TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.091

for
PZL- KOLIBER Series

Type Certificate Holder
AIRBUS POLAND S.A.

Al. Krakowska 110/114
02-256 Warszawa
Poland

For models: PZL-KOLIBER 150A
PZL-KOLIBER 160A
PZL-110 KOLIBER
PZL-KOLIBER 150

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SECTION A: PZL-KOLIBER 150A

A.I. General

1. Type/ Model	
1.1 Type	PZL-KOLIBER
1.2 Model	PZL-KOLIBER 150A
2. Airworthiness Category	Normal and Utility
3. Manufacturer	PZL „Warszawa-Okęcie” Al. Krakowska 110/114 02-256 Warszawa Poland See Note 4
4. Type Certification Application Date	April 29, 1993
5. State of Design Authority	Poland
6. State of Design Authority Type Certificate Date	January 26, 1994 (TC No. BB-193)
7. EASA Type Certification Date	July 4, 2006

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	April 29, 1993
2. Airworthiness Requirements	FAR 23 dated 1.02.1965 amended through Amendment 23-23 effective 1.12.1978; FAR 23.2 and FAR 23.561(b)(2) amended through Amendment 23-36 effective 14.09.1988; FAR 23 Subpart F amended through Amendment 23-30 effective 29.03.1984; FAR 23 Appendix G amended through Amendment 23-37 effective 18.08.1990; FAR 36 dated 1.12.1969 amended through Amendment 36-20 effective 16.09.1992.
3. Special Conditions	None
4. Exemptions	None
5. Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	FAR 36, Appendix G, Amdt. 36-20, September 16, 1992 See Note 3

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Master Drawings List of PZL-KOLIBER 150A Airplane, Issue 2, October 19, 1998
2. Description	Four-seat, cantilever, low-wing monoplane with non retractable nose wheel landing gear
3. Equipment	Master Equipment List of PZL-KOLIBER 150A Airplane, Issue 1, October 19, 1998

4. Dimensions

Span	9.74 m [31 ft 11.5 in]
Length	7.37 m [24 ft 2.2 in]
Height [in flight position]	2.80 m [9 ft 2.2 in]
Wing Area	12.68 m2 [136.5 sq. ft]

5. Engine

5.1. Model	LYCOMING O-320 E2A
5.2 Type Certificate	No. E-274 – issued by FAA
5.3 Limitations	
Maximum take-off and continuous rating	150 HP
Maximum R.P.M. for take-off and continuous rating	2700 R.P.M.
	For other engine limits refer to AFM

6. Load factors

	Airplane category	
	Normal	Utility
Max. positive load factor	3.8	4.4
Max. negative load factor	-1.5	-1.8

Flaps extended: 0 ÷ +2

7. Propeller

7.1 Model	1. SENSENICH 74DM6-0-58 two-bladed, fixed pitched 2. SENSENICH 74DM6-0-56 two-bladed, fixed pitched 3. SENSENICH 74DM6-0-54 two-bladed, fixed pitched
7.2 Type Certificate	No. P-886 – issued by FAA
7.3 Number of blades	2
7.4 Diameter	1880 mm [74 in]
	For other propeller limits refer to AFM

8. Fluids

8.1 Fuel	80/87 minimum grade aviation gasoline	
8.2 Oil	SAE 20	below 10°F [-12°C]
	SAE 30	0°F to 70°F [-17°C to +21°C]
	SAE 40	30°F to 90°F [- 1°C to +32°C]
	SAE 50	above 60°F [15°C]

9. Fluid capacities

9.1 Fuel	full capacity	177 l [46.7 US gal.]
	usable fuel	161 l [42.5 U.S.gal.]
	unusable fuel	16 l [4.2 US gal.]
	See Note 1 concerning unusable fuel	
9.2 Oil	7.6 l [8 U.S.qts.] (integrated with engine)	

10. Air Speeds

Category ⇒	**Normal**	**Utility**
Never exceed -V_{NE}	251 km/h [156 m.p.h.]	270 km/h [168 m.p.h.]
Maximum structural cruising - V_{NO}	200 km/h [124 m.p.h.]	200 km/h [124 m.p.h.]
Manoeuvring - V_A	164 km/h [102 m.p.h.]	168 km/h [104 m.p.h.]
Flap extended - V_{FE}	140 km/h [87 m.p.h.]	140 km/h [87 m.p.h.]
Stalling - V_{SO} :	87 km/h [54 m.p.h] for 850 kg [1874 lb]	

11. Maximum Operating Altitude — Not defined

12. Approved Operations Capability — Day/Night - VFR/IFR
Flight into known icing conditions - prohibited.

13. Maximum Masses

Category ⇒	**Normal**	**Utility**
Take-off and landing	850 kg [1874 lb]	770 kg [1698 lb]

14. Centre of Gravity Range

Normal Category

Forward limit at 650 kg [1433 lb]:

0.792 m [31.2 in] aft of datum [10.4 % MAC]

Forward limit at 850 kg [1874 lb]:

0.830 m [32.7 in] aft of datum [13.3 % MAC]

Rear limit at 850 kg [1874 lb]:

1.021 m [40.2 in] aft of datum [28.0 % MAC]

Straight line variation between points given

Utility Category

Forward limit at 650 kg [1433 lb]:

0.792 m [31.2 in] aft of datum [10.4 % MAC]

Forward limit at 770 kg [1698 lb]:

0.817 m [32.2 in] aft of datum [12.3 % MAC]

Rear limit at 770 kg [1698 lb]:

0.956 m [37.7 in] aft of datum [23.0 % MAC]

Straight line variation between points given

15. Datum

Front face of the fire wall

Position of MAC leading edge

aft of datum	0.657 m [+ 25.9 in]
MAC	1.30 m [51.2 in]

16. Control surface deflections

	Displacement value
Rudder displacement:	
Left	30 $^{-}_{2}$°
Right	30 $^{-}_{2}$°
Elevator displacement:	
Up	30±1°
Down	25 $^{-}_{2}$°
Trimming tab displacement:	
Up	20±1°
Down	28±1°
Aileron displacement:	
Up	17°30'±1°
Down	13°30'±1°
Flap max. displacement:	30±1.5°

17. Levelling Means — Longitudinal fuselage longerons used as canopy rails (refer to AFM, Sect. 6.1.)

18. Minimum Flight Crew — 1 (Pilot)

19. Maximum Passenger Seating Capacity — 3 (See Note 2)

20. Baggage/ Cargo Compartments — See Note 2

21. Wheels and Tyres

Main Wheel Tyre Size — 15x600/6-4PR

Nose Wheel Tyre Size — 500x4-6PR

22. (Reserved)

A.IV. OPERATING AND SERVICE INSTRUCTIONS

1. Flight Manual	Airplane Flight Manual for PZL KOLIBER 150A Airplane, Issued January, 1994; Rev. 2 as per October 19, 1994; (or latest approved revision)
2. Maintenance Manual	PZL KOLIBER 150A Airplane Maintenance Manual, Reissue C, date of issue July 1994; Rev. 2 as per February 12, 2001; (or latest approved revision)
3. Structural Repair Manual	Not issued
4. Weight and Balance Manual	See Airplane Flight Manual, Section 6
5. Illustrated Parts Catalogue	PZL-KOLIBER 150, KOLIBER 150A/160A" Catalogue of Spare Parts, Issued 1998; (or latest approved revision)

A.V. Notes

Note 1.

A current weight and balance report must be provided with each airplane at the time of original airworthiness certification and at all times thereafter.

The airplane weight and balance report must include:

- weight of the empty airplane,
- position of the C.G.,
- unusable fuel 2x8 l [2x2.1 U.S.gal.] in certificated empty weight,
- full amount of oil 7.6 l [8 U.S.qts] in certificated empty weight,
- list of equipment in certificated empty weight.

Note 2.

The rear seats may be occupied by two persons and/or luggage provided that:

a) total weight on the rear seats does not exceed 154,2 kg [340 lb],
b) airplane total weight and C.G. position do not exceed the limits.

Note 3.

Approved Noise Levels in accordance to:

FAR 36, Appendix G, Amdt. 36-20: 73,8 dB(A) (Noise Certificate No. HL-1/94)

Note 4.

Currently: Airbus Poland S.A.

SECTION B: PZL-KOLIBER 160A

B.I. General

1. Type/ Model	
1.1 Type	PZL-KOLIBER
1.2 Model	PZL-KOLIBER 160A
2. Airworthiness Category	Normal and Utility
3. Manufacturer	PZL „Warszawa-Okęcie” Al. Krakowska 110/114 02-256 Warszawa Poland See Note 5
4. Type Certification Application Date	September 18, 1997
5. State of Design Authority	Poland
6. State of Design Authority Type Certificate Date	May 18, 1998
7. EASA Type Certification Date	4 July 2006

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	September 18, 1997
2. Airworthiness Requirements	FAR 23 dated 1.02.1965 amended through Amendment 23-23 effective 1.12.1978; FAR 23.2 and FAR 23.561(b)(2) amended through Amendment 23-36 effective 14.09.1988; FAR 23 Subpart F amended through Amendment 23-30 effective 29.03.1984; FAR 23 Appendix G amended through Amendment 23-37 effective 18.08.1990; FAR 36 dated 1.12.1969 amended through Amendment 36-20 effective 16.09.1992.
3. Special Conditions	None
4. Exemptions	None
5. Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	ICAO, Annex 16, Volume 1, Chapter 10; Edition 3, 1993 See Note 3

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Master Drawings List of the PZL-KOLIBER 160A Airplane, Issue 2, October 19, 1998
2. Description	Four-seat, cantilever, low-wing monoplane with non retractable nose wheel landing gear
3. Equipment	Master Equipment List of PZL-KOLIBER 160A Airplane , Issue 3, April 13, 2001. Refer also to Airplane Flight Manual
4. Dimensions	
Span	9.74 m [31 ft 11.5 in]
Length	7.37 m [24 ft 2.2 in]
Height in flight position	2.80 m [9 ft 2.2 in]
Wing Area	12.68 m2 [136.5 sq. ft]
5. Engine	
5.1. Model	LYCOMING O-320 D2A
5.2 Type Certificate	No. E-274 – issued by FAA
5.3 Limitations	
Maximum take-off and continuous rating	160 HP
Maximum R.P.M. for take-off and continuous rating	2700 R.P.M.
	For other engine limits refer to AFM

6. Load factors

	Airplane category	
	Normal	Utility
Max. positive load factor	3.8	4.4
Max. negative load factor	-1.5	-1.8

Flaps extended: 0 ÷ +2

7. Propeller	
7.1 Model	SENSENICH 74DM6-0-58 two-bladed, fixed pitched
7.2 Type Certificate	No. P-886 – issued by FAA
7.3 Number of blades	2
7.4 Diameter	1880 mm [74 in]

8. Fluids

8.1 Fuel	91/96 minimum grade aviation gasoline	
8.2 Oil	SAE 20	below 10°F [-12°C]
	SAE 30	0°F to 70°F [-17°C to +21°C]
	SAE 40	30°F to 90°F [- 1° to +32°C]
	SAE 50	above 60°F [15°C]
	SAE 60	above 80°F [25°C]

9. Fluid capacities

9.1 Fuel	full capacity	177 l [46.7 US gal.]
	usable fuel	161 l [42.5 US gal.]
	unusable fuel	16 l [4.2 US gal.]
	See Note 1 concerning unusable fuel	
9.2 Oil	7.6 l [8 U.S.qts.] (integrated with engine)	

10. Air Speeds (CAS)

	Normal & Utility Category
Never exceed -V_{NE}	251 km/h [156 m.p.h.]
Maximum structural cruising - V_{NO}	200 km/h [124 m.p.h.]
Manoeuvring - V_A	164 km/h [102 m.p.h.]
Flap extended - V_{FE}	140 km/h [87 m.p.h.]

11. Maximum Operating Altitude — Not defined

12. Approved Operations Capability — Day/Night - VFR/IFR
Flight into known icing conditions - prohibited.

13. Maximum Masses

Category ⇒	**Normal**	**Utility**
Take-off and landing	850 kg [1874 lb]	770 kg [1698 lb]
	950 kg [2094 lb]	770 kg [1698 lb]
	See: Note 4	

14. Centre of Gravity Range

Normal Category

Forward limit at 650 kg [1433 lb]:
0.792 m [31.2 in] aft of datum [10.4 % MAC]
Forward limit at 850 kg [1874 lb]:
0.830 m [32.7 in] aft of datum [13.3 % MAC]
Forward limit at 950 kg [2094 lb]:
0.849 m [33.4 in] aft of datum [14.8 % MAC]
Rear limit at 850 kg [1874 lb]:
1.021 m [40.2 in] aft of datum [28.0 % MAC]
Rear limit at 950 kg [2094 lb]:
1.021 m [40.2 in] aft of datum [28.0 % MAC]
Straight line variation between points given

Utility Category

Forward limit at 650 kg [1433 lb]:
0.792 m [31.2 in] aft of datum [10.4 % MAC]
Forward limit at 770 kg [1698 lb]:
0.817 m [32.2 in] aft of datum [12.3 % MAC]
Rear limit at 770 kg [1698 lb]:
0.956 m [37.7 in] aft of datum [23.0 % MAC]
Straight line variation between points given

15. Datum

Front face of the fire wall	
Position of MAC leading edge	
aft of datum	0.657 m [+ 25.9 in]
MAC	1.30 m [51.2 in]

16. Control surface deflections

	Displacement value
Rudder displacement:	
Left	30 ¯2°
Right	30 ¯2°
Elevator displacement:	
Up	30±1°
Down	25 ¯2°
Trimming tab displacement:	
Up	20±1°
Down	28±1°
Aileron displacement:	
Up	17°30’±1°
Down	13°30’±1°
Flap max. displacement:	30±1.5°

17. Levelling Means	Longitudinal fuselage longerons used as canopy rails (refer to AFM, Sect. 6.1.)
18. Minimum Flight Crew	1 (Pilot)
19. Maximum Passenger Seating Capacity	3 (See Note 2)
20. Baggage/ Cargo Compartments	
Max. allowable load:	See Note 2
21. Wheels and Tyres	
Main Wheel Tyre Size	15x600/6-4PR
Nose Wheel Tyre Size	500x4-6PR
22. (Reserved)	

B.IV. Operating and Service Instructions

1. Flight Manual	Airplane Flight Manual for PZL-KOLIBER 160A Airplane, issued April 1998; Revision 7, July 2002; (or latest approved revision)
2. Maintenance Manual	PZL-KOLIBER 160A Airplane Maintenance Manual issued April 1998; Revision 9, July 9, 2002; (or latest approved revision)
3. Structural Repair Manual	Not issued
4. Weight and Balance Manual	See Airplane Flight Manual, Section 6
5. Illustrated Parts Catalogue	PZL-KOLIBER 150, KOLIBER 150A/160A" Catalogue of Spare Parts, Issued 1998; (or latest approved revision)

B.V. Notes

Note 1.

A current weight and balance report must be provided with each airplane at the time of original airworthiness certification and at all times thereafter.
The airplane weight and balance report must include:

- weight of the empty airplane,
- position of the C.G.,
- unusable fuel 2x8 l [2x2.1 U.S.gal.] in certificated empty weight,
- full amount of oil 7.6 l [8 U.S.qts] in certificated empty weight,
- list of equipment in certificated empty weight.

Note 2.

The rear seats may be occupied by two persons and/or luggage provided that:

a) The total weight on the rear seats does not exceed 154,2 kg [340 lb],
b) The airplane total weight and C.G. position do not exceed the limits.

Note 3.

Approved Noise Levels in accordance to:
ICAO, Annex 16, Volume 1, Chapter 10: 75,1 dB(A) (Noise Certificate No. HL-9/98)

Note 4.

Increasing MTOW from 850 kg to 950kg according to Service Bulletins No. 11099048 and 11000053.

Note 5.

Currently: Airbus Poland S.A.

SECTION C: PZL-110 KOLIBER

C.I. General

1. Type/ Model	
1.1 Type	PZL-KOLIBER
1.2 Model	PZL-110 KOLIBER
2. Airworthiness Category	Normal, Utility See Note 4
3. Manufacturer	PZL „Warszawa-Okęcie” Al. Krakowska 110/114 02-256 Warszawa Poland See note 5
4. Type Certification Application Date	22.02.1979
5. State of Design Authority	Poland
6. State of Design Authority Type Certificate Date	23.08.1982
7. EASA Type Certification Date	8 January 2007 (TC No. BB-136)

C.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	22.02.1979
2. Airworthiness Requirements	AIR 2052A, Edition 2, 18 Sept. 1967 BCAR, Section K, K2-12, Issue 6, April 1974 See Note 4
3. Special Conditions	None
4. Exemptions	None
5. Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	ICAO Convention, Annex 16, Vol. I, Chpt. 6, Edition 1978 See Note 3

C.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	LD-008 - List of Main Drawings of the PZL-110 KOLIBER airplane. Issued: December 15, 1977; Rev. b) March 26, 1979
2. Description	Three÷four-seat, cantilever, low-wing monoplane with non-retractable nose wheel landing gear
3. Equipment	LD-029 List of assemblies, aggregates and certificated instruments; Issued 1978 together with LD-043 Service life, Issued December 22, 1987, and LD-027 List of additional equipment of PZL-110 KOLIBER, Edition 1, March 11, 1978
4. Dimensions	
Span	9.74 m [31 ft 11.5 in]
Length	7.10 m [23 ft 3.5 in]
Height [in flight position]	2.80 m [9 ft 2.2 in]
Wing Area	12.28 m^2 [132.2 sq. ft]
5. Engine	
5.1. Model	PZL-Franklin 4A-235-B31
5.2 Type Certificate	No. E.087 – issued by EASA
5.3 Limitations	
Maximum R.P.M. for take-off and continuous rating	2800 R.P.M. For other engine limits refer to AFM

6. Load factors

	Airplane category	
	Normal	Utility
Max. positive load factor	3.8	4.4
Max. negative load factor	-1.5	-1.8

7. Propeller		
7.1 Model	US-135 000 two-blade, fixed-pitch propeller	
7.2 Type Certificate	No. DB-128 – issued by CAA in Poland	
7.3 Number of blades	2	
7.4 Diameter	1780 mm [70 in] For other propeller limits refer to AFM	
8. Fluids		
8.1 Fuel	100/130 grade aviation gasoline	
8.2 Oil	SAE 30	over 5°C
	SAE 40	below 5°C

9. Fluid capacities

9.1 Fuel	full capacity	105 l [27.74 US gal.]
	usable fuel	96 l [25.36 US gal.]
	unusable fuel	4.2 l [1.11 US gal.]
	See Note 1 concerning unusable fuel	
9.2 Oil	6.2 l [6.55 US qts] (integrated with engine)	

10. Air Speeds (CAS)

Category ⇒	**Normal**	**Utility**
Never exceed -V_{NE}	250 km/h [155 m.p.h.]	270 km/h [168 m.p.h.]
Maximum structural cruising - V_{NO}	200 km/h [124 m.p.h.]	200 km/h [124 m.p.h.]
Manoeuvring - V_A	160 km/h [99 m.p.h.]	160 km/h [99 m.p.h.]
Flap extended - V_{FE}	140 km/h [87 m.p.h.]	140 km/h [87 m.p.h.]
Stalling - V_{SO} :	80 km/h [54 m.p.h.] for 820 kg [1808 lb]	

11. Maximum Operating Altitude — Not defined

12. Approved Operations Capability — VFR day
Flight into icing conditions - prohibited.

13. Maximum Masses

Category ⇒	**Normal**	**Utility**
Take-off and landing	820 kg [1808 lb]	770 kg [1698 lb]
Maximum T-O Mass in the Semi-Aerobatic category (BCAR)		750 kg [1653 lb]
See Note 4		

14. Centre of Gravity Range

Normal Category

Forward limit:

0.878 m [34.6 in] aft of datum [17 % MAC]

Rear limit at 820 kg [1808 lb]:

1.021 m [40.2 in] aft of datum [28.0 % MAC]

Straight line variation between points given

Utility Category

Forward limit:

0.878 m [34.6 in] aft of datum [17 % MAC]

Rear limit at 770 kg [1698 lb]:

1.021 m [40.2 in] aft of datum [28.0 % MAC]

Rear limit at 750 kg [1653 lb] (Semi-Aerobatic):

0.898 m [35.3 lb] aft of datum [18.5 % MAC] (see Note 4)

Straight line variation between points given

15. Datum

Front face of the firewall	
Position of MAC leading edge aft of datum	0.657 m [+ 25.9 in]
MAC	1.30 m [51.2 in]

16. Control surface deflections

	Displacement value
Rudder displacement:	
Left	30 ¯2°
Right	30 ¯2°
Elevator displacement:	
Up	30±1°
Down	25 ¯2°
Trimming tab displacement:	
Up	20±1°
Down	28±1°
Aileron displacement:	
Up	17°30'±1°
Down	13°30'±1°
Flap max. displacement:	30±1.5°

17. Levelling Means — Longitudinal fuselage longerons used as canopy rails (refer to AFM, Sect. 7)
18. Minimum Flight Crew — 1 (Pilot)
19. Maximum Passenger Seating Capacity — 3 See Note 2
20. Baggage/ Cargo Compartments — See Note 2
21. Wheels and Tyres
    - Main Wheel Tyre Size — GOODYEAR 15x600/6-4PR
    - Nose Wheel Tyre Size — GOODYEAR 500x4-6PR
22. (Reserved)

C.IV. Operating and Service Instructions

1. Flight Manual	PZL-110 KOLIBER Airplane Flight Manual Issued June 25, 1979; Rev. 16 as per November 28, 2002; (or latest approved revision)
2. Maintenance Manual	PZL-110 KOLIBER Airplane Maintenance Manual, Edition A, 1979; Rev. 9 as per May 13, 2002; (or latest approved revision)
3. Structural Repair Manual	PZL-110 KOLIBER Repair Manual Issued 1980; Rev. 1 as per February 12, 2001; (or latest approved revision)
4. Weight and Balance Manual	See Airplane Flight Manual, Section 7
5. Illustrated Parts Catalogue	PZL-110 KOLIBER / PZL-KOLIBER 150 Catalogue of Spare Parts Issued 1991; Rev. 1 as per February 20, 1991; (or latest approved revision)

C.V. Notes

Note 1.

A current weight and balance report must be provided with each airplane at the time of original airworthiness certification and at all times thereafter.

The airplane weight and balance report must include:

- weight of the empty airplane,
- position of the C.G.,
- unusable fuel 4.2 l [1.11 US gal.] in certificated empty weight,
- full amount of oil 6.2 l [6.55 US qts] in certificated empty weight,
- list of equipment in certificated empty weight.

Note 2.

The rear seats

a) In the NORMAL category may be occupied by two persons and/or luggage provided that:
   1. The total weight on the rear seats does not exceed 115 kg [253.5 lb];
   2. The airplane total weight and C.G. position do not exceed the limits.
b) In the UTILITY category - no person or luggage on the rear seats.

Note 3.

Approved Noise Level in accordance to:

ICAO, Annex 16, Volume I, Chapter 6, Edition 1978: 69,8 dB(A)

Note 4

The airplane is allowed to perform max. 2 turns of spin and for restricted aerobatics (BCAR Semi –Aerobatic category) at:

- max. take-off weight of 750 kg [1653 lb],
- max. rear centre of gravity limit of 18.5% MAC,
- without any passengers on the rear seats and with rear seat cushions removed,
- fuel in the range of limit weight of 750 kg [1653 lb].

Inverted aerobatics forbidden!

Note 5.

Currently: Airbus Poland S.A.

SECTION D: PZL-KOLIBER 150

D.I. General

1. Type/ Model	
1.1 Type	PZL-KOLIBER
1.2 Model	PZL-KOLIBER 150 See Note 6
2. Airworthiness Category	Normal and Utility
3. Manufacturer	PZL „Warszawa-Okęcie” Al. Krakowska 110/114 02-256 Warszawa Poland See note 5
4. Type Certification Application Date	May 08, 1988
5. State of Design Authority	Poland
6. State of Design Authority Type Certificate Date	January 31, 1989
7. EASA Type Certification Date	8 January 2007 (TC No. BB-136)

D.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	May 08, 1988
2. Airworthiness Requirements	AIR 2052A, Edition 2, 18 Sept. 1967 BCAR, Section K, K2-12, Issue 6, April 1974 See Note 4
3. Special Conditions	None
4. Exemptions	None
5. Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	ICAO, Annex 16 Chapter 6, (1981) See Note 3

D.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	Detail Specification for PZL-KOLIBER 150 Airplane Issued: April 14, 1988 and: IC-10.000.00-0 Complete Aircraft “Koliber 150”, Issued: March 12, 1989
2. Description	Four-seat, cantilever, low-wing monoplane with non-retractable nose wheel landing gear
3. Equipment	LD-151 List of assemblies, aggregates and certificated instruments of PZL-Koliber 150; Edition A, Rev. e) May 22, 1991 and LD-027 List of additional equipment of PZL-110 KOLIBER and PZL-Koliber 150, Edition II, June 05, 1995. Refer also to Airplane Flight Manual
3. Dimensions	
Span	9.75 m [31 ft 11.9 in]
Length	7.37 m [24 ft 2.2 in]
Height in flight position	2.80 m [9 ft 2.2 in]
Wing Area	12.68 m^2 [136.5 sq. ft]
5. Engine	
5.1. Model	LYCOMING O-320-E2A or LYCOMING O-320-D2A
5.2 Type Certificate	No. E-274 – issued by FAA
5.3 Limitations	
Maximum R.P.M. for take-off and continuous rating	2800 R.P.M. For other engine limits refer to AFM

6. Load factors

	Airplane category	
	Normal	Utility
Max. positive load factor	3.8	4.4
Max. negative load factor	-1.5	-1.8

7. Propeller	
7.1 Model	SENSENICH 74DM6-0-58 SENSENICH 74DM6-0-56 SENSENICH 74DM6-0-54 two-bladed, fixed pitched
7.2 Type Certificate	No. P-886 – issued by FAA
7.3 Number of blades	2
7.4 Diameter	1880 mm [74 in] For other propeller limits refer to AFM

8. Fluids

8.1 Fuel

	for:	O-320-E2A engine	O-320-D2A engine
aviation gasoline	min. grade	80/87	91/97
		100LL	100/130
			100LL

8.2 Oil

SAE 20	below 10°F [-12°C]
SAE 30	0°F to 70°F [-17°C to +21°C]
SAE 40	30°F to 90°F [-1°C to +32°C]
SAE 50	above 60°F [15°C]

9. Fluid capacities

9.1 Fuel

standard tanks:

full capacity	100.2 l [26.5 US gal.]
usable fuel	96 l [25.4 U.S.gal.]
unusable fuel	4.2 l [1.1 US gal.]

optional tanks:

full capacity	174.2 l [46.0 US gal.]
usable fuel	170 l [44.9 U.S.gal.]
unusable fuel	4.2 l [1.1 US gal.]

See Note 1 concerning unusable fuel

9.2 Oil 6.2 l [6.55 US qts] (integrated with engine)

10. Air Speeds

Category ⇒	**Normal**	**Utility**
Never exceed -V_{NE}	250 km/h [155 m.p.h.]	270 km/h [168 m.p.h.]
Maximum structural cruising - V_{NO}	200 km/h [124 m.p.h.]	200 km/h [124 m.p.h.]
Maneuvering - V_A	163 km/h [101 m.p.h.]	163 km/h [101 m.p.h.]
Flap extended - V_{FE}	140 km/h [87 m.p.h.]	140 km/h [87 m.p.h.]
Stalling - V_{SO} :	92 km/h [57.2 m.p.h.]	

11. Maximum Operating Altitude Not defined

12. Approved Operations Capability VFR day

Flight into icing conditions - prohibited

13. Maximum Masses

Category ⇒	**Normal**	**Utility**
Take-off and landing	850 kg [1874 lb]	770 kg [1698 lb]
Maximum T-O Mass in the Semi-Aerobatic category (BCAR) See: Note 4.		750 kg [1653 lb]

14. Centre of Gravity Range

Normal Category

Forward limit at 650 kg [1433 lb]:

0.800 m [31.5 in] aft of datum [11 % MAC]

Forward limit at 850 kg [1874 lb]:

0.849 m [33.4 in] aft of datum [14.5 % MAC]

Rear limit at 850 kg [1874 lb]:

1.021 m [40.2 in] aft of datum [28.0 % MAC]

Straight line variation between points given

Utility Category

Forward limit at 650 kg [1433 lb]:

0.800 m [31.5 in] aft of datum [11 % MAC]

Forward limit at 770 kg [1698 lb]:

0.833 m [32.8 in] aft of datum [13.5 % MAC]

Rear limit at 770 kg [1698 lb]:

1.021 m [40.2 in] aft of datum [28 % MAC]

Forward limit at 750 kg [1433 lb]:

0.826 m [32.5 in] aft of datum [13 % MAC]

Rear limit at 750 kg [1653 lb] (Semi-Aerobatic):

0.898 m [35.3 lb] aft of datum [18.5 % MAC]

(see Note 4)

Straight line variation between points given

15. Datum

Front face of the firewall

Position of MAC leading edge

aft of datum 0.657 m [+ 25.9 in]

MAC 1.30 m [51.2 in]

16. Control surface deflections

		Displacement value
Rudder displacement:		
	Left	$30^{-}_{2}°$
	Right	$30^{-}_{2}°$
Elevator displacement:		
	Up	30±1°
	Down	$25^{-}_{2}°$
Trimming tab displacement:		
	Up	20±1°
	Down	28±1°
Aileron displacement:		
	Up	17°30’±1°
	Down	13°30’±1°

Flap max. displacement:	30±1.5°

17. Levelling Means — Longitudinal fuselage longerons used as canopy rails (refer to AFM, Sect. 6.1.)
18. Minimum Flight Crew — 1 (Pilot)
19. Maximum Passenger Seating Capacity — 3 See Note 2
20. Baggage/ Cargo Compartments
    Maximum allowable load: — See Note 2
21. Wheels and Tyres
    Main Wheel Tire Size — GOODYEAR 15x600/6-4PR
    Nose Wheel Tire Size — GOODYEAR 500x4-6PR
22. (Reserved)

D.IV. Operating and Service Instructions

1. Flight Manual	Airplane Flight Manual for the PZL-KOLIBER 150 Date of issue: 1989, Revision A, February 15, 2001; (or latest approved revision)
2. Maintenance Manual	Airplane Maintenance Manual and Scheduled Inspections for the PZL-KOLIBER 150 Date of issue: 1989, Revision A, February 15, 2001; (or latest approved revision)
3. Structural Repair Manual	Repair Manual for the PZL-KOLIBER 150 Airplane Date of issue: 1989, Revision 1, February 12, 2001; (or latest approved revision)
4. Weight and Balance Manual	See Airplane Flight Manual, Section 6
5. Illustrated Parts Catalogue	PZL-KOLIBER 150, KOLIBER 150A/160A" Catalogue of Spare Parts, Issued 1998; (or latest approved revision)

D.V. Notes

Note 1.

A current weight and balance report must be provided with each airplane at the time of original airworthiness certification and at all times thereafter.

The airplane weight and balance report must include:

- weight of the empty airplane,
- position of the C.G.,
- unusable fuel 4.2 l [1.1 U.S.gal.] in certificated empty weight,
- full amount of oil 6.2 l [6.55 U.S.qts] in certificated empty weight,
- list of equipment in certificated empty weight.

Note 2.

The rear seats may be occupied by two persons and/or luggage provided that:

a) The total weight on the rear seats does not exceed 115 kg [253.5 lbs]
b) The airplane total weight and C.G. position do not exceed the limits.

Note 3.

Approved Noise Level in accordance to:

ICAO, Annex 16, Chapter 6, (1981): 69,0 dB(A)

Note 4

The airplane is allowed to perform max. 2 turns of spin and for restricted aerobatics (BCAR Semi –Aerobatic category) at:

- max. take-off weight of 750 kg [1653 lb],
- max. rear centre of gravity limit of 18.5% MAC ,
- without any passengers on the rear seats and with rear seat cushions removed,
- fuel in the range of limit weight of 750 kg [1653 lb].

Inverted aerobatics forbidden!

Note 5.

Currently: Airbus Poland S.A.

Note 6.

Variant PZL-KOLIBER 150 is also named KOLIBER 150.

SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

AFM - Aeroplane Flight Manual
FAA - Federal Aviation Administration
VFR - Visual Flight Rules
IFR – Instrumental Flight Rules
Amdt. – Amendment
CAS – Calibrated Air Speed

II. Type Certificate Holder Record

Airbus Poland S.A.
Al. Krakowska 110/114
02-256 Warszawa
Poland

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	04 July 2006	Initial Issue	Initial Issue, 04 July 2006
Issue 02	08 January 2007	Adding the following aircraft models: PZL-110 KOLIBER and PZL-KOLIBER 150	Issue 02, 08 January 2007
Issue 03	23 August 2019	Change of TC holder name from PZL “Warszawa-Okęcie” S.A. to Airbus Poland S.A.	Issue 03, 23 August 2019

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