

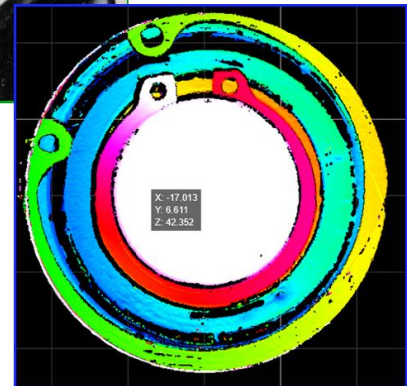
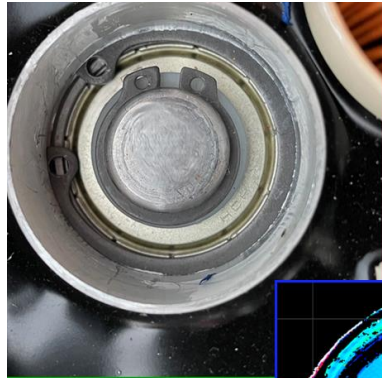
3D Position & Seating Ring Inspection of Retaining Rings

Our 3D retaining ring inspection enables reliable verification of the correct position and installation depth of circlips and retaining rings that secure a shaft within a housing. Immediately after installation by the operator, a compact 3D snapshot sensor captures the mounted ring and precisely evaluates its depth position.

Assembly errors such as incorrectly positioned, not fully seated, or height-deviating circlips and retaining rings are reliably detected. This allows assembly errors to be avoided early on and effectively prevents potential downstream damage in further production or operational processes. The operator receives immediate feedback on the inspection result and can correct deviations directly, without interrupting the process.

The retaining ring inspection remains reliable and stable even with different component variants featuring varying height positions. No mechanical retooling is required, which significantly increases flexibility in the assembly process and reduces changeover times. The intuitive, operator-guided operation ensures the system is perceived as active support and integrates seamlessly into existing workflows.

Thanks to non-contact 3D measurement technology, the solution operates independently of disruptive ambient light and delivers consistent inspection results even under demanding production conditions. The result is a robust, reliable retaining ring inspection process that increases quality while boosting efficiency and process reliability.



Compact. 3D. Reliable. Circlips and retaining rings reliably inspected.

Customer Quote

“Our operators experience the system as optimal support in the assembly process. They receive direct feedback on which retaining ring is not correctly mounted and why. This means even NOK-rated components can be reworked immediately, so that all parts subsequently pass as OK.”

Technical Highlights & Benefits

Assembly Inspection	■ Reliable inspection directly within the assembly process
Glare-Free Illumination	■ No disruptive or glaring light for the operator
Variant Flexibility	■ Flexible inspection of different component and height variants
Compact System Design	■ Small, space-saving system for easy integration
3D Depth Inspection	■ Precise determination of position and installation depth
Operator-Guided Inspection Process	■ Targeted inspection triggered by the operator
Static Mounting	■ Sensor fixed above the component. No traversing system required
Cost-Optimized Solution	■ Reasonable investment cost with high inspection reliability