# Skill 16-1
# Evaluation Checklist

**Objective 19**: Perform a routine maintenance inspection of a tiller.
*[NFPA® 1002, 4.2.1, 4.2.2, 6.1.1]*

**Student Name:** _____ **Date:** _____

## Directions

For this skills evaluation checklist, students will perform a routine maintenance inspection of the tiller portion of a tractor-drawn apparatus. This skill may be performed in conjunction with the walk-around inspection in Skill Sheet 2-2, the in-cab operational inspection in Skill Sheet 2-3, and/or the aerial apparatus inspection in Skill Sheet 16-2. This skill requires a minimum of two firefighters: one to inspect and one to assist. Always follow manufacturer's recommendations and local standard operating procedures (SOPs) when performing all procedures.

## Resources

- Appropriate PPE
- Tractor-drawn fire service apparatus
- Manufacturer's operator's manual
- Wheel chocks
- Flashlight
- Mechanic's creeper
- Apparatus maintenance log/forms
- Writing utensil

## Criteria & Evaluation Comments

Criteria (determined by the AHJ)

*After the candidate has completed the skill sheet, write comments below.*

Evaluator/Candidate Comments

Pass ☐ Fail ☐

Evaluator Signature Date Student Signature Date

# Skills Evaluation Checklist

**Objective 19**: Perform a routine maintenance inspection of a tiller.
*[NFPA® 1002, 4.2.1, 4.2.2, 6.1.1]*

| | Task Steps | Yes | No |
|---|---|---|---|
| | **Fifth Wheel Coupling** | | |
| 1. | Check the physical connection between tractor and tillered trailer.<br>a. Ensure there is no space (gap) between upper and lower fifth wheel plates.<br>b. Visually check for any missing, loose, or broken mounting bolts attaching the fifth wheel assembly to the chassis.<br>c. Check that attaching hardware components are present and connections are tight. Make sure pins are not worn, and are adequately lubricated.<br>d. Engage the fifth wheel lock to ensure proper function.<br>e. Check locking cylinders and pads for hydraulic leaks or unusual wear or damage.<br>f. Ensure the fifth wheel plates are properly lubricated to minimize steering problems. | | |
| 2. | Inspect electrical wiring, hydraulic lines, and other connections for chafing, rubbing, kinks, and other signs of wear. | | |
| | **Suspension System** | | |
| 3. | Begin inspection when approaching the vehicle.<br>a. Look for readily apparent damage.<br>b. Look beneath the vehicle for spots that indicate leakage.<br>c. Look for unusual leaning that indicates chassis defects. | | |
| 4. | Visually inspect the tiller suspension components.<br>a. Look for defects involving the torsion bars, springs, spring hangars, shackles, U-bolts, or shock absorbers.<br>b. Check for springs with cracked or otherwise broken leaves. | | |
| 5. | If equipped with an air bag suspension, visually inspect for cuts and cracks on the air bags (bellows) and listen for any audible leaks. | | |

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| 6. | Ensure the height control valve is operational allowing for the adjustment of air pressure in the air bags as weight is added or removed from the trailer or when driven on uneven terrain. | | |
| | **Steering System** | | |
| 7. | Check tiller steering wheel free play, noting in apparatus log or on inspection form insufficient or excessive free play. Schedule repair with a certified mechanic if there is inappropriate free play (excess play that does not result in the actual movement of the vehicle's tires).<br>**Note:** If the apparatus has power steering, the engine must be running for this test procedure. | | |
| | **Enclosure** | | |
| 8. | Inspect the enclosure mounting-to-chassis hardware for integrity. | | |
| 9. | Check the left (driver's) side of the enclosure for any damage. | | |
| 10. | Check the right (passenger's or officer's) side of the enclosure for any damage. | | |
| 11. | Check the enclosure doors to ensure that they are in proper working order.<br>a. Ensure that the doors close tightly.<br>b. Ensure that the latch works as it was designed and that it operates with little or no play.<br>c. Check that all door and window glass is intact and clean. | | |
| 12. | Check that all steps, platforms, handrails, and ladders are securely mounted and not deformed. | | |
| 13. | Check heater system fuel tanks for fuel level and integrity. | | |
| | **Tiller Operator Controls** | | |
| 14. | Mount the operator enclosure safely. | | |
| 15. | Check the seatbelts/restraints.<br>a. Be sure that they are securely mounted and operate freely without binding.<br>b. Make certain that the webbing is not damaged, cut, or frayed.<br>c. Check that the buckles open and close freely. | | |
| 16. | Make sure that the tilt/telescopic steering wheel is in a suitable position. | | |

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| 17. | Adjust the seat and mirrors. | | |
| 18. | Turn off all accessory electrical switches. | | |
| 19. | Make sure the steering lock-out device is not engaged. | | |
| 20. | Have the operator start the apparatus. This process will confirm the interlock feature for requirement that the tiller operator is seated or activates an interlock control for vehicle starting. | | |
| 21. | Briefly operate all controls in the tiller enclosure, checking each system below:<br>a. Electrical equipment switches<br>b. Heating and air-conditioning controls<br>c. Communication system controls<br>d. Windshield wiper controls<br>e. Window defroster controls | | |
| | **Safety Devices** | | |
| 22. | Second Firefighter: Operate all light switches in the enclosure one at a time, calling out switch type to inspecting firefighter. | | |
| 23. | Check function of communications systems:<br>a. Voice communication through intercom system<br>b. Redundant communication system to tractor driver, especially to transmit the "Stop" message | | |
| 24. | Inspect any audible warning devices between the tiller and the tractor. | | |
| 25. | Check tracking light. | | |
| 26. | Check jackknifing warning lights. | | |
| 27. | Shut down the apparatus. | | |
| | **Documentation** | | |
| 28. | Document the inspection and any maintenance actions, and report any deficiencies per local policy. | | |