

## FAA STC ST02303CH | EASA STC 02317

### Installation of Elementary & Enhanced Surveillance Mode-S Transponders For Boeing 767 Series Aircraft

#### OVERVIEW

- » FAA STC ST02303CH
- » European Aviation Safety Agency (EASA) STC 02317
- » Brazil National Aviation Agency STC 2007S06-02

*Enables installation of enhanced Mode-S transponders in accordance with Electronic Cable Specialists (ECS) master data list ECS-202463.*

#### YOUR NEEDS

Using STC ST02303CH, the existing Mode-S transponders on your fleet of Boeing 767 aircraft can be upgraded to comply with Mode-S enhanced surveillance requirements.

#### YOUR BENEFITS

The enhanced Mode-S transponders will have the capability to transmit flight identification as part of the transponder interrogation reply. The enhanced transponders will also provide aircraft status and intent information, such as current heading, altitude, airspeed, selected altitude, etc. These new transponders will satisfy the data requirements or ICAO Document 7040/4, Regional Supplementary Procedures, for SSR Mode-S enhanced Surveillance in designated European airspace. The enhanced Mode-S transponders will have the capability to transmit flight identification as part of the transponder interrogation reply. The enhanced transponders will also provide aircraft status and intent information, such as current heading, altitude, airspeed, selected altitude, etc. These new transponders will satisfy the data requirements or ICAO Document 7040/4, Regional Supplementary Procedures, for SSR Mode-S enhanced Surveillance in designated European airspace.

#### STC AIRCRAFT EFFECTIVITY

- » Boeing 767-200/-300/-300F/-400ER series aircraft

#### STC CONFIGURATIONS & LIMITATIONS

##### Configuration 1: Dual enhanced Mode-S provisions

- » Dual Enhanced Mode-S Provisions

- » Installs wiring provisions for future upgrade of the existing left and right Mode-S transponders to enhanced Mode-S transponders.

*STC Limitations: None*

##### Configuration 2: Dual Honeywell elementary & enhanced Mode-S Installation with flight identification from Gables panel.

- » Dual Honeywell Elementary and Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new Honeywell elementary and enhanced Mode-S transponders will be installed in their place. The existing trays located in the electronic bay will be used for installation of both transponders. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.
- » The existing transponder control panel will be removed and a new Gables control panel will be installed. This new control panel provides the capability to allow entry of flight identification as well as being used for selection of either the transponder 1 or transponder 2 for interrogation replies, selection of altitude reporting on or off, selection of the transponder code, and providing fail indication for the Mode-S transponders.

*STC Limitations: Dual Honeywell Mode-S transponder system previously installed.*

##### Configuration 3: Dual ACSS elementary & enhanced Mode-S Installation with flight identification from Gables panel.

- » Configuration 3: Dual ACSS Elementary and Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new ACSS elementary and enhanced Mode-S transponders will be installed in their place. The existing trays located in the electronic bay will be used for installation of both transponders. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.

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### STC CONFIGURATIONS & LIMITATIONS CONT'D.

- » The existing transponder control panel will be removed and a new Gables control panel will be installed. This new control panel provides the capability to allow entry of flight identification as well as being used for selection of either the transponder 1 or transponder 2 for interrogation replies, selection of altitude reporting on or off, selection of the transponder code, and providing fail indication for the Mode-S transponders.

*STC Limitations: Dual ACSS Mode-S transponder system previously installed.*

#### **Configuration 4: Dual Collins elementary & enhanced Mode-S Installation with flight identification from Gables panel.**

- » Dual Collins Elementary and Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new Collins elementary and enhanced Mode-S transponders will be installed in their place. The existing trays located in the electronic bay will be used for installation of both transponders. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.
- » The existing transponder control panel will be removed and a new Gables control panel will be installed. This new control panel provides the capability to allow entry of flight identification as well as being used for selection of either the transponder 1 or transponder 2 for interrogation replies, selection of altitude reporting on or off, selection of the transponder code, and providing fail indication for the Mode-S transponders.

*STC Limitations: Dual Collins Mode-S transponder system previously installed per FAA approved method; TCAS/ Mode-S Control panel model G7490-33 may not be used on those aircraft with existing integral TCAS range control.*

#### **Configuration 5: Dual Honeywell enhanced Mode-S with flight identification from existing FMS**

- » Dual Collins Enhanced Mode-S Transponders with Flight Identification from Gables Panel

- » Existing Mode-S transponders will be removed and new Honeywell enhanced Mode-S transponders will be installed in their place. The existing trays located on the equipment shelves in the electronic bay will be used for installation of the enhanced surveillance Mode-S. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.
- » The upgrade to the Mode-S transponders adds the capability to transmit flight identification as part of the interrogation reply to air traffic control ground stations. The flight identification is obtained from the FMS via a data bus.

*STC Limitations: Dual Honeywell Mode-S transponder system previously installed per FAA approved method. Aircraft must be equipped with FMC part number 4052506-941, 4052506-955, or equivalent flight identification compatible FMS.*

#### **Configuration 6: Collins enhanced Mode-S with flight identification from existing FMS.**

- » Dual Collins Enhanced Mode-S transponders with Flight Identification from FMS
- » Existing Mode-S transponders will be removed and new Collins enhanced Mode-S transponders will be installed in their place. The existing trays located on the equipment shelves in the electronic bay will be used for installation of the elementary and enhanced surveillance Mode-S. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.
- » The upgrade to the Mode-S transponders adds the capability to transmit flight identification as part of the interrogation reply to air traffic control ground stations. The flight identification is obtained from the FMS via a data bus.

*STC Limitations: Dual Collins Mode-S transponder system previously installed per FAA approved method. Aircraft must be equipped with FMC part number 4052506-941, 4052506-955, or equivalent flight identification compatible FMS.*

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#### STC CONFIGURATIONS & LIMITATIONS CONT'D.

##### Configuration 7: ACSS enhanced Mode-S with flight identification from existing FMS.

- » Dual ACSS Elementary and Enhanced Mode-S Transponders with Flight Identification from FMS
- » Existing Mode-S transponders will be removed and new ACSS elementary and enhanced Mode-S transponders will be installed in their place. The existing trays located on the equipment shelves in the electronic bay will be used for installation of the elementary and enhanced Surveillance Mode-S. Additional wiring is installed through unused pins in existing connectors of the aircraft and is terminated at the respective equipment.
- » The upgrade to the Mode-S transponders adds the capability to transmit flight identification as part of the interrogation reply to air traffic control ground stations. The flight identification is obtained from the FMS via a data bus.

*STC Limitations: Dual ACSS Mode-S transponder system previously installed per FAA approved method. Aircraft must be equipped with FMC part number 4052506-941, 4052506-955, or equivalent flight identification compatible FMS.*