# **European Aviation Safety Agency**

## EASA

## TYPE-CERTIFICATE DATA SHEET

# EASA.A.445 Z–37 - Series

## **Type Certificate Holder:**

## Aircraft Industries, a.s

Na Záhonech 1177, 686 04 Kunovice CZECH REPUBLIC

## Manufacturer:

**LET, n.p.** 686 04 Kunovice 1177 CZECH REPUBLIC

 Type:
 Z - 37, and

 Variants:
 Z - 37 - 2 

 Z - 37A 

 Z - 37A 

 Z - 37A - 2 

## Issue 01: 27-Mar-2007

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- II. Certification Basis
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- IV. Operating and Service Instructions
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- II. Certification Basis
- III. Technical Characteristics and Operational Limitations
- IV. Operating and Service Instructions
- V. Notes

### SECTION C2: Reserved

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- II. Certification Basis
- III. Technical Characteristics and Operational Limitations
- IV. Operating and Service Instructions
- V. Notes

### SECTION D2: Reserved

## CHANGE RECORD

## SECTION A1: GENERAL, Z - 37 Type Design

## A.I. General

1.	a)Type: b) Variant:	Z – 37
2.	Airworthiness Category:	Restricted Category (see Note 1)
3.	Type Certificate Holder:	Aircraft Industries, a.s. Na Záhonech 1177 686 04 Kunovice CZECH REPUBLIC
4.	Manufacturer:	From S/N 00-01 to S/N 27-19 LET, n.p. 686 04 Kunovice 1177 CZECH REPUBLIC
5.	Certification Application Date:	
6.	The CAA CZ Certificate Date:	25.07.1966
7.	EASA Type Certificate Date:	27-Mar-2007 (reissue, EASA)

EASA Type Certificate replaces Czech Type Certificate No. 66-05

### A.II. Certification Basis

1.	Reference Date for determining the applicable requirements		
2.	Certification Basis		
3.	Airworthiness Requirements:	British Civil Air D, valid to 01.12	rworthiness Requirements BCAR, Section 2.1963
4.	Requirements elected to comply:	None	
5.	EASA Special Conditions:	None	
6.	EASA Exemptions:	D2-7 5.1 the directional coregulation is not	The side component of the wind at which ontrollability at taxiing complies with determined.
		D2-8 5.4.1 by concurrent in is 16 to 19 daN	Longitudinal control forces change caused crease of engine power and flaps retraction
		D2-9 2.1.3	Non-compliance with requirement for

D2-9/2.1.5 Non-compliance with requirement for control force balancing at aft position of center of gravity, maximum continuous power of the engine and maximum take-off weight at 0.9 v<sub>NO</sub> 7.

8.

D2-9 2.1.6 Non-compliance with requirement for control force balancing at forward position of center of gravity at descent flight with engine idle in the speed range from 1.2 to  $1.4 v_{SO}$ 

D5-5 3.3 Supplement - not installed emergency heating of suction air for carburetor

D5-8 7 Fuel and oil piping in the engine space is not fire-resistant

D5-8 2.1. Oil tank, its installation and attachment is not fireproof

D6-1 4.2.1 e) Not installed flight indicator of oil quantity that is required with regard to the engine oil usage for the setting of propeller blades

D6-7 8.1	Non-compliant color of position lights
D6-7 5.2	Non-compliant intensity of position lights
D6-7 5.3	Non-compliant intensity of position lights
None	
None	

#### A.III. Technical Characteristics and Operational Limitations

EASA Equivalent Safety Findings:

EASA Environmental Standards:

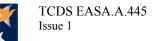
1.	Type Design Definition:	Specification Sheet, drawing No. Z37.000	00-00/1				
2.	Description:	Z - 37 aircraft is single-engine, low-wing a design with usage of metal and fabric mat					
3.	Equipment:	Flight and navigation instruments:					
		Magnetic compass	LUN 1221				
		Altimeter	LUN 1121				
		Airspeed indicator with over-pulling					
		indication	LUN 1107				
		Vertical speed indicator	LUN 1147				
		Turn indicator	LUN 1213				
		Stall warning indication light	CHS – 39				
		Engine instruments:					
		RPM indicator	LUN 1341				
		Blower pressure gauge	LUN 1401				
		Quadruplicate indicator of engine					
		parameters	LUN 1527				
		Thermometer of cylinder heads	LUN 1380				
		Volt-ammeter	LUN 2715				
		Warning light of engine fire	SLC - 51				
		Inlet air temperature indicator	TUE – 48				

		Airframe and systems instruments: Pneumatic system pressure gauge Earlier Chemical pressure gauge Chemical weight indicator Dual fuel quantity indicator Warning remaining fuel light	MA-100 MV-80-100 AP-6 AP-6 LUN 1626 SLC - 51
4.	Dimensions:	Wing Span:         12.224 m           Length:         8.550 m           Height:         2.898 m           Wing Area:         23.8 sq.m	
5.	Engine:		
	5.1 Model:	M 462 R F	
	5.2 Type Certificate:	EASA approved (CAA CZ TC No. 66-04)	(see Note 2)
	5.3 Limitations:	Maximum take-off power Power Speed	315 HP 2450 RPM
		Maximum continuous (nominal) power: Power Speed	280 HP 2200 RPM
		Maximum cruise power: Power Speed	195 HP 1900-1950 RPM
6.	Propeller:		
	6.1 Model:	V 520 /7/	
	6.2 Type Certificate:	EASA approved (CAA CZ TC No. 66-01)	(see Note 3)
	6.3 Number of blades:	2	
	6.4 Sense of Rotation:	Anticlockwise in the view of the flight dire	ection
	6.5 Diameter:	2700 mm	
7.	Fluids		
	7.1 Fuel:	Jet fuel ESSO ICP 80 SHELL Avgas 80 SHELL Avgas 100 LL BP 100 L BL 78 according to ČSN 65 6510	
	7.2 Oil:	AEROSHELL Oil W 100, 120 ELF Aviation AD 100 MOBIL Aero D 100 BP Aero Oil 100 CASTROL Aero AD 100 TOTAL Aero D 100	

	7.3 Coolant	None		
8.	Fluid capacities			
	8.1. Fuel:		127 liter 127 liter	
			126.5 lit 126.5 lit	
	8.2. Oil:	17.3 liters		
9.	Air Speeds:	Never exceeding speed v	V <sub>NE</sub>	270 km/h IAS
		Maximum speed for normal manoeuvers v	V <sub>NO</sub>	175 km/h IAS
		Design manoeuvring speed v	VA	170 km/h IAS
		Maximum flaps extended speed v	V <sub>FE</sub>	150 km/h IAS
10.	Maximum Operating Altitude:	Without agricultural equipment		4000 m
		With agricultural equipment		3670 m
11.	All-Weather Operation Capability	VFR-Day operations		
12.	Maximum Weights:	Maximum take-off weight for aerial works cargo		1850 kg 1725 kg
13.	Center of Gravity Range:	23 - 31 % MAC		
14.	Datum:	Fuselage System frame No. 1 (firewa	vall)	
15.	Mean Aerodynamic Cord (MAC):	2.0 m		
16.	Leveling Means:	Identical with the basic fuselage leve Maintenance Manual	el – see	the Aircraft
17.	Minimum Flight Crew:	1		
18.	Number of seats:	2 including the pilot seat, category for	for aeria	l works only
19.	Baggage/Cargo Compartments:	for aerial works, (in chemical tank, 650 l volume)		600 kg
		for cargo		490 kg
20.	Wheels and Tyres:	Main landing gear wheel K 560.3-00 with tyre 556 x 163 mm Model 2	0-7	
		Rear landing gear wheel K 290-00-7 with tyre 290 x 110 mm Ant shimmy		



21.	Control surface deflections:	Ailerons up down		+26° ±1° -18,5° ±1°
		Elevator	up down	$+35^{\circ}-0^{\circ}+2^{\circ}$ $-20^{\circ}-0^{\circ}+2^{\circ}$
		Rudder		$\pm 26^{\circ} + 2^{\circ} - 1^{\circ}$
		Inner flaps	retracted	8.5°
		1	take-off	18.5°
			landing	53.5°
		Outer flaps	retracted	5°
		1	take-off	15°
			landing	50°
22.	Load factors:	Aerial Cargo	works	+ 3.5 g - 1.4 g + 3.8 g - 1.52 g



## A.IV. Operating and Service Instructions

1. Flight manual:

-In Czech language:	Letová příručka pro letoun Z – 37
	Do-Z37-1010.0

2. Maintenance manual:

-In Czech language:	Technický popis letounu Z – 37 Do-Z37-1023.0
-In Czech language:	Příručka pro obsluhu a údržbu letounu Z – 37 Do-Z37-1031.0
-In Czech language:	Technický popis a návod k obsluze násypného zařízení LN 2-00 Do-Z37-1042.0
-In Czech language:	Popis a návod k obsluze nádrže mechanického náhonu Do-Z37-1045.0
-In Czech language:	Popis a návod k obsluze rozmetacího a poprašovacího zařízení Do-Z37-1040.0
-In Czech language:	Popis a návod k obsluze postřikovacího zařízení, vodní trysky, olejové trysky Do-Z37-1041.0

3. Operational manuals for engine and propeller:

-In Czech language:	Příručka: Letecký motor M 462 RF - technický popis a návod k obsluze
-In Czech language:	Technický popis a provozní instrukce vrtule V 520



#### A.V. Notes

Note 1:	No general restrictions applicable. Any restrictions necessary for a single airplane to be listed in the
	Certificate of Airworthiness of the affected airplane

- Note 2: The EASA type certification standard includes that of CAA Cz TC No. 66-04 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.
- Note 3: The EASA type certification standard includes that of CAA Cz TC No. 66-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

### SECTION A2: Reserved

#### GENERAL, Z - 37 - 2 Type Design SECTION B1:

#### B.I. General

- 1. a) Type: Z - 37b) Variant: Z - 37 - 2
- 2. Airworthiness Category:
- 3. Type Certificate Holder:
- 4. Manufacturer:

Restricted (see Note 1)

Aircraft Industries, a.s. Na Záhonech 1177 686 04 Kunovice CZECH REPUBLIC

From S/N 00-10 LET, n.p. 686 04 Kunovice 1177 CZECH REPUBLIC

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5. Certification Application Date:

6. The CAA CZ Certificate Date: 07.05.1967

7. EASA Type Certificate Date 27-Mar-2007 (reissue, EASA)

EASA Type Certificate replaces Czech Type Certificate No. 66-05

#### **B.II.** Certification Basis

1.

Reference Date for determining the applicable --requirements 2. **Certification Basis** --3. British Civil Airworthiness Requirements BCAR, Section D, Airworthiness Requirements: valid to date 01.12.1963 4. Requirements elected to comply: None 5. EASA Special Conditions: None 6. EASA Exemptions: D2-7 5.1 The side component of the wind at which the directional controllability at taxiing complies with regulation is not determined. D2-8 5.4.1 Longitudinal control forces change caused by concurrent increase of engine power and flaps retraction is 16 to 19 daN Non-compliance with requirement for control D2-9 2.1.3 force balancing at aft position of center of gravity, maximum

at  $0.9 v_{NO}$ 

continuous power of the engine and maximum take-off weight

7.

8.

D2-9 2.1.6 Non-compliance with requirement for control force balancing at forward position of center of gravity at descent flight with engine idle in the speed range from 1.2 to  $1.4 v_{SO}$ 

D5-5 3.3 Supplement - not installed emergency heating of suction air for carburetor

D5-8 7 Fuel and oil piping in the engine space is not fire-resistant

D5-8 2.1.2 Oil tank, its installation and attachment is not fireproof

D6-1 4.2.1 e) Not installed flight indicator of oil quantity that is required with regard to the engine oil usage for the setting of propeller blades

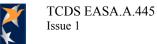
D6-7 8.1	Non-compliant color of position lights
D6-7 5.2	Non-compliant intensity of position lights
D6-7 5.3	Non-compliant intensity of position lights
None	
None	

#### **B.III.** Technical Characteristics and Operational Limitations

EASA Equivalent Safety Findings:

EASA Environmental Standards:

1.	Type Design Definition:	Specification Sheet, drawing No. Z37.0000-00/1		
2.	Description:	Z - 37 aircraft is two-seat, single-engine, low-wing aircraft of compound design using metal and fabric materials and with dual control system.		
3.	Equipment:	Standard equipment of the forward cockpit: Flight and navigation instruments:		
		Magnetic compass	LUN 1221	
	Altimeter		LUN 1121	
		Airspeed indicator with over-pulling		
		indication LUN 1107		
		Vertical speed indicator	LUN 1147	
		Turn indicator	LUN 1213	
		Stall warning indication light	CHS – 39	
	Engine instruments:			
		RPM indicatorLUN 131Blower pressure gaugeLUN 140		
		Quadruplicate indicator of engine		
		parameters	LUN 1527	



Cylinder heads thermometer Volt-ammeter or	LUN 1380 LUN 2715 fror 3-rd series VA 240 to 2-nd
	series
Warning light of engine fire	SLC - 51
Inlet air temperature indicator	TUE - 48
Dynamo warning light	SLC – 51
Airframe and systems instruments:	
Pneumatic system thermometer	MV-80
Fuel indicator	LUN 1626
Remaining fuel warning light	SLC – 51
Standard equipment of the rear cockpit:	
Flight and navigation instruments:	11011101
Altimeter	LUN 1121
Airspeed indicator	LUN 1106
Vertical speed indicator	LUN 1147
Turn indicator	LUN 1213
Engine instruments:	
RPM indicator	LUN 1312
Blower pressure gauge	LUN 1401
Quadruple indicator of engine parameters	
	LUN 1527
Warning light of engine fire	SLC - 51
Inlet air temperature indicator	TUE - 48
Dynamo warning light	SLC - 51
Push-button for over-switching of	
indicators	A 09-9430-64
Airframe and systems instruments:	
Fuel cock position warning light	SLC - 51
Mechanical indicator of the elevator	
trim tab position	Z37.4411-00
Mechanical indicator	
of the oil cooler flap position	Z237.8230-00
Mechanical indicator	
of the sun-blind position	Z237.7360-00
Wing Span:	12.224 m
Length:	8.550 m
Height:	2.898 m
Wing Area	23.8 sq.m
	1
M 462 R F	
EASA approved (CAA CZ TC No. 66-04)	(see Note 2)
Maximum take-off power	
Power	315 HP
Speed	2450 RPM
Maximum continuous power	
Power	280 HP

280 HP

2200 RPM

4. Dimensions:

5. Engine:

5.1 Model:

5.2 Type Certificate: 5.3 Limitations:

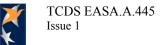
> Power Speed



		Maximum cruise power Power Speed		195 HP 1900-1950 RPM
6.	Propeller:			
	6.1 Model:	V 520 /7/		
	6.2 Type Certificate:	EASA approved (CAA Cz TC No	o. 66 <b>-</b> 01)	(see Note 3)
	6.3 Number of blades:	2		
	6.4 Sense of Rotation:	Anticlockwise in the view of the	flight dir	ection
	6.5 Diameter:	2700 mm		
7.	Fluids			
	7.1. Fuel:	Jet fuel ESSO ICP 80 SHELL Avgas 80 SHELL Avgas 100 LL BP 100 L BL 78 according to ČSN 65 6510		
	7.2. Oil:	AEROSHELL Oil W 100, 120 ELF Aviation AD 100 MOBIL Aero D 100 BP Aero Oil 100 CASTROL Aero AD 100 TOTAL Aero D 100		
8.	Fluid capacities			
	8.1. Fuel:	Total: Main Fuel Tank Auxiliary Fuel Tank		127 liters 127 liters
		Usable: Main Fuel Tank Auxiliary Fuel Tank		126.5 liters 126.5 liters
	8.2. Oil:	17.3 litres		
9.	Air Speeds:	Never exceeding speed	<b>v</b> <sub>NE</sub>	270 km/h IAS
		Maximum speed for normal manoeuvers	V <sub>NO</sub>	175 km/h IAS
		Design manoeuvring speed	$V_{\rm A}$	170 km/h IAS
		Maximum flaps extended speed	$\mathbf{v}_{\mathrm{FE}}$	150 km/h IAS
10.	Maximum Operating Altitude:	3785 m (only without agricultural equipm	ient)	
11.	All-weather Operational Capability	VFR-Day operations		
12.	Maximum Weights:	Maximum take-off weight		1600 kg



13.	Center of Gravity Range:	23 - 31 % MAC			
14.	Datum:	Fuselage System frame No. 1 (firewall)			
15.	Mean Aerodynamic Chord (MAC):	2.0 m			
16.	Levelling Means:	Identical with the basic f Maintenance Manual	Identical with the basic fuselage level – see the Aircraft Maintenance Manual		
17.	Minimum Flight Crew:	1			
18.	Number of seats:	2 including the pilot seat			
19.	Baggage/Cargo Compartments:	38 kg			
20.	Wheels and Tyres:	Main landing gear wheel K 560.3-00-7 with tyre 556 x 163 mm Model 2			
		Rear landing gear wheel with tyre 290 x 110 mm			
21.	Control surface deflections:	Ailerons	up down	+26° ±1° -18,5° ±1°	
		Elevator	up down	$+35^{\circ}-0^{\circ}+2^{\circ}$ $-20^{\circ}-0^{\circ}+2^{\circ}$	
		Rudder		+26° + 2°-1°	
		Inner flaps	retracted take-off landing	8.5° 18.5° 53.5°	
		Outer flaps	retracted take-off landing	5° 15° 50°	
22.	Load factors:	Limit load factor		+ 3.8 g - 1.4 g	



#### **B.IV.** Operating and Service Instructions

1. Flight manual:

2.

-In Czech language:	Letová příručka pro letoun Z – 37 Do-Z37-1010.0
-In Czech language:	Doplněk k letové příručce pro letoun Z - 37 – 2 Do-Z37-3022.0
Maintenance manual:	
-In Czech language:	Technický popis letounu Z – 37 Do-Z37-1023.0

- -In Czech language:Doplněk k technickému popisu pro letoun Z-37-2<br/>Do-Z37-3022.0-In Czech language:Příručka pro obsluhu a údržbu letounu Z 37<br/>Do-Z37-1031.0
- -In Czech language:Doplněk k příručce pro obsluhu a údržbu letounu Z 37 2<br/>Do-Z37-3022.0-In Czech language:Palubní a elektrické přístroje použité na letounu Z 37

Do-Z37-3311.0

3. Operational manuals for engine and propeller:

-In Czech language:	Příručka: Letecký motor M 462 RF - technický popis a návod k obsluze
-In Czech language:	Technický popis a provozní instrukce vrtule V 520



#### **B.V.** Notes

- Note 1: No general restrictions applicable. Any restrictions necessary for a single airplane to be listed in the Certificate of Airworthiness of the affected airplane
- Note 2: The EASA type certification standard includes that of CAA Cz TC No. 66-04 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.
- Note 3: The EASA type certification standard includes that of CAA Cz TC No. 66-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

### SECTION B2: Reserved

Z – 37

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Z - 37A

## SECTION C1: GENERAL, Z - 37A Type Design

#### C.I. General

- 1. a) Type: b) Variant:
- 2. Airworthiness Category:
- 3. Type Certificate Holder:

4. Manufacturer:

CZECH REPUBLIC From S/N 01-05 to S/N 25-38 LET, n.p. 686 04 Kunovice 1177 CZECH REPUBLIC

Aircraft Industries, a.s. Na Záhonech 1177 686 04 Kunovice

Restricted Category (see Note 1)

- 5. Certification Application Date:
- 6. The CAA CZ Certificate Date: 03.01.1971
- 7. EASA Type Certificate Date 27-Mar-2007

EASA Type Certificate replaces Czech Type Certificate No. 66-05

#### C.II. Certification Basis

1.	Reference Date for determining the applicable requirements				
2.	Certification Basis				
3.	Airworthiness Requirements:		British Civil Airworthiness Requirements BCAR, Section D, valid to date 01.12.1963		
4.	Requirements elected to comply:	None			
5.	EASA Special Conditions:	None			
6.	EASA Exemptions:	D2-7 5.1	The side component of the wind at which the directional controllability at taxiing complies with regulation is not determined.		
		D2-8 5.4.1	Longitudinal control forces change caused by concurrent increase of engine power and flaps retraction is 16 to 19 daN		
		D2-9 2.1.3	Non-compliance with requirement for control force balancing at aft position of center of gravity, maximum continuous power of the engine and maximum take-off weight at $0.9 v_{NO}$		

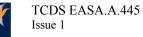
		D2-9 2.1.6	Non-compliance with requirement for control force balancing at forward position of center of gravity at decent flight with engine idle in the speed range from $1.2$ to $1.4 v_{SO}$
		D5-5 3.3	Supplement - not installed emergency heating of suction air for carburetor
		D5-8 7	Fuel and oil piping in the engine space is not fire-resistant
		D5-8 2.1.2	Oil tank, its installation and attachment is not fireproof
		D6-1 4.2.1	e) Not installed flight indicator of oil quantity that is required with regard to the engine oil usage for the setting of propeller blades
		D6-7 8.1	Non-compliant color of position lights
		D6-7 5.2	Non-compliant intensity of position lights
		D6-7 5.3	Non-compliant intensity of position lights
7.	EASA Equivalent Safety Findings:	None	
8.	EASA Environmental Standards:	None	

## C.III. Technical Characteristics and Operational Limitations

1.	Type Design Definition:	Specification Sheet, drawing No. Z37.0000-00/1		
2.	Description:	Z - 37 aircraft is single-engine, low-wing aircraft of compound design with usage of metal and fabric materials.		
3.	Equipment:	Aircraft up to S/N 01-05		
		Flight and navigation instruments: Magnetic compass Altimeter Airspeed indicator with over-pulling indication Vertical speed indicator Turn indicator Stall warning indication light Engine instruments: RPM indicator Blower pressure gauge Quadruplicate indicator of engine parameters Heads temperature thermometer Volt-ammeter	LUN 1221-8 LUN 1121.02-8 LUN 1107-8 LUN 1147.10-8 LUN 1213-8 CHS – 39 LUN 1341-48 LUN 1341-48 LUN 1527-8 LUN 1527-8 LUN 1380-8 LUN 2715-8	
		Warning light of engine fire Inlet air temperature indicator	SLC - 51 TUE – 48	

K

4.	Dimensions:	Airframe and systems instruments Pneumatic system thermometer Chemical pressure gauge Chemical weight indicator Fuelmeter Warning light of remaining fuel Wing Span: Length: Height: Wing Area:	12.224 8.550 2.898 23.8 sq	m m
5.	Engine	C .	Ĩ	
	5.1 Model:	M 462 R F		
	5.2 Type Certificate:	EASA approved (CAA Cz TC No	. 66-04)	(see Note 2)
	5.3 Limitations:	Maximum take-off power: Power Speed	315 HP 2450 R	
		Maximum continuous power: Power Speed	280 HP 2200 R	
		Maximum cruise power: Power Speed	195 HP 1900-1	950 RPM
6.	Propeller:			
	6.1 Model:	V 520 /7/		
	6.2 Type Certificate:	EASA approved (CAA Cz TC No	. 66-01)	(see Note 3)
	6.3 Number of blades:	2		
	6.4 Sense of Rotation:	Anticlockwise in the view of the f	light dire	ection
	6.5 Diameter:	2700 mm		
7.	Fluids:			
	7.1 Fuel:	Jet fuel ESSO ICP 80 SHELL Avgas 80 SHELL Avgas 100 LL BP 100 L BL 78 according to ČSN 65 6510		
	7.2 Oil:	AEROSHELL Oil W 100, 120 ELF Aviation AD 100 MOBIL Aero D 100 BP Aero Oil 100 CASTROL Aero AD 100 TOTAL Aero D 100		



8.	Fluid capacities:			
	8.1. Fuel:	Total: Main Fuel Tank Auxiliary Fuel Tank		127 liters 127 liters
		Usable: Main Fuel Tank Auxiliary Fuel Tank		126.5 liters 126.5 liters
	8.2. Oil:	17,3 litres		
9.	Air Speeds:	Never exceeding speed	V <sub>NE</sub>	270 km/hr IAS
		Maximum speed for normal maneuvers	V <sub>NO</sub>	175 km/hr IAS
		Design manoeuvring speed	VA	170 km/hr IAS
		Maximum flaps extended speed	$\mathbf{v}_{\text{FE}}$	150 km/hr IAS
10.	Maximum Operating Altitude:	Without agricultural equipment		4000 m
		With agricultural equipment		3670 m
11.	All-weather Operational Capability	VFR-Day operations		
12.	Maximum Weights:	Maximum take-off weight - for aerial works - cargo		1850 kg 1725 kg
13.	Center of Gravity Range:	23 - 31 % MAC		
14.	Datum:	Fuselage System frame No. 1 (firew	vall)	
15.	Mean Aerodynamic Chord (MAC):	2.0 m		
16.	Leveling Means:	Identical with the basic fuselage lev Maintenance Manual	vel – see	the Aircraft
17.	Minimum Flight Crew:	1		
18.	Number of seats:	2 including the pilot seat, category	for aeria	l works only
19.	Baggage/Cargo Compartments:	for aerial works, (in chemical tank, 650 l volume)		600 kg
		for cargo		490 kg
20.	Wheels and Tyres:	Main landing gear wheel K 560.3-0 with tyre 556 x 163 mm Model 2	)0-7	
		Rear landing gear wheel K 290-00- with tyre 290 x 110 mm Ant shimm		



21. Control surface deflections:	Ailerons	up down	+26° ±1° -18,5° ±1°
	Elevator	up down	$+35^{\circ}-0^{\circ}+2^{\circ}$ $-20^{\circ}-0^{\circ}+2^{\circ}$
	Rudder		$\pm 26^{\circ} + 2^{\circ} - 1^{\circ}$
	Inner flaps	retracted take-off landing	8.5° 18.5° 53.5°
	Outer flaps	retracted take-off landing	5° 15° 50°
22. Load factors:	For aerial works Cargo		+ 3.5 g - 1.4 g + 3.8 g - 1.52



## C.IV. Operating and Service Instructions

1. Flight manual:

2.

-In Czech language:	Letová příručka pro letoun Z - 37A Do-Z37-1011.1
Maintenance manual:	
-In Czech language:	Technický popis letounu Z - 37A Do-Z37-1021.1
-In Czech language:	Příručka pro obsluhu a údržbu letounu Z - 37A Do-Z37-1031.0
-In Czech language:	Technický popis a návod k obsluze násypného zařízení LN 2-00 Do-Z37-1042.0
-In Czech language:	Popis a návod k obsluze nádrže mechanického náhonu Do-Z37-1045.0
-In Czech language:	Popis a návod k obsluze rozmetacího a poprašovacího zařízení Do-Z37-1040.0
-In Czech language:	Popis a návod k obsluze postřikovacího zařízení, vodní trysky, olejové trysky Do-Z37-1041.0

3. Operational manuals for engine and propeller:

-In Czech language:	Příručka: Letecký motor M 462 RF - technický popis a návod k obsluze
-In Czech language:	Technický popis a provozní instrukce vrtule V 520



#### C.V. Notes

- Note 1: No general restrictions applicable. Any restrictions necessary for a single airplane to be listed in the Certificate of Airworthiness of the affected airplane
- Note 2: The EASA type certification standard includes that of CAA Cz TC No. 66-04 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.
- Note 3: The EASA type certification standard includes that of CAA Cz TC No. 66-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

SECTION C2: Reserved

## SECTION D1: GENERAL, Z - 37A - 2 Type Design

<u>D.I.</u>	General	
1.	a)Type: b)Variant:	Z – 37 Z - 37A – 2
2.	Airworthiness Category:	Restricted (see Note 1)
3.	Type Certificate Holder:	Aircraft Industries, a.s. Na Záhonech 1177 686 04 Kunovice CZECH REPUBLIC
4.	Manufacturer:	From S/N 05-17 LET, n.p. 686 04 Kunovice 1177 CZECH REPUBLIC
5.	Certification Application Date:	
6.	The CAA CZ Certificate Date:	03.01.1971
7.	EASA Type Certificate Date:	27-Mar-2007 (reissue, EASA)
	EASA Type Certificate replaces Czech Type C	ertificate No. 66-05
<u>D.I</u>	Certification Basis	
1.	Reference Date for determining the applicable requirements	
2.	Certification Basis	
3.	Airworthiness Requirements:	British Civil Airworthiness Requirements BCAR, Section D, valid to date 01.12.1963

None

None

4. Requirements elected to comply:

5. EASA Special Conditions:

- 6. EASA Exemptions:
- D2-7 5.1 The side component of the wind at which the directional controllability at taxiing complies with regulation is not determined.
- D2-8 5.4.1 Longitudinal control forces change caused by concurrent increase of engine power and flaps retraction is 16 to 19 daN
- D2-9 2.1.3 Non-compliance with requirement for control force balancing at aft position of center of gravity, maximum continuous power of the engine and maximum take-off weight at 0.9 V<sub>NO</sub>

		D2-9 2.1.6	Non-compliance with requirement for control force balancing at forward position of center of gravity at descent flight with engine idle in the speed range from 1.2 to 1.4 $v_{SO}$
		D5-5 3.3	Supplement - not installed emergency heating of suction air for carburetor
		D5-8 7	Fuel and oil piping in the engine space is not fire-resistant
		D5-8 2.1.2	Oil tank, its installation and attachment is not fireproof
		D6-1 4.2.1	e) Not installed flight indicator of oil quantity that is required with regard to the engine oil usage for the setting of propeller blades
		D6-7 8.1	Non-compliant color of position lights
		D6-7 5.2	Non-compliant intensity of position lights
		D6-7 5.3	Non-compliant intensity of position lights
7.	EASA Equivalent Safety Findings:	None	
8.	EASA Environmental Standards:	None	

## D.III. Technical Characteristics and Operational Limitations

1.	Type Design Definition:	Specification Sheet, drawing No.	Z37.000	0-00/1
2.	Description:	Z - 37 aircraft is two-seat, single-e compound design using metal and with dual control.		
3.	Equipment:	Standard equipment of the forward	d cockpit	t:
		Flight and navigation instruments:		
		Magnetic compass		LUN 1221
		Altimeter		LUN 1121
		Airspeed indicator with over-pullin	ng	
		indication		LUN 1107
		Vertical speed indicator		LUN 1147
		Turn indicator		LUN 1213
		Stall warning indication light		CHS - 39
		Engine instruments:		
		RPM indicator		LUN 1312
		Blower pressure gauge		LUN 1401
		Quadruplicate indicator of engine		
		parameters		LUN 1527
		Cylinder heads thermometer		LUN 1380
		Volt-ammeter		LUN 2715 from
				3-rd series
			or	VA 240 to
				2-nd series



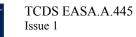
Warning light of engine fire Inlet air temperature indicator Dynamo warning light		SLC - 51 TUE - 48 SLC – 51
Airframe and systems instruments: Pneumatic system thermometer Fuel indicator Remaining fuel warning light		MV-80 LUN 1626 SLC – 51
Standard equipment of the rear coc	kpit:	
Flight and navigation instruments: Altimeter Airspeed indicator Vertical speed indicator Turn indicator	-	LUN 1121 LUN 1106 LUN 1147 LUN 1213
Engine instruments:		
RPM indicator		LUN 1312
Fan pressure gauge		LUN 1401
Quadruple indicator of engine parameters		LUN 1527
Warning light of engine fire		SLC - 51
Inlet air temperature indicator		TUE - 48
Dynamo warning light		SLC - 51
Push-button for over-switching of indicators		A 09-9430-64
Airframe and systems instruments: Fuel cock position warning light Mechanical indicator of the elevato		SLC - 51
trim tab position	51	Z37.4411-00
Mechanical indicator of the oil cooler flap position		Z237.8230-00
Mechanical indicator of the sun-blind position		Z237.7360-00
Wing Span:		12.224 m
Length:		8.550 m
Height:		2.898 m
Wing Area		23.8 sq.m
M 462 R F		
EASA approved (CAA CZ TC No	. 66-04)	(see Note 2)
Maximum take-off power:		
Power	315 HP	
Speed	2450 RI	ΥM
Maximum continuous (nominal)po Power	wer: 280 HP	
Speed	2200 RI	PM
Maximum cruise power	107 115	
Power	195 HP	50 DDM
Speed	1900-19	950 RPM

- 4. Dimensions:
- 5. Engine
  - 5.1 Model:5.2 Type Certificate:
  - 5.3 Limitations:



6. Propeller:

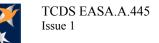
	1		
	6.1 Model:	V 520 /7/	
	6.2 Type Certificate:	EASA approved (CAA CZ TC No. 66-01)	(see Note 3)
	6.3 Number of blades:	2	
	6.4 Sense of Rotation:	Anticlockwise in the view of the flight direct	ction
	6.5 Diameter:	2700 mm	
7.	Fluids		
	7.1. Fuel:	Jet fuel ESSO ICP 80 SHELL Avgas 80 SHELL Avgas 100 LL BP 100 L BL 78 according to ČSN 65 6510	
	7.2 Oil:	AEROSHELL Oil W 100, 120 ELF Aviation AD 100 MOBIL Aero D 100 BP Aero Oil 100 CASTROL Aero AD 100 TOTAL Aero D 100	
8.	Fluid capacities		
	8.1. Fuel:	Total: Main Fuel Tank Auxiliary Fuel Tank	127 liters 127 liters
		Usable: Main Fuel Tank Auxiliary Fuel Tank	126.5 liters 126.5 liters
	8.2. Oil:	17,3 litres	
9.	Air Speeds:	Never exceeding speed $v_{\text{NE}}$	270 km/hr IAS
		Maximum speed for normal manoeuvers $v_{NO}$	175 km/hr IAS
		Design manoeuvring speed $v_A$	170 km/hr IAS
		Maximum flaps extended speed $v_{FE}$	150 km/hr IAS
10.	Maximum Operating Altitude:	Without agricultural equipment	3785 m
11.	Operational Capability	VFR-Day operations	
12.	Maximum Weights:	Maximum take-off weight	1600 kg
13.	Center of Gravity Range:	23 - 31 % MAC	
14.	Datum:	Fuselage System frame No. 1 (firewall)	



15.	Mean Aerodynamic Chord (MAC):	2.0 m		
16.	Levelling Means:	Identical with the basic f Maintenance Manual	uselage level – see	e the Aircraft
17.	Minimum Flight Crew:	1		
18.	Number of seats:	2 including the pilot seat		
19.	Baggage/Cargo Compartments:	38 kg		
20.	Wheels and Tyres:	Main landing gear wheel with tyre 556 x 163 mm		
		Rear landing gear wheel with tyre 290 x 110 mm		
21.	Control surface deflections:	Ailerons	up down	+26° ±1° -18,5° ±1°
		Elevator	up down	$+35^{\circ}-0^{\circ}+2^{\circ}$ $-20^{\circ}-0^{\circ}+2^{\circ}$
		Rudder		±26° + 2°-1°
		Inner flaps	retracted take-off landing	8.5° 18.5° 53.5°
		Outer flaps	retracted take-off landing	5° 15° 50°
22	Load factors:		+ 3 8 g	- 1 <i>4</i> g

22. Load factors:

+ 3.8 g - 1.4 g



## D.IV. Operating and Service Instructions

1. Flight manual:

-In Czech language:	Letová příručka pro letoun Z – 37A Do-Z37-1011.1
-In Czech language:	Letová příručka pro letoun Z-37A-Čmelák modifikace C2,C3 Do-Z37-1012.1

2. Maintenance manual:

-In Czech language:	Technický popis letounu Z – 37A Do-Z37-1021.1
-In Czech language:	Doplněk k technickému popisu pro letoun Z-37A-2 Do-Z37-3022.0
-In Czech language:	Příručka pro obsluhu a údržbu letounu Z – 37A Do-Z37-1031.0
-In Czech language:	Doplněk k příručce pro obsluhu a údržbu letounu Z – 37A – 2 Do-Z37-3022.0
-In Czech language:	Palubní a elektrické přístroje použité na letounu Z – 37A Do-Z37-3311.0

3. Operational manuals for engine and propeller:

-In Czech language:	Příručka: Letecký motor M 462 RF - technický popis a návod k obsluze
-In Czech language:	Technický popis a provozní instrukce vrtule V 520



#### D.V. Notes

Note 1:	No general restrictions applicable. Any restrictions necessary for a single airplane to be listed in the
	Certificate of Airworthiness of the affected airplane

- Note 2: The EASA type certification standard includes that of CAA Cz TC No. 66-04 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.
- Note 3: The EASA type certification standard includes that of CAA Cz TC No. 66-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

### SECTION D2: Reserved



## **CHANGE RECORD**

Issue	Date	Changes
Issue 1	27-Mar-2007	Transfer of Z-37 Type Design to EASA