

Training Objectives

Participants will develop the knowledge and skills required to safely inspect, maintain, troubleshoot, and repair Terex TM Series aerial devices and their hydraulic, electrical, leveling, and control systems.

Safety & Compliance

- ANSI A92.2 and OSHA requirements
- Safety manuals and documentation
- Hazard recognition and safe operating practices
- Wind speed limitations
- Inspection and maintenance recordkeeping requirements

Unit Identification & Documentation

- Unit nomenclature and configuration
- Serial number identification
- Decals, placards, and warning labels
- Annual inspection documentation

Insulation & Dielectric Testing

- Insulated vs. non-insulated components
- Qualification testing requirements
- Test documentation and standards compliance

Inspection & Structural Integrity

- Frequent and periodic inspections
- Lubrication requirements
- Major structural inspections
- Rotation bearing deflection testing
- Quick reference guides and maintenance schedules
- Load chart interpretation and verification

Hydraulic System Fundamentals

- Closed-center hydraulic system operation
- Pump operation and adjustment
- Load sense circuits and pressure compensation
- Pump case drain inspection and testing
- Hydraulic oil specifications and contamination control

Hydraulic Diagnostics & Troubleshooting

- Pump pressure and flow testing
- Load sense troubleshooting
- Solenoid valve diagnostics
- Check valves and pressure reducing valves
- High-pressure filters and oil cooling systems
- Hydraulic schematic interpretation

Enable, Interlock & Limit Systems

- Enable manifold operation
- Outrigger interlock systems
- Upper boom angle limits
- Lower boom extension interlocks
- Slow and stop systems
- On-center limit protection
- Load disable cartridges and limit manifolds

Upper Controls & E-Stop Systems

- Upper control operation
- Pilot assist pressures
- Option valve functions
- Atmospheric vent testing
- E-Stop system evolution and troubleshooting
- Emergency override functions

Electrical & Fiber Optic Systems

- Electrical schematics and diagnostics
- Fiber optic enable systems
- Transceivers and bulkhead connections
- Battery maintenance and testing
- Single-stick and individual control circuits
- Start/stop and two-speed control logic

Leveling Systems

- Automatic leveling theory of operation
- Legacy and current leveling systems
- Leveling controllers and sensors
- Generator charging systems
- Tilt switches and safety functions
- Leveling gearbox inspections
- Programming and zeroing procedures

Emergency Operations

- Manual letdown systems
- Emergency procedures
- Rotation brake release
- Auxiliary functions
- Recovery techniques following component failure

Load Charts & Capacity Management

- Load chart interpretation
- Jib capacity calculations
- Safe lifting practices
- Capacity planning exercises

Hands-On Workshop Activities (Hands-on activities may vary)

- Pump pressure and flow testing
- Hydraulic schematic exercises
- Electrical troubleshooting labs
- Fiber optic termination and repair
- Leveling controller calibration
- Manual letdown procedures
- Limit system testing and adjustment
- Load chart calculations and exercises