

STANDARD OPERATING PROCEDURES

**DIVISION OF COMPARATIVE MEDICINE
UNIVERSITY OF SOUTH FLORIDA**

SOP#: 1122.5

Date Issued: 4/01

Date Revised: 7/20

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TITLE:	Vehicle Care and Maintenance
SCOPE:	Maintenance Support and Animal Care Personnel
RESPONSIBILITY:	Facility Manager, and Technical Staff
PURPOSE:	To Outline the Proper Procedures for Care and Maintenance of Divisional Vehicles

I. PURPOSE

1. This procedure outlines the care and maintenance of divisional vehicles used to transport research animals, supplies, and division personnel in order to insure safe operation, reduce mechanical failure and maintain the integrity of the vehicle.

II. RESPONSIBILITY

1. Facility Managers ensure the maintenance and repair staff maintain/service the division's vehicles that are based at their facility in good working order monthly.

III. SUPPLIES

1. Lubricants/fluids to maintain engine/vehicle (e.g., windshield washer, engine coolant/antifreeze, oil, power steering fluid, brake fluid, distilled/deionized water, etc.)
2. Window/upholstery cleaner(s), paper towels, and cloths.
3. Tire pressure gauge.

IV. PROCEDURES

ALL VEHICLES

1. Tire inflation should be visually inspected frequently. Tires that appear low will be checked with a tire pressure gauge to ensure that air pressure is maintained within the manufacturer's suggested range.
2. Check all fluid levels monthly and add fluids according to the manufacturer's recommendations/specifications.
3. Windshield and windows are cleaned as needed.
4. Interior of vehicles should be swept/vacuumed and cleaned as needed. Cargo areas of the box truck and van should maintained clean so that the vehicle is suitable for the next animal transport (i.e., remove unnecessary items and debris after hauling equipment).
5. Exterior surface is washed as needed.
6. Scheduled maintenance is to be conducted by an approved vendor(s) at the manufacturer's recommended intervals.
7. Records of vehicle maintenance should be entered in the vehicle log book located in the vehicles glove box and should include:
 - a. Date maintenance/service performed.

- b. Mileage/hours of operation at time of service.
 - c. Type of maintenance performed.
 - d. Name of vendor or person(s) performing maintenance.
8. Any concerns of vehicle performance especially involving safety, signs of damage or abnormal wear of parts and accessories, fluids leaking, dents or scratches are to be reported to a supervisor immediately.
 9. Record the monthly service performed on **CMDC #228 Vehicle Maintenance Log** and initial next to the vehicle you serviced.

FORD TRANSIT CONNECT

1. Visually inspect all belts and hoses for signs of wear while conducting maintenance.
2. Scheduled maintenance:
 - a. Motor oil and filter are changed every 7,500-10,000 miles or at least annually.
 - b. Rotate tires at every oil change interval
 - c. Replace cabin air filter every 20,000 miles
 - d. Replace engine air filter every 30,000 miles
 - e. Vehicle and motor routine service conducted as suggested by the manufacturer as outlined in the owner's manual or on an as needed basis.
3. Check all fluid levels monthly and add fluids according to the manufacturer's recommendations/specifications. Fluids routinely checked include:
 - a. Oil
 - b. Coolant/antifreeze
 - c. Brake
 - d. Battery
 - e. Power steering
 - f. Windshield washer
 - g. Transmission

FUSO FE160G

1. Fuel tank should be maintained above the ½ full mark to reduce condensation accumulation in the fuel tank.
2. Visually inspect all belts and hoses for signs of wear while conducting maintenance.
3. Scheduled maintenance:
 - a. Motor oil and filter are changed every 7,500 miles or at least annually.
 - b. Rotate tires when dealer recommends.
 - c. Replace engine air & fuel filters every 50,000 miles
 - d. Vehicle and motor routine service conducted as suggested by the manufacturer as outlined in the owner's manual or on an as needed basis.
4. Check all fluid levels and add fluids according to the manufacturer's recommendations/specifications. Fluids routinely checked include:
 - a. Engine oil
 - b. Coolant/antifreeze
 - c. Brake
 - d. Battery
 - e. Power steering

- f. Windshield washer

THERMOKING REFRIGERATION UNIT

1. Fluids routinely checked:
 - a. Engine oil
 - b. Battery level
 - c. Refrigerant level
 - d. Compressor oil level
 - e. Coolant level
2. Check belts and belt tension
3. Routine maintenance is performed by the Thermo King dealer annually.

EZ-GO CARTS

1. Monthly inspect batteries to ensure:
 - a. Area around the batteries is clean and dry. Fluids around the battery may be an indication that fill caps are loose or the battery case is cracked and electrolyte is leaking. Leaking batteries must be replaced.
 - b. Battery cables and terminals are intact, snugly connected, and not corroded. Loose connections or damaged parts should be promptly repaired.
 - c. Electrolyte levels are appropriate and filled as needed. The correct level of electrolyte is $\frac{1}{2}$ " above the plates in each cell. Allowing plates to be exposed to air will damage the battery.
 - d. Sequence for filling batteries:
 1. Open vent caps and visually inspect fill wells.
 2. Check fluid level; minimum level is at the top of the plates.
 3. If necessary add enough distilled/deionized water to cover top of plates at this time.
 4. Replace caps.
 5. Batteries should be charged prior to adding any additional water.
 6. After completely charged remove caps and add distilled /deionized water to $\frac{1}{2}$ " above the plates in each cell. This level will leave approximately $\frac{1}{4}$ " of space between electrolyte and vent tube.
2. Charging batteries
 - a. Shallow discharges < 50% are recommended for longer battery life. Batteries discharged >80% will have shorten life and may become damaged.
 - b. Batteries may be charged after each period of use or at the end of the day.
 - c. Charge only in a well ventilated area
3. Carts should have preventative maintenance performed semi-annually by USF Vehicle Maintenance or EZ-Go dealer. Preventative maintenance includes:
 - a. Grease and lubricate wheels and steering.
 - b. Check/adjust brakes.
 - c. Check batteries and charging system
 - d. Check tires and tire pressures (i.e., 18-22 PSI).

V. REFERENCES

1. Owner's Manuals
https://ezgo.txtsv.com/sites/default/files/_images/content/ownersmanual_rxv_electric_2017.pdf

Approved:

Date: