



Tires, Steering & Brakes Inspection (Wheeled Excavators)

Tires, Steering & Brakes Inspection (Wheeled Excavators) interactive checklist. Commentable steps with evidence capture; export as PDF/Excel to prove safety, maintenance, and loading readiness.

Project:
Date:
Filled by:

Tires & Wheels	
1	Measure cold tire pressure on all wheels with a calibrated gauge; compare to the machine plate/manufacture data. Acceptance: within specified range (flag variance > ±10%). Record kPa per tire and photograph gauge and data plate.
2	Measure tread depth at inner, center, and outer ribs using a tire depth gauge. Acceptance: ≥ 8 mm or per manufacturer. Record mm per point; attach close-up photos with gauge visible.
3	Inspect sidewalls and tread for cuts, bulges, exposed cords, or repairs. Use a ruler to size damage. Acceptance: no structural damage; cuts > 10 mm or cord exposure unacceptable. Photograph with scale reference.
4	Check valve stems for cracks, leaks (soap solution), and caps with seals. Acceptance: no bubbling; caps fitted with intact O-rings. Capture macro photos; replace missing caps and note action.
5	Torque wheel lug nuts with a calibrated torque wrench to manufacturer N-m spec. Acceptance: within ±5% of specified torque. Record min/max N-m applied and add witness paint; photograph wrench reading and witness marks.
6	Inspect rims for cracks, distortion, rust jacking, or missing clips. Clean and use visual/flashlight; apply dye penetrant if suspected. Acceptance: no defects. Photograph rim edges and suspect areas post-cleaning.

Steering System	
7	Measure steering wheel free play at the rim using a ruler. Acceptance: ≤ 50 mm at rim or within manufacturer limit. Record mm and capture short video of measurement.
8	Check tie-rod ends and ball joints with a pry bar while an assistant holds steering steady. Acceptance: no measurable axial/radial play; boots intact. Photograph joints and any boot damage.
9	Inspect steering cylinder rods and seals; wipe clean, cycle steering lock-to-lock, then recheck. Acceptance: no fresh wetting or drip. Capture before/after photos of rod/seal areas.
10	Verify steering pump and hose connections for secure fittings and chafe guards. Measure hydraulic pressure at the steering test port with a calibrated gauge. Acceptance: within spec ±10%. Record MPa and photograph gauge.
11	Function-test oscillating axle lock (if equipped): engage/disengage per manufacturer procedure. Acceptance: smooth operation; indicator lamp active. Record engagement time and attach photo of indicator status.

Braking System	
12	Inspect brake lines/hoses for abrasion, kinks, or contact points. Ensure clearance ≥ 10 mm from sharp edges; add protection if needed. Acceptance: no damage, proper routing. Photograph representative hose runs.
13	Check service brake accumulator/pressure via test port using a calibrated gauge. Acceptance: within manufacturer range. Record MPa; photograph gauge and test point.
14	Service-brake stop test on level, dry surface from ~ 10 km/h. Acceptance: straight stop without pull, vibration, or squeal; stopping distance aligns with manufacturer data. Record distance in metres and attach video if safe.
15	Parking brake hold test on a 15% gradient (or approved ramp). Chock wheels as backup. Acceptance: no movement for 5 minutes in neutral. Record gradient and time; capture video/photo evidence.
16	Measure brake pedal travel from rest to firm point with a ruler. Acceptance: within spec, typically \leq two-thirds of full stroke. Record mm and photograph the measurement.

Road Lights & Signaling (If Applicable)	
17	Verify headlamps (low/high), indicators, brake lights, tail and reverse lights, horn, and mirrors. Use an assistant to confirm functions. Acceptance: all illuminate/sound correctly; lenses not cracked. Photograph each function.
18	Check rotating beacon and hazard lights required for roading per approved project specifications and authority requirements. Acceptance: beacon visible 360° . Capture photo/video in operation.
19	Aim headlamps using a flat wall/aiming board at 10 m. Acceptance: beam cut-off within manufacturer vertical/horizontal offsets. Record offsets in mm and photograph the board.

Axles & Drivetrain	
20	Inspect axles, differentials, and hub reductions for leaks. Clean, run machine 5 minutes, recheck for fresh wetting or drips. Acceptance: dry surfaces, no drips. Photograph before/after.
21	Check differential and hub reduction oil levels via dipstick/fill plugs. Acceptance: within marks/level points. Record litres added if topped up; photograph plugs and dipstick.
22	Inspect driveshaft U-joints, yokes, and guards; rotate shaft by hand to feel play. Acceptance: no looseness > 0.2 mm; guards secure. Torque guard fasteners to spec and record N·m; attach photos.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
<p>Tires, Steering & Brakes Inspection (Wheeled Excavators) provides a focused, job-ready process for confirming tire condition, steering responsiveness, and brake performance on roadable excavators. This practical guide also covers a wheeled excavator brake test, steering system check, road lights verification when applicable, and checks for axle and drivetrain leaks. The scope is limited to mobile safety-critical systems; it excludes boom, upperstructure hydraulics, and electrical diagnostics unrelated to roading. Following it reduces puncture-related downtime, irregular tire wear, steering wander, and hazardous rollaway or insufficient stopping. You will capture readings in kPa, N-m, MPa, and mm, with photos and signatures that stand up to audits. Acceptance cues emphasize manufacturer specifications, visual evidence of no fresh wetting, controlled stopping characteristics, and dependable signaling for on-road moves per approved project specifications and authority requirements. Start the interactive mode to tick items, add comments, and export results to PDF or Excel using the built-in QR code for verification.</p>	<p>1. Preparation: Park on level ground, apply parking brake, chock wheels, and isolate hydraulics. Wear PPE (hard hat, visor, gloves, eye protection). Gather calibrated pressure gauge (kPa), torque wrench (N-m), hydraulic pressure kit (MPa), tread gauge, pry bar, lighting board, cleaning rags, and camera-enabled device. 2. Open the interactive checklist, select the machine ID, and review manufacturer specifications from the data plate/manual. Enable location and time stamps. Affix or scan the machine's QR code to associate records. 3. Execute items in order. Enter readings (kPa, mm, N-m, MPa), attach photos/videos of gauges and components, and tag nonconformances. Use comments to note causes, temporary controls, and required parts. 4. Use the commentable workflow to request supervisor review for out-of-tolerance findings. Assign corrective actions, due dates, and responsible persons. Recheck and close actions with evidence attachments. 5. Using the Interactive Checklist: Toggle tick boxes as you complete steps, add annotations on photos, and link reference documents. Validate mandatory fields before proceeding to the next section. 6. Export and Share: Generate a report and export as PDF/Excel, including media and signatures. Share with maintenance, operations, and compliance teams. 7. Sign-Off and Archive: Capture digital signatures from inspector and supervisor. Archive records with QR authentication for future audits and preventive maintenance planning.</p>