

# ST02316CH

## FAA Supplemental Type Certificate



Installation of Elementary and Enhanced Surveillance Mode-S Transponders on Boeing MD-80 and MD-90 Series Aircraft  
(FAA STC ST02316CH)

### OVERVIEW

- » FAA STC ST02316CH.
- » European Aviation Safety Agency (EASA) STC 02249 for DC-9-80 series aircraft.

### INTRODUCTION

STC ST02316CH enables installation of enhanced Mode-S transponders in accordance with Electronic Cable Specialists (ECS) Master Data List ECS-203350.

### YOUR NEEDS

Using STC ST02316CH, the existing Mode-S transponders on your fleet of Boeing MD-80 and MD-90 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.

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### STC AIRCRAFT EFFECTIVITY

- » Boeing DC-9-81/-82/-83/-87 series aircraft.
- » Boeing MD-88 series aircraft.
- » MD-90-30 series aircraft.

### STC LIMITATIONS

- » Configuration 1: Dual Collins Mode-S transponders previously installed per FAA approved method.
- » Configuration 2: Dual ACSS Mode-S transponders previously installed per FAA approved method.
- » Configuration 3: Dual Honeywell Mode-S transponders previously installed per FAA approved method.

### STC CONFIGURATIONS

- » Configuration 1: Dual ACSS enhanced Mode-S transponders using dedicated flight identification panel on Boeing DC-9-81/-82/-83/-87 and MD-88 series aircraft.
- » Configuration 2: Dual ACSS enhanced Mode-S transponders using integrated flight identification panel on Boeing MD-90-30 series aircraft.
- » Configuration 3: Dual Honeywell enhanced Mode-S transponders using integrated flight identification panel on Boeing DC-9-81/-82/-83/-87 series aircraft.

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### PRODUCT DESCRIPTION

#### Configuration 1: Dual ACSS 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.
- » A new Gables flight identification control panel will be installed. This new control panel provides the capability to allow entry of flight identification only. The existing ATC/TCAS control panel will remain installed and will continue to be 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.

#### Configuration 2: 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

#### Configuration 3: Dual Honeywell 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 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.

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