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# **Type Acceptance Report**

**RESTRICTED CATEGORY**

**TAR 19/21B/13**

**Pickering Aviation (Sikorsky) EH-60A**



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## Executive Summary

New Zealand Type Acceptance in the Restricted Category has been granted to the Sikorsky EH-60A helicopter based on validation of FAA Type Certificate number R00003AC held by Pickering Aviation. Special requirements for import are as detailed in this report.

Applicability is currently limited to the models and/or serial numbers detailed in Appendix 1, which are now eligible for the issue of an Airworthiness Certificate in the Restricted Category in accordance with NZCAR §21.191, subject to any outstanding New Zealand operational requirements being met. (See Section 5 of this report for a review of compliance of the basic type design with the operating Rules.) Additional variants or serial numbers approved under the foreign type certificate can become type accepted after supply of the applicable documentation, in accordance with the provisions of NZCAR §21.43(c).

NOTE: The information in this report was correct as at the date of issue. The report is generally only updated when an application is received to revise the Type Acceptance Certificate. For details on the current type certificate holder and any specific technical data, refer to the latest revision of the State-of-Design Type Certificate Data Sheet referenced herein.

## 1. Introduction

This report details the basis on which Type Acceptance Certificate No. 19/21B/13 was granted in the Restricted Category in accordance with NZCAR Part 21 Subpart B.

Specifically, the report aims to:

- (a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the model(s) in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) covered by the Type Acceptance Certificate; and
- (c) Identify any additional requirements which must be complied with prior to the issue of a NZ Airworthiness Certificate or for any subsequent operations.

## 2. Aircraft Certification Details

### (a) State-of-Design Type and Production Certificates:

Manufacturer: Sikorsky Aircraft Corporation  
Type Certificate Holder: Pickering Aviation Inc.  
Type Certificate: R00003AC  
Issued by: Federal Aviation Administration  
Production Approval: Not Applicable

### (b) Models Covered by the Part 21B Type Acceptance Certificate:

(i) **Model:** EH-60A  
MCTOW: 22,000 lb. [9979 kg]  
Max. No. of Seats: 17 (No passengers permitted. See TCDS Note 11) \*  
Noise Standard: Not Applicable  
**Engine:** General Electric T700-GE-700  
General Electric T700-GE-701C  
General Electric T700-GE-701D  
Type Certificate: Not Applicable  
Issued by: Not Applicable

\* FAR §91.313(d) states that all persons on board must be flight crewmembers, flight crewmember trainees, persons who perform an essential function in connection with the special purpose operation, or persons necessary to accomplish the work activity directly associated with the special purpose operation.

NOTE: See the Mandatory Flight Manual Supplement for details of the New Zealand limitations on carriage of passengers.

### 3. Application Details and Background Information

The type acceptance application for the Sikorsky EH-60A under Pickering Aviation Inc. FAA type certificate R00003AC was from Kahu NZ Limited, dated 20 August 2018. The first-of-type example was serial number 86-24572, to be registered as ZK-HKU. The Sikorsky EH-60A “Blackhawk” is a large twin-turbine powered utility transport helicopter used extensively by the US armed forces since 1978. There is no equivalent Standard Category civil version. As part of the type acceptance exercise a team from the CAA Airworthiness Unit visited Pickering Aviation for a familiarisation/validation visit.

Type Acceptance Certificate Number 19/21B/13 was granted on 15th January 2020 to the EH-60A based on validation of FAA Type Certificate R00003AC. Specific applicability is limited to the Special Purpose Operations assessed as part of the application, and which are listed in the Mandatory New Zealand Flight Manual Supplement. The only special requirement for import is that an individual helicopter must come with an FAA Export certificate of airworthiness.

The EH-60A was a special mission version of the Sikorsky UH-60A Blackhawk with additional electronic equipment. This role was taken over by fixed wing aircraft in the 1990s and all EH-60A helicopters were converted to the UH-60A utility configuration, although they retained their original designation.

FAA Type Certificate R00003AC was first issued on May 13, 2019 and initially included a single serial number. Under the Implementation Procedures for Airworthiness (IPA) for the Bilateral Aviation Safety Agreement (BASA) with the FAA, validation of a Restricted Category or Surplus Military aircraft requires a Special Arrangement, which was initially discussed during a visit to the FAA Rotorcraft Directorate. Subsequently it was agreed with the FAA to accept a Letter of Exchange. This was issued on 6 December 2019.

#### 4. NZCAR §21.43 Data Requirements

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents, or were already held by the CAA:

(1) State-of-Design Type certificate:

FAA Type Certificate Number R00003AC

FAA Type Certificate Data Sheet no. R00003AC at Revision 1 dated May 13, 2019  
– Model EH-60A approved May 13, 2019

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the EH-60A in the Restricted Category under FAA Type Certificate Number R00003AC is FAR §21.25(a)(2), effective February 1, 1965, including Amendments 21-1 through 21-42, for the special purposes of:

- 1) FAR 21.25(b)(1) *Agricultural Operations*;
- 2) FAR 21.25(b)(2) *Forest and Wildlife Conservation*;
- 3) FAR 21.25(b)(7) *External Loads*.

The FAA type certificate data sheet Note 8 states the helicopter has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation. It is not therefore an acceptable certification basis in accordance with NZCAR Part 21B paragraph §21.41 or Advisory Circular 21-1A.

To establish an acceptable level of safety for the operation the Director prescribed the following special conditions under §21.23:

1. Type acceptance of RCSM helicopters will only be granted where CAA has knowledge of the original military design specification. (So it can be determined if the proposed civil operation fits within the original design parameters.)
2. Type acceptance is limited to the Special Purpose Operations (SPO) declared in the application, which must be listed on the FAA TCDS. The type certificate holder must have assessed any effect on continued airworthiness from the SPO, where they vary from the original military design specification of the helicopter. (particularly structural fatigue.)
3. The FAA type certificate holder must provide technical support for the type acceptance application, including specifying the applicable publications and their revision status; detailing the life-limited components; listing the eligible serial numbers and any civil conversion requirements; and substantiation if required for any SPO under Special Condition 2 above.

The application for the Pickering Aviation Inc. EH-60A has been assessed against the Special Conditions above, as follows:



- a. Because it is a current service military helicopter it has not been possible to obtain any information on the original design specification or mission profile for the UH-60A Series. However it is known that it was designed for external load operations from the outset, and there are no special inspections or continuing airworthiness actions called up for repetitive lifting operations. (See Pickering Aviation Document PA-8.) This has been accepted and the aircraft will be approved for repetitive lifting with no special conditions or inspections.
- b. This type acceptance application is for external load lifting operations under CAR Part 133. This is covered by special purpose 3) above on the TCDS.
- c. Pickering Aviation Inc. lists and describes their responsibilities as the type certificate holder of Restricted Category TC R00003AC in Document PA-10 TC Holder Responsibility. These responsibilities have been established with guidance from FAA Order 8110.56B.

(ii) *Special Conditions:*

Nil

(iii) *Equivalent Level of Safety Findings:*

Nil

(iv) *Airworthiness Limitations:*

See Pickering Aviation Inc. Instructions for Continued Airworthiness (ICA)  
Document No.: PA-04 – Chapter 3 Scheduled Maintenance / Component Overhaul  
and Chapter 4 Airworthiness Limitations Section

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

In accordance with 14 CFR §36.1(a)(4), compliance with the noise requirements was not shown. Therefore in accordance with section 36.1(a)(4), aircraft certificated under this type certificate are only eligible for (1) agricultural operations as defined in §137.3; and (2) for aerial dispensing of liquids and firefighting materials, and (3) external loads as defined in §133.1(b).

The TCDS states that any alteration to the aircraft for Special Purposes not identified above require further FAA approval and in addition, may require noise and / or flight testing.

(ii) *Compliance Listing:*

Not Applicable

(4) Certification Compliance Listing:

Pickering Aviation Inc. Document No.: PA-01 – Master Document / Drawing List  
The purpose of this document is to identify all official documents and drawings related to Pickering Aviation, Inc. Restricted Category Type Certificate No. R00003AC along with their revision status.

Pickering Aviation Inc. Document No.: PA-03 – Approved Serial Numbers List  
The purpose of this document is to list all EH-60A that have ever been approved and conformed under Pickering Aviation, Inc. Restricted Type Certificate No. R00003AC. The list includes: aircraft serial no., N number, the date of TC Certification and the date/ location of exportation, if applicable.

Pickering Aviation Inc. Document No.: PA-07 – Engineering Configuration Report  
The purpose of this document is to verify and provide evidence that the aircraft being added to Pickering Aviation, Inc. Restricted Category Type Certificate No. R00003AC has been demilitarized and is configured as a Complete Aircraft that is safe for the attended special purpose operations.

Pickering Aviation Inc. Document No.: PA-08 – Flight Spectrum  
The purpose of this document is to explain the flight spectrum for the EH-60A, listed on Restricted Category Type Certificate No. R00003AC, that has been established by the US Military and will be utilized for Pickering Aviation, Inc. Restricted Type Certificate.

Pickering Aviation Inc. Document No.: PA-09 – Aircraft TC Inspection Checklist  
The purpose of this document is to specify the aircraft conformity requirements that are to be completed/evaluated when applying to add an aircraft to the Pickering Aviation, Inc. Restricted Category Type Certification No. R00003AC

(5) Flight Manual:

Document PA-1-1520-237-10 – FAA-Approved Operator’s Manual for Helicopter, Restricted Category Model EH-60A – CAA Accepted as AIR 3957

NOTE: A Mandatory Flight Manual Supplement is required for operations in NZ. This calls up any limitations included on the FAA TCDS or called up in FAR §91.313, and any additional limitations specified by the Director.

(6) Operating Data for Aircraft and Engine:

For full list of applicable documents see Pickering Aviation Inc. Instructions for Continued Airworthiness Document No.: PA-04 – Chapter 2

Pickering Aviation Inc. Document No.: PA-03 – Military Document Supplement  
The purpose of this document is to list all Work Packages from the US Military Interactive Electronic Technical Manual (IETM) TM 1-1520-237-23&P Change: 9 Dated: 1/30/17 that are associated with unique military equipment, weapons, armor, and military avionics and were not incorporated into Pickering Aviation, Inc. maintenance manual PA-1-1520-237-23&P.

(i) *Maintenance Manual:*

Document PA-1-1520-237-23&P – H-60 Maintenance Manual & Repair Parts, Special Tool List (RPSTL) for Restricted Category Type Certificate R00003AC

Document PA-1-2840-248-23&P – T700 Series Maintenance Manual (T700-GE-700) (T700-GE-701C) (T700-GE-701D)

(ii) *Service Data:*

Pickering Aviation Inc. Document No.: PA-05 – Airworthiness Directives & Military Safety Messages

The purpose of this document is to identify all Airworthiness Directives and Military Safety Messages released from the FAA and US Military applicable for the EH-60A. All publicly released EH-60A helicopters have been configured to emulate the UH-60A helicopter as stated in Department of the Army ATZQ-CDL Memorandum Dated 18 June 2015. Therefore, all Airworthiness Directives and Military Safety Messages for the UH-60A must be complied with.

(iii) *Illustrated Parts Catalogue:*

N/A – IPC diagrams are included in the Maintenance Manual

- (7) Agreement from manufacturer to supply updates of data in (5), and (6):

CAA 2171 dated 12 December 2019 from Pickering Aviation Quality Manager.

The revision status of the US Army Technical Manuals called up under the type certificate are specified by the TC Holder in Chapter 2 of the ICA.

See Pickering Aviation Inc. Document No.: PA-10 – TC Holder Responsibility

- (8) Operational Approvals:

These helicopters are approved for Day or Night VFR operations only.

- (9) Other information:

Electrical Loads Analysis EH-60A – Pickering Aviation dated 01/14/2020

## 5. New Zealand Operational Rule Compliance

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 has been assessed as they are a prerequisite for the grant of an airworthiness certificate.

### Civil Aviation Rules Part 26

#### Subpart B – Additional Airworthiness Requirements

##### Appendix B – All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	<i>To be determined on an individual aircraft basis</i>
B.2	Crew Protection Requirements – CAM 8 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

##### Appendix E – Helicopters

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
E.1	Doors and Exits	<i>Operational requirement – Compliance as applicable</i>
E.2.1	Emergency Exit Marking	<i>Operational requirement – Compliance as applicable</i>

Compliance with the following additional NZ operating requirements has been reviewed and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

### Civil Aviation Rules Part 91

#### Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Seating and Restraints – Safety belt/Shoulder Harness	Inertial reel shoulder harness fitted as std – See OM §2.13.1.5
91.507	Pax Information Signs – Smoking, safety belts fastened	Not Applicable – Only essential crew may be carried
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	Fitted as std – See OM §2.77 <i>N/R – Mach No limitations</i> Fitted as std – See OM §2.78 Fitted as std – See OM §2.81 Fitted as std – See OM §2.36 Fitted as std – See OM §2.33.5 Fitted as std – See OM §2.33.2
91.511 Night	(1) Turn and Slip (2) Position Lights	Fitted as std – See OM §2.76 Fitted as std – See OM §2.73.4
91.512	VFR Communication Equipment	<i>Operational requirement – Compliance as applicable</i>
91.517	IFR Instruments and Equipment	Not Applicable – Approved for VFR operations only
91.519	IFR Communication and Navigation Equipment	Not Applicable – Approved for VFR operations only
91.523	Emergency Equipment: (a) More Than 9 pax – First Aid Kits per Table 7 – Fire Extinguishers per Table 8 (b) More than 20 pax – Axe readily accessible to crew (c) More than 61 pax – Portable Megaphones per Table 9	Not Required – (Fitted as standard – See OM §2.17) Not Required – (Fitted as standard – See OM §2.15.7) Not Required – (Fitted as standard – See OM §2.16) Not Applicable – Less than 61 passenger seats
91.529	ELT – TSO C126 406 MHz after 22/11/2007	<i>Operational requirement – Compliance as applicable</i>
91.531	Oxygen Indicators – Volume/Pressure/Delivery	<i>Operational requirement – Compliance as applicable</i>
91.533	Oxygen for non-Pressurised Aircraft:	Not fitted as standard
91.541	SSR Transponder and Altitude Reporting Equipment	<i>Operational requirement – Compliance as applicable</i>
91.543	Altitude Alerting Device – Turbojet or Turbofan	Not Applicable – Not turbojet or turbofan powered
91.545	Assigned Altitude Indicator	Not Applicable – Approved for VFR operations only
A.15	ELT Installation Requirements	<i>Compliance to be determined on an individual aircraft basis</i>

NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was directly equivalent to the CAR requirement, and compliance is achieved for the basic aircraft type design by certification against the original Design Rule.

2. The CAR Compliance Tables above were correct at the time of issue of the Type Acceptance Report. The Rules may have changed since that date and should be checked individually.

**Attachments**

The following documents form attachments to this report:

- Three-view drawing Sikorsky Helicopter Model EH-60A Blackhawk
- Copy of FAA Type Certificate Data Sheet Number R00003AC
- Mandatory NZ Flight Manual Supplement – Pickering Aviation EH-60A

**Sign off**

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David Gill  
Team Leader Airworthiness

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Checked – Rens Molenaar  
Airworthiness Engineer Avionics

**Appendix 1**

**List of Type Accepted Variants:**

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
EH-60A	Kahu Aviation Limited	19/21B/13	15 January 2020

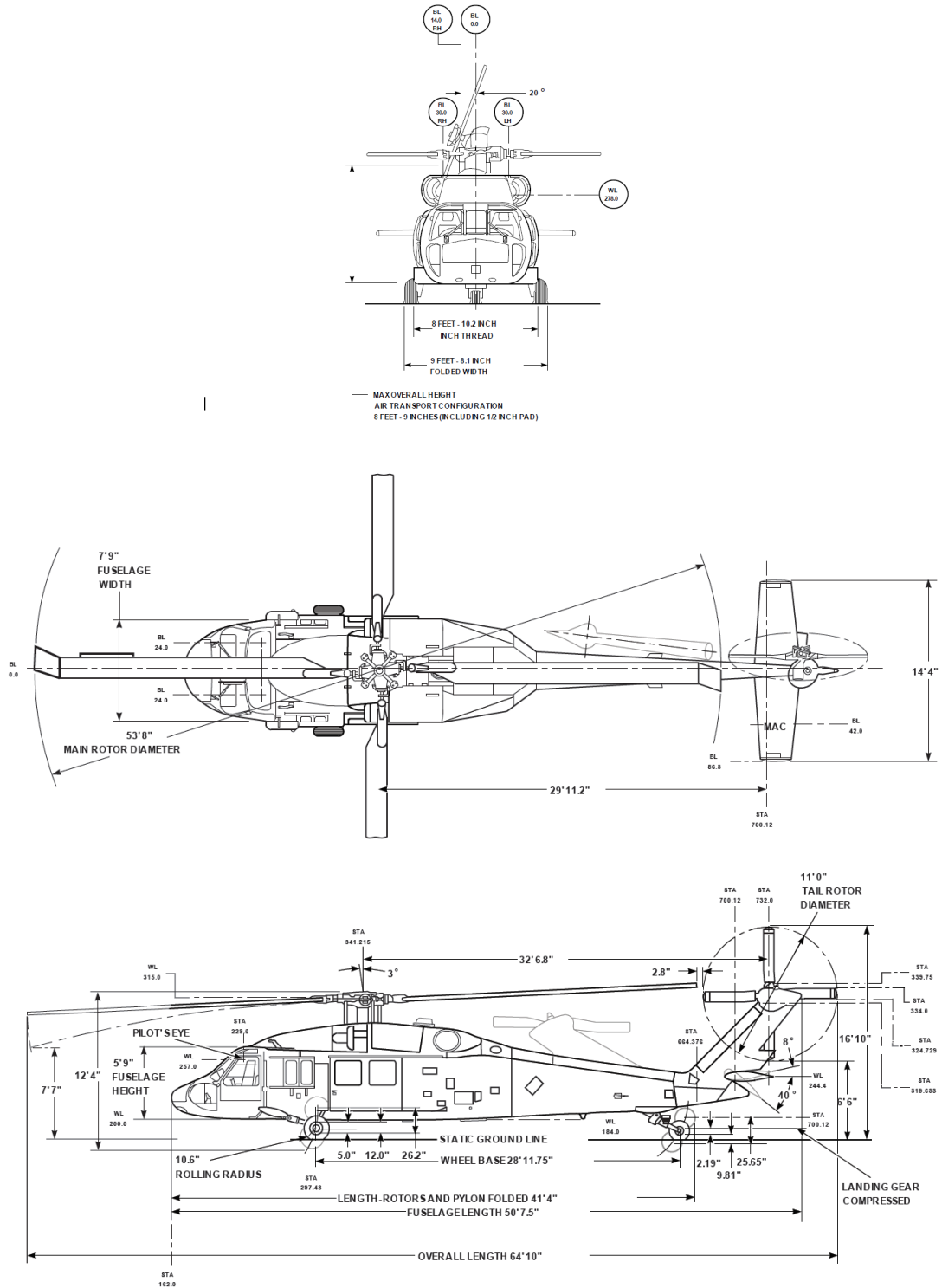


Fig.1 3-View Drawing Sikorsky EH-60A