

ALERT SERVICE BULLETIN

Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO. 205-02-88

DATE Nov 26, 2002

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DATE
REV

MODEL AFFECTED: 205A-1

SUBJECT: MAIN ROTOR GRIPS 204-011-121-117,
ULTRASONIC INSPECTION OF.

HELICOPTERS AFFECTED: All Model 205A-1 Helicopters

COMPLIANCE: No Later Than January 30, 2003

DESCRIPTION:

Bell Helicopter has evaluated instances of M/R lower grip tang cracks in the area of the blade retention bolt-hole. In two of these instances the cracks resulted in severe M/R imbalance, which required the subject aircraft to land. At normal inspection intervals other grips have also been found with cracks around the lower grip tang blade retention bolt-hole. Most of these instances were determined to be caused by corrosion or mechanical damage in the blade bolt bore of the grip under the blade bolt bushing. The instruction to replace the blade bolt bushings will be removed from the Bell-205A-1-CR&O manual. From this date forward, only Bell Helicopter or Bell approved facilities are authorized to replace the subject bushings.

The origin of these cracks on the grip tang is subsurface, on the inside diameter of the blade bolt bore. This bore however is "bushed" and cannot be visually inspected. Exhaustive research to determine a feasible inspection method has determined that ultrasonic inspection of this area is the only acceptable inspection to determine serviceability.

To insure continued serviceability of the 204-011-121-117 M/R grips, Bell Helicopter introduces this Alert Service Bulletin to ultrasonically inspect the grip tangs. Inspection intervals will be every 150 hours or 600 Start/Stop cycles which ever occurs first. This inspection is required on all -117 grips with 4000 or more hours, time in service.

Two methods of inspection are available for operators. The first and preferred method is for the grips to be inspected by a qualified ultrasonic NDT level II or III individual in accordance with the attached procedure. Alternately, operators may have their qualified aircraft maintenance technicians attend an Ultrasonic Level I Special

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Inspection course that will be conducted on a need basis. Operators may also send one Ultrasonic NDT qualified Level II or III individual to the course and then this individual would then be qualified to train operators maintenance technicians at their convenience and base of operation.

Maintenance technicians that attended the Ultrasonic Level 1 Special Inspections course on the 204-011-121-009 and –121 grips are also qualified to do the inspection on the 204-011-121-005-117 grips.

Operators are encouraged to refer to the Information Letters 205A1-00-22 for additional information. Please note the existing 25-hour visual inspection is still required per ASB 205-95-61.

APPROVAL:

The engineering design aspects of this bulletin are FAA/DER approved.

MANPOWER:

Approximately 1 man-hour is required to complete this bulletin. Man-hours are based on hands-on time, and may vary with personnel and facilities available.

MATERIAL:

Required Material:

The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Helicopter Textron Supply Center. With the exception of the Calibration Standard, which is made by Bell Helicopter, these tools may also be obtained through KrautKramer Branson Ph: 717-242-0327, Fax: 717-242-2606.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
USM22B	Test Set	1
389-025-070	Transducer	1
362-001-210	Wedge	1
118-140-012	Cable	1
UT-010-057	Calibration Standard	1

Consumable Material:

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
118-300-500	Couplant	1	

SPECIAL TOOLS:

None required

WEIGHT AND BALANCE:

Not Affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-205A1 -IPB Illustrated Parts Breakdown
BHT-205A1 –MM Maintenance Manual
BHT-205A1 –CR&O Overhaul Manual
Alert Service Bulletin 205-95-61
Information Letter 205A1-00-22

PUBLICATIONS AFFECTED:

BHT-205A1 - MM Maintenance Manual
BHT-205A1 –CR&O Overhaul Manual

ACCOMPLISHMENT INSTRUCTIONS:

1. All main rotor grips 204-011-121-117 with 4000 hours or more Time In Service (TIS) are to be ultrasonically inspected every 150 hours or 600 start/stop cycles which ever occurs first. All 204-011-121-117 grips with less than 4000 hours TIS do not require inspection until reaching 4000 hours.

-NOTE-

If flight hours cannot be determined assume 900 hours per year that component has been installed.

2. The following ultrasonic inspection can only be accomplished by individuals that have been qualified to perform the inspection in accordance with either Method 1 or Method 2.

-NOTE-

A Start /Stop Cycle is defined as any time the aircraft engine is started followed by a shut down.

Method 1

Operators that have available in their respective geographic location an Ultrasonically qualified level II or III NDT technician are to inspect the lower grip tang in accordance with the ultrasonic inspection requirements attached. This inspection procedure has been developed by Bell Helicopter, NTD Level III personnel, specifically for Ultrasonically qualified level II or III Individuals per ATA 105.

Method 2

Operators that do not have access to a qualified Level II or III technician may send their aircraft maintenance technicians to a specifically designed course that Bell Helicopter will conduct on an as needed basis. This 2 day course is designed to train aircraft maintenance technicians in specific requirements to inspect the grip tang ultrasonically. This training then qualifies the maintenance technician to a NDT level one special qualification. For information on course, contact Product Support Engineering. Alternately, operators may send one Ultrasonically qualified level II or III individual to this training course. This would then qualify this individual to train aircraft maintenance technicians to the level one special qualification at the operators convenience and their base of operation.

-NOTE-

Disassembly of the aircraft or removal of the paint from the grip tang is not necessary. Only clean lower grip tang surfaces of any grease or other contamination.

3. Inspection is accomplished on both lower grip tangs installed on the aircraft. Ultrasonically inspect P/N 204-011-121-117 grips every 150 hours or 600 start/stop cycles whichever comes first.
4. Any indication of a crack in accordance with the instructions will require the grip to be removed from service and a serviceable grip installed. If, the grip was inspected by a Level one special inspector the unserviceable grip is to be sent to a facility that has level II or III ultrasonic capability for further investigations. All grips that have a crack indication that have been inspected by a level II or III are to be sent to Bell Helicopter. Please contact Product Support if shipping instructions are required.
5. Annotate records to indicate compliance with this bulletin.