

**SET OF ULTRASONIC
TRANSDUCERS
FOR TESTING
AIRCRAFT
COMPONENTS
WHILE USING
ULTRASONIC FLAW
DETECTORS
SONOCON B
and UD3-71**



CE MARKING
EN 12668-1 Compliant
EN 12668-2 Compliant

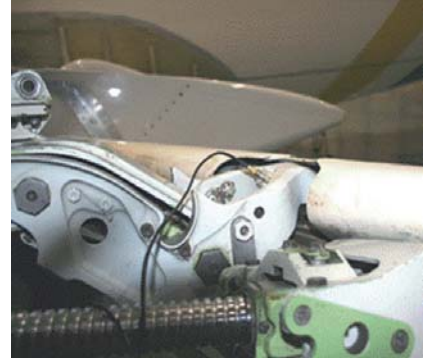


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TRANSDUCERS FOR TESTING THE AIRCRAFT WING COMPONENTS AND FLAPS

- TESTING THE SPINDLES OF SLIDING ASSEMBLIES

To test the spindles of sliding assemblies placed on the middle section of outer airplane flap, P111-5-P6-MM-004 transducers with a special profile wedge, which have been set up on the NDT3038 calibration block are used.



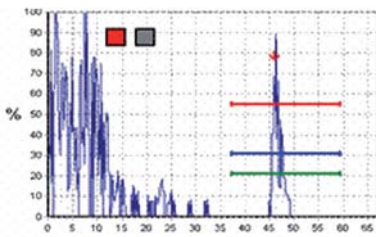
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- TESTING THE AREAS OF TWO EARS OF "ACTUATOR BEAM ARM"

Testing is carried out from the cylindrical surface by special transducer, including several wedges with various refracted shear angles into the inspected part, and special-applicant small-sized resonator with the frequency of 5 MHz.



P111-5-P6-MM-003 transducers are applied. Set up is carried out by artificial reflectors of NDT3023 calibration block.

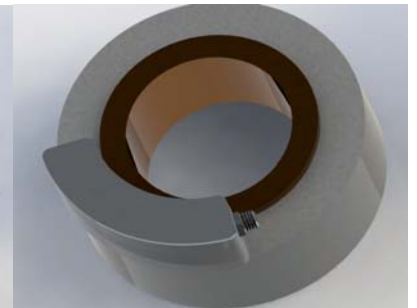
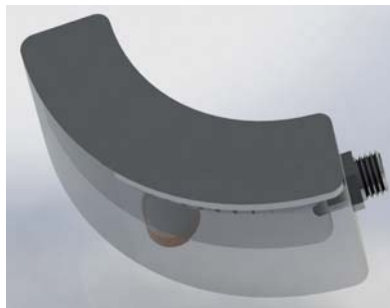
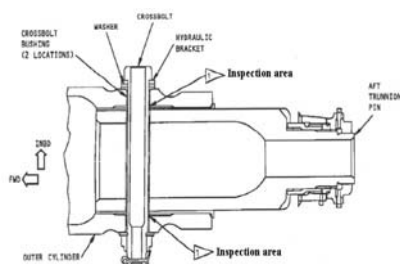


PROBES FOR TESTING LANDING GEAR COMPONENTS OF AIRCRAFT

- TESTING THE CROSSBOLT HOLE OF MAIN LANDING GEAR OUTER CYLINDER OF BOEING 767

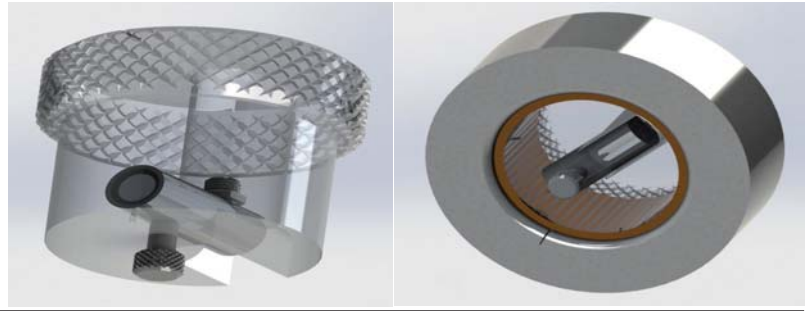
Testing the main landing gear outer cylinder on the inside diameter of the outer cylinder at the location of a crossbolt hole is carried out with a 5 MHz frequency transducer. The crystal is set at an angle to give a 35 degree refracted shear angle in steel. The transducer case has a 0.985 inch radius to fit the outer diameter of the crossbolt bushing during the scanning.

The rejection sensitivity is calibrated at the 0.15 x 0.15 inch reflector of the NDT636 calibration block. Crack-like defects developing as corrosive depressions on the inside surface of the outer cylinder are bound for testing.



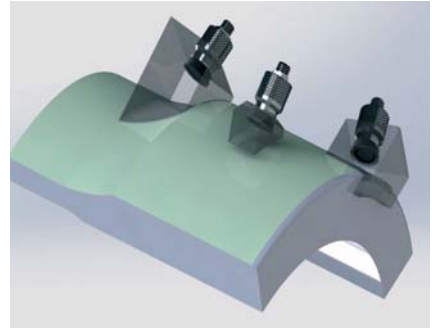
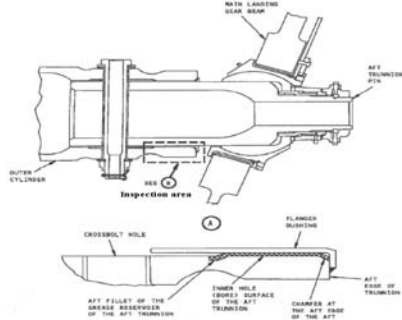
- **TESTING THE THICKNESS OF THE BUSHING INSTALLED AT THE CROSSBOLT HOLE OF THE BOEING 767 MAIN LANDING GEAR**

Testing is carried out using longitudinal sound beams of a 5 MHz frequency transducer with a cylindrical case. Thickness gauge is set up on the NDT636 calibration block. During the testing the transducer is put in the bushing hole.



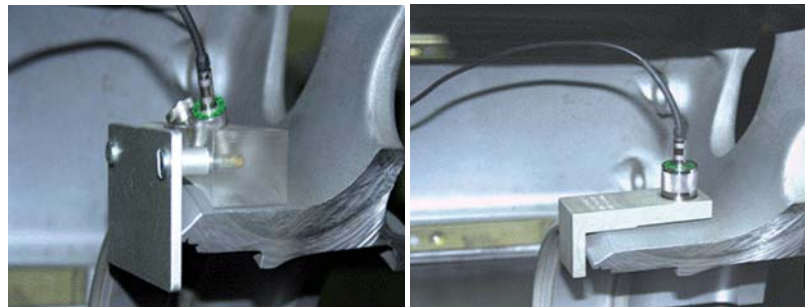
- **TESTING THE CHAMFER, INNER SURFACE FROM THE AIRCRAFT GREASE RESERVOIR TO THE AIRCRAFT EDGE OF THE TRUNNION AND THE AIRCRAFT FILLET OF THE GREASE RESERVOIR THAT IS BOEING 767 OF THE CROSS-BOLT HOLE.**

Testing is carried out with a 5 MHz frequency transducer with a set of a quick-change style wedges. The rejection sensitivity is set up on the NDT637 calibration block.



- **TESTING THE WHEEL HUB**

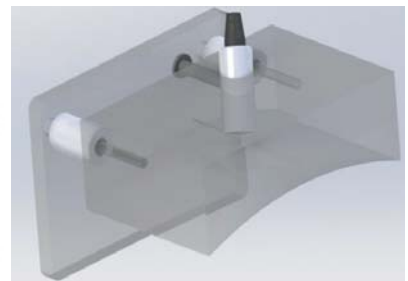
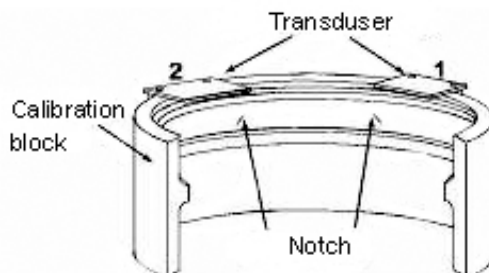
Applied two P111-5-P6-R-003 transducers and one P111-5-P6-R-005 transducer which are put in special holders for testing.



- **TESTING THE MOUNTING SEATS OF HUB BEARING UNITS**

Mounting seats of hub bearing units are tested in two ways:

– by longitudinal waves in the thrust shoulder area and by shear waves in the area of bearing body mounting site. Special transducers are used for the testing, consisting of 5 MHz resonator, special-applicant wedges with scanning assemblies allowing to carry out the scanning in a given area and with given parameters of ultrasonic waves introduced into the tested object.

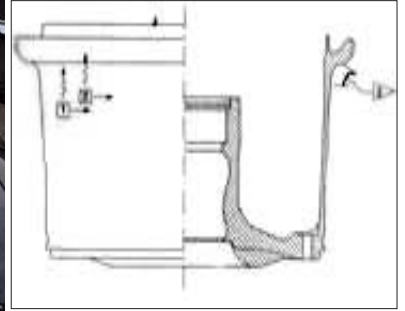


- **TESTING THE AIRCRAFT WHEEL DISKS**

Testing the fillets from the cylindrical surface to the thrust shoulder of wheel disks is carried out by surface 2.25 MHz frequency transducers.

Setting up and checking-up the instrument is carried out on the calibration block, where (in the fillet area) reference reflectors are made.

The similar signal amplitudes from the reference reflector are achieved using Time Corrected Gain of the flaw detector (TCG system).



- **TESTING THE CAP SCREWS OF A WHEEL HUB**

Conducted in immersion mode in immersion tank. Testing is carried out with immersion transducers (bubblers) with a frequency from 2 MHz to 10 MHz. Set up of acceptance levels for each testing area (at starting point of the threaded portion, in middle threaded portion, at a fillet to the bolt hole) is carried out on the bolt calibration blocks for each tested dimension type.



TRANSDUCERS FOR TESTING THE AIRCRAFT FUSELAGE COMPONENTS

- **THE REAR PRESSURE BULKHEAD**

Special P121-10-70-MM transducer is used for testing. The transducer is set up on the NDT3001 calibration block which represents a plate of 2024 Aluminium Alloy with 0.81 mm thickness. Surface wave is generated in the calibration block which is reflected from the edge that simulates a crack in this case.

Testing technique allows to detect cracks at a distance of about 28 mm from the transducer front edge.



Together with new generation of up-to-date Sonocon B and UD3-71 flaw detectors the Customer has the opportunity to register the testing results - to record A-Scan images of the flaw detector screen, or, in other words, to memorize defectograms.

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