European Aviation Safety Agency

EASA
TYPE-CERTIFICATE
DATA SHEET

HR 100 series
R 1000 series

Type Certificate Holder:
C.E.A.P.R.
1ter route de Troyes
21121 DAROIS
FRANCE

Manufacturer:
Robin Aviation
1 route de Dijon
21121 DAROIS
FRANCE

For variants:

HR 100-200
HR 100-200 B
HR 100-210
HR 100-210 D
HR 100-285 TIARA
HR 100-250 TR
HR 100-285 C

R 1180 T
R 1180 TD

List of effective Pages:

Page	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Issue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Page	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Issue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

CONTENT

SECTION H: R 1180 T

SECTION I: R 1180 TD

ADMINISTRATIVE SECTION

SECTION A: HR 100-200

A.I. General

1.	a) Type: b) Variant:	HR 100-200 Not applicable
2.	Airworthiness Category:	Normal Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	July 16, 1971
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

A.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 February 1968
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	None
8.	EASA Exemptions:	None
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	None

A.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.00 m (29.53 ft)
Height ..... 2.26 m (7.42 ft)
Length ..... 7.34 m (24.08 ft)
Wing Area ..... 14.50 m² (156.08 ft²)

5. Engines: Lycoming IO-360-A1 D6

The EASA type certification standard includes that of FAA TC 1E10, 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.

5.1 Engine Limits: Maximum Continuous Power: 2700 rpm (147 kW - 200 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hartzell	HC-F2YR-1-7666A-2	1.88 m	2	Hartzell F2-7A	Constant speed

7. Fluids:

7.1 Fuel: 100/130 octane, minimum aviation grade gasoline.
Refer to latest revision of Service Instruction Lycoming No. 1070.

7.2 Engine Oil: Refer to latest revision of Service Instruction Lycoming No. 1014.

Air temperature	Ashless dispersant (AD) grades	Mineral grades
All temperature	SAE15W50 or SAE20W50	------
Above 80°F (+25°C)	SAE60	SAE60
Above 60°F (+15°C)	SAE40 or SAE50	SAE50
30°F to 90°F (O°C à +30°C)	SAE40	SAE40
0°F to 70°F (-15°C à +20°C)	SAE30, SAE40 or SAE20W40	SAE30
0°F to 90°F (-15°C à +30°C)	SAE20W50 or SAE15W50	SAE20W50
Below 10°F (-10°C)	SAE30 or SAE20W30	SAE20

8. Fluid capacities:

8.1 Fuel: Main wing fuel tanks:
Usable: ..... 97 liters on each tank
Not usable: ..... 3 liters on each tank

Auxiliary wing fuel tank (optional):
Usable: ..... 97 liters on each tank
Not usable: ..... 3liters on each tank

8.2 Oil: Oil sump capacity ..... 8 U.S. quarts (7.6 liters)
Usable ..... 6 U.S. quarts (5.7 liters)

9. Air speeds:

V_{NE} .....306 km/h (165 knots IAS)
V_{NO} .....260 km/h (140 knots IAS)
V_A .....248 km/h (134 knots IAS)
V_{FE} .....195 km/h (105 knots IAS)
V_C .....260 km/h (140 knots IAS)
V_D .....340 km/h (184 knots IAS)

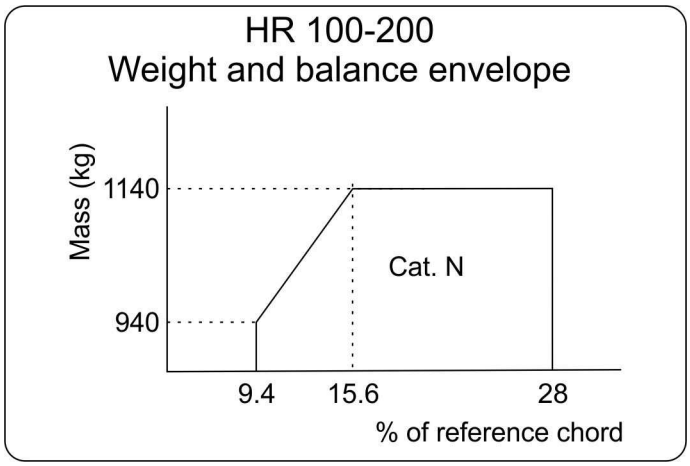
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses: Take-Off: .....1140 kg
Landing .....1140 kg

13. Centre of Gravity Range:

Forward limit (9.4 % ref.): ... 0.15 m aft of datum at 940 kg
Intermediate limit (15.6 % ref.):0.25 m aft of datum at 1140 kg
Aft limit (28 % ref.): ..... 0.35 m aft of datum at 1140 kg



14. Datum: Wing rib 3 wing leading edge.
Cord length at reference section: 1.600 m

15. Design Limit Load Factor:

Flaps up .....+ 3.8
- 1.9
Flaps down .....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 40 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track		.....3.20 m (10.5 ft)
Wheel tire size	main gear:	.....420 x 150
	front gear:	.....420 x 150
Tire pressure	main gear:	..... 2.0 bar
	front gear:	..... 1.8 bar
Oleo strut pressure	main gear:	.....6 (+0, -1) bar
	front gear:	.....5 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
- up ..... 6° ± 0.5
- down ..... 8° ± 0.5

Elevator tab:
- Elevator up
  - Tab down position: ..... 1° ± 2
  - Tab up position: ..... 35° ± 2
- Elevator down
  - Tab down position: ..... 15° ± 2
  - Tab up position: ..... 1° ± 2

Ailerons:
- up ..... 22° (+0, -4)
- down ..... 14° (+0, -2.5)

Ailerons tab:
- down position: ..... 7°5
- up position: ..... 5°

Rudder: ..... 30° (+0, -5)

Wing Flaps:
- 1st notch ..... 10° ± 2
- 2nd notch ..... 52° ± 3

22. (Reserved)

A.IV. Operating and Service Instructions

Airplane Flight Manual	Refer to latest amendment of service letter n°6
Airplane Maintenance Manual	Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule	Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule	Refer to latest amendment of service letter n°6

A.V. Note:

1. All HR 200-200 have been modified by the manufacturer and transformed into HR 100-200 B.

SECTION B: HR 100-200 B

B.I. General

1.	a) Type: b) Variant:	HR 100-200 B Not applicable
2.	Airworthiness Category:	Normal Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(reserved)	
6.	DGAC Type Certification Date:	December 16, 1971
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

B.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	22 November 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	None
8.	EASA Exemptions:	None
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	None

B.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.00 m (29.53 ft)
Height ..... 2.26 m (7.42 ft)
Length ..... 7.34 m (24.08 ft)
Wing Area ..... 14.50 m² (156.08 ft²)

5. Engines: Lycoming IO-360-A1 D6

The EASA type certification standard includes that of FAA TC 1E10, 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.

5.1 Engine Limits: Maximum Continuous Power: 2700 rpm (147 kW - 200 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hartzell	HC-F2YR-1-7666 A-2	1.88 m	2	Hartzell F2-7A	Constant speed

7. Fluids:

7.1 Fuel: 100/130 octane, minimum aviation grade gasoline. Refer to latest revision of Service Instruction Lycoming No. 1070.

7.2 Engine Oil: Refer to latest revision of Service Instruction Lycoming No. 1014.

Air temperature	Ashless dispersant (AD) grades	Mineral grades
All temperature	SAE15W50 or SAE20W50	------
Above 80°F (+25°C)	SAE60	SAE60
Above 60°F (+15°C)	SAE40 or SAE50	SAE50
30°F to 90°F (O°C à +30°C)	SAE40	SAE40
0°F to 70°F (-15°C à +20°C)	SAE30, SAE40 or SAE20W40	SAE30
0°F to 90°F (-15°C à +30°C)	SAE20W50 or SAE15W50	SAE20W50
Below 10°F (-10°C)	SAE30 or SAE20W30	SAE20

8. Fluid capacities:

8.1 Fuel:

Main wing fuel tanks:
Usable: ..... 97 liters on each tank
Not usable: ..... 3 liters on each tank

Auxiliary wing fuel tank (optional):
Usable: ..... 97 liters on each tank
Not usable: ..... 3 liters on each tank

8.2 Oil:

Oil sump capacity ..... 8 U.S. quarts (7.6 liters)
Usable ..... 6 U.S. quarts (5.7 liters)

9. Air speeds:

V_{NE} ..... 306 km/h (165 knots IAS)
V_{NO} ..... 260 km/h (140 knots IAS)
V_A ..... 248 km/h (134 knots IAS)
V_{FE} ..... 195 km/h (105 knots IAS)
V_C ..... 260 km/h (140 knots IAS)
V_D ..... 340 km/h (184 knots IAS)

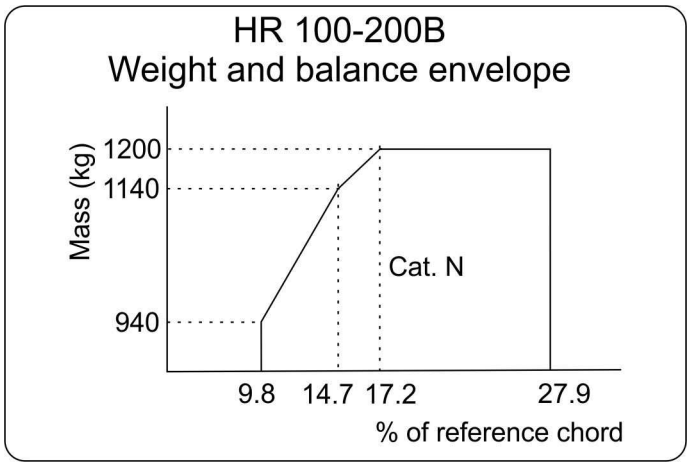
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses:
Take-Off: .....1200 kg
Landing: .....1140 kg

13. Centre of Gravity Range:

Forward limit (9.8 % ref.):.... 0.157 m aft of datum at 940 kg
Intermediate limit (14.7 % ref.):0.237 m aft of datum at 1140 kg
Intermediate limit (17.2 % ref.):0.277 m aft of datum at 1200 kg
Aft limit (27.9 % ref.):..... 0.450 m aft of datum at 1200 kg



14. Datum: Wing rib 3 wing leading edge.
Cord length at reference section: 1.607 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 3.8
Flaps retracted negative n.....- 1.9
Flaps extended.....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 40 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track		3.20 m (10.5 ft)
Wheel tire size	main gear:	420 x 150
	front gear:	420 x 150
Tire pressure	main gear:	2.0 bar
	front gear:	1.8 bar
Oleo strut pressure	main gear:	6 (+0, -1) bar
	front gear:	5 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
- up ..... 6° ± 0.5
- down ..... 8° ± 0.5

Elevator tab:
- Elevator up
  - Tab down position: ..... 1° ± 2
  - Tab up position: ..... 35° ± 2
- Elevator down
  - Tab down position: ..... 15° ± 2
  - Tab up position: ..... 1° ± 2

Ailerons:
- up ..... 22° (+0, -4)
- down ..... 14° (+0, -2.5)

Ailerons tab:
- down position: ..... 7°5
- up position: ..... 5°

Rudder: ..... 30° (+0, -5)

Wing Flaps:
- 1st notch ..... 10° ± 2
- 2nd notch ..... 52° ± 3

22. (Reserved)

B.IV. Operating and Service Instructions

Airplane Flight Manual	Refer to latest amendment of service letter n°6
Airplane Maintenance Manual	Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule	Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule	Refer to latest amendment of service letter n°6

B.V. Note:

1. This model is identical to HR 100-200 except:
   - wings root fairings (Karman)
   - wings leading edge
   - flaps deflection
   - several technological improvements

SECTION C: HR 100-210

C.I. General

1. a) Type: HR 100-210
   b) Variant: Not applicable
2. Airworthiness Category: Normal Category
3. Type Certificate Holder: C.E.A.P.R.
   1 route de Troyes
   21121 DAROIS
   FRANCE
4. Manufacturer: Robin Aviation
   1 route de Dijon
   21121 DAROIS
   FRANCE.
5. (Reserved)
6. DGAC Type Certification Date: September 27, 1972
7. EASA Type Certification Date: Transferred by Commission Regulation (EC) No. 1702/2003
8. The EASA type Certificates replaces DGAC-France Type Certificate no. 61.

C.II. Certification Basis

1. Reference Date for determining the applicable requirements: 9 December 1971
2. (Reserved)
3. (Reserved)
4. Certification Basis: FAR 23
5. Airworthiness Requirements: FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6. Requirements elected to comply: None
7. EASA Special Conditions: Canopy emergency release system
8. EASA Exemptions: None
9. EASA Equivalent Safety Findings: None
10. EASA Environmental Standards: None

C.III. Technical Characteristics and Operational Limitations

1. (Reserved)
2. Description: Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3. Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

   Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.
4. Dimensions:

   Span ..... 9.08 m (29.79 ft)
   Height ..... 2.26 m (7.42 ft)
   Length ..... 7.45 m (24.44 ft)
   Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines: Continental IO-360 D or IO-360 H

The EASA type certification standard includes that of FAA TC E1CE, 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

5.1 Engine Limits: Maximum Continuous Power:2800 rpm (155 kW - 210 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hartzell	BHC-J2YF-1-7663	1.93 m (1)	2	Woodward F210452 or Mc Cauley C-290 D3/T6	Constant speed
Mac Cauley (2)	2A 34 C 210-78 CCA -2	1.93 m (1)	2		Constant speed

Note 1: the minimum repair diameter is 1.854 m (73 inches). (Requirement of P. Robin manufacturer - due to climb performance).
Note 2: Mac Cauley propeller can only be installed with Continental IO-360 H engine.

7. Fluids:

7.1 Fuel: Aviation Grade Fuel: 100/130 octane, minimum.

7.2 Engine Oil: Above +5°C .....SAE 50 Aviation oil 100
Below +5°C.....SAE 30 Aviation oil 65

8. Fluid capacities:

8.1 Fuel: Main wing fuel tanks:
Usable:..... 113.5 liters on each tank
Not usable:..... 4.5 liters on each tank

Auxiliary fuel tank (optional):
Usable:..... 113.5 liters on each tank
Not usable:..... 4.5 liters on each tank

If Mod 51 is installed:
Usable:..... 118 liters on each tank
Not usable:..... 6.5 liters on each tank

8.2 Oil: Oil sump capacity ..... 10 US quarts (9.5 liters)
Usable quantity..... 7 US quarts (6.6 liters)

9. Air speeds: V_{NE} .....306 km/h (165 knots IAS)
V_{NO} .....260 km/h (140 knots IAS)
V_A .....248 km/h (134 knots IAS)
V_{FE} .....195 km/h (105 knots IAS)
V_C .....260 km/h (140 knots IAS)
V_D .....340 km/h (184 knots IAS)

10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

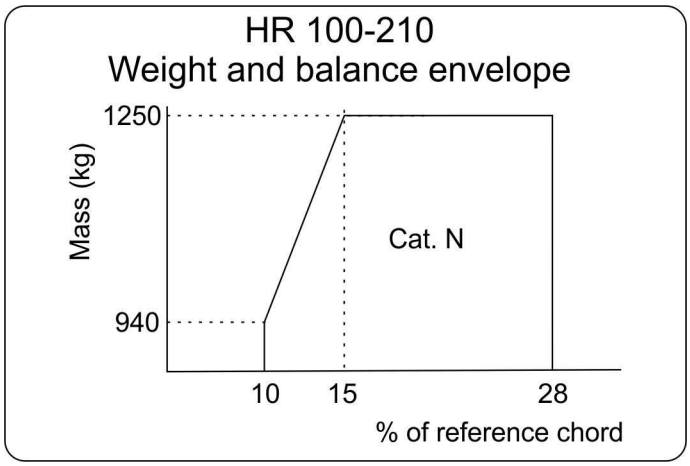
11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses:

Take-Off:.....1250 kg
Landing:.....1250 kg

13. Centre of Gravity Range:

Forward limit (10 % ref.): .. 0.167 m aft of datum at 940 kg
Intermediate limit (15 % ref.):0.251 m aft of datum at 1250 kg
Aft limit (28 % ref.): ..... 0.469 m aft of datum at 1250 kg



14. Datum:

Wing rib 3 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 3.8
Flaps retracted negative n.....- 1.9
Flaps extended.....+ 2

16. Leveling Means:

Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew:

1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment

Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....420 x 150
front gear: .....420 x 150
Tire pressure main gear: ..... 2.3 bar
front gear: ..... 2.3 bar
Oleo strut pressure main gear: .....9 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up..... 8.5° ± 0.5
down ..... 8° ± 0.5

Elevator tab:
Elevator up
Tab down position: ..... 10° ± 3
Tab up position: ..... 42° ± 3
Elevator down
Tab down position: ..... 10° ± 3
Tab up position: ..... 3° ± 3

Ailerons:	up	22° ± 1.5
	down	15° ± 1.5
Rudder:		28° (+0, -5)
Wing Flaps:	maximum	30° (+1, -4)

22. (Reserved)

C.IV. Operating and Service Instructions

Airplane Flight Manual	Refer to latest amendment of service letter n°6
Airplane Maintenance Manual	Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule	Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule	Refer to latest amendment of service letter n°6

C.V. Note:

1. This model is identical to HR 100-200 B except:
   - power plant
   - wings, flaps and ailerons
   - structure reinforced
   - tab-flaps coupling suppressed
   - main landing gear
   - Instrument panel installation

SECTION D: HR 100-210 D

D.I. General

1. a) Type: HR 100-210 D
   b) Variant: Not applicable
2. Airworthiness Category: Normal Category
3. Type Certificate Holder: C.E.A.P.R.
   1 route de Troyes
   21121 DAROIS
   FRANCE
4. Manufacturer: Robin Aviation
   1 route de Dijon
   21121 DAROIS
   FRANCE.
5. (Reserved)
6. DGAC Type Certification Date: September 24, 1973
7. EASA Type Certification Date: Transferred by Commission Regulation (EC) No. 1702/2003
8. The EASA type Certificates replaces DGAC-France Type Certificate no. 61.

D.II. Certification Basis

1. Reference Date for determining the applicable requirements: 9 December 1971
2. (Reserved)
3. (Reserved)
4. Certification Basis: FAR 23
5. Airworthiness Requirements: FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6. Requirements elected to comply: None
7. EASA Special Conditions: Canopy emergency release system
8. EASA Exemptions: None
9. EASA Equivalent Safety Findings: None
10. EASA Environmental Standards: None

D.III. Technical Characteristics and Operational Limitations

1. (Reserved)
2. Description: Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3. Equipment: The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification.

   Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.
4. Dimensions:

   Span ..... 9.08 m (29.79 ft)
   Height ..... 2.26 m (7.42 ft)
   Length ..... 7.45 m (24.44 ft)
   Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines: Continental IO-360 D or IO-360 H

The EASA type certification standard includes that of FAA TC E1CE, 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

5.1 Engine Limits: Maximum Continuous Power:2700 rpm (155 kW - 210 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hartzell	BHC-J2YF-1-7663-2.4R	1.87 m (1)	2	Woodward F210452 or Mc Cauley C-290 D3/T6	2700 rpm (limited by regulator)
Mac Cauley (2)	2A 34 C 210-78 CCA - 4.4	1.87 m (1)	2		

Remarks:
(1) the minimum repair diameter is 1.854 m (73 inches). (Requirement of P. Robin manufacturer - due to climb performance).
(2) Mac Cauley propeller can only be installed with Continental IO-360 H engine.

7. Fluids:

7.1 Fuel: 100/130 octane, minimum aviation grade gasoline.

7.2 Engine Oil: Above +5°C .....SAE 50 Aviation oil 100
Below +5°C.....SAE 30 Aviation oil 65

8. Fluid capacities:

8.1 Fuel: Main wing fuel tanks:
Usable:..... 113.5 liters on each wing
Not usable:.....4.5 liters on each wing

Auxiliary fuel tank (optional):
Usable:..... 113.5 liters on each wing
Not usable:.....4.5 liters on each wing

If Mod 51 is installed:
Usable:.....118 liters on each wing
Not usable:.....6.5 liters on each wing

8.2 Oil: Oil sump capacity ..... 10 US quarts (9.5 liters)
Usable quantity..... 7 US quarts (6.6 liters)

9. Air speeds: V_{NE} .....306 km/h (165 knots IAS)
V_{NO} .....260 km/h (140 knots IAS)
V_A .....248 km/h (134 knots IAS)
V_{FE} .....195 km/h (105 knots IAS)
V_C .....260 km/h (140 knots IAS)
V_D .....340 km/h (184 knots IAS)

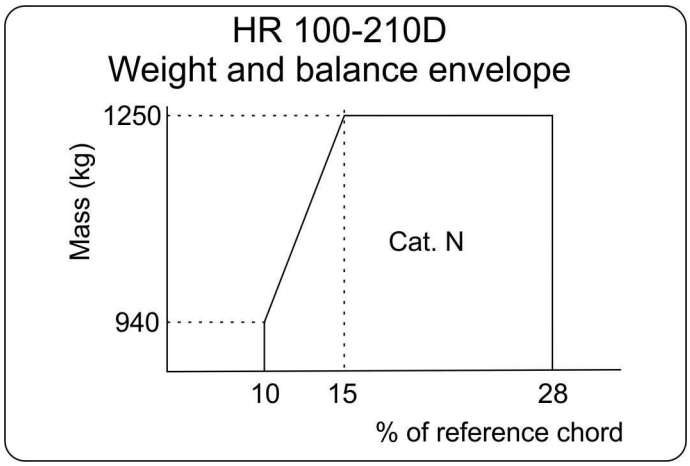
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses: Normal Category Take-Off: .....1250 kg
Landing: .....1250 kg

13. Centre of Gravity Range:

Forward limit (10 % ref.): .. 0.167 m aft of datum at 940 kg
Intermediate limit (15 % ref.):0.251 m aft of datum at 1250 kg
Aft limit (28 % ref.): ..... 0.469 m aft of datum at 1250 kg



14. Datum: Wing rib 3 wing leading edge.
Cord length at reference section: 1.675 m

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 3.8
Flaps retracted negative n.....- 1.9
Flaps extended.....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....420 x 150
front gear: .....420 x 150
Tire pressure main gear: ..... 2.3 bar
front gear: ..... 2.3 bar
Oleo strut pressure main gear: .....9 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up.....8.5° ± 0.5
down .....8° ± 0.5

Elevator tab:
Elevator up
Tab down position: .....10° ± 3
Tab up position: .....42° ± 3
Elevator down
Tab down position: .....10° ± 3
Tab up position: .....3° ± 3

Ailerons:	up	22° ± 1.5
	down	15° ± 1.5
Rudder:		28° (+0, -5)
Wing Flaps:	maximum	30° (+1, -4)

22. (Reserved)

D.IV. Operating and Service Instructions

Airplane Flight Manual	Refer to latest amendment of service letter n°6
Airplane Maintenance Manual	Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule	Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule	Refer to latest amendment of service letter n°6

D.V. Note:

1. This model is identical to HR100-210 except:
   - Propeller blades shortened and rounded.
   - Limited to 2700 rpm

SECTION E: HR 100-285 TIARA

E.I. General

1.	a) Type: b) Variant:	HR 100-285 Not applicable
2.	Airworthiness Category:	Utility Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	July 23, 1974
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

E.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 December 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	FAR23-143 and 23-729 (refer to Note 1) Canopy emergency release system
8.	EASA Exemptions:	FAR23-177 (refer to Note 2)
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	None

E.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, retractable tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.08 m (29.79 ft)
Height ..... 2.71 m (8.89 ft)
Length ..... 7.59 m (24.90 ft)
Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines: Continental TIARA 6-285 B or TIARA 6-285 C

The EASA type certification standard includes that of FAA TC E12CE, 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

5.1 Engine Limits: Maximum Continuous Power: 2000 rpm (210 kW - 285 HP)

5.2 Gearbox ARP 502 Type I

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hoffmann	HO-V 123 F – 200P	2 m (1)	3	Woodward 210690	2000 rpm

Remark:
(1) the minimum repair diameter is 1.95 m (76.77 inches).

7. Fluids:

7.1 Fuel: 100/130 octane, minimum aviation grade gasoline.

7.2 Engine Oil:
Above +5°C ..... SAE 50
Below +5°C ..... SAE 30

8. Fluid capacities:

8.1 Fuel:
Main wing fuel tanks:
Usable: ..... 110 liters on each wing
Not usable: ..... 3 liters on each wing

Auxiliary fuel tank (optional):
Usable: ..... 110 liters on each wing
Not usable: ..... 3 liters on each wing

If Mod 51 is installed:
Usable: ..... 211 liters on each wing
Not usable: ..... 6.5 liters on each wing

8.2 Oil:
Oil sump capacity ..... 9 US quarts (8.5 liters)
Usable quantity ..... 5 US quarts (4.7 liters)

9. Air speeds:

V_{NE} ..... 360 km/h (194 knots IAS)
V_{NO} ..... 290 km/h (157 knots IAS)
V_A ..... 255 km/h (138 knots IAS)
V_{FE} ..... 195 km/h (105 knots IAS)
V_C ..... 290 km/h (157 knots IAS)
V_D ..... 401 km/h (217 knots IAS)
V_{LE} ..... 235 km/h (127 knots IAS)
V_{LO} ..... 235 km/h (127 knots IAS)

10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

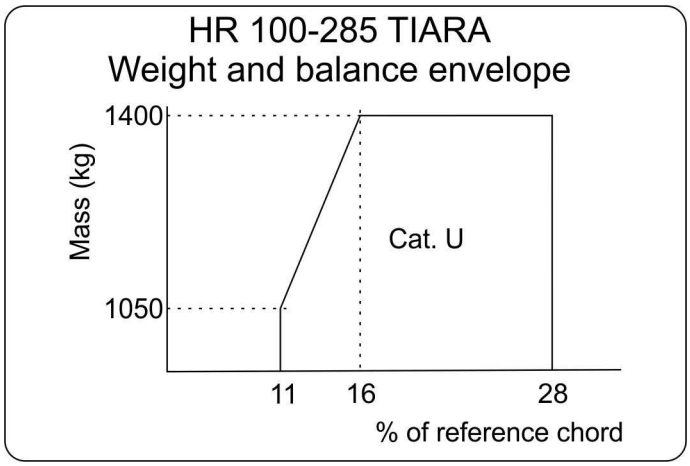
11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses:

Take-Off:.....1400 kg
Landing:.....1400 kg

13. Centre of Gravity Range:

Forward limit (11 % ref.): 0.184 m aft of datum at 1050 kg
Intermediate limit (16 % ref.):0.268 m aft of datum at 1400 kg
Aft limit (28 % ref.): ..... 0.469 m aft of datum at 1400 kg



14. Datum:

Wing rib 3 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 4.4
Flaps retracted negative n.....- 1.8
Flaps extended.....+ 2

16. Leveling Means:

Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew:

1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment

Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....420 x 150
front gear: .....355 x 120
Tire pressure main gear: ..... 2.4 bar
front gear: ..... 2.2 bar
Oleo strut pressure main gear: .....12 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up.....9.5° ± 0.5
down .....8° ± 0.5

Elevator tab:
Elevator up
Tab down position: ..... 8.5° ± 5
Tab up position: ..... 41° ± 5
Elevator down
Tab down position: .....13.5° ± 5
Tab up position: .....1.5° ± 5

Ailerons: up.....18° ± 1.5
down .....14° ± 1.5

Rudder: ..... 28° (+0, -5)

Wing Flaps: maximum ..... 30° (+1, -4)

22. (Reserved)

E.IV. Operating and Service Instructions

Airplane Flight Manual.....Refer to latest amendment of service letter n°6
Airplane Maintenance Manual.....Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule.....Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule .....Refer to latest amendment of service letter n°6

E.V. Note:

1. Special Condition FAR23-143 and 23-729:

Since the landing gear is not locked retracted, the requirements of paragraphs 23-143 and 23-729 are changed as follows:

a) The speed “1.6 VS1” is to be replaced with “VNO” in 23-729 (a)

b) As far as gear extending is concerned, the condition 23-143 must be checked up to VNO. The checks up to VNO (not VNE) are considered as sufficient since the landing gear does not extend at once (at one go) in case of hydraulic system failure, on one hand, and secondly, because a warning is fitted on the hydraulic system.

2. Exemption to FAR 23-177:

At 1.2 VSO in configuration:
landing gear extended
flaps in landing position
at 75% of maximum continuous power

The deviation to 23-177 corresponds to a short duration flight when airplane does not sideslip (landing go around).

3. This model is identical to HR100-210 D except:

- vertical stabilizer and rudder increased
- maximum take-off mass: 1400 kg
- hydraulic retractable landing gear
- wings structure and under fuselage
- thicker skin
- elevator tab (same as HR100-200 B)
- crash skids
- pitch and bank (roll) control system equipped with spring loaded neutral for bank control
- system reduction ratio of aileron control
- may be equipped with a bank stabilator
- wheels equipped with disk brakes

SECTION F: HR 100-250 TR

F.I. General

1.	a) Type: b) Variant:	HR 100-250 TR Not applicable
2.	Airworthiness Category:	Utility Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	September 25, 1975
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

F.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 December 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	FAR23-143 and 23-729 (refer to Note 1) Canopy emergency release system
8.	EASA Exemptions:	FAR23-177 (refer to Note 2)
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	ICAO Annex 16, Vol.1. Chap 6.

F.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, retractable tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.08 m (29.79 ft)
Height ..... 2.71 m (8.89 ft)
Length ..... 7.59 m (24.90 ft)
Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines: Lycoming IO-540-C4 B5

The EASA type certification standard includes that of FAA TC 1E4, 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

5.1 Engine Limits: Maximum Continuous Power:2575 rpm (184 kW - 250 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hartzell	HC-C2YK-1B-8477-4 or 8477-4R	2.03 m (1)	2	Woodward 210681 or F210761	Constant speed

Remark:
(1) the minimum repair diameter is 1.98 m (78 inches).

7. Fluids:

7.1 Fuel: 100/130 octane, minimum aviation grade gasoline.

7.2 Engine Oil: Refer to latest revision of Service Instruction Lycoming No. 1014.

Air temperature	Ashless dispersant (AD) grades	Mineral grades
All temperature	SAE15W50 or SAE20W50	------
Above 80°F (+25°C)	SAE60	SAE60
Above 60°F (+15°C)	SAE40 or SAE50	SAE50
30°F to 90°F (O°C à +30°C)	SAE40	SAE40
0°F to 70°F (-15°C à +20°C)	SAE30, SAE40 or SAE20W40	SAE30
0°F to 90°F (-15°C à +30°C)	SAE20W50 or SAE15W50	SAE20W50
Below 10°F (-10°C)	SAE30 or SAE20W30	SAE20

8. Fluid capacities:

8.1 Fuel:

Main wing fuel tanks:
Usable: ..... 110 liters on each tank
Not usable: ..... 3 liters on each tank

Auxiliary fuel tank (optional):
Usable: ..... 110 liters on each tank
Not usable: ..... 3 liters on each tank

If Mod 51 is installed:
Usable: ..... 211 liters on each tank
Not usable: ..... 6.5 liters on each tank

8.2 Oil:

Oil sump capacity ..... 12 US Qts (11.4 liters)
Usable ..... 9.25 US Qts (8.8 liters)

9. Air speeds:

V_{NE} ..... 360 km/h (194 knots IAS)
V_{NO} ..... 290 km/h (157 knots IAS)

V_A .....255 km/h (138 knots IAS)
V_{FE} .....195 km/h (105 knots IAS)
V_C .....290 km/h (157 knots IAS)
V_D .....401 km/h (217 knots IAS)
V_{LE} .....235 km/h (127 knots IAS)
V_{LO} .....235 km/h (127 knots IAS)

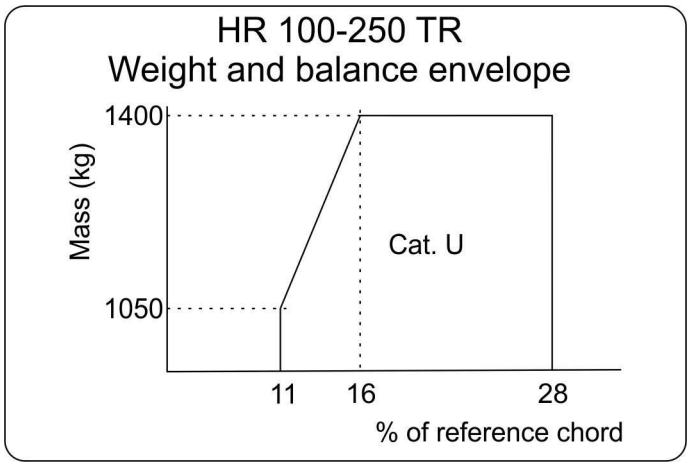
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.

12. Maximum Masses: Take-Off:.....1400 kg
Landing:.....1400 kg

13. Centre of Gravity Range:

Forward limit (11 % ref.): 0.184 m aft of datum at 1050 kg
Intermediate limit (16 % ref.):0.268 m aft of datum at 1400 kg
Aft limit (28 % ref.): ..... 0.469 m aft of datum at 1400 kg



14. Datum: Wing rib 3 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 4.4
Flaps retracted negative n.....- 1.8
Flaps extended.....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....420 x 150
front gear: .....355 x 120
Tire pressure main gear: ..... 2.4 bar
front gear: ..... 2.2 bar
Oleo strut pressure main gear: .....12 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up..... 9.5° ± 0.5
down ..... 8° ± 0.5

Elevator tab:
Elevator up
Tab down position: ..... 8.5° ± 5
Tab up position: ..... 41° ± 5
Elevator down
Tab down position: ..... 13.5° ± 5
Tab up position: ..... 1.5° ± 5

Ailerons: up ..... 18° ± 1.5
down ..... 14° ± 1.5

Rudder: ..... 28° (+0, -5)

Wing Flaps: maximum ..... 30° (+1, -4)

22. (Reserved)

F.IV. Operating and Service Instructions

Airplane Flight Manual..... Refer to latest amendment of service letter n°6
Airplane Maintenance Manual Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule Refer to latest amendment of service letter n°6

F.V. Note:

1. Special Condition FAR23-143 and 23-729:

Since the landing gear is not locked retracted, the requirements of paragraphs 23-143 and 23-729 are changed as follows:

a) The speed “1.6 VS1” is to be replaced with “VNO” in 23-729 (a)

b) As far as gear extending is concerned, the condition 23-143 must be checked up to VNO. The checks up to VNO (not VNE) are considered as sufficient since the landing gear does not extend at once (at one go) in case of hydraulic system failure, on one hand, and secondly, because a warning is fitted on the hydraulic system.

2. Exemption to FAR 23-177

At 1.2 VSO in configuration:
landing gear extended
flaps in landing position
at 75% of maximum continuous power
The deviation to 23-177 corresponds to a short duration flight when airplane does not sideslip (landing go around).

3. This model is identical to HR100-285 TIARA except:
- cowling flaps
- engine

SECTION G: HR 100-285 C

G.I. General

1.	a) Type: b) Variant:	HR 100-285C Not applicable
2.	Airworthiness Category:	Normal and Utility Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	February 09, 1977
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

G.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 December 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	FAR23-143 and 23-729 (Refer to Note 1) Canopy emergency release system
8.	EASA Exemptions:	FAR23-177 (refer to Note 2)
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	ICAO Annex 16, Vol.1. Chap 6.

G.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, retractable tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.08 m (29.79 ft)
Height ..... 2.71 m (8.89 ft)
Length ..... 7.59 m (24.90 ft)
Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines: Continental TIARA 6-285 B or TIARA 6-285 C

The EASA type certification standard includes that of FAA TC E12CE, 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

5.1 Engine Limits: Maximum Continuous Power: 2000 rpm (210 kW - 285 HP)

5.2 Gearbox ARP 502 Type I

6. Propellers:

Manufacturer	Model	∅	Number of blades	Governor	Minimum static RPM at sea level
Hoffmann	HO-V 123 F – 200P	2 m (1)	3	Woodward 210690	2000 rpm

Remark:
(1) the minimum repair diameter is 1.95 m (76.77 inches).

7. Fluids:

7.1 Fuel: Aviation Grade Fuel: 100/130 octane, minimum.

7.2 Engine Oil:
Above +5°C ..... SAE 50
Below +5°C ..... SAE 30

8. Fluid capacities:

8.1 Fuel:

Main wing fuel tanks:
Usable: ..... 110 liters on each wing
Not usable: ..... 3 liters on each wing

Auxiliary fuel tank (optional):
Usable: ..... 110 liters on each wing
Not usable: ..... 3 liters on each wing

If Mod 51 is installed:
Usable: ..... 211 liters on each wing
Not usable: ..... 6.5 liters on each wing

8.2 Oil:
Oil sump capacity ..... 9 US Qts (8.5 liters)
Usable quantity ..... 5 US Qts (4.7 liters)

9. Air speeds:

Normal Category:
V_{NE} ..... 351 km/h (190 knots IAS)
V_{NO} ..... 290 km/h (157 knots IAS)
V_A ..... 255 km/h (138 knots IAS)
V_{FE} ..... 205 km/h (111 knots IAS)
V_C ..... 290 km/h (157 knots IAS)
V_D ..... 390 km/h (211 knots IAS)
V_{LE} ..... 235 km/h (127 knots IAS)
V_{LO} ..... 235 km/h (127 knots IAS)

Utility Category:

V_{NE} .....360 km/h (194 knots IAS)
V_{NO} .....290 km/h (157 knots IAS)
V_A .....255 km/h (138 knots IAS)
V_{FE} .....195 km/h (105 knots IAS)
V_C .....290 km/h (157 knots IAS)
V_D .....401 km/h (217 knots IAS)
V_{LE} .....235 km/h (127 knots IAS)
V_{LO} .....235 km/h (127 knots IAS)

10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.
All aerobatic operations including spins are prohibited.

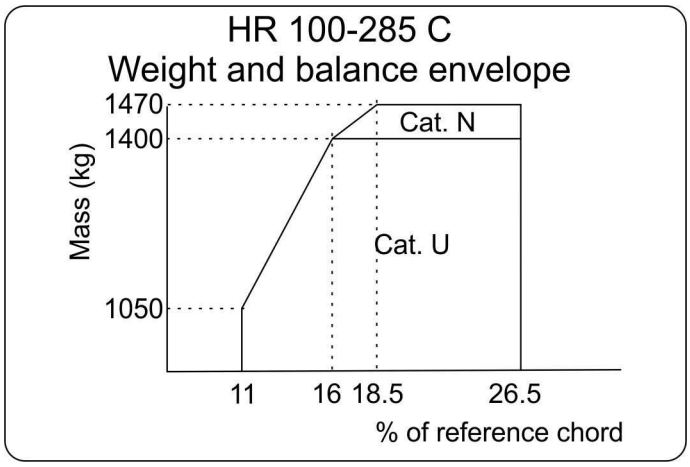
12. Maximum Masses:

Normal category	Take-Off:	.....1470 kg
	Landing:	.....1400 kg
Utility category	Take-Off:	.....1400 kg
	Landing:	.....1400 kg

13. Centre of Gravity Range:

Normal category
Forward limit (11 % ref.): 0.184 m aft of datum at 1050 kg
Intermediate limit (16 % ref.):0.268 m aft of datum at 1400 kg
Intermediate limit (18.5 % ref.)0.310 m aft of datum at 1470 kg
Aft limit (26.5 % ref.): ..... 0.444 m aft of datum at 1470 kg

Utility categories
Forward limit (11 % ref.): 0.184 m aft of datum at 1050 kg
Intermediate limit (16 % ref.):0.268 m aft of datum at 1400 kg
Aft limit (26.5 % ref.): ..... 0.444 m aft of datum at 1470 kg



14. Datum: Wing rib 3 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Normal Category
Flaps retracted positive n .....+ 3.8
Flaps retracted negative n.....- 1.52
Flaps extended positive n.....+ 2
Flaps extended negative n .....+ 0

Utility Category
Flaps retracted positive n .....+ 4.4
Flaps retracted negative n.....- 1.76
Flaps extended positive n.....+ 2
Flaps extended negative n .....+ 0

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track		3.20 m (10.5 ft)
Wheel tire size	main gear:	420 x 150
	front gear:	355 x 120
Tire pressure	main gear:	2.4 bar
	front gear:	2.2 bar
Oleo strut pressure	main gear:	12 (+0, -1) bar
	front gear:	6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up

up	9.5° ± 0.5
down	8° ± 0.5

Elevator tab:

Elevator up

Tab down position:	8.5° ± 5
Tab up position:	41° ± 5

Elevator down

Tab down position:	13.5° ± 5
Tab up position:	1.5° ± 5

Ailerons:	up	18° ± 1.5
	down	14° ± 1.5

Rudder: 28° (+0, -5)

Wing Flaps: maximum 30° (+1, -4)

22. (Reserved)

G.IV. Operating and Service Instructions

Airplane Flight Manual	Refer to latest amendment of service letter n°6
Airplane Maintenance Manual	Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule	Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule	Refer to latest amendment of service letter n°6

G.V. Note:

1. Special Condition FAR23-143 and 23-729:

Since the landing gear is not locked retracted, the requirements of paragraphs 23-143 and 23-729 are changed as follows:

a) The speed “1.6 VS1” is to be replaced with “VNO” in 23-729 (a)

b) As far as gear extending is concerned, the condition 23-143 must be checked up to VNO. The checks up to VNO (not VNE) are considered as sufficient since the landing gear does not extend at once (at one go) in case of hydraulic system failure, on one hand, and secondly, because a warning is fitted on the hydraulic system.

2. Exemption to FAR 23-177

At 1.2 VSO in configuration:
landing gear extended
flaps in landing position
at 75% of maximum continuous power
The deviation to 23-177 corresponds to a short duration flight when airplane does not sideslip (landing go around).

3. This model is identical to HR100-285 TIARA except:
- Maximum take-off mass changed to 1470 kg for N category.
- Aft position of Center of Gravity set to 26.5 %
- Concession nr 16 (spring loaded rudder trim suppressed) inserted into basic design

SECTION H: R 1180 T

H.I. General

1.	a) Type: b) Variant:	R 1180 T Not applicable
2.	Airworthiness Category:	Utility Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	September 19, 1978
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

H.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 December 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	Canopy emergency release system
8.	EASA Exemptions:	None
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	ICAO Annex 16, Vol.1. Chap 6.

H.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.08 m (29.79 ft)
Height ..... 2.38 m (7.81 ft)
Length..... 7.26 m (23.82 ft)
Wing Area..... 15.10 m² (162.54 ft²)

5. Engines: Lycoming O-360-A

The EASA type certification standard includes that of FAA TC E-286, 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

5.1 Engine Limits: Maximum Continuous Power:2700 rpm (134 kW - 182 HP)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Minimum static RPM at sea level
Sensenich	76 EM8S5-058	1.93 m (1)	2	2500 (2) rpm
Sensenich	76 EM8S5-064	1.93 m (1)	2	2250 (2) rpm
Hoffmann	HO27 HM 180/160	1.80 m	2	
EVRA	94.79-26	1.88 m	2	2300 rpm

Remarks:
(1) no diameter reduction allowed for repair.
(2) avoid a continuous operation between 2150 rpm and 2350 rpm.

7. Fluids:

7.1 Fuel: 100/100LL minimum aviation grade gasoline.
Refer to latest revision of Service Instruction Lycoming No. 1070.

7.2 Engine Oil: Refer to latest revision of Service Instruction Lycoming No. 1014.

Air temperature	Ashless dispersant (AD) grades	Mineral grades
All temperature	SAE15W50 or SAE20W50	------
Above 80°F (+25°C)	SAE60	SAE60
Above 60°F (+15°C)	SAE40 or SAE50	SAE50
30°F to 90°F (O°C à +30°C)	SAE40	SAE40
0°F to 70°F (-15°C à +20°C)	SAE30, SAE40 or SAE20W40	SAE30
0°F to 90°F (-15°C à +30°C)	SAE20W50 or SAE15W50	SAE20W50
Below 10°F (-10°C)	SAE30 or SAE20W30	SAE20

8. Fluid capacities:

8.1 Fuel: Main wing fuel tanks:
Usable:..... 114 liters on each tank
Not usable:..... 7 liters on each tank

8.2 Oil: Oil sump capacity ..... 8 U.S. quarts (7.6 liters)
Usable..... 6 U.S. quarts (5.7 liters)

9. Air speeds:

V_{NE} .....316 km/h (171 knots IAS)
V_{NO} .....245 km/h (132 knots IAS)
V_A .....230 km/h (124 knots IAS)
V_{FE} .....175 km/h (94 knots IAS)
V_C .....245 km/h (132 knots IAS)
V_D .....352 km/h (190 knots IAS)

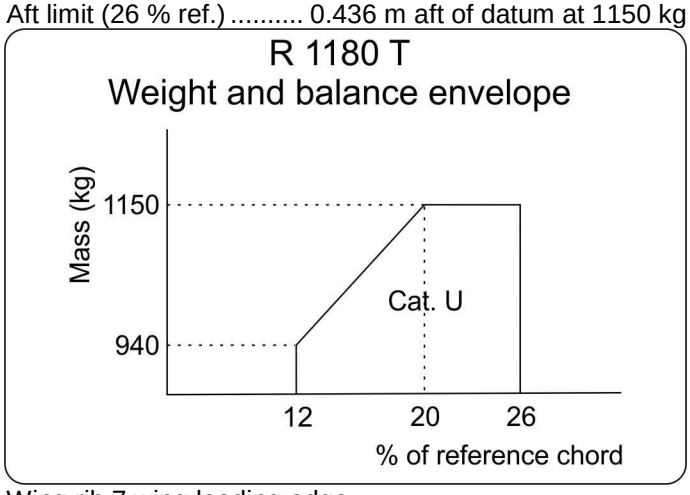
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.
All aerobatic operations including spins are prohibited.

12. Maximum Masses: Take-Off:.....1150 kg
Landing:.....1150 kg

13. Centre of Gravity Range:

Forward limit (12 % ref.): .. 0.201 m aft of datum at 940 kg
Intermediate limit (20 % ref.):0.335 m aft of datum at 1150 kg
Aft limit (26 % ref.) ..... 0.436 m aft of datum at 1150 kg



14. Datum: Wing rib 7 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 4.4
Flaps retracted negative n.....- 1.8
Flaps extended.....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum..

19. Baggage / Cargo Compartment Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....380 x 150
front gear: .....380 x 150
Tire pressure main gear: ..... 2.3 bar
front gear: ..... 2.3 bar
Oleo strut pressure main gear: .....9 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up..... 10.5° ± 0.5
down ..... 5° ± 0.5

Elevator tab:
Elevator up
Tab down position: ..... 10° ± 2
Tab up position: ..... 17.5° ± 2
Elevator down
Tab down position: ..... 9° ± 2
Tab up position: ..... 1° ± 2

Ailerons: up ..... 21° (+3, -0)
down ..... 15° ± 2

Rudder: ..... 28° (+0, -5)

Wing Flaps: maximum ..... 40° ± 2

22. (Reserved)

H.IV. Operating and Service Instructions

Airplane Flight Manual ..... Refer to latest amendment of service letter n°6
Airplane Maintenance Manual ..... Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule ..... Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule ..... Refer to latest amendment of service letter n°6

H.V. Note:

1. This model is identical to HR100-210 except:
- Power plant
- NACA 23015 airfoil - wing setting: 3° - twist: 0°
- wings, ailerons and flaps structure
- wings root fairings (Karman)
- fuel tank
- horizontal tail profile and structure
- vertical tail structure
- wheels (380 x 150) equipped with disk brakes
- front wheel strut displacement increased
- fairings
- pitch and bank (roll) control system equipped with spring loaded neutral for bank control
- dome set aft and upper fuselage
- sliding canopy framework
- access door on front upper fuselage
- bottom fuselage fairing
- battery installed on firewall
- rudder balanced

SECTION I: R 1180 TD

I.I. General

1.	a) Type: b) Variant:	R 1180 TD Not applicable
2.	Airworthiness Category:	Utility Category
3.	Type Certificate Holder:	C.E.A.P.R. 1 route de Troyes 21121 DAROIS FRANCE
4.	Manufacturer:	Robin Aviation 1 route de Dijon 21121 DAROIS FRANCE.
5.	(Reserved)	
6.	DGAC Type Certification Date:	March 27, 1979
7.	EASA Type Certification Date:	Transferred by Commission Regulation (EC) No. 1702/2003
8.	The EASA type Certificates replaces DGAC-France Type Certificate no. 61.	

I.II. Certification Basis

1.	Reference Date for determining the applicable requirements:	9 December 1971
2.	(Reserved)	
3.	(Reserved)	
4.	Certification Basis:	FAR 23
5.	Airworthiness Requirements:	FAR part 23 as amended by amendment 1 through 6 included dated 1 August 1967.
6.	Requirements elected to comply:	None
7.	EASA Special Conditions:	Canopy emergency release system
8.	EASA Exemptions:	None
9.	EASA Equivalent Safety Findings:	None
10.	EASA Environmental Standards:	ICAO Annex 16, Vol.1. Chap 6.

I.III. Technical Characteristics and Operational Limitations

1.	(Reserved)	
2.	Description:	Single-engine, four-seat, low-wing airplane, metal construction, fixed tricycle landing gear.
3.	Equipment:	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Stall warning system “Safe Flight” n°164 or approved equivalent must be installed.

4. Dimensions:

Span ..... 9.08 m (29.79 ft)
Height ..... 2.38 m (7.81 ft)
Length ..... 7.26 m (23.82 ft)
Wing Area ..... 15.10 m² (162.54 ft²)

5. Engines:

Lycoming O-360-A

The EASA type certification standard includes that of FAA TC E-286, 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

5.1 Engine Limits:

Maximum Continuous Power:..... 2600 rpm due to noise requirement (not to airworthiness requirements)

6. Propellers:

Manufacturer	Model	∅	Number of blades	Minimum static RPM at sea level
Sensenich	76 EM 8S5-058	1.93 m (1)	2	2500 (2) rpm
Sensenich	76 EM 8S5-064	1.93 m (1)	2	2250 (2) rpm
Hoffmann	HO27 HM 180/160	1.80 m	2	
EVRA	94.79-26	1.88 m	2	2300 rpm

Remarks:
(1) no diameter reduction allowed for repair.
(2) avoid a continuous operation between 2150 rpm and 2350 rpm.

7. Fluids:

7.1 Fuel:

100/100LL minimum aviation grade gasoline. Refer to latest revision of Service Instruction Lycoming No. 1070.

7.2 Engine Oil:

Refer to latest revision of Service Instruction Lycoming No. 1014.

Air temperature	Ashless dispersant (AD) grades	Mineral grades
All temperature	SAE15W50 or SAE20W50	------
Above 80°F (+25°C)	SAE60	SAE60
Above 60°F (+15°C)	SAE40 or SAE50	SAE50
30°F to 90°F (O°C à +30°C)	SAE40	SAE40
0°F to 70°F (-15°C à +20°C)	SAE30, SAE40 or SAE20W40	SAE30
0°F to 90°F (-15°C à +30°C)	SAE20W50 or SAE15W50	SAE20W50
Below 10°F (-10°C)	SAE30 or SAE20W30	SAE20

8. Fluid capacities:

8.1 Fuel:

Main wing fuel tanks:
Usable:..... 114 liters on each tank
Not usable:..... 7 liters on each tank

8.2 Oil:

Oil sump capacity ..... 8 U.S. quarts (7.6 liters)
Usable..... 6 U.S. quarts (5.7 liters)

9. Air speeds:

V_{NE} .....316 km/h (171 knots IAS)
V_{NO} .....245 km/h (132 knots IAS)
V_A .....230 km/h (124 knots IAS)
V_{FE} .....175 km/h (94 knots IAS)
V_C .....245 km/h (132 knots IAS)
V_D .....352 km/h (190 knots IAS)

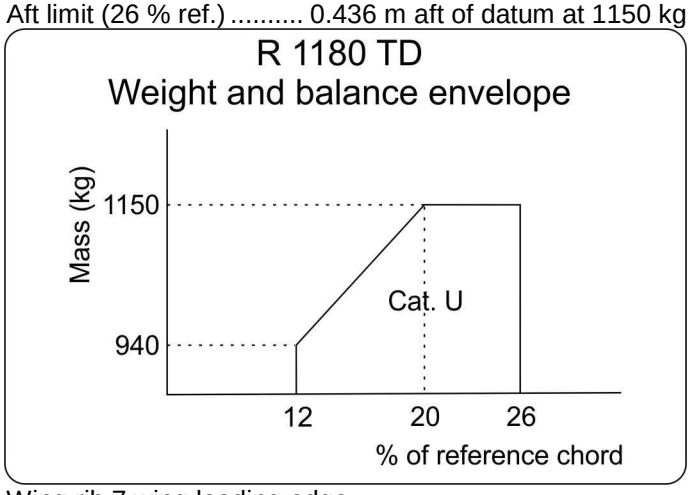
10. Maximum Operating Altitude: Refer to approved aircraft flight manual.

11. Operational Capability: Refer to approved aircraft flight manual.
All aerobatic operations including spins are prohibited.

12. Maximum Masses: Take-Off:.....1150 kg
Landing:.....1150 kg

13. Centre of Gravity Range:

Forward limit (12 % ref.): .. 0.201 m aft of datum at 940 kg
Intermediate limit (20 % ref.):0.335 m aft of datum at 1150 kg
Aft limit (26 % ref.) ..... 0.436 m aft of datum at 1150 kg



14. Datum: Wing rib 7 wing leading edge.
Cord length at reference section: 1.675 m.

15. Load factor (n) at maximum weight:

Flaps retracted positive n .....+ 4.4
Flaps retracted negative n.....- 1.8
Flaps extended.....+ 2

16. Leveling Means: Horizontal upper fuselage front spar (cabin)

17. Minimum Flight Crew: 1 (pilot) at +0.21m aft of datum

18. Maximum Passenger Seating Capacity: 1 at +0.21m aft of datum and 2 at +1.00m aft of datum.

19. Baggage / Cargo Compartment Maximum luggage compartment 60 kg at +1.86 m aft of datum.

20. Wheels and Tires

Main gear track.....3.20 m (10.5 ft)
Wheel tire size main gear: .....380 x 150
front gear: .....380 x 150
Tire pressure main gear: ..... 2.3 bar
front gear: ..... 2.3 bar
Oleo strut pressure main gear: .....9 (+0, -1) bar
front gear: .....6 (+0, -1) bar

21. Control surface movements:

Elevator: aircraft reference angular origin 2° nose up
up..... 10.5° ± 0.5
down ..... 5° ± 0.5

Elevator tab:
Elevator up
Tab down position: ..... 10° ± 2
Tab up position: ..... 17.5° ± 2
Elevator down
Tab down position: ..... 9° ± 2
Tab up position: ..... 1° ± 2

Ailerons: up ..... 21° (+3, -0)
down ..... 15° ± 2

Rudder: ..... 28° (+0, -5)

Wing Flaps: maximum ..... 40° ± 2

22. (Reserved)

I.IV. Operating and Service Instructions

Airplane Flight Manual ..... Refer to latest amendment of service letter n°6
Airplane Maintenance Manual ..... Refer to latest amendment of service letter n°6
Airplane Major Inspection Schedule ..... Refer to latest amendment of service letter n°6
Airplane Minor inspection schedule ..... Refer to latest amendment of service letter n°6

I.V. Note:

1. This model is identical to R 1180 T except the maximum continuous power of the engine (limited to 2600 rpm due to noise limitation).

ADMINISTRATIVE SECTION

I. Acronyms

II. Type Certificate Holder Record

Société Avions Robin
ROBIN Aviation
APEX Aircraft

III. Change Record

Issue 1	10 May 2013	Initial issue on transfer of this Type Certificate to CEAPR	