**DEPARTMENT OF THE AIR FORCE** **QTP24-3-C157**
**Headquarters US Air Force** **11 January 2019**
**Washington, D.C. 20330-1030**

# Telephone Maintenance Hydraulic Derrick Truck

Vehicle Management Codes: C157, C158, C160, C161, C164, C167, C168, C260

## QUALIFICATION TRAINING PACKAGE

## CONTENTS

## 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 lecture, **Section 5**.

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

1.1.2.2. Trainee:

1.1.2.2.1. Reads this entire lesson plan prior to starting lecture.

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

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

1.1.2.2.4. Takes performance test.

## 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 Plan (AFQTP) process and the trainee's responsibilities.

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

2.1.1.3. The trainee should ask questions if he or 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. Grade the review questions using the answer key.

2.1.2.4. Review missed questions with the trainee to ensure the required task knowledge has been gained to complete the task.

2.1.2.5. 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, hands-on driving session, and a performance test, trainees will be able to perform operator's inspection and complete the performance test with zero instructor assists.

3.1.1.1. Train and qualify each trainee in safe operation and preventive maintenance of the various telephone maintenance hydraulic derrick trucks.

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

### 3.2. Desired Learning Outcomes.

3.2.1. Understand the safety precautions to be followed before-, during-, and after- operation of the telephone maintenance hydraulic derrick truck.

3.2.2. Understand the purpose of the telephone maintenance hydraulic derrick truck and its role in the mission.

3.2.3. Know the proper operator maintenance procedures of the telephone maintenance hydraulic derrick truck, IAW applicable technical orders (TOs) and use of AF Form 1800.

3.2.4. Be completely familiar with the safety features of the derrick truck.

3.2.5. Safely and proficiently operate the telephone maintenance hydraulic derrick truck.

**3.3. Lesson Duration.**

3.3.1. Recommended instructional and hands on training time is 15 hours:

**Figure 3.1. Recommended Training Time for Training Activities.**

| Training Activity | Training Time |
|---|---|
| Trainee's Preparation | 2 Hours |
| Instructor's Lecture | 3 Hours |
| Instructor's Demonstration | 2 Hours |
| Trainee's Personal Experience (to build confidence and proficiency)<br>▪ Perform Operator Maintenance<br>▪ Operate the Vehicle | 6 Hours |
| Trainee's Performance Evaluation | 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.

3.4.2. Applicable TOs or Manufacturer's Operator's Manual (see Vehicle Management 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. AF Form 1800, *Operator's Inspection Guide and Trouble Report* (General Purpose Vehicles).

3.4.5. Air Force Instruction (AFI) 91-203, *Air Force Consolidated Occupational Safety Instruction*.

3.4.6. AFI 24-302, *Vehicle Management*.

**3.5. Instructional Training Aids and Equipment.**

3.5.1. Telephone Maintenance Hydraulic Derrick Truck Lesson Plan.

3.5.2. Telephone Maintenance Hydraulic Derrick Truck.

3.5.3. Pole trailer.

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

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

3.5.6. Videos (if locally produced).

3.5.7. Suitable training area.

3.5.8. Traffic cones.

## 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* in accordance with (IAW) AFI 24-301, *Ground Transportation*.

4.1.3. Applicable local licensing jurisdiction requirements.

### 4.2. Required Reading (Testable Material).

4.2.1. Read this entire lesson plan.

4.2.2. Read AFMAN 24-306.

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

## Section 5—KNOWLEDGE LECTURE AND EVALUATION

### 5.1. Overview of Training and Requirements.

5.1.1. Training objectives:

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

5.1.1.2. Train and qualify each trainee in safe operation and preventive maintenance of the various telephone maintenance hydraulic derrick trucks.

5.1.1.3. This training will ensure the trainee becomes a qualified digger derrick operator—an operator who has the knowledge and skills to operate a telephone maintenance hydraulic digger derrick truck in a safe and professional manner.

5.1.2. Desired learning outcomes:

5.1.2.1. Understand the safety precautions to be followed before, during, and after operation of the telephone maintenance hydraulic derrick trucks.

5.1.2.2. Be completely familiar with the safety features of the derrick truck.

5.1.2.3. Safely and proficiently operate the telephone maintenance hydraulic derrick truck.

5.1.2.4. Understand the purpose of the telephone maintenance hydraulic derrick truck and its role in the mission.

5.1.2.4.1. The purpose of the telephone maintenance hydraulic derrick truck is to accomplish lifting and digging jobs through the use of hydraulic power.

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

5.1.3. Telephone maintenance hydraulic derrick truck design. The design of a telephone maintenance hydraulic derrick truck varies depending on the vehicle manufacturer. Refer to the manufacturer's operator's manual for additional information on the specific telephone maintenance hydraulic derrick truck being operated.

5.1.4. The digger derrick is a truck-mounted, hydraulically operated piece of equipment designed to do two jobs: lifts heavy loads and digs with an auger. The trainee should be able to identify the following components of the telephone maintenance hydraulic derrick truck:

5.1.4.1. Air brakes.

5.1.4.2. Front wench control lever.

5.1.4.3. Boom control lever.

5.1.4.4. Control lever for rotation, lowering, raising the boom.

5.1.4.5. Auger release switch.

5.1.4.6. Hydraulic tamper lever.

5.1.4.7. Tamper.

5.1.4.8. Pole puller and hoses.

5.1.5. The Derrick. The derrick is the part of a digger derrick that is used to accomplish the lifting function. The derrick consists of a pedestal/turntable assembly (the pedestal) and an extendable boom.

5.1.5.1. Pedestal. The pedestal is mounted on the truck body. The pedestal supports the boom and houses the motor that rotates the boom. Digger derricks are often classified according to where on the truck body the pedestal is mounted.

5.1.5.1.1. Rear mount. A digger derrick with the pedestal mounted at the back of the truck and the boom stored over the truck cab.

5.1.5.1.2. Center mount. A digger derrick with the pedestal mounted directly behind the truck cab and the boom stored over the back of the truck.

5.1.5.1.3. Corner mount. A digger derrick with the pedestal mounted at the rear of the truck, similar to a rear mount but off-center over one corner of the truck.

5.1.5.2. Extendable Boom. The extendable boom is attached to the pedestal. The boom is typically made in several sections, which allow it to be extended or retracted. It can be raised, lowered and swung around in a circle. This allows the tip of the boom to be positioned anywhere within a wide area around the truck.

5.1.5.3. Pole grabbers. Mounted at the tip of the boom. Pole grabbers are hydraulically operated jaws, which can be used to guide a pole and stabilize it in position as it is being set. They can be opened and closed and, on some vehicles, tilted up and down.

5.1.5.4. Winch. A powered reel device used with a winch line for lifting. The winch can be mounted on the pedestal, or it can be mounted at the tip of the boom. If the winch is pedestal-mounted, a boom tip sheave is used at the tip of the boom to guide the winch line.

5.1.6. The Digger. The digger is the part of a digger derrick that does the actual digging. The digger mechanism is a hydraulically operated motor that drives the auger. It is attached to the boom by the digger hanger bracket.

5.1.6.1. Auger. The auger resembles a large drill bit. It is the hole-boring tool of the digger. It is connected to the shaft of the digger mechanism with a large pin. They are made in various sizes for different types of jobs (utility pole installation, anchor installation, etc.). Augers are changed by removing the pin and slipping the auger off the shaft of the digger mechanism.

5.1.6.2. Auger Stowage Basket. When the auger is not in use, it is stowed on the auger stowage bracket.

5.1.6.3. Auger Hoist Line. The hoist line is attached to a hook on the upper end of the auger. When the auger is rotated slowly, it winds up into its stowed position. The digger is held in place on the stowage bracket by a hydraulically operated stow lock pin. Some digger derricks also have a mechanical pin, which is manually inserted to further safeguard the assembly.

5.1.7. Digger Derrick Controls.

5.1.7.1. Multi-purpose boom control. The multi-purpose boom control can be moved in several different directions to move the boom up or down, extend or retract the boom, or rotate the pedestal to the left or right. The farther any control is moved from the central, or neutral, position, the faster the function it controls is performed.

5.1.7.2. Throttle pedal. Located on the pedestal, the throttle pedal controls the speed of the truck's engine which powers the hydraulic system. When the speed of the engine is increased, the power to the hydraulic system is increased.

5.1.7.3. Stow lock release. Hydraulically locks and releases the stow lock pin, allowing the auger to be held in place on the auger stowage bracket or lowered for use.

5.1.7.4. Dump valve. Located within reach of the operator. If one of the controls sticks, the operator can use the dump valve to temporarily stop hydraulic action. When the problem causing the stuck control is corrected, the operator returns the dump valve to its original position to restore hydraulic power.

5.1.7.5. Outrigger controls. Outrigger controls are located at the back of the truck. They control the operation of the outriggers, which are a pair of hydraulically operated arms that can be extended out from the sides of the truck to the ground to help stabilize the unit.

**5.2. Vehicle Inspection.**

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

5.2.2. 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.

5.2.3. Types of Vehicle Inspection. If discrepancies are found the operator must report them to Vehicle Control Official (VCO), the supervisor, and/or vehicle maintenance:

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

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

5.2.3.1.2. Cleanliness/damage/missing items.

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

5.2.3.1.4. Fluid Levels; ensure level is within limits:

5.2.3.1.4.1. Engine oil.

5.2.3.1.4.2. Coolant.

5.2.3.1.4.3. Power steering fluid.

5.2.3.1.4.4. Transmission fluid.

5.2.3.1.4.5. Antifreeze.

5.2.3.1.4.6. Chassis.

5.2.3.1.4.7. Hydraulic.

5.2.3.1.5. Battery; security, fluid, damage and corrosion.

5.2.3.1.6. All wheel rims (cracks, splits, etc.); check for loose or missing lug nuts.

5.2.3.1.7. All tires.

5.2.3.1.7.1. Proper inflation. **Note**: Notify VCO, the supervisor, and/or vehicle maintenance if split rim is completely flat.

5.2.3.1.7.2. Sidewalls, tread to include depth, bulges.

5.2.3.1.7.3. Cuts and abrasions.

5.2.3.1.7.4. Lug nuts.

5.2.3.1.8. Transmission.

5.2.3.1.9. Drive belts; tension and fraying.

5.2.3.1.10. All hoses and wiring.

5.2.3.1.11. Differential, shocks and brakes for leaks.

5.2.3.1.12. Suspension, springs and shocks.

5.2.3.1.13. Boom hinge pin and cylinder pins.

5.2.3.1.14. Turntable.

5.2.3.1.15. Frame bolts and other fasteners.

5.2.3.1.16. Welds.

5.2.3.1.17. Visual and audible warning devices.

5.2.3.1.18. Hydraulic cylinders, hoses, and tubes to ensure that they are in place and show no evidence of damage, cracks or corrosion.

5.2.3.1.19. Synthetic load line and material handling attachments for wear or damage. All material handling hooks should have functional throat latching mechanisms.

5.2.3.1.20. Fiberglass boom structures, platforms, guards, and liners for contamination, damage, and scratches.

5.2.3.1.21. Bin doors properly latched.

5.2.3.1.22. Outriggers raised and boom is stowed and secure.

5.2.3.1.23. Pintle hook connection/compatibility, if applicable.

5.2.3.1.24. Fuel door and fuel cap; intact, not broken or damaged.

5.2.3.1.25. Heater/defroster.

5.2.3.1.26. Wiring/lights/reflectors (interior and exterior).

5.2.3.1.27. Mirrors.

5.2.3.1.28. Windshield and windshield wipers/washers.

5.2.3.1.29. Doors.

5.2.3.1.30. Windows.

5.2.3.1.31. Seatbelts.

5.2.3.1.32. Fire Extinguisher.

5.2.3.1.33. Ensure the area is free from overhead obstructions such as trees, poles and power lines.

5.2.3.1.34. Operate the unit through the range of all functions to ensure proper operation.

5.2.3.1.35. When operating the unit from the lower controls, be sure that the operator and others are clear of moving structures.

5.2.3.1.36. Units equipped with platforms, test the override system at the lower control station. The lower controls should override the function of the upper controls.

5.2.3.1.37. Return the boom to the boom rest.

5.2.3.1.38. If the unit has a platform, orient the platform near the ground for platform access.

5.2.3.1.39. Perform a pre-operational check from the upper controls (if equipped). Make certain the upper control selector functions (emergency stop button) stop system operation.

5.2.3.2. During-operation.

5.2.3.2.1. All gauges and warning lights for proper operations.

5.2.3.2.1.1. Warning lights.

5.2.3.2.1.2. Gauges (oil pressure, fuel gauge, water temperature, voltage).

5.2.3.2.1.3. Indicators.

5.2.3.2.2. Listen for exhaust and air leaks. Listen for any unusual sounds.

5.2.3.2.3. Stay alert for any unusual smells or odors.

5.2.3.2.4. Stay alert for any abnormal vibrations or handling problems.

5.2.3.3. After-trip inspection and report.

5.2.3.3.1. Ensure vehicle and components are cleaned.

5.2.3.3.2. Equipment is properly stowed.

5.2.3.3.3. Refueled.

5.2.3.3.4. Parked.

5.2.3.3.5. Apply brakes.

5.2.3.3.6. Place transmission in neutral (park for an automatic).

**5.3. Vehicle Safety and Equipment.**

5.3.1. Hazards and Human Factors:

5.3.1.1. Loads beyond the vehicle's capability.

5.3.1.1.1. Gross Vehicle Weight Rating (GVWR) = Truck Weight + Digger Derrick and Body Weight + Tools + Cargo Weight.

5.3.1.2. Overhead clearance. Check the clearance height of the vehicle relative to the overhead obstructions such as power lines and bridges. Warning – Clearance distance requirements around electrical liens/powerlines vary. Know the minimum clearance distance based on voltage IAW OSHA 1925.1408, *Power line safety (up to 350 kV) – equipment operations*.

5.3.1.3. Fall protection. Fall protection should be provide IAW AFI 91-203, Chapter 13.

5.3.2. Safety Clothing and Equipment:

5.3.2.1. Safety steel-toed boots must be worn.

5.3.2.2. First aid kit.

5.3.2.3. Cones.

5.3.2.4. Raingear, cold weather gear, etc.

5.3.2.5. Reflective belt during hours of reduced visibility and on flightline.

5.3.2.6. Hearing protection, if required.

5.3.2.7. Fall protection, if required.

5.3.2.8. Tire gauge.

5.3.2.9. Fire extinguisher.

5.3.2.10. AF Form 1800.

**5.4. Driving Safety and Precautions.**

5.4.1. Lift Capacity.

5.4.1.1. Maximum Lift Capacity.

5.4.1.1.1. Stability of the truck and the surface it is on.

5.4.1.1.2. Structural strength of the derrick.

5.4.1.1.3. Power of the hydraulic system.

5.4.1.2. Actual Lift Capacity. If the sheave height does not change, increasing the hook radius decreases the lifting ability of the derrick. However, if the hook radius does not change, increasing the sheave height can increase the derrick's lifting ability. See the lift capacity chart for the specific digger derrick being operated.

5.4.1.2.1. Hook radius. The distance from the center of the pedestal to the boom tip sheave, measured in a line parallel to the ground. The hook radius can change when the boom is extended, retracted, raised or lowered.

5.4.1.2.2. Sheave height. The distance from the boom tip sheave straight down to the ground. As with the hook radius, the sheave height can change when the boom is extended, retracted, raised, or lowered.

5.4.1.3. Boom Angle Indicator. A boom angle indicator is a free-swinging device that indicates the angle to which the boom has been raised.

5.4.2. When handling material never attach the load to the fall protection anchor.

5.4.3. Never lay conductors on platforms to lift them into position. And do not allow conductors or other objects to drag across the boom as this may cause gouges in the boom, compromising its strength, durability and insulating properties.

5.4.4. Never overload the side load protection system, if equipped.

5.4.5. Always stand firmly on the floor of the platform. Never sit or climb on the edge of the platform. Use fall protection, as required.

5.4.6. Do not leave the controls unattended while a load is suspended.

5.4.7. Operating on Slopes. Digger Derricks are limited to their rated capacity with the unit set up on a maximum of a five degree slope. Never operate a digger derrick on a slope of over five degrees without the appropriate measures to level the unit. If the slope exceeds five degrees, appropriate cribbing and blocking of outriggers may be required.

5.4.8. Electrical Continuity. Aerial devices and digger derricks with insulated booms can only isolate the operator from grounding through the boom and the vehicle. They cannot provide protection against phase-to-phase or phase-to-ground contacts occurring at the boom-tip, above the insulated boom sections.

5.4.8.1. Boom tips of aerial devices and digger derricks, of necessity, must contain metal components. Metal conducts electricity. Moreover, under certain circumstances, and to varying degrees, electricity will track across or through non-metallic components (fiberglass covers and structures, hoses, etc.). Electricity can even arc across the air. Thus, the boom tip of an aerial device or a digger derrick must be considered conductive.

5.4.8.2. If any part of the boom-tip contacts an energized conductor, the entire boom-tip, including the control handle, must be considered energized.

5.4.8.3. If any part of the boom-tip contacts a grounded object, the entire boom-tip, including the control handle, must be considered grounded.

5.4.8.4. Hydraulic Fluid. Hydraulic fluid is flammable. If electricity flows through the boom-tip, it can cause the hydraulic fluid to burn or to explode. Contact by any part of the boom-tip with an energized conductor while the boom tip is also in contact with another energized source or a grounded object can cause the hydraulic fluid at the boom-tip to burn or explode.

5.4.8.5. Do not rely on the boom-tip to protect the vehicle from an energized conductor or a ground. Always wear insulated protective equipment, use conductor cover-ups, and maintain clearances when in the vicinity of energized conductors.

5.4.9. Digging Safety.

5.4.9.1. Corkscrewing. The auger should not be allowed to catch in the ground and pull the boom down. If this occurs, the digger rotation will need to be reversed. Once the boom is moved up, it will free the auger.

5.4.9.2. Personnel should never be allowed in the digger path when the digger mechanism is being lowered or stowed.

5.4.9.3. Personnel should stay out from under the boom.

5.4.9.4. Underground utilities. Underground utilities should always be located according before breaking ground with a digger derrick.

5.4.10. Backing.

5.4.10.1. Use a spotter and hand signals. See **Section 5.4**. and AFMAN 24-306.

5.4.10.2. Back slowly and keep the spotter in view at all times.

5.4.11. Parking.

5.4.11.1. Apply the parking brake. Chock the wheels.

5.4.11.2. Set cones when parked.

5.4.12. Boom Operation.

5.4.12.1. Set truck on flat solid ground when operating the boom.

5.4.12.2. Always face away from elbow when operating the boom.

5.4.12.3. Beware where the elbow of the boom is in relation to other lines and objects.

5.4.13. Boom Tip Electrical Continuity.

5.4.13.1. When operating a digger derrick from a boom tip platform, all components at the boom tip including the controls must be considered to be electronically connected. Use fall protection, as required.

5.4.13.2. If an energized conductor object touches any part of the boom tip, treat the entire boom tip as grounded.

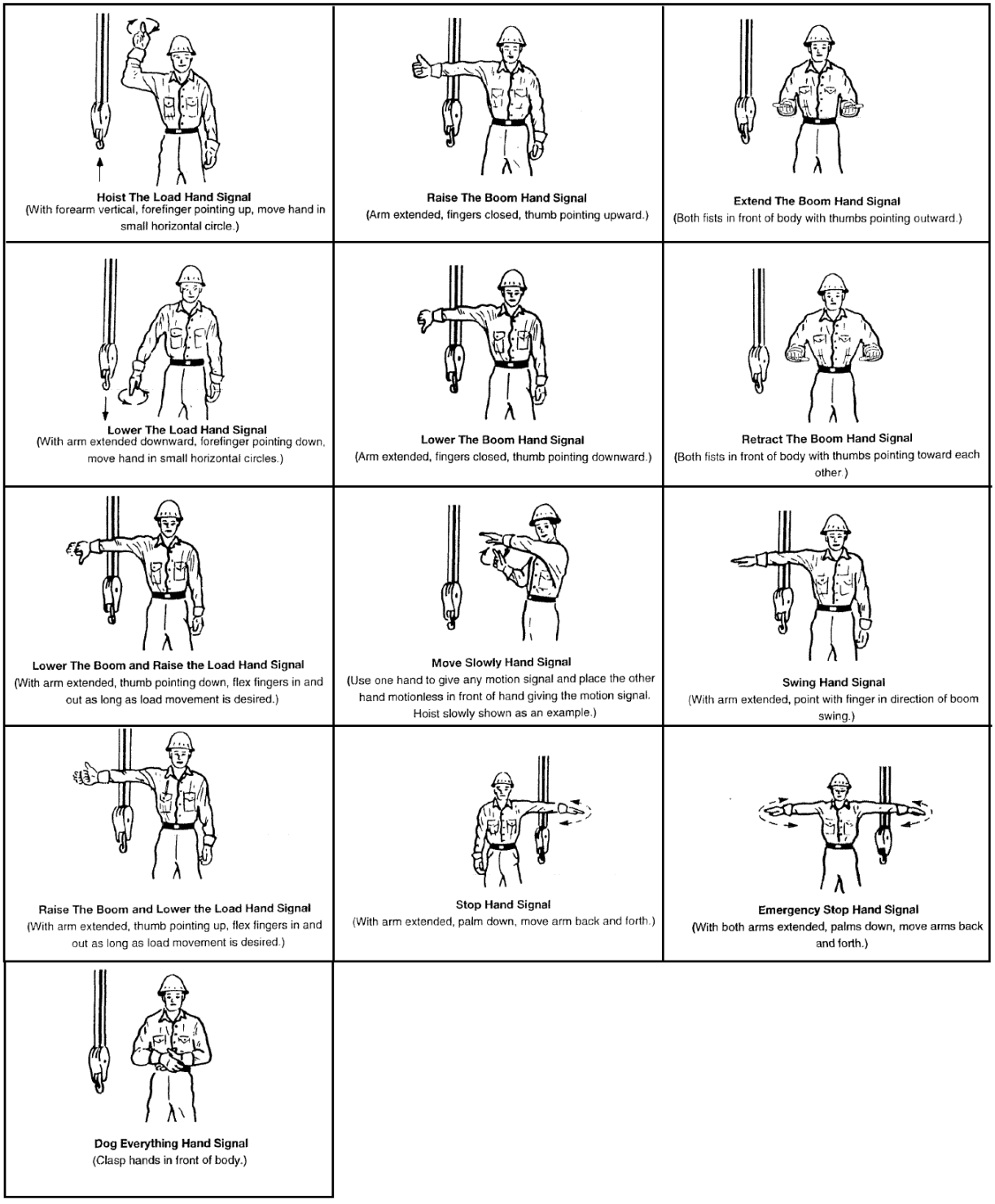
5.4.13.3. The insulated portion of the boom can only isolate the operator from grounding through the boom and vehicle.

5.4.13.4. The pole, cross arm, and other hardware must be considered by the operator as grounded.

5.4.13.5. The unit cannot protect a person from current between an energized conductor and any other conductor, ground, or grounded equipment on or in contact with the pole including the neutral wire.

5.4.14. Boom Hand Signals. See **Figure 5.1.** When it is necessary to communicate to an operator of a digger derrick, use the following hand signals.

**Figure 5.1. Boom Hand Signals.**



**Hoist The Load Hand Signal**
(With forearm vertical, forefinger pointing up, move hand in small horizontal circle.)

**Raise The Boom Hand Signal**
(Arm extended, fingers closed, thumb pointing upward.)

**Extend The Boom Hand Signal**
(Both fists in front of body with thumbs pointing outward.)

**Lower The Load Hand Signal**
(With arm extended downward, forefinger pointing down, move hand in small horizontal circles.)

**Lower The Boom Hand Signal**
(Arm extended, fingers closed, thumb pointing downward.)

**Retract The Boom Hand Signal**
(Both fists in front of body with thumbs pointing toward each other.)

**Lower The Boom and Raise the Load Hand Signal**
(With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.)

**Move Slowly Hand Signal**
(Use one hand to give any motion signal and place the other hand motionless in front of hand giving the motion signal. Hoist slowly shown as an example.)

**Swing Hand Signal**
(With arm extended, point with finger in direction of boom swing.)

**Raise The Boom and Lower the Load Hand Signal**
(With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.)

**Stop Hand Signal**
(With arm extended, palm down, move arm back and forth.)

**Emergency Stop Hand Signal**
(With both arms extended, palms down, move arms back and forth.)

**Dog Everything Hand Signal**
(Clasp hands in front of body.)

5.4.15. Outriggers.

5.4.15.1. Have outriggers on flood when operating the bucket.

5.4.15.2. When lowering outriggers make sure paths are clear.

5.4.15.3. At all times beware of the surroundings in relation to any energized lines around the vehicle and the boom.

5.4.15.4. Never operate the boom when winds are 30 mph and above.

5.4.15.5. At all times the ground man should know where the bucket is in relation to the energized wire.

5.4.15.6. Always use a spotter when backing.

5.4.16. Bucket Operation.

5.4.16.1. Always keep the bucket clean of an object that causes a tripping hazard.

5.4.16.2. Always use bucket controls when bucket is manned. Lower controls are to be used only in emergency situations.

5.4.16.3. Do not use the bucket as a lifting device.

5.4.16.4. Always use fall protection.

5.4.17. Do not operate with the Hi Ranger and vehicle resting on a grade steeper than degrees, unless the platform is extended downhill.

5.4.18. Overhead Clearance. Ensure that the boom has clearance between energized lines and equipment prior to moving the boom out of the cradle and placing it in position.

5.4.19. Tire Changing Safety.

5.4.19.1. Consider where the vehicle is located. If on a bridge, curve, road with no shoulder, etc.; it is safer to move a vehicle on a flat tire to a safe location.

5.4.19.2. Find a location with a firm and level surface for the jack.

5.4.19.3. Turn on the four-way flashers.

5.4.19.4. Place warning triangles or flares.

5.4.19.5. Block the wheels. If changing a front tire, block the rear wheels. If changing a rear tire, block the front wheels.

5.4.19.6. Place the vehicle in “Park” if it has an automatic transmission and low gear if it has a standard shift.

5.4.19.7. Ensure the jack is rated for the weight of the vehicle. Ensure proper placement of jack.

5.4.19.8. If available, use jack stands after lifting the vehicle. Once the vehicle is lifted; never at any time get under the vehicle.

5.4.19.9. Before removing lug nuts, ensure lug wedges are loose (double check).

5.4.19.10. After changing the tire, return the jack and lug wrench to the location recommended by the manufacturer (keep them from becoming flying projectiles and makes them available for future tire changes).

5.4.19.11. Secure the damaged tire and once it is repaired, return the spare tire back to its proper location.

5.4.20. Off-road driving. For more information on off-road driving and safe vehicle operation guidance, refer to AFMAN 24-306.

**5.5. Vehicle Operation.**

5.5.1. Driving Characteristics.

5.5.2. General Vehicle Operation.

5.5.2.1. Turn hazard lights on.

5.5.2.2. Put truck in neutral.

5.5.2.3. Step on clutch, pull PTO out.

5.5.2.4. Place cones around truck and working area.

5.5.2.5. Truck should be on level ground (solid).

5.5.2.6. Lower jacks leveling truck, flip switch to truck position.

5.5.2.7. Upon lowering jacks, flip switch to down position.

5.5.3. Operation Guidance Procedures.

5.5.3.1. Always face in the direction that the boom is moving towards.

5.5.3.2. Be aware of buildings, wires, and other objects in the path of the boom.

5.5.3.3. When extending the boom, lower the wench at the same time.

5.5.3.4. Pull the poles with a pole puller.

5.5.3.5. Carry the poles using the pole trailer.

5.5.3.6. When pulling the poles with the pole puller, center the truck on the pole.

5.5.3.7. Rotate the turntable about three paces away from the pole.

5.5.3.8. When lifting objects, follow the lifting specifications for the angle of the boom.

5.5.3.9. When lifting the transformer, the operator should adhere to the lineman's instructions from the bucket.

5.5.3.10. When lifting the poles, the operator should be aware of where the butt of the pole is in relation to the truck and the head (top) of the pole in relation to the wires or the object in the path of the pole.

5.5.3.11. When lifting poles near energized circuits, insulating protective equipment, such as line hoses, will be used.

5.5.3.12. Ground man should be aware where the boom is in relation to the energized circuits.

5.5.3.13. Ground man should be aware of objects in the path of the boom and the object being lifted.

5.5.4. Engine Operation.

5.5.4.1. Use the lowest gear to get started and up-shift when engine speed is enough to handle the load in the next gear.

5.5.4.2. Continue to up-shift until desired speed is reached.

5.5.4.3. Operate at highest possible gear.

5.5.4.4. Going uphill, down shift as required until engine can match demands of the grade. Going downhill, use service brakes and gears in combination to keep vehicle speed under control.

5.5.5. Lowering the auger. The first step in beginning a dig is to lower the auger.

5.5.5.1. Before unstowing the auger, fully retract the boom.

5.5.5.2. Raise the boom to about a 45° angle.

5.5.5.3. Rotate the pedestal until the boom extends over the side of the truck so that the auger will clear the truck body, personnel and obstructions as it is lowered.

5.5.5.4. If the winch is mounted on the pedestal, make sure that the winch line has enough slack so that it will not be a restriction when the boom is extended.

5.5.5.5. Make sure that the boom is fully retracted so that the digger will engage properly with the extendable section of the boom when it is lowered.

5.5.5.6. Remove the manual locking pin from the auger stowage bracket, if applicable.

5.5.5.7. After making sure that all ground personnel are out of the way, rotate the digger counter clockwise just enough to take the strain off the digger stow lock.

5.5.5.8. Open the stow lock.

5.5.5.9. Slowly rotate the digger clockwise to lower the auger by unwinding it on its hoist line.

5.5.5.10. Slip the auger hoist rope off the auger hook.

5.5.5.11. After the auger has been lowered, the boom controls are used to position the auger over the location of the hole. A spotter will guide the digger derrick operator. The spotter will make sure that the auger is straight up and down.

5.5.5.12. When releasing the auger, be careful not to put too much pressure on the sling. Raise the boom to the size of the hole being dug at an angle.

5.5.5.13. At the same time, flip the release switch and the dig switch. Remember when the extension is out to keep aware of where the hook is.

5.5.6. Digging the Hole.

5.5.6.1. To dig the hole, the digger will be rotated clockwise with slight down-pressure is applied by the boom.

5.5.6.2. Dig the hole down a few feet, raise and clean the auger.

5.5.6.3. Repeat until the necessary depth has been reached. Extend the boom as necessary in order to keep the auger straight up and down.

5.5.6.4. Stow the auger.

5.5.7. Stowing the auger.

5.5.7.1. Attach the wind up sling.

5.5.7.2. Rotate the boom so that it extends over the side of the truck.

5.5.7.3. Make sure that the boom is fully retracted.

5.5.7.4. Hook the auger hoist rope to the auger hook.

5.5.7.5. Slowly rotate the digger counterclockwise to wind the auger up on the hoist rope. It may be necessary to raise the boom slightly to keep the rope in place as it winds up.

5.5.7.6. When the digger is in position on the stowage bracket, lock it in place with the stow lock.

5.5.7.7. Replace the manual locking pin into the auger stowage bracket, if applicable.

5.5.8. Setting the pole. Setting the pole requires lifting it at or near its balance point. If the procedure begins with the pole on the trailer, lifting can be done with the pole part-way off the trailer. If the pole was delivered to the site and left on the ground, the pole must be moved close to the hole before it can be lifted properly by the derrick.

5.5.8.1. Position the boom so that the winch line is aligned with the pole. Attach tongs or other holding devices to the pole about 5 or 6 feet from the butt large) end of the pole. Attach the winch line to the tongs.

5.5.8.2. Raise the winch line to lift the pole 2 or 3 feet off the trailer.

5.5.8.3. Swing the boom towards the hole, being careful not to take the pole completely off the trailer, so that the pole does not accidentally fall to the ground.

5.5.8.4. Slowly lower the butt ends of the pole to the ground by lowering the winch line. (The top end of the pole should still be on the trailer).

5.5.8.5. Once the balance point is found and marked, the pole can be set by:

5.5.8.5.1. Lift the pole at the balance point using the winch line.

5.5.8.5.2. Rotate the boom until the balance point of the pole is over the hole.

5.5.8.5.3. Position the steel choker just above the balance point.

5.5.8.5.4. Lower the pole to the ground; remove the winch line from the tongs; and attach the winch line to the choker. Then, remove the tongs from the pole.

5.5.8.5.5. Open the pole grabber jaws.

5.5.8.5.6. Slowly raise the pole with the winch line, and maneuver the pole to a vertical position. When the pole is vertical, the bottom of the pole should be directly over the hole. The pole grabbers are used to stabilize and maintain control of the pole.

5.5.8.5.7. Slowly lower the winch line, and guide the butt end of the pole into the hole.

5.5.8.5.8. After making sure the pole is straight up and down, replace the dirt and tamp it down.

5.5.8.5.9. Remove the choker and detach the winch line.

## Section 6—EXPLANATION AND DEMONSTRATION.

### 6.1. Instructor's Preparation.

6.1.1. Establish a training location.

6.1.2. Obtain appropriate vehicle 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. Chock wheel (if required) when telephone maintenance hydraulic derrick truck is parked.

6.2.1.2. Remove all jewelry and identification tags.

6.2.1.3. Personal protective equipment and equipment items.

6.2.1.3.1. Safety steel-toed boots must be worn.

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

6.2.1.3.3. First aid kit.

6.2.1.3.4. Warning triangles.

6.2.1.3.5. Fall protection, if required.

6.2.1.3.6. Raingear, cold weather gear, etc.

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

6.2.1.3.8. Hearing protection, if required.

6.2.1.4. The trainer and the trainee should walk-around the vehicle to become familiar all warning labels and signs.

6.2.1.5. Ensure trainee wears seat belts.

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

6.2.1.7. Throughout demonstration, practice telephone maintenance hydraulic derrick truck safety.

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, *Operator's Inspection Guide and Trouble Report.* 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 tractor and trailer 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.

6.4.2. For all telephone maintenance hydraulic derrick trucks, 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. Specific telephone maintenance hydraulic derrick truck capacities: Explain parking brake as they apply to telephone maintenance hydraulic derrick truck being used.

6.4.2.2. Telephone maintenance hydraulic derrick truck controls.

6.4.2.3. Point out the items to be inspected during operations.

6.4.3. Demonstrate the following telephone maintenance hydraulic derrick truck operations (use spotter when backing).

6.4.3.1. Forward.

6.4.3.2. Stop.

6.4.3.3. Backing.

6.4.3.4. Parking.

6.4.4. Show trainee the after operation inspection and report.

6.4.4.1. Ensure vehicle is cleaned.

6.4.4.2. Refuel vehicle.

6.4.4.3. Following manufacturer's shut-down procedures.

6.4.4.4. Park.

6.4.4.4.1. Apply brakes.

6.4.4.4.2. Place transmission in neutral (park or an automatic).

6.4.4.5. Perform a walk around inspection.

6.4.4.6. Annotate any discrepancies found on AF Form 1800.

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

## Attachment 1

## GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

***References***
**AFI 24-301**, *Ground Transportation*, 1 November 2018
**AFI 24-302**, *Vehicle Management*, 26 June 2012
**AFI 91-203**, *Air Force Consolidated Occupational Safety Instruction*, 15 June 2012
**AFMAN 24-306**, *Operation of Air Force Government Motor Vehicles*, 9 December 2016

***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
**GVWR—**Gross Vehicle Weight Rating
**IAW—**In Accordance With
**PTO—**Power Take-Off
**RM—**Risk Management
**TO—**Technical Order
**VCO—**Vehicle Control Official

**Attachment 2**

**TELEPHONE MAINTENANCE HYDRAULIC DERRICK TRUCK INSPECTION GUIDE**

GENERAL

STEP 1. VEHICLE OVERVIEW

☐ Paperwork
- AF Form 1800
- Discrepancy Correction Complete (VM Annotation)

☐ Vehicle Approach
- Damage
- Vehicle Leaning
- Fresh Leakage of Fluids
- Hazards Surrounding Vehicle

INTERNAL

STEP 2. ENGINE COMPARTMENT

☐ Leaks/hoses/Electrical Wiring Insulation
☐ Oil Level
☐ Coolant Level
☐ Power Steering Fluid
☐ Windshield Washer Fluid
☐ Battery Fluid Level, Connections & Tie downs
☐ Automatic Transmission Fluid Level
☐ Engine Compartment Belts

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
- Red Reflective Triangles
- Properly Charged & Rated Fire Extinguisher
- Optional (Chains/Tire Changing Equip, Emergency Phone List)

☐ **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
- Headlights
- Taillights
- Backing Lights
- Brake Lights
- Red Reflectors & Amber Reflectors
- Reflective Tape Condition

☐ Horn
☐ Heater/Defroster
☐ Brakes

- Parking Brake Check
- Hydraulic Brake Check
- Air Brake Check (if equipped)
- Service Brake Check
- Safety Belt

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

STEP 4. WALK-AROUND INSPECTION

☐ **4A** – Steering

- Steering Box/Hoses
- Steering Linkages

☐ **4B** – Suspension

- Springs/Air/Torque
- Mounts
- Shock Absorbers

☐ **4C** – Brakes

- Slack Adjustors & Pushrods
- Brake Chambers
- Brake Hoses/Lines
- Drum Brake
- Brake Linings

☐ **4D** – Wheels

- Rims
- Tires
- Hub Oil Seals/Axle Seals
- Lug Nuts
- Spacers & Budd Spacing

SIDE OF VEHICLE

- ☐ **4E** – Doors
- ☐ **4E** – Mirrors
- ☐ **4E** – Fuel Tank

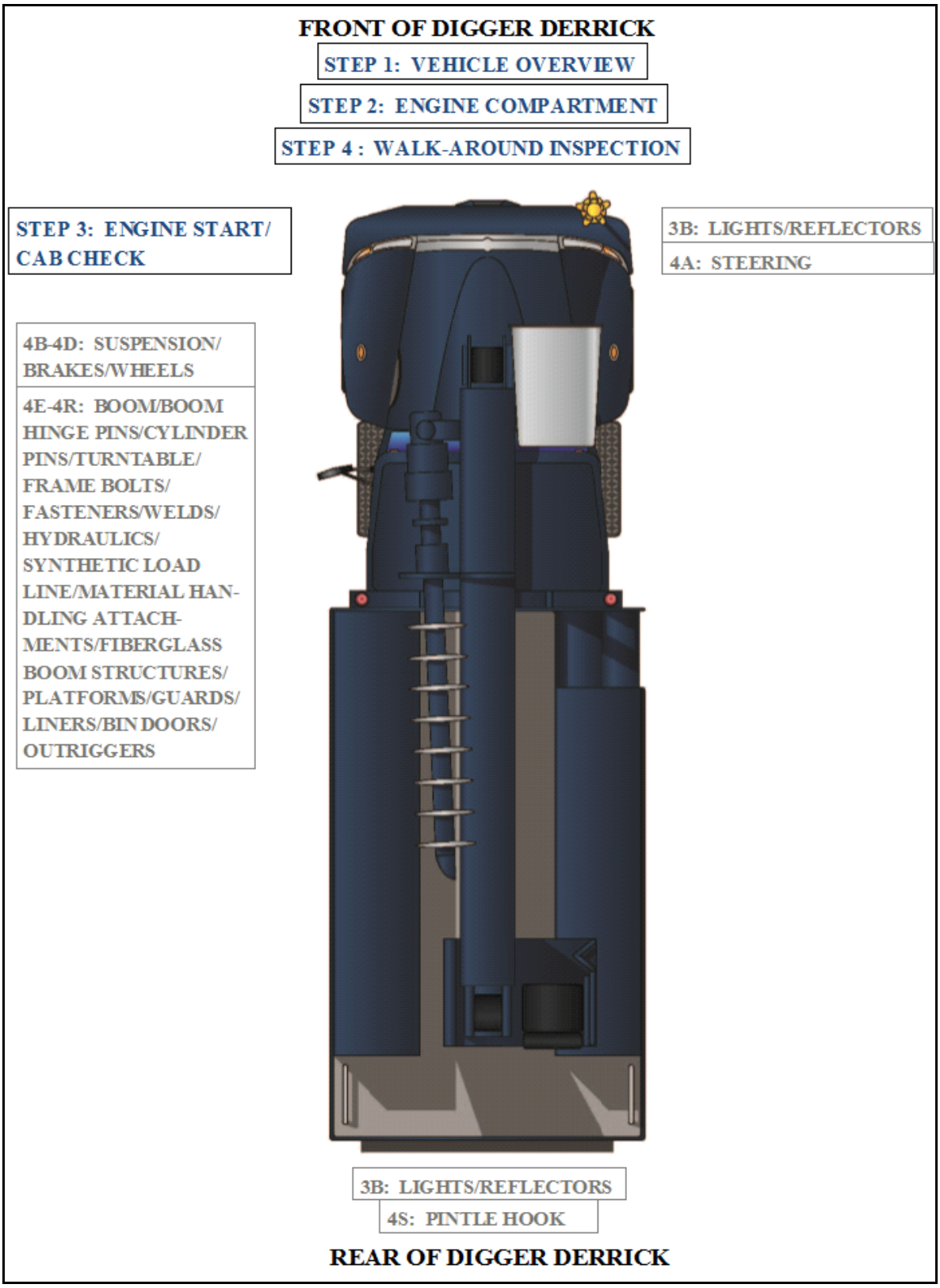
SPECIAL EQUIPMENT

- ☐ **4F** – BOOM
- ☐ **4F** – BOOM HINGE PINS
- ☐ **4F** – CYLINDER PINS
- ☐ **4G** – TURNTABLE
- ☐ **4H** – FRAME BOLTS
- ☐ **4I** – FASTENERS/WELDS
- ☐ **4J** – HYDRAULICS
- ☐ **4K** – SYNTHETIC LOAD LINE
- ☐ **4L** – MATERIAL HANDLING ATTACHMENTS
- ☐ **4M** – FIBER GLASS BOOM STRUCTURES
- ☐ **4N** – PLATFORMS
- ☐ **4O** – GUARDS
- ☐ **4P** – LINERS
- ☐ **4Q** – BIN DOORS
- ☐ **4R** – OUTRIGGERS

REAR OF VEHICLE

- ☐ **4S** – Pintle Hook

**Figure A2.1. Telephone Maintenance Hydraulic Derrick Truck Inspection Guide.**



## Attachment 3

## SEVEN-STEP INSPECTION PROCESS

**Figure A3.1. Seven-Step Inspection Process.**

| Seven-Step Inspection Process | |
|---|---|
| **Step** | **Procedure** |
| 1. Vehicle Overview | • Review the AF Form 1800.<br>o Ensure any discrepancy has been corrected.<br>o Vehicle Management annotated the discrepancy was completed.<br>o Approaching the vehicle.<br>▪ Damage or vehicle leaning to one side.<br>▪ Fresh leakage of fluids.<br>▪ Hazards around vehicle. |
| 2. Check Engine Compartment | • **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.<br>• Check the following:<br>o Engine oil level.<br>o Coolant level in radiator; condition of hoses.<br>o Power steering fluid level; hose condition (if so equipped).<br>o Windshield washer fluid level.<br>o Battery fluid level, connections and tie-downs (battery may be located elsewhere).<br>o Automatic transmission fluid level (may require engine to be running).<br>o Check belts for tightness and excessive wear (alternator, water pump, air compressor)--learn how much "give" the belts should have when adjusted right. |

| | |
|---|---|
| | o Leaks in the engine compartment (fuel, coolant, oil, power steering fluid, hydraulic fluid, battery fluid). Cracked, worn electrical wiring insulation. |
| 3. Start Engine and Inspect Inside the Cab (Get in and Start Engine) | • Make sure parking brake is on.<br>• Put gearshift in neutral (or park if automatic). Start engine; listen for unusual noises.<br>• If equipped, check the Anti-lock Braking System (ABS) indicator lights. Light on dash should come on and then turn-off. If it stays on the ABS is not working properly.<br>• **Note:** For trailers only, if the yellow light on the left rear of the trailer stays on, the ABS is not working properly.<br>• Look at the gauges.<br>o <u>Oil pressure</u>. Should come up to normal within seconds after engine is started.<br>o <u>Air pressure</u>. Pressure should build from 50 to 90 psi within 3 minutes. Build air pressure to governor cut-out (usually around 120 – 140 psi. Know the vehicle's requirements.<br>o <u>Ammeter and/or voltmeter</u>. Should be in normal range(s).<br>o <u>Coolant temperature</u>. Should begin gradual rise to normal operating range.<br>o <u>Engine oil temperature</u>. Should begin gradual rise to normal operating range.<br>o <u>Warning lights and buzzers</u>. Oil, coolant, charging circuit warning, and antilock brake system lights should go out right away.<br>o Check Condition of Controls. Check all of the following for looseness, sticking, damage, or improper setting:<br>▪ Steering wheel.<br>▪ Clutch.<br>▪ Accelerator (gas pedal). |

| | |
|---|---|
| | ▪ Brake controls.<br>▪ Foot brake.<br>▪ Trailer brake (if vehicle has one).<br>▪ Parking brake.<br>▪ Retarder controls (if vehicle has them).<br>▪ Transmission controls.<br>▪ Interaxle differential lock (if vehicle has one).<br>▪ Horn(s).<br>▪ Windshield wiper/washer.<br>▪ Lights.<br>▪ Headlights.<br>▪ Dimmer switch.<br>▪ Turn signal.<br>▪ Four-way flashers.<br>▪ Parking – clearance – identification – marker switch (switches).<br>• Check mirrors and windshield.<br>o Inspect mirrors and windshield for cracks, dirt, illegal stickers, or other obstructions to seeing clearly. Clean and adjust as necessary.<br>• Check emergency equipment.<br>o Check for safety equipment:<br>▪ Spare electrical fuses (unless vehicle has circuit breakers).<br>▪ Three red reflective triangles, 6 fuses or 3 liquid burning flares.<br>▪ Properly charged and rated fire extinguisher. Check for optional items such as:<br>▪ Chains (where winter conditions require).<br>▪ Tire changing equipment.<br>▪ List of emergency phone numbers Accident reporting kit (packet).<br>o Check safety belt. Check that the safety belt is securely mounted, adjusts; latches properly and is not ripped or frayed. |

| | |
|---|---|
| 4. Turn-off Engine | • Make sure the parking brake is set, turn-off the engine, and take the key with.<br>• Turn-on headlights (low beams) and four-way emergency flashers, and get out of the vehicle. |
| 5. Do Walk-Around Inspection | • General.<br>o Go to front of vehicle and check that low beams are on and both of the four-way flashers are working.<br>o Push dimmer switch and check that high beams work.<br>o Turn-off headlights and four-way emergency flashers.<br>o Turn-on parking, clearance, side-marker, and identification lights.<br>o Turn-on right turn signal, and start walk-around inspection.<br>o Walk around and inspect.<br>▪ Clean all lights, reflectors, and glass as while doing the walk-around inspection.<br>• Left front side.<br>o Driver's door glass should be clean.<br>o Door latches or locks should work properly.<br>• Left front wheel.<br>o Condition of wheel and rim--missing, bent, broken studs, clamps, lugs, or any signs of misalignment.<br>o Condition of tires--properly inflated, valve stem and cap OK, no serious cuts, bulges, or tread wear.<br>o Use wrench to test rust-streaked lug nuts, indicating looseness.<br>o Hub oil level OK, no leaks. Left front suspension.<br>o Condition of spring, spring hangers, shackles,<br>o U-bolts.<br>o Shock absorber condition.<br>• Left front brake.<br>o Condition of brake drum or disc.<br>o Condition of hoses.<br>• Front. |

| | |
|---|---|
| | o Condition of front axle. Condition of steering system.<br>o No loose, worn, bent, damaged or missing parts.<br>o Mustgrabsteering mechanism to test for looseness.<br>o Condition of windshield.<br>o Check for damage and clean if dirty.<br>o Check windshield wiper arms for proper spring tension.<br>o Check wiper blades for damage, "stiff" rubber, and securement.<br>o Lights and reflectors.<br>o Parking, clearance, and identification lights clean, operating, and proper color (amber at front).<br>o Reflectors clean and proper color (amber at front).<br>o Right front turn signal light clean, operating, and proper color (amber or white on signals facing forward).<br>• Right side<br>o Right front: check all items as done on left front.<br>o Right fuel tank(s).<br>o Securely mounted, not damaged, or leaking. Fuel crossover line secure.<br>o Tank(s) contain enough fuel. Cap(s) on and secure.<br>o Condition of visible parts. Rear of engine--not leaking. Transmission--not leaking.<br>o Exhaust system--secure, not leaking, not touching wires, fuel, or air-lines.<br>o Frame and cross members--no bends or cracks.<br>o Spare tire carrier or rack not damaged (if so equipped).<br>o Spare tire and/or wheel securely mounted in rack.<br>o Spare tire and wheel adequate (proper size, properly inflated).<br>o Cargo securement (trucks). |

| | |
|---|---|
| | o Curbside cargo compartment doors in good condition, securely closed, latched/locked and required security seals in place.<br>• Right rear.<br>o Condition of wheels and rims--no missing, bent, or broken spacers, studs, clamps, or lugs.<br>o Condition of tires--properly inflated, valve stems and caps OK, no serious cuts, bulges, tread wear, tires not rubbing each other, and nothing stuck between them.<br>o Tires same type, e.g., not mixed radial and bias types.<br>o Tires evenly matched (same sizes). Wheel bearing/seals not leaking.<br>o Suspension.<br>o Condition of spring(s), spring hangers, shackles, and U-bolts.<br>o Axle secure.<br>o Powered axle(s) not leaking lube (gear oil). Condition of torque rod arms, bushings.<br>o Condition of shock absorber(s).<br>o If retractable axle equipped, check condition of lift mechanism. If air powered, check for leaks.<br>o Condition of air ride components.<br>o Brakes.<br>o Brake adjustment.<br>o Condition of brake drum(s) or discs.<br>o Condition of hoses--look for any wear due to rubbing.<br>o Lights and reflectors.<br>o Side-marker lights clean, operating, and proper color (red at rear, others amber).<br>o Side-marker reflectors clean and proper color (red at rear, others amber).<br>• Rear.<br>o Lights and reflectors.<br>o Rear clearance and identification lights clean, operating, and proper color (red at rear). |

| | |
|---|---|
| | o Reflectors clean and proper color (red at rear).<br>o Taillights clean, operating, and proper color (red at rear).<br>o Right rear turn signal operating, and proper color (red, yellow, or amber at rear).<br>o License plate(s) present, clean, and secured.<br>o Splash guards present, not damaged, properly fastened, not dragging on ground, or rubbing tires.<br>o End gates free of damage, properly secured in stake sockets.<br>• Left side.<br>o Check all items as done on right side, plus:<br>o Battery (batteries) (if not mounted in engine compartment).<br>o Battery box (boxes) securely mounted to vehicle. Box has secure cover.<br>o Battery (batteries) secured against movement. Battery (batteries) not broken or leaking.<br>o Fluid in battery (batteries) at proper level (except maintenance-free type).<br>o Cell caps present and securely tightened (except maintenance-free type).<br>o Vents in cell caps free of foreign material (except maintenance-free type). |
| 6. Check Signal Lights | • Get in and turn-off all lights.<br>• Turn-on stop lights.<br>• Turn-on left turn signal lights.<br>• Get out and check lights.<br>• Left front turn signal light clean, operating and proper color (amber or white on signals facing the front).<br>• Left rear turn signal light and both stop lights clean operating, and proper color (red, yellow, or amber).<br>• Get in vehicle.<br>o Turn-off lights not needed for driving. |

| | |
|---|---|
| | o Check for all required papers, trip manifests, permits, etc.<br>o Secure all loose articles in cab (they might interfere with operation of the controls or hit the operator in a crash).<br>o Start the engine. |
| 7. Start the Engine and Check Test for Hydraulic Leaks | • Test for hydraulic leaks.<br>o If the vehicle has hydraulic brakes, pump the brake pedal three times.<br>o Then apply firm pressure to the pedal and hold for five seconds.<br>o The pedal should not move. If it does, there may be a leak or other problem.<br>• Brake system.<br>• Test parking brake.<br>o Fasten safety belt.<br>o Set parking brake (power unit only). Release trailer parking brake (if applicable). Place vehicle into a low gear.<br>o Gently pull forward against parking brake to make sure the parking brake holds.<br>o Repeat the same steps for the trailer with trailer parking brake set and power unit parking brakes released (if applicable).<br>o If it doesn't hold vehicle, it is faulty; get it fixed.<br>• Test service brake stopping action.<br>o Go about 5 miles per hour.<br>o Push brake pedal firmly.<br>o "Pulling" to one side or the other can mean brake trouble.<br>o Any unusual brake pedal "feel" or delayed stopping action can mean trouble.<br>o If the trainee finds anything unsafe during the Vehicle inspection, get it fixed. Federal and state laws forbid operating an unsafe vehicle.<br>• Check vehicle operation regularly:<br>o Instruments. |

| | |
|---|---|
| | o Air pressure gauge (if the vehicle has air brakes). Temperature gauges.<br>o Pressure gauges. Ammeter/voltmeter.<br>o Mirrors.<br>o Tires.<br>o If the trainee sees, hears, smells, or feels anything that might mean trouble, he/she should check it out.<br>• Safety inspection.<br>• Document any discrepancy on AF Form 1800. Sign-off AF Form 1800 to signify accomplishment of inspection. |