
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Kawasaki BK 117 Series Helicopters

AD/GBK 117/20

**Tail Rotor Transmission/Intermediate
Gearbox**

13/2003

Applicability: Kawasaki Model BK117 helicopters, except for the C-2 model; incorporating any of the following:

- a. A tail rotor transmission part number (P/N) 4639003001 or 4639003007 with a serial number (S/N) 900 through 932 inclusive that had been overhauled or repaired in the period 16 July 2001 to 22 May 2003, the effective date of Kawasaki Service Bulletin (KSB) KSB-117-210; or
- b. An intermediate gearbox P/N 4639002001 or 4639002005 with a S/N 902 through 928 inclusive that had been overhauled or repaired in the period 16 July 2001 to 22 May 2003, the effective date of Kawasaki KSB-117-210; or
- c. The tail rotor transmission and/or the intermediate gearbox is fitted with a bearing P/N 4639310006, S/N 3246 through 3598 inclusive; and
- d. The tail rotor transmission and/or the intermediate gearbox have not been inspected in accordance with Paragraph 9 of Kawasaki KSB-117-210.

Requirement:

1. Installed tail rotor transmission and intermediate gearboxes:
 - a. Inspect the magnetic plug of the tail rotor transmission in accordance with Paragraph 9 (3) of Kawasaki KSB-117-210.
 - b. Inspect the magnetic plug of the intermediate gearbox in accordance with Paragraph 9 (3) of Kawasaki KSB-117-210.
2. Unless previously accomplished:

Supply to Kawasaki Heavy Industries (KHI) for inspection by ZF Lufthfahrttechnik, P/N 4639310006, S/N 3246 through 3598 bearings held as spares.
3. Unless previously accomplished:

Installed tail rotor transmission and intermediate gearboxes.

Kawasaki BK 117 Series Helicopters

AD/GBK 117/20 (continued)

- a. Remove the tail rotor transmission for an inspection in accordance with Paragraph 9 (2) (c) of Kawasaki KSB-117-210.
 - b. Remove the intermediate gearbox for an inspection in accordance with Paragraph 9 (2) (c) of Kawasaki KSB-117-210.
4. Unless previously accomplished:
- Spare tail rotor transmission and intermediate gearboxes:
- a. Forward the tail rotor transmission for an inspection in accordance with Paragraph 9 (1) b of Kawasaki KSB-117-210.
 - b. Forward the intermediate gearbox for an inspection in accordance with Paragraph 9 (1) b of Kawasaki KSB-117-210.

Note: JCAB Airworthiness Directive TCD-6217-2003 refers.

- Compliance:
1. Before the first flight of the day pending compliance with Paragraph 9 (2) (c) of Kawasaki KSB-117-210.
 2. Prior to 31 January 2004.
 3. Prior to 31 January 2004.
 4. Prior to installation in a helicopter.

This Airworthiness Directive becomes effective on 25 December 2003.

Background: This directive has been issued in response to reports of cracks being found in the cage cover of certain bearings installed in BK117 tail rotor transmissions and intermediate gearboxes. Bearing failure could result in the failure of the tail rotor transmission or intermediate gearbox, causing loss of the control of the helicopter.



Jim Coyne
Delegate of the Civil Aviation Safety Authority

14 November 2003