

Automatic Dependent Surveillance Broadcast (ADS-B) for Corporate Aircraft

The Federal Aviation Administration (FAA) has mandated an overhaul of radar surveillance, and the initiative is referred to as Next Generation Air Transportation System (NextGen). Reliance on new technologies plays a considerable role in the overhaul. Automatic Dependent Surveillance-Broadcast (ADS-B)—available for aircraft with Global Positioning System (GPS) receivers—transmits location, altitude, velocity and identification information to air traffic control (ATC) and other aircraft in the area.

ATC uses this information to fit multiple aircraft in a fixed position horizontally. Reduced Vertical Separation Minimum (RVSM), which was implemented in January 2005, reduces the vertical separation minimum from 2,000 feet to 1,000.

Benefits of ADS-B-equipped aircraft

- Improved safety
- Priority over non-ADS-B-equipped aircraft
- More optimal flight levels than non-ADS-B-equipped aircraft
- Broadcasts position info automatically and no longer requires position reports

There are three levels of Directive Orders (DO) that provide the minimum standards for this technology: DO-260, DO-260A and DO-260B.

DO-260—Adopted by Australia and the Pacific Rim countries (Indonesia, Hong Kong and Singapore) Position accuracies did not meet predicted forecasts.

Required:

- By Dec 12, 2013, any flight operating above FL290 in or through Australia
- By Dec 12, 2013, for Air Traffic Service (ATS) routes M771 and L642
- By Dec 12, 2013, any flight operating at or above FL290 in Indonesia
- By Dec 12, 2013, any flight operating at or above FL290 in Singapore
- By Dec 31, 2014, for entire Hong King Flight Information Region (FIR)

DO-260A—Added accuracy requirements and upgraded Global Positioning System (GPS) Wide-

Area-Augmentation System (WAAS) receivers. Position accuracies remain outside desired range.

Required:

- Jan 8, 2015, in Europe for all new production aircraft
- Dec 7, 2017, for all retrofit aircraft.

DO-260B—Incorporates GPS accuracies from DO-260A and uses position and velocity information to predict and broadcast future position. Adds cockpit annunciators and procedures.

Required:

- By Jan 1, 2020, throughout the United States.

Approval for ADS-B DO-260B in the United States requires a Standard Type Certificate (STC) by 2020. Duncan Aviation's Engineering and Certification departments have developed a process to obtain DO-260A approvals and transition to a comprehensive DO-260B by Jan 1, 2020.

Here are some examples of the Duncan Aviation price guidelines for DO-260A approval:

Challenger 601:
TDR-94D upgrade from 008 to 409 \$44,500*

Falcon 50:
TDR-94D upgrade from 008 to 409 \$44,500*
TDR-94D upgrade from 008 to 410 (CSDB*) \$52,000*
**Commercial Standard Digital Bus*

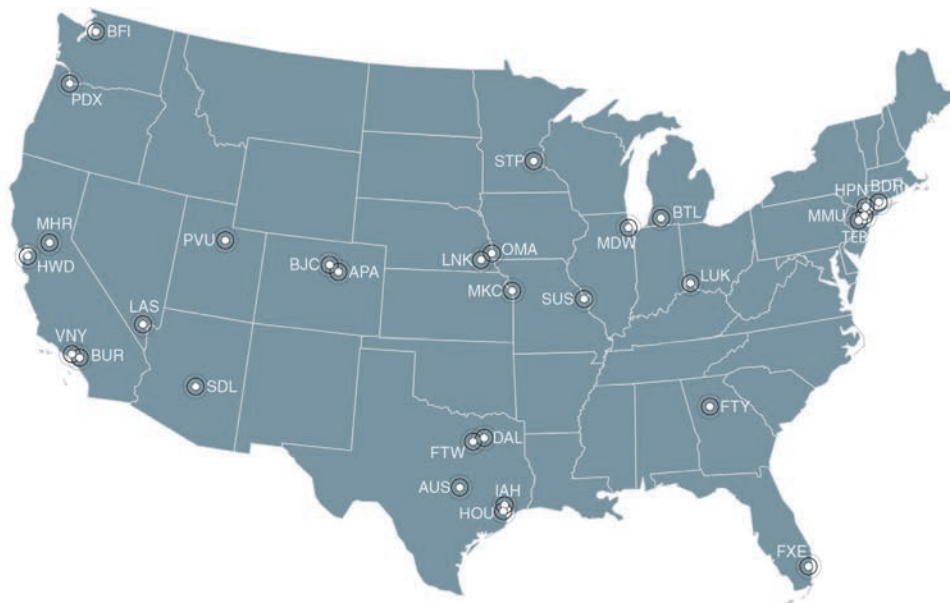
Gulfstream II/III: TDR-94D upgrade from 008 to 409 \$44,500*

* *Collins Pro Line 4 and Pro Line 21 equipped aircraft may require additional pricing upgrades. TDR-94D pre-008 versions require additional upgrades.*

* *Many sensors (such as Collins GPS-4000S, Universal UNS-1EW) provide the GPS accuracy necessary for DO-260A.*

* *Because options and pricing vary, an ADS-B sales representative from Duncan Aviation will need to complete a system evaluation first.*

Installation and Scheduling, Mark Francetic, 702.303.4888
Installation and Scheduling, Gary Harpster, 402.475.2611 ext. 1374



Avionics Locations

Satellite Network History

In the 1980s, Robert Duncan pursued an idea to bring Duncan Aviation's avionics excellence to FBOs across the U.S. The idea was to have small shops with a clean, high-tech image in extremely visible locations that pilots would see upon arrival at an FBO. Soon the first Duncan Aviation Satellite opened with Beckett Aviation at Houston's Hobby Airport. Today, Duncan Aviation has satellite facilities throughout the U.S.

Satellite Solutions

Duncan Aviation's satellite network provides comprehensive solutions to aircraft operators during times of critical, casual or remote location need. Although avionics line service is the primary work of satellites, many provide popular installs and coordinate any repair, overhaul, exchange, loaner or part needed for jet, turbine, piston-powered aircraft and helicopters 24/7/365. We can even provide minor airframe, engine or interior service if needed.

Rapid Response Teams Engine & APU Capabilities

- On-call 24/7/365 for in-the-field engine repair and service.
- Seven locations at 877.522.0111.
- Scheduled—fan hub/balance.
- Unscheduled—bad SOAP.
- Duplicate tooling is zoned & ready.
- Perform "on-wing" repair.
- Portable engine stands/slings.
- P&W 535 HSI.
- ACES/JEDA data acquisition and vibration survey equipment.



Facilities

APA	Denver, Colorado	303.649.1790
AUS	Austin, Texas	512.530.7050
BDR	Bridgeport, Connecticut	203.386.0111
BFI	Seattle, Washington	206.764.3962
BJC	Broomfield, Colorado	303.410.7053
BTL	Battle Creek, Michigan	269.969.8400
BUR	Burbank, California	818.955.8413
DAL	Dallas, Texas	214.352.3468
FTW	Ft. Worth, Texas	817.740.9266
FTY	Atlanta, Georgia	404.227.9766
FXE	Ft. Lauderdale, Florida	954.771.6007
HOU	Houston, Texas	713.644.0352
HPN	White Plains, New York	914.686.8294
HWD	Hayward, California	510.780.1640
IAH	Houston, Texas	281.821.2689
LAS	Las Vegas, Nevada	702.262.6142
LNK	Lincoln, Nebraska	402.475.2611
LUK	Cincinnati, Ohio	513.321.4073
MDW	Chicago, Illinois	773.284.4600
MHR	Sacramento, California	916.231.0943
MKC	Kansas City, Missouri	816.421.1836
MMU	Morristown, New Jersey	973.326.1110
OMA	Omaha, Nebraska	402.326.8432
PDX	Portland, Oregon	503.287.7777
PVU	Provo, Utah	877.771.2788
SDL	Scottsdale, Arizona	480.922.3575
STP	St. Paul, Minnesota	651.209.8430
SUS	Chesterfield, Missouri	636.536.7090
TEB	Teterboro, New Jersey	201.288.1550
VNY	Van Nuys, California	818.902.9961