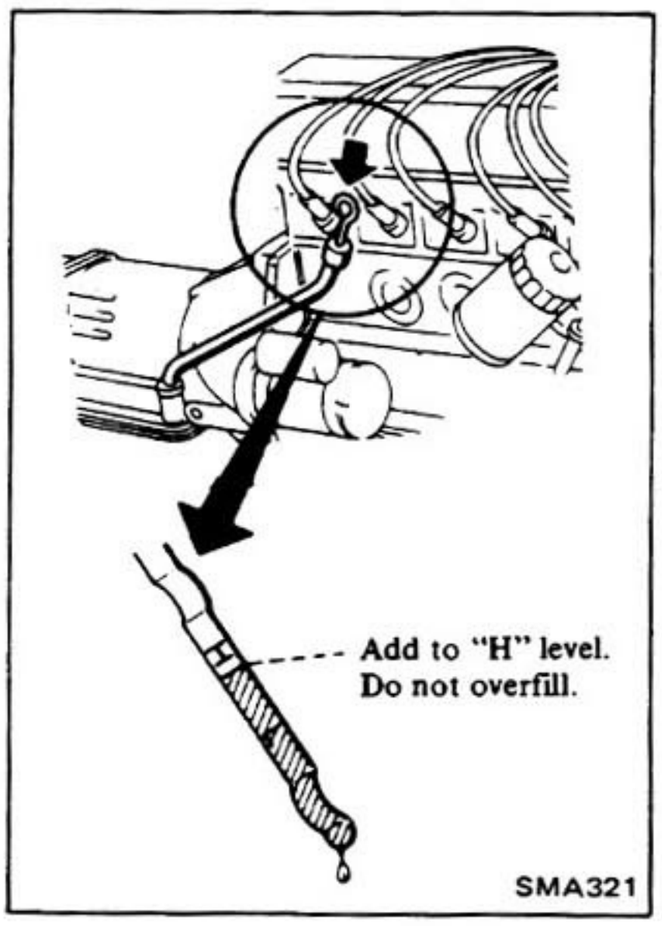
2. Refill transmission and check oil level.

AUTOMATIC TRANSMISSION

CHECKING AUTOMATIC TRANSMISSION FLUID LEVEL

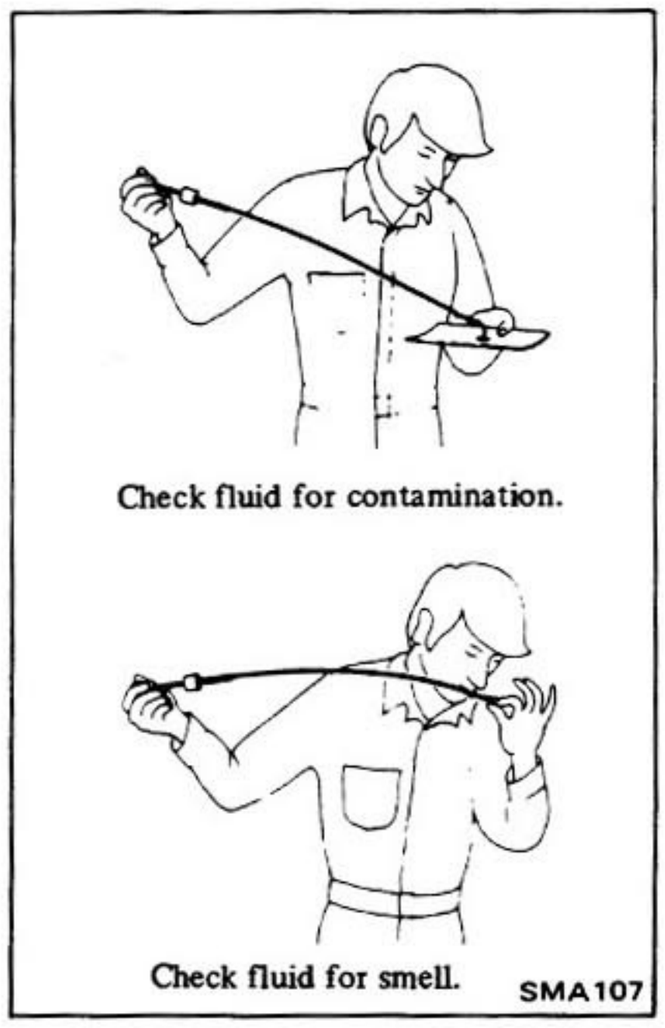
1. Check under following conditions.
(1) Place selector lever in "P" (PARK) position and idle engine.
(2) Maintain fluid temperature at 50 to 80°C (122 to 176°F).
2. Add oil, if necessary.

Use only automatic transmission fluid having "DEXRON" identifications in 3N71B automatic transmission.



CHECKING AUTOMATIC TRANSMISSION FLUID CONDITION

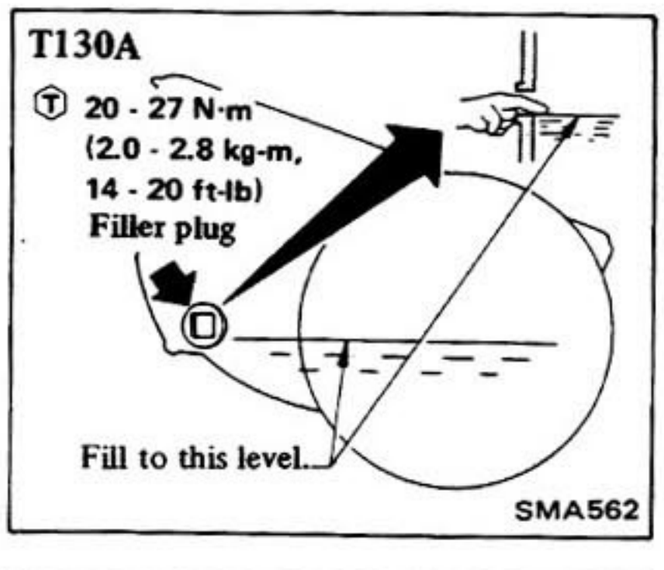
Check fluid for contamination to determine condition of automatic transmission. If fluid is very dark or smells burned, the frictional material (clutches, band, etc.) may need replacement.

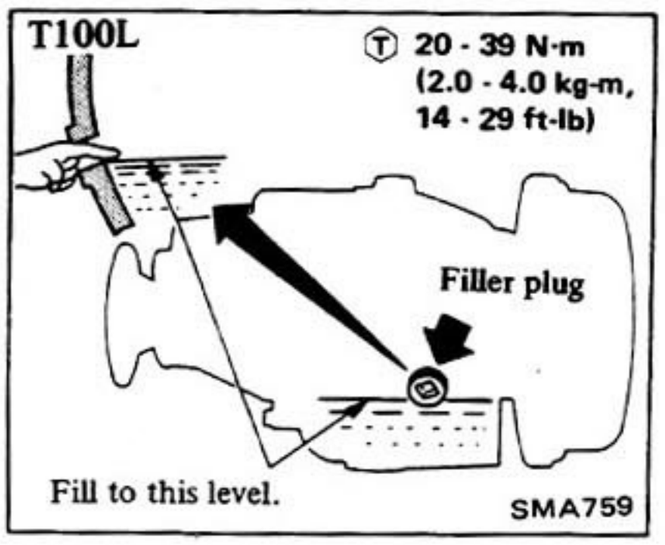


TRANSFER

CHECKING TRANSFER OIL LEVEL

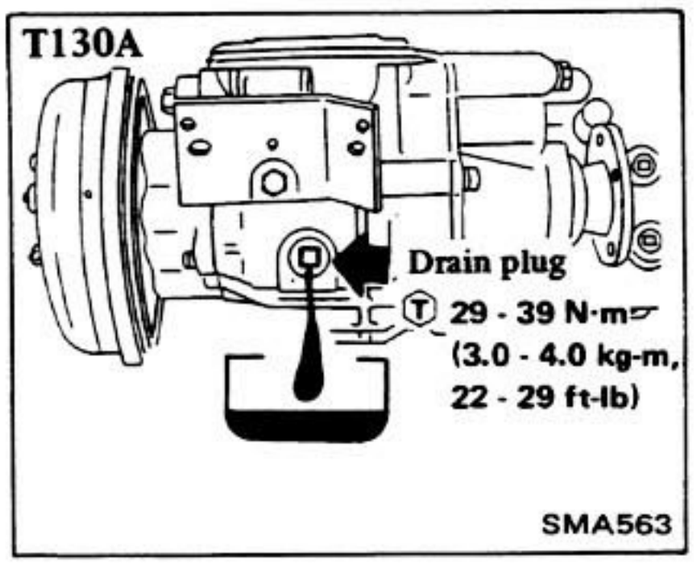
Never start engine while checking oil level.

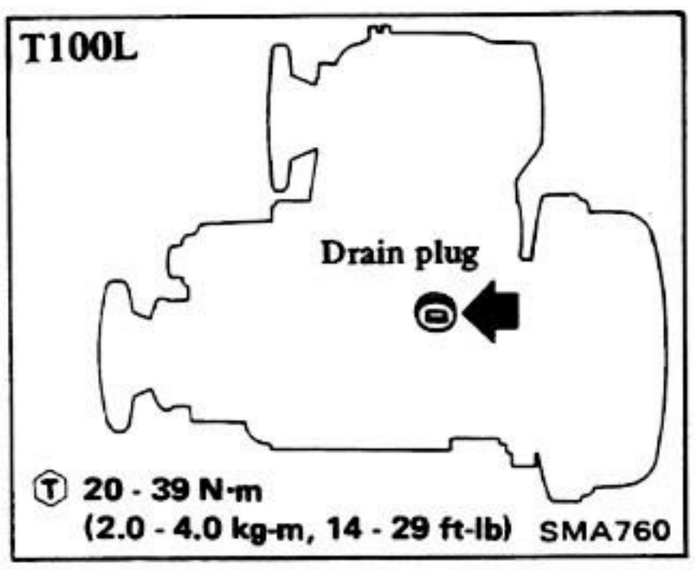




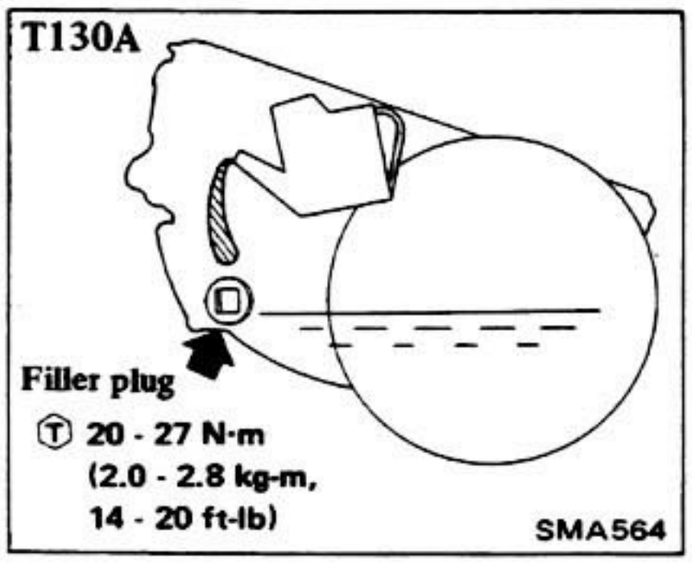
CHANGING TRANSFER OIL

1. Drain oil completely.

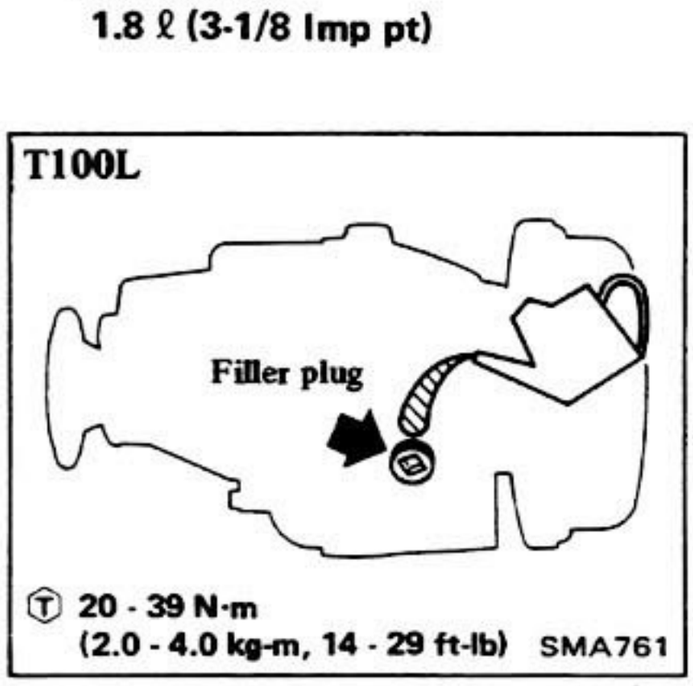




2. Refill oil and check oil level.



Oil capacity:
1.8 ℓ (3-1/8 Imp pt)

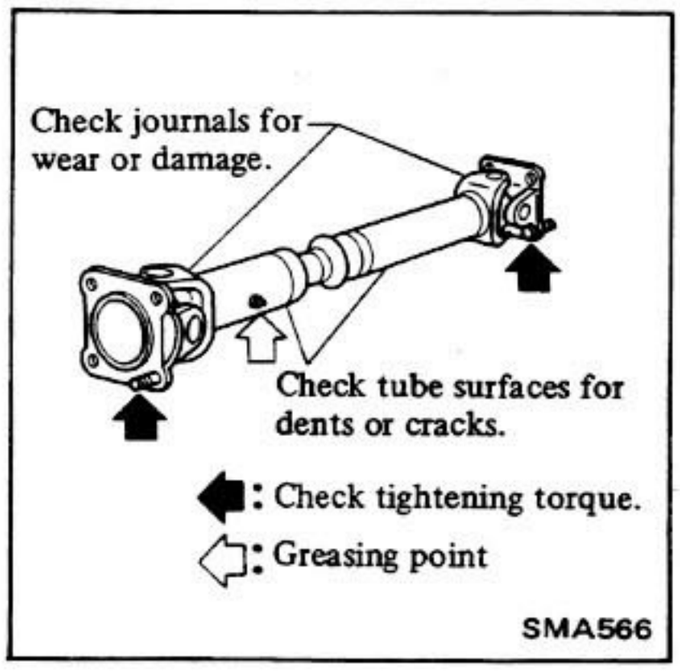


Oil capacity:
1.4 ℓ (2-1/2 Imp pt)

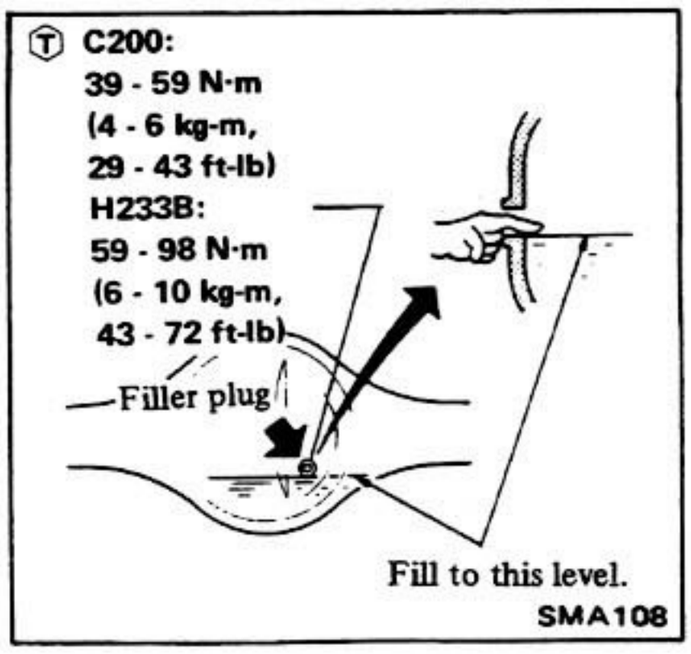
PROPELLER SHAFT AND DIFFERENTIAL CARRIER

CHECKING PROPELLER SHAFT

Check propeller shaft, replace if necessary.

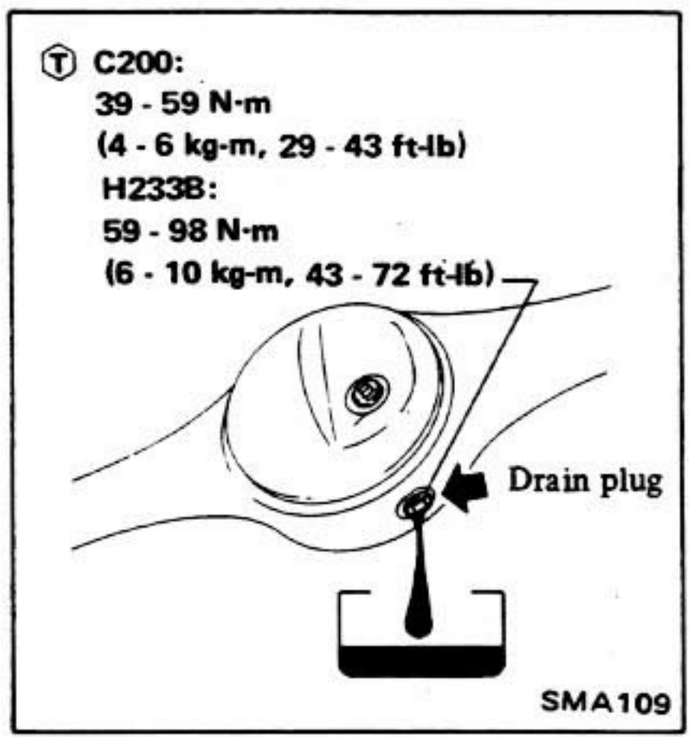


CHECKING DIFFERENTIAL CARRIER OIL LEVEL

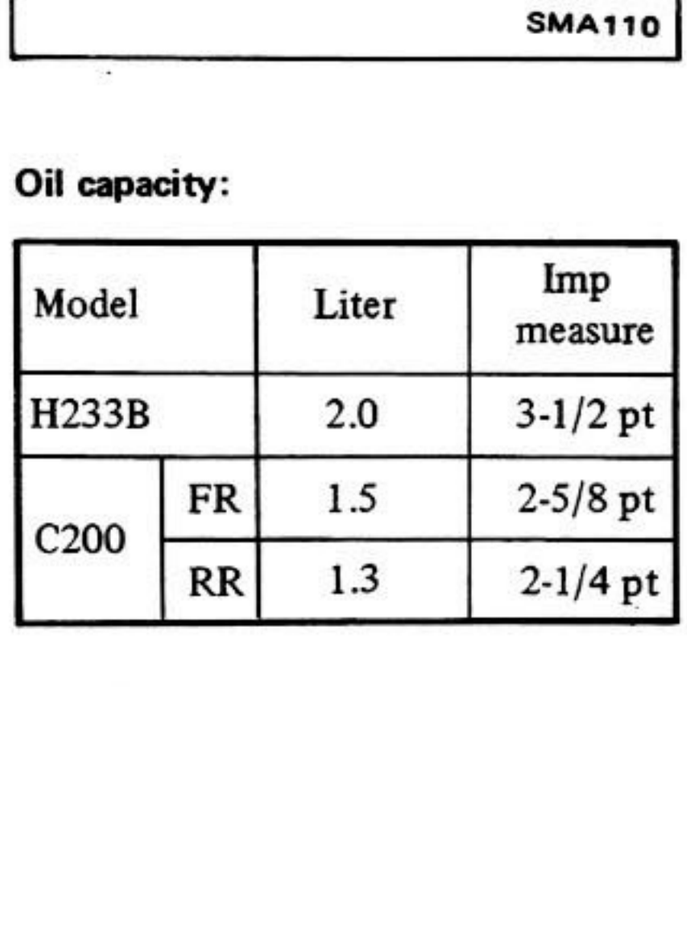


CHANGING DIFFERENTIAL CARRIER OIL

1. Drain oil completely.



2. Refill differential carrier and check oil level.



Oil capacity:

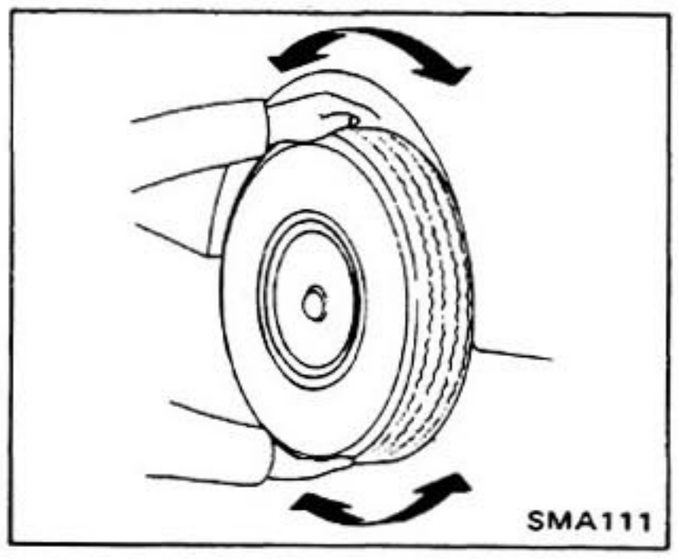
Model		Liter	Imp measure
H233B		2.0	3-1/2 pt
C200	FR	1.5	2-5/8 pt
	RR	1.3	2-1/4 pt

FRONT AXLE AND FRONT SUSPENSION

CHECKING FRONT AXLE AND SUSPENSION PARTS

1. Block rear wheels with chocks and raise front of vehicle, and then support it with safety stand. **Refer to Lifting Points and Towing (Section GI).**

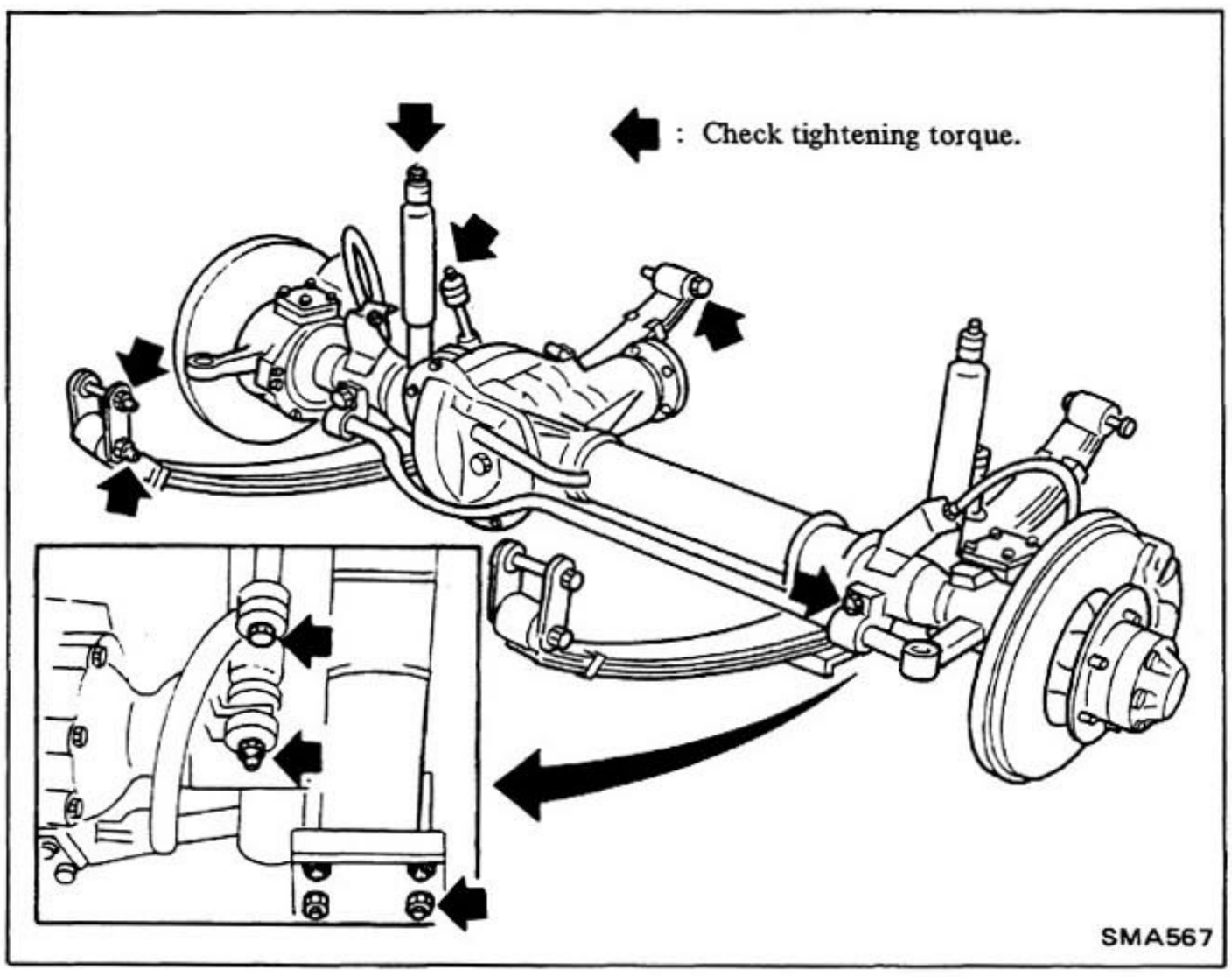
2. Shake each front wheel by holding upper and lower surfaces of tires as shown.



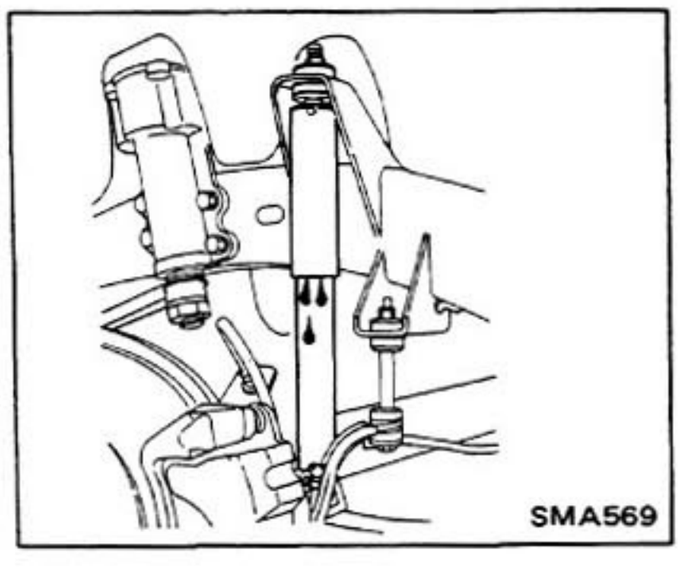
Check suspension parts for looseness, wear, or damage.

Retighten all loose nuts and bolts to the specified torque. Refer to Section FA for tightening torque.

Replace all worn parts as **described under Front Suspension (Section FA).**



3. Check shock absorber for oil leakage or damage.



4. Remove wheel and tire assembly.

5. Check front axle parts for crack or damage.

Replace worn parts.

Refer to Front Axle (Section FA).

6. Remove brake pads (Models equipped with front disc brake).

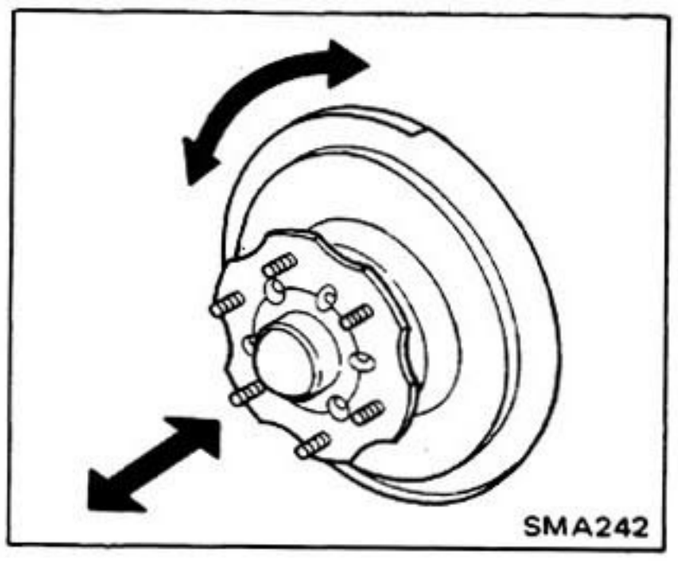
Refer to section BR.

7. Check wheel bearing.

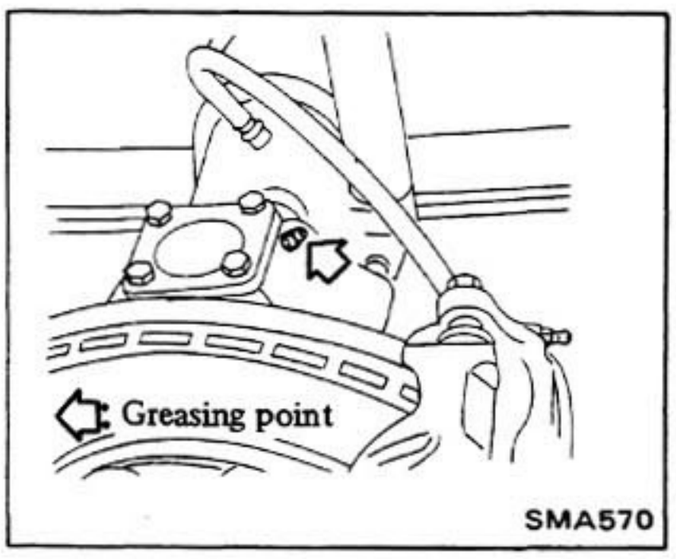
If there is any axial end play or if wheel bearing does not smoothly turn, adjust bearing to specifications.

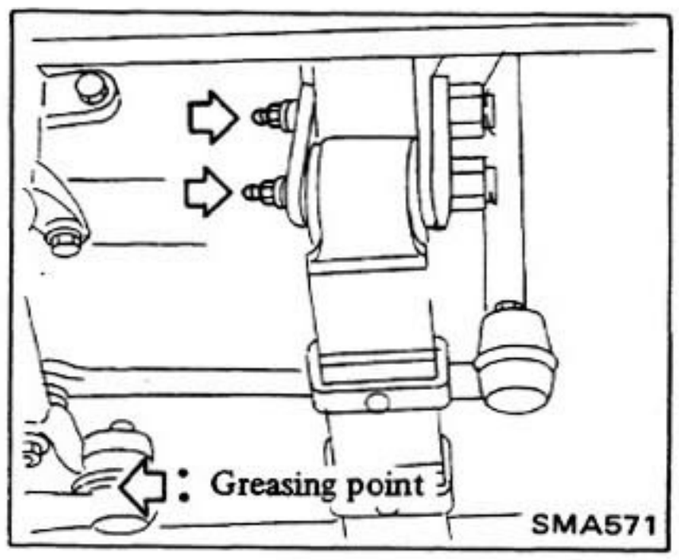
Replace worn or damaged bearings.

Refer to Front Axle (Section FA).



GREASING SUSPENSION AND AXLE PARTS



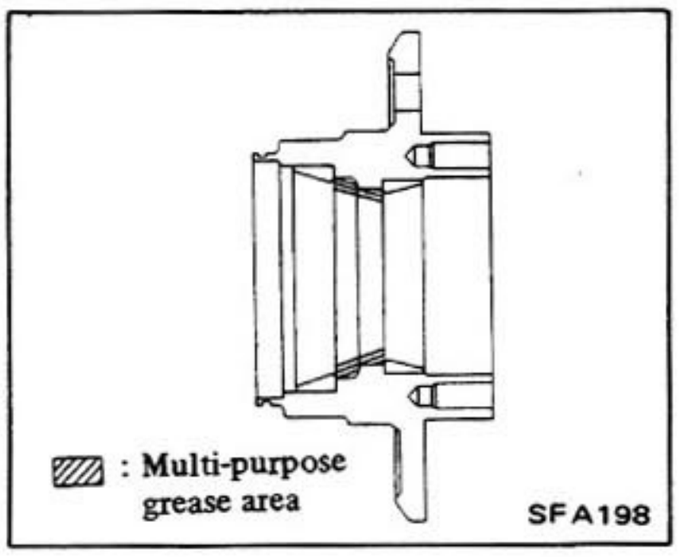


ADJUSTING WHEEL BEARING PRELOAD

After wheel bearing has been replaced or front axle has been reassembled be sure to adjust wheel bearing preload as described below.

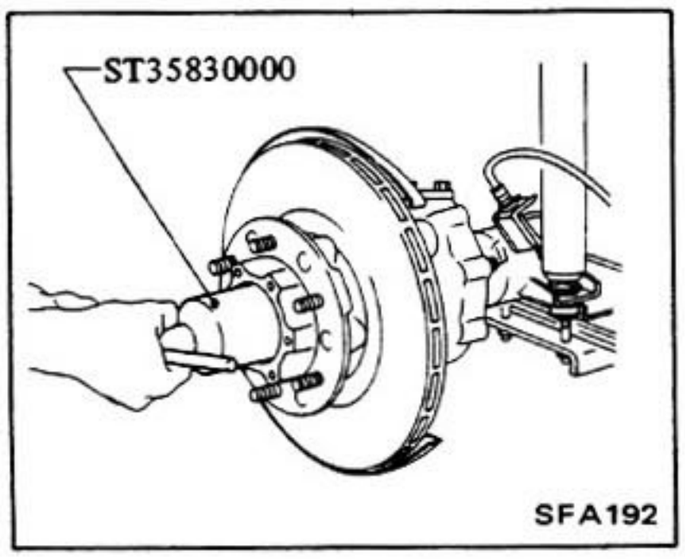
1. Before adjustment, thoroughly clean all parts to prevent possible entry of dirt.

2. Apply recommended multi-purpose grease sparingly to the following parts.
- Threaded portion of spindle.
- Contact surface between wheel bearing washer and outer wheel bearing.
- Hub, hub cap and O-ring.
- Grease seal lip.



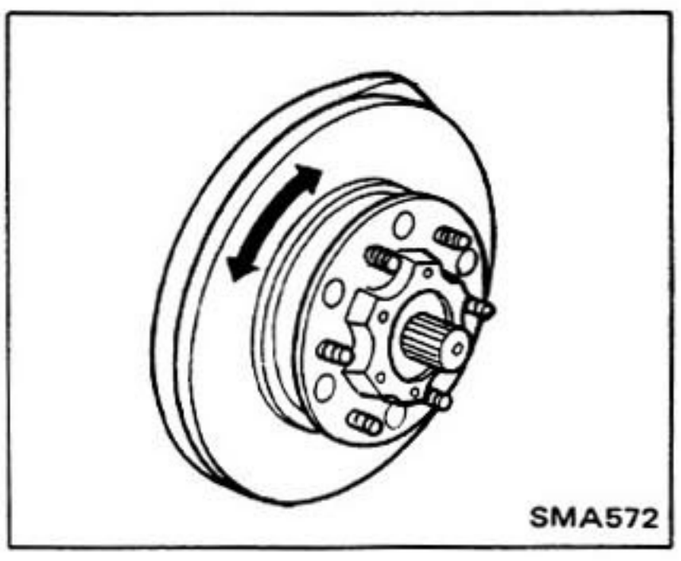
3. Install washer to knuckle spindle.

Apply grease to wheel bearing inner lock nut and tighten it to specified torque using **Tool.**



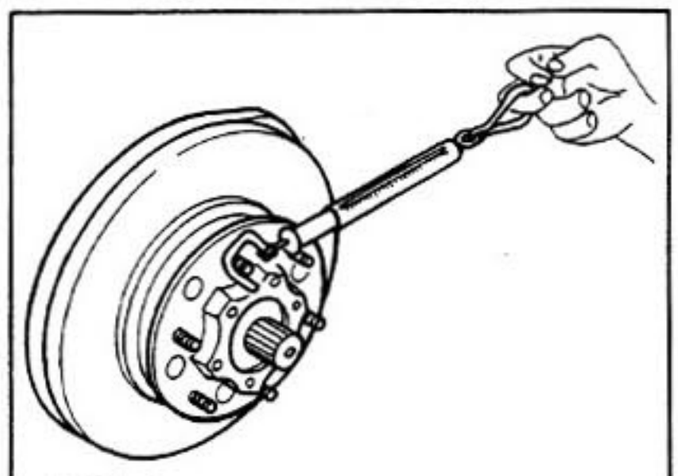
Ⓣ : Wheel bearing lock nut
167 - 196 N·m
(17 - 20 kg-m,
123 - 145 ft-lb)

4. Turn hub two or three times to nestle bearing and again tighten wheel bearing inner lock nut to specified torque.



Ⓣ : Wheel bearing lock nut
167 - 196 N·m
(17 - 20 kg-m,
123 - 145 ft-lb)

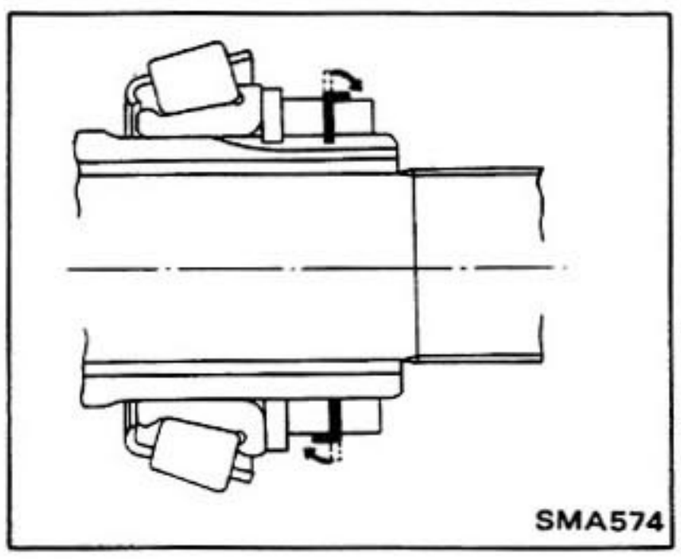
5. Adjust wheel bearing preload and axial play to the specified values by loosening inner lock nut.



6. When wheel bearing preload and axial play are to the specified values, tighten outer lock nut to specified torque.

Ⓣ : Wheel bearing lock nut
167 - 196 N·m
(17 - 20 kg-m,
123 - 145 ft-lb)

7. Firmly bend wheel bearing lock washer at 2 positions approximately 180 degrees apart.



8. Install free-running hub or drive flange, snap ring and cap. **Refer to Section FA for axle shaft installation.**

CHECKING WHEEL ALIGNMENT

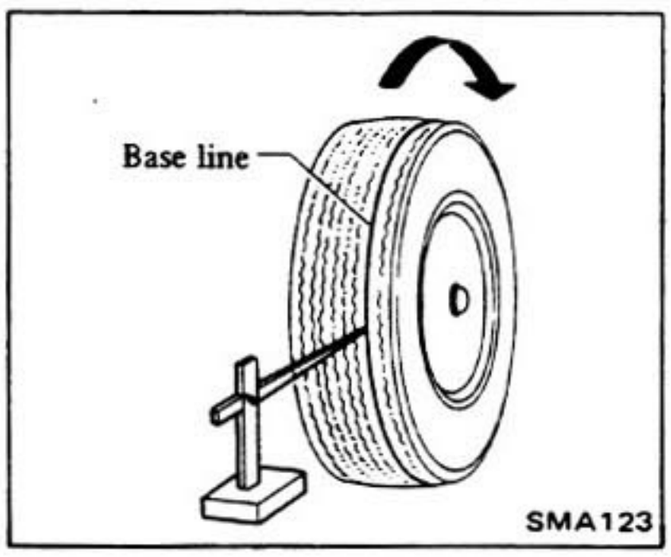
Before checking front wheel alignment, be sure to make a preliminary inspection of all front end parts.
- **Tire pressure**
- **Wheel bearing axial play**
- **Steering gear housing looseness at frame**
- **Steering linkage and connections**
- **Shock absorber operation**
- **Tighten each front axle and suspension parts.**
- **Measure vehicle height (Unladen).**
- **Repair or replace the damaged portion or parts.**

"Unladen"
- Fuel tank, radiator and engine oil tank all full.
- Spare tire, jack, hand tools, mats in position.
- All tires inflated to specified pressure.
- All accumulation of mud, dirt and road deposits removed from chassis and underbody.

Toe-in

Measure toe-in, and make necessary adjustments. Use the following procedure when making adjustments.

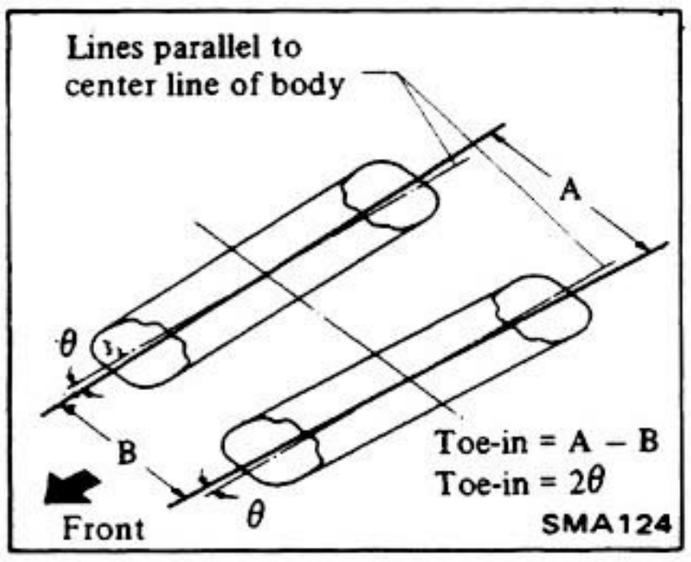
1. Raise front of vehicle and mark a base line across the tread of left and right wheels.



2. Set wheels in a straight-ahead position, and then lower front of vehicle.

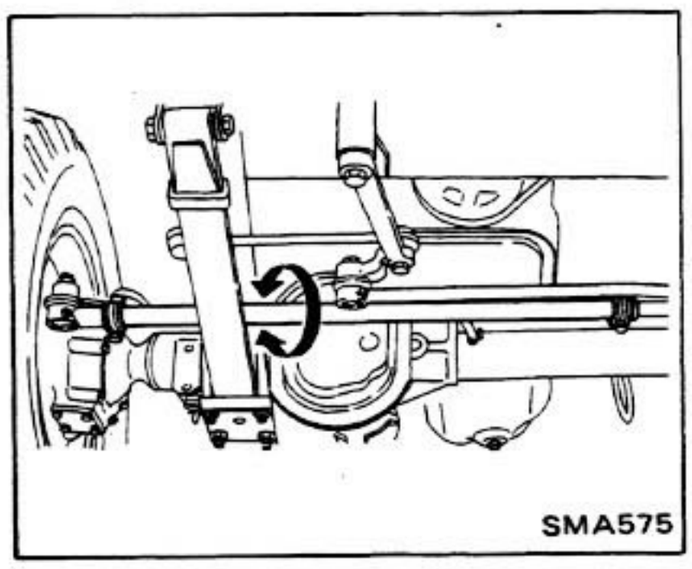
Lower front of vehicle and move vehicle back and forth.

3. Measure toe-in and make necessary adjustments.

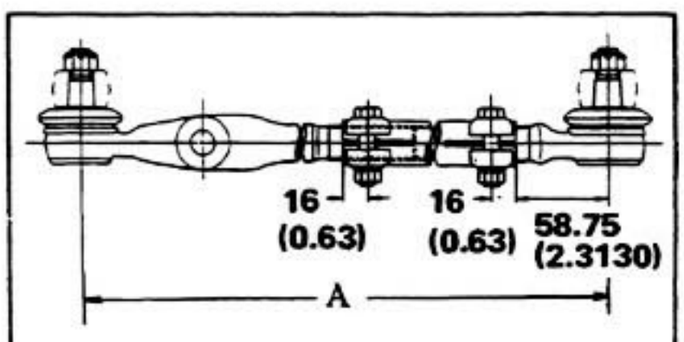


Toe-in (Unladen):
Refer to S.D.S.

Toe-in can be adjusted by varying the length of tie rod.



If tie rod has been disassembled, set the distance between left and right ball stud centers to the specified value "A" prior to reassembling.



Standard length "A" between ball stud centers: 1,219 (47.99)

Unit: mm (in)

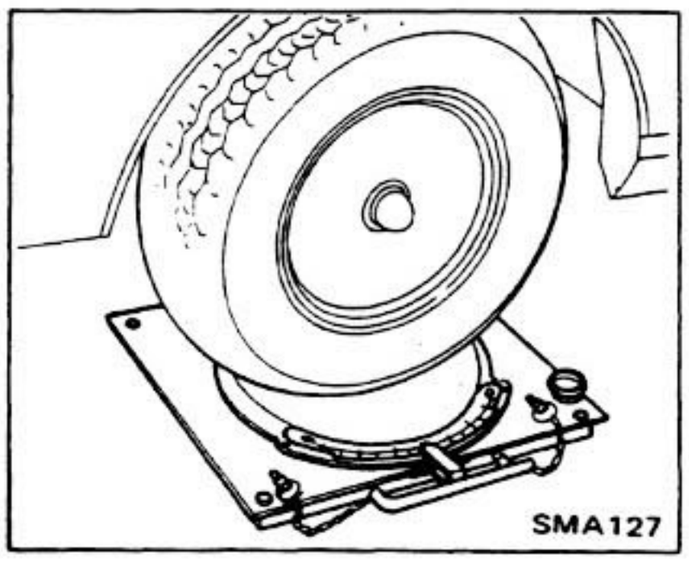
SST314

4. After correct toe-in has been obtained, tighten tie rod tube clamps.

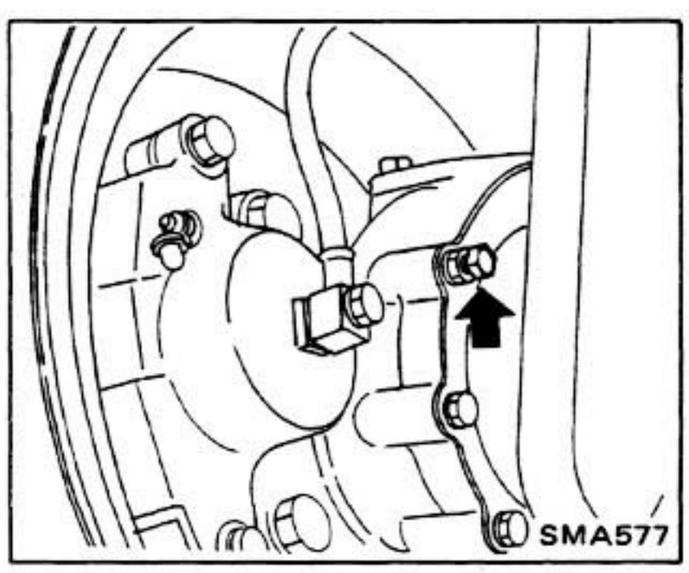
Ⓣ : **Tie rod tube clamps**
64 - 78 N-m
(6.5 - 8.0 kg-m,
47 - 58 ft-lb)

Front wheel turning angle

1. Set wheels in straight ahead position and then move vehicle forward until front wheels rest on turning radius gauge properly.



2. Remove stopper pin of turning radius gauge and then fully rotate steering wheel to the right and left; measure turning angle and make necessary adjustments.



Front wheel turning angle:
Toe-out turns (When inner wheel 20°)
Outer wheel 19.5°
Full turns
Inner wheel 28° - 30°
Outer wheel 27.5° - 29.5°

Turning angle of outer wheel will automatically be set by adjusting turning angle of inner wheel to specified values.

3. After adjustment, lock adjusting lock nut.

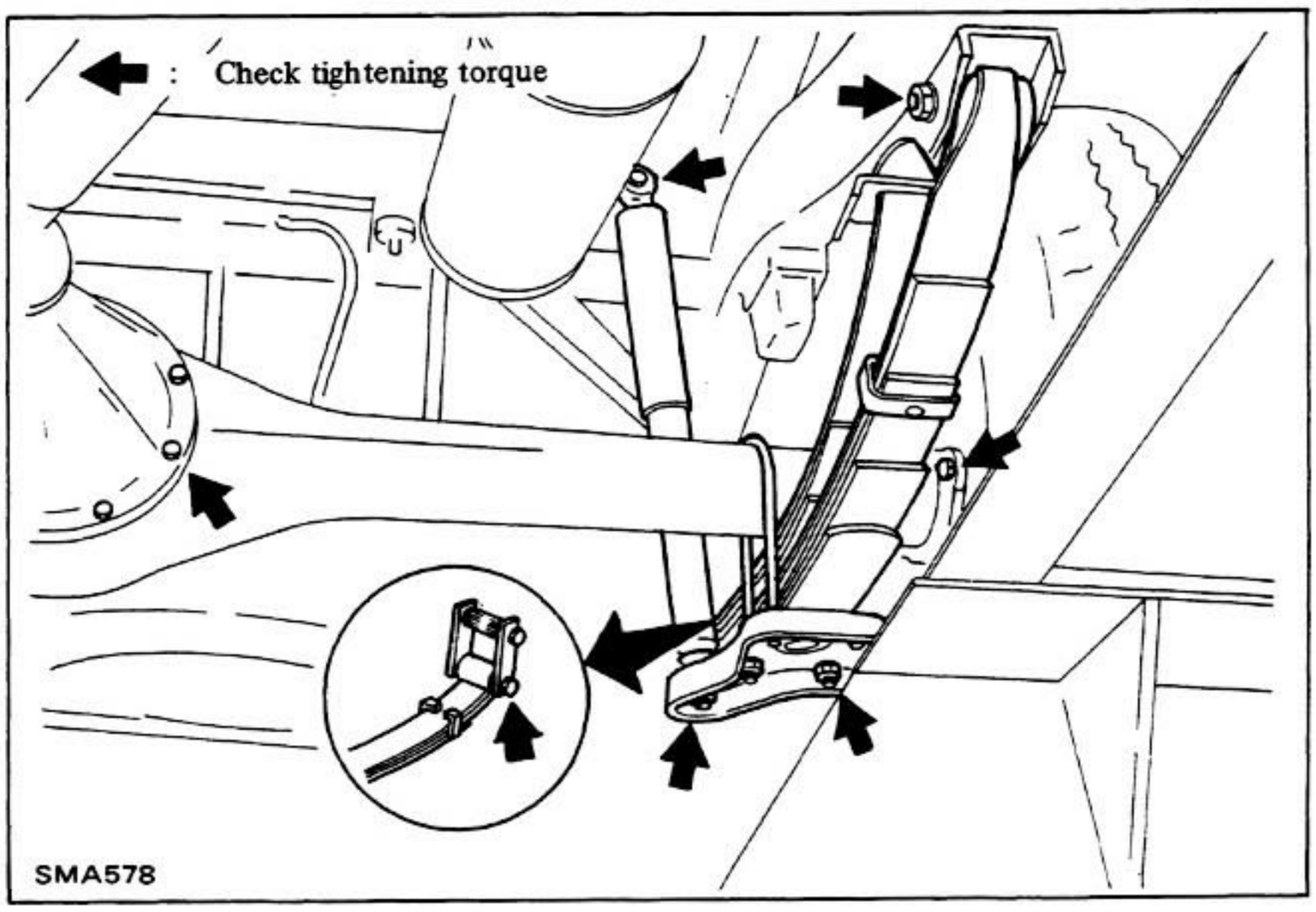
REAR AXLE AND REAR SUSPENSION

CHECKING REAR AXLE AND SUSPENSION PARTS

Check rear axle and suspension parts for looseness, wear or damage.

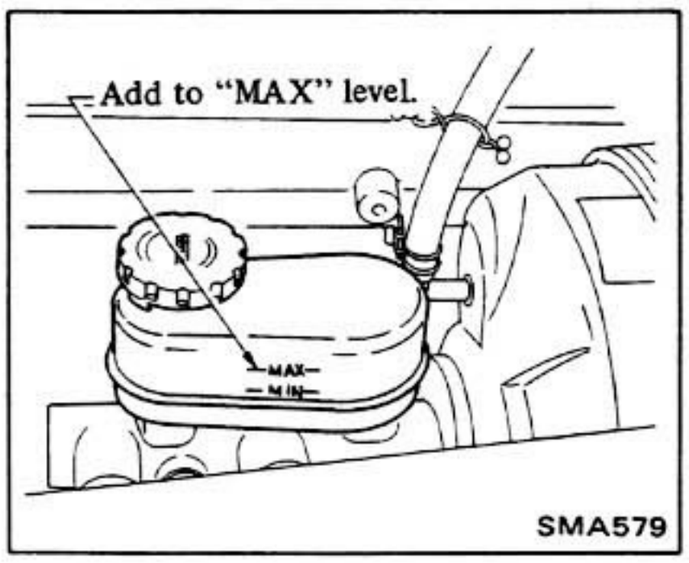
Retighten all loose nuts and bolts to the specified torque. **Refer to Section RA for tightening torque.**

Replace all worn parts as **instructed under Rear Suspension (Section RA).**



BRAKE SYSTEM

CHECKING BRAKE FLUID LEVEL AND LEAKS



If fluid level is extremely low, check brake system for leaks.

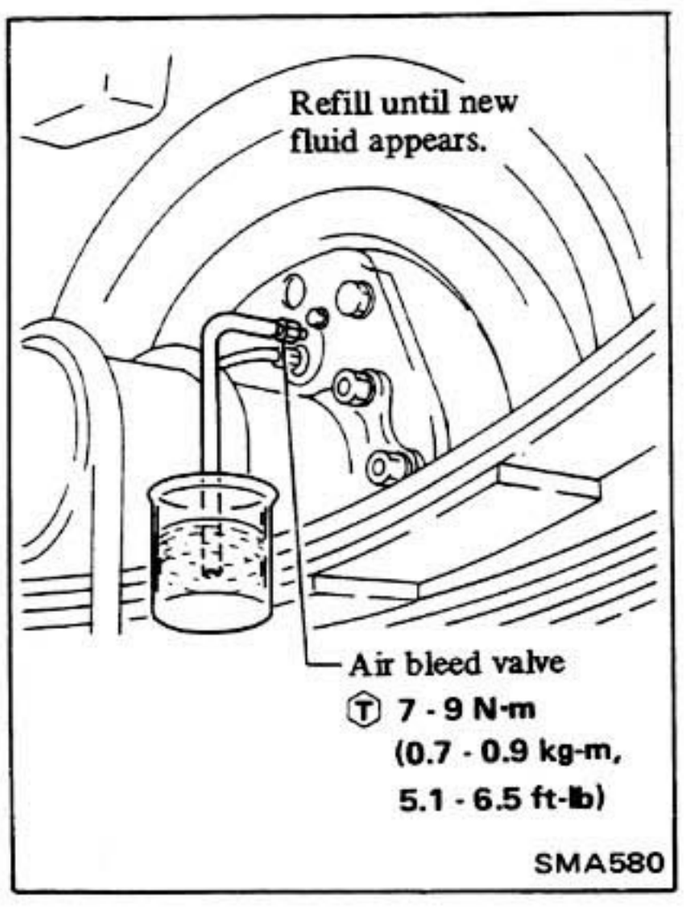
CHANGING BRAKE FLUID

1. Change brake fluid.

Use same procedure as in air bleeding to change brake fluid in system. This operation should be done for one wheel at a time. Refer to Section BR.

CAUTION:
Never reuse brake fluid because its characteristic is changed by oxidization as well as contains the foreign material and dirt.

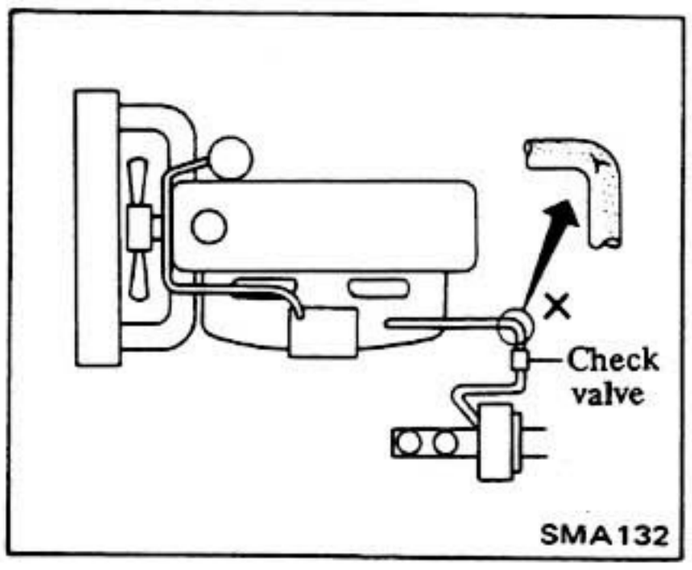
Recommended brake fluid specification:
DOT 3 (F.M.V.S.S. No. 116)

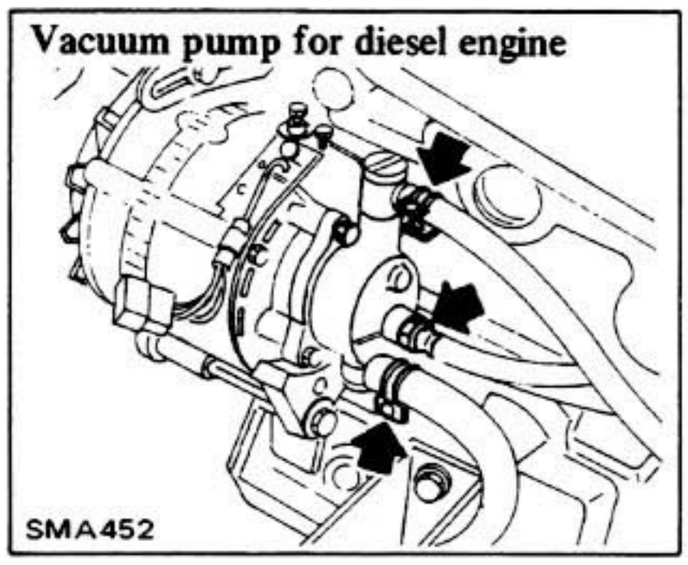


2. Check brake fluid level.
3. Check for leaks.

CHECKING BRAKE BOOSTER VACUUM HOSES, CONNECTIONS AND CHECK VALVE

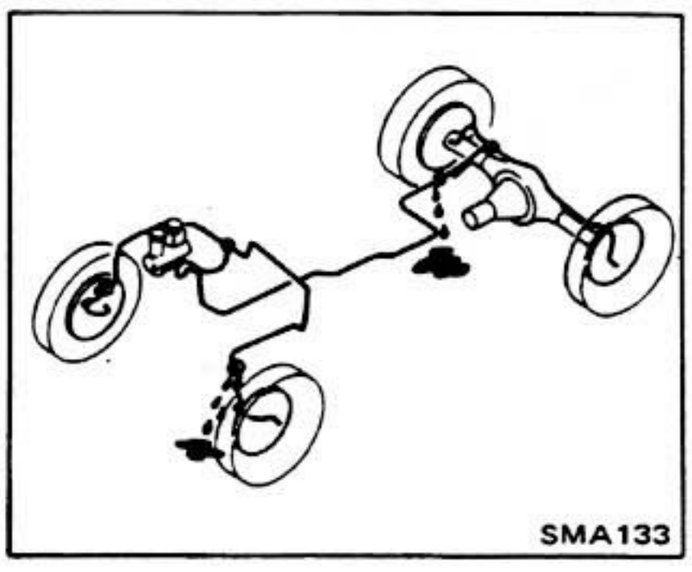
1. Check condition of vacuum hoses and connections.
2. Check vacuum hoses, check valve and vacuum pump (for diesel engine) for air tightness.





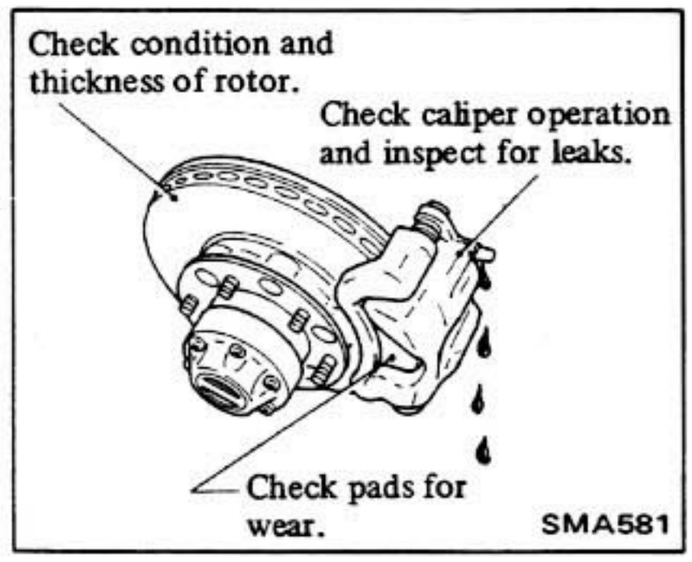
CHECKING BRAKE SYSTEM

Check brake system for proper attachment, leaks, chafing, abrasion, deterioration, etc.

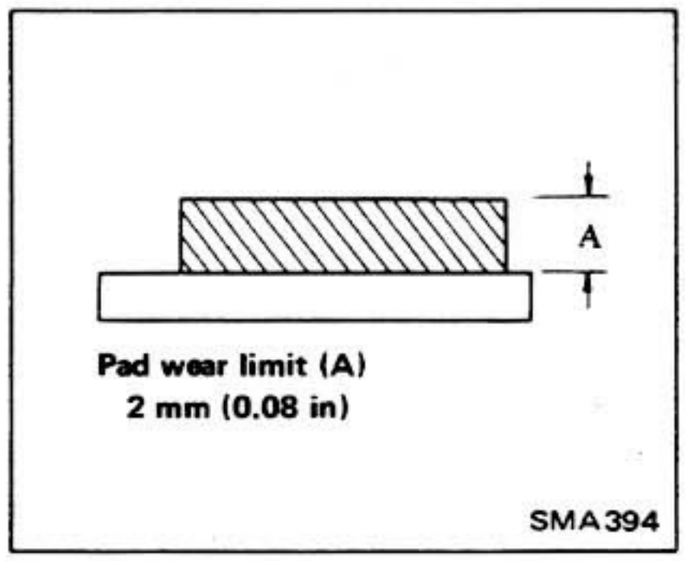


CHECKING DISC BRAKE

Check condition of disc brake components.

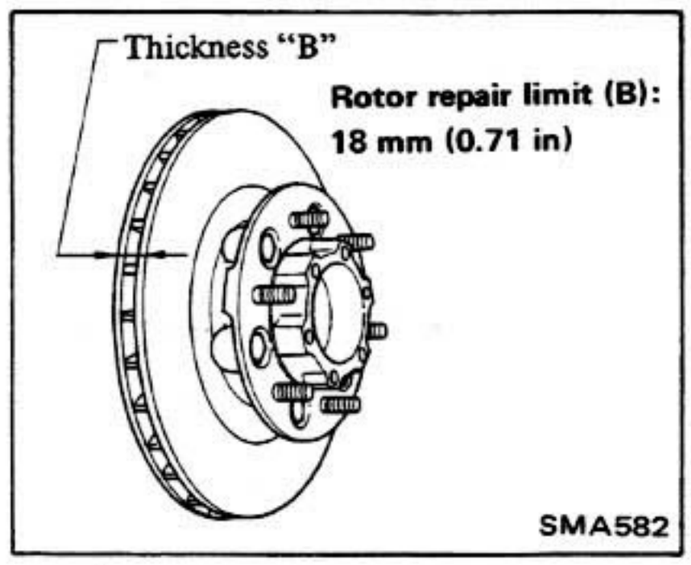


Pad wear limit



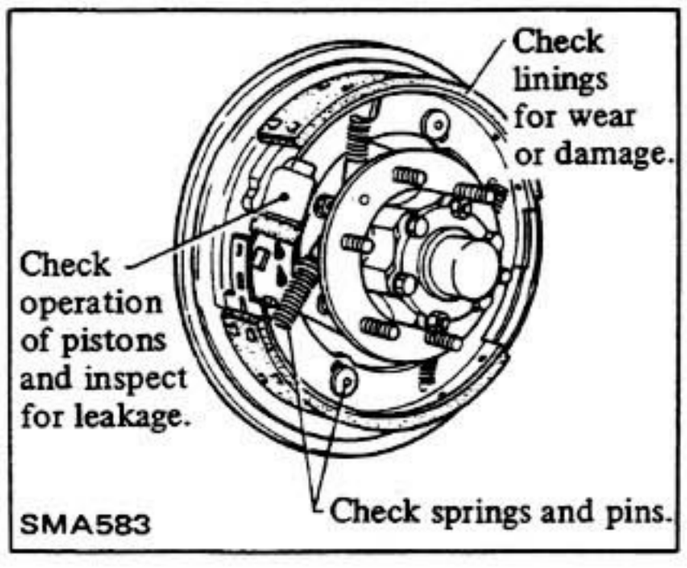
Refer to Section BR for pad replacement.

Rotor repair limit

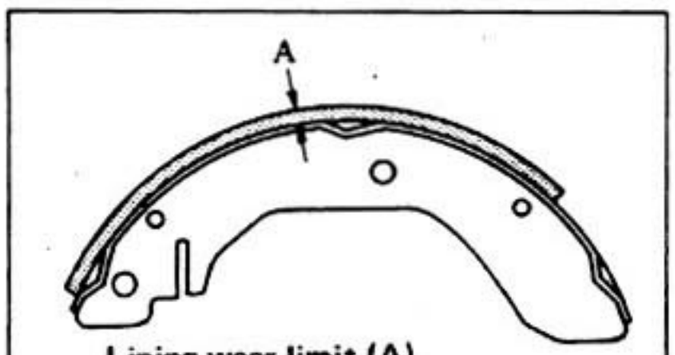


CHECKING DRUM BRAKE

Check condition of drum brake components.

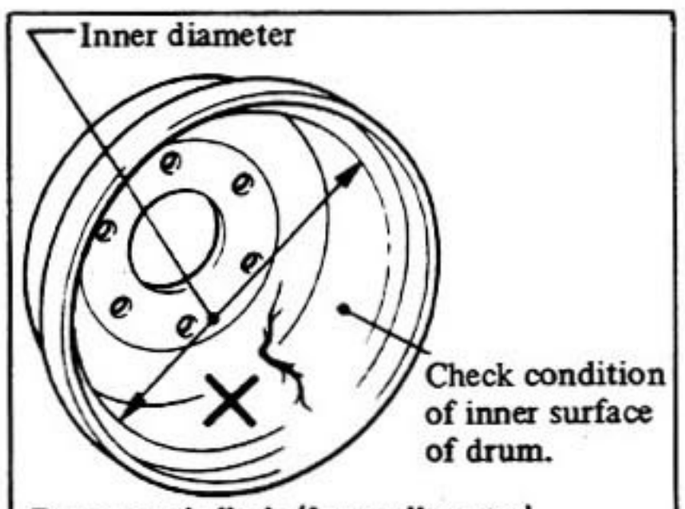


Lining wear limit



Refer to Section BR for shoe replacement.

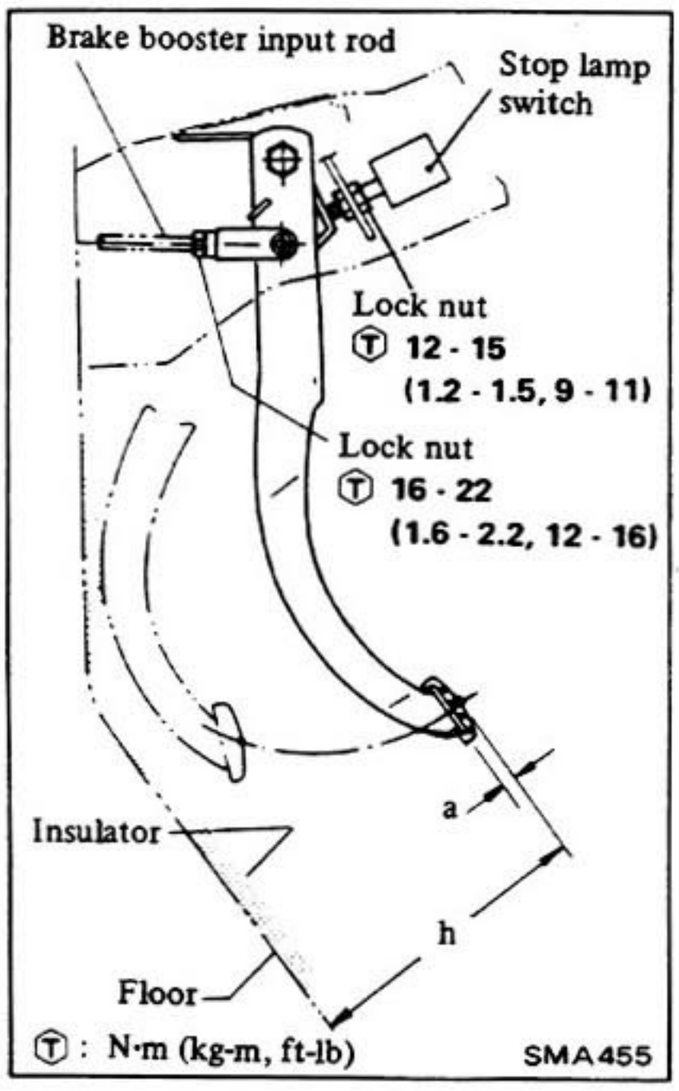
Drum repair limit



CHECKING FOOT BRAKE

1. Check brake pedal free height and free play.

Adjust if necessary.



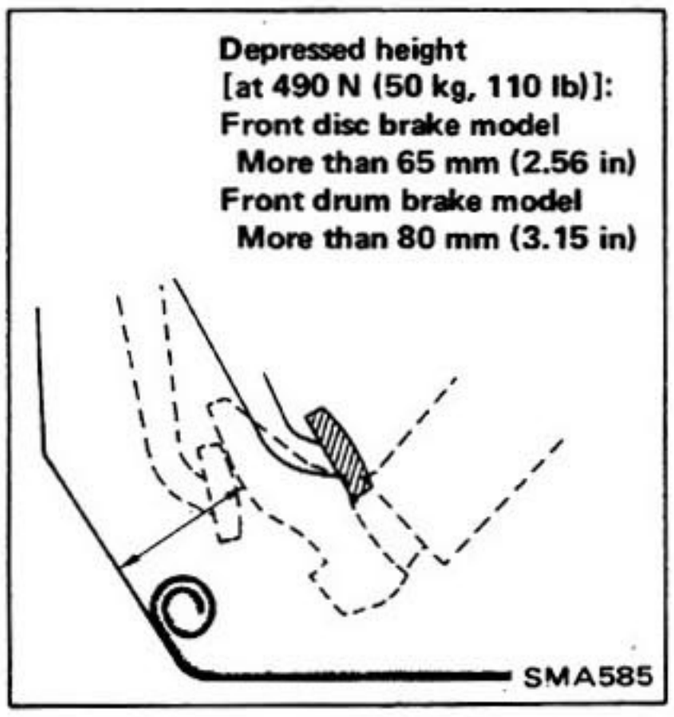
Pedal free height "h":
Model 160 series
190 - 196 mm (7.48 - 7.72 in)
Model 61 series
181 - 187 mm (7.13 - 7.36 in)
Pedal free play "a":
1 - 5 mm (0.04 - 0.20 in)

(1) Adjust pedal free height with stop lamp switch. Then tighten lock nut.
(2) Adjust pedal free play with brake booster input rod. Then tighten lock nut.

Pedal free play means the following total measured at position of pedal pad.

- **Play due to clevis pin and clevis pin hole in pedal lever.**
- **Play due to piston and piston rod.**

2. Check brake pedal depressed height.



If depressed height is below the specified value, check and adjust shoe-to-drum clearance, check brake system for leaks, accumulation of air or any abnormality regarding component parts (master cylinder, adjuster, etc.), and make the necessary repairs.

ADJUSTING FOOT BRAKE

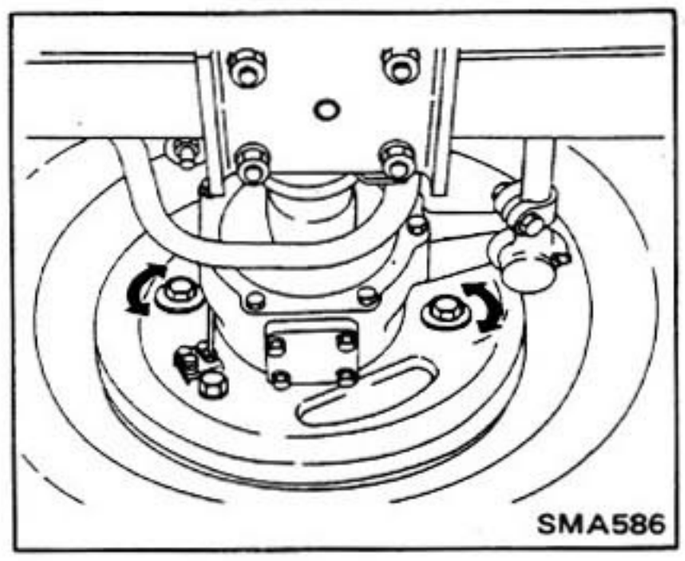
Front disc brake

Front disc brake does not require adjustment under normal conditions since pad to rotor clearance is automatically compensated for by elasticity of piston seal and gripper.

Front drum brake

1. Before adjustment of lining to drum clearance, pump brake pedal several times to settle brake shoes in correct position.
2. Raise vehicle until front wheels clear floor.
3. Turn a cam clockwise for left drum (counterclockwise for right drum) until shoe drags against brake drum.

Shoes expand and brake is locked when cam is turned in the direction of vehicle forward movement.

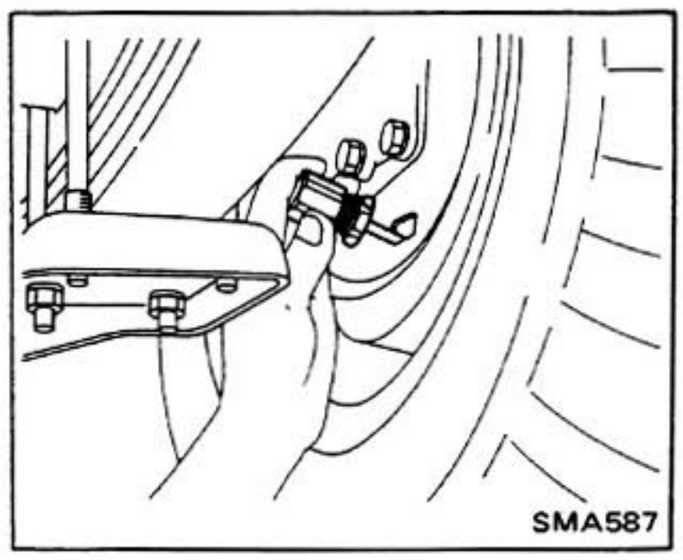


4. Turn out the adjusting cam a little at a time until brake shoe is not in contact with brake drum.
5. Follow steps 3 and 4 on remaining cam.

Rear brake

1. Make sure parking brake lever returns to its original position.
2. Raise vehicle until rear wheels clear floor.
3. Remove rubber cap from brake disc.
4. Turn down adjuster wheel with a screwdriver until shoe drags against brake drum.

For both right and left brakes, brake shoes spread when adjuster wheel is turned downward.



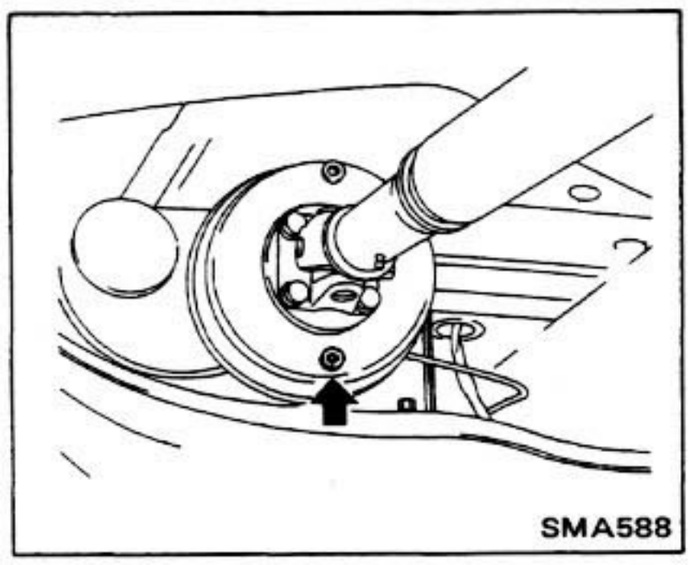
5. Return adjuster wheel until brake shoe is not in contact with brake drum.

Standard returning latches:
8 - 10

6. Install rubber cap.

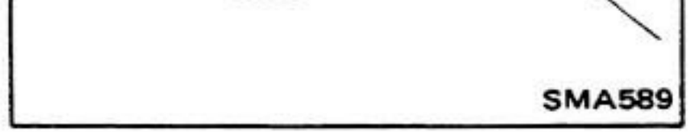
ADJUSTING PARKING BRAKE

1. Set transmission and transfer control lever in neutral position.
2. Remove rubber cap from center brake drum.


SMA588

3. Turn down adjuster wheel with a screwdriver until shoe drags against brake drum.

Brake shoes spread when adjuster wheel is turned downward.


SMA589

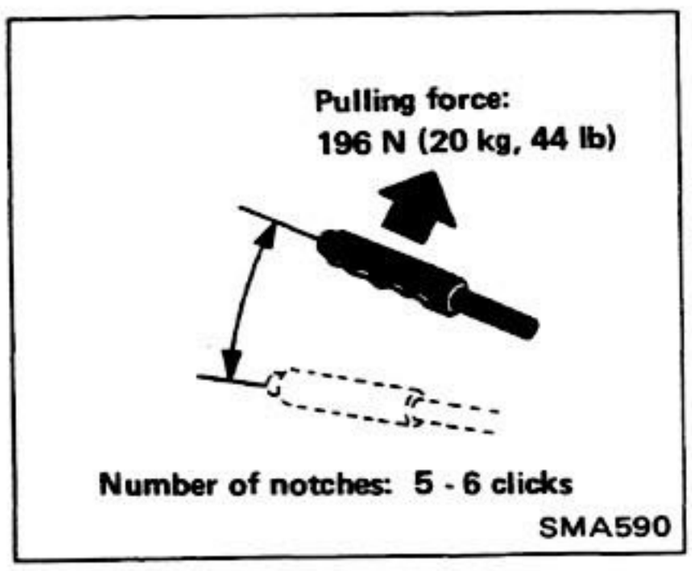
4. Return adjuster wheel standard latches to obtain correct clearance between brake drum and brake shoes.

Standard returning latches:
8 - 10

Turn brake drum, and make sure that brake drum turns without dragging. When brake shoes interfere with brake drum, return adjuster wheel one by one until brake shoe is not in contact with brake drum.

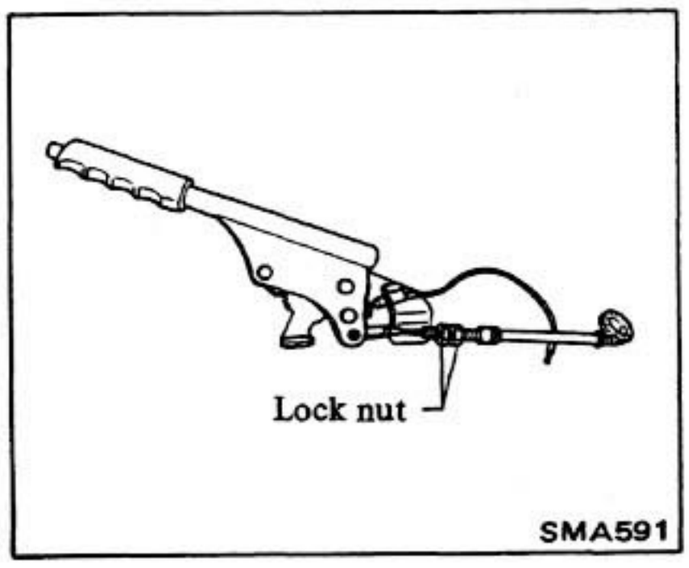
5. Pull lever with specified amount of force.

Measure lever stroke with number of notches.



SMA590

6. Adjust lever stroke.



SMA591

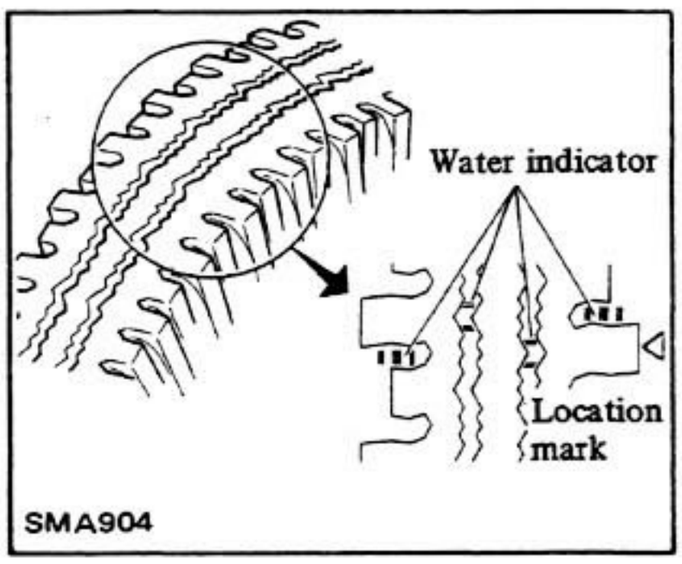
7. Bend parking brake warning lamp switch plate down so that brake warning light comes on when ratchet at parking brake lever is moved back one notch and goes out when returned to its original position.

WHEEL AND TIRE

CHECKING TIRE CONDITION

Tire condition

1. Tires are provided with "tread wear indicator", indicating 1.6 mm (1/16 in) tread depth. When tires wear and then marks appear, replace them with new ones.



SMA904

2. Remove pebbles, glass or any other foreign material embedded in tire treads.
3. Check tread and side walls for cracks, holes, separation or damage.
4. Check tire valves for air leakage.

Tire inflation

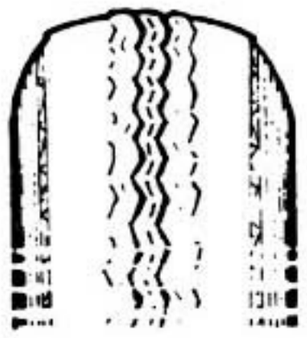
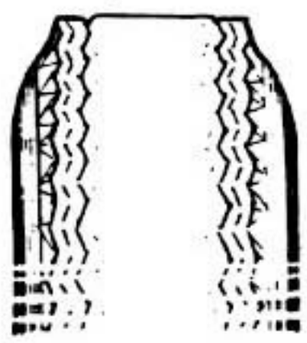
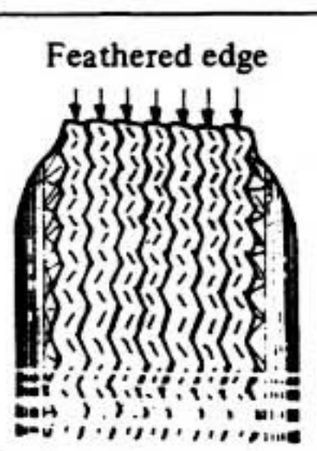
1. Check tire pressure. If necessary, adjust it to the specified value. **Refer to S.D.S.**

Tire pressure should be measured when tire is cold.

2. After inflating tires, valves should be checked for leakage. Whenever tire pressure is checked, be sure to tighten valve caps firmly by hand to keep dust and water out.

Abnormal tire wear

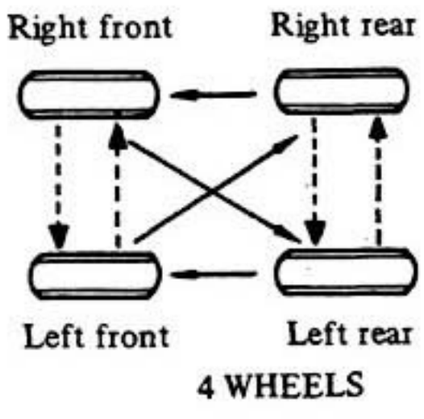
Correct abnormal tire wear according to the chart shown below.

Condition	Probable cause	Corrective action
 Shoulder wear	• Underinflation (both sides wear) • Incorrect wheel camber (one side wear) • Hard cornering • Lack of rotation	• Measure and adjust pressure. • Adjust camber. • Reduce speed. • Rotate tires.
 Center wear	• Overinflation • Lack of rotation	• Measure and adjust pressure. • Rotate tires.
Feathered edge  Toe-in or toe-out wear	• Incorrect toe	• Adjust toe-in.
 Uneven wear	• Malfunctioning suspension • Unbalanced wheel • Out-of-round brake drum • Other mechanical conditions • Lack of rotation	• Repair, replace or, if necessary, reinstall. • Balance or replace. • Correct or replace. • Correct or replace. • Rotate tires.

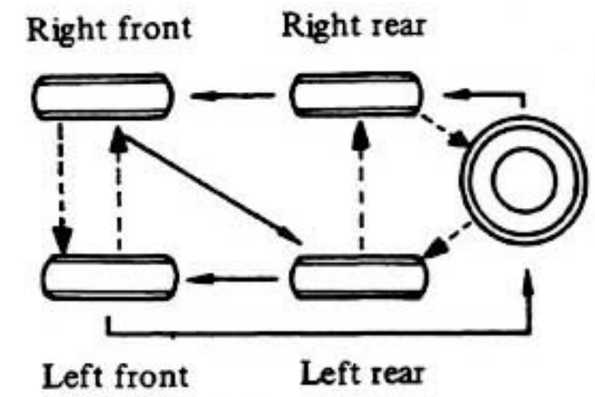
SMA592

Bias and Bias Belted Tires

If the number of plies differs between front and rear tires, rotate according to the dotted lines.

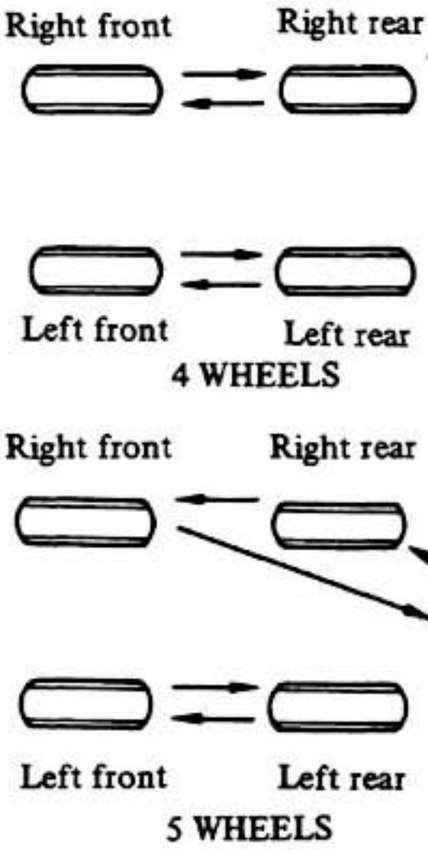


4 WHEELS



5 WHEELS

Radial Tire



4 WHEELS

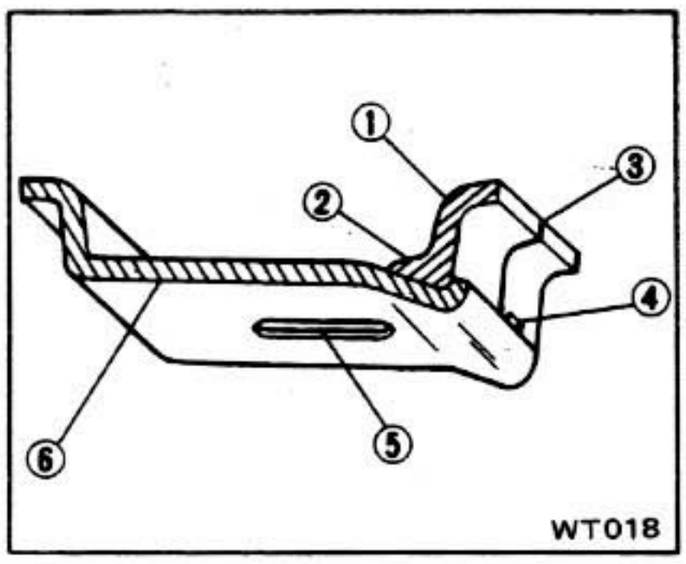
5 WHEELS

SMA637

TIRE ROTATION

1. Tires tend to wear unevenly and become unbalanced after a certain running distance. Uneven tire wear often results in tire noise which is attributed to rear axle gears, bearing, etc. Front tires also tend to wear unevenly because of improperly aligned front wheels.
2. Accordingly, to equalize tire wear, it is necessary to **rotate tires periodically**.

5.50F X16SDC WHEEL AND TIRE



1 Side ring
2 Side ring bead seat
3 Side ring gap
4 Lever groove
5 Valve hole
6 Rim base

Removal

1. Fully deflate tire.
2. Insert tire lever between tire and side ring, and pry off tire over entire bead periphery.
3. Attach tire lever to side ring gap and flip toward lever groove in side ring.
4. Insert tip of side ring lever into its groove and flip side ring lever toward middle of wheel. Side ring gap end will then be separated from rim groove.

WARNING:
Always insert side ring lever far enough into groove, or it may slip out of place, resulting in accident or injury.

5. Starting with ring gap end, gradually pry side ring until it removed.

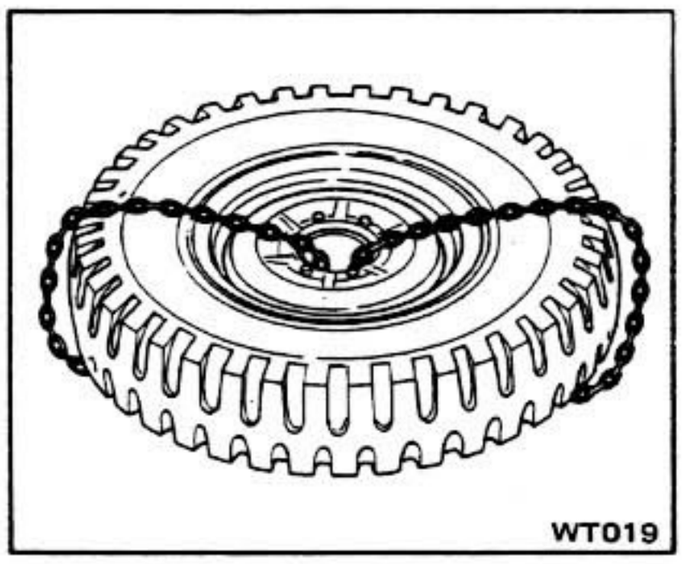
Installation

Before installing tire, carefully check side ring and rim, especially rim groove which comes in contact with side ring. Remove rust and dirt with a wire brush. If possible, coat these parts with rust-preventing paint.

1. Attach tire to rim.

Make sure air valve is facing in correct direction.

2. Place side ring onto rim, and **step on areas around side ring gap end until it catches in rim groove.**
3. Attach lever to a position 100 mm (3.94 in) away from the other end gap. Pulling side ring outwards, step on it starting with position where ring has already caught in groove, until entire side ring fits in rim groove.
4. Check side ring to make sure it is securely caught in groove all around and side ring gaps are positioned properly.
5. Attach chain or wire to wheel and tire.



6. Inflate tire to approx. 98 kPa (1.0 bar, 1 kg/cm^2, 14 psi). Lightly tap tire with a mallet so that it is well seated on side ring.
7. Inflate tire to the specified pressure.

TIRE REPLACEMENT

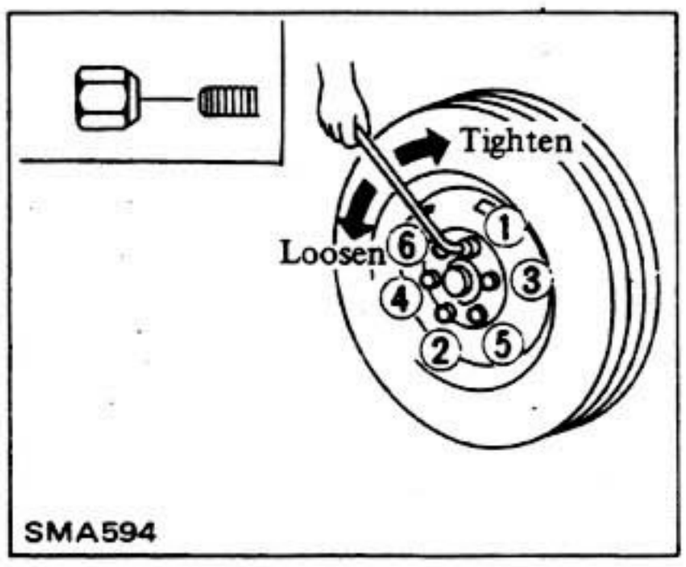
CAUTION:
Different types of tires, such as bias, bias belted and radial tires, must not be mixed under any circumstances. Mixed use of different types of tires can adversely affect vehicle handling and may cause driver to lose control.

a. When replacing a worn or damaged tire, use a replacement tire of the same size and load carrying capacity as that with which the vehicle was equipped when manufactured. The use of different size and/or load capacity tires will not only shorten tire service life but may also result in a serious accident.
b. Do not use tires, tubes and wheels other than those recommended, and do not mix tires of different brands or tread patterns. The use of tires and wheels other than those recommended or the mixed use of tires of different brands or tread patterns can adversely affect the ride, braking, handling, ground clearance, body-to-tire clearance, and speedometer calibration.
c. It is recommended that new tires be installed in pairs on the same axle. When replacing only one tire, it should be paired with the most tread, to equalize braking traction.
d. When replacing original tires with those tires of an optional recommended size and of different diameter, the speedometer must be re-calibrated.

1. To replace a tire with a jack in a safe manner. **Refer to Lifting Points (Section GI) for jacking up.**

WARNING:
Never get under vehicle while it is supported only by jack.
Always use safety stands to support side member of body construction when you must get beneath vehicle.

2. To install wheel, tighten wheel nuts in **criss-cross fashion.**



Ⓣ : **118 - 147 N·m (12 - 15 kg-m, 87 - 108 ft-lb)**

TIRE AND/OR TUBE REPAIR

Inspect tire, following the procedure shown below. If any defect is present, repair or replace as necessary.

1. Apply soapy solution or submerge tire and wheel or tube in water after inflating it to specified pressure.
2. Inspect for leaks.
3. Specially inspect for leaks around valve or wheel rim and along tread.
4. Note bead and rim where leakage occurs. Wipe water away from any area which leaks air bubbles and then mark place with chalk.
5. Remove object which caused puncture and seal the point.

a. When repairing a puncture, use a tire repair kit furnished by any tire dealer, following instructions provided with kit.
b. If a puncture is too large or there is some damage to tire fabric, repair should be carried out by authorized tire dealer.

6. Discard when any of the following problems occurs:

- Broken or damaged bead wire.
- Ply or tread separation.
- Cracked or damaged side wall.
- Tires with tread wear indicator showing, etc.

CAUTION:
When replacing tire, take extra care not to damage tire bead, rim-flange and bead seat.

Do not use tire irons to force beads away from wheel rim-flange; that is, always use tire replacement device whenever tire is removed.

7. Install tire, noting the following items:

a. Install valve core and inflate to proper pressure. Check the locating rings of the tire to be sure they show around the rim flanges on both sides.
b. Check valves for leakage after inflating tires.
c. Be sure to tighten valve caps firmly by hand.

WARNING:
When, while tire is being inflated, bead snaps over safety hump, it might break. Thus, to avoid serious personal injury, never stand over tire when inflating it. Never inflate to a pressure greater than the maximum value shown on the side wall of the tire. If beads fail to seat at that pressure, deflate the tire, lubricate it again, and then reinflate it. If the tire is overinflated, the bead might break, possibly resulting in serious personal injury.

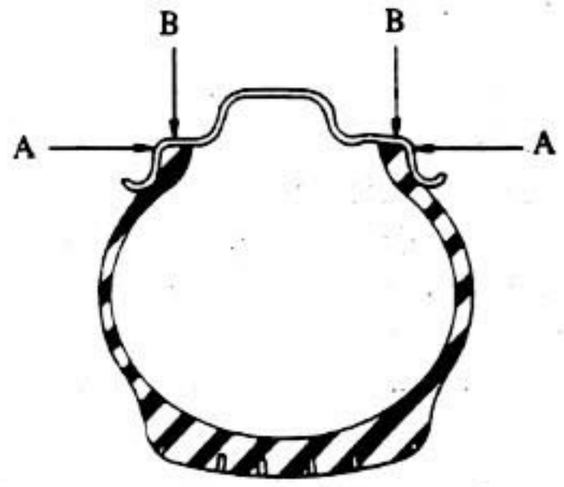
WHEEL INSPECTION

Inspect wheel, taking care of the following points, in order to ensure satisfactory steering condition as well as maximum tire life. If any defect is present, repair or replace as necessary.

1. Check wheel rim, especially rim flange and bead seat, for rust, distortion, cracks or other faults which might cause air leaks.
2. Thoroughly remove rust, dust, oxidized rubber or sand from wheel rim.

Rim bead seats should be cleaned with wire brush, coarse steel wool, etc.

3. Examine wheel rim for lateral and radial runout, using dial gauge.



Lateral runout (A) and radial runout(B): Less than 2.0 mm (0.079 in) SMA595

4. Replace wheel when any of the following problems occurs.

- Bent, dented or heavily rusted
- Elongated bolt holes
- Excessive lateral or radial runout
- Air leaks through welds
- Wheel nuts will not stay tight

Wheel balance

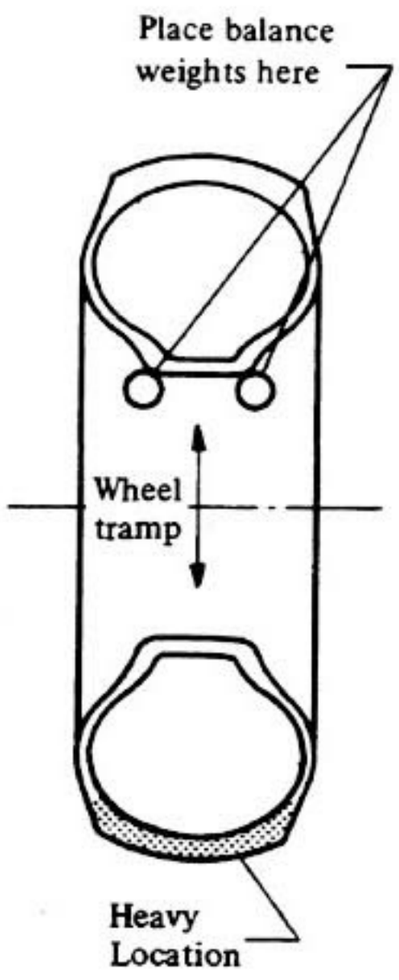
Inspect wheel and tire for wheel balance and correct it if unbalance is present, taking the following points into consideration.

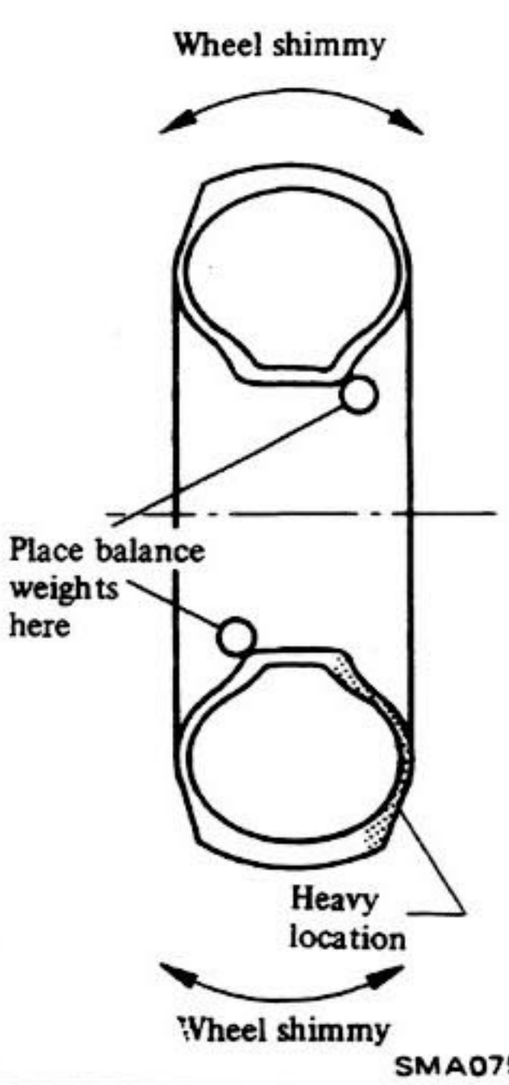
1. Correct unbalance when the symptom of unbalance appears as wheel tramps and wheel shimmy.
2. Balance wheel and tire both **statically and dynamically.**

Balancing wheels

WARNING:
When balancing wheel and tire on the vehicle, be sure to observe the equipment manufacturers instructions carefully.

Cause	Wheel static unbalance	Wheel dynamic unbalance
Symptom of unbalance	Wheel tramp Wheel shimmy	Wheel shimmy
Corrective action	Balance statically	Balance dynamically





SMA075

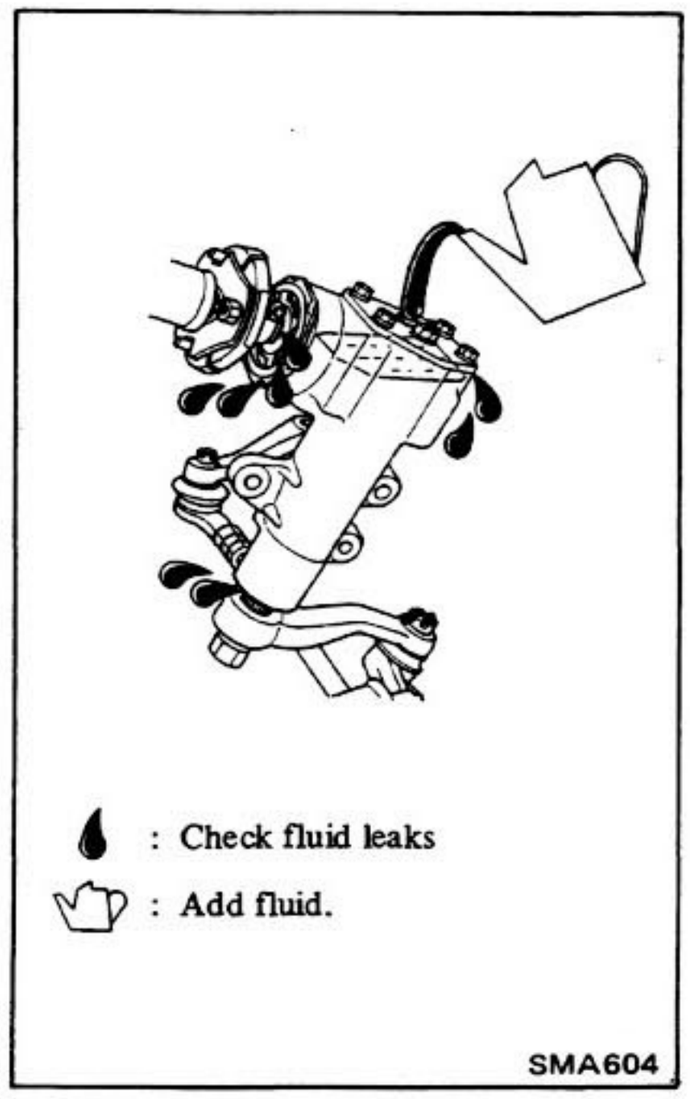
Maximum allowable unbalance at rim flange:
30 g (1.06 oz)
Balance weight:
Ⓐ Road wheel size 4.50Ex16 & 5.00Ex16
10 - 60 g (0.35 - 2.12 oz) at 10 g (0.35 oz) interval
Ⓑ Road wheel size 5.50Fx16SDC
20 - 100 g (0.71 - 3.53 oz) at 20 g (0.71 oz) interval

SMA596

a. Be sure to place correct balance weights on inner edge of rim.
b. Do not put more than two weights on each side.
c. Properly rebalance the wheel and tire whenever puncture is repaired.

STEERING SYSTEM

CHECKING STEERING GEAR OIL LEVEL AND LEAKS



SMA604

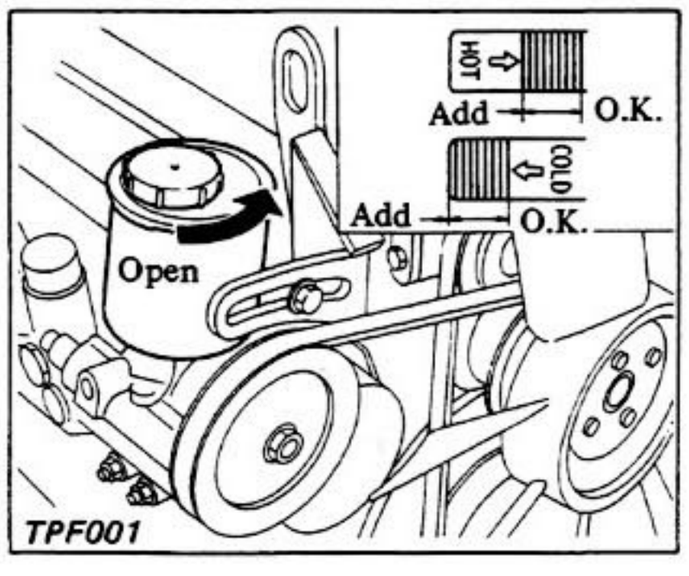
CHECKING ZF POWER STEERING SYSTEM FLUID AND LINES

1. After stopping the engine, check fluid level in reservoir.

Check dipstick on "HOT" side at normal operating temperature, or "COLD" side when fluid is cold.

Add recommended fluid if necessary.

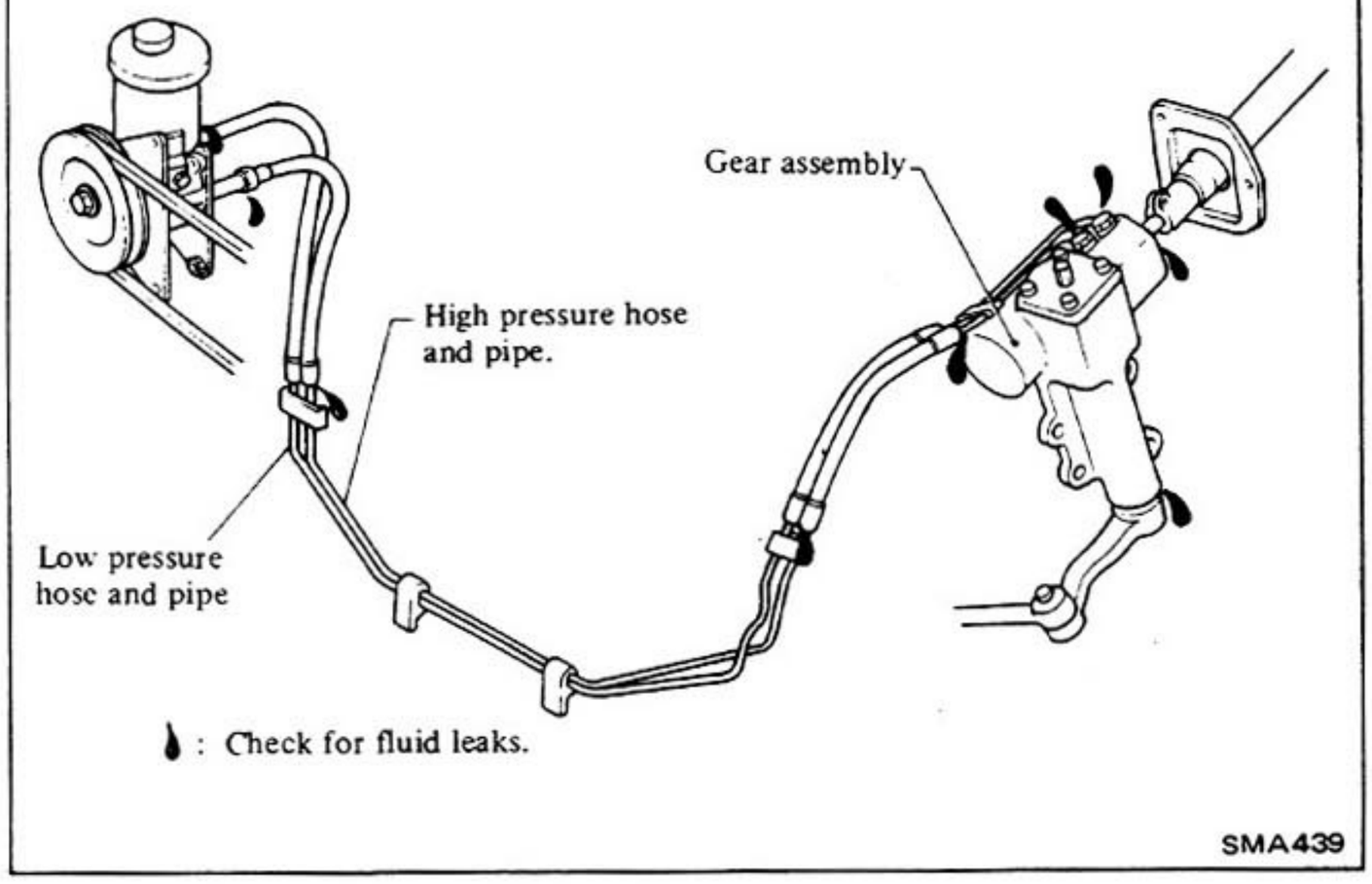
CAUTION:
Do not overfill.



TPF001

2. Inspect line condition and check for leaks.

ZF Power steering system



SMA439

CHECKING STEERING GEAR BOX AND LINKAGE

Steering gear box

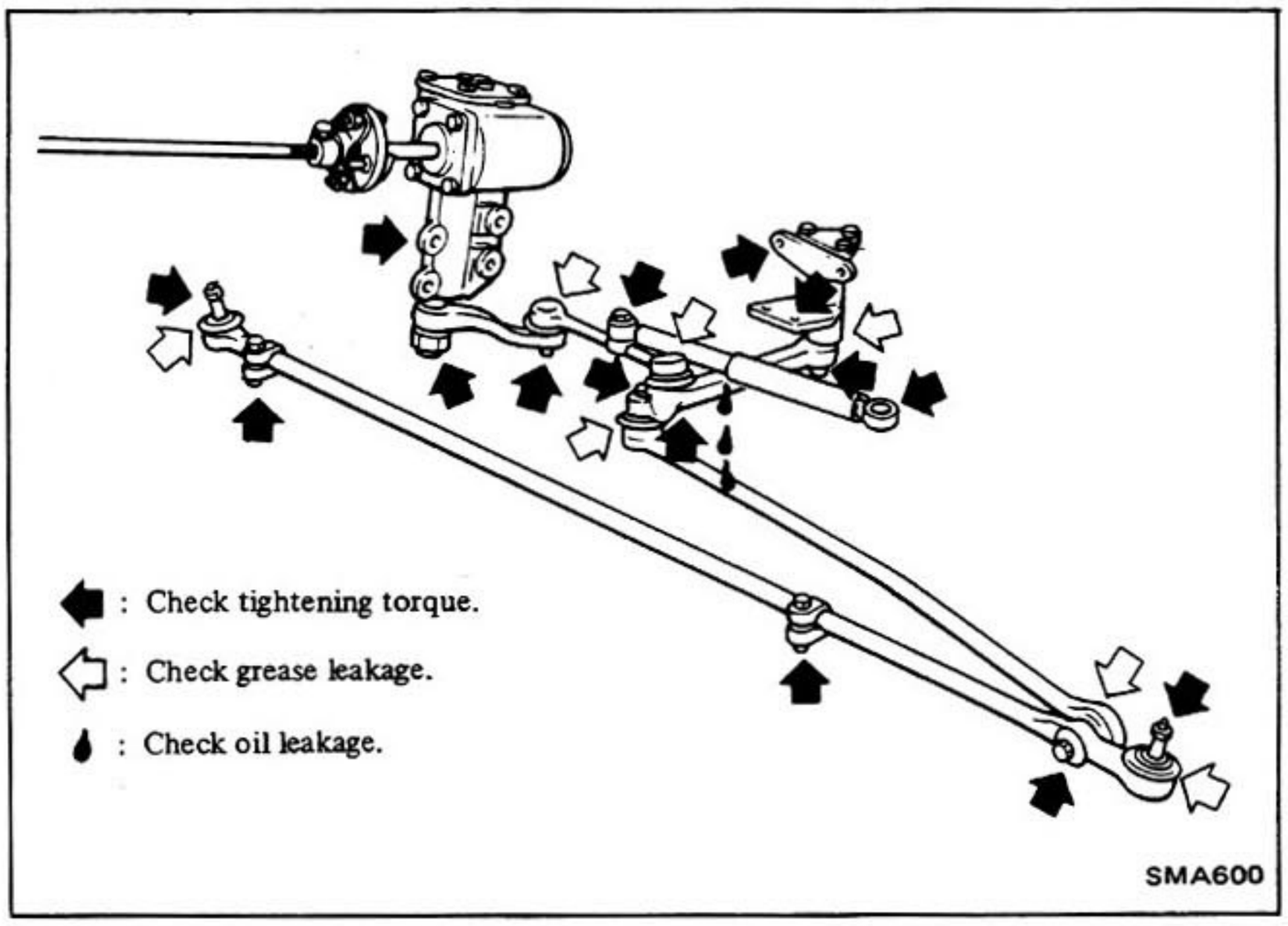
- Check parts for looseness, wear or damage. Retighten if neccessary. **Refer to Section ST for tightening torque.**

Steering linkage

- Check parts for looseness, wear or damage. Retighten if necessary. **Refer to Section ST for tightening torque.**
- Check ball joints and relay lever assembly for grease leakage.
- Check for any missing parts (cotter pins, washer, etc.).

Steering damper

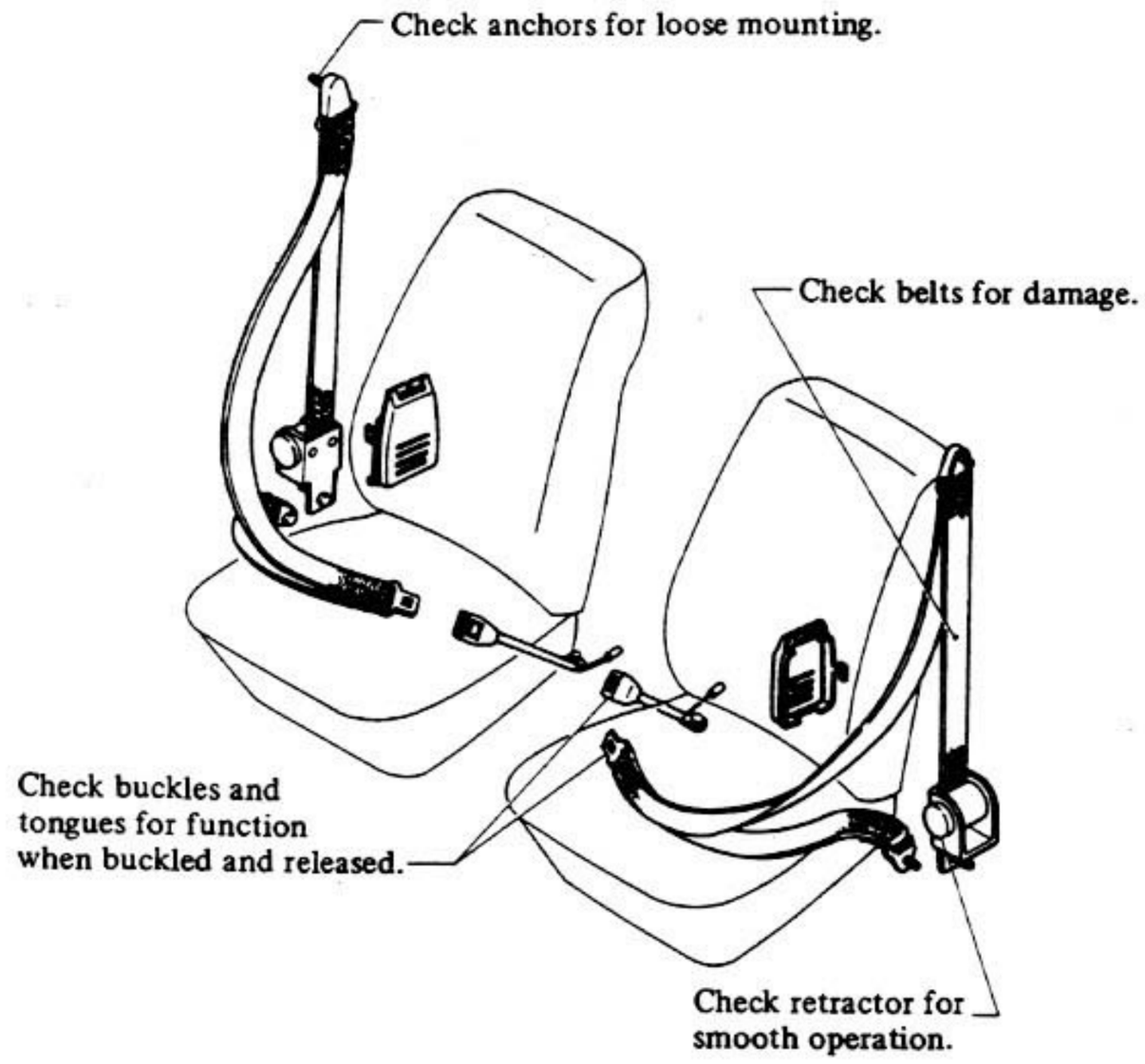
- Check shock absorber for oil leakage, damage or looseness.



SMA600

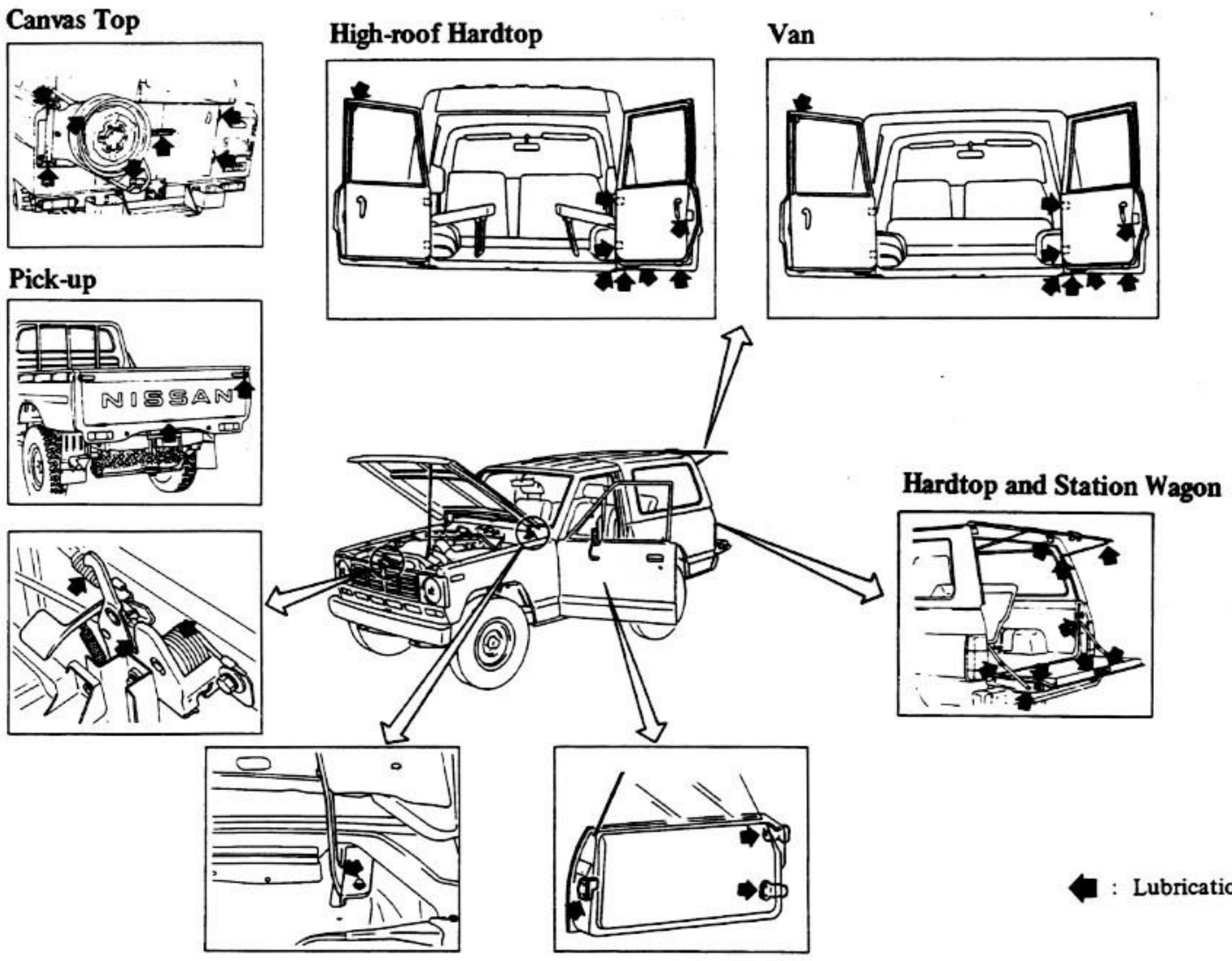
BODY

CHECKING SEAT BELTS, BUCKLES, RETRACTORS, ANCHORS AND ADJUSTER



SMA261

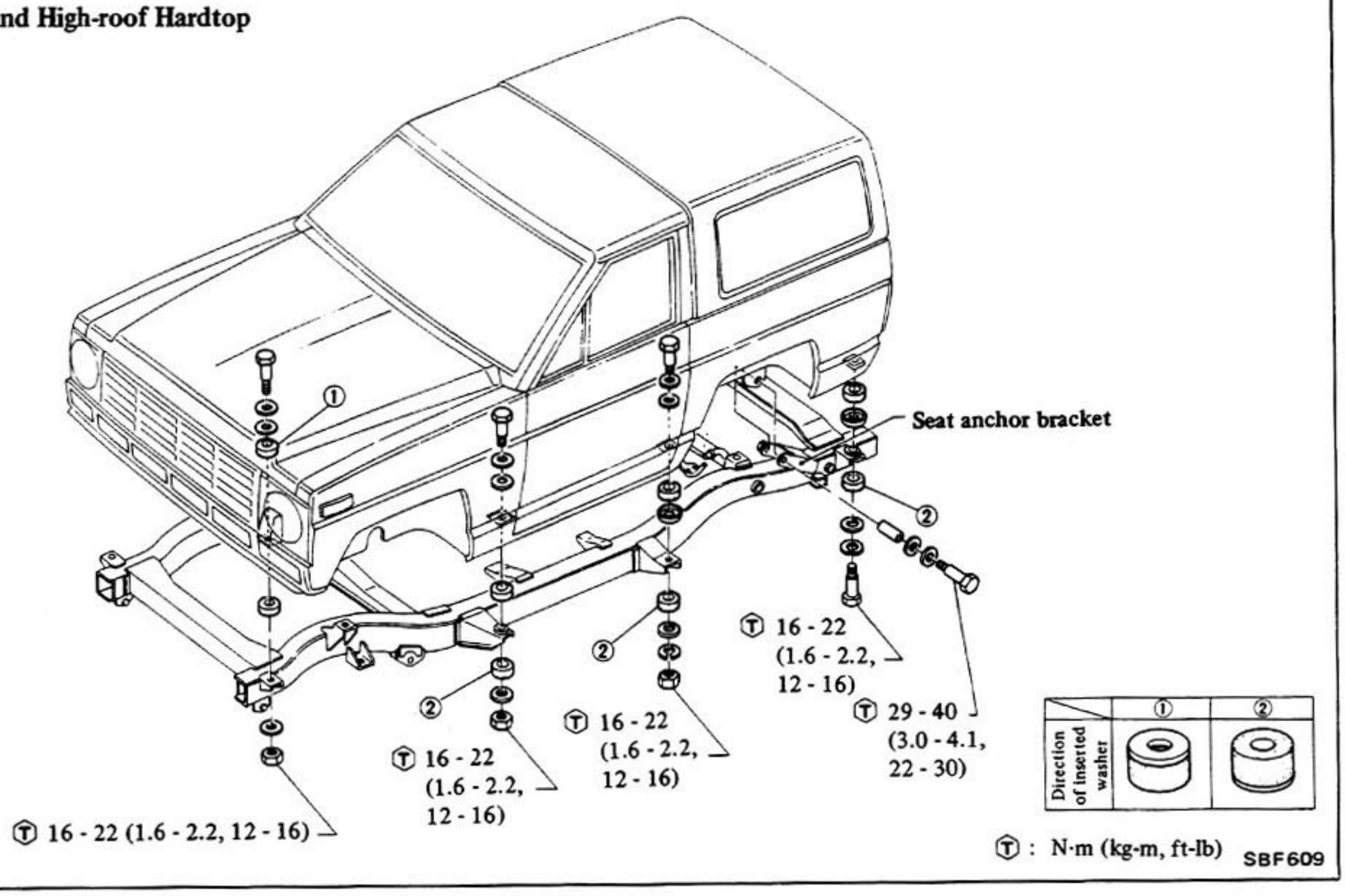
LUBRICATING LOCKS, HINGES AND HOOD LATCH



SMA601

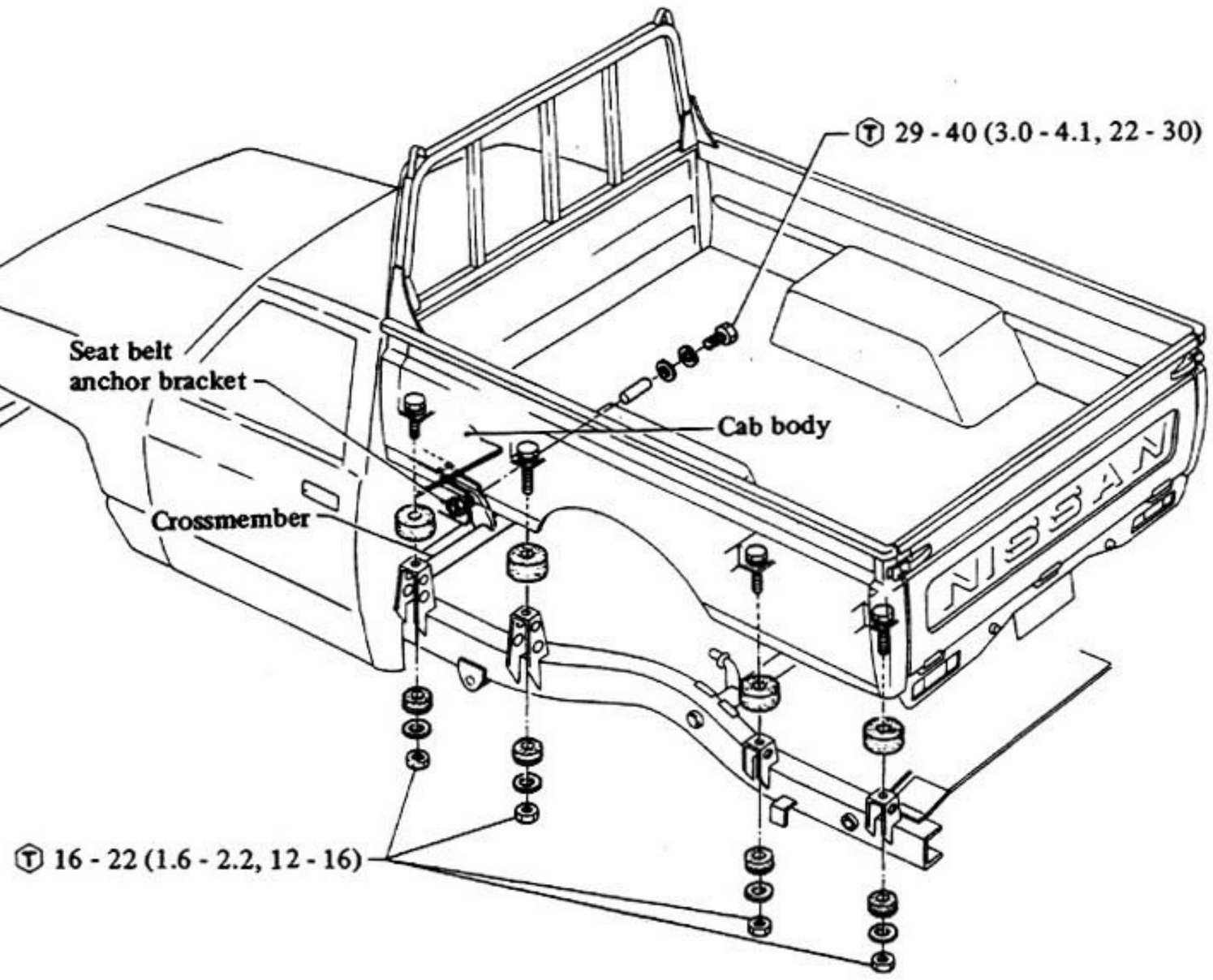
RETIGHTEN BODY MOUNTINGS

Hardtop and High-roof Hardtop



SBF609

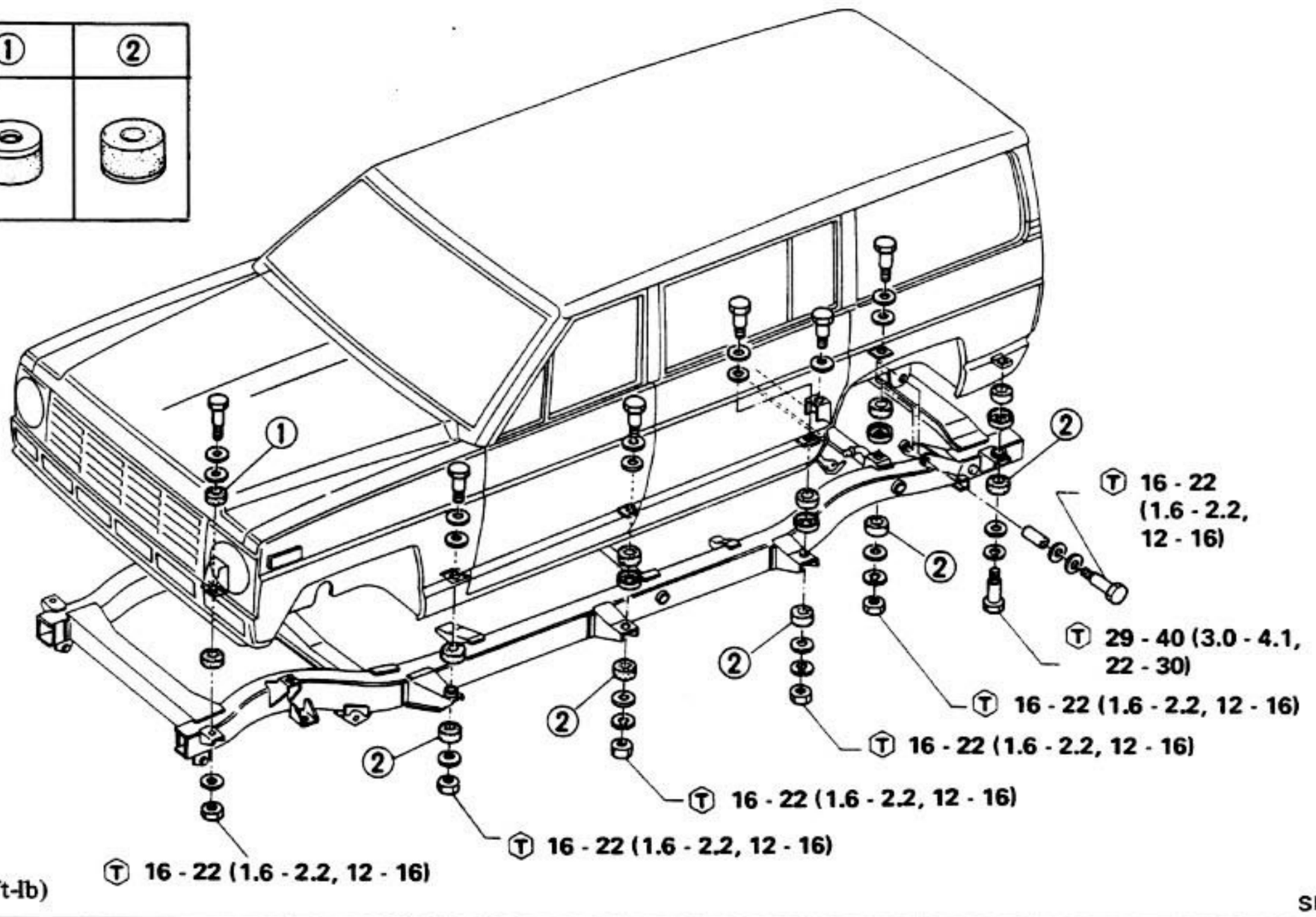
Pick-up



SBF610

Van and Station Wagon

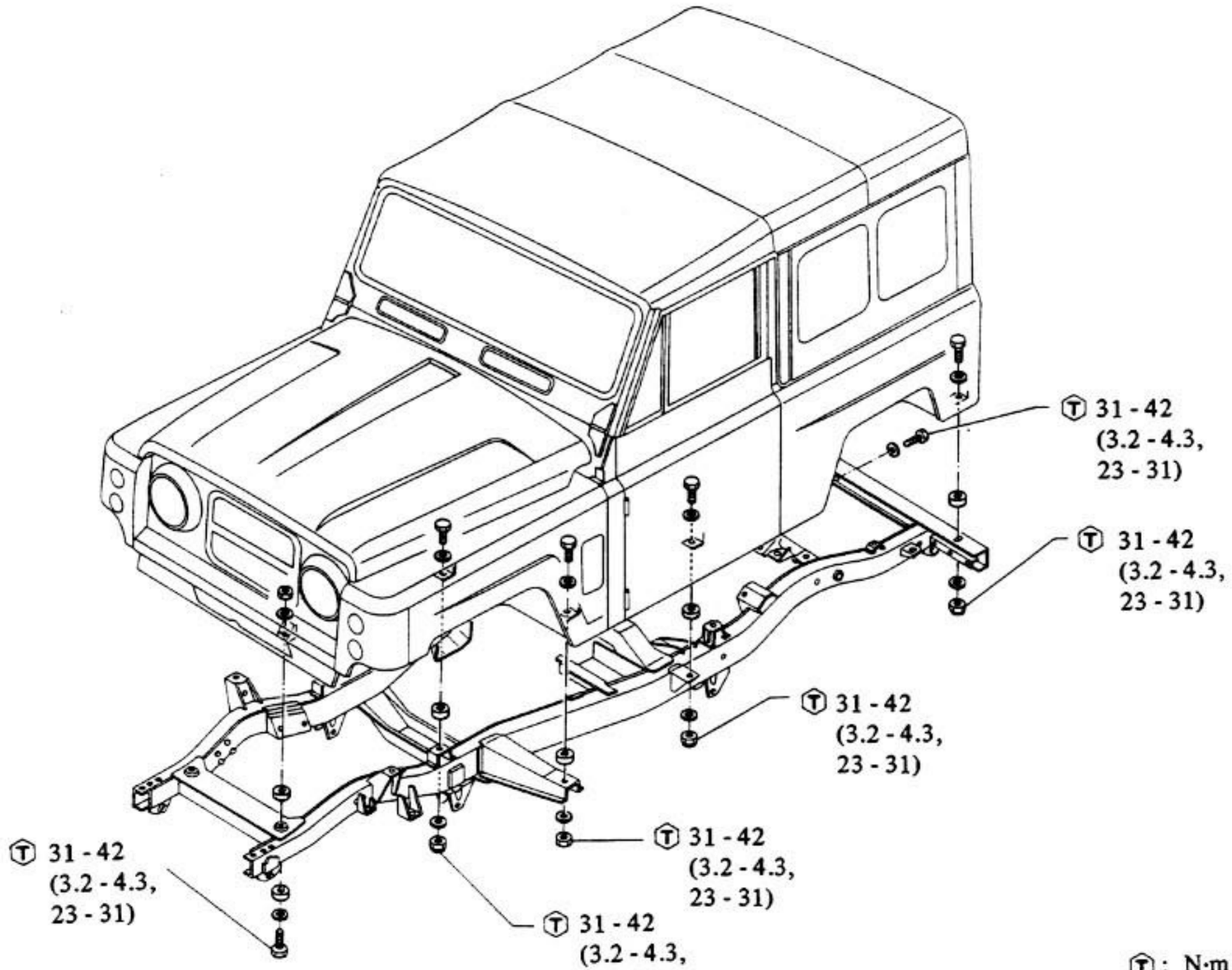
	①	②
Direction of inserted washer		



Ⓣ : N·m (kg-m, ft-lb)

SMA673

Canvas Top



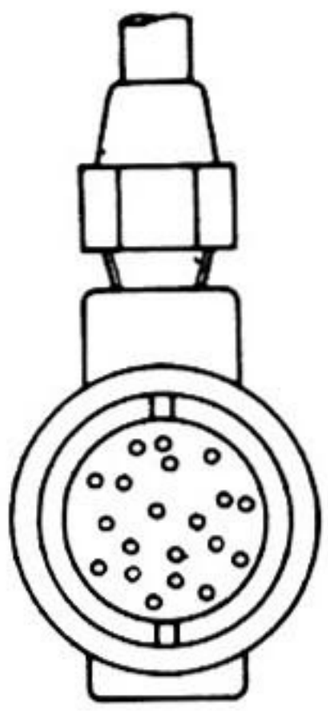
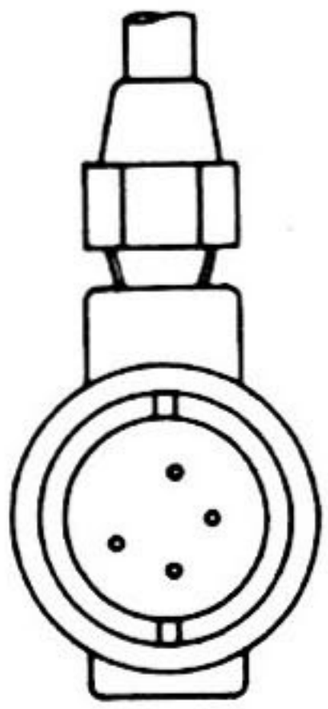
Ⓣ : N·m (kg-m, ft-lb)

SBF611

HEATER AND AIR CONDITIONER

CHECKING REFRIGERANT LEVEL

1. Open doors fully.
2. Start the engine.
3. Set air conditioner switch to "ON" position.
4. Set temperature lever to maximum cold position.
5. Set blower to maximum speed.
6. Check sight glass after the lapse of about five minutes. Judge according to the following table.

Amount of refrigerant / Check item	Almost no refrigerant	Insufficient	Suitable	Too much refrigerant
Temperature of high pressure and low pressure lines.	Almost no difference between high pressure and low pressure side temperature.	High pressure side is warm and low pressure side is fairly cold.	High pressure side is hot and low pressure side is cold.	High pressure side is abnormally hot.
State in sight glass.	Bubbles flow continuously. **Bubbles will disappear and something like mist will flow when refrigerant is nearly gone.**  AC256	The bubbles are seen at intervals of 1 - 2 seconds.  AC257	Almost transparent. Bubbles may appear when engine speed is raised and lowered. **No clear difference exists between these two conditions.**  AC258	No bubbles can be seen.
Pressure of system.	High pressure side is abnormally low.	Both pressure on high and low pressure sides are slightly low.	Both pressures on high and low pressure sides are normal.	Both pressures on high and low pressure sides are abnormally high.
Repair.	**Stop compressor immediately** and conduct an overall check.	Check for gas leakage, repair as required, replenish and charge system.		Discharge refrigerant from service valve of low pressure side.

a. The bubbles seen through the sight glass are influenced by the ambient temperature. Since the bubbles are hard to show up in comparatively low temperatures below 20°C (68°F), it is possible that a slightly larger amount of refrigerant would be filled, if supplied according to the sight glass. Be sure to recheck the amount when it exceeds 20°C (68°F). In higher temperature the bubbles are easy to show up.

b. When the screen in the receiver drier is clogged, the bubbles will appear even if the amount of refrigerant is normal. In this case, the outlet side pipe of the receiver drier becomes considerably cold.

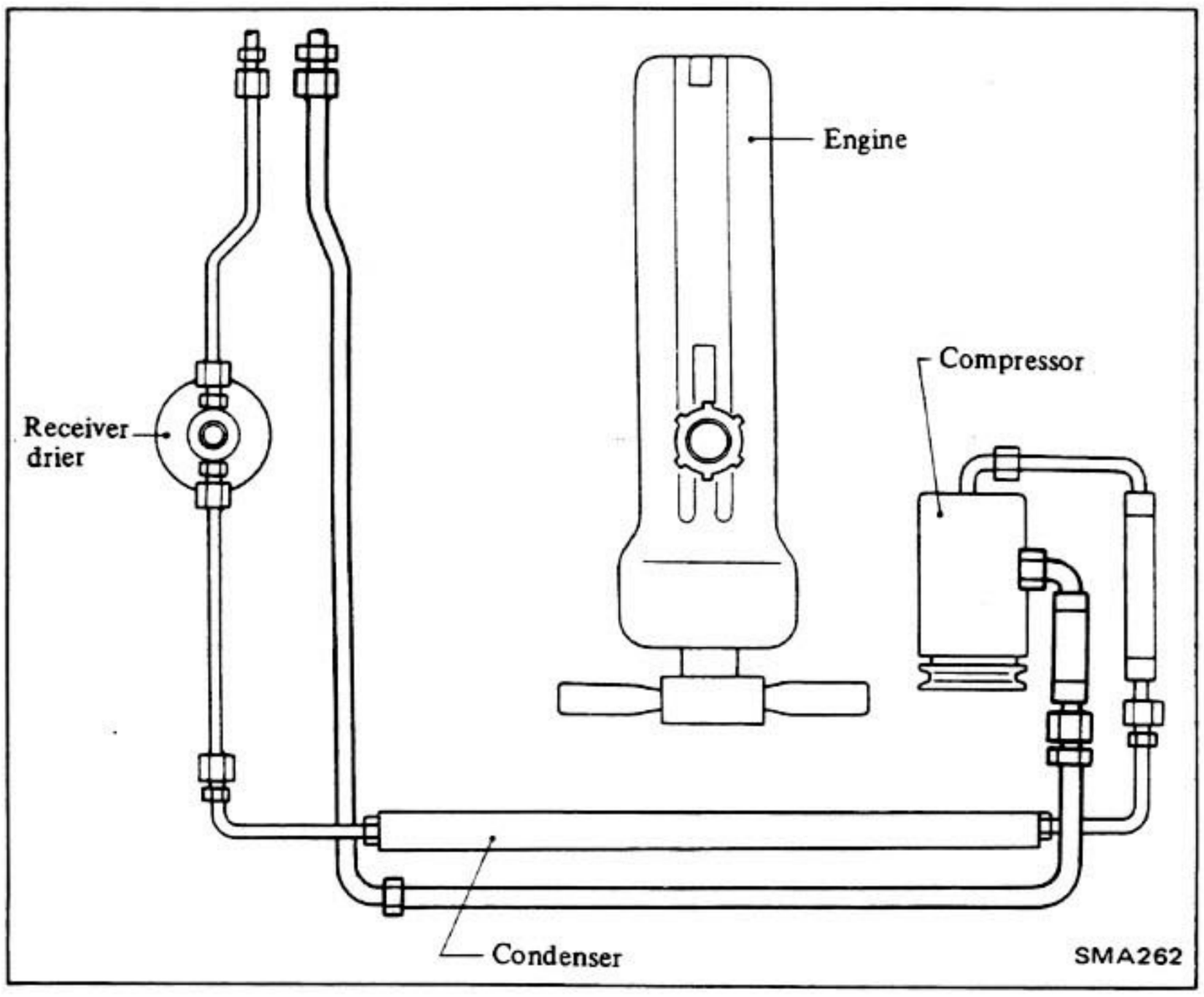
CHECKING COMPRESSOR DRIVE BELT

Refer to Engine Maintenance for inspection and adjustment.

CHECKING HOSES AND PIPES

Check heater and air conditioner for damaged hoses or pipes due to interference or friction with adjoining parts. If damage is minor, repair those affected hose or pipes. If damage is major and if there is the possibility of encountering holes, replace the affected parts.

Carefully check hoses and pipes, especially those located close to moving parts or sharp edge of panel.



CHECKING REFRIGERANT LEAK

Conduct a leak test with halide or electric leak detector whenever leakage of refrigerant is suspected and when conducting service operations which are accompanied by disassembly or loosening of connection fittings.

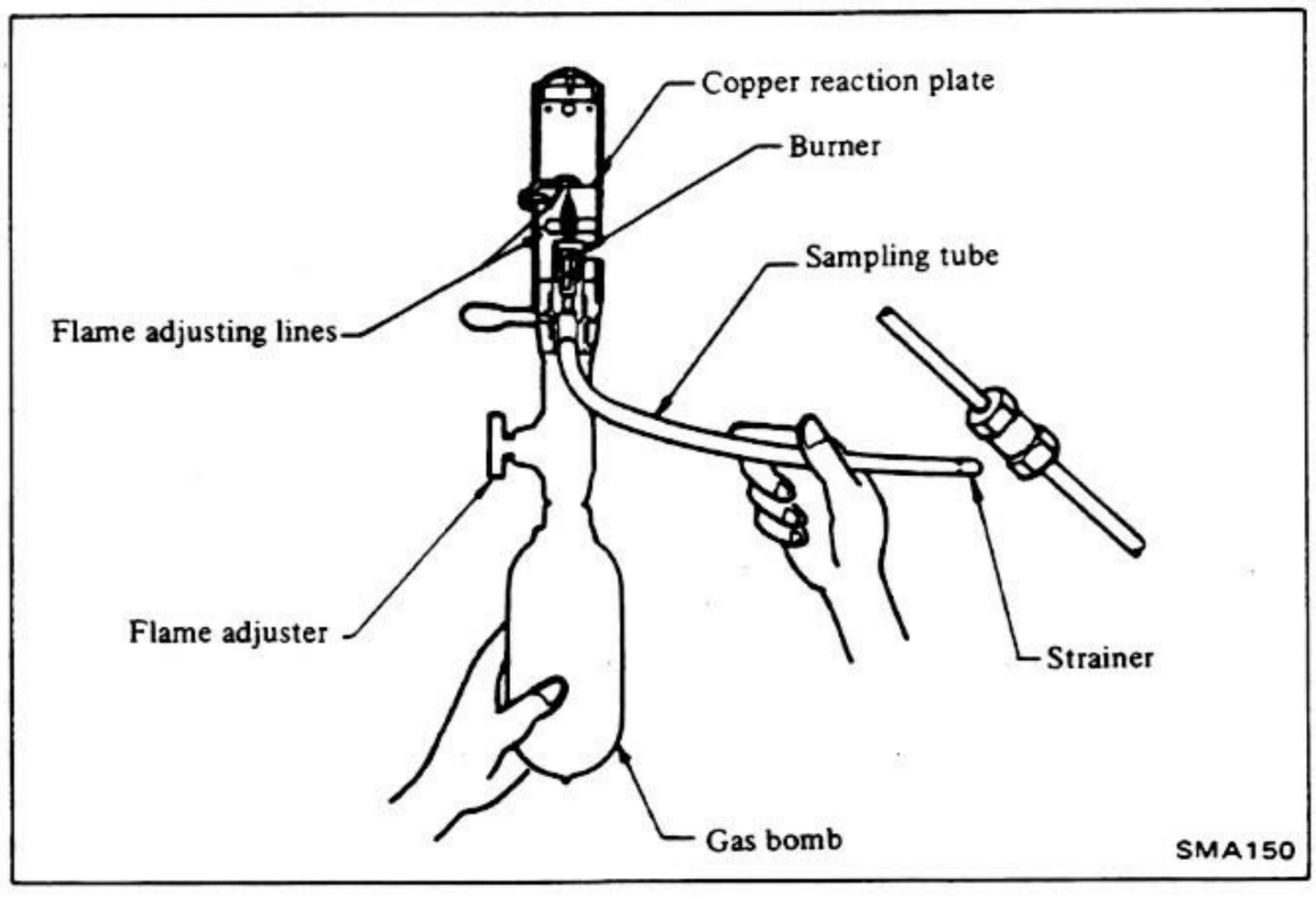
Major check points

(1) Compressor
- Compressor shaft seal (rotate the compressor by hand)
- Flexible hose connections
- Front and rear head gaskets
- Service valve

(2) Condenser
- Condenser pipe fitting
- Condenser inlet and outlet pipe connections

(3) Refrigerant lines
- Flared section of high pressure and low pressure flexible hoses.
- Line connections

(4) Evaporator housing
- Inlet and outlet line connections
- Expansion valve



The following information and cautions should be kept in mind when checking for leakage.

- If a halide leak detector is used, determine whether or not there is gas leaking by the color of the flame, as indicated in the chart below.

	Propane type	Butane type
NO LEAK	Greenish blue	Pale blue
SMALL LEAK	Yellow	Bright blue
LARGE LEAK	Purple	Vivid green

WARNING:
a. Never inhale the fumes produced by combustion of refrigerant gas since they are toxic.
b. Never use halide torch in a place where combustible or explosive gas is present.

- **Since refrigerant gas is heavier than air, small leaks can be easily detected by placing sampling tube directly below the check point.**
- **If any trace of oil is noted at and around connection fittings, it is a sure indication that refrigerant is leaking.**

If a gas leak is detected, proceed as follows:
1. Check torque on the connection fitting and, if too loose, tighten to the proper torque. Refer to Section HA for tightening torque. Check for gas leakage with a leak detector.
2. If leakage continues even after the fitting has been retightened, discharge refrigerant from system, disconnect the fittings, and check its seating face for damage. Always replace even if damage is slight.
3. Check compressor oil and add oil if required.
4. Charge refrigerant and recheck for gas leaks. If no leaks are found, evacuate and charge system.

OFF-SEASON MAINTENANCE

Even in the off-season, turn the compressor for 10 minutes **at least once a month** by running the engine at idling rpm.

SERVICE DATA AND SPECIFICATIONS

ENGINE MAINTENANCE —Gasoline Engine—

INSPECTION AND ADJUSTMENT

Basic mechanical system

Engine		L28	P40
Valve clearance (Hot) mm (in)	Intake	0.25 (0.010)	0.38 (0.015)
	Exhaust	0.30 (0.012)	
Drive belt deflection [Applied force 98 N (10 kg, 22 lb)] mm (in)		8 - 12 (0.31 - 0.47)	
Engine oil capacity liter (Imp qt)	with oil filter	4.4 (3-7/8)	5.7 (5) 6.5 (5-3/4)*1
	without oil filter	3.9 (3-3/8)	5.1 (4-1/2) 5.9 (5-1/4)*1
Water capacity liter (Imp qt)	with heater	10.8 (9-1/2)	14.8 (13) 16.2 (14-1/4)*2
	without heater	9.9 (8-3/4)	13.9 (12-1/4) 15.3 (13-1/2)*2

*1: With oil cooler unit
*2: Canvas Top model

Engine		L28	P40
Radiator cap relief pressure kPa (bar, kg/cm^2, psi)		88 (0.88, 0.9, 13)	
Cooling system leakage testing pressure kPa (bar, kg/cm^2, psi)		157 (1.57, 1.6, 23)	
Compression pressure kPa (bar, kg/cm^2, psi) at rpm	Standard	1,177 (11.77, 12.0, 171)/350	1,128 (11.28, 11.5, 164)/250
	Minimum	883 (8.83, 9.0, 128)/350	1,030 (10.30, 10.5, 149)/250

Ignition and fuel system

Ignition timing, engine idle speed and idle "CO"%

Engine	L28	P40
Ignition timing/Idle speed (B.T.D.C. degree/rpm)	8°/650*1 A/T 8°/700*4 M/T 8°/650*4	10°/550*2 5°/650*3 10°/500*4
Idle "CO"%	2.0	3.0*2*4 1.5*3

*1: For A/T models, values are measured in "N" position.
*2: Except for Europe and Hong Kong
*3: For Europe and Hong Kong
*4: For Australia

Distributor

Engine		L28	P40
Point gap	mm (in)	0.45 - 0.55 (0.018 - 0.022)	
Dwell angle	degree	35° - 41°	

Spark plug

Engine		L28	P40
Type	Cold	BP7ES, L44PW BPR7ES*	BP7ES, L44PW BPR7ES*
	Standard	BP6ES, L45PW BPR6ES*	BP6ES, L45PW BPR6ES*
	Hot	BP5ES, L46PW BP4E, L47PW BPR5ES*, BPR4E*	BP5ES, L46PW BP4ES, L47PW BPR5ES*, BPR4E*
Plug gap mm (in)		0.8 - 0.9 (0.031 - 0.035)	0.8 - 0.9 (0.031 - 0.035)

*: Resistor built-in type spark plug for Europe.

High tension cable

Resistance (Ohm)	Less than 30,000

Battery

Type		N50Z		
Voltage/Capacity (V/A–Hr)		12/60		
Electrolyte gravity [At 20°C (68°F)]		Frigid climate	Tropical climate	Other climates
	Permissive valve	Over 1.22	Over 1.18	Over 1.20
	Fully charged valve	1.28	1.24	1.26

TIGHTENING TORQUE

Unit: N·m (kg-m, ft-lb)

Engine		L28	P40
Cylinder head bolt		69 - 83 (7.0 - 8.5, 51 - 61)	69 - 88 (7.0 - 9.0, 51 - 65)
Pivot lock nut		49 - 59 (5.0 - 6.0, 36 - 43)	—
Manifold bolt and nut	Bolt	15 - 25 (1.5 - 2.5, 11 - 18)	25 - 34 (2.5 - 3.5, 18 - 25)
	Nut	12 - 16 (1.2 - 1.6, 9 - 12)	
Carburetor		12 - 18 (1.2 - 1.8, 9 - 13)	
Exhaust tube		26 - 36 (2.7 - 3.7, 20 - 27)	
Spark plug		15 - 20 (1.5 - 2.0, 11 - 14)	
Oil pan drain plug		20 - 29 (2.0 - 3.0, 14 - 22)	

CHASSIS AND BODY MAINTENANCE

INSPECTION AND ADJUSTMENT

Clutch

Unit: mm (in)

	Model 160 series	Model 61 series
Pedal height	190 - 196 (7.48 - 7.72)	181 - 187 (7.13 - 7.36)
Pedal free play	1 - 5 (0.04 - 0.20)	

Front axle and suspension

Axial play mm (in)	Less than 0.08 (0.0031)	
Wheel bearing preload As measured at wheel hub bolt With new parts N (kg, lb)	29 - 49 (3 - 5, 7 - 11)	
With used parts N (kg, lb)	20 - 39 (2 - 4, 4 - 9)	
Wheel alignment (Unladen)	Radial tire	Bias tire
Toe-in mm (in)	−2 to 0 (−0.08 to 0)	0 to 2 (0 to 0.08)
Side slip (Reference data)	−9′ to 0′ (total toe-in)	0′ to 9′ (total toe-in)
Standard tie rod length between left and right ball stud center mm (in)	1,219 (47.99)	
Front wheel turning angle Toe-out turns (When inner wheel is 20°) Outer wheel	19.5° ±45′	
Full turns Inner wheel	28° - 30°	
Outer wheel	27.5° - 29.5°	

Brake system

Unit: mm (in)

Pad wear limit		2 (0.08)
Rotor repair limit		18 (0.71)
Lining wear limit	Front	Up to rivet head
	Rear	2.0 (0.079)
	Center	1.5 (0.059)
Drum repair limit	Front	293 (11.54)
	Rear	271.5 (10.69)
	Center	204 (8.03)
Pedal height	Model 160 series	190 - 196 (7.48 - 7.72)
	Model 61 series	181 - 187 (7.13 - 7.36)
Pedal free play		1 - 5 (0.04 - 0.20)
Pedal depressed height	Front disc	More than 65 (2.56)
	Front drum	More than 80 (3.15)
Parking brake [At pulling force: 196 N (20 kg, 44 lb)] Number of notches		5 - 6

Wheel and tire

Except for Australia

Unit: kg/cm^2 (kPa, bar, psi)

Model	Tire		Load	Light	Heavy
Hardtop	Light duty	Front Rear	6.50-16-6PRLT 6.50-16-8PRLT	1.8 (177, 1.77, 26) 2.4 (235, 2.35, 34)	1.8 (177, 1.77, 26) 3.5 (343, 3.43, 50)
		Front Rear	7.50-16-6PRLT 7.50-16-8PRLT	1.8 (177, 1.77, 26) 2.4 (235, 2.35, 34)	1.8 (177, 1.77, 26) 3.5 (343, 3.43, 50)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.0 (196, 1.96, 28) 2.0 (196, 1.96, 28)	2.0 (196, 1.96, 28) 3.5 (343, 3.43, 50)
	Heavy duty	Front Rear	6.50-16-6PRLT 6.50-16-10PRLT	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)
		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.0 (196, 1.96, 28) 2.4 (235, 2.35, 34)	2.0 (196, 1.96, 28) 4.6 (451, 4.51, 65)
Pick-up	Except SD33 Engine	Front Rear	7.00-16-6PRLT 7.00-16-10PRLT	2.4 (235, 2.35, 34) 2.4 (235, 2.35, 34)	2.4 (235, 2.35, 34) 5.0 (490, 4.90, 71)
		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	2.4 (235, 2.35, 34) 2.4 (235, 2.35, 34)	2.4 (235, 2.35, 34) 5.0 (490, 4.90, 71)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.0 (196, 1.96, 28) 2.4 (235, 2.35, 34)	2.0 (196, 1.96, 28) 4.6 (451, 4.51, 65)
	SD33 Engine	Front Rear	7.00-16-6PRLT 7.00-16-10PRLT	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)
		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)	1.8 (177, 1.77, 26) 5.0 (490, 4.90, 71)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.0 (196, 1.96, 28) 4.6 (451, 4.51, 65)	2.0 (196, 1.96, 28) 4.6 (451, 4.51, 65)
Van		Front Rear	6.50-16-6PRLT 6.50-16-10PRLT	1.8 (177, 1.77, 26) 2.4 (235, 2.35, 34)	2.4 (235, 2.35, 34) 4.8 (471, 4.71, 68)
		Front Rear	7.50-16-6PRLT 7.50-16-8PRLT	1.8 (177, 1.77, 26) 2.4 (235, 2.35, 34)	2.4 (235, 2.35, 34) 4.8 (471, 4.71, 68)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.2 (216, 2.16, 31) 2.8 (275, 2.75, 40)	2.2 (216, 2.16, 31) 4.2 (412, 4.12, 60)
Station Wagon		Front Rear	6.50-16-6PRLT 6.50-16-6PRLT	2.0 (196, 1.96, 28) 2.0 (196, 1.96, 28)	2.4 (235, 2.35, 34) 3.25 (319, 3.19, 46)
		Front Rear	7.50-16-6PRLT 7.50-16-6PRLT	2.0 (196, 1.96, 28) 2.0 (196, 1.96, 28)	2.2 (216, 2.16, 31) 2.6 (255, 2.55, 37)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.0 (196, 1.96, 28) 2.0 (196, 1.96, 28)	2.2 (216, 2.16, 31) 2.6 (255, 2.55, 37)

Unit: kg/cm^2 (kPa, bar, psi)

Model \ Load	Tire		Light	Heavy
Canvas Top	(L)G61(Y)	Front Rear	6.50-16-6PRLT 6.50-16-6PRLT	1.5 (147, 1.47, 21) 2.2 (216, 2.16, 31)	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)
		Front Rear	7.00-16-6PRLT 7.00-16-6PRLT	1.5 (147, 1.47, 21) 2.2 (216, 2.16, 31)	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)
		Front Rear	7.50-16-6PRLT 7.50-16-6PRLT	1.6 (157, 1.57, 23) 2.0 (196, 1.96, 28)	1.8 (177, 1.77, 26) 2.8 (275, 2.75, 40)
	(L)G61H(Y)	Front Rear	6.50-16-6PRLT 6.50-16-6PRLT	1.5 (147, 1.47, 21) 2.6 (255, 2.55, 37)	1.8 (177, 1.77, 26) 4.0 (392, 3.92, 57)
		Front Rear	7.00-16-6PRLT 7.00-16-6PRLT	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)	1.8 (177, 1.77, 26) 3.25 (319, 3.19, 46)
		Front Rear	7.50-16-6PRLT 7.50-16-6PRLT	1.8 (177, 1.77, 26) 2.6 (255, 2.55, 37)	1.8 (177, 1.77, 26) 3.25 (319, 3.19, 46)

Tire pressure should be checked when tires are COLD.

For Australia

Unit: kg/cm^2 (kPa, bar, psi)

Model \ Load	Tire		Light	Heavy
Hardtop		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	2.1 (206, 2.06, 30) 2.5 (245, 2.45, 35)	2.1 (206, 2.06, 30) 4.6 (451, 4.51, 65)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.5 (245, 2.45, 35) 2.8 (275, 2.75, 40)	2.5 (245, 2.45, 35) 4.6 (451, 4.51, 65)
Pick-up		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	2.1 (206, 2.06, 30) 2.8 (275, 2.75, 40)	2.1 (206, 2.06, 30) 4.9 (481, 4.81, 70)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.5 (245, 2.45, 35) 3.2 (314, 3.14, 45)	2.5 (245, 2.45, 35) 4.6 (451, 4.51, 65)
Van		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	2.1 (206, 2.06, 30) 2.5 (245, 2.45, 35)	2.1 (206, 2.06, 30) 4.6 (451, 4.51, 65)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.5 (245, 2.45, 35) 2.8 (275, 2.75, 40)	2.5 (245, 2.45, 35) 4.6 (451, 4.51, 65)
Station Wagon		Front Rear	7.50-16-6PRLT 7.50-16-10PRLT	2.1 (206, 2.06, 30) 2.5 (245, 2.45, 35)	2.1 (206, 2.06, 30) 4.6 (451, 4.51, 65)
		Front Rear	7.50R16-8PRLT 7.50R16-8PRLT	2.5 (245, 2.45, 35) 2.8 (275, 2.75, 40)	2.5 (245, 2.45, 35) 4.6 (451, 4.51, 65)
Canvas Top		Front Rear	7.50-16-6PRLT 7.50-16-6PRLT	2.1 (206, 2.06, 30) 2.6 (255, 2.55, 37)	2.1 (206, 2.06, 30) 3.2 (314, 3.14, 45)

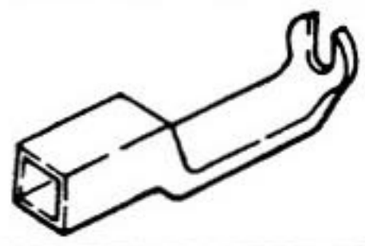
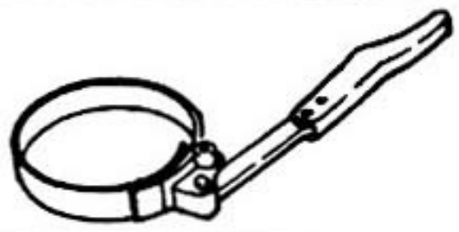
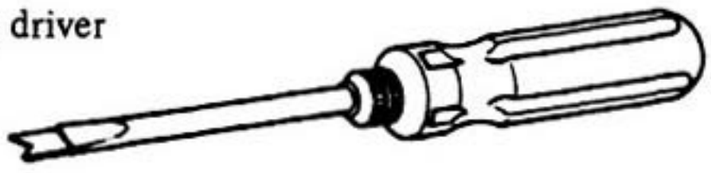
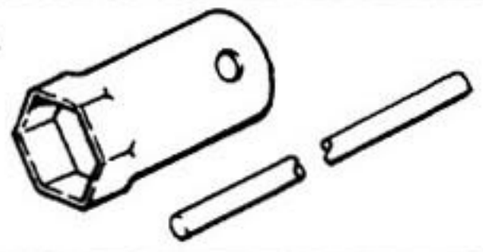
Wheel rim lateral and radial runout	mm (in)	Less than 2.0 (0.079)
Wheel balance (Maximum allowable unbalance at rim flange)	g (oz)	30 (1.06)
Tire balancing weight	g (oz)	Wheel disc size 4.50E x 16, 5.00E x 16: 10 - 60 (0.35 - 2.12) Spacing 10 (0.35) 5.50F x 16SDC: 20 - 100 (0.71 - 3.53) Spacing 20 (0.71)

TIGHTENING TORQUE

Unit	N·m	kg-m	ft-lb
Clutch Model 160 series Pedal stopper lock nut	8 - 12	0.8 - 1.2	5.8 - 8.7
Master cylinder push rod lock nut	8 - 11	0.8 - 1.1	5.8 - 8.0
Model 61 series Pedal stopper fixing bolt	4.2 - 5.4	0.43 - 0.55	3.1 - 4.0
Master cylinder fixing nut	16 - 21	1.6 - 2.1	12 - 15

Unit		N·m	kg-m	ft-lb
Manual transmission Drain and filler plugs		25 - 34	2.5 - 3.5	18 - 25
Transfer Filler plug	T130A	20 - 27	2.0 - 2.8	14 - 20
	T100L	20 - 39	2.0 - 4.0	14 - 29
Drain plug	T130A	29 - 39	3.0 - 4.0	22 - 29
	T100L	20 - 39	2.0 - 4.0	14 - 29
Differential carrier Drain and filler plugs C200		39 - 59	4.0 - 6.0	29 - 43
H233B		59 - 98	6.0 - 10.0	43 - 72
Front axle and front suspension Wheel bearing lock nut		167 - 196	17 - 20	123 - 145
Tie rod clamp nut		25 - 28	2.5 - 2.9	18 - 21
Brake Air bleed valve		7 - 9	0.7 - 0.9	5.1 - 6.5
Stop lamp switch lock nut		12 - 15	1.2 - 1.5	9 - 11
Brake booster input rod lock nut		16 - 22	1.6 - 2.2	12 - 16
Wheel and tire Wheel nut		118 - 147	12 - 15	87 - 108

SPECIAL SERVICE TOOLS

Tool number	Tool name	Engine application	
		L28	P40
ST10120000	Cylinder head bolt wrench 	X	–
ST10640001	Pivot adjuster 	X	–
ST19320000	Oil filter wrench 	X	X
KV10104500	Idle adjusting driver 	X	X
ST35830000	Wheel bearing lock nut wrench 	X	X