

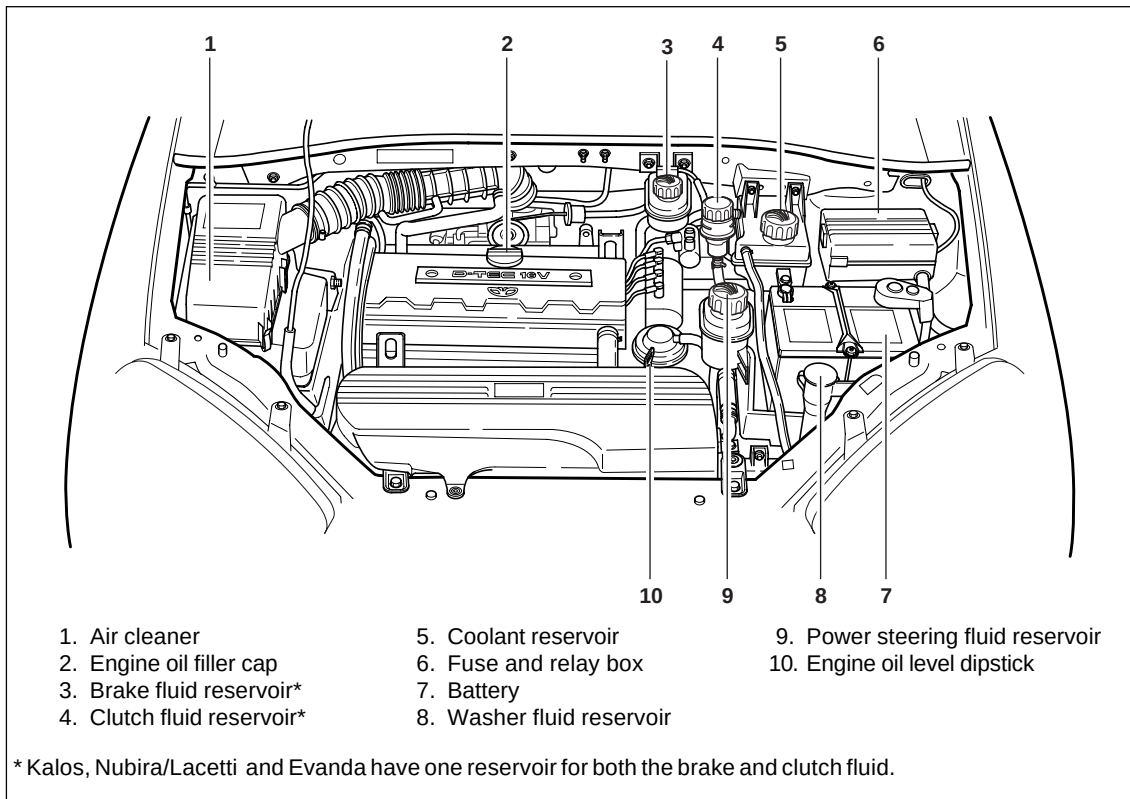
SECTION 2

ENGINE COMPARTMENT

1. COMPONENTS CONNECTION LOOSE
2. HOSE AND ELECT. WIRES ROUTING
3. FREENESS OF MOVEMENT OF LINKAGE,
VALVES AND OTHER COMPONENTS
4. UNUSUAL NOISES
5. SEEPAGE AND LEAKS AT HOSES AND PIPE
CONNECTIONS, ETC.
6. POWER STEERING SYSTEM
7. ENGINE COOLANT PROTECTION
8. ALL FLUID LEVELS CHECK
9. THROTTLE LINKAGE
10. BELTS TENSION

1. COMPONENTS CONNECTION LOOSE

Check engine compartment for components which may be loose; kinked or pinched vacuum hoses or electrical connections, and for any other missing or disconnected components as below.



- Check engine components for missing or disconnection.
- Check electrical connections for loose or misconnection.
- Check vacuum hoses for kink, pinch, damage, twist and swelling.
- Check hose clamps and pipe connections for leak or loose for following systems.
 - Fuel system
 - Cooling system
 - Power steering system
 - Airconditioning system

- Check engine components which may be loose.

If remedy is required, tighten clamps, connections, bolts and nuts, and replace or repair defective hose and its connections.

2. HOSE AND ELECT. WIRES ROUTING

Check to assure that following hoses and electrical wires are properly routed to provide sufficient clearance with adjacent moving or hot parts.

- Fuel hose
- Airconditioning hose
- Vacuum hoses
- High-tension cable for ignition system
- Electric wires

3. FREENESS OF MOVEMENT OF LINKAGE, VALVES AND OTHER COMPONENTS

Observe the movement or freeness of movement of linkage, valves and other components.

- Accelerator cable

Check the accelerator cable free play when the engine is warm as follow.

- 1) Pull the accelerator cable toward the throttle lever.
- 2) Push the cable away from the throttle lever until the lever begins to move. (free play)

If adjustment is required, refer to "9. Throttle linkage" of this section.

- Clutch pedal

Check the clutch pedal free play when depress the clutch pedal.

- Steering linkage system

The best method for checking condition is with the vehicle on a flat surface and two mechanics working as a team.

One of the mechanics turns the steering wheel one way and then the other, and checks its function mounting and condition, also the mounting for the steering column (with or without power assistance) while the other mechanic checks for play in the following places;

- Tie rods (there must be no looseness)
- Steering gear mounting on frame
- Steering shaft universal joints from steering gear and upwards (there must be no looseness)
- Check all clamps for proper mounting and tightness

- Starter motor assembly

- 1) Check that starting switch and contacts are securely fitted.
- 2) Run starter motor, and check for followings.
 - Starter motor should crank engine at normal speed.
 - Starter motor should function without abnormal noise.

NOTE: Do not run the starter motor too long as this puts a severe strain on the battery.

- Engine starting response

Starting the engine, and check if the engine will function normally.

If the engine does not start or if it stops again, check following items. For further informations, refer to service manual.

- Ignition system
- IAC operation
- Sensors and ECM, if necessary

4. UNUSUAL NOISES

Check for unusual noises within engine compartment.

Run the engine and check if there are some unusual noises. If unusual noises are heard, fasten or fix the loosen parts and adjust the clearance between components.

5. SEEPAGE AND LEAKS AT HOSES AND PIPE CONNECTIONS, ETC.

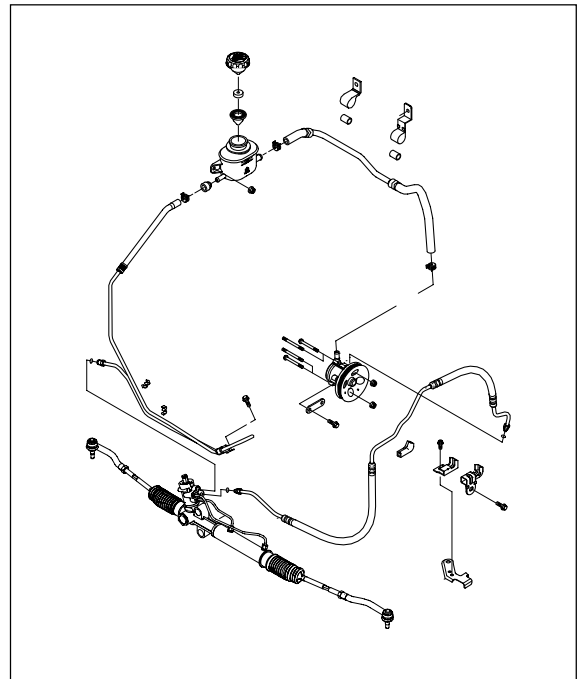
Visually inspect for seepage and leaks at hoses and pipe connection, seals, gaskets and plugs. Tighten clamps and connection as necessary.

- Fuel system
- Airconditioning system
- Cooling system
- Brake system
- Clutch system
- Power steering system
- Engine assembly
 - Camshaft support housing
 - Cylinder head
 - Cylinder block
 - Oil pan
 - Seals for camshaft etc.

6. POWER STEERING SYSTEM

Check power steering gear, lines and hoses for leaks and clearance with adjacent panels, moving or hot parts.

Tighten clamps and connectors as necessary.



7. ENGINE COOLANT PROTECTION

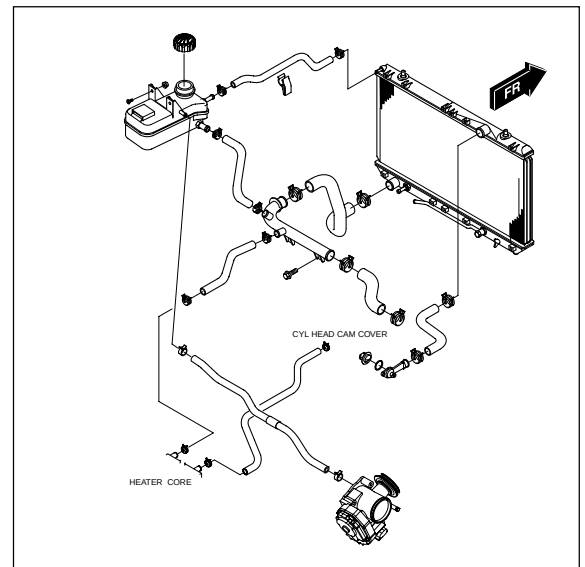
Test engine coolant protection

- The cooling fans are actuated by the ECM using a low-speed cooling fan relay and a high speed cooling fan relay on non-A/C model or a series/parallel cooling fan relay on A/C model as below;

<Example: TACUMA(REZZO) >

Description	Cooling fan Operating Mode	Fan operating Temp.(°C)	
		ON	OFF
A/C OFF or Non-A/C model	Low speed	96	93
	High speed	100	97
A/C ON	Low speed	when the A/C system is ON	
	High speed	100	97

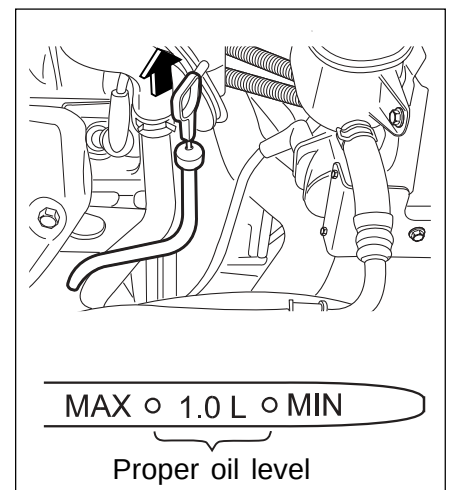
- Check all hoses and connection.
- Check for leaks of cooling system as following procedure.
 - Correct coolant level and run engine at idle speed.
 - Mount radiator tester on expansion tank instead of screw cap.
 - Leaks can be recognized by escaping coolant.
 - If pressure drops or even rises without coolant escaping, this indicates an internal coolant leak in the engine caused by a defective cylinder head gasket or a crack in the block.



8. ALL FLUID LEVELS CHECK

Check all fluid levels; engine oil, transmission oil, power steering oil, brake and cooling system.

- Engine oil
 - Engine oil level should be checked with the vehicle standing on level ground (before the operation of engine). If the engine is running, stop the engine and wait 5 minutes for the oil to drain back to the oil pan before checking the oil level.
 - Pull out the oil level indicator (dipstick), wipe and clean it, and reinsert it. Again pull it out and check that the oil level is within MAX. and MIN. level marks. Also check the oil on the dipstick for contamination.
 - The oil should not go above the "Max" mark on the dipstick, since this may cause engine damage.

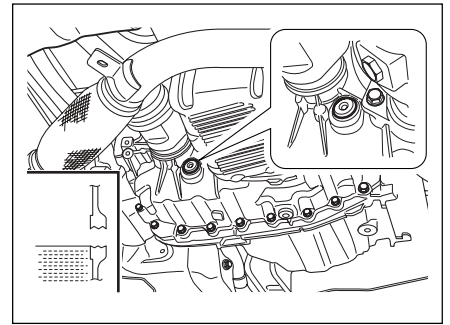


- Automatic Transaxle Fluid (ATF)

- The automatic transaxle equipped with ZF 4HP 16 does not have a dipstick. So, check the fluid level by removing the fluid level plug when the fluid is warmed to approx. 40°C after driving the vehicle for about 10 minutes with the vehicle on a level surface. The fluid level should be up to the bottom of the plug hole. If the fluid level is low, replenish the ATF until it reaches the bottom of the plug hole.

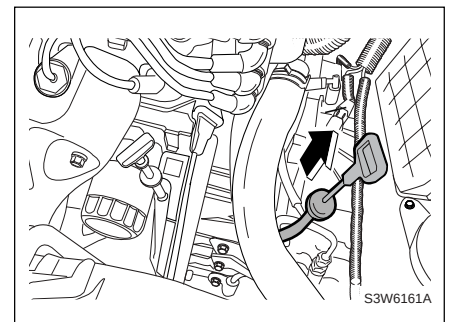
Reinstall the filler plug and tighten it securely.

NOTE: Removal of the fluid level plug when the transaxle fluid is hot may cause injury if fluid drains from the fluid level plug.



- The automatic transaxle equipped with AISIN 81-40LE or 80-40LE has a dipstick and the fluid level should be checked when the transaxle reaches normal operating temperature (70°C ~ 80°C) with the selector lever in position P after operating the vehicle for about 20 km. Make sure the vehicle is level.

Pull out the dipstick, wipe and clean it, and reinsert it. Again pull it out and check that the fluid level is between the MIN and the MAX notches of hot area on the dipstick. Also check the oil on the dipstick for contamination.

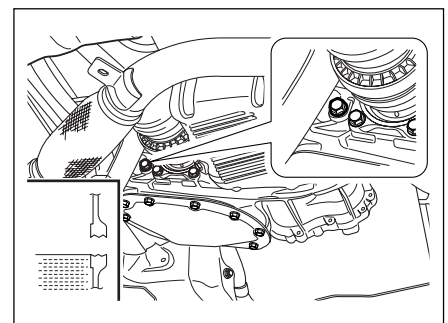


NOTE: Use only special fluid as given in the fluid chart in owner's manual.

- ZF 4HP 16 : ESSO LT 71141 or ISU H50235
- AISIN 81-40LE or 80-40LE : ESSO JWS 3309 or ISU DEXRON III

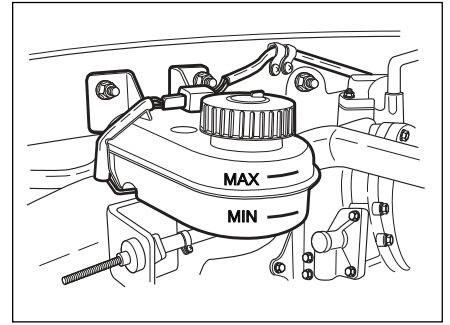
- Manual Transaxle oil

- With the vehicle on a level surface and the fluid in the transaxle cold, remove the filler plug and check the fluid level. The fluid should come to the bottom edge of the plug hole.
- If the level is low, add SAE 80 (1.2S : SAE 75W-85) manual transaxle fluid through the filler plug hole until the fluid begins to run out.
- Reinstall the filler plug and tighten it securely.



- Brake/clutch fluid
 - The fluid level in the container should be between the MIN and MAX mark.
 - If the level falls below the MIN mark, add the fluid to the MAX mark and tighten the cap securely afterwards.

NOTE: Fluid specification DOT 3 or DOT 4



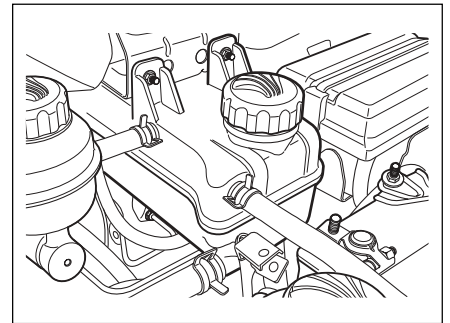
- Coolant

Check the coolant level in surge tank.

 - The coolant should be full in the radiator and the fluid level should be between the "MIN" and "MAX" marks on the outside of the surge tank when the engine is cool.
 - If the level falls below the "MIN" mark, add enough 50/50 water and ethylene glycol anti-freeze mix to bring level to a little over the "MAX" mark.
 - For protection in extremely cold weather conditions, use 40% water and 60% ethylene glycol antifreeze mix.

NOTE: Do not overfill and remove the coolant surge tank cap when the engine and radiator are hot.

The antifreeze content of the coolant should be maintained at a minimum of 50% and maximum of 60%.

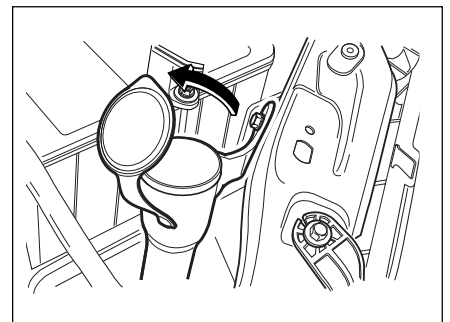


- Windshield washer fluid

Check the windshield washer fluid level in the reservoir tank.

 - Windshield washer level in the reservoir tank should be at 2/3–3/4 level.

NOTE: Do not use radiator antifreeze for windshield washer solution. Because this may result in damage to the paint work.

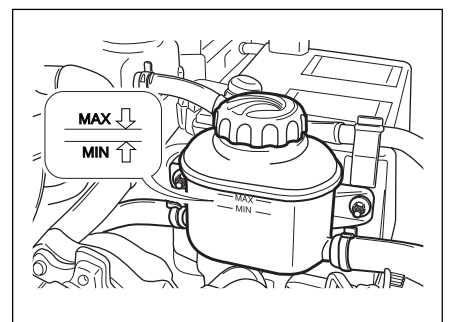


- Power steering oil

Check fluid level with engine turned off.

 - The fluid level should be between the MIN and MAX marks on the reservoir.
 - If it drops to or below the MIN mark, top up with the specified fluid.

NOTE: Fluid specification DEXRON® II D or DEXRON® III

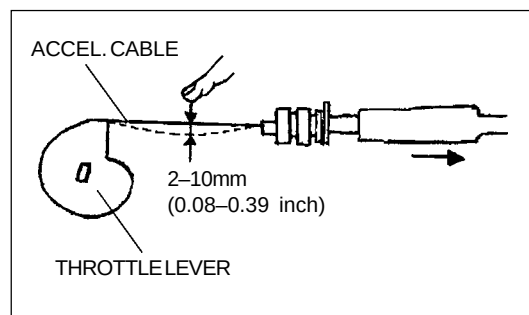


9. THROTTLE LINKAGE

Check throttle linkage for interference or binding, damage and freeness at wide open and closed throttle.

- Depressing accelerator pedal several times, check the throttle linkage for freeness.

*** Allowable limit for flexure of accelerator cable :**
2–10mm (0.08–0.39 inch).



10. BELTS TENSION

- Check that the belt is worn, cracked or frayed.
- Check tension for following belts and adjust if necessary.

NOTE: To check belt tension easily, apply moderate thumb pressure (Approx. 10 kg) midway between pulleys, and check the deflection. If the belt goes down by 10 mm, it is normal.

