

Civil Aviation Authority United Kingdom



TYPE-CERTIFICATE DATA SHEET

UK.TC.P.00114

For Propeller

7242245-S

7045261-S

7650723-S

7448814-S

Type Certificate Holder

Hercules Propellers Limited

Canal Iron Works

Hope Mills

London Road

Stroud

Gloucestershire

United Kingdom GL5 2SH

AI/10077/16

Model(s): 7242245-S
7045261-S
7650723-S
7448814-S

Issue: 1

Date of issue: 12 March 2025

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Section 1 7242245-S, 7045261-S, 7650723-S, 7448814-S

Section 1 7242245-S, 7045261-S, 7650723-S, 7448814-S

I. General

This Type-Certificate Data Sheet (TCDS) is the concise definition of the type-certificated product accepted and or approved by the CAA in the UK for the affected types and models.

1. Type / Variant / Model

- a) Type: 7242245-S, 7045261-S, 7650723-S, 7448814-S
- b) Variant or Model: 7242245-S, 7045261-S, 7650723-S, 7448814-S

2. Type Certificate Holder

Hercules Propellers Limited
Canal Iron Works
Hope Mills
London Road
Stroud
Gloucestershire
United Kingdom GL5 2SH

3. Manufacturer

Hercules Propellers Limited

4. Date of Application

3 June 2024

5. Type Certification Date

14 March 2025

II. Certification Basis

1. Reference Date for determining the applicable airworthiness requirements:

24 June 2020

2. Airworthiness Standards

(UK) CS-P Amendment 2, 24 June 2020

3. Special Conditions (SC)

None

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings (ESF)

Affected Variant	Requirement	Equivalent Safety Finding
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 170	Service experience >1200 Hercules propellers of similar design and construction
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 360	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 and BCAR Section C5 in force at the time of original certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 370	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 and BCAR Section C5 in force at the time of original aircraft certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 380	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 and BCAR Section C5 in force at the time of original aircraft certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 390	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 in force at the time of original aircraft certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 410	Service experience >1200 Hercules propellers of similar design and construction.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 530	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 in force at the time of original aircraft certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 550	Service experience >1200 Hercules propellers of similar design and construction. Reference to certification standards 14CFR35 in force at the time of original aircraft certification which do not require such testing on wooden fixed pitch propellers.
7242245-S, 7045261-S, 7650723-S and 7448814-S	(UK) CS-P 560	Service experience >1200 Hercules propellers of similar design and construction

7. Requirements Elected to Comply

None

8. Environmental Standards

Not Applicable

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

The 7242245-S, 7045261-S, 7650723-S and 7448814-S propeller models are defined by a main assembly drawing and other detail drawings. The main assembly drawings are as follows:

HP-800-1000 issue 1 dated 9 January 2025, 7242245-S Propeller General Arrangement*

HP-800-1003 issue 1 dated 9 January 2025, 7242245-S CAD Model*

HP-800-1010 issue 1 dated 9 January 2025, 7045261-S Propeller General Arrangement*

HP-800-1013 issue 1 dated 9 January 2025, 7045261-S CAD Model*

HP-900-1000 issue 1 dated 9 January 2025, 7650723-S Propeller General Arrangement*

HP-900-1003 issue 1 dated 9 January 2025, 7650723-S CAD Model*

HP-900-1010 issue 1 dated 9 January 2025, 7448814-S Propeller General Arrangement*

HP-900-1013 issue 1 dated 9 January 2025, 7448814-S CAD Model*

* Or later approved versions

2. Description

The 7242245-S, 7045261-S, 7650723-S, 7448814-S propeller models are 2-blade fixed pitch propeller of laminated wood structure with a varnish or paint cover. The leading edge of the blade is protected by a composite erosion protection sheath.

3. Equipment

None

4. Dimensions

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Diameter	1829 mm (72.0 in)	1778 mm (70.0 in)	1930 mm (76.0 in)	1880 mm (74.0 in)
Centre of Gravity (forward of mounting face)	43 mm (1.69 in)	43 mm (1.69 in)	52 mm (2.05 in)	52 mm (2.05 in)

5. Weight

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Weight	10.31 lb (4.68 Kg)	9.90 lb (4.12 Kg)	12.08 lbs (5.48 Kg)	12.30 Lbs (5.58 Kg)

6. Configurations

Various. Platform specific

7. Control System

Not Applicable

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8. Adaptation to Engine

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Engine Type	Continental A-65 series	Continental C-85 series, C-90-8F and O-200-A	Franklin 6A4-150-B31, B3 or B4	Franklin 6A4-165-B3 or B4
Comments	Hub attachment with six bolts and a crush plate, or direct flange mounting with six bolts and a crush plate	direct flange mounting with six bolts and a crush plate	direct flange mounting with eight bolts and a crush plate	direct flange mounting with eight bolts and a crush plate

9. Direction of Rotation

Direction of rotation clockwise (viewed in flight direction).

10. Operating Limitations**10.1. Intended Installations**

These propeller types are intended for use on the aircraft types listed below:

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Aircraft Types	Piper Cub J3C-65, J3C-65S, L-4, L-4A, L-4B (Navy NE-1), L-4H, L-4J (Navy NE-2), L-18C, 2POLM, PA-11, PA-11S, PA-18, PA-19. (see Notes 4 & 5)		Stinson 108, 108-1, 108-2, 108-3, 108-5. (See Notes 6 & 7)	

10.2. Maximum Take Off Power and Speed

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Power kW (HP)	48.5 (65)	74.6 (100)	111.9 (150)	123.0 (165)
Speed (rpm)	2350	2750	2600	2800

10.3. Maximum Continuous Power and Speed

Propeller Type Number	7242245-S	7045261-S	7650723-S	7448814-S
Power kW (HP)	48.5 (65)	74.6 (100)	111.9 (150)	123.0 (165)
Speed (rpm)	2350	2750	2600	2800

10.4. Pitch Angle

Not Applicable

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IV. Operating and Service Instructions

Installation and Operation Manual for 7242245-S and 7045261-S	HPM1006 (*)
Installation and Operation Manual for 7650723-S and 7448814-S	HPM1007 (*)
Component Maintenance Manual for 7242245-S and 7045261-S	61-10-05 (*)
Component Maintenance Manual for 7650723-S and 7448814-S	61-10-06 (*)
Service Bulletins, Service Letters, Service Instructions as published by Hercules Propellers	
(*): or later approved revision	

V. Operational Suitability Data

Not Applicable

VI. Notes

1. The UKCAA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in HPM1006 Installation and Operation Manual, Airworthiness Limitations and Continued Airworthiness Maintenance Tasks Sections for propeller types 7242245-S and 7045261-S, and in HPM1007 Installation and Operation Manual, Airworthiness Limitations and Continued Airworthiness Maintenance Tasks Sections. for propeller types 7650723-S and 7448814-S.
2. No life limit is necessary for these models.
3. There are no overhaul Intervals recommended by the manufacturer.
4. The 7242245-S propeller is intended for installation on Piper Cub J3C-65, J3C-65S, L-4, L-4A, L-4B (Navy NE-1), L-4H, L-4J (Navy NE-2), L-18C, 2POLM, PA-11, PA-11S, PA-18, PA-19 models, fitted with Continental A-65 series engines.
5. The 7045261-S propellers are intended for installation on Piper Cub J3C-65, J3C-65S, L-4, L-4A, L-4B (Navy NE-1), L-4H, L-4J (Navy NE-2), L-18C, 2POLM, PA-11, PA-11S, PA-18, PA-19 models, fitted with Continental C-85 series, C-90-8F and O-200-A series engines.
6. The 7650723-S propeller is intended for installation on the Stinson 108, 108-1, 108-2, 108-3 and 108-5 models, fitted with Franklin 6A4-150-B31, B3 or B4 series engines.
7. The 7448814-S propeller is intended for installation on the Stinson 108, 108-1, 108-2, 108-3 and 108-5 models, fitted with Franklin 6A4-165-B3 or B4 series engines.

Section 2 Administration

Section 2 Administration

I. Acronyms and Abbreviations

Acronym / Abbreviation	Definition
ESF	Equivalent Safety Findings
SC	Special Conditions
TC	Type Certificate
TCDS	Type Certificate Data Sheet
TCH	Type Certificate Holder
UKCAA	UK Civil Aviation Authority

II. Type Certificate Holder Record

TCH Record	Period
Hercules Propellers Limited Canal Iron Works Hope Mills London Road Stroud Gloucestershire United Kingdom GL5 2SH	Present. No changes.

III. Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	12 Mar 2025	Initial	Issue 0 12 Mar 2025

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