

■ Proximity Sensor Fault Diagnosis Checklist

Work through each section in order. Most faults are resolved by Step 3. Mark each check complete before moving to the next section. Record findings in the Notes column — these are useful for FORS maintenance evidence.

STEP 1 — CHECK FOR CONTAMINATION

Symptoms: intermittent detection failures; clears after vehicle wash

- ☐ Visually inspect sensor face — look for mud, grease, oil mist, compacted road film
- ☐ Clean sensor face with lint-free cloth and mild degreaser
- ☐ Remove sensor from housing and clean back face if mud-packed

High-contamination environments: construction, waste, agriculture

- ☐ Re-test detection: walk test yellow zone (2–3m) and red zone (0–1.5m)
- ☐ If fault recurs within days: schedule monthly cleaning cycle for this vehicle

STEP 2 — INSPECT WIRING AND CONNECTORS

Symptoms: works at depot, fails on road; intermittent faults; zone goes dead after wash or cold spell

- ☐ Inspect full cable run from sensor to controller — look for cracked insulation
Pay attention to chassis-mount points where cable flexes under vibration
- ☐ Check grommets and cable entry points into vehicle body for moisture ingress
- ☐ Inspect cable near heat sources: exhaust routing, engine bay proximity
- ☐ Check all connector pins — look for corrosion, bent pins, poor seating
Common on vehicles in coastal environments or regular road salt exposure
- ☐ Inspect any previous field repair splices for corrosion or insulation failure
- ☐ Test continuity with multimeter: reading ≥ 500 ohms = healthy; below = cable break or pin fault

STEP 3 — CHECK EARTH / GROUNDING

Symptoms: multiple zones triggering simultaneously; faults shift between zones on successive runs; worse when warm

- ☐ Measure resistance: controller earth terminal to vehicle chassis ground — should read ~ 0 ohms
Any reading > 0.5 ohms indicates degraded earth path
- ☐ Clean earth connection point back to bare metal
- ☐ Re-terminate with proper ring terminal — not self-tapping screw into painted surface
- ☐ For trailer configurations: check tractor-to-trailer earth cable (if fitted)
If relying on body-to-chassis contact only, fit a dedicated earth cable
- ☐ Re-test all sensor zones after earth repair

STEP 4 — VERIFY ALIGNMENT AND MOUNTING

Symptoms: rear sensor triggers immediately on reverse; nearside zone has dead area not present at installation

- ☐ Check rear sensors are horizontal and pointing rearward — not angled at ground
Angle toward ground = triggers on towbar, step, or ground surface
- ☐ Check side sensors are parallel to vehicle body — not rotated outward
- ☐ Tighten all mounting hardware to spec — not finger-tight
Vibration at motorway speed will work loose finger-tight fixings within weeks
- ☐ Walk test after re-alignment: yellow zone 2–3m, red zone 0–1.5m
- ☐ Document walk test result for FORS maintenance evidence

STEP 5 — CHECK CONTROLLER AND DISPLAY

Symptoms: no cab alerts even when object is close; controller indicator off or fault code showing; all zones dead simultaneously

- ☐ Check controller power supply voltage (12V or 24V per vehicle spec)
- ☐ Check controller fuse — replace if blown; investigate why if repeatedly blowing
- ☐ Check data cable connection between controller and cab display
Loose display connections are common after cab layout modifications
- ☐ Connect diagnostics laptop if supplier software is available — read fault codes
Fault codes pinpoint component — avoids guess-and-replace approach
- ☐ If controller fuse blows repeatedly: check for short circuit in sensor cable run before replacing controller

REPAIR vs REPLACE DECISION GUIDE

Fault type	Action
Contamination / alignment / mounting	Repair — maintenance issue, not failure
Single connector or earth point fault	Repair — clean and re-terminate
Cable run with cracked insulation along length	Replace full cable run — don't splice
Controller module fault	Replace controller — board repair not cost-effective
Individual sensor component failure	Replace sensor unit only