



**DATE: February 1, 2012**

**AD #: 2012-02-51**

This emergency airworthiness directive (EAD) 2012-02-51 is being sent to owners and operators of Bell Helicopter Textron Canada Limited (Bell) Model 206L, 206L-1, 206L-3, and 206L-4 helicopters with certain main rotor blades installed.

### **Discussion**

Transport Canada Civil Aviation (TCCA), has issued TCCA AD No. CF-2011-44R1, dated February 1, 2012, to correct an unsafe condition for the Bell 206L, L-1, L-3, and L-4 helicopters. TCCA advises that there is no reliable inspection method to detect the cracks on these blades before blade failure and has mandated a reduced life limit on all affected blades, and removal from service for any main rotor blades exceeding the new life limit. This EAD is prompted by two accident investigations which revealed the main rotor blade failed because of fatigue cracking. Bell has determined the fatigue cracks occurred as a result of the use by a Bell supplier of unapproved manufacturing processes, which have since been corrected, and are limited to a specific range of part numbers and serial numbers. These EAD actions are intended to prevent failure of the main rotor blade and subsequent loss of control of the helicopter.

### **FAA's Determination**

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to our bilateral agreement with Canada, TCCA has notified us of the unsafe condition described in the TCCA AD. We are issuing this EAD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

### **Related Service Information**

Bell Helicopter Alert Service Bulletin No. 206L-09-159 Revision A, dated November 13, 2009 (ASB 206L-09-159), describes procedures to identify and mark the affected main rotor blades, requires a "recurring wipe check," and requires performing a one-time radiographic inspection with the results to be determined by Bell.

### **EAD Requirements**

This EAD requires reducing the life limit from 3,600 hours time-in-service (TIS) to 1,400 hours TIS for certain part numbered and serial numbered main rotor blades, revising the life limit in the Airworthiness Limitations section of the Instructions for Continued Airworthiness or maintenance manual, and recording the revised life limit on the component history card or equivalent record.

## Differences Between This EAD and the TCCA AD

There are no significant differences between this EAD and the TCCA AD.

## Costs of Compliance

We estimate that this EAD will affect 697 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this EAD. Determining the part number and serial number of the main rotor blades will require approximately one work hour at an average labor rate of \$85 per hour, for a cost per helicopter of \$85 and a cost to the U.S. fleet of \$59,245. Replacing any affected main rotor blade will require approximately 8 work hours at an average labor rate of \$85 per hour and the required parts will cost approximately \$44,958, for a total cost per helicopter of \$45,638.

## Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. "Subtitle VII, Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701, General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## Adoption of the Emergency Airworthiness Directive (EAD)

We are issuing this EAD under 49 U.S.C. Sections 106(g), 40113, and 44701 according to the authority delegated to me by the Administrator.

2012-02-51 **BELL HELICOPTER TEXTRON CANADA LIMITED:** Directorate Identifier 2012-SW-007-AD.

(a) **Applicability.** This EAD applies to Bell Helicopter Textron Canada Limited (Bell) Model 206L, 206L-1, 206L-3, and 206L-4 helicopters, certificated in any category, with a main rotor blade part number (P/N) 206-015-001-107, 206-015-001-109, 206-015-001-111, 206-015-001-115, 206-015-001-117, 206-015-001-119, or 206-015-001-121, and a main rotor blade serial number listed in Table 1 of this AD.

**Table 1**

<b>Affected Main Rotor Blade Serial Numbers</b>				
901 through 928	2285 2286	2787 2788	4293 through 4298	4684
930 through 935	2290	2808 through 2817	4301	4686 through 4708
937 938	2292 through 2294	2819 through 2822	4305	4710
941	2297	2824	4308	4713 through 4716
943 through 994	2301 2302	2826 through 2828	4314 4315	4719 through 4722

996 through 1000	2304 2305	2832	4318	4725
1002 through 1020	2308	2835	4330	4728 4729
1022 through 1032	2311	2840 through 2842	4334 through 4336	4731
1034 through 1047	2313 2314	2844	4381 4382	4734 through 4737
1049 through 1134	2316	2848 through 2850	4392	4739 through 4742
1136 through 1140	2318 2319	2852 2853	4394 4395	4744 through 4751
1142 through 1157	2322 through 2324	2855	4405 through 4409	4753 through 4757
1159 through 1166	2328 through 2331	2858	4416	4759
1168 through 1182	2357	2862 through 2864	4418	4762
1184 through 1351	2374	2900	4423 through 4426	4764
1353 through 1363	2379	2996	4433	4774
1365 through 1382	2515	3212	4445	4778 through 4780
1384 through 1401	2553 2554	3219	4448	4784
1403 through 1519	2561 2562	3339	4462 4463	4786 through 4825
1521 through 1590	2564 through 2570	3369	4484	4827 through 4840
1593 through 1646	2573	3381	4500	4842 through 4863
1648 through 1718	2576	3447	4508	4865 through 4905
1720 through 1798	2580	3571 3572	4512	4907 through 4948
1800 through 1821	2583	3622	4517	4950 through 4957
1824 through 1829	2585 2586	3705	4522	4959 through 4963
1832 through 2060	2588 2589	3831	4528 4529	4965
2062 through 2072	2593 2594	3971 3972	4532	4969 through 4973
2074	2596 2597	4025 through 4030	4534	4975
2077 through 2081	2599	4117	4547	4979 4980
2092 through 2095	2602	4143	4550	4983 4984
2098 2099	2604 2605	4201 through 4205	4567	4987
2101 through 2104	2607 through 2610	4209	4573	4989
2107 2108	2621	4214 through 4217	4590	4992
2110 through 2124	2623 2624	4248	4604 4605	4994 through 5006
2126 through 2145	2638	4250 4251	4608 4609	5010
2147 through 2158	2640 through 2672	4253 4254	4612 through 4621	5015

2161 through 2163	2674 through 2701	4256 through 4260	4624 through 4629	5018
2165	2706 through 2708	4262 through 4267	4631	5023
2166			4632	
2169 through 2175	2727 2728	4269	4638 4639	5036
2177 through 2183	2730 through 2742	4271 4272	4652	5047
2185 through 2192	2744 through 2764	4274 through 4276	4654	5054
2220	2766	4278	4657	5066
2221	2767			5067
2248	2769	4280 through 4284	4659	5071 5072
2257 through 2267	2771 2772	4286 4287	4662	5075 5076
2272 through 2283	2775 through 2777	4290 4291	4666 through 4682	5081
5087	5397	5535 through 5537	5679 through 5686	5851
5094	5399 through 5400	5539 5540	5688	5856
5152	5402 through 5411	5542	5690 through 5705	5861 through 5865
5155	5413 5414	5546 through 5549	5707 through 5709	5870
5158	5416 through 5439	5552	5711	5882
5159		5553	5712	
5163	5441	5556 through 5561	5716 through 5721	5884 through 5886
5164				
5166 through 5171	5443 through 5445	5566 through 5568	5723 through 5726	5889 through 5891
5176 through 5178	5447	5570 through 5574	5729 through 5734	5899 through 5901
5180 through 5182	5450	5576 through 5583	5736 through 5745	5903 through 5905
5186 through 5191	5459	5588 through 5591	5747 through 5752	5912
5193 through 5199	5465 through 5468	5594	5757	5915
5201 through 5205	5472	5598 through 5600	5762	5921
5207	5475	5602 through 5605	5766 through 5769	5925 5926
5209 through 5212	5481	5608 5609	5771	5929 through 5951
5218 through 5253	5483	5612	5781 5782	5992
5255 through 5273	5488	5616 through 5623	5791	6216
5275 through 5288	5491 5492	5625 5626	5793 through 5800	6247
5291	5495	5628	5808	6270
5292				
5297	5497 through 5507	5637 through 5641	5815 through 5817	6597
5298				
5301 through 5321	5509 through 5512	5643	5822 through 5826	6611 6612
5323 through 5331	5516	5645 through 5653	5828 5829	6661
5333 through 5340	5518 through 5521	5655 through 5666	5833	6714

5343	5526 through 5530	5668 5669	5837	
5345 through 5395	5533	5671 through 5677	5844 5845	

All blade serial numbers listed in Table 1 of this EAD have the prefix "A-."

(b) **Unsafe Condition.** This EAD defines the unsafe condition as fatigue cracking of a main rotor blade. This condition could result in failure of the main rotor blade and subsequent loss of control of the helicopter.

(c) **Effective Date.** This EAD is effective upon receipt.

(d) **Compliance.** You are responsible for performing each action required by this EAD within the specified compliance time unless it has already been accomplished prior to that time.

(e) **Required Action.** Before further flight:

(1) Reduce the life limit of the main rotor blades with a serial number listed in Table 1 of this EAD from 3,600 hours time-in-service (TIS) to 1,400 hours TIS; revise the life limit in the Airworthiness Limitations section of the Instruction for Continued Airworthiness or maintenance manual; and record the revised life limit on the component history card or equivalent record.

(2) Remove from service any main rotor blade which has accumulated 1,400 or more hours TIS.

(f) **Special flight permits.** Special flight permits are prohibited.

(g) **Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this EAD. Send your proposal to: Sharon Miles, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222 5110, e-mail [sharon.y.miles@faa.gov](mailto:sharon.y.miles@faa.gov).

(2) For operations conducted under a Part 119 operating certificate or under Part 91, Subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this EAD through an AMOC.

(h) **Additional Information.**

(1) Bell Helicopter Alert Service Bulletin (ASB) No. 206L-09-159 Revision A, dated November 13, 2009, which is not incorporated by reference, contains additional information about the subject of this EAD. For this service information, contact Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4, telephone (450) 437-2862 or (800) 363-8023, fax (450) 433-0272, or at <http://www.bellcustomer.com/files/>. You may review a copy of this service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth Texas 76137.

(2) For further information contact: Sharon Miles, Aerospace Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222 5110, e-mail [sharon.y.miles@faa.gov](mailto:sharon.y.miles@faa.gov).

(3) The subject of this EAD is addressed in Transport Canada Civil Aviation AD No. CF-2011-44R1, dated February 1, 2012.

(i) **Subject.** Joint Aircraft Service Component (JASC) Code: 6210: Main Rotor Blades.

Issued in Fort Worth, Texas, on February 1, 2012.

Lance T. Gant,  
Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.