

MULTI-BAND ANALOG FM TRANSCEIVERS

**MODELS TFM-500, TFM-550, TDFM-530, TFM-556, TFM-566,
RC-500, RC-550, ATC-550, PLF-250**

**AIRCRAFT INSTRUCTIONS FOR CONTINUED
AIRWORTHINESS**

**Til DOCUMENT No.
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Table of Contents		iii	N/C	
1.0	1-00-00	1	N/C	
		2	N/C	
		3	N/C	
		4	N/C	
4.0	4-00-00	1	N/C	
5.0	5-20-00	1	N/C	
23.0	23-10-01	1	N/C	
		2	N/C	
		3	N/C	
		4	N/C	
		5	N/C	
	23-10-02	1	N/C	
		2	N/C	
		3	N/C	
		4	N/C	
		5	N/C	
		6	N/C	
	23-10-03	1	N/C	
		2	N/C	
		3	N/C	
	23-10-04	1	N/C	
		2	N/C	
		3	N/C	
		4	N/C	
	23-10-05	1	N/C	
		2	N/C	
		3	N/C	

TABLE OF CONTENTS

CHAPTER 1.0 - INTRODUCTION	1
A. General	1
B. ICA Distribution	3
C. Supplement Identities:	4
CHAPTER 4.0 - AIRWORTHINESS LIMITATIONS	1
A. General	1
CHAPTER 5.0 - TIME LIMITS/MAINTENANCE CHECKS	1
5-20-00: SCHEDULED CHECKS	1
A. General	1
B. Component Overhaul Schedule	1
CHAPTER 23.0 - COMMUNICATIONS	1
23-10-01: TFM-500 VHF/UHF FM TRANSCEIVER	1
1.0 Description / Operation	1
101. Troubleshooting	1
201. Reserved	1
301. Servicing	2
401. Removal / Installation	2
501. Adjustment / Test	4
601. Inspection / Check	4
701. Cleaning / Painting	5
801. Approved Repairs	5
23-10-02: TFM-550 VHF HIGH/VHF LOW/UHF FM TRANSCEIVER	1
101. Troubleshooting	2
201. Reserved	2
301. Servicing	2
401. Removal / Installation	2
501. Adjustment / Test	5
601. Inspection / Check	5
701. Cleaning / Painting	6
801. Approved Repairs	6
23-10-03: TFM-530 VHF/VHF LO FM TRANSCEIVER	1
101. Troubleshooting	1
201. Reserved	1
301. Servicing	2
401. Removal / Installation	2
501. Adjustment / Test	3
601. Inspection / Check	3
701. Cleaning / Painting	3
801. Approved Repairs	3

23-10-04:	TFM-556 SERIES VHF HIGH/VHF LOW/UHF FM TRANSCEIVER	1
101.	Troubleshooting	1
201.	Reserved	1
301.	Servicing	2
401.	Removal / Installation	2
501.	Adjustment / Test	3
601.	Inspection / Check	3
701.	Cleaning / Painting	4
801.	Approved Repairs	4
23-10-05:	TFM-566 SERIES VHF/UHF FM TRANSCEIVER	1
101.	Troubleshooting	1
201.	Reserved	2
301.	Servicing	2
401.	Removal / Installation	2
501.	Adjustment / Test	3
601.	Inspection / Check	3
701.	Cleaning / Painting	3
801.	Approved Repairs	3

CHAPTER 1.0 - INTRODUCTION

A. General

These Instructions For Continued Airworthiness are for the following Technisonic Industries Limited Multi-Band Analog FM Transceivers.

CHAPTER	SPEC	PART NUMBER	DESCRIPTION	LOCATION
23-10-01	Technisonic	TFM-500	138-174 MHz & 403-512 MHz FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
	Technisonic	RC-500	Slaved Control Head	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
	Technisonic	PLF-250	Power Line Filter	Refer to Aircraft Weight & Balance and Aircraft Log for specific location of filter.
	Comant	CI-177-1	138-174 MHz VHF Antenna	Refer to Aircraft Weight & Balance and Aircraft Log for specific location of antenna.
	Comant	CI-275 (AT-403)	403-512 MHz UHF Antenna	Refer to Aircraft Weight & Balance and Aircraft Log for specific location of antenna.
23-10-02	Technisonic	TFM-550	30-50 MHz, 138-174 MHz & 403 -512 MHz FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
	Technisonic	RC-550	Slaved Control Head	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
	Technisonic	ATC-550	Antenna Tuner Controller	Refer to Aircraft Weight & Balance and Aircraft Log for specific location of antenna tuner controller.
	Foxtronics	FLX-3050B (AT-30)	30-50 MHz Lo Band VHF Antenna	Refer to Aircraft Weight & Balance and Aircraft Log for specific location of antenna.

CHAPTER	SPEC	PART NUMBER	DESCRIPTION	LOCATION
23-10-03	Technisonic	TFM-530	30-50 MHz & 138-174 MHz FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
23-10-04	Technisonic	TFM-556	66-88 MHz & 138-174 MHz	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
23-10-05	Technisonic	TFM-566	66-88 MHz , 138-174 MHz & 403-512 MHz FM Airborne Transceiver	DZUS rail-mounted in the cockpit or cabin of the Aircraft; refer to Aircraft Weight & Balance and Aircraft Log for specific location of transceiver.
	Foxtronics	FLX-3050B (AT-66)	66-88 MHz Lo Band VHF Antenna	Refer to Aircraft Weight & Balance and Aircraft 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 Multi-Band Analog FM Transceivers.

DOCUMENT	Til DOCUMENT No.	TITLE
Installation and Operating Instructions	98RE243	VHF/UHF FM Airborne Transceiver Model TFM-500 Installation and Operating Instructions
Installation and Operating Instructions	99RE262	VHF High/VHF Low/UHF Multi-Band FM Airborne Transceiver Model TFM-550 Installation and Operating Instructions
Installation and Operating Instructions	03RE317	VHF/VHF Lo Airborne Transceiver Model TFM-530 Installation and Operating Instructions (P/N's 031216-1, -2, -3, -4)
Installation and Operating Instructions	03RE328	VHF High/VHF Low/UHF Multi-Band FM Airborne Transceiver Model TFM-556 Installation and Operating Instructions
Installation and Operating Instructions	03RE318	VHF/UHF FM Airborne Transceiver Model TFM-566 Installation and Operating Instructions (P/N's 031217-1, -3)
Installation and Operating Instructions	99RE260	VHF/UHF FM Airborne Transceiver Remote Control Head Model RC-500 Installation and Operating Instructions (P/N's 991097-1, -2)
Installation and Operating Instructions	00RE270	VHF/UHF/VHF Low FM Airborne Transceiver Remote Control Head Model RC-550 Installation and Operating Instructions (P/N's 991099-1, -2)
Installation and Operating Instructions	00RE269	Antenna Tuner Controller Model ATC-550 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. 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 Aircraft 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-500, TFM-550, TDFM-530, TFM-556, TFM-566, RC-500, RC-550, ATC-550, 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-500 VHF/UHF FM TRANSCEIVER

1.0 Description / Operation

The TFM-500 transceiver is a frequency agile, fully synthesized airborne transceiver that operates from 138 to 174 MHz and from 403 to 512 MHz in 2.5 KHz steps providing 12.5 KHz (narrow band) or 25 KHz (wide band) channel spacing on both bands. The TFM-500 synthesized multi-band transceiver can function without restriction on either band. It can be interfaced with the optional RC-500 slaved control head and the PLF-250 power line filter. The TFM-500 uses the CI-177-1 antenna and the AT-403 antenna.

The Technisonic RC-500 remote control head provides for remote slaved operation of the TFM-500 dual band transceiver.

The PLF-250 Power Line Filter provides an extra ordinary level of power line conditioning to counter excessive 28 Volt DC ripple resident in some airframes.

For complete Operating Instructions for the TFM-500 Transceiver, RC-500 Control Head and PLF-250 refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Aircraft in accordance with standard Aircraft 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. 98RE243, and correct irregularities as required.
Not operating correctly after above action completed.	Remove component in accordance with the applicable paragraph of Section 401, 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 Aircraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Aircraft for maintenance in accordance with the applicable chapters of the Aircraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Aircraft Maintenance Manual.
3. Pull and collar the TFM-500 and RC-500 circuit breakers prior to removing the components of this installation.
4. Remove collars from the TFM-500 and RC-500 circuit breakers after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-500 Transceiver

Removal

- a) Pull and collar TFM-500 and RC-500 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 TFM-500 and RC-500 circuit breaker collars and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

B. RC-500 Control Head

Removal

- a) Pull and collar TFM-500 and RC-500 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 TFM-500 and RC-500 circuit breaker collars and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

C. CI-177-1, AT-403 Antenna

Removal

- a) Pull and collar TFM-500 and RC-500 circuit breakers.
- 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-500 and RC-500 circuit breaker collars and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

D. PLF-250

Removal

- a) Pull and collar TFM-500 and RC-500 circuit breakers.
- 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-500 and RC-500 circuit breaker collars and reset.
- d) Perform Function Test in accordance with Section 501. A, of this chapter upon completion of installation.

501. Adjustment / Test

A. Function Test

- a) Power up the Aircraft's avionics systems. Ensure the TFM-500 radio and RC-500 control head are powered on.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure the 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. Repeat for each band.
- 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 Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-500 Transceiver; RC-500 Control Head; PLF-250

There are no approved field repairs for the TFM-500, RC-500 or 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

B. CI-177-1, AT-403 Antenna

The CI-177-1 and AT-403 are non-repairable items. If they are determined to be faulty they must be removed and replaced.

CHAPTER 23.0 - COMMUNICATIONS
23-10-02: TFM-550 VHF HIGH/VHF LOW/UHF FM TRANSCEIVER

1.0 Description / Operation

The Technisonic TFM-550 is a three band, frequency agile, airborne VHF/UHF FM transceiver intended to provide radio communications on every channel currently available in the VHF low band (30 to 50 Mhz), VHF high band (138 to 174 Mhz) and the UHF band (403 to 512 Mhz). This synthesized multi-band transceiver offers narrow band (12.5 KHz) or wide band (25.0 KHz) channel spacing on any or all of its 600 channels of preset memory (200 channels per band) and can operate without restriction on any frequency pair in any band. It can be interfaced with the optional RC-550 slaved control head, the ATC-550 antenna tuner controller and the PLF-250 power line filter. The TFM-550 uses the CI-177-1 antenna, the AT-403 and the AT-30 antenna.

The Technisonic RC-550 remote control head provides for remote slaved operation of the TFM-550 three band transceiver.

The ATC-550 Antenna Tuner Controller is a remote mount, micro-processor controlled interface which derives VHF Low Band operating frequency data from the TFM-550 and outputs the tuning logic necessary.

Refer to Chapter 23-10-01, of these Instructions For Continued Airworthiness, for maintenance instructions of the CI-177-1 and AT-403 antennas.

Refer to Chapter 23-10-01, of these Instructions For Continued Airworthiness, for maintenance instructions of the PLF-250 (if applicable).

For complete Operating Instructions for the TFM-550 Transceiver and RC-550, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Aircraft in accordance with standard Aircraft 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. 99RE262, and correct irregularities as required.
Not operating correctly after above action completed.	Remove component in accordance with the applicable paragraph of Section 401, 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 Aircraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Aircraft for maintenance in accordance with the applicable chapters of the Aircraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Aircraft Maintenance Manual.
3. Pull and collar the TFM-550 and RC-550 circuit breakers prior to removing the components of this installation.
4. Remove collar from the TFM-550 and RC-550 circuit breakers after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-550 Transceiver

Removal

- a) Pull and collar TFM-550 and RC-550 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 TFM-550 and RC-550 circuit breaker collars and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

B. RC-550 Control Head

Removal

- a) Pull and collar TFM-550 and RC-550 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 TFM-550 and RC-550 circuit breaker collars and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

C. ATC-550 Antenna Tuner Controller

Removal

- a) Pull and collar TFM-550 and RC-550 circuit breakers.
- b) Disconnect electrical connector from mating connector of ATC-550.
- c) Remove four screws securing ATC-550 to mounting surface.
- d) Remove ATC-550 from mounting surface.

Installation

- a) Secure ATC-550 to mounting surface with four screws maintained from removal.
- b) Connect electrical connector and to mating computer of ATC-550.
- c) Remove TFM-550 and RC-550 circuit breaker collars and reset.
- d) Perform Function Test in accordance with Section 501. A, of this chapter upon completion of installation.

D. AT-30 Antenna

Removal

- a) Pull and collar TFM-550 and RC-550 circuit breakers.
- 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-550 and RC-550 circuit breaker collars 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 Aircraft's avionics systems. Turn on the TFM-550 radio and RC-550 control head.
- 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. Repeat for each band.
- 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 Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-550 Transceiver; RC-550 Control Head; ATC-550 Antenna Tuner Controller

There are no approved field repairs for the TFM-550, RC-550 or ATC-550. 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
23-10-03: TFM-530 VHF/VHF LO FM TRANSCEIVER

1.0 Description / Operation

The Technisonic TFM-530 is a dual band frequency agile airborne FM transceiver designed to provide crisp communications on every available 12.5 KHz narrow band channel or 25 KHz wide band channel in the VHF Hi (138 to 174 MHz) and the VHF Lo (30 to 50 MHz) General Service FM band. The TFM-530 uses the CI-177-1 antenna and the AT-30 antenna.

Refer to Chapter 23-10-01, of these Instructions For Continued Airworthiness, for maintenance instructions of the CI-177-1 antenna.

Refer to Chapter 23-10-02, of these Instructions For Continued Airworthiness, for maintenance instructions of the AT-30 antenna.

For complete Operating Instructions for the TDFM-530 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Aircraft in accordance with standard Aircraft 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. 03RE317, and correct irregularities as required.
Not operating correctly after above action completed.	Remove component in accordance with the applicable paragraph of Section 401, 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 Aircraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Aircraft for maintenance in accordance with the applicable chapters of the Aircraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Aircraft Maintenance Manual.
3. Pull and collar the TFM-530 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-530 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

C. TFM-530 Transceiver

Removal

- a) Pull and collar TFM-530 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-530 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 Aircraft's avionics systems. Turn on the TFM-530 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- 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. Repeat for each band.
- 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 Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-530 Transceiver

There are no approved repairs for the TFM-530. 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

CHAPTER 23.0 - COMMUNICATIONS

23-10-04: TFM-556 SERIES VHF HIGH/VHF LOW/UHF FM TRANSCEIVER

1.0 Description / Operation

The Technisonic TFM-556 is a three band, frequency agile, VHF/UHF airborne FM transceiver designed to provide communications on International VHF low band (from 66 to 88 MHz), VHF high band (138 to 174 MHz) and UHF band (403 to 512 MHz). This synthesized multi-band transceiver offers narrow band (12.5 KHz) or wide band (25.0 KHz) operation on any or all of it's 600 preset memory positions (200 channels per band) and can operate without restriction on any frequency pair in any band. The TFM-556 uses the CI-177-1 antenna, the AT-403 antenna and the AT-66 antenna.

Refer to Chapter 23-10-01, of these Instructions For Continued Airworthiness, for maintenance instructions of the CI-177-1 and AT-403 antennas.

For complete Operating Instructions for the TFM-556 Series Transceivers, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Aircraft in accordance with standard Aircraft 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. 03RE328, 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 Aircraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Aircraft for maintenance in accordance with the applicable chapters of the Aircraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Aircraft Maintenance Manual.
3. Pull and collar the TFM-556 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-556 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-556 Transceiver

Removal

- a) Pull and collar TFM-556 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-556 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

B. AT-66 Antenna

Removal

- a) Pull and collar TFM-556 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-556 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 Aircraft's avionics systems. Turn on the TFM-556 radio.
- b) Adjust the volume levels as required.
- c) Press the squelch defeat button to open both receivers.
- d) Ensure the 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. Repeat for each band.
- 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 Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-556 Transceiver

There are no approved repairs for the TFM-556. 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
23-10-05: TFM-566 SERIES VHF/UHF FM TRANSCEIVER

1.0 Description / Operation

The Technisonic TFM-566 is a dual band , frequency agile airborne FM transceiver designed to provide radio communications on every available channel in the VHF General Service hi band (138 to 174 MHz) and enable communications in the International VHF lo band (66 to 88 MHz). This transceiver is able to tune in 2.5 KHz steps providing both 12.5 KHz (narrow band) or 25.0 KHz (wide band) operation in both bands. Additionally, the TFM-566 features a 2 channel, synthesized VHF high band guard receiver. The TFM-566 uses the CI-177-1 antenna and the AT-66 antenna.

Refer to Chapter 23-10-01, of these Instructions For Continued Airworthiness, for maintenance instructions of the CI-177-1 antenna.

Refer to Chapter 23-10-04, of these Instructions For Continued Airworthiness, for maintenance instructions of the AT-66 antenna.

For complete Operating Instructions for the TFM-566 Transceiver, refer to Chapter 1.0, of these Instructions of Continued Airworthiness for the applicable document.

101. Troubleshooting

NOTE:

Prepare Aircraft in accordance with standard Aircraft 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. 03RE318, 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 Aircraft Maintenance Manual for the components of this chapter.

401. Removal / Installation

NOTES:

1. Prepare Aircraft for maintenance in accordance with the applicable chapters of the Aircraft Maintenance Manual and AC 43.13-1B.
2. Gain access in accordance with the Aircraft Maintenance Manual.
3. Pull and collar the TFM-566 circuit breaker prior to removing the components of this installation.
4. Remove collar from the TFM-566 circuit breaker after installing the components of this installation, and before functional testing occurs, unless otherwise stated.

A. TFM-566 Transceiver

Removal

- a) Pull and collar TFM-566 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-566 circuit breaker collar and reset.
- e) Perform Function Test in accordance with Section 501. A, of this chapter.

501. Adjustment / Test

A. TFM-566 Function Test

- a) Power up the Aircraft's avionics systems. Turn on the TFM-566 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. Repeat for each band.
- 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 Aircraft Maintenance Manual for the components of this chapter.

801. Approved Repairs

A. TFM-566 Transceiver

There are no approved repairs for the TFM-566. Failed units caused by defective parts or workmanship, should be returned to:

Technisonic Industries Limited
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