DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A76EU
Revision 8
ZLIN AIRCRAFT a.s.
Z-242L
Z-143L

June 2, 2021

TYPE CERTIFICATE DATA SHEET No. A76EU

This data sheet which is part of Type Certificate No. A76EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder. ZLIN AIRCRAFT a.s.
Letiště 1887
765 02 Otrokovice
Czech Republic

Type Certificate Holder record MORAVAN a.s. transferred TC A76EU to ZLIN AIRCRAFT a.s. on January 28, 2011.

I. Model Z-242L (Acrobatic, Utility, and Normal Category) approved April 8, 1994.

Differences. This model is not convertible to other listed models.

Engine. 1 TEXTRON Lycoming AEIO-360-A1B6 with fuel injection
Rotating as viewed from the rear - CW (TCDS No. 1E10)

Fuel. Aviation gasoline octane grade minimum 100/130 (green) or 115/145 (violet) .100 L . 100 LL.

Engine Limits. Maximum takeoff and continuous 2700 RPM and full Manifold Pressure (200 HP).

Propeller and Propeller Limits.

1. MTV-9-B-C/C188-18a (TCDS No. P-24NE) with Woodward D-210 982 Governor or Avia P-880-28 Governor.
Three blade, hydromatic, constant speed.

Pitch setting:	Low	10° ± 0.2°
(26.2 in. station)	High	27° ± 1°
Diameter:		74.02 in. (no reduction permitted)

2. Optional:
Hartzell HC-C3YR-4BF/FC 6890 (TCDS No. P25EA) with Woodward D-210 982 governor or Hartzell F-6-56 Governor
Three blade hydromatic, constant speed.

Pitch setting:	Low	10.5°
(30 in. station)	High	30.0°
Diameter:		70.0 in (no reduction permitted)

Airspeed Limits.

V_{NE}	170 knots (CAS)
V_{NO}	135 knots (CAS)
V_A	141 knots (CAS) for Acrobatic
	132 knots (CAS) for Utility
	119 knots (CAS) for Normal
V_{FE}	100 knots (CAS)

Center of Gravity (C.G.) Range. 19% - 26% MAC

A		U		N	
wt-lbs	c.g.-in.	wt-lbs	c.g-in.	wt-lbs	c.g.-in.
1810	25.7	1810	25.7	1810	25.7
1984	25.7	1984	25.7	1984	25.7
2140	26.4	2250	26.9	2400	27.5

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Center of Gravity (C.G.) Range (cont)	2140	29.0	2250	29.0	2400	29.9
	1810	27.5	2140	29.0	2205	29.9
			1810	27.5	1810	28.1

Straight line variation between points.

I. Model Z-242 L (Acrobatic, Utility, and Normal Category) (cont'd)

Empty Weight C.G. Range. None

Maximum Weights.

	Max. take-off		Max. landing	
Category	kg	lb	kg	lb
Acrobatic (A)	970	2140	970	2140
Utility (U)	1020	2250	1020	2250
Normal (N)	1090	2400	1050	2315

Minimum Crew. One (1) Pilot (Left Seat).

Number of Seats. 2 (includes crew) at 33.7 in. to 37.64 in.

Maximum Baggage. 45 lb (20 kg) at 69.5 in.

Fuel Capacity.

	Units	Acrobatic Utility	Normal
Main tanks Left and Right	litres	2 x 60	2 x 60
	U.S. gallons	2 x 16	2 x 16
	lbs	2 x 96.1	2 x 96.1
Auxiliary tanks Left and Right	litres	-	2 x 55
	U.S. gallons	-	2 x 14.5
	lbs	-	2 x 87.1
Total fuel quantity	litres	120	230
	U.S. gallons	32	61
	lbs	192.3	366.5
Unusable fuel quantity	litres	3	5
	U.S. gallons	0.8	1.3
	lbs.	4.8	7.8
Usable fuel quantity	litres	117	225
	U.S. gallons	31.2	59.7
	lbs.	187.5	358.7

Unusable Fuel quantity, weight, and C.G. position (arm from the datum)
- acrobatic/utility - . 8 U.S. gals (4.8 lb, arm 31.1 in)
- normal - 1.3 U.S. gals (7.8 lb, arm 34.3 in)
(See NOTE 1 for data on weight and balance).

Oil Capacity.

	Quarts	Litres	Lbs	c.g. Arm in.
Normal and Utility Category				
Max. quantity	8	7.6	15.0	-17.0
Min. quantity	4	3.8	7.5	-17.0
Acrobatic Category				
Max. quantity (recommended)	6	5.7	11.2	-17.0
Min. quantity	5	4.7	9.35	-17.0

(See NOTE 1 for data on weight and balance).

I. Model Z-242 L (Acrobatic, Uti lity, and Normal Category) (cont'd)

Control Surface Movements. (Measured from hinge/swivel point)

Ailerons	Up	21° ± 1°
	Down	17° ± 1°
Elevator	Up	34° + 0°, -1°
	Down	31° + 1° -0°
Elev. Trim Tab	Up	15° ± 1°
	Down	35° ± 2°
Elev. Balance Tab	Up	22° ± 2°
	Down	23° ± 2°
Rudder	Left	30° ± 2°
	Right	30° ± 2°
Flaps	Retracted	0°
	Take-off	14° ± 1°
	Landing	37° ± 1°
Nose Wheel Travel	Left	15°
	Right	15°

II. Model Z-143L (Utility, Normal Category), approved September 20, 1996.

Differences. This model is not convertible to other listed models.

Engine. 1 TEXTRON Lycoming 0-540-J3A5 with carburetor. Rotating as viewed from the rear - CW. (TCDS No. E-295).

Fuel. Aviation gasoline oct. grade min. 100/130.
100, 100LL.

Engine Limits. Maximum takeoff and continuous 2400 RPM and full Manifold Pressure (235 HP).

Propeller and Propeller Limits. MTV-9B/195-45a (TCDS No. P-24NE) with Woodward B 210 761 governor or Avia P-860-9 Governor.
Three blade, hydromatic, constant speed.

Pitch setting:	Low	14° ± .5°
(26.2 in. station)	High	30° ± 1°
Diameter:		76.8 in. (no reduction permitted)

Airspeed Limits.

V_{NE}	170 knots (CAS)
V_{NO}	143 knots (CAS)
V_A	124 knots (CAS) for Utility
	130 knots (CAS) for Normal
V_{FE}	105 knots (CAS)

Center of Gravity (C.G.) Range. 21% - 34% MAC.

U		N	
wt-lbs	c.g.-in	wt-lbs	c.g.-in
1962	27.3	1962	27.3
2250	27.3	2250	27.3
2380	27.9	2380	27.9
2380	29.0	2600	29.0
2293	29.0	2976	33.7
1962	27.5	2976	34.9
		2293	34.9
		2205	33.7
		1962	29.9

Straight line variation between points.

Empty Weight C.G. Range. None.

II. Model Z-143L (cont'd)

Maximum Weights.

	Take-off		Landing	
Category	kg	lb	kg	lb
Utility (U)	1080	2380	1080	2380
Normal (N)	1350	2976	1280	2822

Minimum Crew. One (1) Pilot (Left seat).

Number of Seats. 4 (includes crew)
2 at 36.1 in. to 39.65 in.
2 at 70.2 in.

Maximum Baggage. 132 lb (60 kg) at 89.2 in.

Fuel Capacity.

	Units	Utility	Normal
Main Tanks Left/Right	litres	61/61	61/61
	U.S. gal	16.1/16.1	16.1/16.1
	lbs	96.7/96.7	96.7/96.7
Auxiliary Tanks Left/Right	litres	-	51/51
	U.S. gal	-	13.4/13.4
	lbs	-	80.5/80.5
Total fuel quantity	litres	122	224
	U.S. gal	32.2	59
	lbs	193.5	354.5
Unusable fuel quantity	litres	6	8
	U.S. gal	1.6	2
	lbs	9.6	12.0
Usable fuel quantity	litres	116	216
	U.S. gal	30.6	57
	lbs	183.8	342.5

Unusable fuel quantity, weight, and C.G. position (arm from datum):
- utility - 1.6 U.S. gals (9.6 lb, arm 31.1 in)
- normal - 2 U.S. gals. (12.0 lb, arm 34.3 in)

(See NOTE 1 for data on weight and balance)

Oil Capacity.

	Quarts	Litres	Lbs	c.g. Arm in.
Normal Category				
Maximum quantity	12	11.4	22.4	-18.35
Minimum quantity	5	4.7	9.35	-18.35
Utility Category				
Maximum quantity	8	7.6	15.0	-18.35
Minimum quantity	6	5.7	11.2	-18.35

(See NOTE 1 for data on weight and balance).

II. Model Z-143L (cont'd)

Control Surface Movements. (measured from hinge/swivel point).

Ailerons	Up	21° ± 1°
	Down	17° ± 1°
Elevator	Up	30° ± 1°
	Down	27° ± 1°
Rudder	Left	30° ± 2°
	Right	30° ± 2°
Flaps	Retracted	0°
	Take-off	14° ± 1°
	Landing	37° ± 1°
Nose Wheel Travel	Left	15°
	Right	15°

DATA PERTINENT TO ALL MODELS.

Datum. The aft Plane of Firewall.

Leveling Means. Jacking instructions, nominal distances of leveling points from datum, distance of leveling points and rudder and elevator deflection are stated in Z 242 L Aircraft Leveling and Rigging Report-MP-L 242.012: of the Maintenance Manual Vol. II, or in Z 143L Report MP-L143.012: of the Maintenance Manual Vol. II.

Serial Numbers Eligible. Each individual aircraft manufactured under this type certificate must be accompanied by an Export Certificate of Airworthiness as noted below under "Import Requirements" when an application for a U.S. airworthiness certificate is made.

Model Z 242 L:	0671 and up, 0651 to 0670 on condition that Mandatory Bulletins No. Z 242L/7a REV.1 and No. Z 242L/10a are accomplished.
Model Z 143L:	0004, 0007, 0008, 0010, 0011, 0012, 0014 on condition that Mandatory Bulletin No. Z 143L/9a is accomplished.
	0015 and up.

Import Requirements. A U.S. airworthiness certificate may be issued on the basis of the Czech Republic Certificate of Airworthiness for Export signed by a representative of the Civil Aviation Authority of the Czech Republic (CAA-CZ) on behalf of the European Community, containing the following statement: “The aircraft covered by this certificate has been examined and found to comply with U.S. 14 CFR Part 23 covered under U.S. Type Certificate No. A76EU and to be in a condition for safe operation.”

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2J, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

Certification Basis. **I. Model Z-242 L**: (TC Application Date: September 4, 1991)

14 CFR part 21.29, part 21.183(c) and 14 CFR Part 23, effective December 18, 1964, as amended through Amendment 23-36; 14 CFR part 36 effective December 1, 1969, as amended through Amendment 36-20 effective September 16, 1992.

For AFM reissue per project AT01150CE-A (NOTE 4) and addition of IFR capability per project AT01067CE-A the certification basis was increased to include the following later 14 CFR part 23 regulations:
§23.1581, §23.1585, §23.1587, §23.1589 at amendment 23-41;
§23.1323 at amendment 23-42;
§23.1525, §23.1583 at amendment 23-45.

II. Model Z-143L: (TC Application Date: September 4, 1991)

14 CFR part 21.29, part 21.183(c) and 14 CFR Part 23, effective December 18, 1964, as amended through Amendment 23-41 effective November 26, 1990; 14 CFR Part 36 effective December 1, 1969, as amended through Amendment 36-20 effective September 16, 1992.

TC A76EU issued April 8, 1994 Revision 1: March 6, 1996; Revision 2: September 30, 1996

Validation Basis

The Civil Aviation Authority of the Czech Republic (CAA-CZ) originally type certificated these aircraft models under its type certificate Numbers CZ 92-03 (Z242L) and CZ 94-08 (Z143L). The FAA validated this product under U.S. Type Certificate Number A76EU. Effective February 1, 2005 the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the Czech Republic. The EASA TCDS numbers are EASA.A.027 (Z242L) and EASA.A.028 (Z143L).Type Certificate A76EU was issued pursuant to FAR 21.29 in validation of the Civil Aviation Authority (CAA) certification of compliance with aforementioned certification basis, and in accordance with the standard airworthiness certificate provisions of FAR 21.183(c).

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for airworthiness certification. In addition, the following items of equipment are required.

Model Z 242 L: (NOTE 2) (NOTE 4)
1. FAA approved Airplane Flight Manual,
Document No. 003.012.1-US dated November 11, 2020, or later approved revisions.

Model Z 143L: (NOTE 2)
1. CAA approved Airplane Flight Manual,
Document No. 005.012.US dated September 6, 1996, or later approved revisions.

Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before February 1, 2005 – by the Civil Aviation Authority of the Czech Republic (CAA-CZ).

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- Overhaul and maintenance manuals.

The FAA accepts such documents and considers them FAA-approved for type design data only unless one of the following conditions exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or

- The documents make an acoustical or emissions changes to this product's U.S. type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTES:

NOTE 1.

A current weight and balance report including list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification, and at all times thereafter.

Model Z 242 L:
The certificated empty weight and the corresponding center of gravity location must include full oil (15 lbs. at -17 inches) for (N) and (11.2 lbs at -17 inches) for (A), and unusable fuel (4.8 lbs. at 31.1 inches) for (A) and (U), (7.8 lbs at 34.3 inches) for (N).

Model Z 143L:
The certificated empty weight and the corresponding center of gravity location must include full oil (22.4 lbs. at -18.35 inches) for (N), and (15 lbs. at -18.35 inches) for (U), and unusable fuel (9.6 lbs. at 31.1 inches) for (U) and (12 lbs. at 34.3 inches) for (N).

NOTE 2.

Placards (Refer to Manufacturer's Specifications for a complete listing): All required placards as listed in the approved Airplane Flight Manual must be installed in the appropriate locations.

Model Z 242 L:
(1) The following placard must be displayed in clear view of the pilot: "THE MARKINGS AND PLACARDS INSTALLED IN THIS AIRPLANE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THE ACROBATIC CATEGORY. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THIS CATEGORY OR IN THE UTILITY AND NORMAL

CATEGORY ARE CONTAINED IN THE AIRPLANE FLIGHT MANUAL."

Model Z 143L:
The following placard must be displayed in clear view of the pilot: "THE MARKINGS AND PLACARDS INSTALLED IN THIS AIRPLANE CONTAIN OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THE UTILITY CATEGORY. OTHER OPERATING LIMITATIONS WHICH MUST BE COMPLIED WITH WHEN OPERATING THIS AIRPLANE IN THIS CATEGORY OR IN THE NORMAL CATEGORY ARE CONTAINED IN THE AIRPLANE FLIGHT MANUAL."

(2) Refer to the Airplane Flight Manual, Section 2, Limitations for a listing of other required placards.

(3) Revisions to the Limitation section of the US AFM must be approved by EASA and the FAA

NOTE 3. Model Z 242 L:
Instructions for Continued Airworthiness and Service Life Limits of components include the Maintenance Manual Volume I, and are contained in Chapter 9, Document Number 003.022.1 in latest revision, dated Mar 1, 1996. Revisions to Airworthiness Limitations must be approved by EASA and the FAA.

Model Z 143L:
Instructions for Continued Airworthiness and Service Life Limits of components include the Maintenance Manual, and are contained in Chapter 04, Document Number 005.022.2 in latest revision, dated February 02, 2011. Revisions to Airworthiness Limitations must be approved by EASA and the FAA.

All service bulletins classified as Mandatory by the Civil Aviation Authority are identified to that effect and are subject to an Airworthiness Directive issued by the FAA.

NOTE 4. The Reissued US version of the AFM was accepted by the FAA during validation project AT01150CE-A. This version of the AFM replaces the previous AFM documents: CAI approved Airplane Flight Manual, Revision 1 Moravan Document No. 003.012 dated April 6, 1994 and CAI approved Airplane Flight Manual, Supplement No. 3, Document No. 003.012 dated February 12, 1996, when optional Hartzell HC-C3YR-4BF/FC 6890 propeller installed. The FAA issued Global AMOC dated 4/15/2021 to allow the use of AFM Document No. 003.012.1-US dated November 11, 2020 for compliance to FAA AD 2017-10-03 paragraphs (f)(2)(i) and (f)(3). See ZLIN Service Bulletin Z242L/40b. **Future revisions of the AFM may need additional FAA AMOCs to AD 2017-10-03**.

NOTE 5. The EASA major change approval No. 10049740 – Installation of Garmin G500 and G500 TXi Avionics is not eligible for the US type certificate for the Z-242L due to the FAA has not validated this design change at this time.

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