



Advisory Circular

Subject: Automatic Dependent Surveillance - Broadcast

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1.0 INTRODUCTION

This Advisory Circular (AC) is provided for information and guidance purposes. It may describe an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

1.1 Purpose

The purpose of this AC is to provide advice and guidance in the form of airworthiness considerations and advice and guidance for operational approval for aviation owners and operators that intend to benefit from the Automatic Dependent Surveillance – Broadcast (ADS-B) surveillance system. Aircraft models fitted with equipment that meet the airworthiness considerations in this document will have a statement included in the Aircraft Flight Manual referring to the ADS-B as being approved. An Operational Specification will be issued to the air operator along with an amended page to the Air Operator Certificate when the air operator meets the guidance for operational approval in this document.

1.2 Applicability

This document is applicable to all Transport Canada Civil Aviation (TCCA) employees, to individuals and organizations when they are exercising privileges granted to them under an External Ministerial Delegation of Authority. This information is also available to the aviation industry for information purposes.

1.3 Description of Changes

This document, formerly AC 700-009, Issue 01, has been reissued as AC 700-009, Issue 02. With the exception of the removal of the restriction to the Hudson Bay area and minor editorial changes and updated references, the content is unaltered.

2.0 REFERENCES AND REQUIREMENTS

2.1 Reference Documents

- (1) It is intended that the following reference materials be used in conjunction with this document:
 - (a) Part V Subpart 21 of the *Canadian Aviation Regulations (CAR)*—*Approval of the Type Design or a Change to the Type Design of an Aeronautical Product*;
 - (b) Part V Subpart 71 of the CARs—*Aircraft Maintenance Requirements*;
 - (c) Part VI Subpart 04 of the CARs—*Private Operator Passenger Transportation*;
 - (d) Part VII Subpart 0 of the CARs—*General*;
 - (e) Part VII Subpart 01 of the CARs—*Foreign Air Operations*;
 - (f) Part VII Subpart 03 of the CARs—*Air Taxi Operations*;
 - (g) Part VII Subpart 04 of the CARs—*Commuter Operations*;
 - (h) Part VII Subpart 05 of the CARs—*Airline Operations*;
 - (i) Transport Canada Operations Specifications No. 609—*ADS-B Operations (for domestic operators)*;
 - (j) Transport Canada Operations Specifications No. 610—*ADS-B Operations (for foreign operators)*;
 - (k) Advisory Circular (AC) 591-001—*Service Difficulty Reporting Program*;

- (l) Federal Aviation Administration (FAA) Technical Standard Order (TSO)-C129a—*Airborne Supplemental Navigation Equipment Using the Global Positioning System (GPS)*;
- (m) Radio Technical Commission for Aeronautics (RTCA) DO-303—*Safety, Performance and Interoperability Requirements Document for the ADS-B Non-Radar Airspace (NRA) Application*;
- (n) EUROCAE ED-26—*MPS for Airborne Altitude Measurements and Coding Systems*;
- (o) EUROCAE ED-126—*Safety, Performance and Interoperability Requirements Documents for ADS-B-NRA Application*;
- (p) European Aviation Safety Agency (EASA) Acceptable Means of Compliance (AMC) 20 Amendment 3, Annex II (AMC 20-24)—*Certification Considerations for the Enhanced Air Traffic System in Non-Radar Areas Using ADS-B Surveillance (ADS-B-NRA) Application*
http://www.easa.europa.eu/ws_prod/g/rg_certspecs.php#AMC-20;
- (q) NAV CANADA Aeronautical Information Circular 21/09—*Air Traffic Flow Management in the vicinity of Hudson Bay as a result of Automatic Dependent Surveillance Broadcast out implementation*
<http://www.navcanada.ca/NavCanada.asp?Language=en&Content=ContentDefinitionFiles%5CServices%5CANSPrograms%5CADS-B%5Cdefault.xml>;
- (r) FAA Advisory Circular (AC) 20-138A—*Airworthiness Approval of Global Navigation Satellite System (GNSS) Equipment*;
- (s) FAA AC 43-6B—*Altitude Reporting Equipment and Transponder System Maintenance and Inspection Practices*;
- (t) FAA AC 20-151—*Airworthiness Approval of Traffic Alert and Collision Avoidance Systems (TCAS II) Version 7.0 and Associated Mode S Transponders*;
- (u) FAA Airworthiness Directive (AD) 99-23-22—*Various Transport Category Airplanes Equipped with Mode “C” Transponder(s) with Single Gilham Code Altitude Input*;
- (v) FAA Technical Standard Order (TSO)-C129—*Airborne Supplemental Navigation Equipment Using the Global Positioning System (GPS)*;
- (w) FAA TSO-C145—*Airborne Navigation Sensors Using the Global Positioning System (GPS) Augmented by the Satellite Based Augmentation System*; and
- (x) FAA TSO-C146—*Stand-Alone Airborne Navigation Equipment Using the Global Positioning System (GPS) Augmented by the Satellite Based Augmentation System*.

2.2 Cancelled Documents

Not applicable.

Note: By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.3 Definitions and Abbreviations

(1) The following definitions and abbreviations are used in this document:

- (a) **ADS-B:** means Automatic Dependent Surveillance Broadcast System and is a surveillance system that uses a global navigation satellite system, aircraft avionics, and ground infrastructure to accurately and quickly transmit flight information, that includes aircraft identification, position, altitude, and velocity between aircraft and air traffic control;
- (b) **ADS-B-NRA:** means enhanced air traffic services in Non-Radar Areas using ADS-B surveillance;

- (c) **AFM:** means Aircraft Flight Manual;
- (d) **AMC:** means Acceptable Means of Compliance;
- (e) **ATC:** means Air Traffic Control;
- (f) **ATCRBS:** means Air Traffic Control Radar Beacon System;
- (g) **ATS:** means Air Traffic Services;
- (h) **EASA:** means European Aviation Safety Agency;
- (i) **EUROCAE:** means European Organization for Civil Aviation Equipment;
- (j) **GNSS:** means Global Navigation Satellite System;
- (k) **GPS:** means Global Positioning System;
- (l) **POH:** means Pilot's Operating Handbook;
- (m) **RVSM:** means Reduced Vertical Separation Minima; and
- (n) **VHF:** means Very High Frequency.

3.0 BACKGROUND

- (1) ADS-B is a surveillance system that uses GNSS, aircraft avionics, and a ground infrastructure to accurately and quickly transmit flight information between aircraft and ATC. ADS-B consists of two functions: ADS-B-out and ADS-B in. ADS-B out, defined as the capability necessary to transmit ADS-B messages, is the core of the operational system. The ability to receive and display ADS-B messages and broadcast services, both from the ground and directly from other aircraft is called ADS-B in.
- (2) The system is automatic since it functions without intervention from the flight crew as long as the necessary avionics are in place, connected and functioning. Contrary to the independent primary radar system, ADS-B is dependent because it requires the aircraft to state its position.
- (3) The implementation of ADS-B has significant benefits that include the following:
 - (a) application of 5 nautical miles lateral separation based on a surveillance system in lieu of procedural separation minima;
 - (b) fuel savings related to the opportunity for more user preferred trajectories; and
 - (c) enhanced safety in the air through increased areas of surveillance coverage.
- (4) ADS-B is not being mandated in Canada in the near term. It is acknowledged that ADS-B technology will supplement the current ground-based radar surveillance system and may eventually replace it to some extent, however, the intent of not mandating the ADS-B system is to allow owners and operators to volunteer their participation in a surveillance system where NAV CANADA will offer ADS-B and to benefit from its advantages. Air operators wishing to benefit from the advantages of ADS-B surveillance will be able to do so by meeting specific aircraft ADS-B considerations as presented in this AC. An installation approval issued under *CAR Part V Subpart 21* will be required if the applicable aircraft equipment to enable ADS-B surveillance needs to be installed. There are currently several hundred aircraft transmitting extended squitter messages from Mode S transponders. Many of the installations meet some of the requirements in EASA AMC 20-24. Those that meet all of the mandatory requirements may have an approved AFM that contains a statement of compliance to EASA AMC 20-24. Aircraft models that do not have the EASA AMC 20-24 compliance statement are not eligible to receive ADS-B services from NAV CANADA or from air navigation service providers in areas of Europe and the Atlantic Ocean. EASA AMC 20-24 is recognized as the standard for ADS-B performance in non-radar areas. It establishes the interoperability requirements that permit air traffic services to be provided.

- (5) The interoperability requirements of EASA AMC 20-24 specify the format of messages, the information they must contain, and the integrity of the data. EASA AMC 20-24 is more than airworthiness guidance; it is an acceptable means of compliance for interoperability requirements. Interoperability is not the same as airworthiness. There are many aircraft broadcasting Mode S extended squitter messages that do not meet the certification considerations of EASA AMC 20-24, and there is no airworthiness concern for any of these certificated installations. However, when the signals are used for air traffic services, the safety of the aircraft, and those aircraft in the vicinity can be compromised if the interoperability requirements are not met. Signals that do not meet EASA AMC 20-24 can also affect the efficient movement of air traffic. When an AFM, complete with a compliance statement is approved, the Minister is enabling air traffic services to be provided to these aircraft.
- (6) EASA AMC 20-24 addresses the certification of ADS-B out systems. An ADS-B out system consists of at least a transponder, a GPS, and the transponder controls. There may be other equipment, which connects to these components, such as a data concentrator or a flight management system, and these must also be reviewed as part of the ADS-B out system to determine compliance with EASA AMC 20-24. Changes to either the ADS-B out system, or the connected components, can affect interoperability. Even installing approved changes, which meet the airworthiness requirements of the basis of certification can result in non-compliance with the interoperability requirements of EASA AMC 20-24. The compliance statement in the AFM does not assure that a particular aircraft will remain in the configuration that complies with EASA AMC 20-24. This situation is most effectively addressed by monitoring ADS-B avionics performance. There is, however, currently no effective monitoring of ADS-B avionics in Canada. As a consequence, this AC places specific requirements on the Instructions for Continued Airworthiness for approval of an AFM that has a statement of compliance to EASA AMC 20-24. The content of the Instruction for Continued Airworthiness is to support conformity inspections of aircraft approved to receive ADS-B services.
- (7) The ADS-B NRA application is intended to support ATS in the en-route and terminal phases of flight in areas where radar surveillance does not exist. The ADS-B NRA application is fully defined in RTCA DO-303, Annex A, and is summarized in RTCA DO-303 section 1.2.1.3.
- (8) An important difference between ADS-B messages and the transponder replies that support radar surveillance is the dependence on the aircraft's navigation source such as GNSS.
- (9) This AC does more than recognize EASA AMC 20-24 as guidance for TCCA ADS-B approval. It presents new guidance applicable to the airworthiness certification of Mode S transponders capable of extended squitter messages. It also clarifies the obligations of an installation approval holder or an operator of an aircraft in respect of an unsafe condition resulting from a failure to meet interoperability requirements.

4.0 AIRWORTHINESS CONSIDERATIONS

- (1) Section 8 of EASA AMC 20-24, effective 2 May 2008, defines the minimum acceptable performance of the equipment that is intended to support air traffic services in non-radar areas, including ATC surveillance with 5 nautical miles separations.
- (2) The AFM or the POH, whichever is applicable, must contain a statement that the ADS-B System complies with EASA AMC 20-24 and identifies any deviations. Deviations, including those stated in EASA AMC 20-24 sections 8.3.3, 8.3.5 and 8.8.2, may be either described or referenced in the AFM or POH.
- (3) The most appropriate place for such a statement is in the "Kind of Operation" subsection in the Limitations section of the AFM or AFM Supplement. A statement such as the following may be acceptable: "The installed ADS-B out system meets Section 8 of EASA AMC 20-24."
- (4) EASA AMC 20-24 section 8.4.7 allows the use of alternative compliant position data sources.

- (5) EASA AMC 20-24 section 11.1 specifies the content of maintenance instructions that become part of the periodic checks of the system. A conformity inspection should be included in these instructions when it is more practical than measurement of the signal characteristics such as uncompensated latency. The periodicity of checks, including conformity checks, should not exceed two years. A conformity inspection is a particularly effective way of protecting against inadvertent changes to the ADS-B broadcast data due to software upgrades to the data sources, such as the GPS and transponder or systems, that provide data to the transponder, such as the flight management system or a data concentrator unit. A conformity inspection is required because no CAR specifically requires that compliance to EASA AMC 20-24 be considered for future design changes—it is not in the basis of certification, nor is it an AFM limitation. Most of the equipment providing data to the transponder flies on many aircraft models and there are regular software upgrades that are approved to a non-ADS-B TSO, which could mean that the ADS-B characteristics are not always considered for TSO approval.
- (6) Documentation of the approved configuration should identify the part number (hardware and software) of data sources that are capable of providing data for transmission. Integrated equipment capable of affecting compliance should also be identified. Provisions for additional data sources that were not evaluated for the approval should be identified, for example, a second GPS not installed. The documentation should be prepared in a form that may be used to conform the installation of a particular aircraft for operational approval and to perform a conformity inspection when such an inspection is recommended by maintenance instructions.
- (7) EASA AMC 20-24 section 11.3 refers to EUROCAE ED-26 for the transition points to be used when testing a Gillham code output. The procedure in FAA AC 43-6B e (5), FAA AD 99-23-22 may be used, or the guidance in FAA AC 20-151 section 8.c(7)(i) followed.
- (8) All ADS-B broadcast data must be correct at the time of certification. This is based on the intended function, which is to operate where ADS-B messages are used. Incorrect data that are not required for compliance with EASA AMC 20-24 should be either corrected or silenced for approval of the ADS-B installation. For the purpose of this AC, correct means that the message meets the specific requirements of the current version of any design standard, including those published by ICAO, a civil aviation authority, EUROCAE or RTCA.
- (9) The ADS-B maintenance instructions shall be used to verify the data in the transponder squitter, in conjunction with testing required by CAR Standard 571, Appendix F, “ATC Transponder Performance Tests.” All installed transponders shall be verified.

5.0 GUIDELINES FOR CONTINUING AIRWORTHINESS

- (1) Approval of the AFM, with the required compliance statement, indicates that the design has been found to meet the interoperability considerations specified in EASA AMC 20-24. While there are no regulations that require a standard for ADS-B NRA operations, any person who obtains an installation approval under Part V of the CARs for this equipment has a requirement to address continued airworthiness obligations under CAR Part V Subpart 21, as appropriate.
- (2) The certificate holder of an installation approved under Part V Subpart 21 of the CARs has a responsibility in respect of service difficulty reporting under section 521.353 of the CARs. In addition, the certificate holder has a responsibility in respect of unsafe conditions to develop corrective action where a mandatory change is required under section 521.356 of the CARs including situations where the aircraft broadcasts information that contributes to an unsafe condition.
- (3) The provisions of section 521.401 of the CARs, with respect to service difficulty reporting, shall be applied to the certificate holder of an installation approved in respect of an ADS-B. The reporting criteria and reporting procedures are addressed in Part V Subpart 21 of the CARs, and AC 591-001 (soon to be replaced by the draft AC 521-009).

6.0 GUIDANCE FOR OPERATIONAL APPROVAL

6.1 Domestic Air Operators

- (1) A domestic air operator must meet the conditions of operational specification No. 609, provided in Appendix A of this document, to obtain operational approval for ADS-B operations. The conditions are as follows:
 - (a) Aircraft and Equipment—The equipment and installation must:
 - (i) meet the requirements of Part V of the CARs; and
 - (ii) meet the airworthiness considerations of this AC and the certification considerations of EASA AMC 20-24 “Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application.”
 - (b) Company Operations Manual—The air operator must establish procedures in its Company Operations Manual for the guidance of its personnel and any other procedures related to ADS-B that are necessary for safe operations. These procedures must, as a minimum include training—The operator must provide training to each flight crew member involved with ADS-B operations that addresses, as a minimum, the items listed at sections 10.3.2 and 10.4 of EASA document EASA AMC 20-24.
 - (c) Maintenance—The operator must establish a periodicity for the maintenance of ADS-B equipment listed at section 112 of EASA AMC 20-24.
- (2) The first requirement for an air operator to obtain operational approval to participate in ADS-B operations is to have an aircraft that is equipped and approved in accordance with this AC. Certification considerations for the ADS-B-NRA application are contained in the EASA AMC 20-24 document. This requirement includes a statement of compliance related to EASA AMC 20-24 in the limitation section of the AFM. All applicable requirements and considerations raised in this AC must also be addressed.
- (3) All operational considerations of section 10 of the EASA AMC 20-24 document must be addressed prior to the commencement of ADS-B operations.
- (4) The air operator should provide appropriate guidance in its Company Operations Manual regarding equipment selection and its effects on ADS-B input/output and the quality of the data, if applicable to the type of aircraft or installation.
- (5) In addition to the training required under Part VII of the CARs, the training referenced in section 10.3.2 and the training related to the content of section 10.4 of the EASA AMC 20-24 document must be provided to each flight crew members prior to the commencement of ADS-B operations. The training should also provide the flight crew with information regarding dependencies of other systems such as GPS and Flight Management System and the consequences of their malfunction or failures on the ADS-B system. Method of compliance with incident reporting and Minimum Equipment List must also be addressed in this training.

6.2 Foreign Air Operators

- (1) A foreign air operator must meet the conditions of operational specification No. 610, provided in Appendix B of this document, to obtain operational approval for ADS-B operations. The conditions are as follows:
 - (a) the aircraft, the equipment and the installation must:

- (i) meet the airworthiness requirements of the State of the Foreign Air Operator; and
 - (ii) meet the certification considerations of the European Aviation Safety Agency (EASA) AMC 20-24 "Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application."
- (b) Company Operations Manual— The air operator must establish procedures in its Company Operations Manual for the guidance of its personnel and any other procedures related to ADS-B that are necessary for safe operations. These procedures must include at least a system description, the operational aspects described in document EASA AMC 20-24, operational and contingency procedures, and training elements for use of the ADS-B-NRA application.
- (c) Training—The air operator must provide training to each flight crew member involved with ADS-B operations that address at least the items listed at sections 10.3.2 and 10.4 of EASA document AMC 20-24.

7.0 CONTACT OFFICE

For more information, please contact the:
Policy Standards Coordinator (AARTC)

Phone: 613-990-8234
Fax: 613-996-9178

Suggestions for amendment to this document are invited, and should be submitted via the Transport Canada Civil Aviation Issues Reporting System (CAIRS) at the following e-mail address: CAIRS_NCR@tc.gc.ca (or Internet address: <http://www.tc.gc.ca/CAIRS>).

[Original signed by]

Jacqueline Booth
A/Director, Standards
Civil Aviation
Transport Canada

APPENDIX A—OPERATIONAL SPECIFICATION N° 609

SUBJECT: ADS-B OPERATIONS - DOMESTIC OPERATION

AUTHORIZATION

1. This operations specification is issued pursuant to the subparagraph of the *Canadian Aviation Regulations* referred to in section 3 of this operations specification and authorizes participation in ADS-B operations, under the conditions listed in section 2 of this operations specification, for the type(s) of aircraft indicated by reference numbers and listed in section 4 of this operations specification.

CONDITIONS

2. This authority is granted subject to the following conditions:

(a) Aircraft and Equipment

The equipment and installation shall

- i. meet the requirements of Part V of the *Canadian Aviation Regulations*; and
- ii. meet the certification considerations of EASA AMC 20-24 “Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application”.
- iii. satisfies the airworthiness considerations of the Advisory Circular on Automatic Dependent Surveillance - Broadcast.

(b) Company Operations Manual

The air operator shall establish procedures in its Company Operations Manual for the guidance of its personnel and any other procedures related to ADS-B that are necessary for safe operations. These procedures shall include at least a system description, the operational aspects described in document AMC 20-24, operational and contingency procedures, and training elements for use of the ADS-B-NRA application.

(c) Training

The air operator shall provide training to each flight crew member involved with ADS-B operations that address at least the items listed at sections 10.3.2 and 10.4 of EASA document AMC 20-24.

(d) Maintenance

The air operator shall establish a periodicity for the maintenance of ADS-B equipment listed at section 12 of EASA document AMC 20-24.

CANADIAN AVIATION REGULATIONS

3. This operations specification is issued pursuant to:

TEXT1~~

AIRCRAFT

4. Subject to the restriction(s) referred to in section 5 of this operations specification, the reference number(s) for the appropriate aircraft type(s) as listed in part II of this air operator certificate are:

AIRCRAFT~~

5. This authorization is limited to the following specific series and/or specific aircraft registration(s), if applicable:

TEXT2~~

ISSUED~

Date of Issue

PREV~Supersedes the one dated PREV~

For Minister of Transport -

SUBJECT: ADS-B OPERATIONS - INSTRUCTION SHEET

CANADIAN AVIATION REGULATIONS

3. This operations specification is issued pursuant to:

TEXT1~~

Specify the applicable regulation:

e.g.:

703.08(g)(x)

704.08(g)(vi)

705.08(g)(vi)

AIRCRAFT

4. Subject to the restriction(s) referred to in section 5 of this operations specification, the reference number(s) for the appropriate aircraft type(s) as listed in part II of this air operator certificate are:

AIRCRAFT~~

The aircraft types entry are from the pick list.

Ex: 001

Provide the air operator with the current advisory circular on ADS-B (RDIMS # 5670710)

5. This authorization is limited to the following specific series and/or specific aircraft registration(s), if applicable:

TEXT2~~

Specify the applicable restriction(s) to the type(s) authorizes in section 4;

Ex.: Applicable to DHC8-400 only.

Ex.: Applicable to C-FXXX and C-GYYY only.

Ex.: Applicable to all 001, 003, 004, and 005 only to C-FXXX and C-GYYY.

APPENDIX B—OPERATIONAL SPECIFICATION N° 610

SUBJECT: ADS-B OPERATIONS - FOREIGN OPERATIONS

AUTHORIZATION

1. This operations specification is issued pursuant to subparagraph 701.08(g)(iii) of the *Canadian Aviation Regulations* and authorizes participation in ADS-B operations, under the conditions listed in section 2 of this operations specification, for the type(s) of aircraft indicated by reference numbers and listed in section 3 of this operations specification. This operations specification is valid only if the air operator holds a valid authorization from the State of the Operator or the State of Registry for operation in ADS-B airspace.

CONDITIONS

2. This authority is granted subject to the following conditions:

(a) Aircraft and Equipment

The aircraft, the equipment and the installation shall

- i. meet the airworthiness requirements of the State of the Foreign Air Operator; and
- ii. meet the certification considerations of the European Aviation Safety Agency (EASA) AMC 20-24 "Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application".

(b) Company Operations Manual

The air operator shall establish procedures in its Company Operations Manual for the guidance of its personnel and any other procedures related to ADS-B that are necessary for safe operations. These procedures shall include at least a system description, the operational aspects described in document AMC 20-24, operational and contingency procedures, and training elements for use of the ADS-B-NRA application.

(c) Training

The air operator shall provide training to each flight crew member involved with ADS-B operations that address at least the items listed at sections 10.3.2 and 10.4 of EASA document AMC 20-24

(d) Maintenance

The air operator shall establish a periodicity for the maintenance of ADS-B equipment listed at section 12 of EASA document AMC 20-24.

AIRCRAFT

3. Subject to the restriction(s) referred to in section 4 of this operations specification, the reference number(s) for the appropriate aircraft type(s) as listed in part II of this air operator certificate are:

AIRCRAFT~~

4. This authorization is limited to the following specific series and/or specific aircraft registration(s), if applicable:

TEXT1~~

ISSUED~

Date of Issue

PREV~Supersedes the one dated PREV~

For Minister of Transport

SUBJECT: ADS-B OPERATIONS - INSTRUCTION SHEET

AIRCRAFT

3. Subject to the restriction(s) referred to in section 4 of this operations specification, the reference number(s) for the appropriate aircraft type(s) as listed in part II of this air operator certificate are:

AIRCRAFT~~

The aircraft types entry are from the pick list.

Ex: 001

Provide the air operator with the current advisory circular on ADS-B (RDIMS # 5670710) if desired.

4. This authorization is limited to the following specific series and/or specific aircraft registration(s), if applicable:

TEXT1~~

Specify the applicable restriction(s) to the type(s) authorizes in section 4;

Ex.: Applicable to DHC8-400 only.

Ex.: Applicable to C-FXXX and C-GYYY only.

Ex.: Applicable to all 001, 003, 004, and 005 only to C-FXXX and C-GYYY.