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SUPPLEMENT No. ICA12026-2
 Bell Helicopter Textron Canada Ltd.
 206/A/A-1/B/B-1/L/L-1/L-3/L-4
 Revision A

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|---|---|
| TECHNISONIC INDUSTRIES LIMITED | |
| P25 TDFM TRANSCEIVER AIRBORNE SYSTEM | |
| INSTRUCTIONS for CONTINUED AIRWORTHINESS | |
| <u>ICA12026-2</u> | |
| Mfg: Bell Helicopter Textron Canada Ltd. Type: 206/A/A-1/B/B-1/L/L-1/L-3/L-4 | Prepared by: Avionics Design Services Checked by: <u></u> Inder Panesar Released by: <u></u> Chris Heidel DE 102, DAO 06-O-01 |

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R E L E A S E D

December 01, 2013

LOG OF PAGE REVISIONS

| Chapter | Sub-Chapter | Page | Revision |
|-----------------------|--------------------|-------------|-----------------|
| Cover Page | - | - | A |
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| 1.0 | 1-00-00 | 1 | A |
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CHAPTER 1.0 - INTRODUCTION

A. General

The Technisonic Industries Limited Single-band P25 Airborne TDFM-136B system installation is defined by Avionics Design Services Master Drawing List MDL12026. The following equipment are installed:

| CHAPTER | MAKE | MODEL / UNIT | P/N | LOCATION |
|----------|-------------|--|-----------|--|
| 23-10-00 | Technisonic | TDFM-136B Series Single-band Digital FM Transceiver | TDFM-136B | Instrument Panel, or Pedestal |
| | Comant | VHF Antenna 136 - 176 MHz (1 or 2 as required) | CI-292-3 | As per Structural Diagram 5004213 - See Appendix A |
| | Technisonic | High-Pass Filter (If installed) | 133956-1 | Refer to Aircraft Log for specific location of filter as applicable for TDFM-136()transceiver. |

B. Reference Data

- a) Access equipment in accordance with Bell Helicopter Maintenance Manual, Bell 206, Chapter 6 and Chapter 95.
- b) Perform all maintenance procedures in accordance with Bell Helicopter Maintenance Manual, Standard Practices, Chapter 20.
- c) Refer to Appendix A for documents required to supplement the information in this manual concerning the maintenance of the above components.

RELEASED

C. ICA Distribution

This document, and any revisions thereto, shall be distributed to authorized users of the applicable STC data. They will be distributed by courier, in electronic format or paper format.

D. Acronyms

| | |
|-------|---------------------------------|
| VHF | Very High Frequency |
| VHFLO | Very High Frequency Low |
| FM | Frequency Modulation |
| MHz | Mega Hertz |
| RX | Receive |
| TX | Transmit |
| RF | Radio Frequency |
| STC | Supplemental Type Certificate |
| FAA | Federal Aviation Administration |
| ATA | Airline Transport Association |

E. Supplement Identities: Chapter, Page, Paragraph Numbers

The supplement format follows the general requirements of iSpec ATA-2200 with respect to Chapter and Title. However, since the extent of the supplemental information is relatively small in scope, the page numbering for each chapter is consecutive. Reference can be made to the following Chapter/Subject Listing:

| <u>Subject</u> | <u>Page Number</u> |
|--|--------------------|
| Title page | 0 |
| Table of Contents, Index, Page Listing | i, ii, iii, etc. |
| Content page(s) | 1, 2, 3, etc. |

Paragraph or component titles are listed via A. B. C. D. etc.

Sub-paragraphs are listed according to:

| <u>Subject</u> | <u>Sub-Para. Number</u> |
|-------------------------|-------------------------|
| Description / Operation | 1.0 |
| Troubleshooting | 101 |
| (Reserved) | 201 |
| Servicing | 301 |
| Removal / Installation | 401 |
| Adjustment / Test | 501 |
| Inspection / Check | 601 |
| Cleaning / Painting | 701 |
| Approved Repairs | 801 |
| Storage | 901 |

CHAPTER 4.0 - AIRWORTHINESS LIMITATIONS

A. General

No airworthiness limitations associated with this type design change.

B. FAA Approval

The following is for installations requiring FAA STC Approval:

The Airworthiness Limitations section is FAA-approved and specifies maintenance required under 43.16 and 91.403 of the Federal Aviation Regulation, unless an alternative program has been FAA approved.

"The airworthiness limitations are FAA approved per Article III of the Bilateral Aviation Safety Agreement (BASA 2000) and Section III, Para. 3.2.2 of the Implementation Procedures, 2008."

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CHAPTER 5.0 - TIME LIMITS/MAINTENANCE CHECKS
5-20-00: SCHEDULED CHECKS

A. General

Perform the following General Visual Inspections. The inspections are to be performed referencing the applicable wiring diagrams included in Appendix A. Prepare aircraft in accordance with the procedures of the Bell Helicopter 206 Maintenance and Overhaul Instructions Manual.

| Description | Inspection | Inspection Details |
|-----------------------------------|------------|---|
| Antenna Installation; | 100 hours | Perform visual inspection of external skin around periphery of connector cutouts and all rivet locations. Check for damage such as fastener deterioration, skin cracks, corrosion, paint exfoliation and other signs of structural deterioration of the skin structure. Any flaw indication is cause for rejection. |
| TDFM-136B Transceiver; Wiring; | | Visually examine all external surfaces for possible damage. Check external connectors for dust, corrosion, or damage. Check external parts for loose or damaged hardware. Make visual check of wiring and connectors for damage. |

B. Component Overhaul Schedule

No component overhaul required for this type design change.

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CHAPTER 5.0 - TIME LIMITS/MAINTENANCE CHECKS
5-50-00: UNSCHEDULED CHECKS

A. General

Bell 206 A/B Series

Hard Landing

Perform Hard Landing Conditional Inspection in accordance with BHT-206A/B-SERIES-MM-1, Chapter 5-00-00, Section 5-33.

Lightning Strike

Perform Lightning Strike Conditional Inspection in accordance with BHT-206A/B-SERIES-MM-1, Chapter 5-00-00, Section 5-39.

Bell 206 L Series

Hard Landing

Perform Hard Landing Conditional Inspection in accordance with BHT-206L-MM-1, Chapter 5-00-00, Section 5-31.

Lightning Strike

Perform Lightning Strike Conditional Inspection in accordance with BHT-206L-MM-1, Chapter 5-00-00, Section 5-36.

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CHAPTER 23.0 - COMMUNICATIONS

23-10-00: TDFM-136B TRANSCEIVER

1.0 Description / Operation

The TDFM-136B transceivers are installed in the instrument panel, or the pedestal.

TDFM-136B is a single-band airborne analog and P25 digital FM system which has main receive and transmit with the capability of split operation on pre-assigned frequencies in the 136 to 174 MHz band, and guard receive only ability on a frequency in the 136 to 174 MHz band. An optional 136MHz high-pass filter is installed on the antenna co-axial between the TFM-136 () transceiver and it's antenna.

The TDFM-136B has a 48-character, and 2-line LED matrix display, with data entry and function control accomplished using the 12-button keypad. The transceiver can operate without restriction on any split frequency pair in the single-band and also incorporates a two channel synthesized guard receiver.

101. Troubleshooting

NOTE:

Prepare aircraft in accordance with the procedures of the Bell Helicopter 206 Maintenance and Overhaul Instructions Manual.

| Condition | Action |
|---|---|
| No power. | Ensure connectors are properly affixed. Pull and reset applicable circuit breakers. |
| Not operating correctly. | Inspect wiring and ring out harness in accordance with Avionics Design Services WD12015 and correct irregularities as required. |
| Not operating correctly after above action completed. | Remove in accordance with Section 401. A of this chapter and return to Technisonic Industries Ltd. for evaluation and repair. |

201. Reserved

Not Applicable

301. Servicing

There are no servicing procedures associated with the components of this chapter.

401. Removal / Installation

The components of this chapter re protected by the following circuit breakers:

| CB LABEL | AMPS | LOCATION | BUS |
|----------|------|------------------|--------------------|
| FM RADIO | 3 A | OVERHEAD CONSOLE | 28VDC AVIONICS BUS |

A. TDFM-136B Series Transceiver

Removal

- a) Pull and collar the above circuit breakers.
- b) Remove four Dzus fasteners from front of transceiver.
- c) Slide transceiver forward of the panel cutout.
- d) Disconnect electrical connector and antenna connector(s) from the rear of the transceiver.
- e) Remove transceiver from the panel cutout.

Installation

- a) Connect electrical connector and antenna connector(s) to the rear of the transceiver.
- b) Slide transceiver into the panel cutout.
- c) Secure four Dzus fasteners on the front of transceiver.
- d) Remove above circuit breaker collar and reset.
- e) Perform the Function Test in accordance with Sections 501.A, of this chapter.

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B. Antenna(s)

Removal

- a) Pull and collar the above circuit breakers.
- b) Gain access to antenna.
- c) Remove coaxial cable from the antenna coax connector.
- d) Remove the sealant from periphery of antenna base.
- e) Remove screws and washers securing the antenna to the mounting surface.
- f) Remove the antenna from the aircraft.

Installation

- a) Connect coaxial cable to antenna coax connector.
- b) Secure fastening screws used to attach antenna to fuselage.
- c) Seal around periphery of antenna with PRC-DeSoto PR-1422B2, or equivalent.
- d) Perform electrical bonding procedure in accordance with Electrical Standard Practices Manual BHT-ELEC-SPM, Chapter 8. Ensure an electrical bonding reading of less than 10 milliohms.
- e) Remove above circuit breaker collar and reset.
- f) Perform the Function Test in accordance with Sections 501.A, of this chapter.

C. High-Pass Filter (If installed)

Removal

- a) Pull and collar the above indicated circuit breakers.
- b) Gain access to filter.
- c) Disconnect BNC connectors from mating connectors of filter.
- d) Remove and retain screws securing filter to mounting surface.
- e) Remove filter from mounting surface.

Installation

- a) Secure filter to mounting surface with screws retained from removal.
- b) Re-connect BNC connectors to mating connectors of filter.
- c) Remove circuit breaker collar and reset.
- d) Perform the Function Test in accordance with Sections 501.A, of this chapter.

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501. Adjustment / Test

A. Function Test

NOTE:

Perform the following function test using the front panel of the TDFM-136B.

- a) Power up the Aircraft's avionics systems. Turn on the transceiver and remote controller (as applicable).
- b) Adjust the volume levels as required.
- c) Press the guard knob to defeat squelch to open receiver.
- d) Ensure receiver is operational, the RX status indicator light is on and channels are open.
- e) Tune an operating frequency and carry out a transmit / receive. Ensure the TX status indicator lights when receiver is transmitting and RX status indicator lights when receiver is receiving.
- f) Check the operation of all front panel controls.

B. Weight and Balance

Refer to structural diagram 5004213, included in Appendix A, for the Weight & Balance.

601. Inspection / Check

Inspections for this chapters components are to be performed in accordance with Chapter 5-20-00, paragraph A, of these Instructions for Continued Airworthiness.

701. Cleaning / Painting

There are no additional cleaning or painting procedures to be added to the Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TDFM-136B Transceiver / High-Pass Filter

There are no approved field repairs for these components. Failed units caused by defective parts or workmanship, should be returned to:

Technisonic Industries Limited
240 Traders Blvd. E
Mississauga, ON
L4Z 1W7
[905] 890-2113

B. Antennas

The antennas associated with this system are non-repairable. If they are determined to be faulty they must be removed and replaced.

901. Storage

There are no storage procedures associated with the components of this chapter.

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Revision A

| APPENDIX A | | |
|-------------------|--|-------------|
| ITEM | TITLE | REV* |
| 1 | WIRING DIAGRAM WD12015 'TIL FM TRANSCEIVER INSTALL, BELL 206' | A |
| 2 | STRUCTURAL DIAGRAM 5004213 'TECHNISONIC ANTENNA INSTALLATION - BELL 206' | N/C |

* Or later approved revision.

R E L E A S E D