

1983 TOYOTA TRUCK PICKUP REPAIR MANUAL

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FOREWORD

This manual contains maintenance and repair procedures for the 1983 Truck (Pickup) and Truck 4WD (Pickup 4WD).

Applicable models:

- RN34L series
- RN44L series
- RN44L-W3 series (Cab & Chassis)
- RN38L series (4WD)
- RN48L series (4WD)

The manual is divided into 19 sections and 2 appendixes with a thumb index for each section at the edge of the pages.

All information in this manual is based on the latest product information at the time of publication. However, specifications and procedures are subject to change without notice.

TOYOTA MOTOR CORPORATION



INTRODUCTION

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HOW TO USE THIS MANUAL

To assist in finding your way through the manual, the Section Title and major heading are given at the top of every page.

An **INDEX** is provided on the first page of each section to guide you to the item to be repaired.

At the beginning of each section, **PRECAUTIONS** are given that pertain to *all* repair operations contained in that section. *Read these precautions before starting any repair task.*

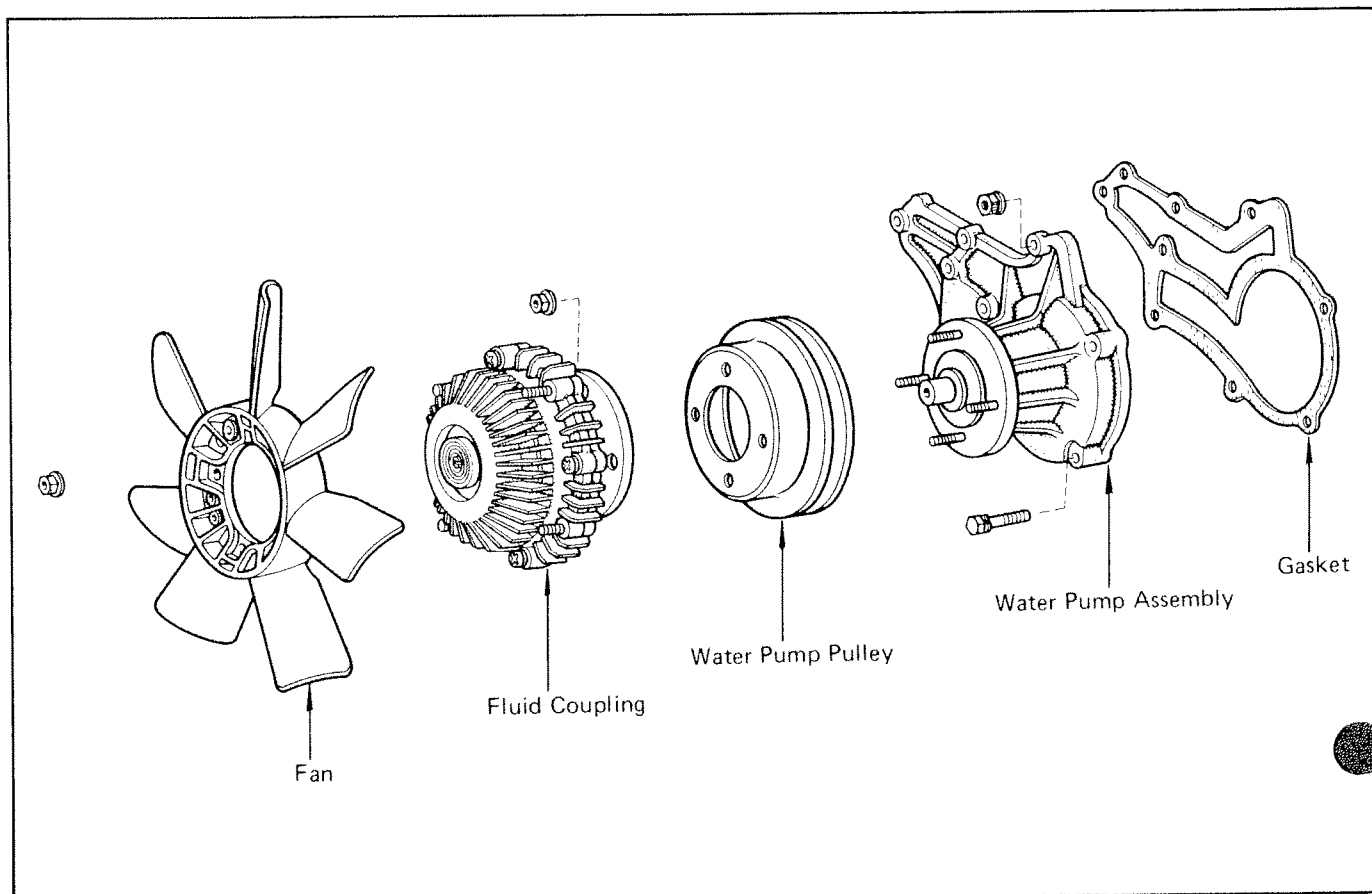
TROUBLESHOOTING tables are included for each system to help you diagnose the system problem and find the cause. The repair for each possible cause is referenced in the remedy column to quickly lead you to the solution.

SPECIAL TOOLS AND TEST EQUIPMENT, designed to be used for the repair of each component, are listed in the front of each section. Special Service Tools (SST), should be used where specified. If a SST is not available, an equivalent commercial tool may be used when stated. These tools are also given at each step where they are required for repair.

REPAIR PROCEDURES

Most repair operations begin with an overview illustration. It identifies the components and shows how the parts fit together.

Example:



The procedures are presented in a step-by-step format:

- The photo or illustration shows *what* to do and *where* to do it.
- The task heading tells *what* to do.
- The detailed text tells *how* to perform the task and gives other information such as specifications and warnings.

Example:

*Photograph or illustration:
what to do and where*

Task heading: what to do

**INSTALL DRIVE SHAFT ON CENTER SUPPORT
BEARING FLANGE**

- (a) Align the marks on the flanges and connect the flanges with four bolts and nuts.
- (b) Torque the bolts and nuts.

Torque: 200 – 400 kg-cm (15 – 28 ft-lb)

*Detail text:
how to do it*

Specification

This format enables the experienced technician to have a FAST TRACK. He can read the task headings and only refer to the detailed text when he needs it. Important specifications and warnings always stand out in bold type.

REFERENCES

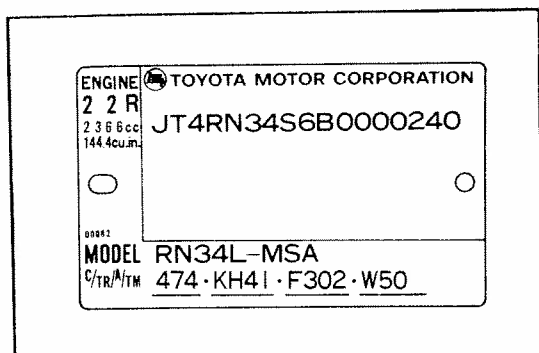
References have been kept to a minimum. However, when they are required you are given the *page* to go to.

SPECIFICATIONS

Specifications are presented in bold type throughout the text in the applicable step. You never have to leave the procedure to look up your specs. All specifications are also found in Appendix A, Specifications for quick reference.

WARNINGS, CAUTIONS, NOTES:

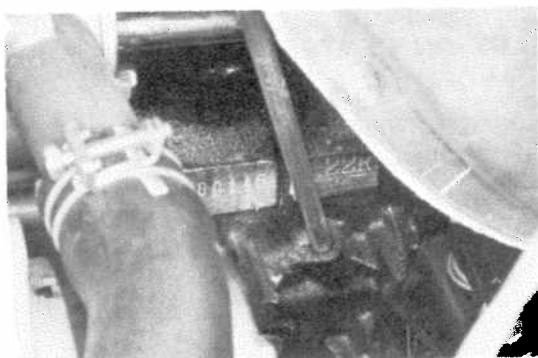
- **WARNINGS** are presented in bold type, and indicate there is a possibility of injury to you or other people.
- **CAUTIONS** are also presented in bold type, and indicate there is a possibility of damage to the components being repaired.
- **NOTES** are separated from the text but do not appear in bold. They provide additional information to more efficiently help you perform the repair.



IDENTIFICATION INFORMATION

VEHICLE IDENTIFICATION NUMBER

The vehicle identification number is stamped on the right front fender apron of the engine compartment. This number is also stamped on the driver's door post.

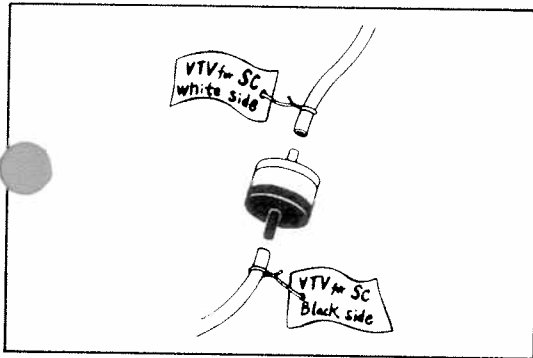
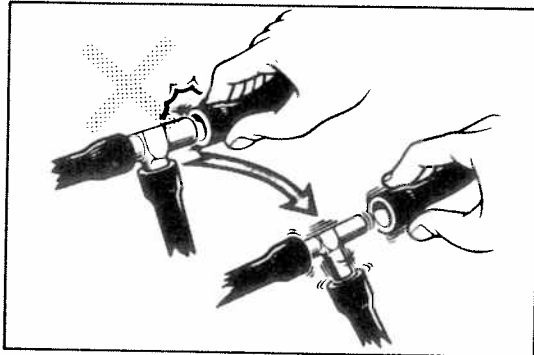
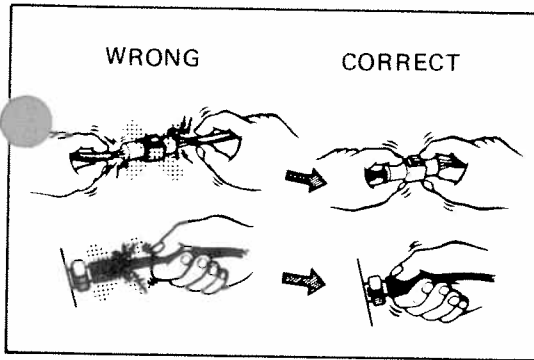


ENGINE SERIAL NUMBER

The engine serial number is stamped on the left side of the cylinder block, behind the alternator.

GENERAL REPAIR INSTRUCTIONS

1. Use fender, seat and floor covers to keep the vehicle clean and prevent damage.
2. During disassembly, keep parts in order to facilitate reassembly.
3. Before performing electrical work, disconnect one of the cables from the battery terminal.
4. Before performing electrical work, disconnect one of the cables from the battery terminal.
5. Always replace cotter pins gaskets and O-rings with new ones.
6. When necessary, use a sealer on gaskets to prevent leaks.
7. Carefully observe all specifications for bolt tightening torques. Always use a torque wrench.
8. Use of special service tools (SST) may be required, depending on the nature of the repair. Be sure to use SST where specified and follow the proper work procedure.
9. When replacing fuses, be sure the new fuse is the correct amperage rating. DO NOT exceed the fuse amp rating or use one of a lower rating.
10. Care must be taken when jacking up and supporting the vehicle. Be sure to lift and support the vehicle at the proper locations. (See page 1-7)
 - (a) If the vehicle is to be jacked up only at the front or rear end, be sure to block the wheels in order to ensure safety.
 - (b) After the vehicle is jacked up, be sure to support on stands. It is extremely dangerous to do any work on the vehicle raised on jack alone, even for a small job that can be finished quickly.



11. Observe the following precautions to avoid damage to the parts:

- (a) To disconnect vacuum hoses, pull on the end, not the middle of the hose.
- (b) To pull apart electrical connectors, pull on the connector itself, not the wires.
- (c) Be careful not to drop electrical components, such as sensors or relays. If they are dropped on a hard floor, they should be replaced and not reused.
- (d) When steam cleaning an engine, protect the distributor, coil, air filter, carburetor intake, air pump and EGR vacuum modulator from water.
- (e) Never use an impact wrench to remove or install thermo switches or thermo sensors.
- (f) When checking continuity at the wire connector, insert the tester probe carefully to prevent terminals from bending.
- (g) When using a vacuum gauge, never force the hose onto a connector that is too large. Use a step-down adapter instead. Once the hose has been stretched, it may leak.

12. Tag hoses before disconnecting them:

- (a) When disconnecting vacuum hoses, use tags to identify how they should be reconnected.
- (b) After completing a job, double check that the vacuum hoses are properly connected. A label under the hood shows the proper layout.

PRECAUTIONS FOR VEHICLES EQUIPPED WITH A CATALYST

WARNING: If large amounts of unburned gasoline flow into the converter, it may overheat and create a fire hazard. To prevent this, observe the following precautions and explain them to your customer.

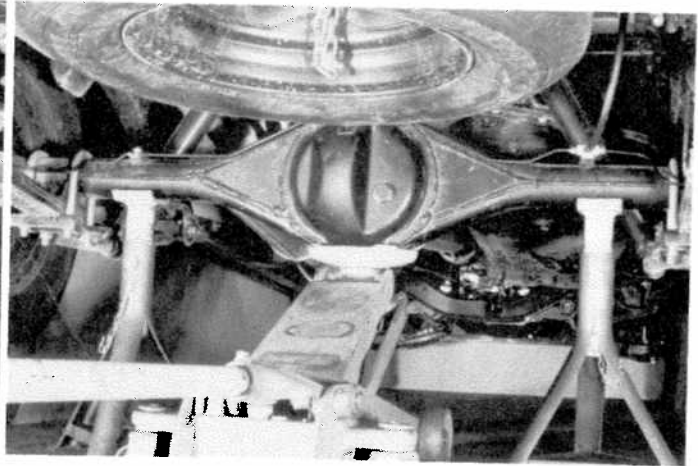
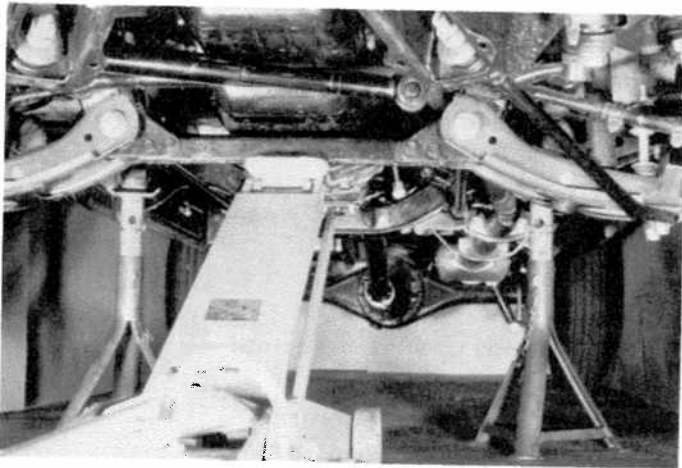
1. **Use only unleaded gasoline.**
2. **Avoid prolonged idling.**
Avoid running the engine at fast idle speed for more than 10 minutes and at idle speed for more than 20 minutes.
3. **Avoid spark jump test.**
 - (a) Spark jump only when absolutely necessary. Perform this test as rapidly as possible.
 - (b) While testing, never race the engine.
4. **Avoid prolonged engine compression measurement.**
Engine compression tests must be made as rapidly as possible.
5. **Do not run engine when fuel tank is nearly empty.**
This may cause the engine to misfire and create an extra load on the converter.
6. **Avoid coasting with ignition turned off and prolonged braking.**
7. **Do not dispose of used catalyst along with parts contaminated with gasoline or oil.**

VEHICLE LIFT AND SUPPORT LOCATIONS

PICKUP

Front

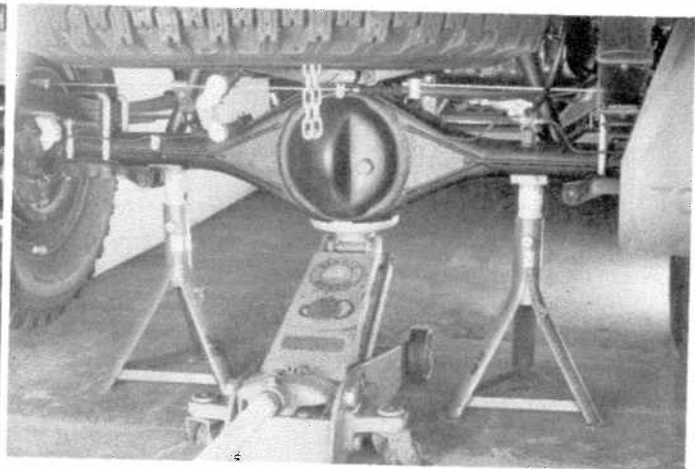
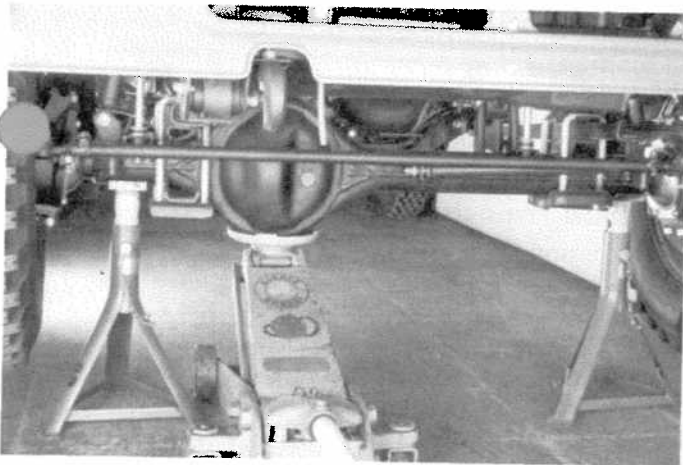
Rear



PICKUP 4WD

Front

Rear



ABBREVIATIONS USED IN THIS MANUAL

AAP	Auxiliary Acceleration Pump
A/C	Air Conditioner
ACV	Air Control Valve
AI	Air Injection
AS	Air Suction
ASV	Air Switching Valve
A/T	Automatic Transmission
BTDC	Before Top Dead Center
BVSV	Bi-metal Vacuum Switching Valve
CALIF.	Vehicles Sold In California
CANADA	Vehicles Sold In Canada
CB	Choke Breaker
C & C	Cab & Chassis (RN44L-3W series)
EGR	Exhaust Gas Recirculation
EVAP	Evaporative (Emission Control)
EX.	Exhaust (manifold, valve) or Except
FEDERAL	Vehicles Sold In USA Except California
HAC	High Altitude Compensation
HAI	Hot Air Intake
HIC	Hot Idle Compensation
IN.	Intake (manifold, valve) or Inch
IG	Ignition
MAS	Mixture Adjusting Screw
MC	Mixture Control
MP	Multipurpose
M/T	Manual Transmission
OC	Oxidation Catalyst
OPT	Option
OD	Overdrive
O/S	Oversized
PCV	Positive Crankcase Ventilation
P/S or P.S.	Power Steering
SC	Spark Control
SST	Special Service Tool
STD	Standard
S/W	Switch
T/M	Transmission
TP	Throttle Positioner
TVSV	Thermostatic Vacuum Switching Valve
TWC	Three Way Catalyst
U/S	Undersized
VCV	Vacuum Control Valve
VSV	Vacuum Switching Valve
VTV	Vacuum Transmitting Valve
W/	With
W/O	Without
4x2	Two Wheel Drive Vehicles (RN34L & 44L series)
4x4	Four Wheel Drive Vehicles (RN38L & 48L series)

MAINTENANCE

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(15/45,000 miles: 24/72,000 km)	2-5
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GENERAL NOTES:

- Every service item in the periodic maintenance list must be performed.
- Failure to do even one item can cause the engine to run poorly and can increase exhaust emissions.

MAINTENANCE SCHEDULE

Maintenance operations: A = Check and/or adjust if necessary;

R = Replace, change or lubricate;

I = Inspect and correct or replace as necessary

System	Service interval Maintenance items	Odometer reading or months, whichever comes first				
		Miles x 1,000	15	30	45	60
		Kilometers x 1,000	24	48	72	96
		Months	12	24	36	48
ENGINE	Valve clearance ⁽²⁾		A	A	A	A
	Drive belts (including power steering and air conditioner drive belt) ⁽⁴⁾	Fed. Canada		I		I
		Calif.		A, (I*)		I
	Engine oil and oil filter ⁽¹⁾	Change every 10,000 miles (16,000 km) or 8 months				
	Engine coolant ⁽⁵⁾					R
	Cooling and heating systems, hoses and connections					I
	Exhaust pipes and mountings ⁽¹⁾		I	I	I	I
FUEL	Idle speed and fast idle speed ⁽²⁾		A*			
	Choke system			I		I
	Air filter ⁽¹⁾			R		R
	Fuel lines and connections			I		I
	Fuel filler cap gasket					R
IGNITION	Spark plugs			R		R
	Ignition wiring and distributor cap ⁽¹⁾	(3)				
EMISSION CONTROL	Charcoal canister					I
	Fuel evaporative emission control system, hoses and connections					I
TRANSMISSION	Transmission, transfer (for RN 4x4) and differential oil ⁽¹⁾		I	I	I	I
BRAKES	Brake linings and drums ⁽¹⁾		I	I	I	I
	Brake pads and discs ⁽¹⁾		I	I	I	I
	Brake line pipes and hoses		I	I	I	I
CHASSIS	Steering linkage and gear box oil ⁽¹⁾		I	I	I	I
	Ball joints and dust covers ⁽¹⁾ (RN 4x2)		I	I	I	I
	Front wheel bearing and ball joint grease			R		R
	Steering knuckle and chassis grease ⁽¹⁾ (RN 4x4)		R	R	R	R
	Propeller shaft grease ⁽¹⁾ (RN 4x4)		R	R	R	R
	Bolts and nuts on chassis and body ⁽¹⁾		I	I	I	I

* The items marked with an asterisk are recommended maintenance items for California vehicles only, but are required maintenance items for Federal and Canada.

NOTE:

- (1) For vehicles normally used under any of the following severe conditions, the applicable items of maintenance should be performed as indicated in the table below.

Maintenance items	Service interval		Severe condition
Engine oil and oil filter	R	Every 3,750 miles (6,000 km) or 3 months	A . . D . F
Exhaust pipes and mountings	I	Every 7,500 miles (12,000 km) or 6 months	A B C . E .
Air filter	I	Every 3,750 miles (6,000 km) or 3 months	. . . D . .
	R	Every 30,000 miles (48,000 km) or 24 months	
Ignition wiring (3)	I	Every 12 months E .
Distributor cap (3)	I	Every 12 months E .
Brake linings and drums	I	Every 7,500 miles (12,000 km) or 6 months	A B C D . .
Brake pads and discs	I	Every 7,500 miles (12,000 km) or 6 months	A B C D . .
Steering linkage, gear box oil and steering wheel freeplay	I	Every 7,500 miles (12,000 km) or 6 months	. . C . . .
Ball joints and dust covers (RN 4x2)	I	Every 7,500 miles (12,000 km) or 6 months	. . C D E .
Transmission, transfer (RN 4x4) and differential oil	R	Every 15,000 miles (24,000 km) or 12 months	A . C . . .
Automatic transmission fluid (RN 4x2)	R	Every 15,000 miles (24,000 km) or 12 months	A . C . . .
Steering knuckle and chassis grease (RN 4x4)	R	Every 7,500 miles (12,000 km) or 6 months	. . C . . .
Propeller shaft grease (RN 4x4)	R	Every 7,500 miles (12,000 km) or 6 months	A . C . . (7)
Bolts and nuts on chassis and body (6)	I	Initial 3,750 miles (6,000 km) or 3 months and every 7,500 miles (12,000 km) or 6 months	. . C . . .

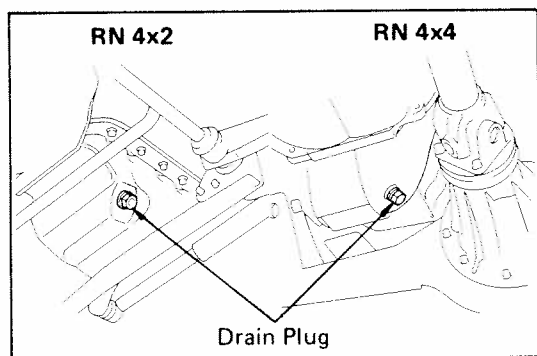
Severe conditions"

- A — Pulling trailers
 - B — Repeated short trips
 - C — Driving on rough and/or muddy roads
 - D — Driving on dusty roads
 - E — Operating in extremely cold weather and/or driving in areas using road salt
 - F — Repeated short trips in extremely cold weather
- (2) Specifications appear on the information label.
- (3) In areas where road salt is used, inspection and cleaning of the distributor cap and ignition wiring should be performed each year just after the snow season.
- (4) Inspect every 15,000 miles (24,000 km) or 12 months after 60,000 miles (96,000 km) or 48 months.
- (5) Replace every 30,000 miles (48,000 km) or 24 months after 60,000 miles (96,000 km) or 48 months, due to possible use of poor quality coolant locally available.
- (6) In addition to the scheduled maintenance items, check for loose or missing bolts and nuts of the following:
- Steering system
 - Drive train
 - Suspension system
 - Fuel tank mounts
 - Engine mounts, etc.
- (7) If the propeller shaft has been immersed in water, it should be re-greased within 24 hours.

MAINTENANCE AT	10	20	40	50	x 1,000 MILES
	16	32	64	80	x 1,000 KM
	8	16	32	40	MONTHS

MAINTENANCE—A

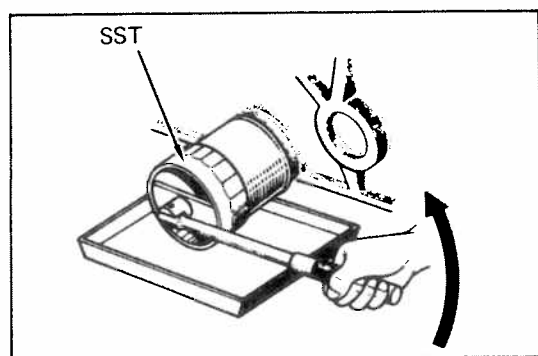
Order	Maintenance items	Specifications	Page
1	ENGINE Replace engine oil and oil filter (Change every 10,000 miles; 16,000 km)	Engine oil capacity (Drain and refill with oil filter change): 4.6 liters (4.9 US qts, 4.0 Imp. qts)	2-4



ENGINE

1. REPLACE ENGINE OIL AND OIL FILTER (Change every 10,000 miles; 16,000 km)

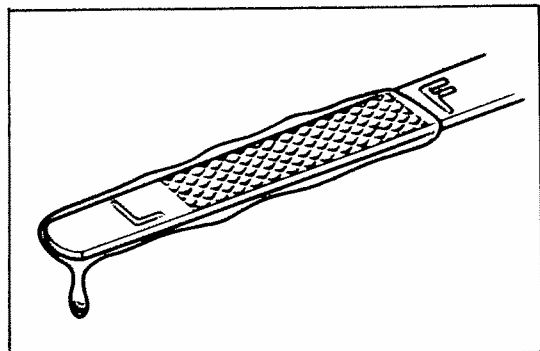
- (a) With the engine warm, remove the oil drain plug and drain the oil.



- (b) Using SST, remove the oil filter (located on the engine block below the carburetor).

SST 09228-44010

- (c) Install a new oil filter.
- Put a light coat of engine oil on the gasket.
 - Hand tighten ONLY. DO NOT use a wrench to tighten the filter.



- (d) Clean and install the oil drain plug with the gasket.
- (e) Fill the engine with new oil, API grade SF multi-grade viscosity and fuel-efficient oil.

Engine oil capacity (Drain and refill with oil filter change):
 4.6 liters (4.9 US qts, 4.0 Imp. qts)

MAINTENANCE AT

15	·	45	x 1,000 MILES
24	·	72	x 1,000 KM
12	·	36	MONTHS

MAINTENANCE—B

Order	Maintenance items	Specifications	Page
	ENGINE		
1	(Cold Engine Operations) Inspect exhaust pipes and mountings		2-7
2	(Hot Engine Operations) Adjust valve clearance	Valve clearance: Intake 0.20 mm (0.008 in.) Exhaust 0.30 mm (0.012 in.)	2-7
3	Adjust idle speed (15,000*miles; 24,000*km only)	Idle speed: 700 rpm M/T 750 rpm A/T	2-8
4	Adjust fast idle speed (15,000*miles; 24,000*km only)	Fast idle speed (w/ EGR system OFF, and choke opener OFF): 2,600 rpm	2-8
	TRANSMISSION		
	Check oil level in transmission, transfer (RN 4x4 only) and differential		2-10
	BRAKES		
6	Inspect brake line pipes and hoses		2-10
7	Inspect rear brake linings and drums	Minimum lining thickness: 1.0 mm (0.039 in.) Maximum drum inside diameter: 256.0 mm (10.079 in.)	2-11
8	Inspect front brake pads and discs	Minimum pad thickness: 1.0 mm (0.039 in.) Minimum disc thickness: RN C&C 19.0 mm (0.748 in.) Others 11.5 mm (0.453 in.) Maximum disc runout: 0.15 mm (0.0059 in.)	2-11
9	CHASSIS RN 4x2 only: Inspect ball joints and dust covers	Maximum ball joint vertical play: 2.3 mm (0.091 in.)	2-11
10	Inspect steering linkage and gear box oil		2-11

*The items marked with an asterisk are recommended maintenance items for California vehicles only, but are required maintenance items for Federal and Canada.

MAINTENANCE AT	15	·	45	x 1,000 MILES
	24	·	72	x 1,000 KM
	12	·	36	MONTHS

Order	Maintenance items	Specifications	Page
11	RN 4x4 only: Lube steering knuckle and chassis (Including propeller shaft)		2-12
12	Tighten bolts and nuts on chassis and body		2-13
13	Final inspection		2-13

ENGINE

Cold Engine Operations

1. INSPECT EXHAUST PIPES AND MOUNTINGS

Visually inspect the pipes, hangers, and connections for severe corrosion, leaks or damage.

Hot Engine Operations

2. ADJUST VALVE CLEARANCE

NOTE: Before starting the engine, plug the hose connections for the HAI and MC systems (RN C&C and Calif. RN w/M/T) to prevent rough idling.

- Warm up the engine to normal operating temperature.
- Stop the engine and remove the valve cover.

- Set No. 1 cylinder to TDC/compression.

- Turn the crankshaft with a wrench to align the timing marks at TDC. Set the groove on the pulley to the 0 position.
- Check that the rocker arms on No. 1 cylinder are loose and rockers on No. 4 are tight.

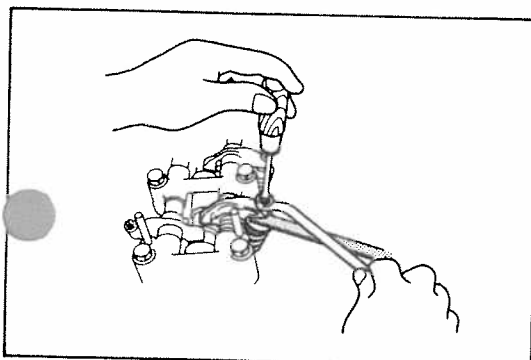
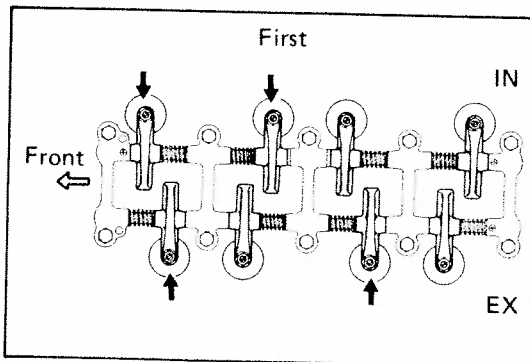
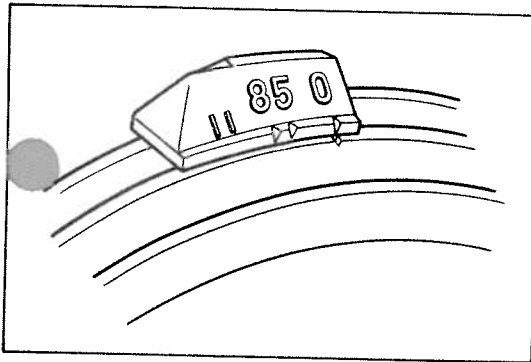
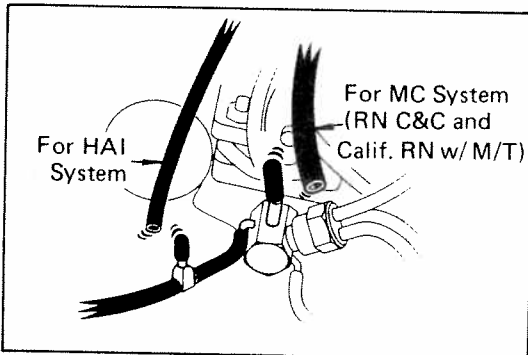
If not, turn the crankshaft one complete revolution and align marks as above.

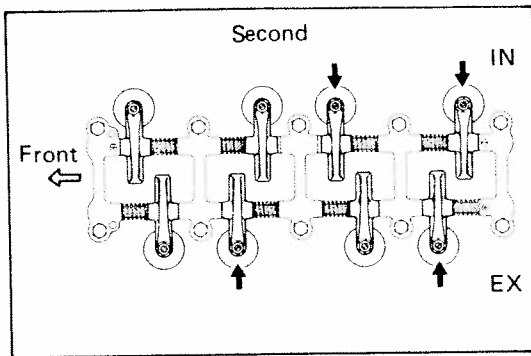
- Adjust the clearance of half of the valves.

- Adjust only those valves indicated by arrows.

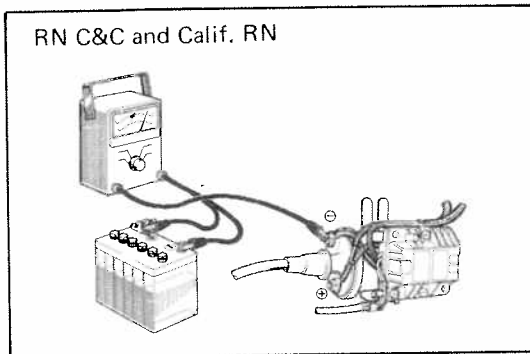
Valve clearance: Intake 0.20 mm (0.008 in.)
Exhaust 0.30 mm (0.012 in.)

- Use a feeler gauge to measure between the valve stem and rocker arm. Loosen the lock nut and turn the adjusting screw to set the proper clearance. Hold the adjusting screw in position, and tighten the lock nut.
- Recheck the clearance. The feeler gauge should move with a very slight drag.





- (e) Turn the crankshaft one complete revolution (360°) and align timing marks in the manner mentioned above. Adjust only the valves indicated by arrows.
- (f) Reinstall the valve cover.
- (g) Reinstall the air cleaner.



3. ADJUST IDLE SPEED (15,000* miles; 24,000 km* only)

- (a) Preparation
 - Air cleaner installed
 - Choke valve fully open
 - Accessories switched off
 - All vacuum lines connected (i.e. AI, EGR systems, etc.)
 - Transmission in N range
 - Engine idling at normal operating temperature

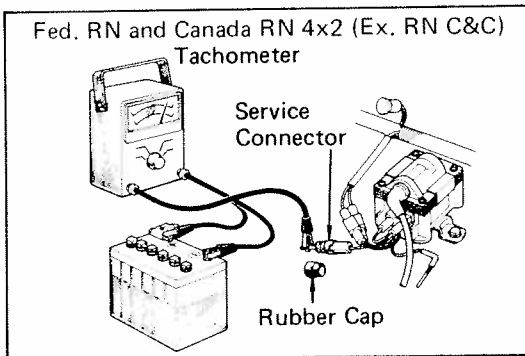
- (b) Connect a tachometer to the engine.

RN C&C and Calif. RN vehicles;

Connect the tachometer positive (+) terminal to the ignition coil negative (—) terminal.

Fed. RN and Canada RN 4x2 (Ex. RN C&C) vehicles;

Remove the rubber cap and connect the tachometer positive (+) terminal to the service connector at the igniter.



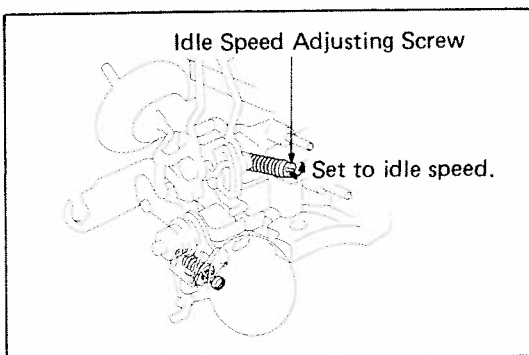
CAUTION:

1. NEVER allow the tachometer terminal to touch ground as it could result in damage to the igniter and/or ignition coil.
2. As some tachometers are not compatible with this ignition system, it is recommended that you consult with the manufacturer.

- (c) Set the idle speed by turning the IDLE SPEED ADJUSTING SCREW.

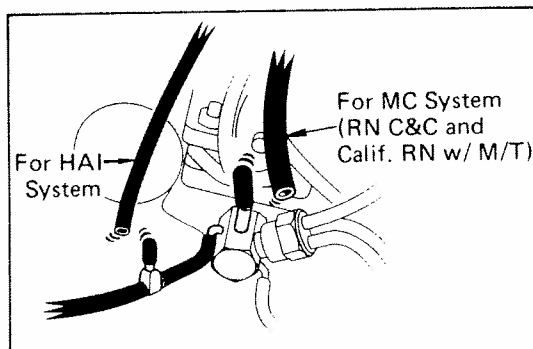
Idle speed: 700 rpm M/T
750 rpm A/T

NOTE: Leave the tachometer connected for further adjustment.

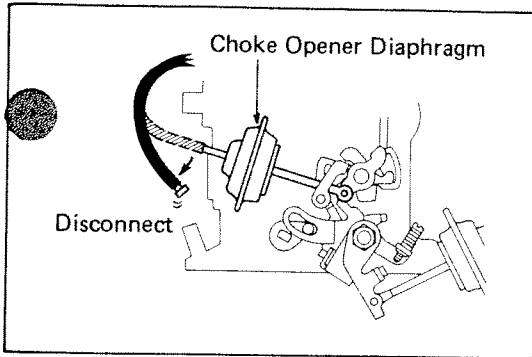


4. ADJUST FAST IDLE SPEED (15,000* miles; 24,000 km* only)

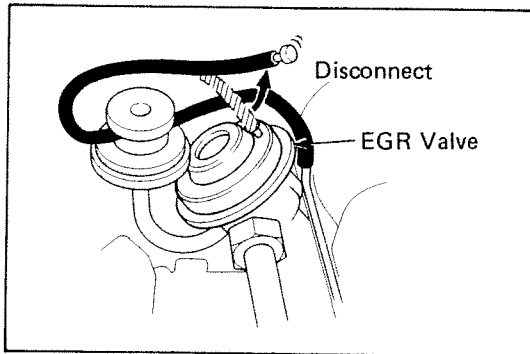
- (a) Stop the engine and remove the air cleaner.
- (b) Plug the hose connections for HAI system and MC system (RN C&C and Calif. RN w/ M/T) prevent rough idling.



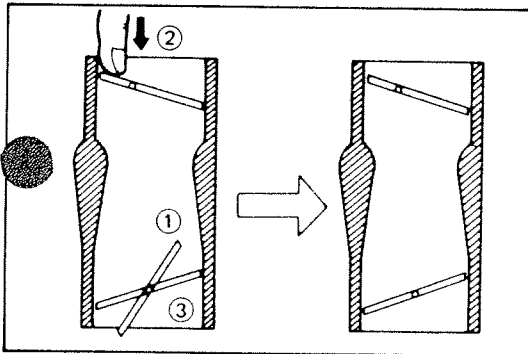
* The items marked with an asterisk are recommended maintenance items for California vehicles only, but are required maintenance items for Federal and Canada.



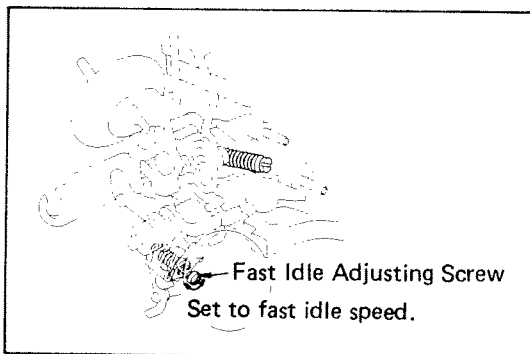
- (c) Disconnect the hose from the choke opener diaphragm and plug the hose end.
This will shut off the choke opener system.



- (d) (Except Canada RN 4x4):
Disconnect the hose from the EGR valve.
This will shut off the EGR system.



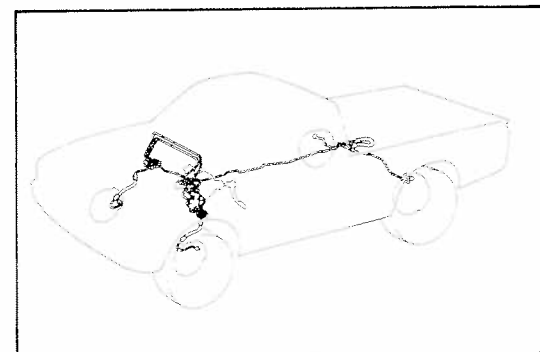
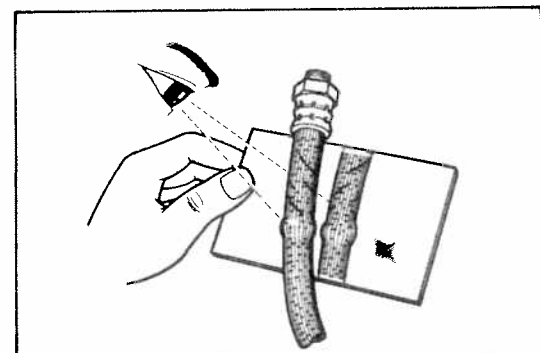
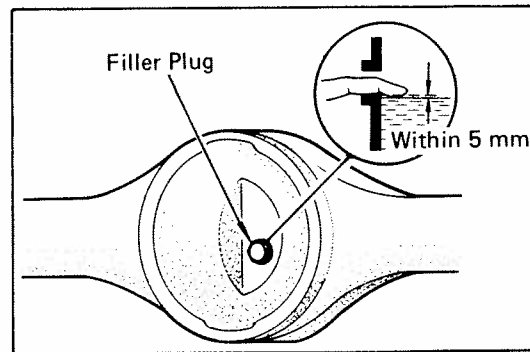
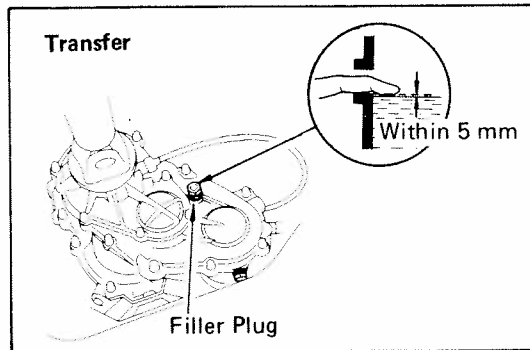
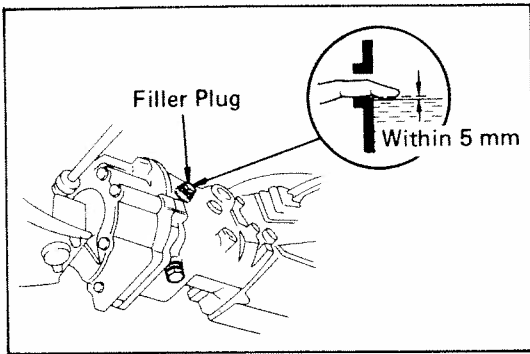
- (e) Set the fast idle cam.
While holding the throttle valve slightly open, push the choke valve closed, and hold it closed as you release the throttle valve.
- (f) Start the engine, but do NOT touch the accelerator pedal.



- (g) Set the fast idle speed by turning the fast idle adjusting screw.

Fast idle speed: 2,600 rpm

- (h) Reconnect the vacuum hoses to the proper locations.
- (i) Reinstall the air cleaner.
- (j) Remove the tachometer.



TRANSMISSION

5. CHECK OIL LEVEL IN TRANSMISSION, TRANSFER (RN 4x4 ONLY) AND DIFFERENTIAL

Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole.

Transmission oil—

Oil grade: API GL-4 or GL-5

Viscosity:

RN 4x2 SAE 75W-90 or 80W-90

RN 4x4 SAE 80W-90

Transfer oil—

Oil grade: API GL-4 or GL-5

Viscosity: SAE 80W-90

Differential oil—

Oil grade: API GL-5 hypoid gear oil

Viscosity: Above -18°C (0°F) SAE 90

Below -18°C (0°F) SAE 80W-90 or 80W

BRAKES

6. INSPECT BRAKE LINE PIPES AND HOSES

NOTE: Inspect in a well lighted area. Inspect the entire circumference and length of the brake hoses using a mirror as required. Turn the front wheels fully right or left before inspecting the front brake.

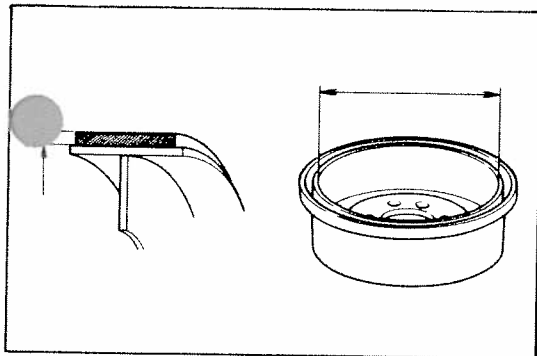
(a) Check all brake lines and hoses for:

- Damage
- Wear
- Deformation
- Cracks
- Corrosion
- Leaks
- Bends
- Twists

(b) Check all clamps for tightness and connections for leakage.

(c) Check that the hoses and lines are clear of sharp edges, moving parts and the exhaust system.

(d) Check that the lines installed in grommets pass through the center of the grommets.



7. INSPECT REAR BRAKE LININGS AND DRUMS

(a) Check the linings for wear.

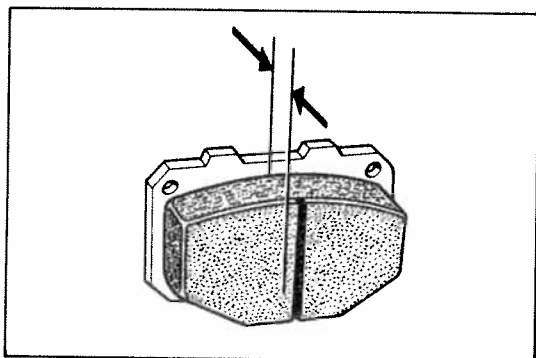
Minimum lining thickness: 1.0 mm (0.039 in.)

(b) Check the brake drums for scoring or wear.

Maximum drum inside diameter: 256.0 mm (10.079 in.)

(c) Clean the brake parts with a damp cloth.

NOTE: Do not use compressed air to clean the brake parts.



8. INSPECT FRONT BRAKE PADS AND DISCS

(a) Check the thickness of the disc brake pads and check for irregular wear.

Minimum pad thickness: 1.0 mm (0.039 in.)

(b) Check the disc for wear or runout.

Minimum disc thickness:

RN C&C 19.0 mm (0.748 in.)

Others 11.5 mm (0.453 in.)

Maximum disc runout: 0.15 mm (0.0059 in.)

CHASSIS

9. RN 4x2 ONLY:

INSPECT BALL JOINTS AND DUST COVERS

(a) Inspect the ball joints for excessive looseness.

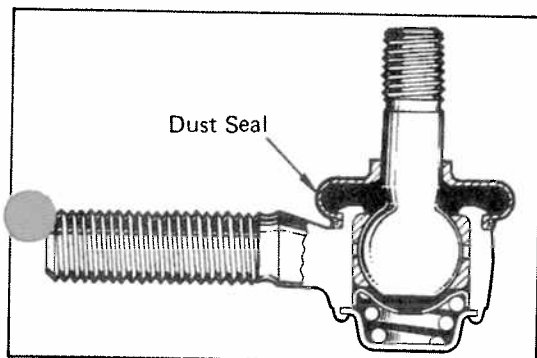
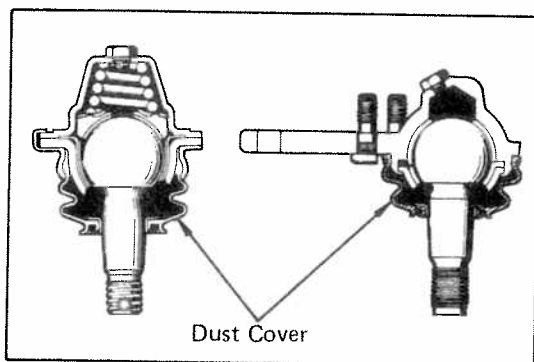
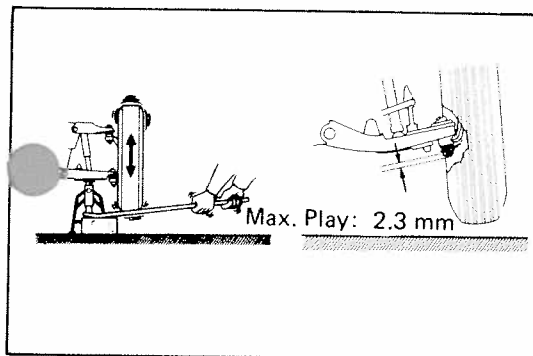
- Jack up the lower arm until the tire is off the ground.
- Move the tire up and down and check that there is no excessive play.

NOTE: This inspection should be performed with the brake pedal depressed to prevent occurrence of wheel bearing play.

Maximum ball joint vertical play: 2.3 mm (0.091 in.)

If excessive play is found, replace the ball joints.

(b) Inspect the dust cover for damage.

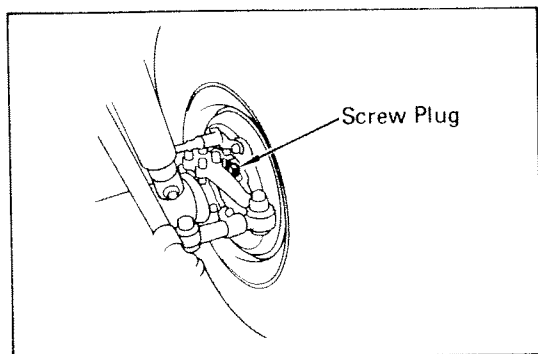


10. INSPECT STEERING LINKAGE AND GEAR BOX OIL

(a) Check the steering linkage for looseness or damage. Check that:

- Tie rod ends and relay rod ends do not have excessive play.
- Dust seals are not damaged.

(b) Check the steering gear box for oil leaks.



**11. RN 4x4 ONLY:
LUBE STEERING KNUCKLE AND CHASSIS
(Including propeller shaft)**

- (a) Remove the screw plug from each steering knuckle and repack with lubricant.

Steering knuckle grease: Molybdenum disulfide lithium base chassis grease (NLGI No. 2)

- (b) Reinstall the two screw plugs.

- (c) Lubricate chassis components, referring to the lubrication chart. Before pumping in grease, wipe off any mud and dust on the grease fitting.

NOTE: To lubricate the propeller shaft spiders, use the grease charger attachment in the tool bag.

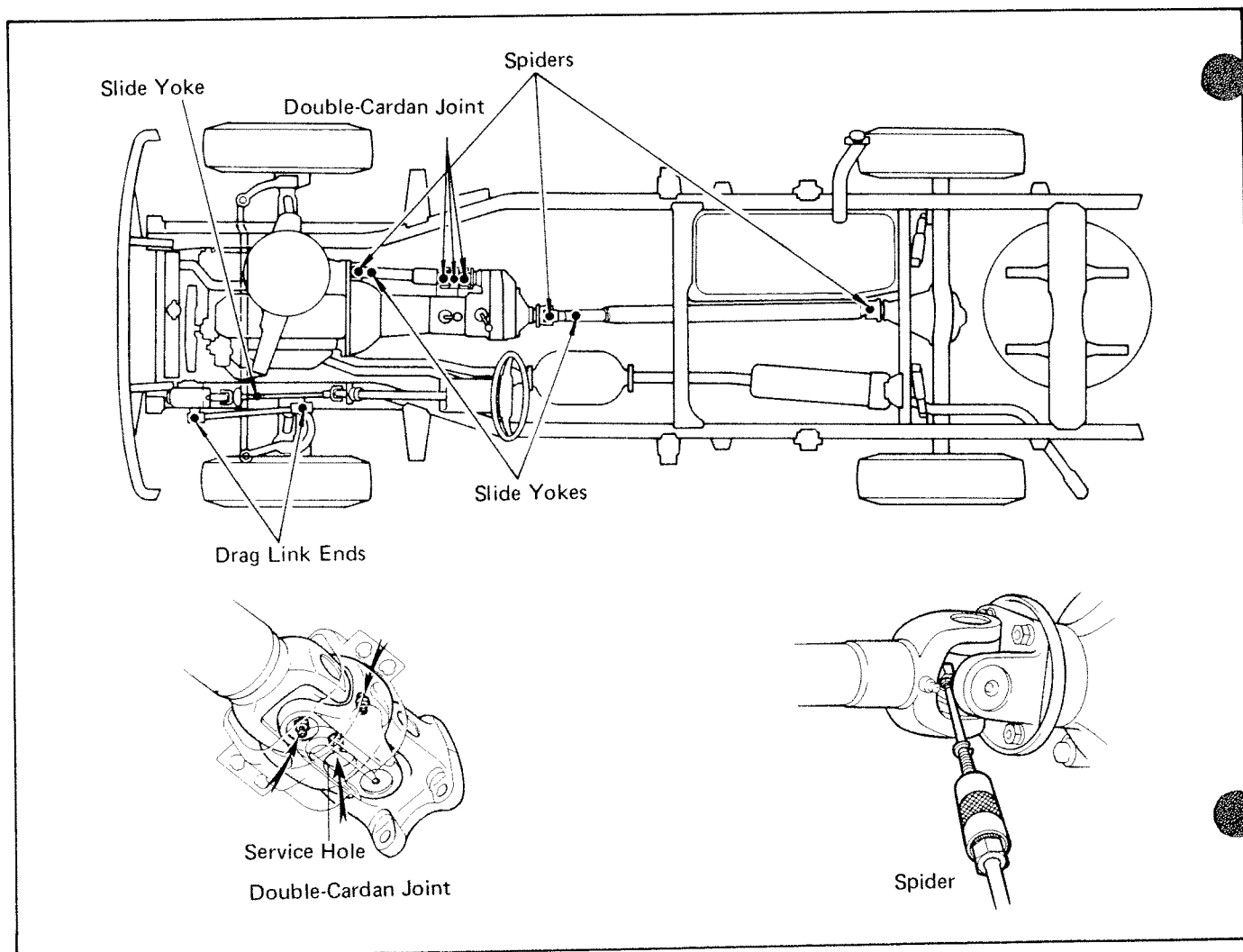
Grease grade:

Propeller shaft (except double-cardan joint)—

Lithium base chassis grease (NLGI No. 2)

Double-cardan joint—Molybdenum disulfide lithium base chassis grease (NLGI No. 2)

Drag link ends and steering intermediate shaft slide yoke — Lithium base chassis lubricant (NLGI No. 0)



12. TIGHTEN BOLTS AND NUTS ON CHASSIS AND BODY

Tighten the following parts:

- Seats mounting bolts and nuts
- Front suspension member-to-frame mounting bolts and nuts (RN 4x2)
- Strut bar bracket-to-frame mounting bolts (RN 4x2)
- Leaf spring U-bolt mounting nuts

13. FINAL INSPECTION

(a) Check operation of body parts:

- Hood
 - Auxiliary catch operates properly
 - Hood locks securely when closed
- Doors
 - Door locks operate properly
 - Doors close properly
- Seats
 - Seats adjust easily and lock securely in any positions
 - Seat backs lock securely at any angle
 - Folding-down seat backs lock securely

(b) Road test

- Engine and chassis parts do not have abnormal noises.
- Vehicle does not wander or pull to one side.
- Brakes work properly and do not drag.

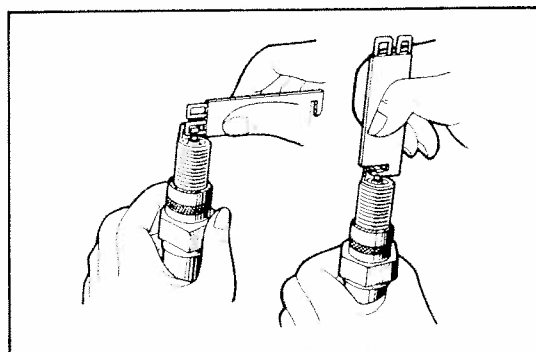
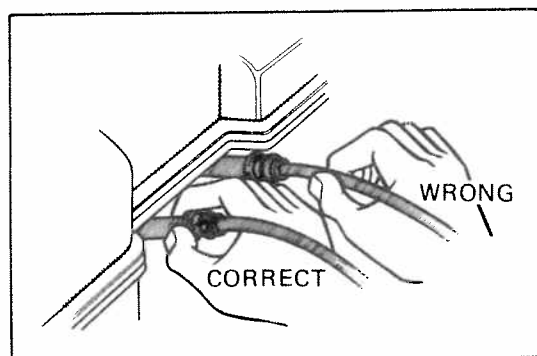
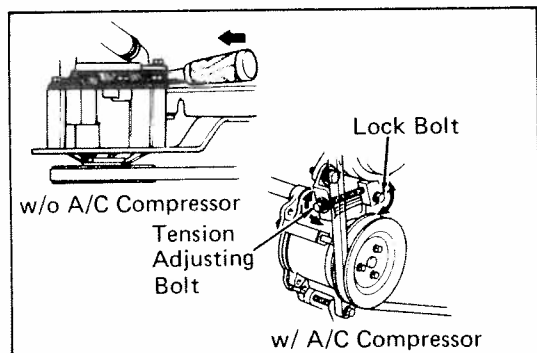
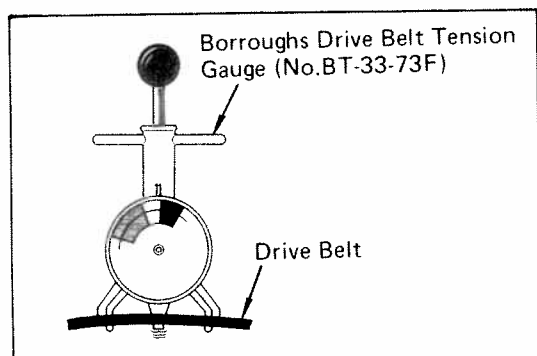
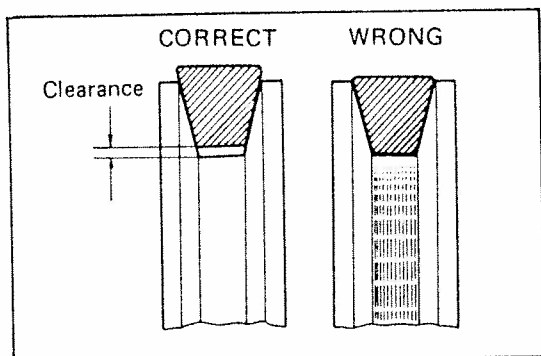
(c) Be sure to deliver a clean vehicle and especially check:

- Steering wheel
- Shift lever knob
- All switch knobs
- Door handles
- Seats

MAINTENANCE AT

30	·	60	x 1,000 MILES
48	·	96	x 1,000 KM
24	·	48	MONTHS

Order	Maintenance items	Specifications	Page
15	TRANSMISSION Check oil level in transmission, transfer (RN 4x4 only) and differential		2-21
16	BRAKES Inspect brake line pipes and hoses		2-22
17	Inspect rear brake lining and drums	Minimum lining thickness: 1.0 mm (0.039 in.) Maximum drum inside diameter: 256.0 mm (10.079 in.)	2-22
18	Inspect front brake pads and discs	Minimum pad thickness: 1.0 mm (0.039 in.) Minimum disc thickness: RN C&C 19.0 mm (0.748 in.) Others 11.5 mm (0.453 in.) Maximum disc runout: 0.15 mm (0.0059 in.)	2-22
19	CHASSIS RN 4x2 only: Inspect ball joints and dust covers	Maximum ball joint vertical play: 2.3 mm (0.091 in.)	2-23
20	RN 4x2 only: Repack front wheel bearings and lube ball joints	Wheel bearing friction preload (at starting): 0.6 – 1.8 kg (1.3 – 4.0 lb)	2-23
21	RN 4x4 only: Repack front wheel bearings	Wheel bearing friction preload (at starting): 2.8 – 5.7 kg (6.2 – 12.6 lb)	2-24
22	Inspect steering linkage and gear box oil		2-25
23	RN 4x4 only: Lube steering knuckle and chassis (Including propeller shaft)		2-26
24	Tighten bolts and nuts on chassis and body		2-27
25	Final inspection		2-27



ENGINE

Cold Engine Operations

1. INSPECT DRIVE BELT

(30*/60,000 miles; 48*/96,000 km)

- (a) Visually check the drive belt for cracks, oiliness or wear. Check that the belt does not touch the bottom of the pulley groove.

If necessary, replace the drive belt.

- (b) Check the drive belt tension, using a Borroughs Drive Belt Tension Gauge (No. BT-33-73F).

Drive belt tension: Used belt 80±20 lb
New belt 125±25 lb

If necessary, adjust the drive belt tension.

2. CALIFORNIA VEHICLES ONLY: ADJUST TENSION OF DRIVE BELTS (30,000 miles; 48,000 km only)

Using a Borroughs Drive Belt Tension Gauge (No. BT-33-73F), check and adjust each belt to the specified tension

Drive belt tension: Used belt 80 ± 20 lb

CAUTION: Do not pry on the die-cast body of the air pump.

3. REPLACE SPARK PLUGS

- (a) Disconnect spark plug wires at boot. DO NOT pull on the wires. Remove the spark plugs.

- (b) Set the gap on the new plugs.

Gap: 0.8 mm (0.031 in.)

Recommended spark plugs:

ND W16EXR-U

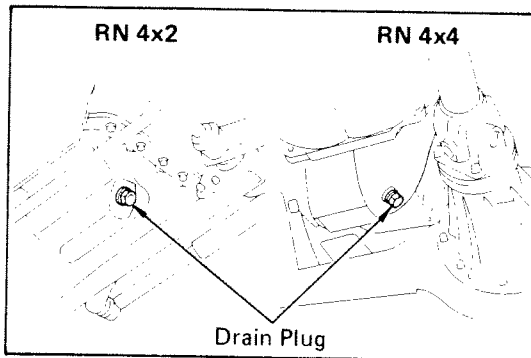
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* The items marked with an asterisk are recommended maintenance items for California vehicles only, but are required maintenance items for Federal and Canada.

4. INSPECT COOLING AND HEATING SYSTEMS, HOSES AND CONNECTIONS (60,000 miles; 96,000 km)

- Visually check for coolant leakage.
- Check for hose rot or loose clamps.

Squeeze the hoses to check for internal deterioration. If soft, replace.



5. REPLACE ENGINE OIL AND OIL FILTER

- Remove the oil drain plug and drain the oil.

- Using SST, remove the oil filter (located on the engine block below the carburetor).

SST 09228-44010

- Install a new oil filter.

- Put a light coat of engine oil on the gasket.
- Hand tighten ONLY. DO NOT use a wrench to tighten the filter.

- Clean and install the oil drain plug with gasket.

- Fill the engine with new oil, API grade SF multigrade viscosity and fuel-efficient oil.

Engine oil capacity (Drain and refill with oil filter change):
4.6 liters (4.9 US qts, 4.0 Imp. qts)

6. REPLACE ENGINE COOLANT (60,000 miles; 96,000 km)

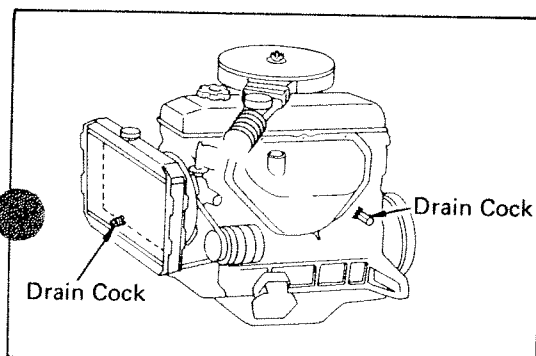
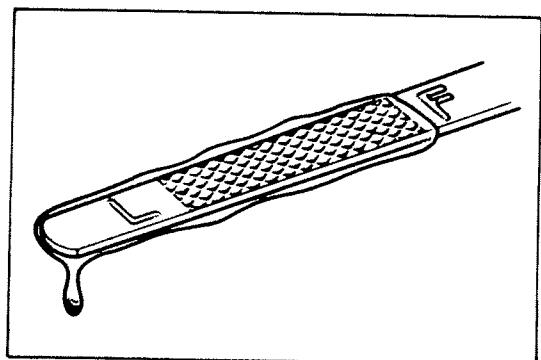
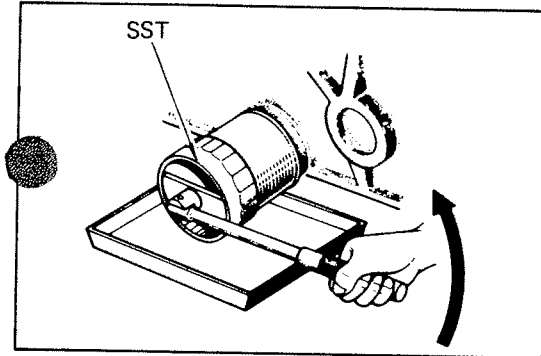
- Drain the coolant from the radiator and engine drain cocks. (Engine drain is at left rear of engine block.)

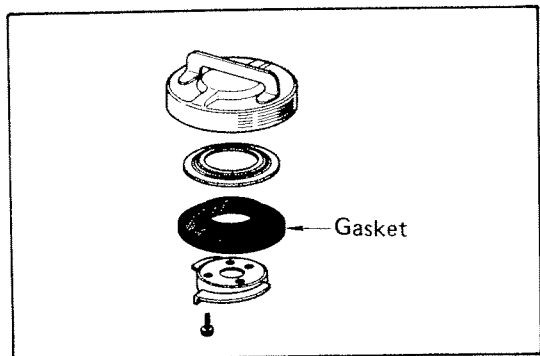
- Close the drain cocks.

- Fill system with coolant.

Coolant capacity (w/ heater or air conditioner):
8.4 liters (8.9 US qts, 7.4 Imp. qts)

Use a good brand of ethylene-glycol base coolant, mixed according to the manufacturers instruction.





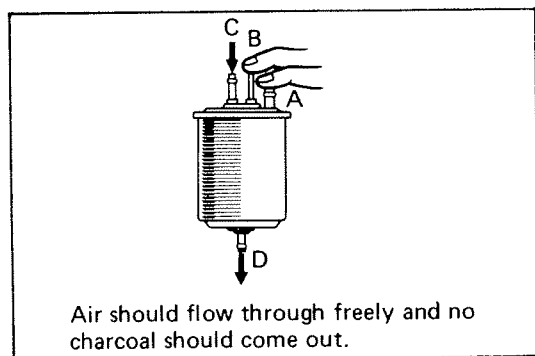
7. REPLACE GASKET IN FUEL FILLER CAP (60,000 miles; 96,000 km)

- (a) Remove the four screws and locking plate. Pull out the old gasket.
- (b) Install the new gasket by hand. Install the locking plate with four screws.

8. INSPECT CHARCOAL CANISTER (60,000 miles; 96,000 km)

A. RN 4x2 (except C&C):

- (a) Disconnect the hoses to the charcoal canister. Label hoses for correct installation.



- (b) Plug pipes A and B with your fingers and blow compressed air (3 kg/cm² or 43 psi) through pipe C (fuel tank side).

- Check that air comes out of the bottom pipe D without resistance.
- Check that no activated charcoal comes out.

If necessary, replace the charcoal canister.

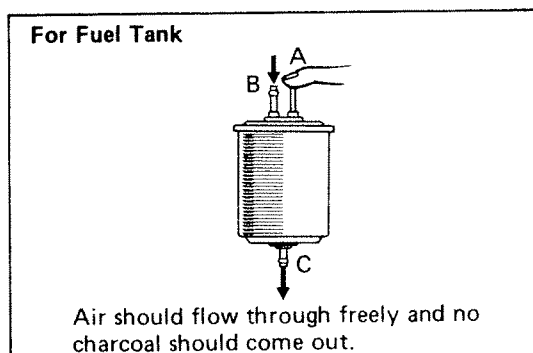
NOTE: Do not attempt to wash the charcoal.

- (c) Connect the hoses to the charcoal canister.

B. RN C&C and RN 4x4 (ex. Canada RN 4x4):

- (a) Inspect the fuel tank and carburetor charcoal canisters.

- (b) Disconnect the hoses to the fuel tank charcoal canister. Label hoses for correct installation.



- (c) Plug pipe A with your finger and blow compressed air (3 kg/cm² or 43 psi) through pipe B (fuel tank side).

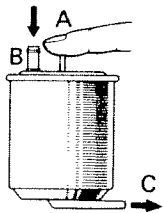
- Check that air comes out of the bottom pipe C without resistance.
- Check that no activated charcoal comes out.

If necessary, replace the charcoal canister.

NOTE: Do not attempt to wash the charcoal.

- (d) Connect the hoses to the charcoal canister.

For Carburetor



Air should flow through freely and no charcoal should come out.

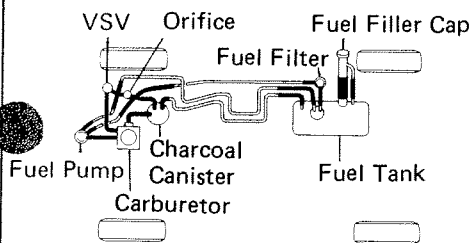
- (e) Disconnect the hoses to the carburetor charcoal canister located below the battery. Label hoses for correct installation.
- (f) Plug pipe A with your finger and blow compressed air (3 kg/cm² or 43 psi) through pipe B (Outer vent control valve side).
 - Check that air comes out of the bottom pipe C without resistance.
 - Check that no activated charcoal comes out.

If necessary, replace the charcoal canister.

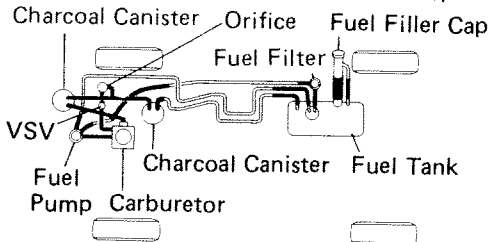
NOTE: Do not attempt to wash the charcoal.

- (g) Connect the hoses to the charcoal canister.

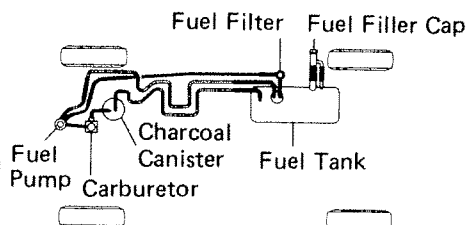
RN 4x2 (ex. C&C)



RN C&C and RN 4x4 (ex. Canada 4x4)



Canada RN 4x4



9. INSPECT FUEL EVAPORATIVE EMISSION CONTROL (EVAP) SYSTEM HOSES AND CONNECTIONS (60,000 miles; 96,000 km)

- (a) Visually inspect the lines and connections for looseness, sharp bends or damage.
- (b) Visually inspect the fuel tank for deformation, cracks or fuel leakage.
- (c) Visually inspect the filler neck for damage or fuel leakage.

10. INSPECT FUEL LINES AND CONNECTIONS

Visually inspect the fuel lines for cracks, leakage or loose connections.

11. INSPECT EXHAUST PIPES AND MOUNTINGS

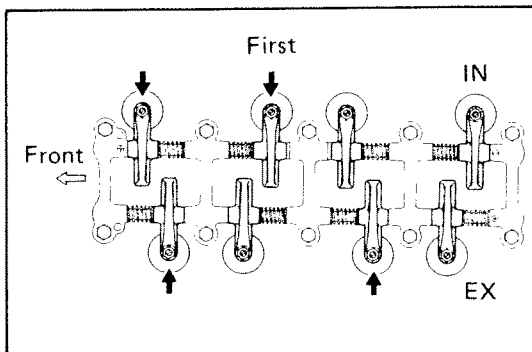
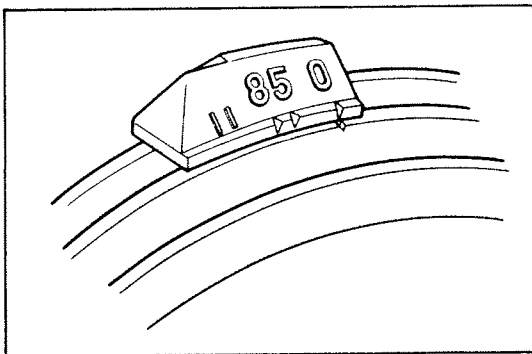
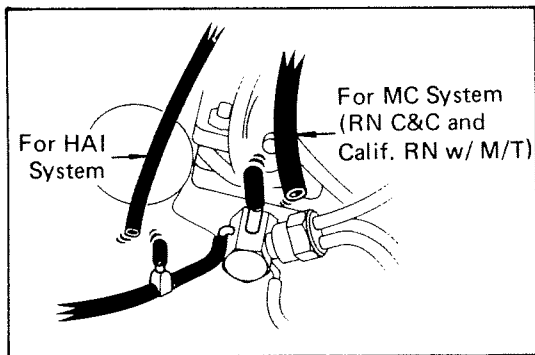
Visually inspect the pipes, hangers, and connections for severe corrosion, leaks or damage.

12. INSPECT CHOKE SYSTEM

- (a) Remove the air cleaner.
- (b) Clean the choke shaft and linkage.
 - Spray carburetor (or choke) cleaner on the choke linkage to remove dirt and dust.
 - Spray carburetor (or choke) cleaner on both ends of the choke shaft while opening and closing the choke valve by hand.

13. REPLACE AIR FILTER

Replace the used air cleaner element with a new one.

**Hot Engine Operations****14. ADJUST VALVE CLEARANCE**

NOTE: Before starting the engine, plug the hose connections for the HAI and MC systems (RN C&C and Calif. RN w/M/T) to prevent rough idling.

- (a) Warm up the engine to normal operating temperature.
- (b) Stop the engine and remove the valve cover.

- (c) Set No.1 cylinder to TDC/compression.

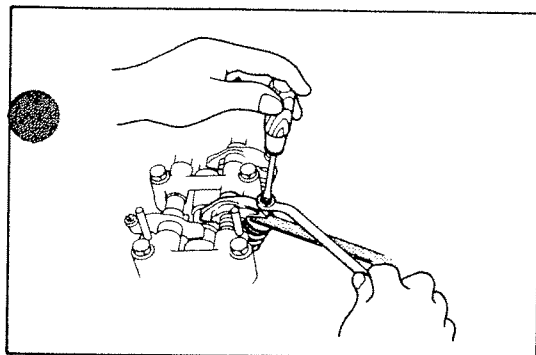
- Turn the crankshaft with a wrench to align the timing marks at TDC. Set the groove on the pulley to the 0 position.
- Check that the rocker arms on No.1 cylinder are loose and rockers on No.4 are tight.

If not, turn the crankshaft one complete revolution and align marks as above.

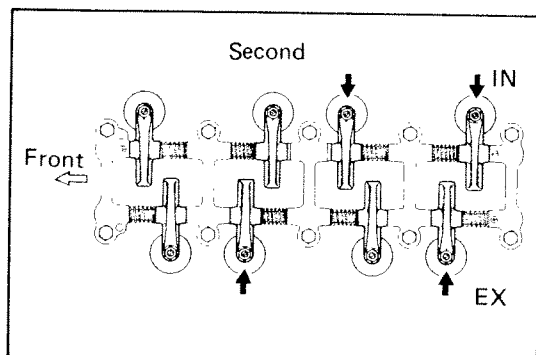
- (d) Adjust the clearance of half of the valves.

- Adjust only those valves indicated by arrows.

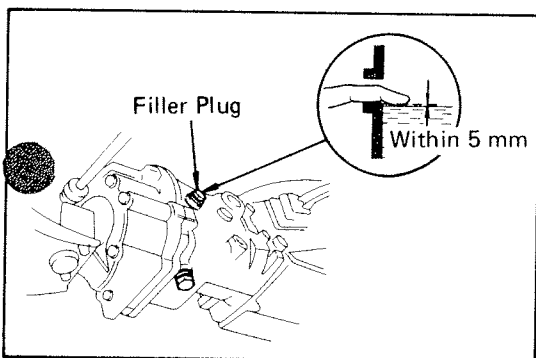
Valve clearance: Intake 0.20 mm (0.008 in.)
Exhaust 0.30 mm (0.012 in.)



- Use a feeler gauge to measure between the valve stem and rocker arm. Loosen the lock nut and turn the adjusting screw to set the proper clearance. Hold the adjusting screw in position, and tighten the lock nut.
- Recheck the clearance. The feeler gauge should move with a very slight drag.



- Turn the crankshaft one complete revolution (360°) and align timing marks in the manner mentioned above. Adjust only the valves indicated by arrows.
- Reinstall the valve cover.
- Reinstall the air cleaner.



TRANSMISSION

15. CHECK OIL LEVEL IN TRANSMISSION, TRANSFER (RN 4x4 ONLY) AND DIFFERENTIAL

Remove the filler plug and feel inside the hole with your finger. Check that the oil comes to within 5 mm (0.20 in.) of the bottom edge of the hole. If the level is low, add oil until it begins to run out of the filler hole.

Transmission oil—

Oil grade: API GL-4 or GL-5

Viscosity:

RN 4x2 SAE 75W-90 or 80W-90

RN 4x4 SAE 80W-90

Transfer oil—

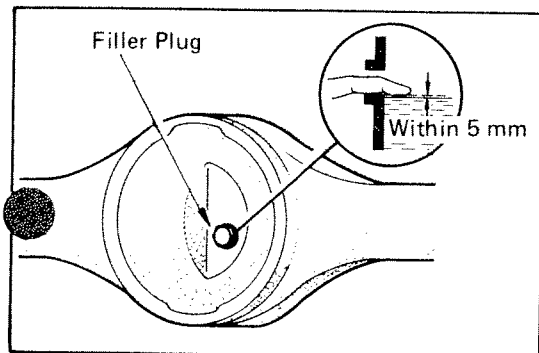
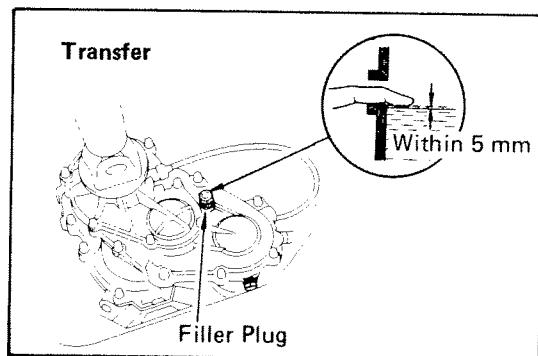
Oil grade: API GL-4 or GL-5

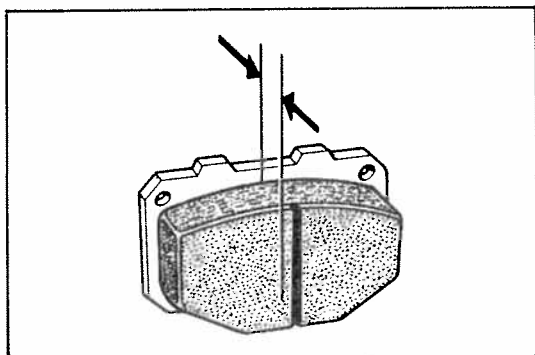
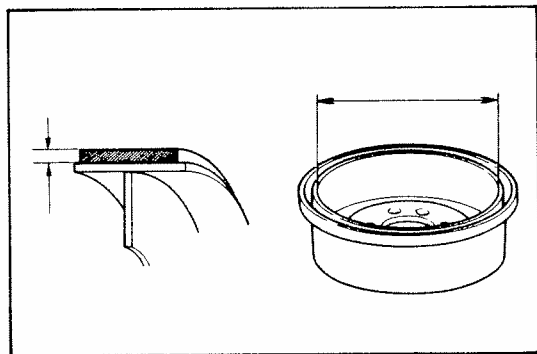
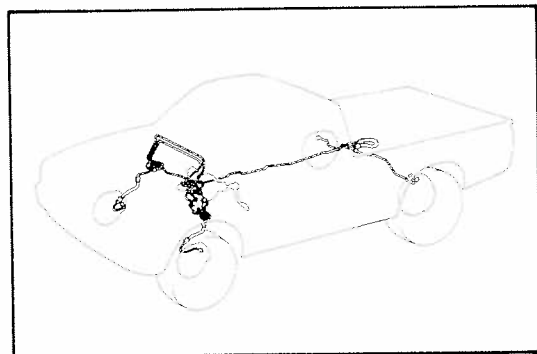
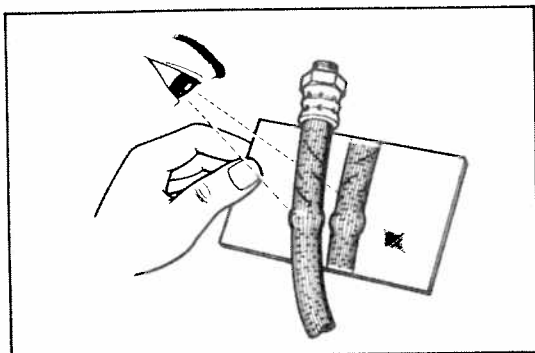
Viscosity: SAE 80W-90

Differential oil—

Oil grade: API GL-5 hypoid gear oil

Viscosity: Above -18°C (0°F) SAE 90
Below -18°C (0°F) SAE 80W-90 or 80W





BRAKES

16. INSPECT BRAKE LINE PIPES AND HOSES

NOTE: Inspect in a well lighted area. Inspect the end circumference and length of the brake hoses using a mirror as required. Turn the front wheels fully right or left before inspecting the front brake.

(a) Check all brake lines and hoses for:

- Damage
- Wear
- Deformation
- Cracks
- Corrosion
- Leaks
- Bends
- Twists

(b) Check all clamps for tightness and connections for leakage.

(c) Check that the hoses and lines are clear of sharp edges, moving parts and the exhaust system.

(d) Check that the lines installed in grommets pass through the center of the grommets.

17. INSPECT REAR BRAKE LININGS AND DRUMS

(a) Check the linings for wear.

Minimum lining thickness: 1.0 mm (0.039 in.)

(b) Check the brake drums for scoring or wear.

Maximum drum inside diameter: 256.0 mm (10.079 in.)

(c) Clean the brake parts with a damp cloth.

NOTE: Do not use compressed air to clean the brake parts.

18. INSPECT FRONT BRAKE PADS AND DISCS

(a) Check the thickness of the disc brake pads and check for irregular wear.

Minimum pad thickness: 1.0 mm (0.039 in.)

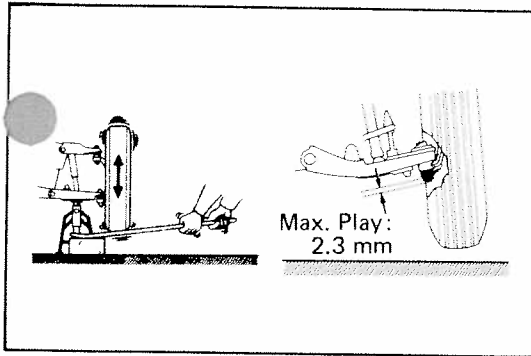
(b) Check the disc for wear or runout.

Minimum disc thickness:

RN C&C 19.0 mm (0.748 in.)

Others 11.5 mm (0.453 in.)

Maximum disc runout: 0.15 mm (0.0059 in.)



CHASSIS

19. RN 4x2 ONLY:

INSPECT BALL JOINTS AND DUST COVERS

(a) Inspect the ball joints for excessive looseness.

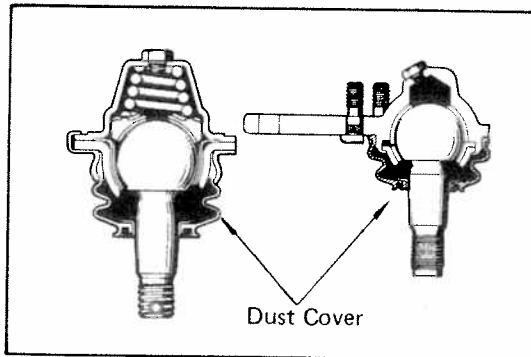
- Jack up the lower arm until the tire is off the ground.
- Move the tire up and down and check that there is no excessive play.

NOTE: This inspection should be performed with the brake pedal depressed to prevent occurrence of wheel bearing play.

Maximum ball joint vertical play: 2.3 mm (0.091 in.)

If excessive play is found, replace the ball joints.

(b) Inspect the dust cover for damage.



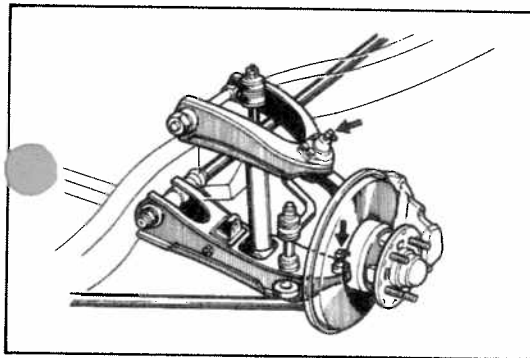
20. RN 4x2 ONLY:

REPACK FRONT WHEEL BEARINGS AND LUBE BALL JOINTS

(a) Lubricate ball joints.

- Remove the ball joint screw plug, attach fitting and fill with grease.
- Check that the ball joints do not leak grease.

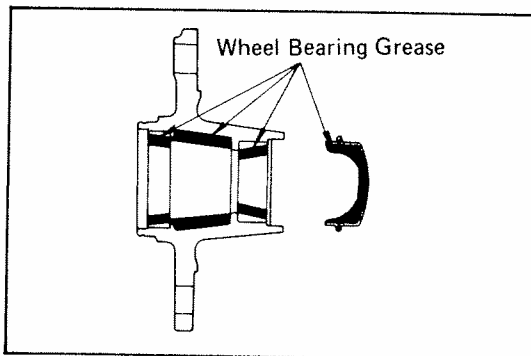
Grease grade: Molybdenum — disulphide lithium base chassis grease (NLGI No. 1 or 2)



(b) Change the front wheel bearing grease.

- Remove the hubs and inner and outer bearings. Clean in solvent and inspect the bearings for damage.
- Pack the bearings and axle hubs with multi-purpose grease.

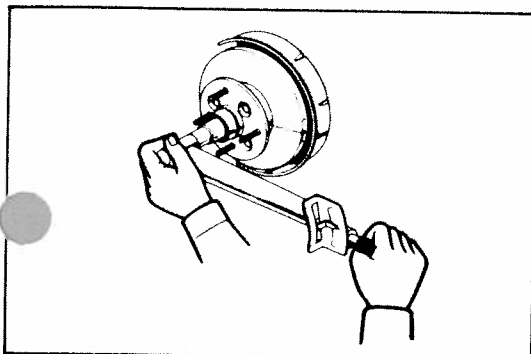
Grease grade: Lithium base multipurpose grease (NLGI No. 2)

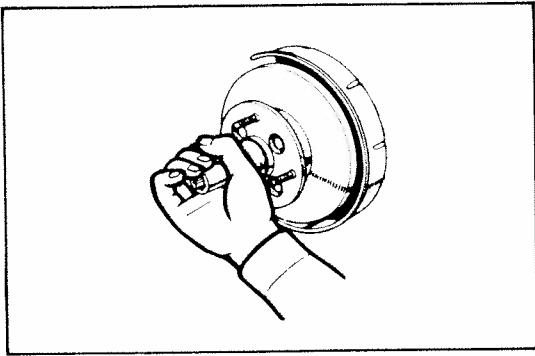


(c) Install the hubs and adjust the wheel bearing pre-load.

- Tighten the nut to specified torque and turn hub 2 to 3 times to allow bearings to seat properly.

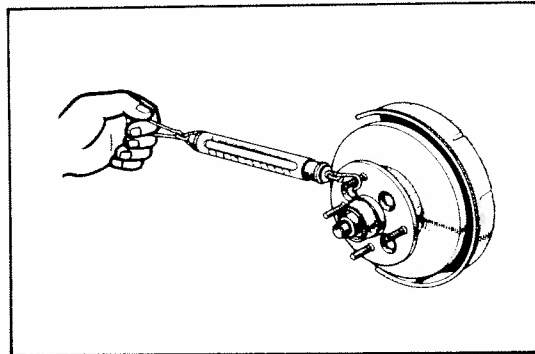
Torque: Approx. 300 kg-cm (22 ft-lb)





- Unscrew the nut enough to turn it by hand. Using a socket, tighten the nut as much as possible by hand.

NOTE: Do not use a socket wrench.

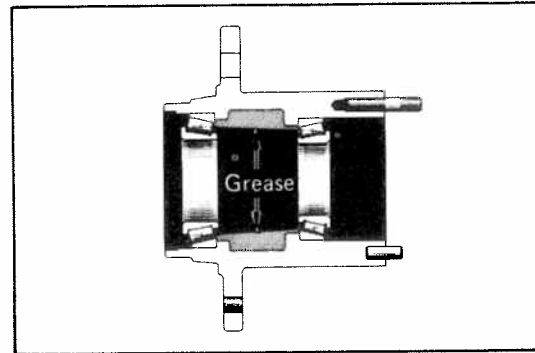


- Using a spring tension gauge, check for correct preload.

Wheel bearing friction preload (at starting):
0.6 – 1.8 kg (1.3 – 4.0 lb)

If the preload is incorrect, loosen or tighten the nut to correct the preload.

- Insure that the hub turns smoothly and there is no play in the bearing.



21. RN 4x4 ONLY: REPACK FRONT WHEEL BEARINGS

(a) Change the front wheel bearing grease.

- Remove the hubs and inner and outer bearings. Clean in solvent and inspect the bearings for damage.
- Pack the bearings and axle hubs with lithium base multipurpose grease.

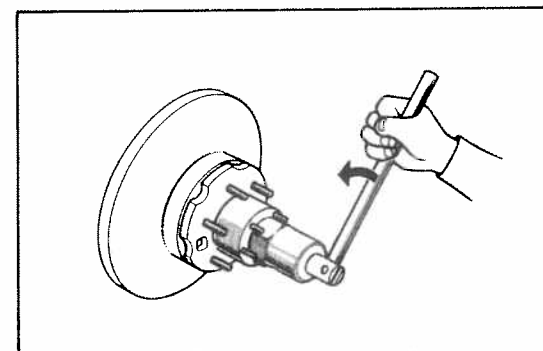
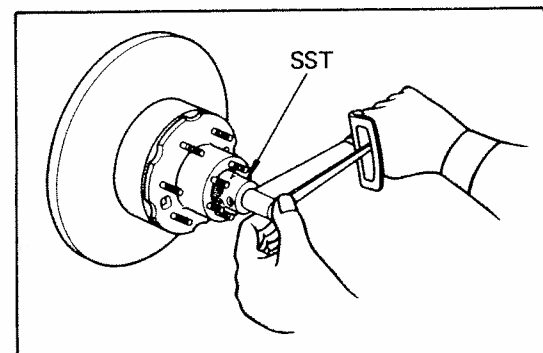
Grease grade: Lithium base multipurpose grease
(NLGI No. 2)

(b) Install the hubs and adjust the wheel bearing preload.

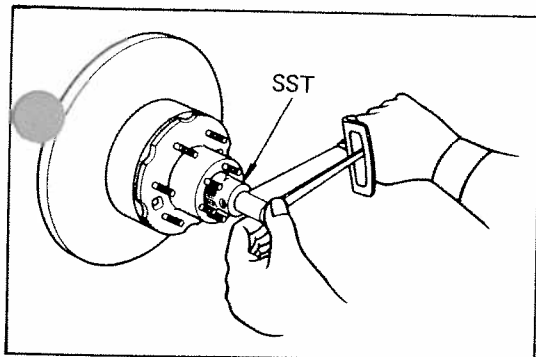
- Using SST, tighten the adjust nut and turn the hub right and left two or three times.

Torque: 600 kg-cm (43 ft-lb)

SST 09607-60020



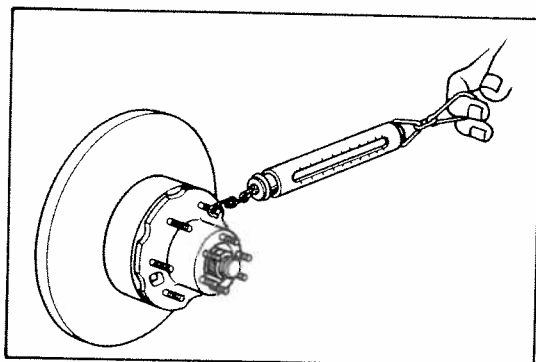
- Loosen the adjusting nut until it can be turned by hand.



- Retighten the adjusting nut.

Torque: 40 – 70 kg-cm (35 – 60 in.-lb)

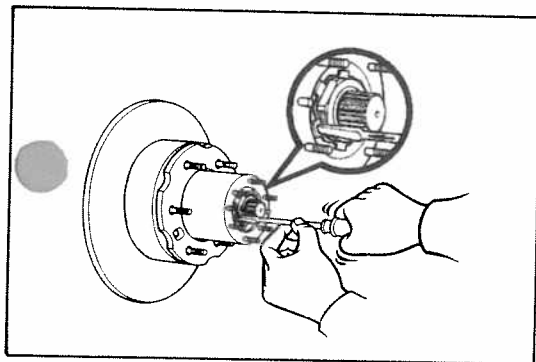
- Insure that the hub turns smoothly and there is no play in the bearing.



- Using a spring tension gauge, check for correct preload.

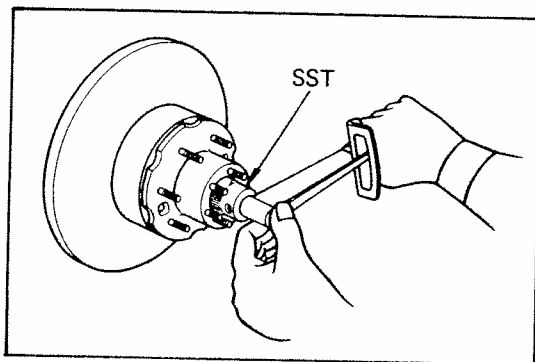
**Wheel bearing friction preload (at starting):
2.8 – 5.7 kg (6.2 – 12.6 lb)**

If the preload is incorrect, loosen or tighten the nut to correct the preload.



- (c) Install the lock washer and lock nut.

- (d) Lock the adjusting nut by bending one of the lock washer teeth inward.

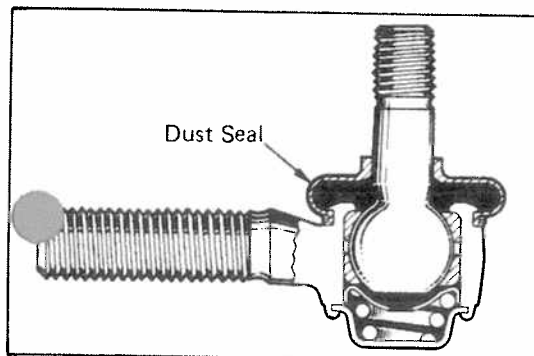


- (e) Using SST, tighten the lock nut.

Torque: 800 – 1,000 kg-cm (58 – 72 ft-lb)

SST 09607-60020

- (f) Lock the lock nut by bending one of the lock washer teeth outward.

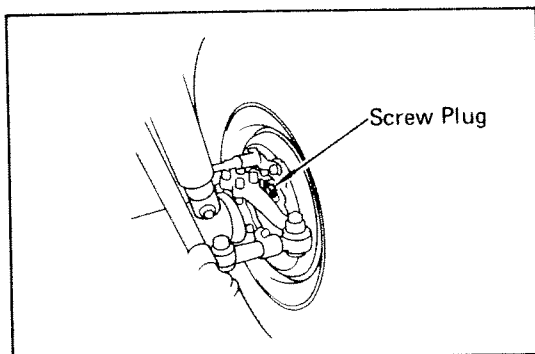


22. INSPECT STEERING LINKAGE AND GEAR BOX OIL

- (a) Check the steering linkage for looseness or damage. Check that:

- Tie rod ends and relay rod ends do not have excessive play.
- Dust seals are not damaged.

- (b) Check the steering gear box for oil leaks.



**23. RN 4x4 ONLY:
LUBE STEERING KNUCKLE AND CHASSIS
(Including propeller shaft)**

- (a) Remove the screw plug from each steering knuckle and repack with lubricant.

Steering knuckle grease — Molybdenum disulfide lithium base chassis grease (NLGI No. 2)

- (b) Reinstall the two screw plugs.

- (c) Lubricate chassis components, referring to the lubrication chart. Before pumping in grease, wipe off any mud and dust on the grease fitting.

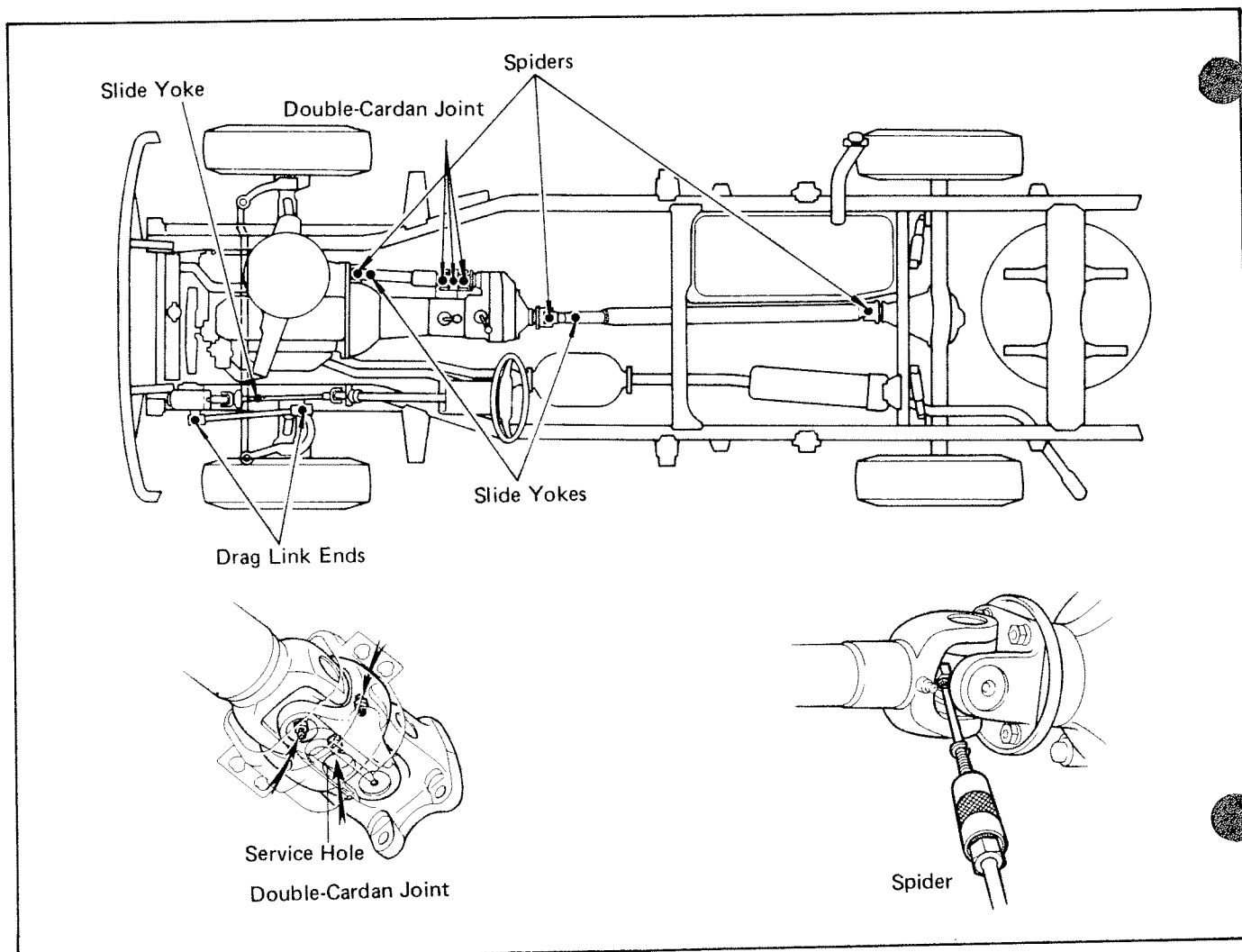
NOTE: To lubricate the propeller shaft spiders, use the grease charger attachment in the tool bag.

Grease grade:

Propeller shaft (except double-cardan joint) —
Lithium base chassis grease (NLGI No. 2)

Double-cardan joint — Molybdenum disulphide
lithium base chassis grease (NLGI No. 2)

Drag link ends and steering intermediate shaft slide
yoke — Lithium base chassis lubricant (NLGI
No. 0)



24. TIGHTEN BOLTS AND NUTS ON CHASSIS AND BODY

Tighten the following parts:

- Seats mounting bolts and nuts
- Front suspension member-to-frame mounting bolts and nuts (RN 4x2)
- Strut bar bracket-to-frame mounting bolts (RN 4x2)
- Leaf spring U-bolt mounting nuts

25. FINAL INSPECTION

(a) Check operation of body parts:

- Hood
 - Auxiliary catch operates properly
 - Hood locks securely when closed
- Doors
 - Doors locks operate properly
 - Doors close properly
- Seats
 - Seats adjust easily and lock securely in any position
 - Seat backs lock securely at any angle
 - Folding-down seat backs lock securely

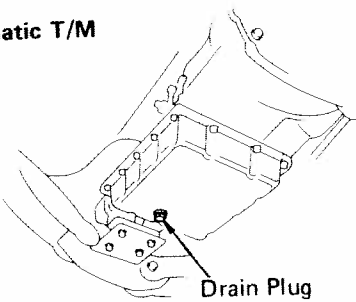
(b) Road test

- Engine and chassis parts do not have abnormal noises.
- Vehicle does not wander or pull to one side.
- Brakes work properly and do not drag.

(c) Be sure to deliver a clean vehicle and especially check:

- Steering wheel
- Shift lever knob
- All switch knobs
- Door handles
- Seats

Automatic T/M



Drain Plug

RN 4x2 ONLY:**REPLACE AUTOMATIC TRANSMISSION FLUID**

- Remove the drain plug and drain the fluid.
- Reinstall the drain plug securely.
- With the engine OFF, add new fluid through the dipstick tube.

Fluid: ATF type F**Drain and refill capacity:**

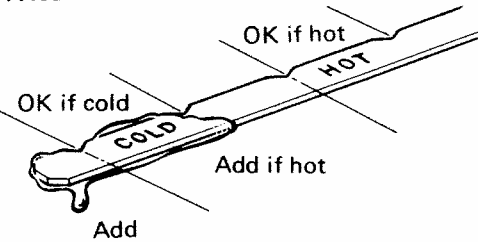
2.4 liters (2.5 US qts, 2.1 Imp. qts)

Dry fill capacity:**A43D 6.5 liters (6.9 US qts, 5.7 Imp. qts)**

- Start the engine and shift the selector into all positions from P through L and then shift into P.
- With the engine idling, check the fluid level. Add fluid up to the COLD level on the dipstick.

CAUTION: Do not overfill.

A43D

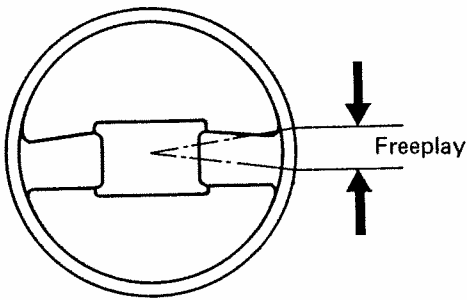
**INSPECT STEERING LINKAGE, GEAR BOX OIL AND STEERING WHEEL FREEPLAY**

- Check that the steering wheel freeplay is:

Maximum: 30 mm (1.18 in.)

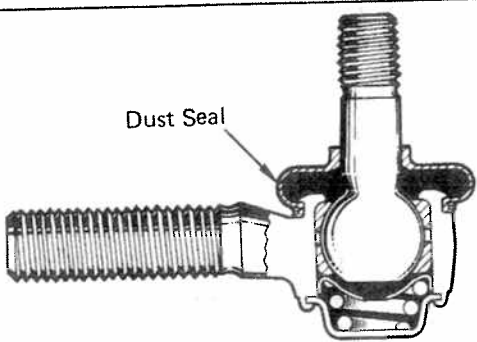
With the vehicle stopped and pointed straight ahead, rock the steering wheel gently back and forth with light finger pressure.

If incorrect, adjust or repair.



Freeplay

Dust Seal



- Check the steering linkage for looseness or damage.

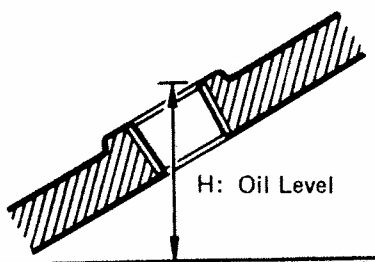
Check that:

- Tie rod ends and relay rod ends do not have excessive play.
- Dust seals are not damaged.

- Check the steering gear box oil level.

Oil level (H):**RN 4x2 18 – 28 mm (0.71 – 1.10 in.)****RN 4x4 12 – 17 mm (0.47 – 0.67 in.)**

If low, replenish with gear oil up to specified level and check for oil leaks.

Oil grade: API GL-4 viscosity SAE 90

H: Oil Level

TIGHTEN BOLTS AND NUTS ON CHASSIS AND BODY

In addition to the scheduled maintenance items (See page 2-27), check for loose or missing bolts and nuts of the following:

- Steering system
- Drive train
- Suspension system
- Fuel tank mounts
- Engine mounts, etc.

GENERAL MAINTENANCE

These are the maintenance and inspections items which are considered to be the owner's responsibility. They can be performed by the owner or he can have them done at a service shop. These items include those which should be checked on a daily basis, those which, in most cases, do not require (special) tools and those which are considered to be reasonable for the owner to perform.

Items and procedures for general maintenance are as follows.

OUTSIDE VEHICLE

1. TIRES

- (a) Check the pressure with a gauge. If necessary, adjust.
- (b) Check for cuts, damage or excessive wear.

2. WHEEL NUTS

When checking the tires, check the nuts for looseness or for missing nuts. If necessary, tighten them.

3. TIRE ROTATION

It is recommended that tires be rotated every 7,500 miles (12,000 km).

4. WINDSHIELD WIPER BLADES

Check for wear or cracks whenever they do not wipe clean. If necessary, replace.

5. FLUID LEAKS

- (a) Check underneath for leaking fuel, oil, water or other fluid.
- (b) If you smell gasoline fumes or notice any leak, have the cause found and corrected.

6. DOORS AND ENGINE HOOD

- (a) Check that all doors and tailgate operate smoothly, and that all latches lock securely.
- (b) Check that the engine hood secondary latch secures the hood from opening when the primary latch is released.

INSIDE VEHICLE

7. LIGHTS

- (a) Check that the headlights, stop lights, tail lights, turn signal lights, and other lights are all working.

- (b) Check the headlight aim.

8. WARNING LIGHTS AND BUZZERS

Check that all warning lights and buzzers function properly.

9. HORN

Check that it is working.

10. WINDSHIELD GLASS

Check for scratches, pits or abrasions.

11. WINDSHIELD WIPER AND WASHER

- (a) Check operation of the wipers and washer.
- (b) Check that the wipers do not streak.

12. WINDSHIELD DEFROSTER

Check that air comes out from the defroster outlet when operating the heater or air conditioner.

13. REAR VIEW MIRROR

Check that it is mounted securely.

14. SUN VISORS

Check that they move freely and are mounted securely.

15. STEERING WHEEL

Check that it has specified freeplay. Be alert for changes in steering condition, such as hard steering, excessive freeplay or strange noise.

16. SEATS

- (a) Check that the seat adjusters operate smoothly.
- (b) Check that all latches lock securely in any position.
- (c) Check that the head restraint move up and down smoothly and that the locks hold securely in any latched position.
- (d) For folding-down seat backs, check that the latches lock securely.

17. SEAT BELTS

- (a) Check that the seat belt system such as buckles, retractors and anchors operate properly and smoothly.
- (b) Check that the belt webbing is not cut, frayed, worn or damaged.

18. ACCELERATOR PEDAL

Check the pedal for smooth operation and uneven pedal effort or catching.

19. CLUTCH PEDAL

Check the pedal for smooth operation.
Check that the pedal has the proper freeplay.

20. BRAKE PEDAL

- (a) Check the pedal for smooth operation.
- (b) Check that the pedal has the proper reserve distance and freeplay.
- (c) Check the brake booster function.

21. BRAKES

At a safe place, check that the brakes do not pull to one side when applied.

22. PARKING BRAKE

- (a) Check that the lever has the proper travel.
- (b) On a safe incline, check that vehicle is held securely with only the parking brake applied.

23. AUTOMATIC TRANSMISSION "PARK" MECHANISM

- (a) Check the lock release button of the selector lever for proper and smooth operation.
- (b) On a safe incline, check that vehicle is held securely with the selector lever in "P" position and all brakes released.

UNDER HOOD**24. WINDSHIELD WASHER FLUID**

Check that there is sufficient fluid in the tank.

25. ENGINE COOLANT LEVEL

Check that the coolant level is between the "FULL" and "LOW" lines on the see-through reservoir.

26. RADIATOR AND HOSES

- (a) Check that the front of the radiator is clean and not blocked with leaves, dirt or bugs.
- (b) Check the hoses for cracks, kinks, rot or loose connections.

27. BATTERY ELECTROLYTE LEVEL

Check that the electrolyte level of all battery cells is between the upper and lower level

lines on the case. If level is low, and distilled water only.

28. BRAKE AND CLUTCH FLUID LEVELS

- (a) Check that the brake fluid level is near the upper level line on the see-through reservoir.
- (b) Check that the clutch fluid level is up to the top of the narrow neck of the see-through reservoir.

29. ENGINE DRIVE BELTS

Check all drive belts for fraying, cracks, wear or oiliness.

30. ENGINE OIL LEVEL

Check the level on the dipstick with the engine turned off.

31. POWER STEERING FLUID LEVEL

Check the level on the dipstick.
The level should be in the "HOT" or "COLD" range depending on the fluid temperature.

32. AUTOMATIC TRANSMISSION FLUID LEVEL

- (a) Park the vehicle on a level surface.
- (b) With the engine idling and the parking brake applied, shift the selector into all positions from P to L, and then shift into P.
- (c) Pull out the dipstick and wipe off the fluid with a clean rag. Re-insert the dipstick and check that the fluid level is in the HOT range.
- (d) Perform this check with the fluid at normal driving temperature (70 – 80°C or 158 – 176°F).

NOTE: Wait until the engine cools down (about 30 mins.) before checking the fluid level after extended high speed driving in hot weather, driving in heavy traffic or pulling a trailer.

33. EXHAUST SYSTEM

Visually inspect for cracks, holes or loose supports.

If any change in the sound of the exhaust or smell of the exhaust fumes is noticed, have the cause located and corrected.

