

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.173

National Policy

Effective Date:
11/4/11

Cancellation Date:
11/4/12

SUBJ: OpSpec/MSpec/LOA A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace

1. Purpose of This Notice. This notice provides revised guidance for Federal Aviation Administration (FAA) certificate-holding district offices (CHDO)/certificate management offices (CMO)/certificate management units (CMU)/Flight Standards District Offices (FSDO) and principal inspectors (PI) assigned to operators conducting airplane operations under Title 14 of the Code of Federal Regulations (14 CFR) parts 91, 91 subpart K (part 91K), 121, 125 (including the Letter of Deviation Authority (LODA) part 125 subpart M (part 125M) operators), and 135. This notice amends and clarifies the authorization (A353) for the use of Automatic Dependent Surveillance-Broadcast (ADS-B) equipment outside of U.S.-designated airspace. This notice amends all A353 templates (i.e., operations specification (OpSpec) A353, management specification (MSpec) A353, and letter of authorization (LOA) A353) for operators conducting airplane operations under parts 91, 91K, 121, 125 (including the LODA part 125M operators), and 135.

2. Audience. The primary audience for this notice is FAA CHDOs/CMOs/CMUs/FSDOs and PIs assigned to operators conducting airplane operations under parts 91, 91K, 121, 125 (including the LODA part 125M operators), and 135. The secondary audience includes Flight Standards divisions and branches in the regions and in headquarters (HQ).

3. Where You Can Find This Notice. You can find this notice on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.avs.faa.gov>. Air carriers (operators) can find this notice on the FAA's Web site at <http://fsims.faa.gov>. This notice is available to the public at http://www.faa.gov/regulations_policies/orders_notices.

4. Background. ADS-B is a new system for air traffic surveillance available within certain areas of the world that have an operational ground infrastructure (ADS-B ground station and air traffic communication network). ADS-B is expected to play an increasing role in the U.S. National Airspace System (NAS), as well as other airspace systems around the world, as its capabilities evolve. It is expected to be a key element in improving the use of airspace and airport surface surveillance and in enhancing safety. ADS-B Out is the capability to send a formatted message that includes elements such as position, altitude, velocity, direction, etc., for use by air traffic in providing air traffic separation services. Previously, this authorization only

covered ADS-B operations within a specific area of Canadian Airspace (Hudson Bay). The scope of this authorization has been expanded to enable operations in other areas of the world where ADS-B surveillance services are available.

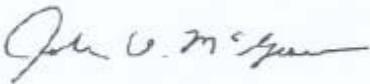
5. Guidance. The Flight Technologies and Procedures Division (AFS-400), the Air Transportation Division (AFS-200), the Aircraft Maintenance Division (AFS-300), and the General Aviation and Commercial Aviation Division (AFS-800) developed this notice in coordination with industry members of the Operations Specifications Working Group (OSWG). This notice contains the following:

- The sample OpSpec A353 template in Appendix A applies to part 121.
- The sample OpSpec A353 template in Appendix B applies to part 125.
- The sample OpSpec A353 template in Appendix C applies to part 135.
- The sample OpSpec A353 template in Appendix D applies to part 121/135.
- The sample MSPEC A353 template in Appendix E applies to part 91K.
- The sample LOA A353 template in Appendix F applies to part 91.
- The sample LOA A353 template in Appendix G applies to part 125 (LODA part 125M).

6. Action. PIs should review the revised guidance for issuance of OpSpec A353, which is contained in this notice. PIs should provide this notice to the operators for whom they are responsible, alerting them to updated operating procedures as well as required pilot knowledge and training.

7. Disposition. We will incorporate the information in this notice into FAA Order 8900.1 before this notice expires. Direct questions concerning the information in this notice to AFS-400 at 202-385-4586.

for



John M. Allen
Director, Flight Standards Service

Appendix A. Sample OpSpec A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 121

The certificate holder is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this operations specification. This authorization may only be issued with written concurrence from the Air Transportation Division (AFS-200) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The certificate holder must have an approved maintenance program and verify the integrity of design features of the ADS-B systems by routine maintenance inspections.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company-approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter.

(3) Required Flightcrew/Dispatch Training.

(a) Participating flightcrew members must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

(b) Aircraft dispatchers/flight followers (as applicable) must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to dispatching or releasing flights into ADS-B-designated airspace.

b. Aircraft Authorization. The certificate holder is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a and within the areas of en route operation authorized by (and in accordance with) paragraph B050, Authorized Areas of En Route Operation, Limitations, and Procedures.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

Appendix B. Sample OpSpec A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 125

The certificate holder is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this operations specification. This authorization may only be issued with written concurrence from the General Aviation and Commercial Division (AFS-800) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The certificate holder must have an approved maintenance program and verify the integrity of design features of the ADS-B systems by routine maintenance inspections.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company-approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter. The Operator’s pilot’s operating handbook (POH) may be used to meet these requirements.

(3) Required Flightcrew/Dispatch Training.

(a) Participating flightcrew members must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

(b) Aircraft dispatchers/flight followers (as applicable) must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to dispatching or releasing flights into ADS-B-designated airspace.

b. Aircraft Authorization. The certificate holder is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a, and within the areas of en route operation authorized by (and in accordance with) paragraph B050, Authorization Areas of En Route Operation, Limitation, and Procedures.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

Appendix C. Sample OpSpec A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 135

The certificate holder is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this operations specification. This authorization may only be issued with written concurrence from the Air Transportation Division (AFS-200) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The certificate holder must have an approved maintenance program and verify the integrity of design features of the ADS-B systems by routine maintenance inspections.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter.

(3) Required Flightcrew/Dispatch Training.

(a) Participating flightcrew members must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

(b) Aircraft dispatchers/flight followers (as applicable) must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to dispatching or releasing flights into ADS-B-designated airspace.

b. Aircraft Authorization. The certificate holder is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a, and within the areas of en route operation authorized by (and in accordance with) paragraph B050, Authorization Areas of En Route Operation, Limitations, and Procedures.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

Appendix D. Sample OpSpec A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 121/135

The certificate holder is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this operations specification. This authorization may only be issued with written concurrence from the Air Transportation Division (AFS-200) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The certificate holder must have an approved maintenance program and verify the integrity of design features of the ADS-B systems by routine maintenance inspections.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter.

(3) Required Flightcrew/Dispatch Training.

(a) Participating flightcrew members must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

(b) Aircraft dispatchers/flight followers (as applicable) must complete the certificate holder’s approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to dispatching or releasing flights into ADS-B-designated airspace.

b. Aircraft Authorization. The certificate holder is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a, and within the areas of en route operation authorized by (and in accordance with) paragraph B050, Authorization Areas of En Route Operation, Limitations, and Procedures.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

Appendix E. Sample MSpec A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 91K

The program manager is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this management specification. This authorization may only be issued with written concurrence from the General Aviation and Commercial Division (AFS-800) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The Operator must verify through routine maintenance inspections that the ADS-B system continues to meet required performance standards.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company-approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter. The Operator’s pilot’s operating handbook (POH) may be used to meet these requirements.

(3) Required Flightcrew Training.

(a) Participating flightcrew members must complete an approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

b. Aircraft Authorization. The Operator is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

Appendix F. Sample LOA A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 91

Letter of Authorization—ADS-B Operations

The Operator listed at the bottom of this document is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this letter of authorization. This authorization may only be issued with written concurrence from the General Aviation and Commercial Division (AFS-800) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The Operator must verify through routine maintenance inspections that the ADS-B system continues to meet required performance standards.

(2) Airplane Flight Manual. An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company-approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter. The Operator’s pilot’s operating handbook (POH) may be used to meet these requirements.

(3) Required Flightcrew Training.

(a) Participating flightcrew members must complete an approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

b. Aircraft Authorization. The Operator is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)

c. Responsible Person. The responsible person for crew operations may be either an agent for service (who must be a U.S. citizen) or a person who is a U.S. citizen or who holds a U.S. pilot certificate, and who accepts responsibility for complying with the stated regulations by signing this document.

(1) If the responsible person signing this letter of authorization relinquishes responsibility, this letter of authorization becomes invalid.

(2) Enter the name, e-mail address, and telephone number of the responsible person signing this letter of authorization in Table 2.

Table 2—Responsible Person

Name	E-mail Address	Telephone Number

Appendix G. Sample LOA A353, Automatic Dependent Surveillance-Broadcast (ADS-B) Operations Outside of U.S.-Designated Airspace: 14 CFR Part 125M

Letter of Authorization—ADS-B Operations

The Operator/Company, authorized to conduct operations in accordance with the Letter of Deviation Authority (LODA) 125, and listed at the bottom of this letter of authorization, is authorized to conduct flight operations using Automatic Dependent Surveillance-Broadcast (ADS-B) as authorized in this letter of authorization (LOA). This authorization may only be issued with written concurrence from the General Aviation and Commercial Division (AFS-800) and the Flight Technologies and Procedures Division (AFS-400).

a. Limitations and Provisions.

(1) Airworthiness Requirements. ADS-B operations are approved only for those aircraft with ADS-B equipment installed per the type certificate (TC) or the Supplemental Type Certificate (STC), as amended. The Operator must verify through routine maintenance inspections that the ADS-B system continues to meet required performance standards.

(2) Airplane Flight Manual (AFM). An FAA-approved AFM and/or Airplane Flight Manual Supplement (AFMS), and/or a company approved Flight Operations Manual (FOM), as applicable, must be carried in the airplane at all times when ADS-B equipment is installed. The manual carried on the airplane must incorporate an ADS-B description and related subject matter. The Operator’s pilot’s operating handbook (POH) may be used to meet these requirements.

(3) Required Flightcrew Training.

(a) Participating flightcrew members must complete an approved training program that includes operating practices, procedures, conditions, and limitations of the installed ADS-B equipment prior to conducting operations under this authorization.

b. Aircraft Authorization. The Operator is authorized to conduct ADS-B operations specified for the approved aircraft listed in Table 1 in accordance with the limitations and provisions specified in subparagraph a.

(1) ADS-B Operations Outside of U.S.-Designated Airspace. When flying outside of U.S.-designated airspace, aircraft approved with ADS-B Out transmit-only capability must meet the certification requirements established by European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter.

Note: ADS-B equipment installed in accordance with the current edition of Advisory Circular (AC) 20-165, Airworthiness Approval of Automatic Dependent Surveillance-Broadcast (ADS-B) Out Systems, will be considered to meet the equipment requirements of AMC 20-24.

Table 1—Aircraft Approved for ADS-B Operations

Aircraft M/M/S	Aircraft Registration #	Aircraft Serial #	ADS-B Authorization(s)