

KOKU-KU-KI-674

No. TCD-8201C-2-2022

Date of Issue: December 23, 2022

Japan Civil Aviation Bureau

TAIKUSEI-KAIZEN-TSUHO

Airworthiness Directive

The undermentioned examinations or modifications are mandatory.

1. Applies to: Kawasaki BK117 series helicopters equipped with a Goodrich rescue hoist assembly having a Part Number (P/N) as listed in Table 2.1 of this AD.

2. Compliance is required as indicated, unless already accomplished.

To prevent injury to persons on the ground or a hoisting accident due to the overload clutch failure of the hoist, accomplish the following.

2.1 Within 10 hoist operating cycles from June 17, 2016 (the effective date of AD No. TCD-8201C-2016), accomplish a records check to determine whether, during any previous hoist load check/test, a cable was load-tested (average of 5 pulls) at 1500 lb [680 kg] or more. If any cable is identified to have exceeded this limit during two or more hoist load checks/tests, replace the affected cable with a serviceable cable within the time interval shown in paragraph 2.1.1 or 2.1.2 of this AD. For replacement of a cable, see Figure 1 of this AD.

2.1.1 If any cable is identified to have exceeded this limit during three or more hoist load checks/tests, before next hoist operation.

2.1.2 If any cable is identified to have exceeded this limit during two hoist load checks/tests, before the next hoist load check/test.

Table 2.1 Affected Goodrich Hoists P/N

42325-14-1	44301-10-4	44301-10-7
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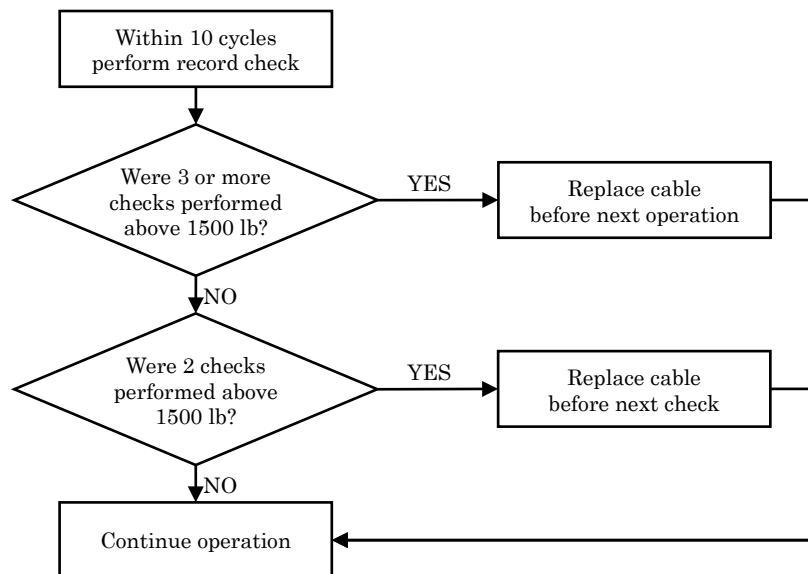


Figure 1

2.2 Within 30 days from June 17, 2016 (the effective date of AD No. TCD-8201C-2016), accomplish an initial hoist load check/test in accordance with the instructions of Kawasaki Service Bulletin No. KSB-117-361F, or later JCAB-approved revision (hereinafter referred to as SB). Any hoist load checks/tests, accomplished before June 17, 2016 (the effective date of AD No. TCD-8201C-2016) in accordance with TCD-8201B-2015, are acceptable to comply with the requirements as specified by paragraph 2.2 of this AD.

2.3 Within the time interval, or hoist operating cycles specified in SB, whichever occurs first after the initial load check as required by paragraph 2.2 of this AD, and, thereafter, at intervals not to exceed the values (calendar time, or hoist operating cycles, whichever occurs first) as specified in SB, accomplish a hoist load check/test in accordance with SB for on-going testing.

2.4 If, during any hoist load check/test as required by paragraph 2.2 or 2.3 of this AD, as applicable, the hoist fails the test, deactivate the hoist and, before next hoist operation, replace the hoist with a serviceable hoist, as defined in Table 2.2 of this AD.

Table 2.2 Serviceable Goodrich Hoists

A hoist having a P/N not listed in Table 2.1 of this AD
A hoist having a P/N as listed in Table 2.1 of this AD, and having a serial number (s/n) with a “4” as the first digit (see Note 1 of this AD), and has accumulated less than <u>36 months</u> , or <u>2000 hoist cycles</u> since new, or since last performed maintenance work including overload clutch replacement (e.g. overhaul)

Note 1: Hoists that are equipped with a new overload clutch assembly P/N are (re)identified (this modification can be done on existing hoists during overhaul) with a “4” as first digit of the s/n, e.g. 00304 becomes 40304.

2.5 If the hoist is equipped with an old overload clutch assembly P/N (see Note 1 of this AD), before exceeding 1200 hoist operating cycles accumulated since November 11, 2014 (the effective date of AD No. TCD-8201A-2014), or within the compliance time (as applicable) specified in Table 2.3 of this AD, whichever occurs first, modify the helicopter by replacing the affected clutch assembly with a new overload clutch assembly P/N in accordance with SB, or remove or deactivate the hoist.

Table 2.3 Hoist Modification

Affected Hoists	Compliance Time
Manufactured new, or last performed maintenance work including overload clutch replacement (e.g. overhaul), before or on November 11, 2015	Within 36 months from November 11, 2014 (the effective date of AD No. TCD 8201A-2014)
Manufactured new, or last performed maintenance work including overload clutch replacement (e.g. overhaul), on or after November 12, 2015	Before exceeding 24 months since manufactured new, or last performed maintenance work including overload clutch replacement (e.g. overhaul), on or after November 12, 2015, as applicable

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2.6 Within 36 months, or 2000 hoist operating cycles after modification of a helicopter as required by paragraph 2.5 of this AD, or at the next scheduled hoist overhaul, whichever occurs first, and, thereafter, at intervals not to exceed 36 months, or 2000 hoist operating cycles, whichever occurs first, replace the hoist with a serviceable hoist as defined in Table 2.2 of this AD, noting the installation requirements of paragraph 2.7 of this AD. As an alternative to any replacement as required by this paragraph, it is acceptable to remove or deactivate the hoist, pending installation of a replacement hoist, noting the installation requirements of paragraph 2.7 of this AD. 2.7 From 12 months from June 17, 2016 (the effective date of AD No. TCD-8201C-2016), it is allowed to install on any helicopter an affected Goodrich hoist, having a P/N as listed in Table 2.1 of this AD, provided it is a serviceable hoist as defined in Table 2.2 of this AD. Following installation, prior to hoisting operation, the hoist must pass a test as specified in paragraph 2.2 of this AD and, thereafter, the repetitive actions required by this AD must be accomplished. Note 2: For the purpose of this AD, reinstallation on a helicopter of a hoist that was temporarily removed from that same helicopter is not considered as “installation.” 2.8 Within 30 days from June 17, 2016 (the effective date of AD No. TCD-8201C-2016), amend the applicable RFM(S) by including the hoist operation limitations as specified in paragraph 2.8 of this AD, and inform all flight crew members and hoist operators and, thereafter, operate the helicopter accordingly. Insertion of revised pages of an applicable attachment of this AD that contain this same information into the applicable RFM(S) is acceptable to comply with the requirement of paragraph 2.8 of this AD.		

Operation with extended cable and load on the hook:

- Maximum permissible bank angle in turn is 20°
- Warning: exceeding 15° of lateral pendulum angle/helicopter vertical axis can lead to clutch slippage

Caution: overload clutch is unlikely to function in case of overload

OAT above 0°C

- Maximum hoist load 550 lb [249 kg]

OAT at or below 0°C

- Maximum hoist load 500 lb [227 kg]

2.9 Within 30 days from June 17, 2016 (the effective date of AD No. TCD-8201C-2016), amend the applicable RFM(S) by including the instructions into the Limitations Section as specified in paragraph 2.9 of this AD, inform all flight crew members and hoist operators and, thereafter, operate the helicopter accordingly.

A maximum of two persons at a time (with equipment) can be hoisted, except when it can be explicitly determined that hoisting more persons (with equipment) does not exceed the maximum hoist load, e.g. when small persons or children are being hoisted.

Insertion of revised pages of an applicable attachment of this AD that contain this same information into the applicable RFM(S) is acceptable to comply with the requirement of paragraph 2.9 of this AD.

2.10 From June 17, 2016 (the effective date of AD No. TCD-8201C-2016), if a partial reel out occurs as described in SB, before next flight, remove or deactivate the hoist or, before next hoist operation, replace the hoist with a serviceable hoist, noting the installation requirements of paragraph 2.7 of this AD.

2.11 From June 17, 2016 (the effective date of AD No. TCD-8201C-2016), it

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is acceptable to install a replacement cable on a hoist / helicopter, provided that, prior to installation, it is determined that the cable was not previously load-tested at 1500 lb (680 kg) or more. 2.12 An alternative means of compliance with this AD may be used, if approved by the Director-General of JCAB.		
3. Remarks 3.1 This AD becomes effective on January 5, 2023. 3.2 This AD revises a part of the AD No. TCD-8201C-1-2022 dated July 28, 2022. The revised part corresponds to the underlined part, the part which is not underlined is non-revised part. Therefore, regarding non-revised part, execute the inspection, the repair, the exchange, the modification, etc. in the compliance time which is indicated on pre-revised AD. 3.3 If there is any difficulty to insert applicable attachment to RFM(S), contact JCAB for further information. 3.3 Kawasaki Service Bulletin No. KSB-117-361F dated May 23, 2016, No. KSB-117-361G dated July 12, 2022 and No. KSB-117-361H dated December 6, 2022 and later JCAB approved revisions pertain to this subject.		

This is the English translation. In case of any difficulty, refer to the Japanese original text.

Applies to: Kawasaki BK117, BK117A-3, BK117A-4, BK117B-1, BK117B-2, BK117C-1
helicopters Flight Manual Supplement 10-60
"RESCUE WINCH SYSTEM (CABLE LENGTH 90m)"

This insert page indicates the temporary revision of the flight manual.

Insert this page in front of an applicable page of the flight manual without removing the applicable page.

2.1.2 Maximum hoist load

OAT above 0°C

Maximum hoist load 550 lbs [249 kg]

OAT at or below 0°C

Maximum hoist load 500 lbs [227 kg]

CAUTION A MAXIMUM OF TWO PERSONS AT A TIME (WITH EQUIPMENT) CAN BE HOISTED, EXCEPT WHEN IT CAN BE EXPLICITLY DETERMINED THAT HOISTING MORE PERSONS (WITH EQUIPMENT) DOES NOT EXCEED THE MAXIMUM HOIST LOAD, E.G. WHEN SMALL PERSONS OR CHILDREN ARE BEING HOISTED.

Applies to: Kawasaki BK117, BK117A-3, BK117A-4, BK117B-1 helicopters
Flight Manual Supplement 10-60
"RESCUE WINCH SYSTEM (CABLE LENGTH 90m)"

This insert page indicates the temporary revision of the flight manual.

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2.5.4 Hoist cable pendulum angle limits

Maximum permissible bank angle

with extended cable and load on the hook 20°

WARNING IN CASE OF SIGNIFICANT LOAD FACTOR ON THE HOOK OR ABNORMAL MANEUVER DURING HOIST OPERATION WHICH RESULTS IN A POTENTIAL OVERLOAD CLUTCH SLIPPAGE, PERFORM A HOIST MAINTENANCE IN ACCORDANCE WITH THE APPLICABLE MAINTENANCE MANUAL BEFORE THE NEXT FLIGHT.

CAUTION TO PREVENT SLIPPAGE OF THE HOIST CABLE DUE TO ACTIVATION OF THE OVERLOAD CLUTCH, MINIMIZE CABLE PENDULUM (WITHIN 15° OF LATERAL PENDULUM ANGLE) AND THE FOLLOWING LOAD FACTORS ON THE HOOK SHALL BE AVOIDED:

- ABRUPT MANEUVERS AND RAPID TURNS
- SUDDEN REVERSALS OF HOISTING DIRECTION OR SUDDEN STOPPING OF THE CABLE AT HIGH SPEEDS OF HOISTING

2.5.6 Others

- Takeoff and landing with slinging person (s) or cargo (s) on the hoist hook, are not permissible.
- Hoist operators shall prevent hazards to the aircraft resulting from a cable snag as correct functioning of the overload clutch is not guaranteed.

Applies to: Kawasaki BK117B-2, BK117C-1 helicopters
Flight Manual Supplement 10-60
"RESCUE WINCH SYSTEM (CABLE LENGTH 90m)"

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2.5.4 Hoist cable pendulum angle limits

Maximum permissible bank angle
with extended cable and load on the hook 20°

WARNING IN CASE OF SIGNIFICANT LOAD FACTOR ON THE HOOK OR ABNORMAL MANEUVER DURING HOIST OPERATION WHICH RESULTS IN A POTENTIAL OVERLOAD CLUTCH SLIPPAGE, PERFORM A HOIST MAINTENANCE IN ACCORDANCE WITH THE APPLICABLE MAINTENANCE MANUAL BEFORE THE NEXT FLIGHT.

CAUTION TO PREVENT SLIPPAGE OF THE HOIST CABLE DUE TO ACTIVATION OF THE OVERLOAD CLUTCH, MINIMIZE CABLE PENDULUM (WITHIN 15° OF LATERAL PENDULUM ANGLE) AND THE FOLLOWING LOAD FACTORS ON THE HOOK SHALL BE AVOIDED:

- ABRUPT MANEUVERS AND RAPID TURNS
- SUDDEN REVERSALS OF HOISTING DIRECTION OR SUDDEN STOPPING OF THE CABLE AT HIGH SPEEDS OF HOISTING

2.5.7 Others

- Takeoff and landing with slinging person (s) or cargo (s) on the hoist hook, are not permissible.
- Hoist operators shall prevent hazards to the aircraft resulting from a cable snag as correct functioning of the overload clutch is not guaranteed.

Applies to: Kawasaki BK117C-2 helicopters Flight Manual Supplement 10-29
"RESCUE WINCH SYSTEM"

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Insert this page in front of an applicable page of the flight manual without removing the applicable page.

2.3.2 Maximum hoist load

OAT above 0°C

Maximum hoist load 550 lbs [249 kg]

OAT at or below 0°C

Maximum hoist load 500 lbs [227 kg]

CAUTION A MAXIMUM OF TWO PERSONS AT A TIME (WITH EQUIPMENT) CAN BE HOISTED, EXCEPT WHEN IT CAN BE EXPLICITLY DETERMINED THAT HOISTING MORE PERSONS (WITH EQUIPMENT) DOES NOT EXCEED THE MAXIMUM HOIST LOAD, E.G. WHEN SMALL PERSONS OR CHILDREN ARE BEING HOISTED.

Applies to: Kawasaki BK117C-2 helicopters Flight Manual Supplement 10-29
"RESCUE WINCH SYSTEM"

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2.6 Bank angle

Maximum permissible bank angle

with extended cable and load on the hook 20°

Applies to: Kawasaki BK117C-2 helicopters Flight Manual Supplement 10-29
"RESCUE WINCH SYSTEM"

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2.8.2 Pendulum / deflection angle

WARNING IN CASE OF SIGNIFICANT LOAD FACTOR ON THE HOOK OR ABNORMAL MANEUVER DURING HOIST OPERATION WHICH RESULTS IN A POTENTIAL OVERLOAD CLUTCH SLIPPAGE, PERFORM A HOIST MAINTENANCE IN ACCORDANCE WITH THE APPLICABLE MAINTENANCE MANUAL BEFORE THE NEXT FLIGHT.

CAUTION TO PREVENT SLIPPAGE OF THE HOIST CABLE DUE TO ACTIVATION OF THE OVERLOAD CLUTCH, MINIMIZE CABLE PENDULUM (WITHIN 15° OF LATERAL PENDULUM ANGLE) AND THE FOLLOWING LOAD FACTORS ON THE HOOK SHALL BE AVOIDED:

- ABRUPT MANEUVERS AND RAPID TURNS
- SUDDEN REVERSALS OF HOISTING DIRECTION OR SUDDEN STOPPING OF THE CABLE AT HIGH SPEEDS OF HOISTING

2.8.4 Others

Hoist operators shall prevent hazards to the aircraft resulting from a cable snag as correct functioning of the overload clutch is not guaranteed.