Civil Aviation Authority
United Kingdom

TYPE-CERTIFICATE DATA SHEET

UK.TC.R.00113

for

AS 355

Type Certificate Holder

Airbus Helicopters

Aéroport International Marseille – Provence

13725 Marignane CEDEX

France

Model(s):	AS 355 E AS 355 F, AS 355 F1, AS 355 F2 AS 355 N, AS 355 NP
Issue:	1
Date of issue:	10 October 2024

TABLE OF CONTENTS

Note: In this TCDS, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as “UK Regulation (EU) year/number or UK Regulation (EU) No. number/year”.

Section 1 AS 355 E

I. General

1. Type / Variant / Model

1.1. Type:	AS 355
1.2. Model:	AS 355 E

2. Airworthiness Category

Small Rotorcraft

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

4 January 1979

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

24 October 1980

7. EASA Type Certification Date

28 September 2003,

in accordance with CR (EU) 1702/2003, Article 2, 3., (a),(i), 2nd bullet, 1st indented bullet

II. Certification Basis

1. Reference Date for determining the applicable requirements

For Airworthiness and Environmental Protection: 4 January 1979

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1		FAR Part 27, Amdt. 16 included
2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Additional and special conditions specified in letter DGAC 53 879, dated 11 August 1980

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection Requirements

7.1 Noise Requirements

See TCDSN UK.TC.R.00113

7.2 Emission Requirements

N/A

8. Operational Suitability Data (OSD)

See section 7 below

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

350A00.0000 + 350A04.4077

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

The approved equipment form the subject of AH document reference 350A.04.4320.
The basic equipment required by the applicable airworthiness regulation (see certification basis), must be installed on the aircraft for the certification and at any moment later on.
The RFM must be on board of the aircraft.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Rolls-Royce Corporation (former: Allison)

2 x Model 250-C20F

5.2 Type Certificate

TC/TCDS: EASA.IM.E.052

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[%]	Gas generator speed **[%]	Output shaft speed [rpm (rpm)] (corresponding to MR rpm)	Exhaust gas Temperature [°C]
AEO-TOP	73	105	6196 (406)	810
AEO-MCP	73	105	6196 (406)	738
OEI-MCP	100	105	6196 (406)	810

Note: * 100% torque -> 521 Nm
** 105 % gas generator speed -> 53 519 rpm

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM for limitations in transient conditions

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity:	736.7 litres
Usable fuel:	736.0 litres

7.2 Oil

Engine:	5.7 litres (system capacity)
MGB:	11.0 litres (system included)
TGB:	0.33 litre

7.3 Coolant System Capacity

N/A

8. Air Speed Limitiations

Power-on VNE
Absolute VNE: 150 KIAS (278 km/h) for HP=0
- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}
Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0
- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:
AEO: 390 (+4, -5) rpm
OEI: 375 to 394 rpm
In autorotation:
Max. 425 rpm
Min 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA: 16 000 ft (4 875 m)

Maximum TKOF/LDG PA: 16 000 ft (4 875 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

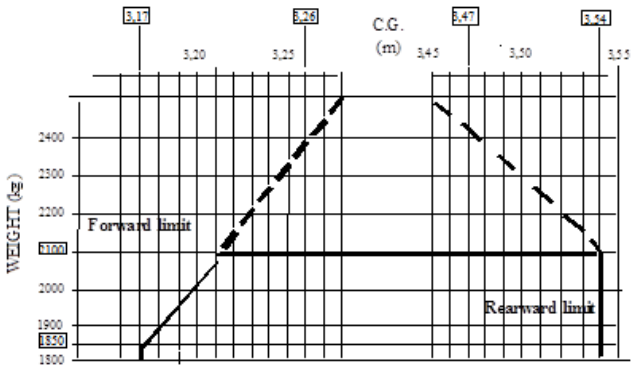
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 100 kg

13. Centre of Gravity Range

Longitudinal C.G. limits



Lateral C.G Limits
maximum deviation on right: 90 mm
maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. **Datum**

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFMS

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100
Max. load for L.H. lateral hold	120
Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

N/A

22. Life-limited Parts

Maintenance Manual AS 355 E Chapter 5 "Master Servicing Recommendations" have been accepted by DGAC-F to carry out maintenance of AS 355 E helicopters. Chapter 04"Airworthiness

limitations" contains statements that must mandatorily be respected.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 E Flight Manual, initially approved by DGAC-FR on 24 October 1980, or later approved revisions.

2. Maintenance Manual

AS 355 E PRE – Chapter 04 (Airworthiness Limitations), initially approved by DGAC-FR on 24 October 1980, or later approved revisions:

- AS 355 E Maintenance Manual

- AS 355 E Overhaul Manual

Compatibility between optional items of equipment is described:

- in the Master Servicing Manual Chapter 5 for installation

- in section 10 of RFM for operation

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 E Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters.

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   For AS 355 E: s/n 5001, and subsequent.
2. The commercial designation is: Ecureuil II / TwinStar
3. Placards:
   3.1 The following placard must be fitted in a way that the pilot can see it clearly:
   “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with”
   3.2 Refer to the RFM as regards the other placards.

* * *

Section 2 AS 355 F

I. General

1. Type / Variant / Model

Type:	AS 355
Model:	AS 355 F

2. Airworthiness Category

Small Rotorcraft

See Note 4 for Category B and “Equivalence Category A”

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

4 January 1979

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

14 April 1981

7. EASA Type Certification Date

28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements

For Airworthiness and Environmental Protection: 4 January 1979

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1		FAR Part 27, Amdt. 16 included performance of AS 355 F supplement 11-2 of RFM were established in accordance with FAR 29 requirements Part 29-45 through 29-79 (see Note 4).
2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Additional and special conditions specified in letter DGAC 53 879, dated 11 August 1980

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection Requirements

7.1 Noise Requirements

Not recorded

7.2 Emission Requirements

N/A

8. Operational Suitability Data (OSD)

(For OSD elements see SECTION 7 below)

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

355A043186

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

The approved equipment form the subject of AH document reference 350A.04.4320.
The basic equipment required by the applicable airworthiness regulation (see certification basis), must be installed on the aircraft for the certification and at any moment later on.
The RFM must be on board of the aircraft.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Rolls-Royce Corporation (former: Allison)

2 x Model 250-C20F

5.2 Type Certificate

TC/TCDS: EASA.IM.E.052

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[%]	Gas generator speed **[%]	Output shaft speed [rpm (rpm)] (corresponding to MR rpm)	Exhaust gas Temperature [°C]
AEO-TOP	73	105	6196 (406)	810
AEO-MCP	73	105	6196 (406)	738
OEI-MCP	100	105	6196 (406)	810

Note: * 100% torque -> 521 Nm
** 105 % gas generator speed -> 53 519 rpm

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM for limitations in transient conditions

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity:	736.7 litres
Usable fuel:	736.0 litres

7.2 Oil

Engine:	5.7 litres (system capacity)
MGB:	11.0 litres (system included)
TGB:	0.33 litre

7.3 Coolant System Capacity

n/a

8. Air Speed Limitiations

Power-on VNE
Absolute VNE: 150 KIAS (278 km/h) for HP=0

- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}
Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0

- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:
AEO: 390 (+4, -5) rpm
OEI: 375 to 394 rpm
In autorotation:
Max. 425 rpm
Min. 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA:	16 000 ft (4 875 m)
Maximum TKOF/LDG PA:	16 000 ft (4 875 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

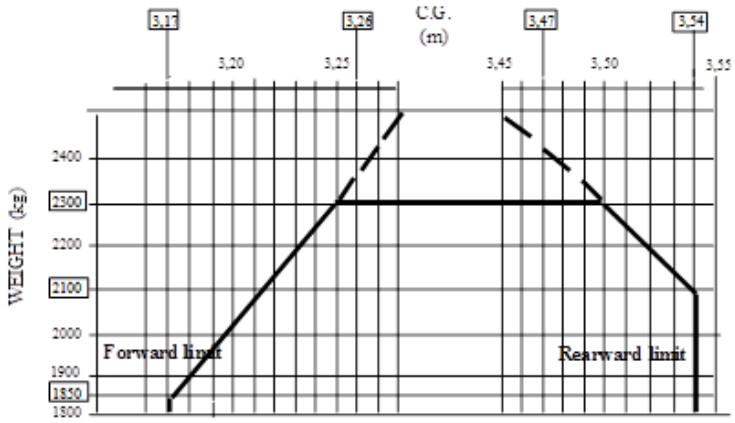
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 300 kg

13. Centre of Gravity Range

Longitudinal C.G. limits



Lateral C.G Limits
Maximum deviation on right: 90 mm
Maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. Datum

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFM Supplement.

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100

Max. load for L.H. lateral hold	120
Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

N/A

22. Life-limited Parts

Maintenance Manual AS 355 F Chapter 5 "Master Servicing Recommendations" have been initially accepted by DGAC FR to carry out maintenance of AS 355 F helicopters. Chapter 04"Airworthiness limitations" contains statements that must mandatorily be respected.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 F Flight Manual, initially approved by DGAC FR on 14 April 1981, or later approved revisions.

2. Maintenance Manual

AS 355 F PRE – Chapter 04 (Airworthiness Limitations), initially approved by DGAC FR on 14 April 1981, or later approved revisions.
AS 355 F Maintenance Manual
AS 355 F Overhaul Manual
Compatibility between optional items of equipment is described:
- in the "Master Servicing Recommendations" Chapter 5-80 for installation
- in section 10 of RFM for operation

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 F Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters.

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   AS 355 F: s/n 5044, and subsequent of version.
   AS 355 E: aircraft converted into AS 355 F by application of Service Bulletin n°01.02
2. The commercial designation is: Ecureuil II / TwinStar
3. Placards:

   3.1 The following placard must be fitted in a way that the pilot can see it clearly: “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with”.

   3.2 Refer to the RFM as regards the other placards.

4. The AS 355 F is certificated as Group A under BCAR Section G. This certification basis provides an equivalence to Category A in accordance with EASA AIR-OPS (EU regulation nº 965/2012) GM1 CAT.POL.H.200 & CAT.POL.H.300 & CAT.POL.H.400 & when the following conditions are met:
   1. The aircraft is equipped with the “Engines fire-extinguishing system” OP0691 and either OP0692 or OP0913;
   2. The aircraft is equipped with a second fan wheel on the engine and main gearbox oil cooling unit OP9009/07 9013/07 9016;
   3. The aircraft is operated in accordance with the RFM Supplement 11-2 – “Take-off and landing procedures and performance data on clear airfield and helipad with one engine inoperative”.

Section 3 AS 355 F1

I. General

1. Type / Variant / Model

Type:	AS 355
Model:	AS 355 F1

2. Airworthiness Category

Small Rotorcraft

See Note 4 for Category B and “Equivalence Category A”

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

31 January 1983

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

9 May 1983

7. EASA Type Certification Date

28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements

For Airworthiness and Environmental Protection: 4 January 1979

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1		FAR 27 Amdt. 16 included; Performance of AS 355 F1 supplement 11-2 of RFM were established in accordance with FAR 29 requirements Part 29-45 through 29-79 (see Note 4).
2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Additional and special conditions specified in letter DGAC 53 879, dated 11 August 1980

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection Requirements

7.4 Noise Requirements

See TCDSN UK.TC.R.000113

7.5 Emission Requirements

N/A

8. Operational Suitability Data (OSD)

(For OSD elements see SECTION 7 below)

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

355A043317

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

The approved equipment form the subject of AH document reference 350A.04.4320.
The basic equipment required by the applicable airworthiness regulation (see certification basis), must be installed on the aircraft for the certification and at any moment later on.
The RFM must be on board of the aircraft.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Rolls-Royce Corporation (former: Allison)

2 x Model 250-C20F

5.2 Type Certificate

TC/TCDS: EASA.IM.E.052

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[%]	Gas generator speed **[%]	Output shaft speed [rpm (rpm)] (corresponding to MR rpm)	Exhaust gas Temperature [°C]
AEO-TOP	78	105	6196 (406)	810
AEO-MCP	73***	105	6196 (406)	738
OEI-MCP	100	105	6196 (406)	810

Note: * 100% torque -> 521 Nm
** 105 % gas generator speed -> 53 519 rpm
***Maximum continuous torque limited to 406 Nm (78 %) for <55 KIAS

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM for limitations in transient conditions

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity:	736.7 litres
Usable fuel:	736.0 litres

7.2 Oil

Engine:	5.7 litres (system capacity)
MGB:	11.0 litres (system included)
TGB:	0.33 litre

7.3 Coolant System Capacity

N/A

8. Air Speed Limitiations

Power-on VNE
Absolute VNE: 150 KIAS (278 km/h) for HP=0

- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}
Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0

- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:
AEO: 390 (+4, -5) rpm
OEI: 375 to 394 rpm
In autorotation:
Max. 425 rpm (aural warning at 410 rpm)
Min. 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA:	16 000 ft (4 875 m)
Maximum TKOF/LDG PA:	16 000 ft (4 875 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

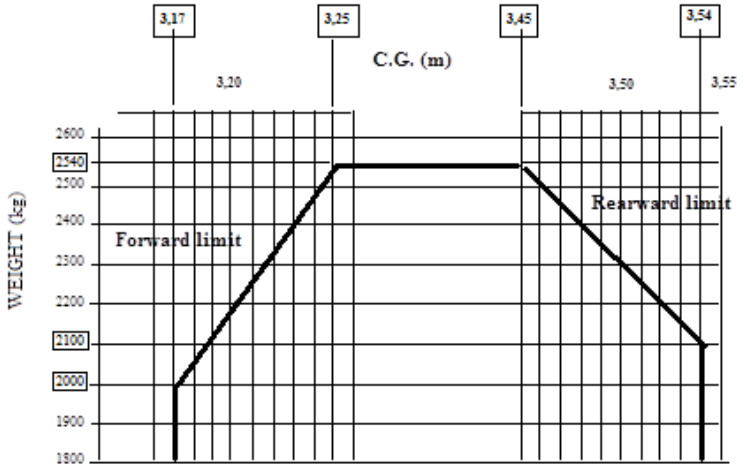
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 400 kg

13. Centre of Gravity Range

Longitudinal C.G. limits



Lateral C.G Limits
Maximum deviation on right: 90 mm
Maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. Datum

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFM Supplement.

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100
Max. load for L.H. lateral hold	120

Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

N/A

22. Life-limited Parts

Maintenance Manual AS 355 F1 Chapter 5 "Master Servicing Recommendations" have been accepted by DGAC-F to carry out maintenance of AS 355 F1 helicopters. Chapter 04"Airworthiness limitations" contains statements that must mandatorily be respected.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 F1 Flight Manual, initially approved by DGAC FR on 9 May 1983, or later approved revisions.

2. Maintenance Manual

AS 355 F1 PRE– Chapter 04 (Airworthiness Limitations), initially approved by DGAC FR on 9 May 1983, or later approved revisions.

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 F1 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters and approved by EASA (DGAC FR).

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   For AS 355 F1: s/n 5315, and subsequent.
   AS 355 F aircraft converted into AS 355 F1 by application of Service Bulletin n°01.09
2. The commercial designation is: Ecureuil II / TwinStar

3. Placards:
   3.1 The following placard must be fitted in a way that the pilot can see it clearly: “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with”
   3.2 Refer to the RFM as regards the other placards.
4. The AS 355 F1 is certificated as Group A under BCAR Section G. This certification basis provides an equivalence to Category A in accordance with EASA AIR-OPS (EU regulation nº 965/2012) GM1 CAT.POL.H.200& CAT.POL.H.300& CAT.POL.H.400& when the following conditions are met:
   1. The aircraft is equipped with the “Engines fire-extinguishing system” OP0691 and either OP0692 or OP0913;
   2. The aircraft is equipped with a second fan wheel on the engine and main gearbox oil cooling unit OP9009/07 9013/07 9016;
   3. The aircraft is operated in accordance with the RFM Supplement 11-2 – “Take-off and landing procedures and performance data on clear airfield and helipad with one engine inoperative”.

Section 4 AS 355 F2

I. General

1. Type / Variant / Model

Type:	AS 355
Model:	AS 355 F2

2. Airworthiness Category

Small Rotorcraft

See Note 4 for Category B and “Equivalence Category A”

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

5 April 1984

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

10 December 1985

7. EASA Type Certification Date

28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements

For For Airworthiness and Environmental Protection: 4 January 1979

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1		FAR 27 Amdt. 16 included; Performance of AS 355 F2 SUPPLEMENT 11-2 of RFM were established in accordance with FAR 29 requirements Part 29-45 through 29-79 (see Note 4.)
2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Additional and special conditions specified in letter DGAC 53 879, dated 11 August 1980

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection Requirements

7.6 Noise Requirements

See TCDSN UK.TC.R.00113

7.7 Emission Requirements

N/A

8. Operational Suitability Data (OSD)

(For OSD elements see SECTION 7 below)

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

355A043359

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

The approved equipment form the subject of AH document reference 350A.04.4320.
The basic equipment required by the applicable airworthiness regulation (see certification basis), must be installed on the aircraft for the certification and at any moment later on.
The RFM must be on board of the aircraft.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Rolls-Royce Corporation (former: Allison)

2 x Model 250-C20F

5.2 Type Certificate

TC/TCDS: EASA.IM.E.052

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[%]	Gas generator speed **[%]	Output shaft speed [rpm (rpm)] (corresponding to MR rpm)	Exhaust gas Temperature [°C]
AEO-TOP	78	105	6196 (406)	810
AEO-MCP	73***	105	6196 (406)	738
OEI-MCP	100	105	6196 (406)	810

Note: * 100% torque -> 521 Nm

** 105 % gas generator speed -> 53 519 rpm

***Maximum continuous torque limited to 406 Nm (78 %) for <55 KIAS

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM for limitations in transient conditions

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity:	736.7 litres
Usable fuel:	736.0 litres

7.2 Oil

Engine:	5.7 litres (system capacity)
MGB:	11.0 litres (system included)
TGB:	0.33 litre

7.3 Coolant System Capacity

N/A

8. Air Speed Limitiations

Power-on VNE
Absolute VNE: 150 KIAS (278 km/h) for HP=0

- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}
Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0

- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:
AEO: 390 (+4, -5) rpm
OEI: 375 to 394 rpm
In autorotation:
Max. 425 rpm (aural warning at 410 rpm)
Min. 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA:	16 000 ft (4 875 m)
Maximum TKOF/LDG PA:	16 000 ft (4 875 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

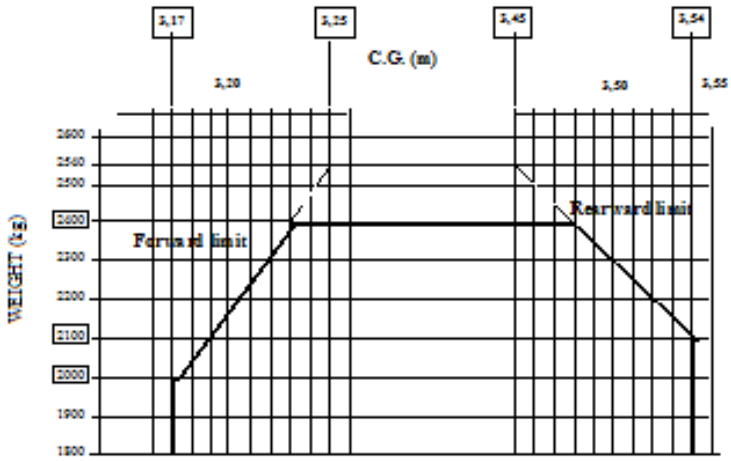
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 540 kg

13. Centre of Gravity Range

Longitudinal C.G. limits



Lateral C.G Limits
Maximum deviation on right: 90 mm
Maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. Datum

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFM Supplement.

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100

Max. load for L.H. lateral hold	120
Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

n/a

22. Life-limited Parts

Maintenance Manual AS 355 F2 Chapter 5 "Master Servicing Manual" have been initially accepted by DGAC FR to carry out maintenance of AS 355 F2 helicopters. Chapter 04"Airworthiness limitations" contains statements that must mandatorily be respected.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 F2 Flight Manual, initially approved by DGAC FR on 10 December 1985, or later approved revisions.

2. Maintenance Manual

AS 355 F2 PRE– Chapter 05-99(Airworthiness Limitations) or AS 355 F2 ALS Chapter 04, initially approved by DGAC FR on 10 December 1985, or later approved revisions.
- AS 355 F2 Maintenance Manual
- AS 355 F2 Overhaul Manual

Compatibility between optional items of equipment is described:
- in the "Master Servicing Recommendations" Chapter 5-80 for installation
- in Section 10 of RFM for operation.

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 F2 Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters;

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   For AS 355 F2: s/n 5334, and subsequent.
   AS 355 F1 aircraft converted into AS 355 F2 by application of Service Bulletin n°01.20
   The aircraft, the s/n of which is listed in Airbus Helicopters document L102-001 are manufactured under Helibras license
2. The commercial designation is: Ecureuil II / TwinStar
3. Placards:
   3.1 The following placard must be fitted in a way that the pilot can see it clearly: “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with”.
   3.2 Refer to the RFM as regards the other placards.
4. The AS 355 F2 is certificated as Group A under BCAR Section G. This Certification basis provides an equivalence to Category A in accordance with EASA AIR-OPS (EU regulation nº 965/2012) GM1 CAT.POL.H.200 & CAT.POL.H.300 & CAT.POL.H.400 & when the following conditions are met:
   1. The aircraft is equipped with the “Engines fire-extinguishing system” OP0691 and either OP0692 or OP0913;
   2. The aircraft is equipped with a second fan wheel on the engine and main gearbox oil cooling unit OP9009/07 9013/07 9016;
   3. The aircraft is operated in accordance with the RFM Supplement 11-2 – “Take-off and landing procedures and performance data on clear airfield and helipad with one engine inoperative”

* * *

Section 5 AS 355 N

I. General

1. Type / Variant / Model

Type:	AS 355
Model:	AS 355 N

2. Airworthiness Category

Small Rotorcraft

See Note 4 for Category B and “Equivalence Category A”

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

19 October 1984

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

13 June 1989

7. EASA Type Certification Date

28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements

For Airworthiness and Environmental Protection: 10 October 1984

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1

FAR 27 Amdt. 20 included such as modified by CTC 27.

Plus the following paragraphs of Amdt. 21:

27.21, 27.45, 27.71, 27.79, 27.143, 27.151, 27.161, 27.173, 27.175, 27.177, 27.672, 27.673, 27.729, 27.735, 27.779, 27.807, 27.1329, 27.1413, 27.1519, 27.1525, 27.1555, 27.1585 and 27.1587

Performance of AS 355 N Supplement 11-2 of RFM were established in accordance with FAR 29 requirements Part 29-45 through 29-79 (see Note 4).

2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Additional and special conditions specified in letter DGAC 53 879, dated 11 August 1980

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection Requirements

7.1 Noise Requirements

See TCDSN UK.TC.R.00113

7.2 Emission Requirements

N/A

8. Operational Suitability Data (OSD)

(For OSD elements see SECTION 7 below)

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

355A043470

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

The approved equipment form the subject of AH document reference 350A.04.4320.
The basic equipment required by the applicable airworthiness regulation (see certification basis), must be installed on the aircraft for the certification and at any moment later on.
The RFM must be on board of the aircraft.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Safran Helicopter Engines (former: Turbomeca)

2 x Model Arrius 1A

5.2 Type Certificate

TC/TCDS: EASA.E.080

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[Nm%]	Gas generator speed **[rpm]	T_4 Temperature [°C]
Max. Contingency Power (2.5 min)	1 x 683 (1 x 131)	56 140	870
Max. TKOF (5 min)	2 x 406 (2 x 78)*	54 685	800
Intermediate Contingency PWR (30 min)	1 x 599 (1 x 115)*	55 300	800
Max. Continuous PWR (AEO)	2 x 380 (2 x 73)* Vi > 55 kt 2 x 406 (2 x 78) Vi < 55 kt	53 285	765
Max. Continuous PWR (OEI)	1 x 521 (1 x 100)*	53 285	765

Note: (*) Torque values corresponding to MGB limitations.
(**) 100% ↔ 328 kW ↔ N2 = 45 438 rpm ↔ NR = 394 rpm
Refer to approved RFM for limitations in transient conditions.KIAS

5.3.2 Other Engine and Transmission Torque Limits

Transmission TQ limits:
Max. transient: 2 x 83%
Max. TKOF: 2 x 80%
Max. Continuous: 2 x 73%
Note: 100 % ↔ 328 kW ↔ NR = 394 rpm

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity: 736.7 litres

Usable fuel: 736.0 litres

7.2 Oil

Engine: 5.7 litres (system capacity)

MGB: 11.0 litres (system included)

TGB: 0.33 litre

7.3 Coolant System Capacity

n/a

8. Air Speed Limitiations

Power-on VNE

Absolute VNE: 150 KIAS (278 km/h) for HP=0

- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}

Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0

- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:

AEO: 390 (+4, -5) rpm for IAS above 55 kt

OEI: 375 to 394 rpm for IAS below 55 kt

In autorotation:

Max. 425 rpm (aural warning at 410 rpm)

Min. 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA: 20 000 ft (6 090 m)

Maximum TKOF/LDG PA: 20 000 ft (6 090 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

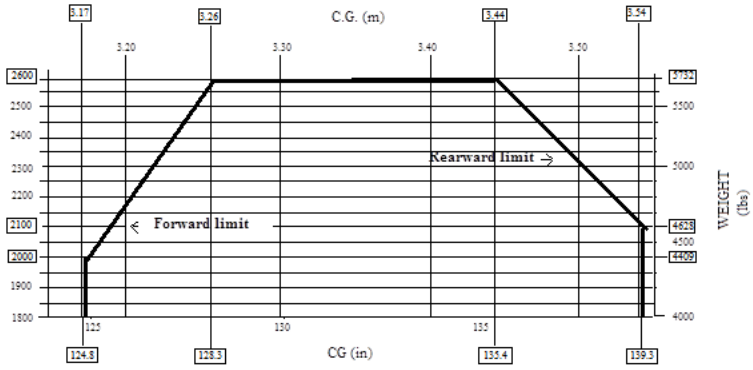
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 600 kg

13. Centre of Gravity Range

Longitudinal C.G. limits



Lateral C.G Limits
Maximum deviation on right: 90 mm
Maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. Datum

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFM Supplement.

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100
Max. load for L.H. lateral hold	120

Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

n/a

22. Life-limited Parts

Maintenance Manual AS 355 N Chapter 5 "Master Servicing Manual" have been accepted by DGAC-F to carry out maintenance of AS 355 N helicopters. Chapter 04"Airworthiness limitations" contains statements that must mandatorily be respected.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 N Flight Manual, initially approved by DGAC FR on 13 June 1989, or later approved revisions.

2. Maintenance Manual

AS 355 N PRE– Chapter 05-99 (Airworthiness Limitations) or AS 355 N ALS Chapter 04, initially approved by DGAC FR on 10 December 1985, or later approved revisions.
- AS 355 N Maintenance Manual
- AS 355 N Overhaul Manual

Compatibility between optional items of equipment is described:
- in the "Master Servicing Recommendations" Chapter 5-80 for installation
- in Section 10 of RFM for operation.

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 N Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters and approved by EASA (DGAC FR).

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   For AS 355 N: s/n 5361, and subsequent.
   The aircraft the s/n of which is listed in Airbus Helicopters document L102-001 are manufactured under Helibras license.
2. The commercial designation is: Ecureuil II / TwinStar
3. Placards:
   3.1 The following placard must be fitted in a way that the pilot can see it clearly: “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with”.
   3.2 Refer to the RFM as regards the other placards.
4. The AS 355 N is certificated as Group A under BCAR Section G. This Certification basis provides an equivalence to Category A in accordance with EASA AIR-OPS (EU regulation nº 965/2012) GM1 CAT.POL.H.200 & CAT.POL.H.300 & CAT.POL.H.400 when the following conditions are met:
   1. The aircraft is equipped with the “Engines fire-extinguishing system” OP2003
   2. The aircraft is operated in accordance with the RFM Supplement 11-2 – “Take-off and landing procedures and performance data on clear airfield and helipad with one engine inoperative – Normal Mode and Training Mode”.

* * *

Section 6 AS 355 NP

I. General

1. Type / Variant / Model

Type:	AS 355
Model:	AS 355 NP

2. Airworthiness Category

Small Rotorcraft

See Note 4 for Category B and “Equivalence Category A”

3. Manufacturer

Airbus Helicopters

Aéroport International Marseille Provence

13725 Marignane CEDEX, France

4. Type Certificate Application Date to DGAC FR

15 February 2005

5. State of Design Authority

EASA

6. Type Certificate Date by DGAC FR

15 February 2007

7. EASA Type Certification Date

28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 1st indented bullet.

II. Certification Basis

1. Reference Date for determining the applicable requirements

For Airworthiness and Environmental Protection: 10 October 1984

For OSD elements: 17 February 2014

2. Airworthiness Requirements

2.1

FAR 27 Amdt. 20 included such as modified by CTC 27.

Plus the following paragraphs of FAR 27 Amdt. 21:

27.21; 27.45; 27.71; 27.79; 27.143; 27.151; 27.161; 27.173; 27.175; 27.177; 27.672; 27.673; 27.729; 27.735; 27.779; 27.807; 27.1329; 27.1413; 27.1519; 27.1525; 27.1555; 27.1585; 27.1587

Plus the following paragraphs of FAR 27 Amdt. 23: §923

In addition to the requirements listed above, in support of “Equivalence Category A” operations as per JAR OPS 3.480, ACJ OPS 3.480 (a)(1)&(a)(2) or per EASA AIR-OPS (EU regulation nº 965/2012) GM1

		CAT.POL.H.200 & CAT.POL.H.300 & CAT.POL.H.400, the following paragraphs of FAR 29 : 29.45 (a) and (b)(2) Amdt. 24; 29.49 (a) Amdt. 39; 29.51 Amdt. 39; 29.53 Amdt. 39; 29.55 Amdt. 39; 29.59 Amdt. 44; 29.60 Amdt. 39; 29.61 Amdt. 39; 29.62 Amdt. 44; 29.64 Amdt. 39; 29.65 (a) Amdt. 39; 29.67 (a) Amdt. 44; 29.75 Amdt. 39; 29.77 Amdt. 44; 29.79 Amdt. 39; 29.81 Amdt. 44; 29.85 Amdt. 44; 29.87 (a) Amdt. 39; 29.861 (a) Amdt. 30; 29.901 (c) Amdt. 26; 29.903 (b),(c) and (e) Amdt. 36; 29.908 (a) Amdt. 26; 29.917 (c)(1)-- Rotor drive system: Design Amdt. 40; 29.953 (a) Amdt. 0; 29.1027 (a) Amdt. 26; 29.1045 (a)(1), (b), (c), (d), and (f) Amdt. 26; 29.1047 (a) Amdt. 26; 29.1181 (a) Amdt. 26; 29.1187 (e) Amdt. 0; 29.1189 (c) Amdt. 26; 29.1191 (a)(1) Amdt. 3; 29.1193 (e) Amdt. 26; 29.1195 (a), (d) Amdt. 17; 29.1197 Amdt. 13; 29.1199 Amdt. 13; 29.1201 Amdt. 0; 29.1305 (b) Amdt. 40; 29.1309 (b)(2) (i) and (d) Amdt. 14; 29.1323 (c)(1) Amdt. 44; 29.1331 (b) Amdt. 24; 29.1587 (a) Amdt. 44.
2.2	For a/c equipped with Emergency Floatation System (EFS) (removable parts P/N / MPN: [223244-0 / 704A42690057])	as above (2.1) with the following additional requirement of CS 27, Amdt. 10, dated 27 January 2023: 27.1587-b3

3. Special Conditions

Special conditions specified in letter DGAC 54408, dated 21 October 1988.

Protection against the effects of High Intensity Radiated Field (HIRF) (JAA interim policy reference INT/POL/27, 29/1 issue 2 dated 1/06/97)

4. Exemptions

None

5. Deviations

None

6. Equivalent Safety Findings

Powerplant instrument markings

7. Environmental Protection Requirements

7.1 Noise Requirements

See TCDSN UK.TC.R.00113

7.2 Emission Requirements

N/A

8 Operational Suitability Data (OSD)

(For OSD elements see SECTION 7 below)

8.1 Master Minimum Equipment List (MMEL)

JAR-MMEL/MEL Section 1, Amdt. 1

8.2 Flight Crew Data (FCD)

CS-FCD Initial Issue 31 January 2014

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

355A043975

2. Description

Main rotor: three (3) blades

Tail rotor: two (2) blades

Fuselage: metal-sheet monocoque

Landing gear: skid type

Powerplant: two turbo-shaft engines

3. Equipment

As per compliance with AS 355 NP certification basis and included in the original Type Design Standard or indicated on the section 2 - limitations of the Flight Manual.

4. Dimensions

4.1 Fuselage

Length: 10.93 m

Width hull: 1.87 m

Height: 3.14 m

4.2 Main Rotor

Diameter: 10.69 m

4.3 Tail Rotor

Diameter: 1.86 m

5. Engine

5.1 Model

Safran Helicopter Engines (former: Turbomeca)

2 x Model Arrius 1A1

5.2 Type Certificate

TC/TCDS: EASA.E.080

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

	TQ limits *[Nm%]	T_4 Temperature [°C]
AEO Max. transient (10 sec)	2 x 468 (2 x 89.6) (*)	800
Max. TKOF (5 min)	2 x 450 (2 x 86.4) (*) Vi < 55 kt	773
Max. Continuous Power (AEO)	2 x 374 (2 x 71.8) (*)	749

Max. Contingency Power (OEI 2.5 min)	1 x 683 (1 x 131)	
Max. Continuous Power (OEI)	1 x 599 (115) (*)	812

Note: (*) Torque values corresponding to MGB limitations.
Refer to approved RFM for limitations in transient conditions.

5.3.2 Other Engine and Transmission Torque Limits

Transmission Torque Limits:
Max. transient: 2 x 89.6%
Max. TKOF: 2 x 86.4%
Max. Continuous: 2 x 77.8%
Note: 100 % ↔ 328 kW ↔ NR = 394 rpm

6. Fluids (Fuel/ Oil/ Additives)

Refer to approved RFM

7. Fluid Capacities

7.1 Fuel

Fuel tank capacity: 736.7 litres

Usable fuel: 736.0 litres

7.2 Oil

Engine: 5.7 litres (system capacity)

MGB: 11.0 litres (system included)

TGB: 0.33 litre

7.3 Coolant System Capacity

N/A

8. Air Speed Limitiations

Power-on VNE
Absolute VNE: 150 KIAS (278 km/h) for HP=0

- at altitude, decrease by 2.5 kt per 1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -35°C, subtract 10 kt (19 km/h) from the above VNE

Power-off V_{NE}
Absolute V_{NE}: 120 KIAS (222 km/h) for HP=0

- at altitude, decrease by 2.5 kt per1 000 ft (15 km/h every 1 000 m)
- in cold weather with OAT below -25°C, subtract 20 kt (37 km/h) from the above VNE, without VNE being less than 65 KIAS (120 km/h)

Refer to RFM for approved airspeed with doors open or removed

9. Rotor Speed Limitations

Power-on flight:
AEO: 390 (+4, -5) rpm for IAS above 55 kt
OEI: 375 to 394 rpm for IAS below 55 kt
In autorotation:
Max. 425 rpm (aural warning at 410 rpm)
Min. 330 rpm (aural warning at 360 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

Maximum operating PA: 20 000 ft (6 090 m)

Maximum TKOF/LDG PA: 20 000 ft (6 090 m)

10.2 Temperature

Refer to approved RFM

11. Operating Limitations

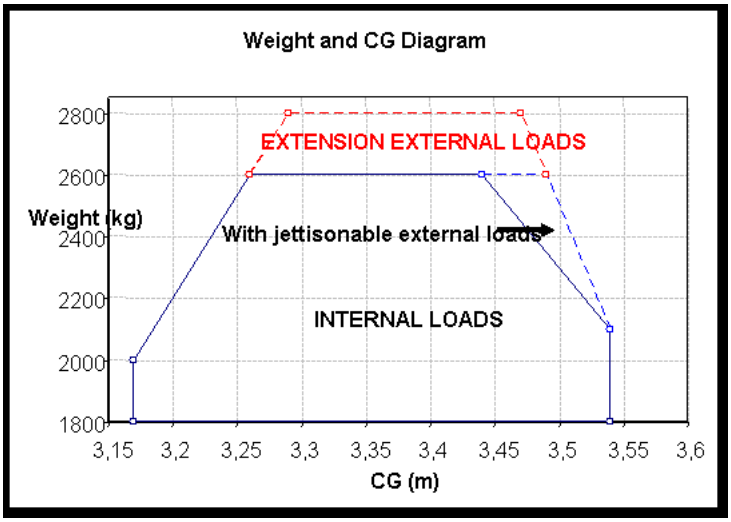
VFR day and night
IFR
No flights in icing conditions
No aerobatic manoeuvres
For more information refer to RFM

12. Maximum Mass

2 600 kg

13. Centre of Gravity Range

Longitudinal: the C.G. limits are given below:



Lateral C.G Limits
Maximum deviation on right: 90 mm
Maximum deviation on left: 160 mm
The weight breakdown and C.G. limit document containing the list of equipment included in the certificated empty weight and the loading instructions shall accompany the helicopter at the time of the initial certification and on a permanent basis from that period on.

In order to obtain the most correct weight and C.G. data, the helicopter shall be jacked up its lifting points rather than using the skids. Should modifications affecting weight and C.G. position to be incorporated, the RFM instructions shall be referred to.

14. Datum

Longitudinal: The datum plane (STA 0) is located at 3 400 mm forward of main rotor head centre

Lateral: Rotorcraft symmetry plane

15. Levelling Means

Transmission deck

16. Minimum Flight Crew

1 pilot (right seat)

17. Maximum Passenger Seating Capacity

5

6, when the aircraft is equipped with the optional two-place seat. This optional item is to be used in accordance with the associated RFM Supplement.

18. Passenger Emergency Exit

Refer to approved RFM

19. Maximum Baggage/Cargo Loads

Location	Max. Load [kg]
Max. load for R.H. lateral hold	100
Max. load for L.H. lateral hold	120
Max. load for rear hold	80
Max. load on cabin floor	FWD 150 AFT 310

20. Rotor Blade Control Movement

For rigging information refer to Maintenance Manual

21. Auxiliary Power Unit (APU)

N/A

22. Life-limited Parts

See Section IV. 2.

IV. Operating and Service Instructions

1. Flight Manual

AS 355 NP Flight Manual RN0 code date DECEMBER 06, approved by EASA on 15 February 2007, or later approved revisions.

2. Maintenance Manual

AS 355 NP PRE – chapter 05.99 (Airworthiness Limitations), or AS 355 NP ALS Chapter 04 edition 2007.01.19 Rev 000, approved by EASA on 15 February 2007, or later approved revisions.
- AS 355 NP Maintenance Manual
- AS 355 NP Overhaul Manual

Compatibility between optional items of equipment is described:
- from an installation aspect: in the "Master Servicing Recommendations".
- from an operational aspect: in "Supplements" Chapter of the RFM.

3. Structural Repair Manual

MRS AS 355

4. Weight and Balance Manual

Refer to approved RFM

5. Illustrated Parts Catalogue

AS 355 NP Illustrated Parts Catalogue

6. Service Letters and Service Bulletins

As published by Aerospatiale, Eurocopter France, Eurocopter or Airbus Helicopters.

7. Required Equipment

Refer to EASA-approved RFM and related supplements for other approved mandatory and optional equipment and Master Minimum Equipment List.

V. Notes

1. Manufacturer's eligible serial numbers:
   For AS 355 NP: s/n 5747and subsequent.
2. The commercial designation is: Ecureuil II / TwinStar
3. Placards:
   3.1 The following placard must be fitted in a way that the pilot can see it clearly: “The markings and placards installed on this helicopter contain operating limitations which must be complied with when operating this rotorcraft. Other operating limitations which must be complied with when operating this rotorcraft are contained in the Rotorcraft Flight Manual. The airworthiness limitations section of the rotorcraft maintenance manual must be complied with.”
   3.2 Refer to the RFM as regards the other placards.
4. According to its certification basis, the AS 355 NP is equivalent to Category A in accordance with EASA AIR-OPS (EU regulation nº 965/2012) GM1 CAT.POL.H.200 & CAT.POL.H.300 & CAT.POL.H.400.

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Section 7 OPERATIONAL SUITABILITY ATA (OSD)

The OSD elements listed below are approved by the European Aviation Safety Agency as per Commission Regulation (EU) 748/2012, as amended by Commission Regulation (EU) No 69/2014.

OSD Elements

1. MMEL

For all Models: MMEL AS355 E/F/F1/F2/N/NP rev. RN2, 12 December 2015, or subsequent approved revisions

2. Flight Crew Data

Airbus Helicopter document 355ABN0072 - Flight Crew Data for AS355 family, including:

Annex A: OSD Cover Sheet to Annex B – Division Mandatory Data – Non Mandatory Data

Annex B: Operational Evaluation Board Report – Original – dated: 6 May 2009, or later approved revisions.

Section 8 Administration

1. Acronyms and Abbreviations

Acronym / Abbreviation	Definition	Acronym / Abbreviation	Definition
AEO	All Engines Operative	Min.	Minimum
AFT	aft	MMEL	Master Minimum Equipment List
AH	Airbus Helicopters	OEI	One Engine Inoperative
AMDT.	Amendment	OSD	Operational Suitability Data
C.G.	Centre of Gravity	PA	Pressure Altitude
CR	(European) Commission Regulation	PWR	Power
DGAC FR	Direction Générale de l'Aviation Civile France	RFM	Rotorcraft Flight Manual
		RFMS	Rotorcraft Flight Manual Supplement
FAA	Federal Aviation Administration	s/n	Serial Number
FWD	forward	SC	Special Condition
HIRF	High Intensity Radiated Field	sec	Seconds
IFR	Instrument Flight Rules	STA	Station
JAR	Joint Aviation Requirements	TGB	Tail gear box
KIAS	Knots Indicated Air Speed	TKOF	Take-Off
LDG	Landing	TOP	Take-off power
Max.	Maximum	TQ	Torque
MCP	Maximum continuous power	VFR	Visual Flight Rules
MGB	Main gear box	VNE	Never Exceed Speed
min		Minute	

Type Certificate Holder Record

TCH Record	Period
AIRBUS HELICOPTERS Aéroport International Marseille – Provence 13725 Marignane CEDEX, France	Present. No Changes

Amendment Record

TCDS Issue No.	TCDS Issue Date	Changes	TC Issue and Date
1	10 October 2024	This content of the initial issue of this UK CAA TCDS was taken from EASA.R.146 Issue 7. All technical data taken from EASA.R.146 Issue 7.	Issue 1 02 October 2024

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