

Chapter 24

Cold Walk-Up Checklist

24.1 Approach & Situational Awareness

- Verify engine is **cold** (no pressure on gauge, no warmth at fittings).
- Ensure the engine is on stable ground with brakes set or wheels chocked.
- Check surroundings for hazards: loose tools, fuel containers, bystanders.

24.2 Boiler Exterior & Shell Inspection

- Inspect boiler barrel, firebox wrapper, and smokebox for:
 - Cracks, bulges, fresh rust streaks, or weeping seams.
 - Loose or missing stays, rivets, or fasteners.
- Check smokebox door fit and hinge condition.
- Confirm stack is clear of obstructions (birds, debris).

24.3 Water Level & Feedwater System

- Verify gauge glass is intact, valves open, and drains functional.
- Blow down gauge glass to confirm:
 - Water level responds correctly.
 - Top and bottom cocks are clear.
- Test try cocks (if fitted) for correct water/steam response.
- Inspect injector(s):
 - Check overflow pipe clear.
 - Confirm water supply valve moves freely.
- Inspect mechanical pump or crosshead pump for free movement.

24.4 Fittings & Valves

- Safety valve: ensure free movement of easing lever.
- Blowdown valve: verify closed and threads sound.
- Check throttle for full travel and smooth operation.
- Inspect whistle valve, blower valve, and cylinder cocks for free motion.
- Confirm pressure gauge glass is unbroken and pointer at zero.

24.5 Lubrication — Before Any Motion

- Fill displacement lubricator(s) with correct cylinder oil.
- Check mechanical lubricators for:
 - Oil level
 - Ratchet/pawl engagement
 - Free rotation
- Oil all motion points:
 - Crossheads
 - Slide bars
 - Valve gear joints
 - Eccentrics
 - Crank pins
 - Main bearings
- Check all drip cups and wicks for proper feed.

24.6 Motion Work & Running Gear

- Turn flywheel slightly by hand (if safe) to feel for:
 - Binding
 - Unusual resistance
 - Loose components
- Inspect:
 - Connecting rods
 - Valve rods
 - Eccentric straps
 - Steering gear
 - Differential and final drive
- Check wheel hubs and axle bearings for oil and tightness.

24.7 Firebox, Grate & Ashpan

- Open firedoor and inspect:
 - Grate condition
 - No clinker buildup
 - No foreign objects
- Check ashpan:
 - Empty
 - No smoldering material
 - Damper moves freely
- Confirm fusible plug is present and not weeping.

24.8 Draft Path & Tubes

- Verify smokebox is not packed with soot or ash.
- **Clean boiler tubes** as required:
 - Use appropriate tube brush or cleaner.
 - Ensure all tubes are clear of soot and obstructions.
- Check blower ring for blockage.
- Ensure damper and ashpan air controls operate smoothly.

24.9 Fuel & Water Readiness

- Confirm adequate water supply for:
 - Raising steam
 - Operating period
- Confirm adequate fuel (coal/wood) staged safely.
- Ensure fire tools are present and in good condition.

24.10 Pre-Light-Off Final Checks

- Water level at proper starting height.
- All lubrication points serviced.
- All valves in correct starting positions:
 - Cylinder cocks **open**
 - Throttle **closed**
 - Blower **closed**
- Firebox and ashpan clear.
- No loose tools on footplate or running boards.
- Operator has PPE: gloves, eye protection, hearing protection.

Engine is now ready for light-off.