

Small Unit Support Vehicle (SUSV)
Vehicle Management Codes: C264 – C268



QUALIFICATION TRAINING PACKAGE

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Section 1—OVERVIEW

1.1. Overview.

1.1.1. Send comments and suggested improvements on Air Force (AF) Form 847, *Recommendation for Change of Publication* through Air Force Installation and Mission Support Center (AFIMSC) functional managers via e-mail at AFIMSC.IZSL.VehicleOps@us.af.mil.

1.1.2. How to use this plan:

1.1.2.1. Instructor:

1.1.2.1.1. Provide overview of training, **Section 2** and **Section 3**.

1.1.2.1.2. Instructor's lesson plan for trainee preparation, give classroom lecture, **Section 4**.

1.1.2.1.3. Instructor's lesson plan for knowledge training, **Section 5**.

1.1.2.1.4. Instructor's lesson plan for demonstration, **Section 6**.

1.1.2.1.5. Instructor's lesson plan for performance and evaluation, **Section 7**.

1.1.2.2. Trainee:

1.1.2.2.1. Reads entire lesson plan prior to classroom lecture.

1.1.2.2.2. Follows along with lecture using this lesson plan and its attachments.

1.1.2.2.3. Uses **Attachments 2 and 3** as guides for vehicle inspection.

Section 2—RESPONSIBILITIES

2.1. Responsibilities.

2.1.1. The trainee shall:

2.1.1.1. Ensure the trainer explains the Air Force Qualification Training Package (AFQTP) process and the responsibilities.

2.1.1.2. Review the AFQTP/Module/Unit with the trainer.

2.1.1.3. The trainee should ask questions if he/she does not understand the objectives for each unit.

2.1.1.4. Review missed questions with the trainer.

2.1.2. Instructor shall:

2.1.2.1. Review the AFQTP with the trainee.

2.1.2.2. Conduct knowledge training with the trainee using the AFQTP.

2.1.2.3. Sign-off the task(s).

2.1.3. The Certifier shall:

2.1.3.1. Evaluate the Airman's task performance without assistance.

2.1.3.2. Sign-off the task(s).

Section 3—INTRODUCTION

3.1. Objectives.

3.1.1. Given lectures, demonstrations, and hands-on driving session, trainees will be able to perform operator's inspection and complete the performance operation with zero instructor assists.

3.1.1.1. Train and qualify each trainee in safe operation and preventive maintenance of various SUSVs.

3.1.1.2. This training will ensure the trainee becomes a qualified SUSV operator; an operator who has the knowledge and skills to operate a SUSV in a safe and professional manner.

3.2. Desired Learning Outcomes.

3.2.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the SUSV.

3.2.2. Understand the purpose of the SUSV and its role in the mission.

3.2.3. Know the proper operator maintenance procedures of the SUSV, in accordance with (IAW) applicable technical orders (TOs) and use of AF Form 1800.

3.2.4. Safely and proficiently operate the SUSV.

3.3. Lesson Duration.

3.3.1. Recommended instructional and hands on training time is 9 hours:

Figure 3.1. Recommended Training Time for Training Activities.

Training Activity	Training Time
Trainee's Preparation	1 Hour
Instructor's Lecture and Demonstration	2 Hours
Trainee's Personal Experience (to build confidence and proficiency) <ul style="list-style-type: none">▪ Perform Operator Maintenance▪ Operate the Vehicle	5 Hours
Trainee's Performance Operation	1 Hour

Note: This is a recommended time; training time may be more or less depending how quickly a trainee learns new tasks.

3.4. Instructional References.

3.4.1. Risk Management (RM) and Safety Principles IAW Air Force Pamphlet (AFPAM) 90-802, *Risk Management (RM) Guidelines and Tools*.

3.4.2. Applicable TOs or Manufacturer's Operator's Manual (see vehicle maintenance for TO number for vehicle being used in training).

3.4.3. Air Force Manual (AFMAN) 24-306, *Operation of Air Force Government Motor Vehicles*.

3.4.4. AFI 13-213, *Airfield Driving*.

3.4.5. AF Form 1800, *Operator's Inspection Guide and Trouble Report* (General Purpose Vehicles).

3.5. Instructional Training Aids and Equipment.

3.5.1. SUSV Lesson Plan.

3.5.2. SUSV.

3.5.3. Applicable TO or Manufacturer's Operator's Manual.

3.5.4. AF Form 1800.

3.5.5. Videos (if locally produced).

3.5.6. Suitable training area.

Section 4—TRAINEE PREPARATION

4.1. Licensing Requirements.

4.1.1. Trainee must have in his/her possession a valid state driver's license.

4.1.2. AF Form 171, *Request for Driver's Training and Addition to U.S. Government Driver's License* IAW Air Force Instruction (AFI) 24-301, *Ground Transportation*.

4.1.3. Applicable local licensing jurisdiction requirements.

4.2. Required Reading (Testable Material).

4.2.1. Read SUSV Lesson Plan.

4.2.2. Read AFMAN 24-306.

4.2.3. Read Manufacturer's Operator's Manual for the SUSV being trained on.

Section 5—KNOWLEDGE LECTURE AND EVALUATION

5.1. Knowledge Overview (Lecture).

5.1.1. A SUSV is a tracked vehicle designed for use as an all-terrain transport vehicle. The vehicle has two track driven cars. Both cars are made of reinforced fiberglass plastic and are coupled by an articulated steering assembly. The Air Force uses a variety of SUSVs to accomplish its missions.

5.2. Overview of Training and Requirements.

5.2.1. Training objectives:

5.2.1.1. Given lectures, demonstrations, and a hands-on driving session, trainees will be able to perform operator's inspection and complete the performance operation with zero instructor assists.

5.2.1.2. Train and qualify each trainee in safe operation and preventive maintenance of the SUSV.

5.2.1.3. This training will ensure the trainee becomes a qualified SUSV operator—an operator who has the knowledge and skills to operate a SUSV in a safe and professional manner.

5.2.2. Desired learning outcomes:

5.2.2.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the SUSV.

5.2.2.2. Understand the purpose of the SUSV and its role in the mission.

5.2.2.2.1. Purpose is all-terrain cargo/passenger transport.

5.2.2.2.2. Role in the mission (Unit/Base/Community (during natural disasters)/Air Force).

5.2.2.2.3. Know the proper operator maintenance procedures of the SUSV IAW applicable TOs and use of AF Form 1800.

5.2.2.2.4. Be able to safely and proficiently operate the SUSV.

5.2.2.2.4.1. Meet mission requirements.

5.2.2.2.4.2. Demonstrates a qualified trained professional operator.

5.2.3. SUSV design and specifications. SUSVs vary in size, shape and specifications, determined by make and model; it is imperative to know the specifications of the SUSV being operated before use. Specification information should be used together to determine the proper use and necessary precautions to take prior to operating the SUSV. This information is best found in the appropriate TO or Manufacturer's Operator's Manual for the specific SUSV being operated.

5.2.3.1. Track driven cars. The two track driven cars of the vehicle are steered by hydraulic cylinders in the steering assembly. The front car contains the engine and transmission, transfer case, breaking system and both steering systems. Both cars have its own differentials. The differentials transmit power to the track drive sprockets.

5.2.3.2. Specifications vary for each model. Important specifications include: Vehicle weight (front/rear car), maximum payload (front/rear car), maximum towed payload (level ground/grade or side slope), fuel (type/capacity), land performance (maximum speed/grade, climb and descent/side slope/steering unit), etc.

Note: The load requires the cargo to be evenly distributed throughout the storage area at the lowest possible point.

5.2.3.3. Steering unit. The steering unit connects both cars and permits some relative movement between cars. Steering unit specifications include:

5.2.3.3.1. Maximum vertical twist. The amount of vertical twist that the system can take without causing damage to the equipment. (Ex. Cargo Carrier M973A1 maximum vertical twist = 40°).

5.2.3.3.2. Maximum movement between the up and down level between both cars without losing track contact with the round.

5.2.3.3.3. Steepest crossable ditch that can be crossed without losing track contact with the ground. The ditch must be entered/exited head-on and on level ground.

5.2.3.3.4. Climb rate.

5.2.3.3.5. Turning radius.

5.2.4. SUSV major components.

Table 5.1. SUSV Major Components.

Component	Description
Engine	5 cylinder inline turbocharged diesel.
Air Cleaner	Dry type.
Fuel System	Engine Is fuel injected.
Exhaust System	Engine has a single exhaust.
Cooling System	Engine is liquid cooled.
Electrical System	Vehicle has a 24 volt system.
Transmission	Automatic 4-speed forward, 1-speed reverse.
Transfer	2-speed type (high and low range).
Differential	Heavy duty high traction type.
Brakes	Hydraulic disk service brake/mechanical disk parking brake.
Steering	Articulated steering unit. Hydraulic power controls the turning.
Frame	Center chassis beam (cars).
Suspension	Cars are supported by 2 leaf springs. The leaf springs are attached from the center chassis beam to track the beams. Attached to the track beams are rubber torsion bars, wheel arm and solid rubber wheels.
Carrier Body	Carrier body is constructed of reinforced-fiberglass plastic.
Wheels	Cast aluminum with bonded rubber tires.
Drive Sprocket	Steel web disks with bonded rubber teeth.
Track	Corded rubber reinforced with steel cross members. Guides and tracks are endless type.
Winch	Electrical, detachable from front car and stored inside when not in use.

Figure 5.1. SUSV Major Components (1/3).

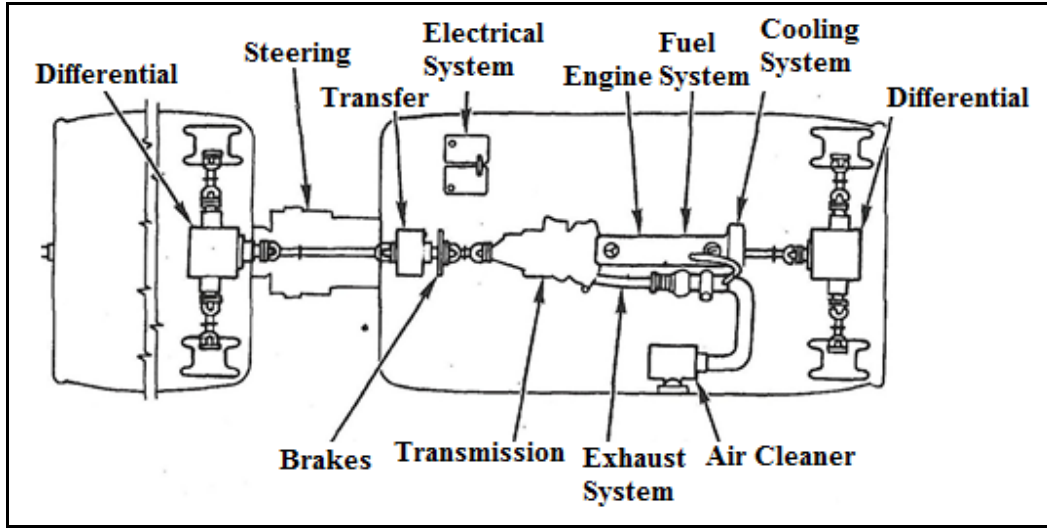


Figure 5.2. SUSV Major Components (2/3).

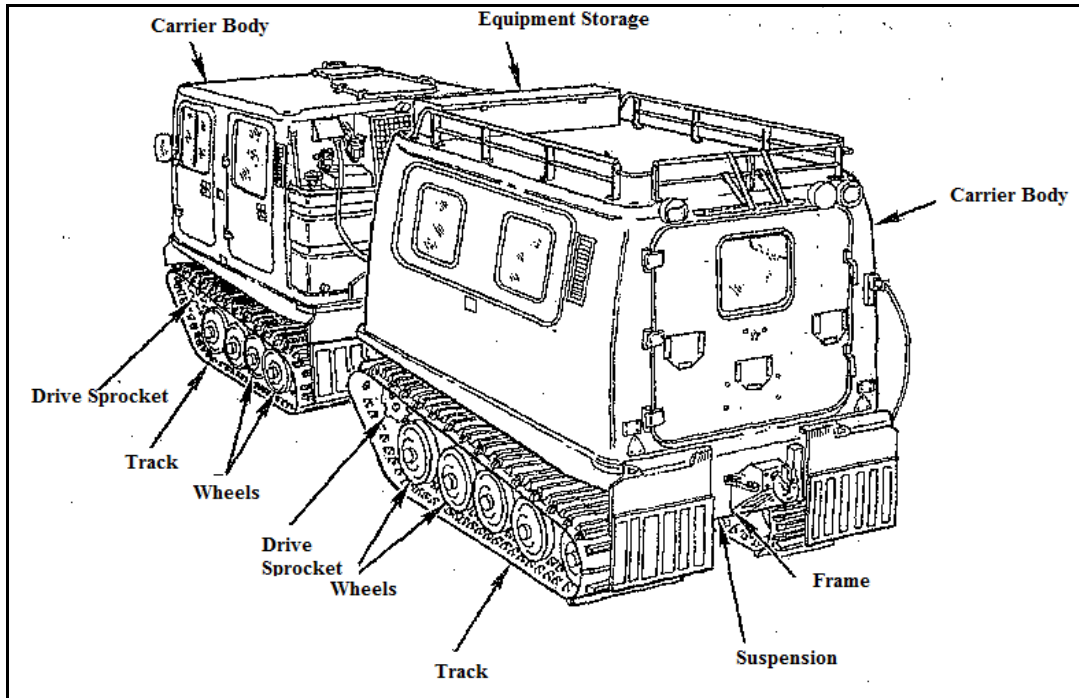
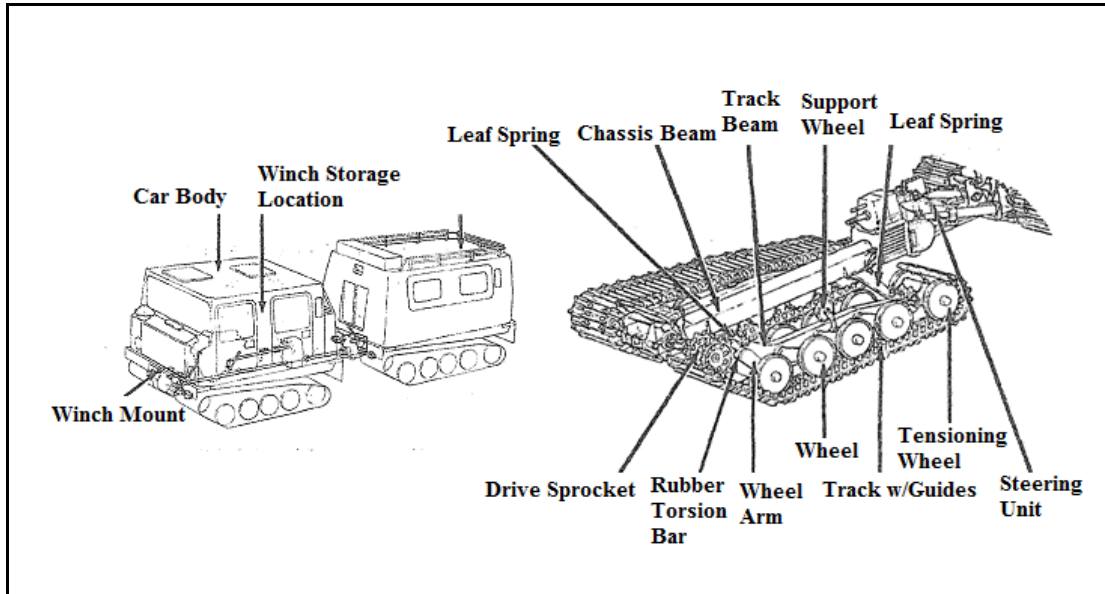


Figure 5.3. SUSV Major Components (3/3).



5.2.4.1. Instrument panel. The operator should be familiar with the following controls and indicators prior to operating the SUSV.

Table 5.1. Instrument Panel.

Control/Indicator	Function
Ampere Meter	Shows the amount of electricity that the charging system is producing (amperes).
Engine Oil Pressure Gauge	Shows the engine oil pressure (bars).
Engine Coolant Temperature Gauge	Shows the temperature of the engine coolant (gels).
High Beam Indicator Light	Lights BLUE to show the headlamp high beams are on.
Tachometer	Shows the engine revolutions per minute (x 100 min).
Engine Oil Pressure Indicator Light	Lights RED to show low engine oil pressure or high coolant temperature.
Speedometer	Shows vehicle speed (kph).
Service Time Counter	Shows engine hours of operation.
Light Socket	24 V light socket.
Buzzer	Sounds for low oil pressure or high coolant temperature.
Fuse Box	Contains fuses for vehicle system.
Fuel gauge	Shows fuel level in the fuel tank that the fuel tank switch is set to (right or left).
LIGHTS switch	Operates the vehicle lights.
HIGH IDLE Switch	Increases the engine speed.

CIRC. PUMP Switch	Operates circulating pump.
BILGE PUMP Switch	Operates front and rear car bilge pumps.
Parking Brake Light	Lights RED to show that the parking brake is applied or that there is a malfunction of the hydraulic brake circuit.
Pre-Glow Light	Lights GREEN to show that glow plugs are operating.
Turn Indicator Light	Lights GREEN to show that vehicle signal lights are working.
Transmission Oil Temperature Light	Lights RED when transmission oil temperature reaches 266° F.
BILGE PUMP Indicator Light	Lights YELLOW to show bilge pumps are operating.
BATTERY HEATER Indicator Light	Lights YELLOW to show battery heater is operating.
CHARGING Indicator	Lights RED to show alternator is not charging
BLACKOUT LIGHTING Switch	Operates vehicle driving lights.
Stop Knob	Prevents blackout switch from accidentally being moved from blackout to normal lights. Push to pass.
IGNITION Switch	Turns on electrical system, starts engine, turns on the glow plugs for preheating the engine and turns off the engine.
INTERCOM Buzzer	Buzzes when passengers in rear car push the intercom switch.
INTERCOM Indicator	Lights YELLOW to show non-voice intercom is operating from the rear car.
INTERCOM Switch	Operates the intercom between cars.
Fuel Tank Selection Switch	Used to select the fuel tank (right or left) that will be used. The tank selected will register on the fuel gauge.
Instrument Panel Rheostat	Used to adjust the instrument panel lights.
Steering Wheel Knob	Used to assist in steering.
Direction Signal Lever	Operates turn signal, high and low headlamp beams, horn, high beam, headlamp signaling, and windshield wipers and washer.
FLOOR/DEF Knob	Used to direct heated air to floor or to defrost windshield.
Fan Switch	Controls front heater fan. Can be moved through 0, 1, 2, and 3 settings.
TEMP Switch	Changes temperature of front heater from MAX to MIN.
Gearshift Lever	Used to select gears in automatic transmission.
Transfer Shift Lever	Used to select ranges in transfer.
Hand Lever	Permits operator's seat to be moved forward or backward.

Accelerator Pedal	Push to accelerate vehicle speed.
Service Brake Pedal	Push to stop vehicle.
Parking Brake Pedal	Push to Set Parking Brake
Parking Brake Handle Release	Pull to release parking brake.
Fire Suppression Control Box	Alerts personnel of fire in engine compartment.
POWER Button	Turns Fire Suppression Control on/off.
FIRE BUZZER	Buzzes when fire is detected.
FIRE Light	Lights red when fire is detected.
SYSTEM TEST Button	Checks Fire Suppression System operation.
Light Socket	24 V light socket.
Intercom Switch	Operates intercom between cars.
Heating Fan Switch	Used to turn heating fan on/off and control fan speed.
Intercom Buzzer	Buzzes when driver pushes intercom switch.
Heater Switch	Turns on auxiliary heater for front car.
Heater Light	Lights YELLOW to indicate that the front auxiliary heater is operating.

5.3. Vehicle Inspection.

5.3.1. Types of Vehicle Inspection. **Note:** If discrepancies are found they must be to Vehicle Control Official (VCO), the supervisor, and/or vehicle maintenance:

5.3.1.1. Pre-trip inspection – find items/problems that could cause accident or breakdown.

5.3.1.1.1. Vehicle maintenance to authorize continued use for all other maintenance discrepancies.

5.3.1.1.2. Ensure correct documentation is in the packet: AF Form 1800, waiver card, Standard Form (SF) Form 91, Department of Defense (DD) Form 518.

5.3.1.1.3. Cleanliness/damage/missing items.

5.3.1.1.4. Rust and corrosion. Check metal parts of the vehicle and frame for rust and corrosion.

5.3.1.1.5. Bolts, nuts and screws. Check for obvious looseness, missing, bent or broken condition.

5.3.1.1.6. Welds. Look for loose or chipped paint, rust or gaps where parts are welded together.

5.3.1.1.7. Wires and hoses. Look for broken or loose wiring or hoses. Look for cracks or breaks in hoses or wiring insulation.

5.3.1.1.8. Leaks (fuel/oil/coolant/hydraulic/air).

5.3.1.1.9. Foreign object damage (FOD).

5.3.1.1.10. Engine compartment.

5.3.1.1.10.1. Oil.

5.3.1.1.10.2. Coolant.

5.3.1.1.10.3. Automatic transmission fluid.

5.3.1.1.10.4. Wiper fluid.

5.3.1.1.10.5. Hoses.

5.3.1.1.10.6. Belts.

5.3.1.1.10.7. Ether bottle.

5.3.1.1.10.8. Engine leaks.

5.3.1.1.10.9. Power steering fluid.

5.3.1.1.10.10. Filters.

5.3.1.1.11. Cab interior check.

5.3.1.1.11.1. Gauges.

5.3.1.1.11.2. Emergency exits.

5.3.1.1.11.3. Wipers.

5.3.1.1.11.4. Horn.

5.3.1.1.11.5. Heaters.

5.3.1.1.11.6. Interior lights.

5.3.1.1.11.7. Mirrors.

5.3.1.1.11.8. Heaters/defroster.

5.3.1.1.11.9. Seats.

5.3.1.1.11.10. Bilge pump.

5.3.1.1.12. Exterior check (walk-around inspection).

5.3.1.1.12.1. Lights/reflectors.

5.3.1.1.12.1.1. Clearance lights.

5.3.1.1.12.1.2. Brake lights.

5.3.1.1.12.1.3. Reverse lights.

5.3.1.1.12.1.4. Turn signals.

5.3.1.1.12.1.5. Hazards.

5.3.1.1.12.1.6. Upper flashers.

5.3.1.1.12.1.7. Reflectors.

5.3.1.1.12.2. Tracks.

5.3.1.1.12.2.1. Tread.

5.3.1.1.12.2.2. Support wheel.

5.3.1.1.12.2.3. Wheels.

5.3.1.1.12.2.4. Brakes.

5.3.1.1.12.2.5. Hoses.

5.3.1.1.12.3. Gas tanks. Full, secured, diesel.

5.3.1.1.12.4. Battery.

5.3.1.1.12.4.1. Corrosion/leaks.

5.3.1.1.12.4.2. Cable secure.

5.3.1.1.12.4.3. Brackets/cover secure.

5.3.1.1.12.5. Windows.

5.3.1.1.12.6. Mirrors.

5.3.1.1.12.7. Windshield wipers.

5.3.1.1.12.8. Door seals.

5.3.1.1.12.9. Frame. Scratches, dents, missing plates or fasteners.

5.3.1.1.12.10. Bumpers.

5.3.1.1.12.11. Drain plugs, proper installation.

5.3.1.1.12.12. Suspension.

5.3.1.1.12.13. Exhaust System. Inspect for loose pipes, muffler and brackets. Check for cracks breaks or leaks.

5.3.1.1.12.14. Winch. Inspect remote control and power cable for damage.

5.3.1.1.12.15. Power pack compartment. Check insulation blanket to ensure it is not saturated with fuel oil or separated from the engine cover.

5.3.1.2. During Inspection.

5.3.1.2.1. Instruments and warning lights.

5.3.1.2.1.1. Fuel gauge.

5.3.1.2.1.2. Engine coolant temperature gauge.

5.3.1.2.1.3. Engine oil pressure gauge.

5.3.1.2.1.4. Speedometer.

5.3.1.2.1.5. Ampere meter.

5.3.1.2.1.6. Warning lights.

5.3.1.2.1.6.1. Transmission oil temperature light.

5.3.1.2.1.6.2. Hydraulic brake circuits/parking brake light.

5.3.1.2.1.6.3. Bilge pump indicator light.

5.3.1.2.1.6.4. Charging indicator light.

5.3.1.2.1.6.5. Parking brake indicator light.

- 5.3.1.2.2. Bilge pump operation.
- 5.3.1.2.3. Direction signal lever.
- 5.3.1.2.4. Engine.
 - 5.3.1.2.4.1. Unusual noise or vibration.
 - 5.3.1.2.4.2. Excessive exhaust smoke.
 - 5.3.1.2.4.3. Rough idle.
 - 5.3.1.2.4.4. Hard starting.
 - 5.3.1.2.4.5. Lack of power.
- 5.3.1.2.5. Steering.
 - 5.3.1.2.5.1. Pulling to one side.
 - 5.3.1.2.5.2. Hard turning.
 - 5.3.1.2.5.3. Unusual noise while turning.
- 5.3.1.2.6. Service brakes.
 - 5.3.1.2.6.1. Vibration, unusual noise, stopping ability.
- 5.3.1.2.7. Transmission.
 - 5.3.1.2.7.1. Slippage, unusual noise, rough shifting.
- 5.3.1.2.8. Winch.
 - 5.3.1.2.8.1. Remote control operation.
 - 5.3.1.2.8.2. Leaks, kinked, frayed or damaged cable.
- 5.3.1.2.9. Engine heater.
 - 5.3.1.2.9.1. Check engine heater coolant circulating pump for operation.
 - 5.3.1.2.9.2. Check hoses and connections for leaks and damage.
 - 5.3.1.2.9.3. Check engine heater adapter unit for leaks and damage.

5.3.1.2.10. Exhaust system.

5.3.1.2.10.1. Check for exhaust fumes in front and rear cars.

5.3.1.3. Post-Operation Inspection.

5.3.1.3.1. Suspension system.

5.3.1.3.1.1. Check support wheel, adjusting screw, tensioning wheel, wheels and sprocket for damage, loose mountings, rubber separation and chunking.

5.3.1.3.2. Tracks.

5.3.1.3.2.1. Check tracks for correct adjustment, missing or damaged guide horns, through cracks or tears and damaged metal rods.

5.3.1.3.3. Cooling system.

5.3.1.3.3.1. Check radiator compartment for fluid leaks and debris.

5.3.1.3.4. Check the entire vehicle for any damage or leaks.

5.3.1.3.5. Ensure the SUSV is clean (free of dirt, excess oil, and grease).

5.3.1.3.6. Refuel the vehicle.

5.3.1.4. Pre-trip vehicle inspection test. Use **Attachment 2** as a walk-around guide along with AF Form 1800.

5.3.2. A Seven-Step Inspection Method will help ensure the inspection is the same each time it is conducted, and that nothing is left out. See **Attachment 3** for the Seven-Step Inspection Method.

5.4. Vehicle Safety and Equipment.

5.4.1. Hazards and Human Factors:

5.4.1.1. Backing. Always use a spotter when backing. Spotter must be trained and use hand signals IAW AFMAN 24-306.

5.4.2. Safety Clothing and Equipment:

- 5.4.2.1. Working gloves.
- 5.4.2.2. Steel-toed boots.
- 5.4.2.3. Reflective belts/vests during hours of darkness, low visibility and on the flightline.
- 5.4.2.4. Light wands during operation of low visibility.
- 5.4.2.5. Raingear, cold weather gear, etc.
- 5.4.2.6. Hearing/eye protection.
- 5.4.2.7. Fire Extinguisher.
- 5.4.2.8. AF Form 1800, SF 91, DD Form 518.

5.5. Driving Safety and Precautions.

- 5.5.1. Always secure cargo and equipment prior to operating the vehicle.
- 5.5.2. Noise hazard. Always wear hearing protection while the engine is running.
- 5.5.3. Carbon monoxide. Carbon monoxide is a colorless, odorless, poisonous gas. Exposure to air containing carbon monoxide produces symptoms including: headache, dizziness, loss of muscular control, drowsiness and coma. Exposure can result in permanent brain damage or death. Observe the following guidance to prevent exposure from engine exhaust fumes:
 - 5.5.3.1. Do not operate heater or engine of vehicle in an enclosed area unless adequately ventilated.
 - 5.5.3.2. Do not idle engine for long periods of time without maintaining adequate ventilation in the personal compartment.
 - 5.5.3.3. Do not drive the vehicle with inspection plates, cover plates or access doors removed.
 - 5.5.3.4. Be alert at all times during vehicle operation for exhaust odors and exposure.
- 5.5.4. Swingfire heater. A blocked cooling system may cause damage to water hoses. If hoses begin to vibrate severely, or appear as if they might come loose, stop heating operation and check for blocked cooling system. Damage to equipment or personnel injury could occur.

5.5.5. Tow cables. Wear heavy leather work gloves when handling cables. Frayed or broken wires can injure bear hands. The operator should never let a moving cable slide through his/her hands (even when wearing gloves). Ensure all personnel outside of the vehicle are at least a distance equal to the length of the cable away from the towing and the disabled vehicle before starting to tow the vehicle.

5.5.6. Backing. Always use a spotter when backing. The operator must keep the spotter in visual contact at all times. If the operator loses visual contact, the operator must immediately stop the vehicle. For additional guidance on spotting and Air Force standard spotting hand signals, refer to AFMAN 24-306.

5.5.7. Payload capacity. Do not exceed the vehicle's payload capacity found on the vehicle data plate or in the manufacturer's operator's manual.

5.5.8. Always operate the vehicle at the slowest speed possible while completing any task. Local and installation posted speed limits and written guidance apply.

5.5.9. Climb rate. Do not exceed the maximum climb rate for the SUSV being operated. Refer to the vehicle's data plate or manufacturer's operator's manual for the maximum climb rate.

5.5.10. FOD.

5.5.10.1. Vehicle operators will remove FOD from tracks/tires. Before entering the airfield, a physical check for loose/unsecured objects and an inspection of the tire treads/tracks for FOD will be accomplished, with the exception of emergency vehicles responding to actual situations.

5.5.10.2. Any vehicle which has been driven on an unpaved surface will have a tire FOD inspection accomplished prior to re-entering the airfield area. Vehicles that frequent the flight line will be equipped with a FOD picker and a covered FOD container.

5.5.10.3. FOD picker will be etched with the vehicle number painted on red or orange (or have a red streamer attached).

5.5.10.4. FOD picker will be annotated on vehicle inspection form.

5.5.10.5. FOD containers will be identified with the letters "FOD" and will be emptied daily.

5.5.10.6. FOD checks are performed so that aircraft damage can be kept at a minimum.

5.6. Vehicle Operation.

5.6.1. Refer to the Operator's Manufacturer's Manual for detailed, vehicle-specific operation of the SUSV. Additionally, refer to AFMAN 24-306 and local policies and procedures for further laws and regulations pertaining to the operation and use of the SUSV.

5.6.1.1. Start engine.

5.6.1.1.1. Before starting the vehicle, a preventative maintenance check will be performed.

5.6.1.1.2. Ensure transmission lever is set to neutral (N) position.

5.6.1.1.3. Turn off all accessory switches and electrical components.

5.6.1.1.4. Turn key in IGNITION switch to ON position. **Note:** Ensure all warning indicators are lit. If any indicator fails to light, do not start the engine.

5.6.1.1.5. Depress the accelerator pedal; turn the key to the START position, release the key and accelerator pedal when the engine starts.

Note: Do not hold the key in the START position more than 30 seconds. Damage to the motor may result. IF the engine fails to start, wait 15 seconds before engaging starter again.

5.6.1.1.6. Ensure the engine oil pressure gauge reads normal.

5.6.1.1.7. Do not run engine above 1,200 revolutions per minute (RPM) after starting. Wait 5 minutes with engine at idle (750-850 RPM).

5.6.1.1.8. Before driving the vehicle, allow 10 minutes after starting the vehicle for the steering system components to warm up.

5.6.1.2. Transfer case.

5.6.1.2.1. Vehicle must be stopped with transmission in neutral before transfer case is shifted into high or low range.

5.6.1.2.2. Do not place transmission in gear with the engine running and the transfer case in neutral.

5.6.1.2.3. When changing transfer ranges to high or low range gearshift lever must be moved in one motion quickly through neutral. If transfer shift cannot be made and gearshift lever remains in neutral, shut down engine, then move gearshift lever in high or low position.

5.6.1.3. Driving in forward or reverse.

5.6.1.3.1. Always use a spotter when driving in reverse/backing. The operator will have visual contact with the spotter at all times. If visual contact is lost, the operator will immediately stop the vehicle. See AFMAN 24-306 for additional guidance on standard AF spotter hand signals and safety procedures.

CAUTION: Do not lean out of the front door sliding window or the side hatch of the rear car while driving in forward or reverse.

5.6.1.3.2. The carrier must be stopped with the transmission in neutral prior to shifting the transfer to high or low range. Do not place the transmission in gear with the engine running and transfer in neutral. This will result in damage to the transfer.

5.6.1.3.3. Automatic transmission has four forward speeds and one reverse speed. The gearshift lever latch must be lifted to change between reverse, neutral and drive positions. The gearshift lever can be moved freely through drive, 3, and 2 positions. The gearshift lever latch must be lifted to move the shift lever from 2 to 1 position.

5.6.1.3.4. Place the transfer shift lever in high range position.

5.6.1.3.5. Start the engine.

5.6.1.3.6. Depress service brake pedal. **Note:** DO not shift from drive to neutral when the vehicle is moving faster than 9 mph. This will cause damage to the transmission.

5.6.1.3.7. Place gearshift lever in drive (D) position. If parking brake indicator remains lit after the parking brake release is pulled, set the parking brake, shutdown the engine.

5.6.1.3.8. Release parking brake.

5.6.1.3.9. Ensure that the parking brake light goes out.

5.6.1.4. Gear shifting. The automatic transmission shifting is controlled by the accelerator pedal. Depressing the pedal slightly provides earlier shifting, and shifting is delayed when the pedal is depressed more fully.

5.6.1.4.1. If on a downhill grade, shift the transmission to a lower gear.

5.6.1.4.2. Do not shift from drive (D) to neutral when the vehicle is moving faster than 9 mph.

5.6.1.5. Parking and engine shutdown.

5.6.1.5.1. Run the engine at a reduced speed in neutral for 3-5 minutes before shutting the engine down. This will reduce the turbocharger speed and allow the turbocharger and engine to cool down.

5.6.1.5.2. Turn the key to the STOP position.

5.6.1.5.3. Set the brake.

5.6.1.5.4. Install the grill covers.

5.6.1.5.5. Plug the vehicle in if the local temperature drops below 0°.

5.6.1.6. Operate normal driving lights.

5.6.1.6.1. Turn ignition switch to ON position.

5.6.1.6.2. Press stop knob and turn switch to position 1 (normal lights).

5.6.1.6.3. Push light switch.

5.6.1.7. Winch operation.

5.6.1.7.1. Release latch, remove pin, and pull winch from its stowage bracket. Install on front of vehicle. Ensure winch-mounting pin is installed.

5.6.1.7.2. Plug one end of power cable into vehicle slave receptacle at rear of driver's seat and one end into the power receptacle on the winch.

5.6.1.7.3. Connect the remote control cable to winch control receptacle, top right of winch.

5.6.1.7.4. Engine must be running for the winch to operate.

5.6.1.7.5. Pull up drum lock, turn it 1/4 turn to unlock the winch drum.

5.6.1.7.6. Pull out the needed length of the cable by hand. Do not use another vehicle to pull out the cable.

5.6.1.7.7. Turn drum lock until it falls into the lock position.

5.6.1.7.8. Move the remote control toggle switch to the wind in position. Release the remote control switch to stop winching movement.

5.6.1.7.9. Maintain tension on the winch cable to ensure it winds evenly on the drum.

5.6.1.7.10. Disconnect the winch and power cable. Return to stowage bracket.

5.6.1.8. Emergency (slave) starting.

5.6.1.8.1.1. Turn ignition switch to the OFF position. Always plug in the vehicle when not in operation if temperatures are below 0°. If a block heater is not used, a swing fire heater must be used to warm the engine prior to starting the vehicle. If the vehicle is started without preheating, this will cause serious damage to the cylinder head, gasket and engine.

5.6.1.8.1.2. Remove the slave receptacle cap from slave receptacle located under the driver's seat.

5.6.1.8.1.3. Connect one end of the slave cable to the power source and the other end to the slave receptacle under the driver's seat.

5.6.1.8.1.4. Start the engine.

5.6.1.8.1.5. Replace the cap.

5.6.1.9. Towing with the tow cable.

5.6.1.9.1. Attach the tow cable to the disabled vehicle and to the towing vehicle.

5.6.1.9.2. Place the transmission selector of the disabled vehicle into the neutral (N) position.

5.6.1.9.3. Put the transfer case shift lever of the disabled vehicle in the neutral position. Check to verify that the vehicle is in the neutral position by rotating the transmission propeller shaft by hand.

5.6.1.9.4. Release the parking brake.

5.6.1.9.5. When possible, have the operator of the disabled vehicle start the engine to assist in steering.

5.6.1.9.6. The operator of the towing vehicle will ease the vehicle slowly forward until the cable is tight.

5.6.1.9.7. Do not tow the vehicle at speeds over 12 mph.

5.6.2. Operation in extreme cold.

5.6.2.1. Use the swing fire heater to warm the engine before operation.

5.6.2.2. Drive slowly for approximately 400 yards. This will allow moving parts time to warm up to a normal operating temperature.

5.6.2.3. Keep snow and ice from clogging radiator compartment.

5.6.2.4. If unable to reach the top of the hill due to heavy snow, do not attempt to turn the vehicle at mid-way. Back down the hill slowly and try again or find another route.

5.6.2.5. Do not cross frozen streams, rivers or lakes without testing the thickness of the ice IAW manufacturer's operator's manual guidance.

5.6.2.6. When parking the vehicle, face the vehicle away from the weather. If possible, park the vehicle in a sheltered area.

5.6.3. Swingfire heater operation.

5.6.3.1. Prepare the heater for operation by: Ensuring the fuel tank is full, the air shut-off valve operates properly, and the diaphragm valve is in the plus position.

5.6.3.2. Plug the starting cable connector into the power source. Next, plug the other end of the starting cable into the heater handle. Turn on the circulation pump switch.

5.6.3.3. Squeeze the pump lever in order to push on the push-button switch.

5.6.3.4. Activate the preheating plug, holding it down for the following time periods:

5.6.3.4.1. 0 to -20° - Depress for 2 minutes.

5.6.3.4.2. -20 to -30° - Depress for 3 minutes.

5.6.3.4.3. -30 to -40° depress for 4 minutes.

5.6.3.4.4. -40 to -50° depress for 5 minutes.

5.6.3.5. Move the pump lever forward and backward three or four times.

5.6.3.6. Turn the fuel regulator knob clockwise 1/2 to 1 full turn if the temperature is above 0°.

5.6.3.7. Turn the fuel regulator knob clockwise 1 to 1 1/2 turns if the temperature is below 0° while continuing to operate the pump lever.

5.6.3.8. When the first pulsating sounds are heard, continue pumping and adjusting the fuel regulator knob until pulsating sounds come at regular intervals.

5.6.3.9. The heater has started. Stop pumping.

5.6.3.10. Allow the heater to operate 3 to 5 minutes while making adjustments to the fuel/air mixture using the fuel regulator knob.

5.6.3.11. Once the heater is operating properly, disconnect the starting cable from the heater, power source. Stow the cable.

Section 6—EXPLANATION AND DEMONSTRATION

6.1. Instructor's Preparation.

6.1.1. Establish a training location.

6.1.2. Obtain appropriate Manufacturer's Operator's Manual.

6.1.3. Schedule/reserve a vehicle.

6.1.4. Ensure trainee completes AF Form 171.

6.2. Safety Procedures and Equipment.

6.2.1. The following safety items should be followed by both the instructor and trainee.

6.2.1.1. Remove all jewelry and identification tags.

6.2.1.2. Personal protective equipment and equipment items.

6.2.1.2.1. Reflective belt will be worn during hours of darkness, low visibility and on the flightline.

6.2.1.2.2. Steel-toed boots.

6.2.1.2.3. Hearing protection.

6.2.1.2.4. Gloves, if required.

6.2.1.2.5. All-weather gear, if required.

6.2.1.3. Walk-around the vehicle to become familiar with and to familiarize the trainee with all warning labels and signs.

6.2.1.4. Ensure trainee wears seat belts.

6.2.1.5. Properly adjust driver's seat and all mirrors, if available.

6.2.1.6. Throughout demonstration, SUSV safety:

6.2.1.6.1. Always observe speed and safety precautions while operating the vehicle. Know local policies regarding airfield operations.

6.2.1.6.2. Keep loads within the rated capacity of the SUSV.

6.2.1.6.3. Always check the rear before backing. Use a spotter if necessary. See additional instruction for use of a spotter later in this lesson plan.

6.2.2. Practice basic RM process during demonstration:

6.2.2.1. Identify hazards.

6.2.2.2. Assess hazards.

6.2.2.3. Develop controls and make decisions.

6.2.2.4. Implement controls.

6.2.2.5. Supervise and evaluate.

6.3. Operator Maintenance Demonstration.

6.3.1. With trainee, accomplish vehicle inspection using AF Form 1800. The vehicle inspection will follow the seven-step method as described in **Attachment 3**. An inspection guide (**Attachment 2**) can be used to ensure all areas of the SUSV are covered in addition to the "Operation Demonstration" guidelines provided below.

6.4. Operation Demonstration.

6.4.1. Throughout demonstration.

6.4.1.1. Allow for questions.

6.4.1.2. Repeat demonstrations as needed.

6.4.1.3. For more information refer to the vehicle data plate and the Operator's Manufacturer's Manual.

6.4.2. For the SUSV, within the training area, demonstrate and explain the following. **Note:** Use information contained on the data plate and/or the operator's manual:

6.4.2.1. Go over the capacities of the SUSV.

6.4.2.2. Go over the SUSV controls and warning lights.

6.4.2.3. Explain parking brake as they apply to vehicle being used.

6.4.2.4. Mobile operations (forward/turning/parking).

6.4.2.5. Backing. Many injuries and deaths have occurred from improper use of spotters.

6.4.2.5.1. The trainee and trainer will need to go over hand signals. See AFMAN 24-306 for standard AF spotter hand signals and additional spotter safety.

6.4.2.5.2. The operator must keep visual contact with the spotter at all times. If at any point the operator is unable to see the spotter or if he/she is unclear about the hand signals, the operator will immediately stop the vehicle.

6.4.2.6. Parking.

6.4.2.7. Winch operations.

6.4.2.8. Towing with the tow cable.

6.4.2.9. Emergency starting procedures.

6.4.3. Show trainee the post-operation inspection and report.

6.4.3.1. Ensure vehicle is clean.

6.4.3.2. Refueled.

6.4.3.3. Following manufacturer's shut-down procedures.

6.4.3.4. Park.

6.4.3.4.1. Level area.

6.4.3.4.2. Place transmission control in neutral.

6.4.3.4.3. Apply the parking brake (adjust if necessary).

6.4.3.5. Perform a walk-around inspection.

6.4.3.6. Annotate any discrepancies found on AF Form 1800.

6.4.4. Conclude by allowing time for questions and any requested re-demonstrations.

Section 7—TRAINEE PERFORMANCE AND EVALUATION

7.1. Trainee Performance.

7.1.1. Instructor will:

7.1.1.1. Ensure safety at all times. **Note:** Stop training when safety items are violated. Proceed only when the trainee fully understands how to avoid repeating the safety infraction(s).

7.1.1.1.1. Chock wheel (if required) when SUSV is parked.

7.1.1.1.2. Remove all jewelry and identification tags.

Note: If available, mark vehicle with magnetic sign indicating “Driver in Training” or “Trainee Operator”.

7.1.1.2. Personal protective equipment and other items.

7.1.1.2.1. Reflective belt/vest during low visibility times.

7.1.1.2.2. Wear steel-toed boots.

7.1.1.2.3. Hearing protection.

7.1.1.2.4. All-weather gear, if required.

7.1.1.2.5. Gloves, if required.

7.1.1.3. Pay particular attention to the cautions and warnings listed in the operator's manual.

7.1.1.4. Ensure trainee wears seat belt.

7.1.1.5. Properly adjust driver's seat and all mirror.

7.1.1.6. SUSV safety items/procedures.

7.1.1.7. Ensure the driver is aware of driving situations he/she is to perform.

7.1.1.8. Conduct during/after-action reviews with the trainee (demonstration may need to be re-accomplished).

7.1.2. Trainee Performance:

7.1.2.1. Conduct operator maintenance (have trainee explain items being inspected).
Note: Allow trainee to use **Attachment 2** as a guide while performing inspection.

7.1.2.1.1. Pre-inspection.

7.1.2.1.2. During-operation inspection.

7.1.2.2. Ensure AF Form 1800 is properly documented.

7.1.2.2.1. Establish a road course.

7.1.2.2.2. Backing. Serve as the trainee's spotter when needed, or if available, have another trainee be the spotter.

7.1.2.2.3. Continue until trainee can show proficiency in operating.

7.1.2.3. Have trainee practice explaining and/or demonstrating the following SUSV characteristics and operations.

7.1.2.3.1. Identify the capacities of the SUSV.

7.1.2.3.2. Describe the SUSV controls and warning lights.

7.1.2.3.3. Explain parking brake as they apply to vehicle being used.

7.1.2.3.4. Mobile operations (forward/turning/parking).

7.1.2.3.5. Backing. Many injuries and deaths have occurred from improper use of spotters.

7.1.2.3.5.1. The trainee and trainer will need to go over hand signals. See AFMAN 24-306 for standard AF spotter hand signals and additional spotter safety.

7.1.2.3.5.2. The operator must keep visual contact with the spotter at all times. If at any point the operator is unable to see the spotter or if he/she is unclear about the hand signals, the operator will immediately stop the vehicle.

7.1.2.3.6. Parking.

7.1.2.3.7. Winch operations.

- 7.1.2.3.8. Towing with the tow cable.
- 7.1.2.3.9. Emergency starting procedures.
- 7.1.2.4. Perform after-operation inspection and report.
 - 7.1.2.4.1. Ensure vehicle clean.
 - 7.1.2.4.2. Refuel vehicle.
 - 7.1.2.4.3. Following manufacturer's shutdown procedures.
 - 7.1.2.4.4. Park.
 - 7.1.2.4.4.1. Place transmission control in neutral.
 - 7.1.2.4.4.2. Apply the parking brake (adjust if necessary).
 - 7.1.2.4.5. Perform a walk-around inspection.
 - 7.1.2.4.6. Annotate any discrepancies found on AF Form 1800.
- 7.1.2.5. Conduct after-action reviews with the trainee.
- 7.1.2.6. Retraining; retrain No-Go's.
 - 7.1.2.6.1. Re-demonstrate "No-Go" items.
 - 7.1.2.6.2. Have trainee re-perform until they show proficiency in operating, critique weaknesses as observed.
- 7.1.2.7. Re-evaluate.

7.2. Performance Evaluation.

- 7.2.1. Trainee will perform performance evaluation found below.
 - 7.2.1.1. Instructor will answer trainee's questions.

Note: If available, mark vehicle with sign indicating "Driver-in-Training" or "Trainee Operator".

7.2.2. Instructor will:

7.2.2.1. Ensure safety at all times.

7.2.2.1.1. Place wheel chocks (if required) when SUSV is parked,

7.2.2.1.2. Remove all jewelry and identification tags.

7.2.2.2. Personal protective equipment and other items.

7.2.2.2.1. Safety steel-toed boots must be worn.

7.2.2.2.2. Gloves will be worn during cargo loading and unloading.

7.2.2.2.3. Hearing protection.

7.2.2.2.4. Reflective belt during hours of reduced visibility or on the flightline.

7.2.2.2.5. All-weather gear, if required.

7.2.2.3. Pay particular attention to the cautions and warnings listed in the operator's manual.

7.2.2.4. Ensure trainee wears seat belts.

7.2.2.5. Properly adjust driver's seat and all mirrors (if available).

7.2.2.6. SUSV safety items/procedures.

7.2.3. Explain driving techniques.

7.2.4. Establish a road course that will have the following: (if the course does not have one of the following, then the trainee should be able to explain the correct driving techniques).

7.2.4.1. Establish a road course that will have the following: (if the course does not have one of the following, then the trainee should be able to explain the correct driving techniques).

7.2.4.1.1. Identify the capacities of the SUSV.

7.2.4.1.2. Describe the SUSV controls and warning lights.

7.2.4.1.3. Explain parking brake as they apply to vehicle being used.

7.2.4.1.4. Mobile operations (forward/turning/parking).

7.2.4.1.5. Backing. Many injuries and deaths have occurred from improper use of spotters.

7.2.4.1.5.1. The trainee and trainer will need to go over hand signals. See AFMAN 24-306 for standard AF spotter hand signals and additional spotter safety.

7.2.4.1.5.2. The operator must keep visual contact with the spotter at all times. If at any point the operator is unable to see the spotter or if he/she is unclear about the hand signals, the operator will immediately stop the vehicle.

7.2.4.1.6. Parking.

7.2.4.1.7. Winch operations.

7.2.4.1.8. Towing with the tow cable.

7.2.4.1.9. Emergency starting procedures.

7.2.4.1.10. Perform post-operation inspection and report.

7.2.4.1.11. Following manufacturer's shutdown procedures.

7.2.4.1.12. Park.

7.2.4.1.13. Place transmission control in neutral.

7.2.4.1.14. Apply the parking brake (adjust if necessary).

7.2.5. Conduct after-action reviews with the trainee.

7.2.6. Trainee is not allowed any instructor assists to pass performance evaluation.

7.2.7. Retraining; retrain No-Go's.

7.2.7.1. Re-demonstrate "No-Go" items.

7.2.7.2. Have trainee re-perform until they show proficiency in operating, critique weaknesses as observed.

7.2.7.3. Re-evaluate.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 24-301, *Ground Transportation*, 1 November 2018

AFI 13-213, *Airfield Driving*, 1 June 2011

AFMAN 24-306, *Operation of Air Force Government Motor Vehicles*, 9 December 2016

AFPAM 90-803, *Risk Management (RM) Guidelines and Tools*, 11 February 2013

Adopted Forms

AF Form 171, *Request for Driver's Training and Addition to U.S. Government Driver's License*, 1 November 2018

AF Form 847, *Recommendation for Change of Publication*

AF Form 1800, *Operator's Inspection Guide and Trouble Report*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFIMSC—Air Force Installation Mission Support Center

AFMAN—Air Force Manual

AFQTP—Air Force Qualification Training Plan

DD—Department of Defense

FOD—Foreign Object Damage

GMV—Government Motor Vehicle

IAW—In Accordance With

RM—Risk Management

RPM—Revolutions per minute

SF—Standard Form

SUSV—Small Unit Support Vehicle

TO—Technical Order

VCO—Vehicle Control Official

Attachment 2

VEHICLE INSPECTION GUIDE

A2.1. Desired Learning Outcome.

A2.1.1. Understand the safety precautions to be followed pre-, during-, and post-operation of the SUSV.

A2.1.2. Understand the purpose of the SUSV and its role in the mission.

A2.2. Inspection During-Operations. The operator must ensure the following items are checked after starting the SUSV and during operations.

GENERAL

STEP 1. VEHICLE OVERVIEW

- Paperwork
 - AF Form 1800, SF 91, DD Form 518
 - Discrepancy Correction Complete (VM Annotation)
- Vehicle Approach
 - Clean/Damaged/Missing Items
 - Rust and Corrosion
 - Bolts, Nuts and Screws
 - Welds
 - Vehicle Leaning
 - Fresh Leakage of Fluids
 - Hazards Surrounding Vehicle

INTERNAL

STEP 2. ENGINE COMPARTMENT

- Transmission
- Radiator Fan
- Leaks/hoses/Electrical Wiring Insulation
- Oil Level
- Coolant Level
- Power Steering Fluid
- Windshield Washer Fluid
- Battery Fluid Level
- Automatic Transmission Fluid Level

STEP 3. ENGINE START/CAB CHECK (LEFT/FRONT/RIGHT)

- Safe Start
- Gauges
 - Oil Pressure Gauge
 - Air Pressure Gauge
 - Temperature Gauge (Coolant/Engine Oil)
 - Ammeter/Voltmeter
- Warning Lights & Buzzers
- Mirrors & Windshield
- Wipers/Washers
- Emergency & Safety Equipment
 - First Aid Kit
 - Fire Extinguisher
 - FOD Bag
- 3B** – Lights/Reflectors/Reflector Tape Condition (Front/Sides/Rear)

(Dash Indicators for:)

- Left Turn Signal
- Right Turn Signal
- Four-Way Emergency Flashers
- High Beam Headlight

(Reflective Clean & Functional Light & Reflector Checks Include:)

- Headlights
- Taillights
- Turn Signals
- Four-Way Flashers
- Horn
- Heater/Defroster
- Brakes
 - Parking Brake Check
 - Safety Belt

(TURN-OFF ENGINE/TURN-ON HEADLIGHTS *LOW BEAM* AND FOUR-WAY FLASHERS)

STEP 4. WALK-AROUND INSPECTION

- 4A** – Steering
- 4B** – Battery
- 4C** – Drive/Serpentine Belts
- 4C** – Ether Bottle
- 4C** – Filters
- 4C** – Bilge Pump
- 4D** – Suspension
 - Springs/Air/Torque
 - Shock Absorbers

4E – Brakes

4F – Tracks

SIDE OF VEHICLE

4G – Exhaust

4G – Frame

4H – Doors

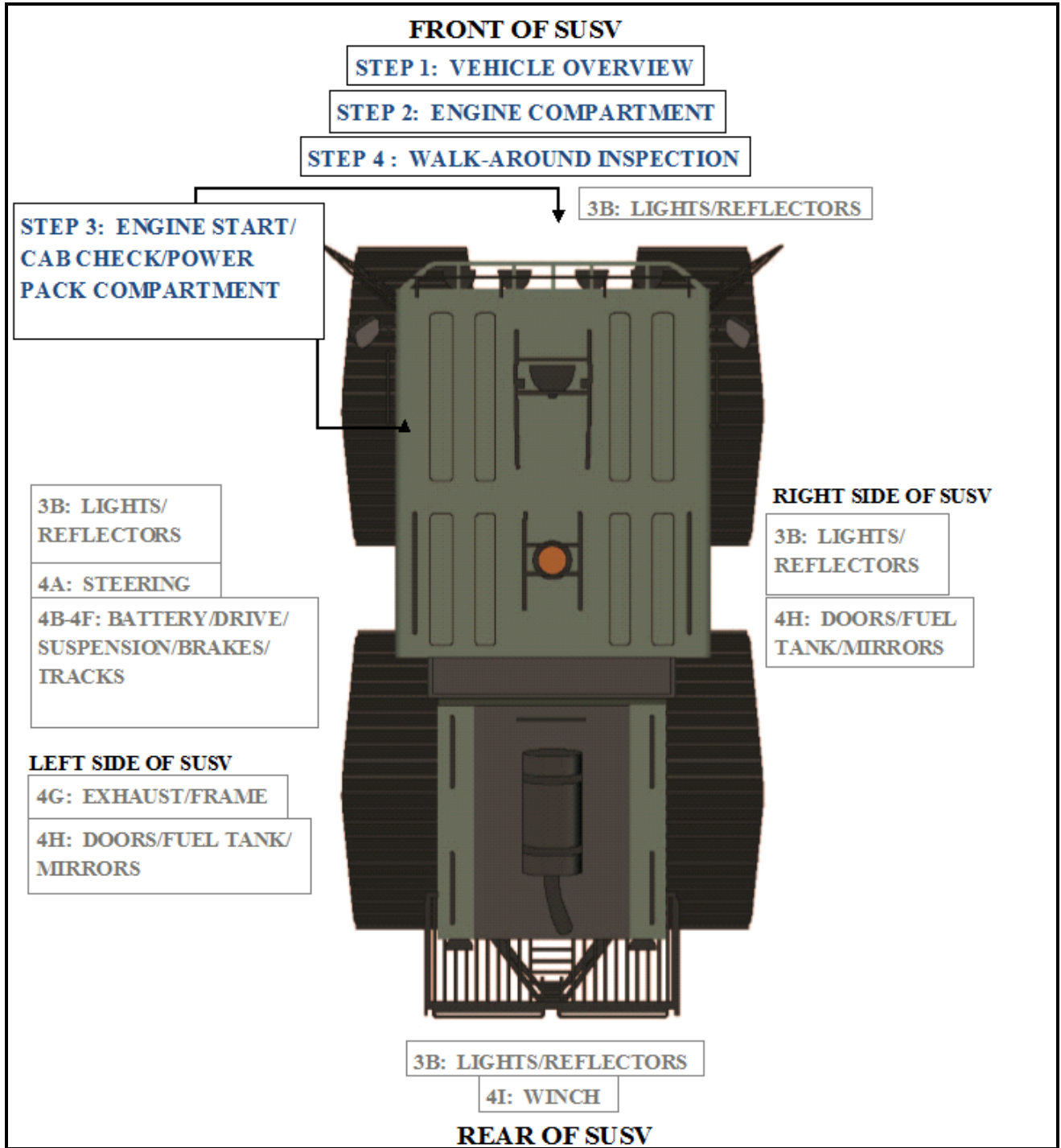
4H – Mirrors

4H – Fuel Tank

REAR OF SUSV

4I – Winch

Figure 2A.1. SUSV Inspection Guide.



Attachment 3

SEVEN-STEP INSPECTION PROCESS

Figure A3.1. Seven-Step Inspection Process.

Seven-Step Inspection Process	
Step	Procedure
1. Vehicle Overview	<ul style="list-style-type: none"> ● Review the AF Form 1800. ○ Ensure any discrepancy has been corrected. ○ Vehicle Management annotated the discrepancy was completed. ○ Approaching the vehicle. <ul style="list-style-type: none"> ▪ Damage or vehicle leaning to one side. ▪ Fresh leakage of fluids. ▪ Hazards around vehicle.
2. Check Engine Compartment	<ul style="list-style-type: none"> ● Note: Check that the parking brakes are on and/or wheels chocked. The operator may have to raise the hood, tilt the cab (secure loose things so they don't fall and break something), or open the engine compartment door. ● Check the following: <ul style="list-style-type: none"> ○ Engine oil level. ○ Coolant level in radiator; condition of hoses. ○ Power steering fluid level; hose condition (if so equipped). ○ Windshield washer fluid level. ○ Battery fluid level, connections and tie-downs (battery may be located elsewhere). ○ Automatic transmission fluid level (may require engine to be running). ○ Check belts for tightness and excessive wear (alternator, water pump, air compressor)--learn how much "give" the belts should have when adjusted right.

	<ul style="list-style-type: none"> ○ Leaks in the engine compartment (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid). Cracked, worn electrical wiring insulation.
<p>3. Start Engine and Inspect Inside the Cab (Get in and Start Engine)</p>	<ul style="list-style-type: none"> ● Make sure parking brake is on. ● Put gearshift in neutral (or park if automatic). Start engine; listen for unusual noises. ● Look at the gauges. ○ <u>Oil pressure</u>. Should come up to normal within seconds after engine is started. ○ <u>Ammeter and/or voltmeter</u>. Should be in normal range(s). ○ <u>Coolant temperature</u>. Should begin gradual rise to normal operating range. ○ <u>Engine oil temperature</u>. Should begin gradual rise to normal operating range. ○ <u>Warning lights and buzzers</u>. Oil, coolant, charging circuit warning, and antilock brake system lights should go out right away. ○ Check Condition of Controls. Check all of the following for looseness, sticking, damage, or improper setting: <ul style="list-style-type: none"> ▪ Steering wheel. ▪ Accelerator (gas pedal). ▪ Brake controls. ▪ Foot brake. ▪ Parking brake. ▪ Transmission controls. ▪ Horn(s). ▪ Windshield wiper/washer. ▪ Lights. ▪ Headlights. ▪ Dimmer switch. ▪ Turn signal. ▪ Four-way flashers. ▪ Parking – clearance – identification – marker switch (switches). ● Check mirrors and windshield.

	<ul style="list-style-type: none"> ○ Inspect mirrors and windshield for cracks, dirt, illegal stickers, or other obstructions to seeing clearly. Clean and adjust as necessary. ● Check emergency equipment. ○ Check for safety equipment: <ul style="list-style-type: none"> ▪ Spare electrical fuses (unless vehicle has circuit breakers). ▪ Properly charged and rated fire extinguisher. Check for optional items such as: <ul style="list-style-type: none"> ▪ List of emergency phone numbers ▪ Accident reporting kit (packet). ○ Check safety belt. Check that the safety belt is securely mounted, adjusts; latches properly and is not ripped or frayed.
4. Turn-off Engine	<ul style="list-style-type: none"> ● Make sure the parking brake is set, turn-off the engine, and take the key with. ● Turn-on headlights (low beams) and four-way emergency flashers, and get out of the vehicle.
5. Do Walk-Around Inspection	<ul style="list-style-type: none"> ● General. <ul style="list-style-type: none"> ○ Go to front of vehicle and check that low beams are on and both of the four-way flashers are working. ○ Push dimmer switch and check that high beams work. ○ Turn-off headlights and four-way emergency flashers. ○ Turn-on parking, clearance, side-marker, and identification lights. ○ Turn-on right turn signal, and start walk-around inspection. ○ Walk around and inspect. <ul style="list-style-type: none"> ▪ Clean all lights, reflectors, and glass as while doing the walk-around inspection. ● Left front side. <ul style="list-style-type: none"> ○ Driver's door glass should be clean. ○ Door latches or locks should work properly. ● Left front track.

	<ul style="list-style-type: none"> ○ Condition of tracks, tension bent, broken studs, clamps, lugs, or any signs of misalignment. ○ Condition of tracks--no serious cuts or excessive tread wear. ○ Left front suspension. ○ Condition of spring, spring hangers, shackles. ○ U-bolts. ○ Shock absorber condition. ● Left front brake. ○ Condition of brakes. ○ Condition of hoses. ● Front. ○ Condition of front axle. Condition of steering system. ○ No loose, worn, bent, damaged or missing parts. ○ Condition of windshield. Check for damage and clean, if dirty. ○ Check windshield wiper arms for proper spring tension. ○ Check wiper blades for damage, "stiff" rubber, and securement. ○ Lights and reflectors. ○ Parking, clearance, and identification lights clean, operating, and proper color (amber at front). ○ Reflectors clean and proper color (amber at front). ○ Right front turn signal light clean, operating, and proper color (amber or white on signals facing forward). ● Right side ○ Right front: check all items as done on left front. ○ Primary and secondary safety cab locks engaged (if cab-over-engine design). ○ Right fuel tank(s). ○ Securely mounted, not damaged, or leaking. Fuel crossover line secure. ○ Tank(s) contain enough fuel. Cap(s) on and secure.
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	<ul style="list-style-type: none"> ○ Condition of visible parts. Rear of engine--not leaking. Transmission--not leaking. ○ Exhaust system--secure, not leaking, not touching wires, fuel, or air-lines. ○ Frame and cross members--no bends or cracks. ● Right rear. ○ Condition of track tension, bent/broken studs, clamps, lugs, or any signs of misalignment. ○ Condition of tracks-- no serious cuts or tread wear. ○ Suspension. ○ Condition of spring(s), spring hangers, shackles, and U-bolts. ○ Axle secure. ○ Powered axle(s) not leaking lube (gear oil). Condition of torque rod arms, bushings. ○ Condition of shock absorber(s). ○ If retractable axle equipped, check condition of lift mechanism. If air powered, check for leaks. ○ Condition of air ride components. ○ Brakes. ○ Brake adjustment. ○ Condition of brakes. ○ Condition of hoses--look for any wear due to rubbing. ○ Lights and reflectors. ○ Side-marker lights clean, operating, and proper color (red at rear, others amber). ○ Side-marker reflectors clean and proper color (red at rear, others amber). ● Rear. ○ Lights and reflectors. ○ Rear clearance and identification lights clean, operating, and proper color (red at rear). ○ Reflectors clean and proper color (red at rear). ○ Taillights clean, operating, and proper color (red at rear).
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	<ul style="list-style-type: none"> ○ Right rear turn signal operating, and proper color (red, yellow, or amber at rear). ○ License plate(s) present, clean, and secured. ○ Splash guards present, not damaged, properly fastened, not dragging on ground, or rubbing tires. ● Left side. ○ Check all items as done on right side, plus: ○ Battery (batteries) (if not mounted in engine compartment). ○ Battery box (boxes) securely mounted to vehicle. Box has secure cover. ○ Battery (batteries) secured against movement. Battery (batteries) not broken or leaking. ○ Fluid in battery (batteries) at proper level (except maintenance-free type). ○ Cell caps present and securely tightened (except maintenance-free type). ○ Vents in cell caps free of foreign material (except maintenance-free type).
<p>6. Check Signal Lights</p>	<ul style="list-style-type: none"> ● Get in and turn-off all lights. ● Turn-on stop lights (apply trailer hand brake or have a helper put on the brake pedal). ● Turn-on left turn signal lights. ● Get out and check lights. ● Left front turn signal light clean, operating and proper color (amber or white on signals facing the front). ● Left rear turn signal light and both stop lights clean operating, and proper color (red, yellow, or amber). ● Get in vehicle. ○ Turn-off lights not needed for driving. ○ Check for all required papers, trip manifests, permits, etc.

	<ul style="list-style-type: none"> ○ Secure all loose articles in cab (they might interfere with operation of the controls or hit the operator in a crash). ○ Start the engine.
<p>7. Start the Engine and Check Test for Hydraulic Leaks</p>	<ul style="list-style-type: none"> ● Test for hydraulic leaks. ○ If the vehicle has hydraulic brakes, pump the brake pedal three times. ○ Then apply firm pressure to the pedal and hold for five seconds. ○ The pedal should not move. If it does, there may be a leak or other problem. ● Brake system. ● Test parking brake. ○ Fasten safety belt. ○ Set parking brake (power unit only). Release trailer parking brake (if applicable). Place vehicle into a low gear. ○ Gently pull forward against parking brake to make sure the parking brake holds. ○ Repeat the same steps for the trailer with trailer parking brake set and power unit parking brakes released (if applicable). ○ If it doesn't hold vehicle, it is faulty; get it fixed. ● Test service brake stopping action. ○ Go about 5 miles per hour. ○ Push brake pedal firmly. ○ "Pulling" to one side or the other can mean brake trouble. ○ Any unusual brake pedal "feel" or delayed stopping action can mean trouble. ○ If the trainee finds anything unsafe during the vehicle inspection, get it fixed. Federal and state laws forbid operating an unsafe vehicle. ● Check vehicle operation regularly: <ul style="list-style-type: none"> ○ Instruments. ○ Temperature gauges. ○ Pressure gauges. ○ Ammeter/voltmeter.

	<ul style="list-style-type: none">○ Mirrors.○ If the trainee sees, hears, smells, or feels anything that might mean trouble, he/she should check it out.● Safety inspection.● Document any discrepancy on AF Form 1800. Sign-off AF Form 1800 to signify accomplishment of inspection.
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