

INSPECTION AND MAINTENANCE



WARNING

Please be sure that you fully understand this manual and the precautions related to safety for the lift truck.

When inspecting or servicing the lift truck, always strictly follow these precautions. Failing to heed this warning may result in serious injuries.

4.4 SIMPLE MAINTENANCE

4.4.1 GREASES AND FUEL

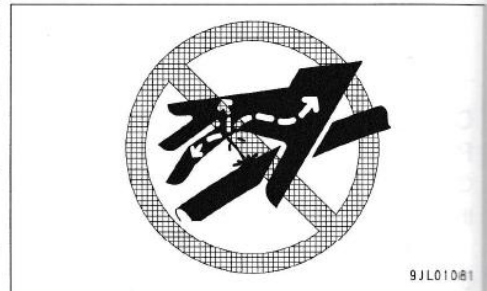
4.4.1.1 BASIC PRECAUTIONS

When refilling greases according to "Start-up inspection" and/or "Checking after operation", do so by understanding the following basic cautions for required greases.

CAUTION

- When checking leakage from hydraulic piping or hose, do not touch it directly by hand. The pipe or hose may be pressurized and can be dangerous.
- If your skin and/or eye are injured by high-pressure oil, wash the skin/eye with fresh water and immediately see a physician.
- For other than leakage that can be checked visually by the appearance, call your FORKLIFT distributor for inspection and repair service.

- Since engine oil, hydraulic oil, TORQFLOW transmission oil, gear oil, etc. are used under severe conditions (at high temperature and high pressure), they deteriorate as the operation time passes. Therefore oil must be changed periodically. For the standard oil change intervals, see "OIL AND GREASING CHART (PAGE 4-27)" and "LUBRICANT LIST (PAGE 4-28)".
- Always replace oil at the specified period even if not deteriorated.
- Always use Genuine Engine oil. At shipment from a plant, the lift truck is applied with those listed in the "LUBRICANT LIST (PAGE 4-28)".
- Never mix oils of different grade (class) or brand.
- A lift truck should be maintained so that contaminants (water, metal chips, dust, etc.) do not enter the lift truck system. Most lift truck malfunctions are caused by entry of impurities such as dirt, dust, water, etc. Take special care to avoid entry of impurities during storage and lubrication, etc.
- Add specified volume of oil. Insufficient or excessive amounts of oil may both cause problems.
- If the hydraulic oil has become murky, there is a possibility that either air or water entered into the circuit. If no corrective measures were taken, it may damage the lift truck. In such a case, call your FORKLIFT distributor for their service.
- When replacing oil, replace the relevant filters at the same time. For oil and filter changes, contact your FORKLIFT distributor for service.




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FUEL **CAUTION**

Unless FORKLIFT-designated fuel is used, the engine emission cleanliness cannot be maintained within required environmental standard. For environmental and your health protection, always use designated fuel.

- At the end of the day's work, fill the fuel tank to full. Reducing the air inside the fuel tank helps reduce mixture in the fuel of condensed moisture from the air.
- Since the fuel pump is a precision machine, it may fail to operate if fuel containing moisture and/or impurities is used. Take special care to avoid entry of moisture and impurities during storage and lubrication.
- Always use fuel of appropriate grade from among those listed in the "LUBRICANT LIST (PAGE 4-28)".
- When a diesel engine runs out of fuel or has its filters replaced, the fuel circuit has to be purged.

COOLING WATER (COOLANT AND DILUTED WATER) **CAUTION**

- After the engine stops, the coolant temperature is very high, and high pressure is accumulated inside the radiator. Do not remove the radiator cap under these conditions or it may cause burns. After the coolant temperature has gone down, turn the cap slowly to release the pressure before removing it.
- Undiluted Supercoolant is flammable. So keep it away from open flame.
- Dilute the coolant according to the ambient temperature before applying to the radiator. Use distilled or soft water for dilution. Most of Japanese supply water is soft except a part of supply water, well water, small-scale water-supply system and river water, which are hard water. Hard water contains high mineral contents (calcium and magnesium). These contents are deposited inside the radiator as water stain and scale, causing an overheat of engine. They are difficult to remove. For the radiator, it is recommended to use diluted water having total hardness of 100 ppm (mg/ℓ) or under.
- This lift truck is filled with Genuine Supercoolant (AF-NAC). This Supercoolant has other important function as the corrosion inhibitor of the cooling system than antifreeze function.
Continue to use this Supercoolant in an area where antifreeze is not required.
Using other brand of coolant may cause critical failure to the cooling system including the engine.
- Genuine Supercoolant is good for continual use for two years or 4,000 service hours.
- Apply different mixing ratio for the Supercoolant according to the outside temperature.
For the right mixing ratio, see "4.6 RUNNING IN COLD WEATHER (PAGE 4-39)".
- Shortage of coolant causes engine overheating and corrosive defect of cooling circuit due to the mixing of the air.

GREASE

- Grease prevents the joints from seizure, rusting and noise emission.
- Always use recommended grease and strictly follow the greasing intervals. For the type of grease, see the "LUBRICANT LIST (PAGE 4-28)".
- Wipe clean old grease extracted after greasing. Wipe grease off with particular care from sections where attached sands and dirt promote the wear of the rotating units.

FILTERS

Filters are very important items which prevent impurities contained in the oil, fuel and hydraulic circuits from entering important machine components to cause failure. They require periodical replacement. Call your FORKLIFT distributor for service.


Cautions when replacing filters by other than FORKLIFT distributor or yourself.

- Never reuse filters (cartridge type) after washing.
- When replacing oil filters, check for metal powder, etc. accumulated on the used filters. If metal powder is detected, investigation for the cause and countermeasures are necessary.
- Do not unpack replacement filters until immediately before installation.

NOTICE

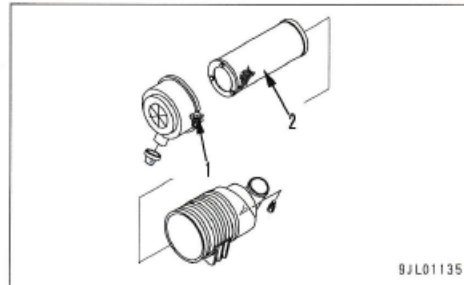
- Always use Genuine Filters.
- Some of commercial filters are inferior to the Genuine Parts in performance. Using such filters may affect performance and durability of the lift truck. If Genuine Parts are not used, quality assurance may not apply.

4.4.2 AIR CLEANER ELEMENT CLEANING

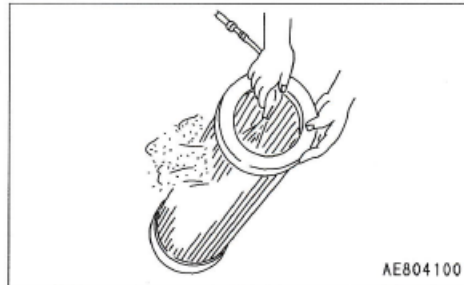
 **CAUTION**

- Physical injuries may be caused by being caught by the fan or in the belt while the engine is running. Always stop the engine before removing or cleaning the air cleaner element.
- While cleaning the element, dust may fly out to enter the eye or be inhaled. Always wear safety goggles, dust mask and other protective gears. Clean the element in a place where no other persons are endangered by it.

1. Remove the clamps (at three locations) on the air cleaner case and remove the element.



2. Lightly slap the element without damaging sealed surface or blow the element carefully from inside to outside by applying dry compressed air (0.68MPa ($\{7\text{kgf/cm}^2\}$, 99.4PSI)) or under without damaging the element. Clean it all round.
3. After cleaning, visually check the element. If contamination persists or the element is damaged, replace the element with new one.

**NOTICE**

Checking, cleaning or maintaining the air element while the engine is running may allow the dirt to enter the engine, damaging it. Carry on maintenance work always after stopping the engine.