CIVIL AVIATION
SAFETY AUTHORITY
AUSTRALIA

Type Certificate

(Amended Certificate of Type Approval)

Number: 179-1 Issue 4

Pursuant to regulation 21.13A of the Civil Aviation Regulations 1998 this Type Certificate is issued to:

Eagle Aircraft Malaysia SDN BHD
Company No. 194035-K
Locked Bag 1028
Pejabat Pos Besar Melaka
75150 Melaka Malaysia,

in respect of Eagle Aircraft models X-TS, X-TS 150 and 150B aircraft manufactured by Eagle Aircraft Malaysia SDN BDN, trading as Eagle Aircraft Pty Ltd.

This certificate was originally issued pursuant to Regulation 22 of the Civil Aviation Regulations (1988).

This certificate is valid until it is suspended or cancelled by the Civil Aviation Safety Authority. The basis of certification is as described in Type Certificate Data Sheet number 179-1 issued by this Authority.

CIVIL AVIATION AUSTRALIA SAFETY AUTHORITY

Gary Carr
Delegate of the Authority
Date of Issue: 28 February 2002

CIVIL AVIATION
SAFETY AUTHORITY
AUSTRALIA

No: 179-1
Revision: 11
Aircraft: Eagle X-TS
Eagle X-TS 150
Eagle 150B
Date: 28 February 2002

Certificate Of Type Approval Data Sheet

This data sheet, which is part of the Certificate of Type Approval No. 179-1, lists the conditions and limitations under which the aircraft for which the Certificate of Type Approval was issued meets the airworthiness requirements of the Civil Aviation Safety Authority.

Type Certificate Holder

Eagle Aircraft Malaysia SDN. BHD.
Company No. 194035-K
Locked Bag 1028
Pejabat Pos Besar Melaka
75150 Melaka Malaysia

I. Model X-TS

Normal Category - Approved 21 September 1993.

Engine

Continental IO-240-A. Type Certificate No. E7SO (FAR33).

Fuel

100LL (blue) or 100 (green) minimum grade aviation gasoline.

Engine Limits

2800 rpm (125 hp) for all operations.

Propeller

Sensenich W68T6EM-63.

Diameter 1727mm (68 inches). No cut off allowed.

Maximum Static rpm (full throttle) Not over - 2300 rpm
Not under - 2150 rpm

OR

McCauley 1A135BRM7054 - Mod Kit MK-01
Type Certificate No. P-842 (FAR35).

Diameter: Max 1778 mm (70 inches).
Minimum 1753 mm (69 inches).

Maximum Static rpm, full throttle: Not over - 2400 rpm
Not under - 2300 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

Airspeed Limits (knots)

		IAS	CAS
	Never Exceed	166	165
	Max Structural Cruise	131	130
	Manoeuvring	107	107
Pre Mod Kit MK-01 -	Max Flaps Take-Off 10°	101	100
Post Mod Kit MK-01 -	Max Flaps Take-Off 20°	100	97
	Max Flaps Extended Full	85	85

Centre of Gravity Limits

Normal Category	Forward Limit:	1778 mm aft of datum at 555 kg or less. 1854 mm aft of datum at 595 kg - linear variation from 555 kg to 595 kg.
	Aft Limit:	1905 mm aft of datum at all weights.
Special Category	Forward Limit:	1778 mm aft of datum at 590 kg or less. 1854 mm aft of datum at 650 kg - linear variation from 590 kg to 650 kg.
	Aft Limit:	1905 mm aft of datum at all weights.

Maximum Weight

Normal Category:	Take-Off	595 kg
	Landing	595 kg
Special Category:	Take-Off	650 kg
	Landing	650 kg

Note: At 650 kg the stalling speed (V_{so}) in the landing configuration is 47 knots CAS. Because of this, a certificate of airworthiness may not be issued in the special category after 1 October 1998.

No. of Seats

Normal Category: 1 at 2052 mm aft of datum.
Special Category: 2 at 2052 mm aft of datum.

Fuel Capacity

Pre Mod Kit MK-01 - 141 litres total (39 litres front tank, 102 litres aft tank).
131 litres useable.
Post Mod Kit MK-01 - 102 litres total (aft tank only fitted).
97 litres useable.

Oil Capacity

5.7 litres (6 U.S. quarts).

Control Surface Deflections

Aileron:	Up	25° ± 1°
	Down	20° ± 1°
	Neutral	1° down ± 0.5°
Elevator:	Up	20° ± 0.5°
	Down	24° ± 1°
Elevator tab:	Up	20° ± 1°
	Down	25° ± 1°
Rudder:	L & R	23° ± 1°
Rudder tab: (anti-balance)	Left	13° ± 1°
	Right	18° ± 1°

Control Surface Deflections - cont.

Canard flaps:	Retracted	0° ± 0.5°
Pre Mod Kit MK-01 -	Take-Off	10° ± 0.5°
Post Mod Kit MK-01 -	Take-Off	20° ± 0.5°
	Landing	35.5° + 1°, -0.0°
Wing Flaps:	Retracted	-6.5° ± 0.5°
Pre Mod Kit MK-01 -	Take-Off	5.5° ± 0.5°
Post Mod Kit MK-01 -	Take-Off	19° ± 0.5°
	Landing	38° + 1°, -0.0°

Cross wind Component 15 knots maximum for take-off and landing.

Serial Numbers Eligible 001 to 010

II. Model X-TS 150

Normal Category - Approved 13 November 1996.

Engine Continental IO-240-A. Type Certificate No. E7SO (FAR33).

Fuel 100LL (blue) or 100 (green) minimum grade aviation gasoline.

Engine Limits 2800 rpm (125 hp) for all operations.

Propeller

McCauley 1A135BRM7054.
Type Certificate No. P-842 (FAR35)

Diameter - Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle:	Not over	- 2400 rpm
	Not under	- 2300 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135CRM7054.
Type Certificate No. P-842 (FAR35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle:	Not over	- 2400 rpm
	Not under	- 2300 rpm

Avoid continuous operation while descending between 2050 and 2450 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135DRM7054.
Type Certificate No. P-842 (FAR35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Propeller - cont.

Maximum Static rpm, full throttle: Not over - 2400 rpm
Not under - 2300 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135BRM7057 - Mod Kit MK-04
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135CRM7057 - Mod Kit MK-04
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2050 and 2450 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135DRM7057 - Mod Kit MK-04
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

Airspeed Limits (knots)

	IAS	CAS
Never Exceed	167	165
Max Structural Cruise	129	130
Manoeuvring	106	107
Max Flaps Take-Off	103	100
Max.Flaps Extended Full	89	85

Centre of Gravity Limits

Forward Limit: 1778 mm aft of datum at 590 kg or less.
1854 mm aft of datum at 650 kg
- linear variation from 590 kg to 650 kg.

Aft Limit: 1905 mm aft of datum at all weights.

Maximum Weight

Take-Off (20° flap) 650 kg
Landing 650 kg
See Note 5 regarding take-off with 0° flap.

No. of Seats

2 at 2052 mm aft of datum.

Fuel Capacity

102 litres total.
97 litres useable.

Oil Capacity

5.7 litres (6 U.S. quarts)

Control Surface Deflections

Aileron:	Up	25° ± 1°
	Down	20° ± 1°
	Neutral	1° down ± 0.5°
Elevator:	Up	25° ± 0.5°
	Down	24° ± 1°
Elevator tab:	Up	20° ± 1°
	Down	25° ± 1°
Rudder:	L & R	23° ± 1°
Rudder tab: (anti-balance)	Left	13° ± 1°
	Right	17° ± 1°
Canard flaps:	Retracted	0° ± 0.5°
	Take-Off	20° ± 0.5°
	Landing	35° + 1°, -0.0°
Wing Flaps:	Retracted	-3° ± 0.5°
	Take-Off	20° ± 0.5°
	Landing	38° + 1°, -0.0°

Crosswind Component

20 knots maximum for take-off and landing.

Serial Numbers Eligible

011 to 044. Note: Serial Numbers 001 to 010 were originally model X-TS aircraft. When modified by Service Bulletin 1024 they are eligible for redesignation as model X-TS 150.

III. Model 150B

Normal Category - Approved 6 November 1997.

Engine

Continental IO-240-B. Type Certificate No. E7SO (FAR 33).

Fuel

100LL (blue) or 100 (green) minimum grade aviation gasoline.

Engine Limits

2800 rpm (125 hp) for all operations.

Propeller

McCauley 1A135BRM7057.
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135CRM7057.
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2050 and 2450 rpm with power retarded below ¼ throttle.

OR

McCauley 1A135DRM7057.
Type Certificate No. P-842 (FAR 35).

Diameter: Max 1778 mm (70 inches)
Min 1753 mm (69 inches)

Maximum Static rpm, full throttle, mixture full rich:
Not over - 2300 rpm
Not under - 2200 rpm

Avoid continuous operation while descending between 2150 and 2350 rpm with power retarded below ¼ throttle.

Airspeed Limits (knots)

	IAS	CAS
Never Exceed	167	165
Max Structural Cruise	129	130
Manoeuvring	106	107
Max Flaps Take-Off	104	100
Max Flaps Extended Full	89	85

Centre of Gravity Limits

Forward Limit:	1778 mm aft of datum at 590 kg or less. 1854 mm aft of datum at 650 kg - linear variation from 590 kg to 650 kg.
Aft Limit:	1905 mm aft of datum at all weights.

Maximum Weight

Take-Off	650 kg
Landing	650 kg

No. of Seats

2 at 2052 mm aft of datum.

Fuel Capacity

102 litres total.
97 litres useable.

Oil Capacity

5.7 litres (6 U.S. quarts).

Control Surface Deflections

Aileron:	Up	25° ± 1°
	Down	20° ± 1°
	Neutral	1° down ± 0.5°
Elevator:	Up	25° ± 0.5°
	Down	24° ± 1°
Elevator tab:	Up	20° ± 1°
	Down	25° ± 1°
Rudder:	L & R	23° ± 1°
Rudder tab: (anti-balance)	Left	13° ± 1°
	Right	17° ± 1°
Canard flaps:	Retracted	0° ± 0.5°
	Take-Off	20° ± 0.5°
	Landing	35° + 1°, -0.0°
Wing Flaps:	Retracted	-3° ± 0.5°
	Take-Off	20° ± 0.5°
	Landing	38° + 1°, -0.0°

Crosswind Component

20 knots maximum for take-off and landing.

Serial Numbers Eligible

016 to 044 manufactured in Australia by Eagle Aircraft Pty Ltd.
Note: Serial Numbers 001 - 015 are eligible for redesignation to model 150B aircraft when modified to the configuration of Master Documentation List Eagle 150B Issue 7 dated 8 November 1999 or later superseding issue.

M1001 to M1003 manufactured in Malaysia by Eagle Aircraft (Malaysia) Sdn Bhd.

USA Import Requirements Compliance with the following Service Bulletins is required for import into USA.

Service Bulletin 1048 - Underbelly Anti-Collision Light Installation
Service Bulletin 1049 - Imperial Unit Placards
Service Bulletin 1050 - Northern Hemisphere Compass
Service Bulletin 1051 - US Gallon Referenced Fuel Gauge
Service Bulletin 1052 - External A/C Identification Placard
Service Bulletin 1058 - Optional Replacement of Cabin Air Vent (for aircraft serial numbers 016-018 only).

Data Pertinent to All Models

Datum 787 mm forward of the canard leading edge.

Levelling Means Horizontal portion of the left hand side longeron/canopy rail.

Maximum Baggage

Hat Shelf:	9 kg at 2800 mm aft of datum.
Baggage Bins:	36 kg at 2900 mm aft of datum (18 kg each shelf, max 2 fitted).

Certification Basis

Models X-TS &:
X-TS 150

Regulations 21 and 22 of the Civil Aviation Regulations 1988 with a design standard of JAR-VLA at Amendment 0 dated 26 April 1990 and Special Conditions as specified in Civil Aviation Authority (CAA) letter S91/0227 dated 18 December 1991.

Derogation of compliance with JAR-VLA 161 (b)(2)(ii) has been accepted. (refer CAA letter F92/485 dated 25 May 1993).

Noise certification: Compliance with ICAO Annex 16 Volume 1 Chapter 10 has been demonstrated for model X-TS fitted with the Sensenich W68T6EM-63 propeller.

Model 150B:

Regulations 21 and 22 of the Civil Aviation Regulations 1988, Section 101.0 issue 6 of Civil Aviation Orders with a design standard of JAR-VLA at Amendment 0 dated 26 April 1990, plus Orange Paper Amendments VLA/91/1 and VLA/92/1 and Special Conditions EAGLE/SC/1 as specified in CAA letter S91/0227 dated 18 December 1991, for day VFR operation only.

Noise certificate NC 1999/01 Issue 3, to ICAO Annex 16 Volume 1 Chapter 10, has been issued for the Eagle 150B fitted with the 1A135BRM7057, 1A135CRM7057 and 1A135DRM7057 propellers.

Addendum to Design Standard for Night VFR - all models.

FAR 23 parts 23.1309, 23.1321, 23.1351, 23.1357, 23.1381, 23.1383, 23.1385, 23.1387, 23.1389, 23.1395, 23.1401, 23.1431, 23.1525, 23.1555, 23.1559, up to and including amendment 23-53; Section 20.18 of Civil Aviation Orders, including amendment 162; and Section 108.50 of Civil Aviation Orders, including amendment 81. Derogation of compliance with the JAR-VLA 1 restriction to Day VFR.

Night VFR Operation Requirements

Compliance with one of the following is mandatory for night VFR operations:

a) Drawing 334A510 - Night VFR Master Drawing
b) Service Bulletin 1077 - Night VFR Installation.

Production Basis

Certificate of Approval No. C500280 dated 20 September 1993, or later approved amendment.

Notes:

1. A weight and balance report, including a list of equipment included in the empty weight and loading instructions when necessary, must be provided for each aircraft prior to the initial issue of a Certificate of Airworthiness.

2. The placards specified in the CAA/CASA Approved Flight Manual and Maintenance Manual must be displayed.

3. Service life limits. Information in respect of mandatory service life limited parts is contained in the manufacturer's applicable Maintenance Manual Section 4, 'Airworthiness Limitations'.

4. The configurations of the X-TS and X-TS 150 aircraft are defined by the Master Document List Eagle X-TS 150 Issue 8 dated 22 December 1999 or later superseding issue.

The configuration of the 150B aircraft is defined by the Master Document List Eagle 150B Issue 7 dated 8 November 1999 or later superseding issue.

5. Aircraft model X-TS 150 is approved for take-off with flaps 20° and flaps 0°. Compliance with JAR-VLA 51 at a weight of 650 kg has been demonstrated using flaps 20°. With flaps 0° compliance with JAR-VLA 51 has been demonstrated at a weight of only 640 kg. When modified by Mod Kit MK-04 compliance with JAR-VLA 51 at 650kg has only been demonstrated with flaps 20°.

- END -