Australian Government
Civil Aviation Safety Authority

AIRWORTHINESS BULLETIN

Main Wheel Hub Repairs - NDT

AWB 32-004 **Issue** : 1
Date : 17 August 2005

Effectivity

Aircraft wheels repaired by insertion of a bushing in an oversized machined bearing recess.

Purpose

The purpose of this AWB is to advise operators and maintenance organisations on the requirement for maintenance programs to take into account the possibility of the need for extra periodic inspection of wheel hubs that have had certain types of repairs carried out.

Background

During routine maintenance a Boeing 727 main wheel hub was found to be cracked through the central hub body around the inboard bearing. The hub had been repaired by an approved method of insertion of a bushing in an oversized machined bearing recess.

There have been reports of other failures of wheels that resulted from inadequate or improper machining of wheel hubs during this type of repair.

Recommendations

CASA recommends that operators should consider inclusion in the maintenance program periodic inspection of the machined area of wheel hubs that have had this type of repair carried out.

This applies specifically to Boeing 727 main wheel hubs (BF Goodrich P/N 3-1306 series and 3-1414) that have been repaired, however, it should be considered for other wheels that have had similar repairs.

Note:
A crack under the bearing cup of the 727 BF Goodrich P/N 3-1306 series and 3-1414 wheel can not be found by eddy current or penetrant inspection.

BF Goodrich SL 1714 describes how cracks can be found under the bearing cups using an ultrasonic examination procedure.

Enquires

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