**TMS　Transport　Management　System**

T-1　Vehicle index card　(see attached)

Put data into computers.

T-2 Fuel analysis data

Data from the log book.(every month)

Closing mileage-Opening mileage/Total consumed fuel.

Total maintenance cost for every 100km run.

Upper/ Lower limit = 10% +- of 10~15 mode. Fuel consumption.

T-3 Necessary expenses analysis

Fuel/ maintenance fee/ spare parts and other expenses for every 100km run. (Data from T-2)

T-4 Standard Transportation style sheets

Log book (see attached form, includes maintenance and accident records) Put log book data into computers at the end of every working days.

The chassis number / vehicle ID number (VIN) is vital.

T-5 Standard reference documents concern (Contracts)

Rules and regulations/Contracts of parking lot warehouse,/

Working contract for drivers, service contract etc., maintenance history.

DAILY CHECK

The oil level and the water level in radiator and batteries. Note that in hot countries battery water evaporates very rapidly.

The level of the break fluid.

Lights and indicators.

Condition and tension of the fan belt.

Tyre pressures (cold). Tyre pressure must be corrected and reset according to whether travel is on a road or on a sand track. Spare tyres should also be checked.

The cleanliness of the air and fuel filters should be checked daily in a very dusty environment.

The cleanliness of the vehicle. All vehicle should be cleaned on a regular basis.

In case of heavy vehicle, the driver is to be accompanied by an assistant who can lend hand to change a wheel or when bogged down. If the assistant carries out the daily checks, this must be done in the presence of the driver, who retains responsibility.

SERVICE SCHEDULE A (every 5,000km)

Instructions

The whole vehicle is to be inspected with special attention being paid to safety critical Items. Adjustments are to be made and parts replaced where required. The service is as listed under the sections which follow.

ENGINE

Checks

* Oil level and leakages.
* Cooling water level.
* Windscreen washer level.
* Engine mounting rubber.
* Fan belt.
* Cylinder head and manifold connections.
* Engine idling and acceleration.

Cleaning

* Fuel filter element (replace if necessary)
* Air filter (replace if necessary)
* Battery terminals and grease the posts
* Clean engine – steam wash.

Change

* Engine oil and filter.
* Fuel filter. (as required)
* Air filter. (as required)

STEERING

* Check power steering level and condition.
* Check linkage for damage, ware and deformity.
* Check overall steering performance.
* Check steering free play.
* Lubricate steering knuckles.

TRANSMISSION

* Check for oil leaks.
* Check for air leakage in vacuum or airline and modulator.
* Check transmission electrical connections for wear and frays.
* Check shifting linkage and mechanism.
* Check linkage control for looseness and operation.
* Check and lubricate transmission system linkage.
* Check transmission overall performance.
* Check differential oil level and any leakage.
* Check differential overall performance.

DRIVE LINE

* Check tire pressure，wear, cracks and damage.
* Check wheel hub bolt tightness.
* Check wheel nuts for looseness.
* Check propeller shaft joint bolts fixing condition.
* Check front and rear wheel bearings for looseness.
* Check axle shaft mounting bolts for looseness.

BREAKING SYSTEM

* Check and adjust break pedal for free play.
* Check break pedal operational condition.
* Check for damage, oil and air leakage.
* Check fluid reservoir level and any leakage.
* Check hand brake operation condition.
* Check and adjust break shoes and break lining clearance.
* Check break piping and flexible hose condition.
* Dedust and clean the break system.
* Test the overall break efficiency.

SUSPENSION

* Check all leaf springs for breakage and sliding.
* Check all mountings for looseness, gaps and damage.
* Check shock absorbers for oil leakage and damage.
* Check spring pins and bushings condition.
* Check condition of all shocks.
* Check condition of all suspension bushes.

ELECTRICAL

* Check alternator charging characteristics
* Check battery-mounting conditions.
* Check battery electrolyte level and specific gravity of electrolyte.
* Check battery terminals.
* Check all lights, horn, and instruments panel/gauges.
* Check hazard lights and all turn indicator signals.
* Check windscreen wipers operational condition.
* Check starter operational performance.
* Check all wiring harness and connector for looseness and damage.

AIR CONDITIONING

* Check functioning of the air conditioning.
* Check refrigerant.
* Check for gas leaks from piping connections.
* Check tightness of the air conditioning belt.

BODYWORK and CHASSIS

* Check for damage of the chassis and bodywork.
* Check for damages to the body flooring.
* Check overall body condition for damage and paint ware.
* Lubricate all chassis grease nipples.
* Grease all joints.
* Grease propeller shaft yoke.
* Check security of driver and passenger seats.
* Check security and condition of seat belts.
* Check the functioning of all doors.
* Grease all door hinges.
* Lubricate the window winding mechanism and grease the window channel mechanism.

ROAD TEST

Conduct a vehicle road test to ensure that the servicing has been completed satisfactory and the vehicle defects have been remedied before returning the vehicle to the field.

SERVICE SCHEDULE B (every 15,000km)

Instructions - In the B service schedule, most of the service conducted in the A service will be repeated. Additional service requirements are as stated under the following headings.

ENGINE

In this section, most of the checks and service carried out under the A service schedule are to be repeated. The B service thus comprises the A service scheduled plus the additional requirements as follows.

Checks

* Fuel injection pressure and state of the nozzle-praying pattern.
* Calibrate injector pump and injectors.
* Inspect exhaust smoke density.
* Check water pump for leakage.

Clean

* Clean the exhaust system.

Lubricate

* Water pump.

Replace

* Air filter and fuel filter element.

STEERING

* Check steering alignment.

TRANSMISSION

* Change transmission and differential oil.

BREAKING SYSTEM

* Check the servo for condition and leakage.

Following sections have to be checked same as A service.

DRIVE LINE, SUSPENSION, ELECTRICAL, AIR CON., BODYWORK AND CHASSIS.

ROAD TEST

Conduct a vehicle road test to ensure that the servicing has been completed satisfactory and defect have been noted/remedied before returning vehicles.

PLUS **SERVICE SCHEDULE C** (yearly/before long trip ) known as Safari check