Bell Model 206A JetRanger

Bell Model 206B JetRanger-II

TEMPORARY REVISION FOR CONDITIONAL INSPECTION (SUDDEN STOPPAGE)

MAINTENANCE and OVERHAUL INSTRUCTIONS

NOTICE

The purpose of this temporary revision is to clarify the sudden stoppage inspection.

The new sudden stoppage inspection introduces and defines sudden acceleration and adds to the inspection requirements for tail rotor driveshafts with bonded couplings whenever the powertrain is subjected to a sudden stoppage/acceleration incident.

Bell Helicopter TEXTRON
Division of Textron Inc

Post Office Box 482 • Fort Worth, Texas 76101

1 JUNE 1974
TEMPORARY REVISION — 9 MAY 1994

LIST OF EFFECTIVE PAGES

Insert temporary revision pages facing affected page(s).

Temporary Revision . . . .9 May 1994

Page No.	Revision No.	Page No.	Revision No.	Page No.	Revision No.
Title	Temporary				
A	Temporary				
1-147 — 1-148	Temporary				
1-148A — 1-148B	Temporary				
1-149 — 1-150	Temporary				
1-150A — 1-150B	Temporary				
1-151	Temporary				

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
Date _____	Signature _____	HELICOPTER HOURS _____

1-43B. SUDDEN STOPPAGE/ACCELERATION — MAIN ROTOR	COMPONENT TIME	INITIAL
Sudden stoppage/acceleration is defined as any rapid deceleration or acceleration of the torsional drive system whether caused by seizure within the helicopter drive system, or by contact of the main rotor blade(s) with the ground, water, or with a foreign object of sufficient inertia to cause rapid deceleration; or a sudden freewheeling clutch engagement, a compressor stall causing rapid acceleration.		
NOTE Components removed from helicopter for evaluation following a sudden stoppage/acceleration shall be evaluated as an interrelated group. Removal records accompanying each component shall cross reference part and serial numbers of other drive system components removed for evaluation.		
1. After sudden stoppage inspect main rotor blade as follows:		
a. Inspect blade skin and bonded doublers for visible damage.		
b. Remove tip cover plate from both main rotor blades.		
c. Check tip weights. If any movement of tip weights has occurred blade shall be scrapped.		
2. After sudden stoppage of the main rotor, remove both main rotor blades. Send blades to a Bell Helicopter approved blade repair facility for evaluation.		
3. Remove the following components and visually inspect for evidence of torsional yielding, deformation, cracks, or other obvious damage that would render them nonreparable. Conduct an overhaul and special accident/incident inspection of these components. Refer to Section II.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43B. SUDDEN STOPPAGE/ACCELERATION — MAIN ROTOR (Cont)	COMPONENT TIME	INITIAL
NOTE If main rotor mast was severed during main rotor sudden stoppage/acceleration, the main rotor hub assembly must be considered unserviceable and scrapped. a. Main rotor hub assembly. **NOTE** If main rotor mast was severed during a main rotor sudden stoppage/acceleration with the engine operating the main rotor mast has sustained torsional yielding. b. Concurrently with mast assembly overhaul, accomplish the following inspections: **NOTE** Cadmium plating on outside (O.D.) of the mast is 0.0003 to 0.0004 inch (0.008 to 0.010 mm). When measuring the mast O.D. at six places for out-of-round, ensure that 0.0003 to 0.0004 inch (0.008 to 0.010 mm) differential is considered when measuring plated surfaces or when plating may have been removed. (1) Using a suitable micrometer, measure the mast outside diameter (O.D.) at a minimum of six places for out-of-round condition: two opposing measurements under the collar set and above the swashplate, two opposing measurements midway between the collar set and the static stop contact area, two opposing measurements approximately 2 inches (50.8 mm) below the static stop contact area on the mast. If any set of opposing measurements vary in excess of 0.002 inch (0.05 mm), the mast is suspected and a total indicated runout (TIR) check must be performed. If (TIR) is out of limits, the mast shall be considered having sustained torsional yielding.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43B. SUDDEN STOPPAGE/ACCELERATION — MAIN ROTOR (Cont)	COMPONENT TIME	INITIAL
CAUTION If main rotor mast has evidence of torsional yielding, the mast assembly, transmission assembly, main driveshaft, and freewheeling assembly (outer race, inner race, and clutch) shall be considered unserviceable and scrapped. Major damage to the mast assembly other than torsional yielding requires replacement of transmission top case. If transmission top case has to be scrapped, pylon mount spindles and mast **BEARINGS** shall also be scrapped. (2) Torsional yielding may be detected by measuring the offset between the mast splines above and below the main rotor trunnion split cone groove by sliding a straight edge across the upper and lower unworn face of the spline (coast side of the spline). c. Transmission assembly. d. Swashplate assembly. **NOTE** Replace all control bolts from hydraulic servoactuator to main rotor hub. e. Control tubes. f. Pitch link assemblies. g. Freewheeling assembly. h. Main driveshaft assembly. i. Isolation mount, pylon links, and support fittings. j. Inspect transmission isolation mount, transmission support fittings, and fuselage attachment points for cracks.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43B. SUDDEN STOPPAGE/ACCELERATION — MAIN ROTOR (Cont)	COMPONENT TIME	INITIAL
k. Inspect engine mounts at fuselage attachment points for cracks. **NOTE** If a tail rotor driveshaft failed as a result of torsional overload, "ALL" hangers, driveshafts, adapters, impellers and disc couplings shall be considered unserviceable and scrapped. Inspect hanger attachment points for cracks and distortion. Overhaul tail rotor gearbox to ensure airworthiness. Refer to Section VI. If a tail rotor driveshaft has been damaged by main rotor strike or damaged other than torsional overload, "ALL" bonded tail rotor driveshafts, plus the hanger assemblies, adapters, and disc couplings fore-and-aft of the damaged area shall be considered unserviceable and scrapped. Inspect remaining hanger assemblies, adapters, and disc couplings according to steps m. and n. Inspect hanger attachment points for cracks and distortion.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43B. SUDDEN STOPPAGE/ACCELERATION — MAIN ROTOR (Cont)	COMPONENT TIME	INITIAL
l. Inspect tail rotor driveshafts for out-of-round condition and distortion or bowing exceeding the limits specified. If any defect is detected, scrap all bonded tail rotor driveshafts. Refer to Section VI. m. Inspect tail rotor driveshaft steel adapters for cracks using magnetic particle inspection method. n. Inspect tail rotor driveshaft hangers, and disc couplings and aluminum driveshaft adapters using fluorescent penetrant inspection method. Refer to BHT-ALL-SPM . 4. In addition to steps 3., l.thru n., and related notes, all bonded tail rotor driveshafts shall be considered unserviceable and scrapped, if during a sudden stoppage/acceleration inspection any of the following conditions which are attributable to the sudden stoppage/acceleration are noted: a. Any impact damage to a main rotor blade leading or lower skin, or any main rotor blade skin buckling or tears. b. Main rotor mast is sheared, power on or off. Mast shows indication of torsional yielding, out-of-round, or total indicated runout (TIR) check exceeds limits. c. Any deformation of any coupling disc which results in gaps between laminates greater than 0.015 inch (0.381 mm). d. Structural failure or distortion of any coupling disc bolts. e. Structural failure or distortion exceeding the specified limits of the tail rotor driveshaft steel or aluminum adapters. 5. Refer to Allison 250-C20 Series and Maintenance Manual, 10W2 for Sudden Stoppage inspection requirements.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
Date _____	Signature _____	HELICOPTER HOURS _____
1-43C. SUDDEN STOPPAGE/ACCELERATION — TAIL ROTOR	**COMPONENT TIME**	**INITIAL**
Sudden stoppage/acceleration is defined as any rapid deceleration or acceleration of the torsional drive system whether caused by seizure within the helicopter drive system, or by contact of the tail rotor blade(s) with the ground, water, or with a foreign object of sufficient inertia to cause rapid deceleration; or a sudden freewheeling clutch engagement, a compressor stall causing rapid acceleration.		
CAUTION Damage to tail rotor blade assembly could be present although it may not be readily detected by standard visual, dimensional, and magnetic particle or fluorescent penetrant inspection methods.		
NOTE Components removed from helicopter for evaluation following a sudden stoppage/acceleration shall be evaluated as an interrelated group. Removal records accompanying each component shall cross reference part and serial numbers of other drive system components removed for evaluation.		
1. Remove and scrap tail rotor hub and blade assembly.		
2. Overhaul the following components.		
a. Tail rotor gearbox assembly.		
b. Freewheeling assembly.		
c. Main driveshaft assembly.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43C. SUDDEN STOPPAGE/ACCELERATION — TAIL ROTOR (Cont)	COMPONENT TIME	INITIAL
d. Tail rotor pitch change mechanism. 3. Inspect all tail rotor driveshaft, impeller, steel and aluminum adapters, flexible coupling discs, and hangers using magnetic particle or fluorescent penetrant methods. Refer to Section VI and BHT-ALL-SPM. 4. Visually inspect shafts for evidence of twisting. Check for out-of-round and total indicated runout (TIR) exceeding specified limits. Inspect the bonds between the tail rotor driveshaft and bonded adapter for integrity. If any defect is detected, scrap all bonded tail rotor driveshafts. 5. Inspect tail rotor hanger support at tailboom and fuselage attachment points for cracks. 6. Inspect tail rotor hanger supports for cracks and distortion. **NOTE** If a tail rotor driveshaft failed as a result of torsional overload, "ALL" hangers, driveshafts, adapters, impeller and disc couplings shall be considered unserviceable and scrapped. Inspect hanger attachment points for cracks and distortion. Ensure airworthiness of tail rotor gearbox by conducting a major overhaul. If a tail rotor driveshaft has been damaged by main rotor strike or damaged other than torsional overload, "ALL" bonded tail rotor driveshafts, plus the hanger assemblies, adapter, and disc couplings fore-and-aft of the damaged area shall be considered unserviceable and scrapped. Inspect remaining hanger assemblies, adapters, and disc couplings using magnetic particle or fluorescent penetrant inspection whichever is applicable for cracks and distortion.		

CONDITIONAL INSPECTION

REGISTRATION NO._____

INITIAL ITEMS FOR AIRWORTHINESS		
1-43C. SUDDEN STOPPAGE/ACCELERATION — TAIL ROTOR (Cont)	COMPONENT TIME	INITIAL
7. In addition "ALL" bonded tail rotor driveshafts shall be considered unserviceable and scrapped, if during a sudden stoppage inspection any of the following conditions which are attributable to the sudden stoppage are noted: Refer to Section VI. a. Any impact damage to a tail rotor blade leading edge or skin, or any tail rotor blade skin buckling or tears. b. Any deformation of any coupling discs which results in gaps between laminates greater than 0.015 inch (0.381 mm). c. Structural failure or distortion of any coupling disc bolts. d. Structural failure, or distortion exceeding the specified limits of the tail rotor driveshaft steel or aluminum adapters. 8. Inspect tailboom area of tail rotor gearbox mounting studs for cracks. 9. Inspect the four tailboom attachment points for cracks, distortion damage, and security. Check torque on nuts of tailboom attachments bolts. 10. Inspect tailboom internally for cracks, distortion, and loose or missing rivets. Check external skin of tailboom for cracks and waviness paying particular attention to area of horizontal stabilizer and attachment points of vertical fin. Refer to BHT-206-SRM-1 . 11. Inspect horizontal stabilizer for cracks and looseness. 12. Inspect vertical fin for security and overall condition. Check tail skid for condition and security. Check mounting anticollision light for security and condition. 13. Refer to Allison 250-C20, Series Operation and Maintenance Manual, 10W2 for sudden stoppage inspection requirements.		