

MAINTENANCE

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MA

GENERAL NOTES:

- Maintenance items may vary from country to country. Check the manual or guide in which the maintenance schedule is shown.
- Every service item in the periodic maintenance schedule must be performed.
- Periodic maintenance service must be performed according to whichever interval in the periodic maintenance schedule occurs first, the odometer reading (miles) or the time interval (months).
- Maintenance services after the last period should be performed at the same interval as before unless otherwise noted.
- Failure to do even one item can cause the engine to run poorly and increase exhaust emissions.

PREPARATION EQUIPMENT

MA01G-08

Mirror	Brake hose
Torque wrench	

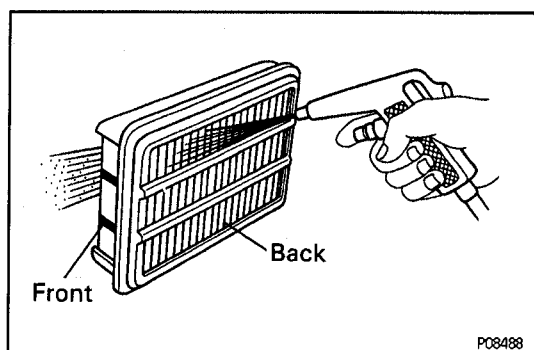
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MAINTENANCE OPERATIONS ENGINE

MA07W-03

Cold Engine Operations

1. **5VZ-FE ENGINE:**
REPLACE TIMING BELT
(See timing belt in Engine Mechanical)
2. **INSPECT DRIVE BELTS**
(See on-vehicle inspection in Charging System)
3. **REPLACE SPARK PLUGS**
(See on-vehicle inspection in Ignition System)
4. **INSPECT AIR FILTER**
 - (a) Visually check that the air cleaner element is not excessively dirty, damaged or oily.
HINT: Oiliness may indicate a stuck PCV valve.
If necessary, replace the air cleaner element.
 - (b) Clean the element with compressed air.
First blow from back side thoroughly, then blow off the front side of the element.
5. **REPLACE AIR FILTER**
Replace the used air cleaner element with a new one.
6. **REPLACE ENGINE OIL AND OIL FILTER**
(See oil and filter replacement in Lubrication System)
7. **REPLACE ENGINE COOLANT**
(See coolant check and replacement in Cooling System)
8. **INSPECT CHARCOAL CANISTER**
(See EVAP control system in Emission Control Systems)
9. **REPLACE GASKET IN FUEL TANK CAP**
(See EVAP control system in Emission Control Systems)
10. **INSPECT FUEL LINES AND CONNECTIONS**
Visually inspect the fuel lines for cracks, leakage, loose connections, deformation or tank band looseness.



11. INSPECT EXHAUST PIPES AND MOUNTINGS

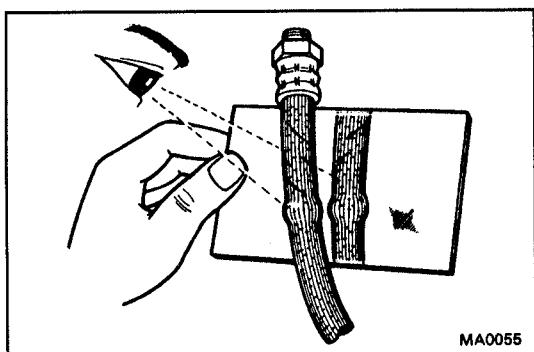
Visually inspect the pipes, hangers and connections for severe corrosion, leaks or damage.

12. REPLACE HEATED OXYGEN SENSOR

(See exhaust system in Engine Mechanical)

13. ADJUST VALVE CLEARANCE

(See valve clearance inspection and adjustment in Engine Mechanical)



BRAKES

14. INSPECT BRAKE LINE PIPES AND HOSES

HINT: 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.

15. INSPECT FRONT BRAKE PADS AND DISCS

(See BR section)

HINT: If a squealing or scraping noise occurs from the brake during driving, check the pad wear indicator. If there are traces of the indicator contacting the disc rotor, the disc pad should be replaced.

16. INSPECT REAR BRAKE LININGS AND DRUMS

(See BR section)

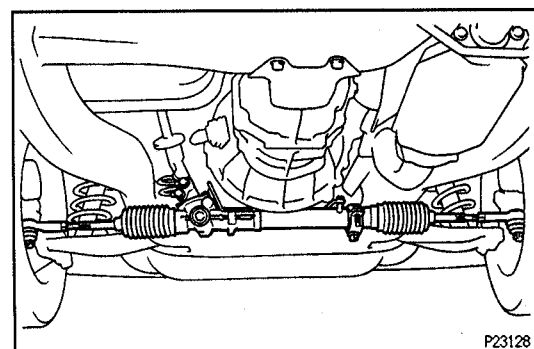
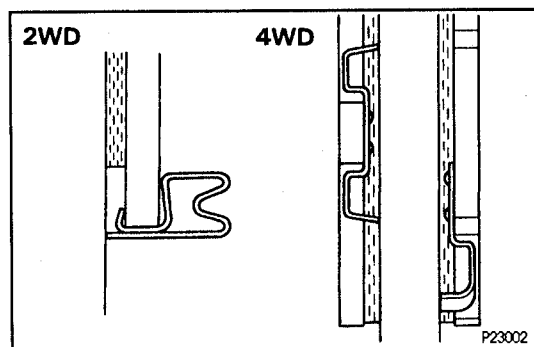
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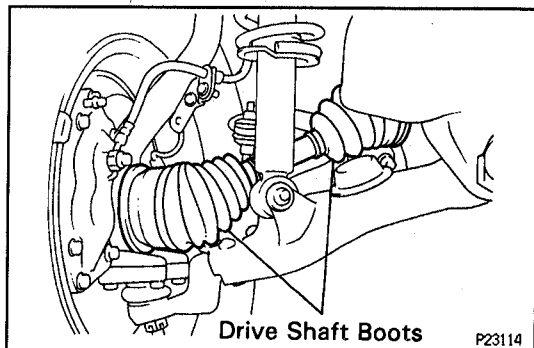
17. INSPECT STEERING LINKAGE

(a) Check the steering wheel freeplay (See SR section).

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

- Tie rod ends do not have excessive play.
- Dust seals and boots are not damaged.
- Boot clamps are not loose.





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18. INSPECT SRS AIRBAG

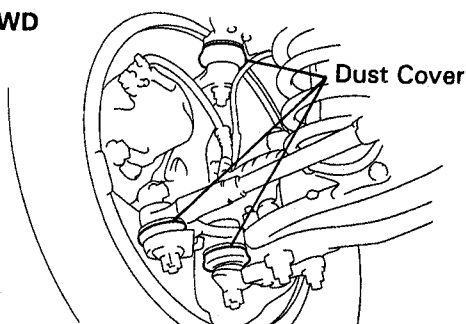
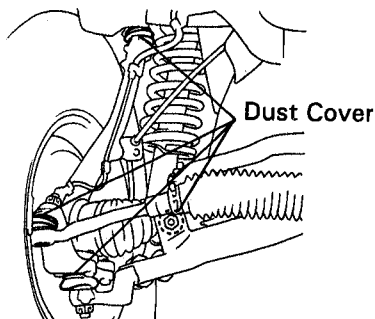
(See RS section)

19. INSPECT STEERING GEAR HOUSING

Check the steering gear housing for oil leaks.
If leakage is found, check for cause and repair.

20. 4WD:**INSPECT DRIVE SHAFT BOOTS**

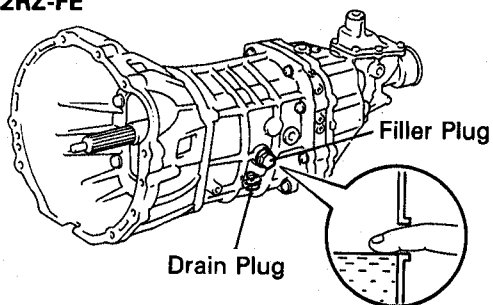
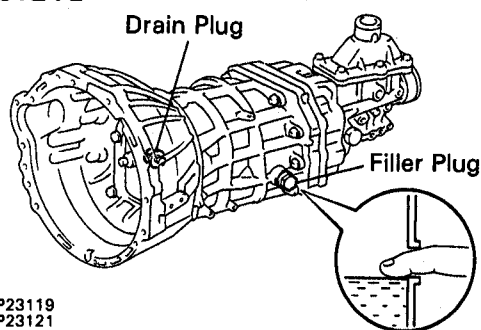
Inspect the drive shaft boots for clamp looseness, grease leakage or damage.

2WD**4WD**P22909
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21. INSPECT BALL JOINTS AND DUST COVERS

- (a) Inspect the ball joints for excessive looseness.
(See SA section)
- (b) Inspect the dust cover for damage.

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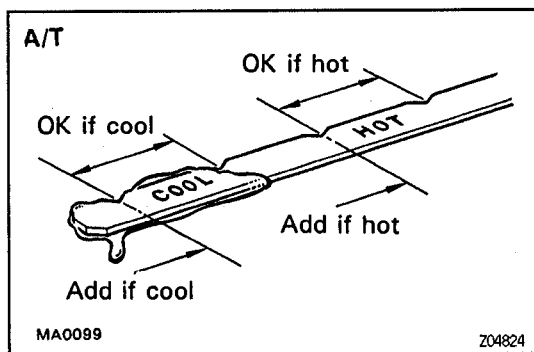
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22. 2WD:**CHECK OIL LEVEL IN MANUAL TRANSMISSION, AUTOMATIC TRANSMISSION AND DIFFERENTIAL**

- (a) Manual transmission:

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 (M/T):**See MT section**

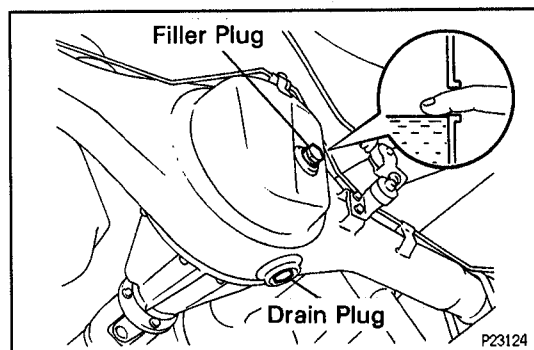


- (b) **Automatic transmission:**
Check that the fluid level is in the "HOT" range at the normal operating temperature (70 – 80°C or 158 – 176°F) and add as necessary.

NOTICE: Do not overfill.

Transmission fluid (A/T):

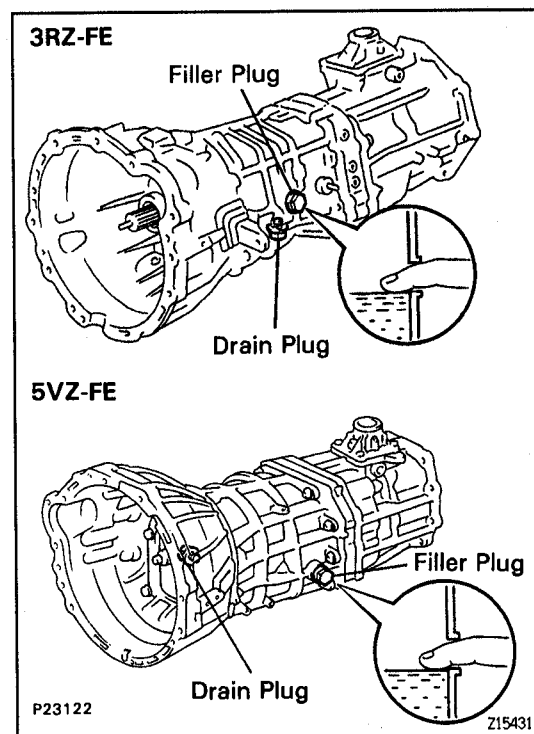
See AT section



- (c) **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.

Differential oil:

See SA section



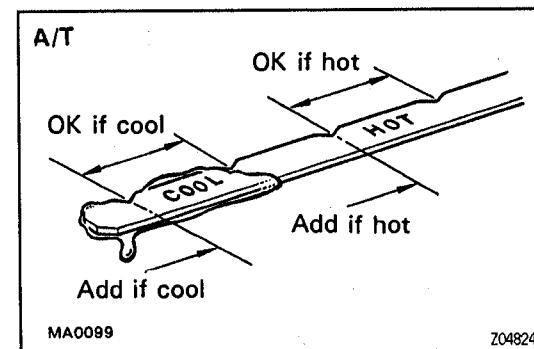
23. 4WD:

CHECK OIL LEVEL IN MANUAL TRANSMISSION, AUTOMATIC TRANSMISSION, TRANSFER AND DIFFERENTIAL

- (a) **Manual transmission:**
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 (M/T):

See MT section

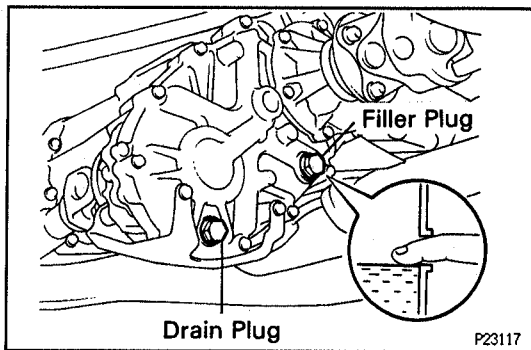


- (b) **Automatic transmission:**
Check that the fluid level is in the "HOT" range at the normal operating temperature (70 – 80°C or 158 – 176°F) and add as necessary.

NOTICE: Do not overfill.

Transmission fluid (A/T):

See AT section

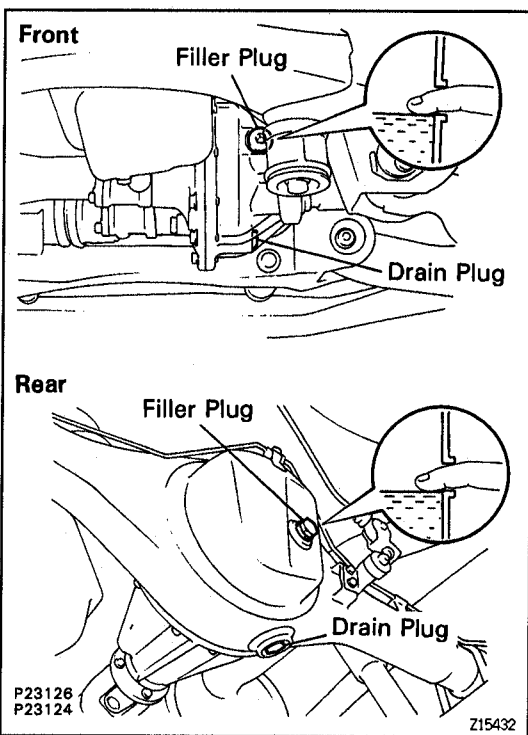


(c) Transfer:

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.

Transfer oil:

See TR section

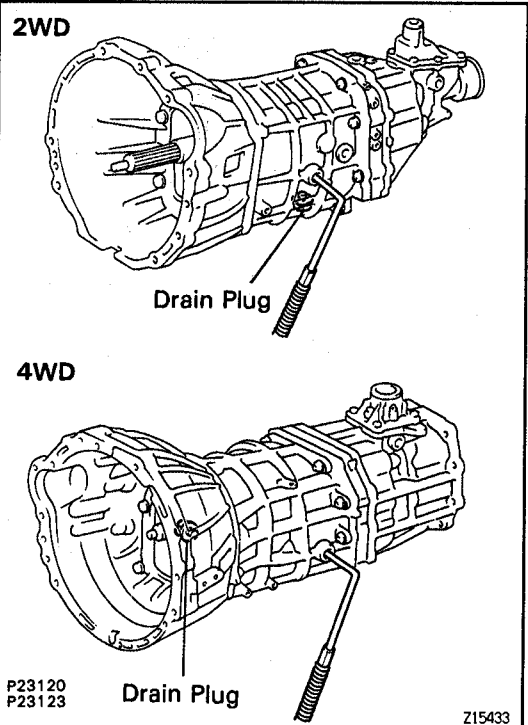


(d) Differential:

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.

Differential:

See SA section



24. REPLACE MANUAL TRANSMISSION, TRANSFER (4WD) AND DIFFERENTIAL OIL

(a) Transfer:

Remove the transfer cover.

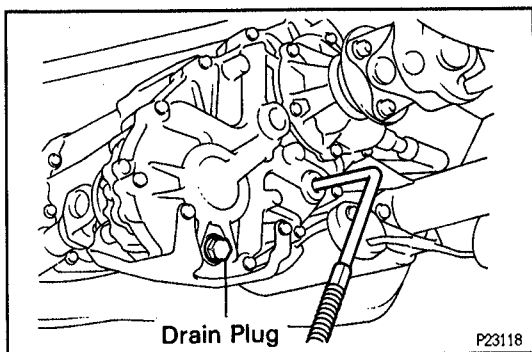
(b) Remove the drain plug and drain the oil.

(c) Reinstall drain plug securely.

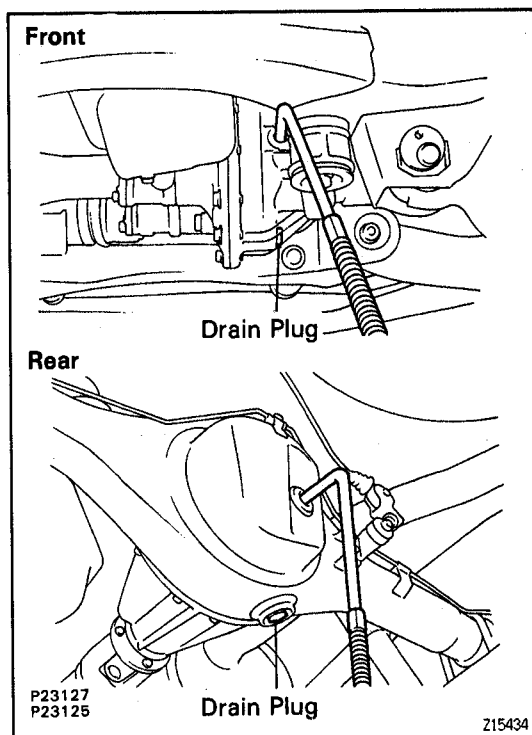
(d) Add new oil until it begins to run out of the filler hole.

Transmission oil (M/T):

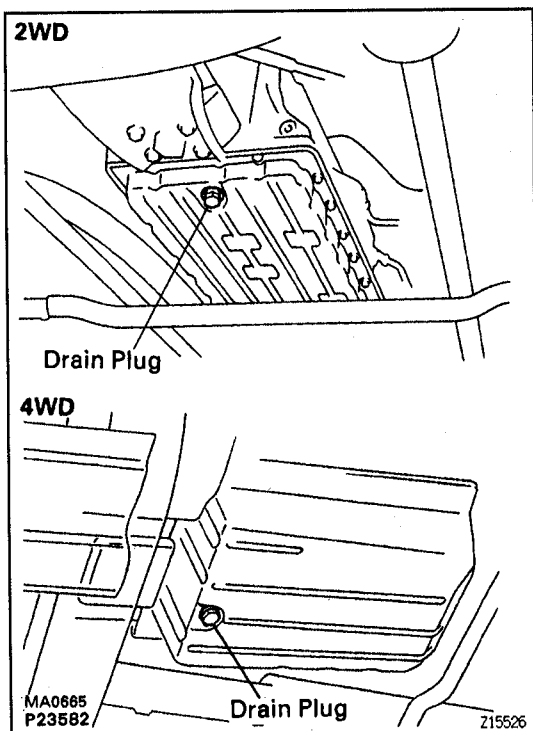
See MT section



Transfer oil:
See TR section



Differential oil
See SA section



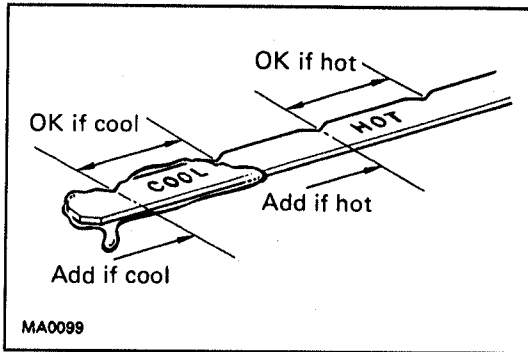
25. REPLACE AUTOMATIC TRANSMISSION FLUID

- Remove the drain plug(s) and drain the fluid.
- Reinstall the drain plug(s) securely.
- With the engine OFF, add new fluid through the oil filler pipe.

Transmission fluid (A/T):

See AT section

- 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 "COOL" level on the dipstick.



- (f) Check that the fluid level is in the "HOT" range at the normal operating temperature (70 – 80°C or 158 – 176°F) and add as necessary.

NOTICE: Do not overfill.

26. REPACK FRONT WHEEL BEARINGS AND THRUST BUSH

(See SA section)

27. 4WD:

LUBRICATE PROPELLER SHAFT

Lubricate propeller shaft, referring to the lubrication chart. Before pumping in grease, wipe off any mud and dust on the grease fitting.

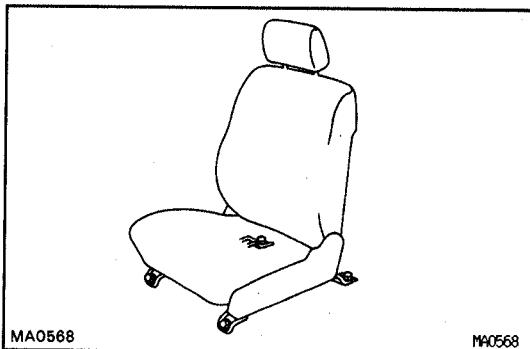
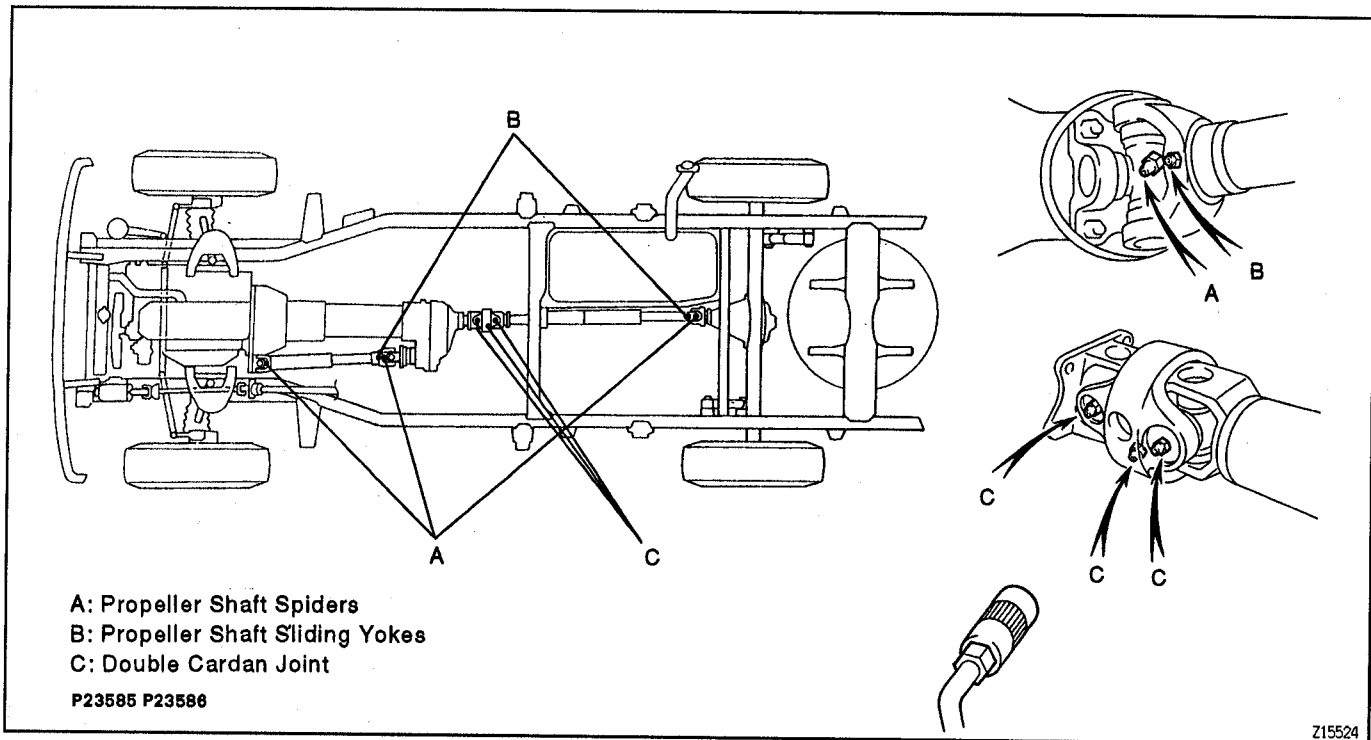
Grease grade:

Spiders

Lithium base chassis grease NLGI No.2

Slide yoke and double-cardan joint

**Molybdenum-disulphidelithium
base chassis grease NLGI No.2**

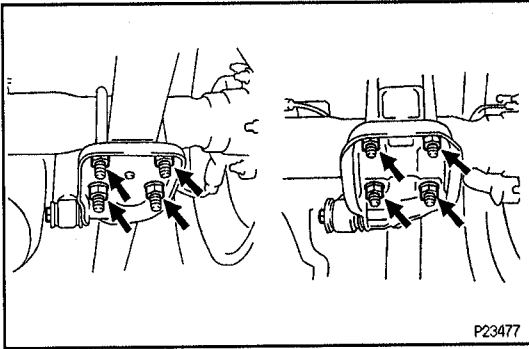


28. TIGHTEN BOLTS AND NUTS ON CHASSIS AND BODY

Tighten these parts:

- Seat mounting bolts

Torque: 37 N·m (375 kgf·cm, 27 ft·lbf)



- Leaf spring U—bolt mounting nuts

Torque: 120 N·m (1,220 kgf·cm, 88 ft·lbf)

Under Severe Conditions:

In addition to the above maintenance items, check for loose or missing bolts and nuts on the following.

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

29. 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:
Seat adjusts easily and locks securely in any positions
Seat backs lock securely at any angle
Fold—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

GENERAL MAINTENANCE

These are maintenance and inspection items which are considered to be the owner's responsibility.

They can be done by the owner or they 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 do.

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 the tires be rotated every 6,200 miles (10,000 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 the 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 the specified freeplay. Be alert for changes in steering condition, such as hard steering, excessive freeplay or strange noises.

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 restraints move up and down smoothly and that the locks hold securely in any latch position.
- (d) For fold-down seat backs, check that the latches lock securely.

17. SEAT BELTS

- (a) Check that the seat belt system such as the 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 (See CL section)

Check the pedal for smooth operation. Check that the pedal has the proper free-play.

20. BRAKE PEDAL (See BR section)

- (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 (See BR section)

- (a) Check that the lever has the proper travel.
- (b) On a safe incline, check that the 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 the 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.

28. BRAKE AND CLUTCH FLUID LEVELS

Check that the brake and clutch fluid

levels are near the upper level line on the see-through reservoirs.

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" position.
- (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) Do this check with the fluid at normal driving temperature (70 — 80°C, 158 — 176°F).

HINT: Wait until the engine cools down (approx. 30 min.) before checking the fluid level after extended driving at high speeds, in hot weather, 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.

SERVICE SPECIFICATIONS
TORQUE SPECIFICATIONS

MA06U-06

Part tightened	N·m	kgf·cm	ft·lbf
Front seat mount bolts	37	375	27
Leaf spring U—bolt mounting nuts	120	1,220	88

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