

ALERT SERVICE BULLETIN
Bell Helicopter **TEXTRON**

A Subsidiary of Textron Inc.

NO. 430-05-35

DATE June 21, 2005

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DATE
REV

MODEL AFFECTED: 430

SUBJECT: AFCS AIR DATA COMPUTER, MODIFICATION OF, AND VNE OVERSPEED WARNING COMPUTER, AIRSPEED INDICATOR AND VNE CONVERTER, REPLACEMENT OF

HELICOPTERS AFFECTED: PART I Model 430 helicopters, S/N 49001 through 49103, equipped with Overspeed Warning Kit, P/N 430-706-004-101 or 430-706-004-103.

[Model 430 helicopters serial numbers 49104 and subsequent will have the intent of Part I of this bulletin accomplished prior to delivery.]

PART II Model 430 helicopters, S/N 49001 through 49100, equipped with Single AFCS with Flight Director Kit, P/N 430-705-009-103 /-105 /-109 /-111 /-115 /-117 or P/N 430-705-011-109 /-111 /-121 /-123.

Model 430 helicopters, S/N 49001 through 49100, equipped with Dual AFCS with Flight Director Kit, P/N 430-705-011-103 /-105 /-115 /-117 /-125 /-127 /-129 /-133 /-135 /-137.

[Model 430 helicopters serial numbers 49101 and subsequent will have the intent of Part II of this bulletin accomplished prior to delivery.]

COMPLIANCE: No later than July 31, 2007.

DESCRIPTION:

Following cold weather testing to establish Vne values at cold temperatures to -40 degrees C, it was determined that the software in the Vne Overspeed Warning Computer, required for Category A operations, and in the AFCS Air Data Computer would have to be modified.

Changes to the Vne Overspeed Computer also requires that the pilot and copilot Airspeed Indicator and the Vne Converter be replaced.

This bulletin replaces the Vne Overspeed Warning Computer, P/N 430-375-013-103 with a P/N 430-375-013-105, the Airspeed Indicator, P/N 222-375-027-117 with a P/N 222-375-027-119, the Vne Converter, P/N ADI21280-000 with a P/N ADI-21280-100, and the AFCS Air Data Computer adapter module, P/N 065-05041-0021 with a P/N 065-05041-0031.

Part 1 of this bulletin replaces the Vne Overspeed Warning Computer, the pilot and copilot Airspeed Indicator and the Vne Converter and removes the decal, P/N 430-075-070-103, from below the pilot and copilot airspeed indicators, on aircraft equipped with 430-706-004 overspeed warning kit.

Part II of this bulletin replaces the AFCS Air Data Computer adapter module and removes the decal, P/N 430-075-070-101, from above the pilot and copilot HSI display, on aircraft equipped with 430-705-009 or 430-705-011 kit (AFCS with flight director).

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada approved.

MANPOWER:

Approximately 4.0 man-hours are required to complete Part I of this bulletin. Approximately 4.0 man-hours are required to complete Part II of this bulletin. Man-Man-hours are based on hands-on time, and may vary with personnel and facilities available.

WARRANTY:

Owners / operators of 430 helicopters that have the 222-375-027-117 airspeed indicator, 430-375-013-103 overspeed warning computer and ADI21280-000 Vne converter installed are eligible for a special exchange programme that will provide them with two (2) "reconditioned" p/n 222-375-027-119 airspeed indicators, one (1) "reconditioned" p/n 430-375-013-105 overspeed warning computer and one (1) "reconditioned" p/n ADI21280-100 Vne converter.

To receive this exchange service:

The owner / operator must order the two (2) replacement p/n 222-375-027-119 airspeed indicators, one (1) p/n 430-375-013-105 overspeed warning computer and one (1) p/n ADI-21280-100 Vne converter from their approved BHTI spares supply

source. Please note that you will receive reconditioned parts. All the parts will be billed to your spare parts account with Bell.

- The work must be done in compliance with the instructions outlined in this Alert Service Bulletin, and completed no later than **July 31, 2007**.
- The owner / operator must return the two (2) p/n 222-375-027-117 airspeed indicators, the p/n 430-375-013-103 overspeed computer and the p/n ADI-21280-000 Vne converter, along with a completed Malfunction Report to BHTI within 30 days of receiving the two (2) p/n 222-375-027-119 airspeed indicators, the p/n 430-375-013-105 overspeed computer and the p/n ADI-21280-100 Vne converter. A copy of the BHTI invoice referencing the parts purchased to accomplish this Alert Service Bulletin must be attached to the Malfunction Report. The p/n 222-375-027-117 airspeed indicators, the p/n 430-375-013-103 overspeed computer and the p/n ADI-21280-000 Vne converter along with the Malfunction Report must be sent to:

Bell Helicopter Textron Inc.,
Logistics Centre - Attn: CPR Monitor
776 Henrietta Creek Road, Building 55,
Roanoke, Texas 76262

Following receipt of the two (2) p/n 222-375-027-117 airspeed indicators, the p/n 430-375-013-103 overspeed computer and the p/n ADI-21280-000 Vne converter and the Malfunction Report, your account will be credited for the full price of the two (2) p/n 222-375-027-117 airspeed indicators, the p/n 430-375-013-103 overspeed computer and the ADI-21280-000 Vne converter.

- NOTE -

Customers who comply with the instructions in this bulletin after **July 31, 2007** are **not** eligible for the special exchange programme listed above.

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.

PART I

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
430-375-013-105	Overspeed Warning Computer	1
222-375-027-119	Airspeed Indicator	2
ADI-21280-100	Vne Converter	1

PART II

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>
065-05041-0031	Adapter Module	1

Consumable Material:

The following material is required to accomplish this bulletin, however this material is considered consumable (bench stock) material and may not require ordering depending on the operators 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>
TT-N-95, TYII 1 GA	Naptha	1	C-305

SPECIAL TOOLS:

Barfield Model 1811G or equivalent Pitot Static Tester
33410S-70-4 Adapter
18821-4 Adapter

WEIGHT AND BALANCE:

Not affected

ELECTRICAL LOAD DATA:

Not affected

REFERENCES:

BHT-430-MM-3 Maintenance Manual
BHT-430-MMS-12 Maintenance Manual Supplement

PUBLICATIONS AFFECTED:

BHT-430-MM-3 Maintenance Manual
BHT-430-MMS-12 Maintenance Manual Supplement

ACCOMPLISHMENT INSTRUCTIONS:**PART I - For aircraft equipped with 430-706-004 overspeed warning system kit (Category A aircraft):**

1. Prepare the helicopter for maintenance
2. Ensure all electrical power is removed from the helicopter.
3. Disconnect the aircraft battery.
4. Gain access to the nose electrical compartment.
5. On the upper shelf, locate the Overspeed Warning Computer, P/N 430-375-013-103. Disconnect the electrical connector and the static and pressure lines.
6. Remove the Overspeed Warning Computer, P/N 430-375-013-103.
7. Install the new Overspeed Warning Computer, P/N 430-375-013-105.

-NOTE-

Torque all plastic fittings to 15 ±5 inch pounds (1.69 Nm ±0.57 Nm). Care should be taken to ensure plastic fittings are not overtorqued.

8. Reconnect the static and pressure lines and the electrical connector, removed in step 5.
9. At FS 110.00, RBL 5.68, WL 48.53, locate the Vne Converter, P/N ADI21280-000. Disconnect the electrical connector, and remove the Vne Converter.
10. Install the new Vne Converter, P/N ADI-21280-100.
11. Gain access to the pilot and copilot instrument panel.
12. Remove the pilot and copilot Airspeed Indicator, P/N 222-375-027-117. (BHT-430-MM-10, Chapter 95).
13. Install the new pilot and copilot Airspeed Indicator, P/N 222-375-027-119. (BHT-430-MM-10, Chapter 95).
14. Carry out a leak test of the pilot pitot static system (BHT-430-MM-10, Chapter 95).
15. Using a plastic scraper, remove decal, P/N 430-075-070-103, "VNE INDICATOR UNRELIABLE REFER TO VNE PLACARD" from the pilot instrument panel and the copilot instrument panel (if installed). Wipe surface clean with a clean damp cloth, dampened with naphtha (C-305).

11. Apply a 28 Vdc power source to the aircraft. (BHT-430-MM-10).
12. Carry out an operational test of the overspeed warning system as follows:
 - a. Press and release the VNE WARN TEST switch (18S1).
 - b. The OWD FAIL message illuminates on the IIDS, for approximately 12 seconds.
 - c. Three audio alert tones are heard in the pilot and copilot headsets.
 - d. The pilot and copilot airspeed indicators show the Vne value for the present conditions, for approximately 2 seconds.
 - e. After two seconds the Vne pointer on the pilot and copilot airspeed indicators sweep to zero and remain there for approximately nine seconds.
 - f. The Vne pointer on the pilot and copilot airspeed indicators moves back to the Vne value for the present conditions after a further 2 seconds.
13. Annotate the helicopter records to reflect compliance with Part I of this bulletin.
14. Return the helicopter to flight status.

PART II- For aircraft equipped with 430-705-009 or 430-705-011 kit (AFCS with flight director):

1. Prepare the helicopter for maintenance.
2. Ensure all electrical power is removed from the helicopter.
3. Disconnect the aircraft battery.
4. Gain access to the nose electrical compartment.
5. On the upper shelf, locate the AFCS Air Data Computer. (BHT-430-MM-3, Chapter 22). Disconnect the electrical connector and the static and pressure lines.
6. Remove the AFCS Air Data Computer from the helicopter.
7. Remove the Air Data Computer Adapter Module, P/N 065-05041-0021, following the instructions in Chapter 22 of the Model 430 Maintenance Manual (BHT-430-MM-3).
8. Install the new Air Data Computer Adapter Module, P/N 065-05041-0031, following the instructions in Chapter 22 of the Model 430 Maintenance Manual (BHT-430-MM-3).
9. Install the AFCS Air Data Computer into the helicopter.

-NOTE-

Torque all plastic fittings to 15 ±5 inch pounds (1.69 Nm ±0.57 Nm). Care should be taken to ensure plastic fittings are not overtorqued.

10. Reconnect the static and pressure lines and the electrical connector, removed in step 5.
11. Carry out a leak test of the pilot pitot static system (BHT-430-MM-10, Chapter 95).
12. Using a plastic scraper, remove decal, P/N 430-075-070-101, "FLIGHT DIRECTOR VNE OVERSPEED PROTECTION SYSTEM UNRELIABLE REFER TO VNE PLACARD" from the pilot instrument panel and the copilot instrument panel (if installed). Wipe surface clean with a clean damp cloth, dampened with naphtha (C-305).
13. Apply a 28 Vdc power source to the aircraft. (BHT-430-MM-10).
14. Carry out the ALT/VSI Power up test and the ALT/VSI Self test. (BHT-430-MM-3, Chapter 22).
15. Annotate the helicopter records to reflect compliance with Part II of this bulletin.
16. Return the helicopter to flight status.