

SINGLE BAND ANALOG / DIGITAL FM TRANSCEIVERS

**MODELS TFM-30, TFM-66, TDFM-136, TFM-138, TFM-138A,
TFM-138B, TFM-138C, TFM-403**

**ROTORCRAFT INSTRUCTIONS FOR CONTINUED
AIRWORTHINESS**

**Til DOCUMENT No.
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Technisonic Industries Limited
240 Traders Blvd. E, Mississauga, Ontario L4Z 1W7
Tel: (905)890-2113 Fax: (905)890-5338
www.til.ca

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CHAPTER 1.0 - INTRODUCTION

A. General

These Instructions For Continued Airworthiness are for the following Technisonic Industries Limited Single Band Analog / Digital FM Transceivers.

CHAPTER	SPEC	PART NUMBER	DESCRIPTION	LOCATION
23-10-01	Technisonic	TFM-30	VHF / FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Rotorcraft; refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of transceiver.
	Foxtronics	FLX-3050B [AT-30]	Antenna	Refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of antenna.
23-10-02	Technisonic	TFM-66	VHF / FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Rotorcraft; refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of transceiver.
	Foxtronics	FLX-6688B [AT-66]	Antenna	Refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of antenna.
23-10-03	Technisonic	TDFM-136	VHF / FM Digital Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Rotorcraft; refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of transceiver.
	Comant	CI-292-3 [AT-150]	Antenna	Refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of antenna.
23-10-04	Technisonic	TFM-138 TFM-138A TFM-138B TFM-138C	VHF / FM Airborne Transceiver TFM-138A VHF / FM Airborne Transceiver TFM-138B VHF / FM Airborne Transceiver TFM-138C VHF / FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Rotorcraft; refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of transceiver.
	Comant	CI-292-3 [AT-150]	Antenna	Refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of antenna.

CHAPTER	SPEC	PART NUMBER	DESCRIPTION	LOCATION
23-10-05	Technisonic	TFM-403	UHF / FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Rotorcraft; refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of transceiver.
	Technisonic	PLF-250	Power Line Filter	Adjacent to the transceiver.
	Comant	CI-275 [AT-403]	Antenna	Refer to Rotorcraft Weight & Balance and Rotorcraft Log for specific location of antenna.

The following are reference documents required to supplement the information in this manual concerning the removal, installation, and inspection of the Technisonic Industries Limited Single Band Analog / Digital FM Transceivers.

DOCUMENT	Til DOCUMENT No.	TITLE
Installation and Operating Instructions	98RE244	VHF/FM Airborne Transceiver Model TFM-30 Installation and Operating Instructions
Installation and Operating Instructions	03RE320	VHF/FM Airborne Transceiver Model TFM-66 Installation and Operating Instructions
Installation and Operating Instructions	99RE255	TDFM-136 VHF/FM Airborne Transceiver Installation and Operating Instructions
Operator's Guide	99RE266	TDFM-136 VHF/FM Airborne Transceiver Operator's Guide
Installation and Operating Instructions	95RE177	VHF/FM Airborne Transceiver Models TFM-138 (with s/n 1539 or less), TFM-138A (all models) TFM-138B (with s/n 1499 or less) Installation and Operating Instructions
Installation and Operating Instructions	98RE229	VHF/FM Airborne Transceiver Model TFM-138 (s/n's 1540 and up with F10-B Software) Installation and Operating Instructions
Installation and Operating Instructions	97RE221	VHF/FM Airborne Transceiver Model TFM-138B (s/n's 1500 and up with F14 Software) Installation and Operating Instructions

DOCUMENT	Til DOCUMENT No.	TITLE
Installation and Operating Instructions	96RE192	VHF/FM Airborne Transceiver Model TFM-138C Installation and Operating Instructions
Installation and Operating Instructions	95RE175	UHF/FM Airborne Transceiver Model TFM-403 Installation and Operating Instructions
Installation and Operating Instructions	02RE302	Power Line Filter For TFM Series Transceivers Model PLF-250 Installation and Operating Instructions

B. ICA Distribution

This document, and any revisions thereto, will be available to authorized users of the applicable STC data. Contact Technisonic or visit the Technisonic web site at www.til.ca.

C. Acronyms

VHF	Very High Frequency
FM	Frequency Modulation
UHF	Ultra High Frequency
CTCSS	Continuous Tone Coded Squelch System
DPL	Designated Place
NAC	Network Access Codes

D. Supplement Identities: Chapter, Page, Paragraph Numbers

The supplement format follows the general requirements of Specification 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

CHAPTER 4.0 - AIRWORTHINESS LIMITATIONS

A. General

No airworthiness limitations associated with this type design change.

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

A. General

Perform the following General Visual Inspections, annually. Follow standard maintenance practices of individual Rotorcraft Maintenance Manual.

Description	Inspection	Inspection Details
Antenna Installations;	Annually	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.
TFM-30, TFM-66, TDFM-136, TFM-138 Series, TFM-403 Plus, PLF-250		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.

CHAPTER 23.0 - COMMUNICATIONS
23-10-01: TFM-30 VHF / FM TRANSCEIVER

1.0 Description / Operation

The TFM-30 transceiver is a frequency agile, fully synthesized airborne transceiver capable of operating in the 30.000 MHz to 50.000 MHz frequency range in 2.5 KHz increments with either 25 KHz, 20 KHz or 12.5 KHz channel spacing. The transceiver can operate without restriction on any split frequency pair in the band and also incorporates a two channel synthesized guard receiver.

For complete Operating Instructions for the TFM-30 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

Refer to Chapter 23-10-05, of the Instructions For Continued Airworthiness, for maintenance instructions of the PLF-250 (if applicable).

101. Troubleshooting

NOTE:

Prepare Rotorcraft in accordance with standard Rotorcraft Maintenance Manual procedures.

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 Til Document No. 98RE244, 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 is no additional servicing procedures to be added to the Rotorcraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Rotorcraft for maintenance in accordance with the applicable chapters of the Rotorcraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Rotorcraft Maintenance Manual.
3. Pull and collar the TFM-30 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-30 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-30 Transceiver

Removal

- a) Pull and collar TFM-30 circuit breaker.
- 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 TFM-30 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

B. AT-30 Antenna

Removal

- a) Pull and collar TFM-30 circuit breaker.
- b) Remove sealant around periphery of antenna.
- c) Remove fastening screws used to attach antenna to fuselage.
- c) Disconnect coaxial cable from antenna coax connector.

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) Remove TFM-30 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. Function Test

- a) Power up the Rotorcraft's avionics systems. Turn on the TFM-30 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure both receivers are 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.

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 Rotorcraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-30 Transceiver

There are no approved repairs for the TFM-30. 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. AT-30 Antenna

The AT-30 is a non-repairable item. If it is determined to be faulty it must be removed and replaced.

CHAPTER 23.0 - COMMUNICATIONS

23-10-02: TFM-66 VHF / FM TRANSCEIVER

1.0 Description / Operation

The TFM-66 transceiver is a frequency agile, fully synthesized airborne transceiver capable of operating in the 66.000 MHz to 88.000 MHz frequency range in 2.5 KHz increments with either 25 KHz, 20 KHz or 12.5 KHz channel spacing. The transceiver can operate without restriction on any split frequency pair in the band and also incorporates a two channel synthesized guard receiver.

For complete Operating Instructions for the TFM-66 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

Refer to Chapter 23-10-05, of the Instructions For Continued Airworthiness, for maintenance instructions of the PLF-250 (if applicable).

101. Troubleshooting

NOTE:

Prepare Rotorcraft in accordance with standard Rotorcraft Maintenance Manual procedures.

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 Til Document No. 03RE320, 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 is no additional servicing procedures to be added to the Rotorcraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Rotorcraft for maintenance in accordance with the applicable chapters of the Rotorcraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Rotorcraft Maintenance Manual.
3. Pull and collar the TFM-66 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-66 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

C. TFM-66 Transceiver

Removal

- a) Pull and collar TFM-66 circuit breaker.
- 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 TFM-66 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

D. AT-66 Antenna

Removal

- a) Pull and collar TFM-66 circuit breaker.
- b) Remove sealant around periphery of antenna.
- c) Remove fastening screws used to attach antenna to fuselage.
- c) Disconnect coaxial cable from antenna coax connector.

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) Remove TFM-66 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. Function Test

- a) Power up the Rotorcraft's avionics systems. Turn on the TFM-66 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure both receivers are 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.

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 Rotorcraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-66 Transceiver

There are no approved repairs for the TFM-66. 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. AT-66 Antenna

The AT-66 is a non-repairable item. If it is determined to be faulty it must be removed and replaced.

CHAPTER 23.0 - COMMUNICATIONS

23-10-03: TDFM-136 VHF / FM TRANSCEIVER

1.0 Description / Operation

The TDFM-136 transceiver is a frequency agile, fully synthesized airborne transceiver capable of operating in the 136.000 MHz to 174.000 MHz frequency range in 2.5 KHz increments with either 25 KHz analog, 12.5 KHz analog channel spacing and P25, 12.5 KHz digital modulation on a channel by channel basis. The transceiver can operate without restriction on any split frequency pair in the band and also incorporates a two channel synthesized guard receiver.

For complete Operating Instructions for the TDFM-136 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

Refer to Chapter 23-10-05, of the Instructions For Continued Airworthiness, for maintenance instructions of the PLF-250 (if applicable).

101. Troubleshooting

NOTE:

Prepare Rotorcraft in accordance with standard Rotorcraft Maintenance Manual procedures.

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 Til Document No. 99RE255, 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 is no additional servicing procedures to be added to the Rotorcraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Rotorcraft for maintenance in accordance with the applicable chapters of the Rotorcraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Rotorcraft Maintenance Manual.
3. Pull and collar the TDFM-136 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TDFM-136 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

C. TDFM-136 Transceiver

Removal

- a) Pull and collar TDFM-136 circuit breaker.
- 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 TDFM-136 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

D. AT-150 Antenna

Removal

- a) Pull and collar TDFM-136 circuit breaker.
- b) Remove sealant around periphery of antenna.
- c) Remove fastening screws used to attach antenna to fuselage.
- c) Disconnect coaxial cable from antenna coax connector.

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) Remove TDFM-136 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. Function Test

- a) Power up the Rotorcraft's avionics systems. Turn on the TDFM-136 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure both receivers are 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.

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 Rotorcraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TDFM-136 Transceiver

There are no approved repairs for the TDFM-136. 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. AT-150 Antenna

The AT-150 is a non-repairable item. If it is determined to be faulty it must be removed and replaced.

CHAPTER 23.0 - COMMUNICATIONS
23-10-04: TFM-138 SERIES VHF / FM TRANSCEIVER

1.0 Description / Operation

The TFM-138 series transceivers (TFM-138, 138A, 138B, 138C) are frequency agile, fully synthesized airborne transceivers capable of operating in the 138.000 MHz to 174.000 MHz frequency range in 2.5 KHz increments with either 25 KHz analog, 12.5 KHz analog channel spacing and P25, 12.5 KHz digital modulation on a channel by channel basis. The transceiver can operate without restriction on any split frequency pair in the band and also incorporates a two channel synthesized guard receiver.

For complete Operating Instructions for the TFM-138 Series Transceivers, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

Refer to Chapter 23-10-05, of the Instructions For Continued Airworthiness, for maintenance instructions of the PLF-250 (if applicable).

101. Troubleshooting

NOTE:

Prepare Rotorcraft in accordance with standard Rotorcraft Maintenance Manual procedures.

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 the model appropriate Til Document No. indicated in Chapter 1.0, of these Instructions For Continued Airworthiness, 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 is no additional servicing procedures to be added to the Rotorcraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Rotorcraft for maintenance in accordance with the applicable chapters of the Rotorcraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Rotorcraft Maintenance Manual.
3. Pull and collar the TFM-138 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-138 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

C. TFM-138 Series Transceivers

Removal

- a) Pull and collar TFM-138 circuit breaker.
- 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 TFM-138 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

D. AT-150 Antenna

Removal

- a) Pull and collar TFM-138 circuit breaker.
- b) Remove sealant around periphery of antenna.
- c) Remove fastening screws used to attach antenna to fuselage.
- c) Disconnect coaxial cable from antenna coax connector.

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) Remove TFM-138 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. Function Test

- a) Power up the Rotorcraft's avionics systems. Turn on the TFM-138 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure both receivers are 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.

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 Rotorcraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-138 Series Transceivers

There are no approved repairs for the TFM-138. 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. AT-150 Antenna

The AT-150 is a non-repairable item. If it is determined to be faulty it must be removed and replaced.

CHAPTER 23.0 - COMMUNICATIONS
23-10-05: TFM-403 SERIES VHF / FM TRANSCEIVER

1.0 Description / Operation

The TFM-403 transceiver is a frequency agile, fully synthesized airborne transceivers capable of operating in the 403.000 MHz to 512.000 MHz frequency range in 2.5 KHz increments. The transceiver can operate without restriction on any split frequency pair in the band and also incorporates a two channel synthesized guard receiver.

For complete Operating Instructions for the TFM-403 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Rotorcraft in accordance with standard Rotorcraft Maintenance Manual procedures.

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 Til Document No. 95RE175, 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 is no additional servicing procedures to be added to the Rotorcraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Rotorcraft for maintenance in accordance with the applicable chapters of the Rotorcraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Rotorcraft Maintenance Manual.
3. Pull and collar the TFM-403 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-403 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-403 Plus Transceiver

Removal

- a) Pull and collar TFM-403 circuit breaker.
- 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 TFM-403 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

B. PLF-250

Removal

- a) Pull and collar TFM-403 circuit breaker.
- b) Disconnect electrical connector from mating connector of PFL-250.
- c) Remove four screws securing PFL-250 to mounting surface.
- d) Remove PLF-250 from mounting surface.

Installation

- a) Secure PLF-250 to mounting surface with four screws maintained from removal.
- b) Connect electrical connector and to mating computer of PLF-250.
- c) Remove TFM-403 circuit breaker collar and reset.
- d) Perform Function Test in accordance with Section 501. A, of this chapter upon completion of installation.

AT-403 Antenna

Removal

- a) Pull and collar TFM-403 circuit breaker.
- b) Remove sealant around periphery of antenna.
- c) Remove fastening screws used to attach antenna to fuselage.
- c) Disconnect coaxial cable from antenna coax connector.

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) Remove TFM-403 Plus circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. TFM-403 Plus Function Test

- a) Power up the Rotorcraft's avionics systems. Turn on the TFM-403 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure both receivers are 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.

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 Rotorcraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-403 Transceiver

There are no approved repairs for the TFM-403. 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. PLF-250

There are no approved repairs for the PLF-250. 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

C. AT-403 Antenna

The AT-403 is a non-repairable item. If it is determined to be faulty it must be removed and replaced.