

TY96/97 CS-STAN Installation Guide

10 November 2016

Document Control

Title:	TY96/97 CS-STAN Installation Guide
Identifier:	SUP/TY96/004
Issue:	Issue 1.0
Issue Date:	10 November 2016
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CCB Category:	2
File Name:	SUP TY96 004 Issue 1 0
Printed on:	19/01/2017 10:39:00

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1. Preface

1.1 Purpose

This document provides guidance for those planning to install a Trig TY96/97 VHF Radio under CS-STAN, Subpart B CS-SC001a.

1.2 Scope

CS-STAN Installation of VHF is applicable to any Non-complex motor powered EASA Aircraft, with a maximum cruising speed in ISA conditions below 250kts, non-complex rotorcraft and any ELA2 aircraft. Non-complex as defined in <https://www.easa.europa.eu/easa-and-you/general-aviation/operations-general-aviation>

Complex motor-powered aircraft' shall mean:

(i) an aeroplane:

- with a maximum certificated take-off mass exceeding 5 700 kg, or
- certificated for a maximum passenger seating configuration of more than nineteen, or
- certificated for operation with a minimum crew of at least two pilots, or
- equipped with (a) turbojet engine(s) or more than one turboprop engine, or

(ii) a helicopter certificated:

- for a maximum take-off mass exceeding 3 175 kg, or
- for a maximum passenger seating configuration of more than nine, or
- for operation with a minimum crew of at least two pilots, or

(iii) a tilt rotor aircraft;

1.3 Limitations

CS-STAN cannot be used to extend the operational capability of the aircraft, ie: VFR upgraded to IFR.

- New installations are limited to VFR operation
- An existing IFR radio can be exchanged with a replacement IFR radio.

In the case of rotorcraft approved for NVIS, if cockpit panels are to be inserted, the change cannot be considered a standard change.

1.4 Changes from Previous Issue

None, this is the first issue

1.5 Changes Forecast

None.

1.6 Document Cross-References

1.6.1 Internal Documents

01238-00	TY96/97 VHF Radio Installation Manual	Issue AD
01239-00	TY96 Operating Manual	Issue AB

1.6.2 External Documents

CS-STAN	Certification Specifications for Standard Changes and Standard Repairs	Issue 1
AC 43-13-2B	FAA Advisory Circular AC 43-13-2B Chapter 2	

2. Introduction

This guide describes the process of installing a TY96/97 VHF radio, using the EASA document ‘Certification Specifications for Standard Changes and Standard Repairs’, more commonly referred to as CS-STAN. EASA delivered CS-STAN as a more affordable and much faster alternative to the old EASA Minor Change process

CS-STAN removes the need for any interaction with EASA to complete the change, and no EASA admin fee. CS-STAN can be used to complete a wide variety of installations, including transponders, radios, antenna, moving map systems... the list goes on.

3. Change Details

3.1 Description of Change

This change involves removing an existing radio if applicable, and installing a Trig Avionics TY96/97 VHF Radio.

The processes involved in the change includes pre-testing of any existing installation; verification of the suitability of the existing power supply wiring; installing the TY96/97 and post-installation testing as defined in the TY96/97 VHF Installation Manual.

If replacing an existing radio; the original mounting tray will need to be removed and the dedicated TY96/97 tray must be installed. The connector will also need to be replaced. The existing antenna can be re-used – provided it is in serviceable condition. Otherwise, need to be replaced or repaired. An antenna can be replaced under the CS-STAN Section CS-SC004a.

3.2 Radio Selection

The minimum output power specified for the radio is sufficient for the operation depending on the maximum flight level of the aircraft. The table below is valid for standard antenna installations (antenna type and position) with standard cable length less than 4m and 2 connectors.

Maximum aircraft Flight Level (FL)	Minimum output power (W)	Trig Radio Selection
Up to 100	4	TY96 (10W nominal output power)
100 to 150	6	
150 to 200	8	
200 to 250	10	
250 to 300	12	TY97 (16W nominal output power)
300 to 400	16	

For different installations (cable length, connectors), the required output power needs to be assessed by additional analysis.

For aircraft flying below FL250 the TY96 (nominal power of 10W) is sufficient. For aircraft flying above FL250 and up to FL400, the 16W TY97 Radio must be installed.

3.3 Acceptable installation methods, techniques and Practices

The installation and return to service test must be carried out in accordance with the TY96/97 Installation manual, available on the Trig website at <http://www.trig-avionics.com/products/ty96/>

The TY96/97 meets all requirements of CS-STAN as laid out in Section 3 of CS-SC001a; certified to ETSO 2C169a, capable of both 8.33KHz and 25Khz spacing.

In CS-STAN, It is stated that the installer must ensure that the radio is suitable for environmental conditions to be expected during normal operation. The TY96/97 is certified for wide variety environmental stress, as detailed in the TY96/97 Installation Manual.

3.4 Continued Airworthiness Instructions

An approved aircraft maintenance program will normally include periodic functional checks of the communications radio installation.

Other than for periodic functional checks required by the regulations, the TY96/97 VHF Radio has been designed and manufactured to allow “on condition maintenance”. This means that there are no periodic service requirements necessary to maintain continued airworthiness, and no maintenance is required until the equipment does not properly perform its intended function.

3.5 Acceptable Means of Compliance

The Installation must be carried out by an EASA Part M or EASA Part 145 organisation. The work required includes an entry in the aircraft log book and the completion of a Form 123. Below is an example of the Form 123, which can be used as a template;

3.6 Form 123

The original Form 123 remains with the legal or natural person responsible for the embodiment of the SC/SR. The aircraft owner should retain a copy of this form. The aircraft owner should be provided with copies of the documents referenced in box 6 marked with an asterisk '*'.

3.6.1 Form 123 Example

Enter Company name/Logo and address	Form	123
	Issue	1.0
	Revision	0
EASA Form 123 — Standard Change/Standard Repair (SC/SR) embodiment record		1. SC/SR number(s):
2. SC/SR title & description: INSTALLATION OF VHF 8.33KHz COM EQUIPMENT		
3. Applicability: Enter Aircraft Registration, make and model.		
4. List of parts (description/Part-No/Qty): REMOVED COM p/n xxxx, s/n xxxx VHF COM. (if replacing an existing COM) FITTED TY96 Kit p/n 01227-00-01, s/n xxxxx VHF 8.33KHz Capable COM		
5. Operational limitations/affected aircraft manuals. Copies of these manuals are provided to the aircraft owner: TY96 Operation Manual PN 01239-00		
6. Documents used for the development and embodiment of this SC/SR: TY96 VHF Radio Installation Manual PN 01238-00* TY96 Operation Manual PN 01239-00* * -Copies of the documents marked with an asterisk are handed to the aircraft owner.		
7. Instructions for continuing airworthiness. Copies of these manuals are provided to the aircraft owner: TY96 VHF Radio Installation Manual PN 01238-00		
8. Other information: NA		
9a. <input checked="" type="checkbox"/> This SC complies with the criteria established in 21A.90B(a) and with chapter(s) CS-001a of Certification Specifications CS-STAN.		
9b. <input type="checkbox"/> This SR complies with the criteria established in 21A.431B(a) and with chapter(s)..... NA of Certification Specifications CS-STAN.		
10. Date of SC/SR embodiment: Enter date	11. Identification data and signature for the person responsible for the embodiment of the SC/SR: Enter Work Pack ID and Signature	
12. Signature of the aircraft owner. This signature attests that all relevant documentation is handed over from the organisation to the aircraft owner, and therefore, the latter becomes aware of any impact or limitations on operations or additional continuing airworthiness requirements which may apply to the aircraft due to the embodiment of the change/repair.		
Name:	Signature:	Date:

3.6.2 Form 123 Completion Instructions

Use English or the official language of the State of registry to fill in the form.

1. Identify the SC/SR with a unique number and reference this number in the aircraft logbook.
2. Specify the applicable EASA CS-SC/SR chapter, title & revision.
3. Identify the a/c serial number and aircraft type.
4. List the parts' numbers and parts' description for the parts installed. Refer to an auxiliary document if necessary.
5. Identify affected aircraft manuals.
6. Refer to the documentation developed to support the SC/SR and its embodiment, including design data required by the CS-SC/SR: design definition, documents recording the showing of compliance with the Certification Specifications or any test result, etc. The documents' references should quote their revision/issue.
7. Identify instructions for continuing airworthiness that need to be considered for the aircraft Maintenance programme review.
8. To be used as deemed necessary by the installer.
- 9a.,Standard Change – tick and identify applicable section of CS-STAN
- 9b.,Standard Repair
10. Enter Date.
11. Give full name details and certificate reference used for issuing the aircraft release to service.
12. Aircraft owner must print name, sign and date.