

NDT Inspection Checklist

What non-destructive testing involves and how to prepare your machine — for owners and fleet managers.

Non-destructive testing (NDT) finds cracking and defects in structural and critical components that a visual inspection alone cannot. It is a core part of a thorough periodic and major inspection under the AS 2550.10 framework. This guide explains the common methods, the areas typically examined, and how to prepare so the inspection runs smoothly.

COMMON NDT METHODS

- Visual inspection — the trained-eye baseline that guides where other methods are applied.
- Magnetic particle inspection (MPI) — reveals surface and near-surface cracks in ferrous components.
- Dye penetrant testing — highlights surface-breaking defects on suitable materials.
- Ultrasonic testing (UT) — uses sound to assess sub-surface conditions and thickness.

AREAS TYPICALLY EXAMINED

- Boom welds and boom section joints.
- Pins, bosses and pivot points.
- Slew ring and turntable area.
- Chassis and sub-frame attachment points.
- Cylinder mounts and other highly stressed connections.

Which methods are applied, and to which components, is determined by the competent person carrying out the inspection, based on the machine's design, history and duty cycle. Acceptance criteria follow the applicable standard and the manufacturer's requirements.

OWNER PREPARATION CHECKLIST

- ☐ Machine cleaned — degrease and remove dirt from areas to be tested so surfaces can be examined.
- ☐ Logbook, service history and previous inspection reports available.
- ☐ Records of any prior structural repairs or weld work provided.
- ☐ Safe access arranged to the components being examined.
- ☐ Machine positioned and configured as the inspector requests.
- ☐ Any known concerns or intermittent faults flagged to the inspector up front.

Preparing well shortens the time the machine is off-line and helps the inspector focus on assessment rather than making the machine ready.

