

FAA STC ST02184CH | EASA STC 01689

Installation of Elementary & Enhanced Surveillance Mode-S Transponders On Boeing MD-11 Series & DC-10 Series Aircraft

OVERVIEW

- » FAA STC ST02184CH
- » European Aviation Safety Agency (EASA) STC 01689
- » Transport Canada Validation of STC ST02184CH
- » National Aviation Agency Brazil STC 2006S07-01 for MD-11 & MD-11F
- » National Aviation Agency Brazil STC 2006S08-01 for DC-10-15, DC-10-30, DC-10-30F

Enables installation of enhanced Mode-S transponders in accordance with Electronic Cable Specialists (ECS) master data list ECS-203475.

YOUR NEEDS

Using STC ST02184CH, the existing Mode-S transponders on your fleet of Boeing MD-11 series aircraft and/or Boeing DC-10 series 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.

STC AIRCRAFT EFFECTIVITY

- » Boeing MD-11 & MD-11F series aircraft
- » Boeing DC-10-10/-10F/-15/-30/-30F/-40/-40F series aircraft

STC CONFIGURATIONS & LIMITATIONS

Configuration 1: Dual Honeywell enhanced Mode-S transponders with G7490-09 Control Panel on Boeing MD-11 & MD-11F series aircraft.

- » Dual Honeywell 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: Existing Honeywell Mode-S transponders previously installed per FAA approved method.

Configuration 2: Dual ACSS enhanced Mode-S transponders with G7490-09 Control Panel on Boeing MD-11 & MD-11F series aircraft.

- » Dual ACSS Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new ACSS 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: Existing ACSS Mode-S transponders previously installed per FAA approved method; existing FMS is upgraded to be flight identification compatible by FAA approved method.

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STC CONFIGURATIONS & LIMITATIONS CONT'D.

Configuration 3: Dual ACSS enhanced Mode-S transponders with flight identification from FMS on Boeing MD-11 & MD-11F series aircraft.

- » Dual ACSS Enhanced Mode-S Transponders with Flight Identification from FMS
- » Existing Mode-S transponders will be removed and new ACSS 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: Existing ACSS Mode-S transponders previously installed per FAA approved method; existing FMS is upgraded to be flight identification compatible by FAA approved method.

Configuration 4: Dual Honeywell enhanced Mode-S transponders with flight identification from FMS on Boeing MD-11 & MD-11F series aircraft.

- » Dual Honeywell Enhanced Mode-S Transponders with Flight Identification from FMS
- » 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 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: Existing Honeywell Mode-S transponders previously installed per FAA approved method; existing FMS is upgraded to be flight identification compatible by FAA approved method.

Configuration 5: Dual Collins enhanced Mode-S transponders with G7490-09 Control Panel on Boeing MD-11 & MD-11F series aircraft.

- » Dual Collins Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new Collins 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: Existing Collins Mode-S transponders previously installed per FAA approved method.

Configuration 6: Dual Collins enhanced Mode-S transponders with flight identification from FMS on Boeing MD-11 & MD-11F series aircraft.

- » 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.

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- » 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: Existing Collins Mode-S transponders previously installed per FAA approved method; existing Honeywell FMS is upgraded to be flight identification compatible per FAA approved method.

Configuration 7: Dual ACSS enhanced Mode-S transponders with G7490-31 Control Panel on DC-10-10/-10F/-15/-30/-30F/-40/-40F series aircraft.

- » Dual ACSS Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new ACSS 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: Existing ACSS Mode-S transponders previously installed per FAA approved method

Configuration 8: Dual Collins enhanced Mode-S transponders with G7490-25 Control Panel on DC-10-10/-10F/-15/-30/-30F/-40/-40F series aircraft.

- » Dual Collins Enhanced Mode-S Transponders with Flight Identification from Gables Panel
- » Existing Mode-S transponders will be removed and new Collins 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: Existing Collins Mode-S transponders previously installed per FAA approved method.