

Approved Model List (AML) For

Automatic Dependent Surveillance - Broadcast (ADS-B) Out & In System using the BendixKing KT 74 Transponder and Qualified Position Source

Peregrine

STC No. SR00821DE

FAA Approved: //Greg Johnson//

Greg Johnson, Program Manager
Denver Aircraft Certification Office

Original Issue: July 19, 2016

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For ADS-B Out/In Airworthiness Approval**

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1 Revision Log

Revision	Pages	Description	FAA Approval	Date
IR	1-9	Initial Release	<u>//Greg Johnson//</u> Program Manager, Denver Aircraft Certification Office Federal Aviation Administration Transport Airplane Directorate Date: <u>July 19, 2016</u>	Original Issue Jul 19, 2016

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2 Introduction

This document is the Federal Aviation Administration (FAA) Approved Model List (AML) for Supplemental Type Certificate (STC) Number SR00821DE, for installing the Automatic Dependent Surveillance - Broadcast (ADS-B) Out System using the BendixKing KT 74 Transponder and a qualified Global Position System (GPS) with Wide Area Augmentation System (WAAS) into eligible aircraft. This AML also installs the ADS-B In System using the BendixKing KGX 130R or KGX 150R Receiver. Qualified ADS-B Out and ADS-B In equipage is listed in Section 4, and approved models are listed in Section 5.

This AML is only applicable to the 14 CFR Part 27 civilian rotorcraft, listed in Section 5. Installations in 14 CFR Part 23, Part 25, Part 29 and unlisted Part 27 rotorcraft are not authorized under this AML.

Revisions to this AML must be coordinated between the STC holder and the responsible Aircraft Certification Office (ACO), and require FAA approval.

2.1 Prerequisites

This AML assumes the following equipment is already installed on each rotorcraft eligible for this proposed modification. The following equipment must be previously installed and properly linked to meet the intended function for the system, as certified under this AML approval.

1. Transponder system, including
 - i. Standalone transponder, and,
 - ii. Technical Standard Order (TSO) Approved transponder antenna that meets TSO-C112d.
2. A digital altitude encoder that outputs either Gillham code or RS-232 formatted data.

2.2 Limitations

The following limitations apply to this AML STC.

1. This AML STC does include installation approval of the following
 - i. an altitude encoder,
 - ii. an air data computer,
 - iii. a transponder antenna,
 - iv. a weight on wheels (WOW) system,
 - v. GPS or Universal Access Transceiver (UAT) antenna in the pressure vessel of a pressurized rotorcraft.

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2. If a GNS 400W/500W Series GPS/WAAS receiver is utilized to provide ADS-B Out position data, then the GNS 400W/500W Series GPS/WAAS receiver and associated GPS antenna must already be installed in the rotorcraft.
3. The operational suitability of this installation with a display installed on the flight deck has not been demonstrated for this AML STC. If ADS-B In data is displayed on a Portable Electronic Device (PED) via the BendixKing KGX WiFi Module (p/n 86943-00), the ADS-B In data is for situational awareness only.
4. The ADS-B In functionality includes the reception of Traffic Information Services – Broadcast (TIS-B) and Flight Information Service – Broadcast (FIS-B). The TIS-B functionality is limited to Enhanced Visual Acquisition (EVAcq) only.
5. This AML STC excludes the following FAA Surveillance and Broadcast Services (SBS) FIS-B product:
 - i. Aviation Selected Special Weather Reports (SPECI).
6. This AML STC does not include the implementation of any 978 MHz UAT ADS-B Out transmit functionality.
7. This AML STC does not allow or provide instructions for an interface to Traffic Collision Avoidance System (TCAS) II equipped rotorcraft.

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3 Certification Basis

The certification basis for each qualified model is specified in the type certificate data sheet (TCDS) and modified by the amendment levels noted in the appendix identified in the approved model list of Section 5 below.

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4 Approved ADS-B Out/In Equipage

4.1 ADS-B Out

Approved ADS-B Out equipage for the models listed in this AML is the BendixKing KT 74 Transponder, part number (p/n) 89000007-000001 (software version 3.14 or later)¹ and one of the following position sensors:

Configuration 1: BendixKing KGX 150R ADS-B Transceiver with internal GPS/WAAS Receiver², p/n 89000016-150 (GPS software version 1.11).

Configuration 2: A previously installed Garmin GNS 400W/500W Series GPS/WAAS Receiver listed in Table 1 below:

Table 1: Eligible GNS 400W/500W GPS WAAS Receiver³

Model Number	Part Number	Description
GPS 400W	011-01057-()	GPS/WAAS
GNC 420W	011-01058-()	GPS/WAAS & VHF COM (10W)
GNC 420AW	011-01059-()	GPS/WAAS & VHF COM (16W)
GNS 430W	011-01060-()	GPS/WAAS, VHF COM (10W) & VHF NAV (VOR/LOC/GS)
GNS 430AW	011-01061-()	GPS/WAAS, VHF COM (16W) & VHF NAV (VOR/LOC/GS)
GPS 500W	011-01062-()	GPS/WAAS
GPS 500W TAWS	011-01063-()	GPS/WAAS with Terrain Awareness & Warning System
GNS 530W	011-01064-()	GPS/WAAS, VHF COM (10W) & VHF NAV (VOR/LOC/GS)
GNS 530W TAWS	011-01065-()	GPS/WAAS, VHF COM (10W) & VHF NAV (VOR/LOC/GS) with Terrain Awareness & Warning System
GNS 530AW	011-01066-()	GPS/WAAS, VHF COM (16W) & VHF NAV (VOR/LOC/GS)
GNS 530AW TAWS	011-01067-()	GPS/WAAS, VHF COM (16W) & VHF NAV (VOR/LOC/GS) with Terrain Awareness & Warning System

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4.2 ADS-B In⁴

Approved ADS-B In equipage for the models listed in this AML is any one of the following transceivers:

Configuration 1: BendixKing KGX 150R ADS-B In Receiver² with internal GPS/WAAS, p/n 89000016-150 (software version 1.10.1.99 or later).

Configuration 2: BendixKing KGX 130R ADS-B In Receiver⁵, p/n 89000016-131 (software version 1.10.1.99 or later).

NOTE(S)

1. Only KT 74 Transponder software version 3.14 or later is approved for use with previously installed Garmin GNS 400W/500W Series GPS/WAAS Receiver.
2. The following antennas are approved for use with the BendixKing KGX 150R Receiver:
 - a. Honeywell KA-96, p/n 071-01620-0001,
 - b. Aero Antenna A-33, p/n 575-9, and
 - c. Aero Antenna A-33, p/n 575-9.
3. Garmin GNS 400W/500W Series GPS/WAAS Receiver using main software version 5.10 or later and GPS software version 5.0 or later is approved for this STC.
4. ADS-B In System is only allowed with an approved ADS-B Out systems.
5. The following antenna is approved for use with the BendixKing KGX 130R Receiver:
 - a. Comant CI-105.

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5 Approved Model List

Item	Aircraft Make	Aircraft Model	TCDS	Certification Basis	Master Drawing List / Date	AFM Supplement Number / Date	Instructions for Continued Airworthiness	Notes	Initial Approval / Amendment Date
1.	Airbus Helicopters	AS350B, AS350BA, AS350B1, AS350B2, AS350B3, AS350C, AS350D, AS350D1, EC130B4, EC130T2	H9EU	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1)	Initial Approval Jul 19, 2016
2.	Airbus Helicopters	AS355E, AS355F, AS355F1, AS355F2, AS355N, AS355NP	H11EU	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1)	Initial Approval Jul 19, 2016
3.	Airbus Helicopters	EC120B	R00001RD	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1)	Initial Approval Jul 19, 2016
4.	Airbus Helicopters Deutschland GmbH	EC135P1, EC135P2, EC135P2+, EC135P3, EC135T1, EC135T2, EC135T2+, EC135T3	H88EU	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1)	Initial Approval Jul 19, 2016

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5.	Bell	206, 206A, 206A-1(OH-58A), 206B, 206B-1, 206L, 206L-1, 206L-3, 206L-4, 407	H2SW	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (2)	Initial Approval Jul 19, 2016
6.	Bell	427	R00001RC	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (2)	Initial Approval Jul 19, 2016
7.	Bell	429	R00003RD	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (2)	Initial Approval Jul 19, 2016
8.	MDHI (Hughes)	500N	H3WE	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (3)	Initial Approval Jul 19, 2016
9.	Robinson	R22, R22 ALPHA, R22 BETA, R22 MARINER	H10WE	14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (4)	Initial Approval Jul 19, 2016

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Item	Aircraft Make	Aircraft Model	TCDS	Certification Basis	Master Drawing List / Date	AFM Supplement Number / Date	Instructions for Continued Airworthiness	Notes	Initial Approval / Amendment Date
10.	Robinson	R44, R44 II		14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (4)	Initial Approval Jul 19, 2016
11.	Robinson	R66		14 CFR 27 per TCDS as amended by Appendix A	Peregrine Doc. No. E-BK-15-0002, Initial Release, dated 04/15/16, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0009, Initial Release, dated July 13, 2016, or later FAA approved revision.	Peregrine Doc. No. E-BK-15-0008, Initial Release, dated 03/20/14, or later FAA approved revision.	(1) (4)	Initial Approval Jul 19, 2016

NOTE(S):

- (1) Eligible serial numbers are those identified in the type certificate data sheet (TCDS) as eligible.
- (2) Type Certificate Holder when model was added to AML is Bell Helicopter Textron Canada Limited.
- (3) Type Certificate Holder when model was added to AML is MD Helicopters Inc.
- (4) Type Certificate Holder when model was added to AML is Robinson Helicopter Company.

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Appendix A: All Models

Based on 14 CFR §§ 21.115 and 21.101, and the FAA policy for significant changes in FAA Order 8110.48, the certification basis is as follows:

- a. As determined by the Type Certificate Data Sheet (TCDS) of the aircraft for parts **not changed or not affected** by this STC.
- b. Regulations at the amendment levels listed in Table 1 below for parts **changed or affected** by the STC since the reference date of STC application, October 30, 2015.

Table 2: Certification Basis Including Amendments.

Regulations	Amdt.
§ 27.251	27-0
§ 27.301	27-0
§ 27.303	27-0
§ 27.305	27-0
§ 27.307 (a)	27-26
§ 27.337	27-26
§ 27.341	27-0
§ 27.471	27-0
§ 27.561 (a)(b)(3)	27-32
§ 27.601	27-0
§ 27.603	27-16
§ 27.605 (a)	27-16
§ 27.607	27-4
§ 27.609	27-0
§ 27.610 (a)(b)(d)	27-46
§ 27.611	27-0
§ 27.613	27-26
§ 27.619	27-0
§ 27.625	27-37
§ 27.671 (a)	27-0
§ 27.771 (a)	27-0

Regulations	Amdt.
§ 27.773 (a)(1)	27-0
§ 27.777	27-0
§ 27.1301 (a)(b)(c)(d)	27-0
§ 27.1307 (d)(e)	27-0
§ 27.1309 (a)(c)	27-46
§ 27.1316	27-46
§ 27.1317 (c)	27-42
§ 27.1321 (a)(c)(d)	27-13
§ 27.1322 (d)	27-11
§ 27.1351 (a)(b)(1)	27-13
§ 27.1357 (a)(b)(c)(d)	27-13
§ 27.1365	27-35
§ 27.1381	27-0
§ 27.1529	27-18
§ 27.1541 (a)(b)	27-0
§ 27.1581	27-14
§ 27.1581	27-16
§ 27.1581	27-21