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Report: AV13697.003/45

Title: Installation Plan - Indigo One Tracking System – MIL Mi-8

Aircraft: MIL Mi-8 Series

Issue: Issue 1

Date: 4th March 2009

Prepared: D. Ong Date: 4/3/09

Checked by: N. Levchenko Date: 5/3/09

PREPARED: D. Ong CHECKED: N. Levchenko ISSUE No.: One	AERONAUTICAL ENGINEERS AUSTRALIA	PAGE No.: Page 2 of 8 REPORT No.: AV13697.003/45 FILE: Installation Plan Mi-8.doc
Installation Plan - Indigo One Tracking System – MIL Mi-8		

LOG OF REVISIONS

<u>Issue</u>	<u>Date</u>	<u>Pages</u>	<u>Description</u>
1	4 th March 2009	Pages 1 to 8	Original issue

PREPARED: D. Ong CHECKED: N. Levchenko ISSUE No.: One	AERONAUTICAL ENGINEERS AUSTRALIA	PAGE No.: Page 3 of 8 REPORT No.: AV13697.003/45 FILE: Installation Plan Mi-8.doc
Installation Plan - Indigo One Tracking System – MIL Mi-8		

CONTENTS:

1.	INTRODUCTION	4
2.	INSTALLATION PLANNING.....	4
2.1.	Select Antenna Position.....	4
2.2.	Select a Panel Position for the Panel Control Unit	5
3.	INSTALLATION DETAILS	6
3.1.	Install the Antenna	6
3.2.	Antenna Cable Routing.....	7
3.3.	Wiring Harness Installation Procedure.....	7
3.4.	Install the Panel Control Unit	7
4.	FUNCTIONAL TESTING.....	7
5.	POST INSTALLATION.....	7
6.	STANDARD NOTES	8

Installation Plan - Indigo One Tracking System – MIL Mi-8

1. INTRODUCTION

This installation plan outlines the basic elements to be considered for the Indigo One Tracking and Communication System Installation in MIL Mi-8 series rotorcraft. This plan should be read in conjunction with the IndigoSat Installation Manual, Document Number IS-IM-2008-002, Revision A (or later revision) which provides further details pertinent to the installation of the Indigo One system.

2. INSTALLATION PLANNING

2.1. Select Antenna Position

Select an appropriate antenna location based on the area suggested in Figure 1 below. The antenna should occupy a vacant panel on the cabin roof / cowling and be separated from existing antennas by the distances specified in the IndigoSat Installation Manual (IS-IM-2008-002). A minimum distance of 1.0 meter is required from any L-band system antenna.

Note that aircraft fitted with a WAAS GPS system (eg. GNS430W or GNS530W) have been found to be sensitive to Indigo One antenna placement. A distance of approximately 3.0m (10ft) may be required between a WAAS antenna and the Indigo One antenna to prevent interference, requiring a position outside of the region indicated below.

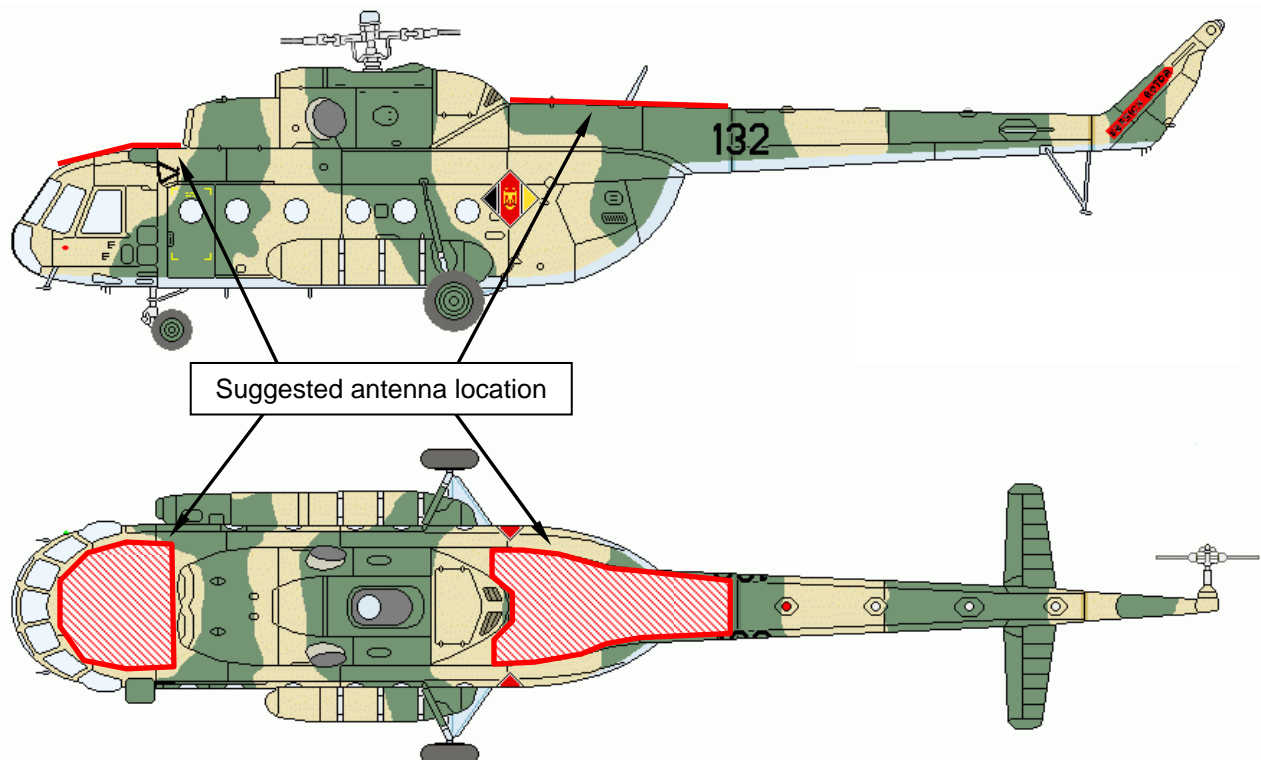


Figure 1. Suggested location of Indigo antenna

Installation Plan - Indigo One Tracking System – MIL Mi-8

2.2. Select a Panel Position for the Panel Control Unit

Select an appropriate vacant space in the cockpit for the installation of the Indigo display unit. The Indigo One cradle supplied with the kit fits in a standard 6.25” avionics rack. Figure 2 provides possible installation locations.



Note: The cockpit layout shown above is only an example; Mi-8's come in several configurations. As such layout and suggested display unit locations may vary.

Figure 2. Suggested locations of display unit

There are several possible positions for location of the Indigo One control unit on the Mi-8 (depending on the cockpit configuration, the layout shown above may vary). The operator or installer is in the best position to specify where they wish it located based on available space, operational considerations and ease of access for installation. Depending on position chosen and availability of existing avionic rack structure, additional support structure to hold the cradle may be necessary.

If no suitable position is achievable in the instrument panel, then the unit may be installed to the side panels / roof of the cabin or in a baggage compartment. No pilot access to the unit is required for proper operation of the tracking system.

3. INSTALLATION DETAILS

3.1. Install the Antenna

Manufacture an antenna doubler to dimensions shown in Figure 3 from .040" 2024-T3 aluminium alloy sheet. Treat with Alodine 1200S and prime with BMS 10-79.

Install the doubler and Antenna / Transceiver, P/N AS2217D-00-00 in accordance with the layout in Figure 3. The antenna doubler would typically be attached under the skin with eight MS20426-AD4 rivets one in each corner and one mid-side on each side of the doubler. Four MS27039-1 (10-32) screws attach the antenna to the doubler. Seal the perimeter of the antenna with a bead of PR1422 or a MIL-A-56106A silicone sealant.

Refer to the IndigoSat Installation Manual (IS-IM-2008-002) for further information.

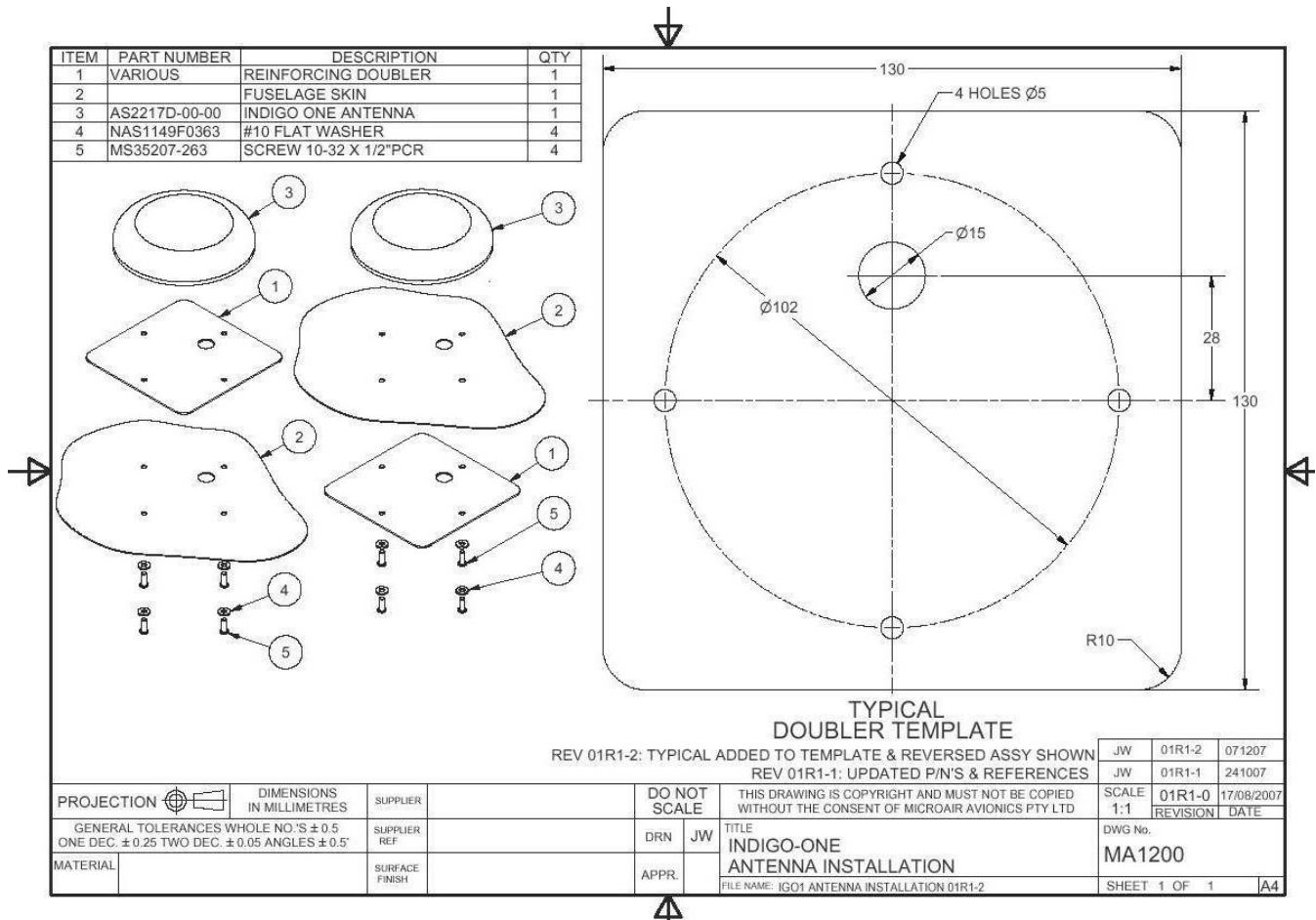


Figure 3. Doubler details.

PREPARED: D. Ong CHECKED: N. Levchenko ISSUE No.: One	AERONAUTICAL ENGINEERS AUSTRALIA	PAGE No.: Page 7 of 8 REPORT No.: AV13697.003/45 FILE: Installation Plan Mi-8.doc
Installation Plan - Indigo One Tracking System – MIL Mi-8		

3.2. Antenna Cable Routing

The IndigoSat Installation Manual (IS-IM-2008-002) provides the general requirements for cable routing.

The coaxial cable should be run ensuring adequate fixing where possible to existing wiring looms. Attach to these existing wiring bundles by double tie-wrapping. Sufficient securing should be used to prevent any chaffing of the cable. Follow the normal wiring loom routing path of existing cable runs to run the coaxial cable to the selected control unit position determined in Section 2.2.

If the cable needs to pass through frames or bulkheads grommets should be used to prevent chafing or wear of the cable.

3.3. Wiring Harness Installation Procedure

The IndigoSat Installation Manual (IS-IM-2008-002) provides the wiring harness installation procedure, including wiring diagram for the system installation.

If used, placard circuit breakers with function and rating. Text to be similar size and font to others on the panel.

Note that detailed connection of digital inputs should be determined by the installer in conjunction with the organisation approving the installation.

3.4. Install the Panel Control Unit

Install the display unit to the location pre-selected in Section 2.2 in accordance with the details in the IndigoSat Installation Manual (IS-IM-2008-002).

4. FUNCTIONAL TESTING

Carry out the Operation Configuration setup and Communications Testing in accordance with the IndigoSat Installation Manual (IS-IM-2008-002) to ensure correct function of the Indigo One system.

5. POST INSTALLATION

Carry out the post installation requirements detailed in the IndigoSat Installation Manual (IS-IM-2008-002).

PREPARED: D. Ong CHECKED: N. Levchenko ISSUE No.: One	AERONAUTICAL ENGINEERS AUSTRALIA	PAGE No.: Page 8 of 8 REPORT No.: AV13697.003/45 FILE: Installation Plan Mi-8.doc
Installation Plan - Indigo One Tracking System – MIL Mi-8		

6. STANDARD NOTES

- (1) All work to be conducted by an approved workshop using standard aircraft practices.
- (2) Fasteners used in avionics installations must be metal or nylon thread locked fasteners unless noted otherwise. Alternatively, Loctite 222 or 242 may be used on threads.
- (3) Unless otherwise noted, observe standard sheetmetal practices in accordance with AC43.13-1B Chapter 4. Section 4. Maintain a minimum fastener edge distance of 3d and a minimum fastener pitch of 4d. Material specifications as detailed below:
2024-T3 Alclad Sheet QQ-A-250/5
- (4) All new unshielded wire to meet M22759/16 specifications. All new shielded wiring to meet MIL-C-27500. Wire gauge as indicated in the wiring diagram. All wiring to be in accordance with CASA AC21.99.