AIRCRAFT SERVICE CHANGE

NUMBER 077

SUBJECT

NAVIGATION (ATA 34)

TCAS 7.1 INSTALLATION

JUNE 12, 2012
PILOTS INFORMATION SHEET

TCAS 7.1 INSTALLATION

This service change upgrades TCAS 2000 or 3000SP systems to TCAS 7.1.

Aircraft operating under FAA regulations will require FAA Airplane Flight Manual (AFM) Revision 31, or later approved version, as a result of this service change.

Aircraft operating under EASA / JAA regulations will require JAA Airplane Flight Manual (AFM) Revision 17, or later approved version, as a result of this service change.

PLEASE DETACH AND GIVE TO FLIGHT DEPARTMENT PERSONNEL
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PLEASE RETAIN THIS COPY WITH THE ASC BOOKLET
The design change effected by this Aircraft Service Change (ASC) has been classified as Major/Not Significant by the United States Federal Aviation Administration (FAA) and Level 2 Major/Not Significant by the European Aviation Safety Agency (EASA). The design change data contained here-in and effected by this document is approved and accepted by the FAA and EASA under Gulfstream Organization Delegation Authorization Project No. TG-01-2012-0001.

The design of this ASC is approved by aircraft type design data for installation on aircraft registered for operation in accordance with applicable regulations of the FAA and EASA.

The design of an ASC is configured to a standard (“green”) production aircraft. If spare wires, pin connections or locations called out have been used for another modification, the installing agency must ensure the development, documentation and approval of any required deviations.

The following instructions, in step-by-step form, are written as a guide to perform this ASC. Compliance with safe maintenance practices, as defined in the Aircraft Maintenance Manual and FAA regulations, is required. It is the responsibility of the installing facility to read all instructions contained in this service change and refer to all associated documents, drawings and manuals for applicable actions.

Gulfstream considers this ASC a means to enhance aircraft capabilities to meet individual operator requirements. The modification is not related to any safety or airworthiness condition.

Subject: Navigation (ATA 34) – TCAS 7.1 Installation

Purpose / Discussion: This service change installs new operating software to the Traffic Alert and Collision Avoidance System (TCAS) 2000 and 3000SP units. The new operating software incorporates the following functionalities:

- TCAS Change 7.1
- TCAS Interference Limiting
- Compliance to DO-260B
- Compliance with DO-317

Description / Man-Hours Required Per Aircraft: This service change provides instructions for the installation of new operating software to the TCAS unit via incorporation of Aviation Communication & Surveillance Systems (ACSS) service bulletins (SBs). This software only change may be completed on or off the aircraft at an approved test station.

Approximately 4 man-hours will be required for this installation.
Approved Engineering Data: The source data for this aircraft service change is:
1159ASC47077 Rev. “-” Top Drawing ASC 077 – TCAS 7.1

Prerequisites: ACSS Service Bulletin 8006949-001 for TCAS 2000 units without mod “B” (aircraft 4001 - 4188)
Incorporation of ACSS SB 8006949-001 requires the unit to be returned to ACSS for modification. Approximate turn-time is 14 days.

Associated Documents: G450 Aircraft Maintenance Manual (AMM)

Flight Manual Revision / Supplement Required: Aircraft operating under FAA regulations will require FAA Airplane Flight Manual (AFM) Revision 31, or later approved version, as a result of this service change.

Aircraft operating under EASA / JAA regulations will require JAA Airplane Flight Manual (AFM) Revision 17, or later approved version, as a result of this service change.

Publications Data: Data concerning this service change will be published in a future revision of the affected manual(s). This booklet will provide technical data until the revision(s) is published.

Effectivity: This service change is applicable to aircraft serial numbers 4001 - 4255.
This or a similar change will be installed during initial phase manufacturing on aircraft, serial number 4256 and subsequent.

Effect on Spares: None

Special Equipment / Tools Required: None

Skill Type Required: Knowledge of the G450 TCAS system will be required for this installation.
Price: Prices are subject to change without notice.
 Installed Price: Installed price is subject to the prevailing labor rate of
 the installing facility.
 Kit Price only:  
 Domestic: $ 16,124.00
 International: $ 16,446.48

NOTE: This ASC may only be installed at Gulfstream Aerospace or Gulfstream-
 approved facilities. This ASC is managed by Product Support Program
 Management (PSPM). Incorporation must be coordinated through
 Gulfstream Aircraft Scheduling at 800-810-GULF (4853) or 912-965-4178. If
 not scheduled, aircraft downtime could increase significantly.
MODIFICATION INSTRUCTIONS:

| CAUTION: | PROTECT WIRE BUNDLES, CONNECTORS AND SURROUNDING STRUCTURE DURING ANY MAINTENANCE PROCEDURE FROM SHAVINGS, DEBRIS AND CONTAMINATION. MAINTAIN A PROPERLY CLEANED WORK AREA THROUGHOUT THE PROCEDURE TO ENSURE THE INTEGRITY OF THE AFFECTED COMPONENT / SYSTEM. VISUALLY INSPECT WORK AREA USING ADDITIONAL LIGHT AS NECESSARY TO VERIFY ABSENCE OF ANY DEBRIS PRIOR TO COMPLETION OF PROCEDURE. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO COMPONENTS AND / OR SYSTEMS. |

A. Prepare aircraft for safe maintenance as follows:

1. Remove all electrical power, turn all cockpit switches off and disconnect battery quick disconnects. Refer to G450 AMM, Chapter 20.

2. On aircraft 4001 – 4188, verify TCAS unit has mod “B”. If the unit does not have mod “B” it must be removed and returned to ACSS for incorporation of ACSS SB 8006949-001. If mod level is correct then proceed to the next step.

3. If performing modification off the aircraft, remove the TCAS unit in accordance with G450 AMM, Chapter 34.

4. If performing modification on the aircraft, prepare for safe application of electrical power in accordance with G450 AMM, Chapter 20.

B. Modify aircraft as follows:

1. Aircraft 4001 – 4188 incorporate ACSS service bulletin 8008559-001.


C. Follow on:

1. If performing modification off the aircraft, reinstall the TCAS unit in accordance with G450 AMM, Chapter 34. Prepare for safe application of electrical power in accordance with G450 AMM, Chapter 20.

2. If performing modification on the aircraft, prepare for safe application of electrical power in accordance with G450 AMM, Chapter 20.

3. Perform TCAS Operational Check in accordance with G450 AMM, Chapter 34.

D. Ensure work area is clean and clear of foreign objects and debris (FOD).

E. Record compliance with this aircraft service change in the aircraft permanent maintenance records and return aircraft to flight status.

F. Report compliance with this aircraft service change to Gulfstream CMP via electronic transmittal or fill out and fax the attached service reply card.
The effect of this service change with regard to aircraft basic weight and balance is 0.

### WEIGHT AND BALANCE DATA:

<table>
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<th>MOD</th>
<th>WEIGHT</th>
<th>HORIZONTAL</th>
<th>MOMENT</th>
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<tr>
<td>ASC 077</td>
<td>≈ 0.0 lbs</td>
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### ELECTRICAL LOAD ANALYSIS DATA:

The effect of this change on the aircraft electrical loading is 0.

**Kit Effectivity:**
- Kit 1: 4001 – 4188
- Kit 2: 4189 – 4255

### PARTS REQUIRED PER AIRCRAFT:

<table>
<thead>
<tr>
<th>Item</th>
<th>Part Number</th>
<th>Nomenclature</th>
<th>Qty.</th>
<th>Notes/Alt./Substitutes</th>
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<tbody>
<tr>
<td>1.</td>
<td>8008559-001</td>
<td>ACSS SB for TCAS 2000</td>
<td>1</td>
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<td>2.</td>
<td>7000037-907</td>
<td>ACSS Modification Label</td>
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<td>3.</td>
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<td>8008263-001</td>
<td>ACSS SB for TCAS 3000</td>
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<td>TCAS 3000SP Label</td>
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<td>ACSS 7.1 Operating Software</td>
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<td>TCAS 2000 with 7.1</td>
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<td>9003500-55905</td>
<td>TCAS 3000 with 7.1</td>
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*NOTE: ACSS operating software is not included as a part of the ASC kit. A copy of all operating software will be maintained by the installing facility.

**NOTE: TCAS unit part numbers are the result of the upgrade and are marked appropriately as part of the modification. No units are included as a part of this kit. Existing aircraft unit is replaced or modified to the new part number.
**SERVICE REPLY CARD**

PLEASE FAX THIS PAGE TO GULFSTREAM AEROSPACE CMP
AT 912-963-0265 OR 800-944-1775.

THE FOLLOWING AIRCRAFT SERVICE CHANGE HAS BEEN COMPLIED WITH:

<table>
<thead>
<tr>
<th>ASC NUMBER</th>
<th>A/C</th>
<th>AIRCRAFT TYPE</th>
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<tr>
<td>970770</td>
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<td>G450</td>
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AIRCRAFT HOURS: __________________________

AIRCRAFT LANDINGS: __________________________

PREVIOUSLY COMPLIED WITH (PCW): __________________________ DATE: ____________

NOT APPLICABLE: __________________________ DATE: ____________

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<th>NOMENCLATURE</th>
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SIGNATURE | TITLE / CERTIFICATE NUMBER | COMPANY

COMMENTS / SUGGESTIONS / ACTIONS TAKEN:

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