European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

AS 355

Type Certificate Holder: Eurocopter
Aeroport International Marseille – Provence
13725 Marignane cedex
France

Manufacturer: Eurocopter
Aeroport International Marseille – Provence
13725 Marignane cedex
France

Issue 1: 15 February 2007
Issue 2: 10 November 2009

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<td>Technical Characteristics and operational Limitations</td>
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<td>Operating and Service Instructions</td>
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</table>

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I       General
II      Certification Basis
III     Technical Characteristics and operational Limitations
IV      Operating and Service Instructions
V       Notes
AS355E

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (a) Type: AS355
   (b) Variant or Model: AS355E (commercial designation ECUREUIL)

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder:
   Since June 1, 1997 EUROCOPTER
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before June 1, 1997 EUROCOPTER France
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before January 1, 1992 AEROSPATIALE
   37, Boulevard de Montmorency
   75781 PARIS cedex 16
   France

5. Manufacturer: As above

6. DGAC-F Certification Date: 24 October 1980

7. DGAC-F Application Date: 4 January 1979

II Certification Basis

1. Airworthiness Requirements: FAR 27 amendment 16 included;

2. Special Conditions: Additional and special conditions specified in letter
   DGAC 53879 dated August 11, 1980

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings: N/A

III Technical Characteristics and Operational Limitations

1. Type Design Definition: 350A00.0000 + 350A04.4077

2. Description: Small twin-engine helicopter

3. Equipment: The approved equipment form the subject of EUROCOPTER
   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 flight manual must be in the aircraft.
4. Dimensions:

- Fuselage Length: 10.93m (35.86 ft)
  Width: 1.87m (6.14 ft)
  Height: 3.14m (10.30 ft)
- Main rotor: 3 blades Diameter: 10.69m (35.07 ft)
- Tail rotor: 2 blades Diameter: 1.86m (6.10 ft)

5. Engines: 2 turbo-shaft engines ALLISON type 250.C20F manufactured by Rolls-Royce

5.11 Installed engine limits:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RPM</th>
<th>TAKE-OFF</th>
<th>Maximum Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque =mN (%)</td>
<td>380 (73)</td>
<td>380 (73)</td>
<td>521 (100)</td>
</tr>
<tr>
<td>Exhaust gas temperature = °C</td>
<td>810</td>
<td>738</td>
<td>810</td>
</tr>
<tr>
<td>Gas generator speed = RPM (%)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
</tr>
<tr>
<td>Output shaft speed: RPM (corresponding to main rotor RPM)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
</tr>
</tbody>
</table>

Refer to Flight Manual for limitations in transient conditions.

5.12 Transmission Torque Limits

Refer to flight manual

6. Fluids (Fuel/Oil/Hydraulic/Additives):

- 6.1 Fuel Refer to RFM for approved fuels and additives
- 6.2 Oil Refer to RFM for approved engine and gearbox oils

7. Fluids Capacities

- 7.1 Fuel
  - total: 736.7 l
  - Usable: 730.0 l
  - Unusable: 6.7 l
- 7.2 Oil capacities (at maximum level)
  - Engine: 5.7 l (capacity of the system)
  - MGB: 11 l (system included)
  - TGB: 0.33 l

8. Airspeed limits

- Power ON VNE: 278 km/h (150 kt) for HP=0
  - In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
  - In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above
- Power OFF VNR: 222 km/h (120 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)
Refer to RFM for approved airspeed with doors open or removed.

9. **Rotor Speed Limits:**

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 HP:
- Maximum operating pressure altitude: 4.875m (16000 ft)
- Maximum take off and landing pressure altitude: 4.875m (16000 ft)

10.2 Temperature:
- Refer to Flight manual

11. **Operating Limitations:**

- VFR day and night
- IFR day and night
- Flights under icing conditions and aerobatic manoeuvres are prohibited
  For more information refer to Flight Manual

12. **Maximum Certified Weights:**

  Maximum take off weight 2100kg (4630 lb)

13. **Centre of Gravity:**
- longitudinal: the C.G. limits are given below:

![Weight and C.G. limits diagram](image-url)

- lateral:
  - L.H. Limit: 0.16m
  - R.H Limit: 0.09m

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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. **Datum**

- Logitudinal: 3.40m forward of the main rotor head centre
- Lateral: aircraft symmetry plane

15. **Levelling means:**

- Transmission deck

16. **Minimum flight crew:**

1 pilot on R.H. 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 flight manual supplement.

18. **Passenger Emergency Exits:**

Refer to flight manual

19. **Maximum Baggage/Cargo Loads:**

<table>
<thead>
<tr>
<th>Location</th>
<th>Max Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum load for R.H. Lateral hold</td>
<td>100 kg (220 lb)</td>
</tr>
<tr>
<td>Maximum load for L.H. lateral hold</td>
<td>120 kg (264 lb)</td>
</tr>
<tr>
<td>Maximum load for rear hold</td>
<td>80 kg (176 lb)</td>
</tr>
<tr>
<td>Maximum load on cabin floor</td>
<td>Forward 150 kg (331 lb) Rearward 310 kg (683 lb)</td>
</tr>
</tbody>
</table>

20. **Rotor Blade and Control Movement:**

Refer to aircraft Maintenance Manual

21. **Life Limited Parts:**

Maintenance Manual AS355E Chapter 5 “Master Servicing Recommendations” have been accepted by DGAC-F to carry out maintenance of AS355E helicopters. Part 5.99 “Airworthiness Limitations” contains statements that must mandatorily be respected.

IV. **Operating and service Instructions**
1. **Rotorcraft Flight Manual, Document No.**  
   AS355E Flight Manual, approved by DGAC-F on October 24, 1980 or later DGAC-F or EASA approved revision (reference in English language).

2. **Maintenance manual, Document No.**  
   - AS355E PRE – Chapter 5.99 (Airworthiness Limitations), approved by DGAC-F on October 24, 1980 or later DGAC-F or EASA approved revision/edition (reference in English language).  
   - Maintenance manual  
   - Overhaul Manual  
   - Illustrated Parts Catalogue

   Compatibility between optional items of equipment is described:  
   - in the “Master Servicing Recommendations” Chapter 5-80 for installation  
   - in section 10 of the Flight Manual for operation

3. **Service Letters and Service Bulletins:**  
   As published by EUROCOPTER and approved by DGAC-F and/or EASA

**V. Notes**

1. **Eligible Serial Numbers:**  
   Aircraft S/N 5001 and subsequent of AS355E version

2. **Placards:**  
   2.1 – 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.
   
   2.2 – REFER TO THE Flight Manual as regards the other placards.

3. **Commercial Designations:**  
   ECUREUIL II/TWINSTAR
AS355F

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (c) Type: AS355
   (d) Variant or Model AS355F (commercial designation ECUREUIL)

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder:
   Since June1, 1997 EUROCOPTER
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before June 1, 1997 EUROCOPTER France
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before January 1, 1992 AEROSPATIALE
   37, Boulevard de Montmorency
   75781 PARIS cedex 16
   France

5. Manufacturer: As above

6. DGAC-F Certification Date 14 April 1981

7. DGAC-F Application Date: 4 January 1979

II Certification Basis

1. Airworthiness Requirements: FAR 27 amendment 16 included;
   Performance of AS355F supplement 11-2 of Flight Manuals was established in accordance with FAR 29 requirements
   part 29-45 through 29-79. (See note 4)

2. Special Conditions: Additional and special conditions specified in letter
   DGAC 53879 dated August 11, 1980

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings: N/A

III Technical Characteristics and Operational Limitations

1. Type Design Definition: 350A043186

2. Description: Small twin-engine helicopter

3. Equipment: The approved equipment form the subject of EUROCOPTER
   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 flight manual must be in the aircraft.
4. **Dimensions:**

- **Fuselage:**
  - Length: 10.93m (35.86 ft)
  - Width: 1.87m (6.14 ft)
  - Height: 3.14m (10.30 ft)

- **Main rotor:**
  - 3 blades
  - Diameter: 10.69m (35.07 ft)

- **Tail rotor:**
  - 2 blades
  - Diameter: 1.86m (6.10 ft)

5. **Engines:** 2 turbo-shaft engines ALLISON type 250.C20F manufactured by Rolls-Royce

5.11 **Installed engine limits:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RPM</th>
<th>TAKE-OFF</th>
<th>Two engines in operation</th>
<th>OEI</th>
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</thead>
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<tr>
<td>Torque =mN (%)</td>
<td>380 (73)</td>
<td>380 (73)</td>
<td>521 (100)</td>
<td></td>
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<tr>
<td>Exhaust gas temperature = °C</td>
<td>810</td>
<td>738</td>
<td>810</td>
<td></td>
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<tr>
<td>Gas generator speed = RPM (%)</td>
<td>53519 (105)</td>
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<tr>
<td>Output shaft speed: RPM (corresponding to main rotor RPM)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
<td></td>
</tr>
</tbody>
</table>

Refer to Flight Manual for limitations in transient conditions.

5.12 **Transmission Torque Limits**

Refer to flight manual

6. **Fluids (Fuel/Oil/Hydraulic/Additives):**

6.1 **Fuel**

Refer to RFM for approved fuels and additives

6.2 **Oil**

Refer to RFM for approved engine and gearbox oils

7. **Fluids Capacities**

7.1 **Fuel**

- total: 736.7 l
- Usable: 730.0 l
- Unusable: 6.7 l

7.2 **Oil capacities (at maximum level)**

- Engine: 5.7 l (capacity of the system)
- MGB: 11 l (system included)
- TGB: 0.33 l

8. **Airspeed limits**

- **Power ON VNE**
  - Absolute VNE: 278 km/h (150 kt) for HP=0
  - In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
  - In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above VNE

- **Power OFF VNE**
  - Absolute VNE: 222 km/h (120 kt) for HP=0
  - In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
  - In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)

Refer to RFM for approved airspeed with doors open or removed.

9. **Rotor Speed Limits:**
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 HP:
- Maximum operating pressure altitude: 4.875m (16000 ft)
- Maximum take off and landing pressure altitude: 4.875m (16000 ft)

10.2 Temperature:
- Refer to Flight manual

11. Operating Limitations:
- VFR day and night
- IFR day and night
- Flights under icing conditions and aerobatic manoeuvres are prohibited
  For more information refer to Flight Manual

12. Maximum Certified Weights:
- Maximum take off weight 2300kg (5071 lb)

13. Centre of Gravity:
- Longitudinal: the C.G. limits are given below:
  - Forward limit
  - Rearward limit

  - L.H. Limit: 0.16m
  - R.H Limit: 0.09m

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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.
14. Datum
- Logitudinal: 3.40m forward of the main rotor head centre
- Lateral: aircraft symmetry plane

15. Levelling means: Transmission deck

16. Minimum flight crew: 1 pilot on R.H. 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 flight manual supplement.

18. Passenger Emergency Exits: Refer to flight manual

19. Maximum Baggage/Cargo Loads: Location Max Load
- Maximum load for R.H. Lateral hold 100 kg (220 lb)
- Maximum load for L.H. lateral hold 120 kg (264 lb)
- Maximum load for rear hold 80 kg (176 lb)
- maximum load on cabin floor Forward 150 kg (331 lb) Rearward 310 kg (683 lb)


21. Life Limited Parts:
Maintenance Manual AS355F Chapter 5 “Master Servicing Recommendations” have been accepted by DGAC-F to carry out maintenance of AS355F helicopters. Part 5.99 “Airworthiness Limitations” contains statements that must mandatorily be respected.

IV. Operating and service Instructions

   AS355F Flight Manual, approved by DGAC-F on April 14, 1981 or later DGAC-F or EASA approved revision (reference in English language).

   - AS355F PRE – Chapter 5.99 (Airworthiness Limitations), approved by DGAC-F on April 14, 1981 or later DGAC-F or EASA approved revision/edition (reference in English language).
   - Maintenance manual
   - Overhaul Manual
   - Illustrated Parts Catalogue

   Compatibility between optional items of equipment is described:
   - in the “Master Servicing Recommendations” Chapter 5-80 for installation
   - in section 10 of the Flight Manual for operation

3. Service Letters and Service Bulletins: As published by EUROCOPTER and approved by DGAC-F and/or EASA

V. Notes

1. Eligible Serial Numbers: Aircraft S/N 5044 and subsequent of AS355F version AS355E aircraft converted to AS355F by application of Service Bulletin No.01.02

2. Placards:
   2.1 – 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.

2.2 – REFER TO THE Flight Manual as regards the other placards.

3. Commercial Designations: ECUREUIL II/TWINSTAR

4. The AS355F is certificated as Group A under BCAR Section G (“Equivalent to Category A” in accordance with JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2)) 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 Flight manual Supplement 11-2 – “Takeoff and landing procedures and performance data on clear airfield and helipad with one engine inoperative”.
AS355F1

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (e) Type: AS355
   (f) Variant or Model: AS355F1 (commercial designation ECUREUIL)

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder:
   Since June 1, 1997 EUROCOPTER
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before June 1, 1997 EUROCOPTER France
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before January 1, 1992 AEROSPATIALE
   37, Boulevard de Montmorency
   75781 PARIS cedex 16
   France

5. Manufacturer: As above

6. DGAC-F Certification Date: 9 May 1983

7. DGAC-F Application Date: 31 January 1983

II Certification Basis

1. Airworthiness Requirements: FAR 27 amendment 16 included;
   Performance of AS355F1 supplement 11-2 of Flight Manuals was established in accordance with FAR 29 requirements
   part 29-45 through 29-79. (See note 4)

2. Special Conditions: Additional and special conditions specified in letter
   DGAC 53879 dated August 11, 1980

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings: N/A

III Technical Characteristics and Operational Limitations

1. Type Design Definition: 350A043317

2. Description: Small twin-engine helicopter

3. Equipment: The approved equipment form the subject of EUROCOPTER
   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 flight manual must be in the aircraft.
4. Dimensions:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuselage Length</td>
<td>10.93m (35.86 ft)</td>
</tr>
<tr>
<td>Width</td>
<td>1.87m (6.14 ft)</td>
</tr>
<tr>
<td>Height</td>
<td>3.14m (10.30 ft)</td>
</tr>
<tr>
<td>Main rotor</td>
<td>3 blades</td>
</tr>
<tr>
<td>Diameter</td>
<td>10.69m (35.07 ft)</td>
</tr>
<tr>
<td>Tail rotor</td>
<td>2 blades</td>
</tr>
<tr>
<td>Diameter</td>
<td>1.86m (6.10 ft)</td>
</tr>
</tbody>
</table>

5. Engines: 2 turbo-shaft engines ALLISON type 250.C20F manufactured by Rolls-Royce

5.11 Installed engine limits:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RPM</th>
<th>TAKE-OFF</th>
<th>Maximum Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque =mN (%)</td>
<td></td>
<td>406 (78)</td>
<td>380 (73)*</td>
</tr>
<tr>
<td>Exhaust gas temperature = °C</td>
<td>810</td>
<td>738</td>
<td>810</td>
</tr>
<tr>
<td>Gas generator speed = RPM (%)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
</tr>
<tr>
<td>Output shaft speed: RPM (corresponding to main rotor RPM)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
</tr>
</tbody>
</table>

* Maximum continuous torque limited to 406mN (78%) for IAS <55kt

Refer to Flight Manual for limitations in transient conditions.

5.12 Transmission Torque Limits

Refer to flight manual

6. Fluids (Fuel/Oil/Hydraulic/Additives):

6.1 Fuel Refer to RFM for approved fuels and additives
6.2 Oil Refer to RFM for approved engine and gearbox oils

7. Fluids Capacities

7.1 Fuel total: 736.7 l

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable</td>
<td>730.0 l</td>
</tr>
<tr>
<td>Unusable</td>
<td>6.7 l</td>
</tr>
</tbody>
</table>

7.2 Oil capacities (at maximum level)

<table>
<thead>
<tr>
<th>Component</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine</td>
<td>5.7 l (capacity of the system)</td>
</tr>
<tr>
<td>MGB</td>
<td>11 l (system included)</td>
</tr>
<tr>
<td>TGB</td>
<td>0.33 l</td>
</tr>
</tbody>
</table>

8. Airspeed limits

Power ON VNE
- Absolute VNE: 278 km/h (150 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above VNE

Power OFF VNE
- Absolute VNE: 222 km/h (120 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)

Refer to RFM for approved airspeed with doors open or removed.

9. Rotor Speed Limits:
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 HP:
- Maximum operating pressure altitude: 4.875m (16000 ft)
- Maximum take off and landing pressure altitude: 4.875m (16000 ft)

10.2 Temperature:
- Refer to Flight manual

11. Operating Limitations:
- VFR day and night
- IFR day and night
- Flights under icing conditions and aerobatic manoeuvres are prohibited

For more information refer to Flight Manual

12. Maximum Certified Weights:
- Maximum take off weight 2400kg (5291 lb)

13. Centre of Gravity:
- Longitudinal: the C.G. limits are given below:

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>1850</th>
<th>1900</th>
<th>2000</th>
<th>2100</th>
<th>2200</th>
<th>2300</th>
<th>2400</th>
<th>2500</th>
<th>2540</th>
<th>2600</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.G. (m)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.17</td>
<td>3.26</td>
<td>3.45</td>
<td>3.47</td>
<td>3.5</td>
<td>3.54</td>
</tr>
<tr>
<td>Forward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rearward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- L.H. Limit: 0.16m
- R.H Limit: 0.09m

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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be
referred to.

14. Datum

- Logitudinal: 3.40m forward of the main rotor head centre
- Lateral: aircraft symmetry plane

15. Levelling means:

- Transmission deck

16. Minimum flight crew:

- 1 pilot on R.H. 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 flight manual supplement.

18. Passenger Emergency Exits:

- Refer to flight manual

19. Maximum Baggage/Cargo Loads:

- Location Max Load
  - Maximum load for R.H. Lateral hold 100 kg (220 lb)
  - Maximum load for L.H. lateral hold 120 kg (264 lb)
  - Maximum load for rear hold 80 kg (176 lb)
  - Maximum load on cabin floor Forward 150 kg (331 lb)
    Rearward 310 kg (683 lb)

20. Rotor Blade and Control Movement:

- Refer to aircraft Maintenance Manual

21. Life Limited Parts:

- Maintenance Manual AS355F1 Chapter 5 “Master Servicing Recommendations” have been accepted by DGAC-F to carry out maintenance of AS355F1 helicopters. Part 5.99 “Airworthiness Limitations” contains statements that must mandatorily be respected.

IV. Operating and service Instructions


- AS355F1 Flight Manual, approved by DGAC-F on May 9, 1983 or later DGAC-F or EASA approved revision (reference in English language).


- AS355F1 PRE – Chapter 5.99 (Airworthiness Limitations), approved by DGAC-F on October 24, 1980 or later DGAC-F or EASA approved revision/edition (reference in English language).
  - Maintenance manual
  - Overhaul Manual
  - Illustrated Parts Catalogue

Compatibility between optional items of equipment is described:
- in the “Master Servicing Recommendations” Chapter 5-80 for installation
- in section 10 of the Flight Manual for operation

3. Service Letters and Service Bulletins:

- As published by EUROCOPTER and approved by DGAC-F and/or EASA

V. Notes

1. Eligible Serial Numbers:

- Aircraft S/N 5315 and subsequent of AS355F1 version
- AS355F aircraft converted to AS355F1 by application of Service Bulletin No.01.09

2. Placards:

- 2.1 – 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.

2.2 – Refer to the Flight Manual as regards the other placards.

3. Commercial Designations: ECUREUIL II/TWINSTAR

4. The AS355F1 is certificated as Group A under BCAR Section G (“Equivalent to Category A” in accordance with JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2)) 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 Flight manual Supplement 11-2 – “Takeoff and landing procedures and performance data on clear airfield and helipad with one engine inoperative”.


AS355F2

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (g) Type: AS355
   (h) Variant or Model AS355F2 (commercial designation ECUREUIL)

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder:
   Since June 1, 1997 EUROCOPTER
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before June 1, 1997 EUROCOPTER France
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before January 1, 1992 AEROSPATIALE
   37, Boulevard de Montmorency
   75781 PARIS cedex 16
   France

5. Manufacturer: As above

6. DGAC-F Certification Date 10 December 1985

7. DGAC-F Application Date: 5 April 1984

II Certification Basis

1. Airworthiness Requirements: FAR 27 amendment 16 included;
   Performance of AS355F2 supplement 11-2 of Flight Manuals was established in accordance with FAR 29 requirements part 29-45 through 29-79. (See note 4)

2. Special Conditions: Additional and special conditions specified in letter DGAC 53879 dated August 11, 1980

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings: N/A

III Technical Characteristics and Operational Limitations

1. Type Design Definition: 350A043359

2. Description: Small twin-engine helicopter

3. Equipment: The approved equipment form the subject of EUROCOPTER FRANCE 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 flight manual must be in the aircraft.
4. Dimensions:

Fuselage
Length: 10.93m (35.86 ft)
Width: 1.87m (6.14 ft)
Height: 3.14m (10.30 ft)

Main rotor: 3 blades
Diameter: 10.69m (35.07 ft)

Tail rotor: 2 blades
Diameter: 1.86m (6.10 ft)

5. Engines: 2 turbo-shaft engines ALLISON type 250.C20F manufactured by Rolls-Royce

5.11 Installed engine limits:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>RPM</th>
<th>TAKE-OFF</th>
<th>Maximum Continuous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torque =mN (%)</td>
<td>406 (78)</td>
<td>380 (73)*</td>
<td>521 (100)</td>
</tr>
<tr>
<td>Exhaust gas temperature = °C</td>
<td>810</td>
<td>738</td>
<td>810</td>
</tr>
<tr>
<td>Gas generator speed = RPM (%)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
<td>53519 (105)</td>
</tr>
<tr>
<td>Output shaft speed: RPM (corresponding to main rotor RPM)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
<td>6196 (406)</td>
</tr>
</tbody>
</table>

* Maximum continuous torque limited to 406mN (78%) for IAS <55kt

Refer to Flight Manual for limitations in transient conditions.

5.12 Transmission Torque Limits
Refer to flight manual

6. Fluids (Fuel/Oil/Hydraulic/Additives):

6.1 Fuel Refer to RFM for approved fuels and additives
6.2 Oil Refer to RFM for approved engine and gearbox oils

7. Fluids Capacities

7.1 Fuel
- total: 736.7 l
- Usable: 730.0 l
- Unusable: 6.7 l

7.2 Oil capacities (at maximum level)
- Engine: 5.7 l (capacity of the system)
- MGB: 11 l (system included)
- TGB: 0.33 l

8. Airspeed limits

Power ON VNE
- Absolute VNE: 278 km/h (150 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above VNE

Power OFF VNE
- Absolute VNE: 222 km/h (120 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)

Refer to RFM for approved airspeed with doors open or removed.

9. Rotor Speed Limits:
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 HP:
Maximum operating pressure altitude: 4.875m (16000 ft)
Maximum take off and landing pressure altitude: 4.875m (16000 ft)

10.2 Temperature:
Refer to Flight manual

11. Operating Limitations:
- VFR day and night
- IFR day and night
- Flights under icing conditions and aerobatic manoeuvres are prohibited

For more information refer to Flight Manual

12. Maximum Certified Weights:

Maximum take off weight 2540kg (5600 lb)

13. Centre of Gravity:

- longitudinal: the C.G. limits are given below:

<table>
<thead>
<tr>
<th>Weight (kg)</th>
<th>1850</th>
<th>1900</th>
<th>2000</th>
<th>2100</th>
<th>2200</th>
<th>2300</th>
<th>2400</th>
<th>2500</th>
<th>2540</th>
<th>2600</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.G. (m)</td>
<td>3.17</td>
<td>3.25</td>
<td>3.45</td>
<td>3.47</td>
<td>3.5</td>
<td>3.54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- lateral: L.H. Limit: 0.16m
R.H Limit: 0.09m

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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be
referred to.

14. Datum
   - Longitudinal: 3.40m forward of the main rotor head centre
   - Lateral: aircraft symmetry plane

15. Levelling means: Transmission deck

16. Minimum flight crew: 1 pilot on R.H. 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 flight manual supplement.

18. Passenger Emergency Exits: Refer to flight manual

19. Maximum Baggage/Cargo Loads:
   
<table>
<thead>
<tr>
<th>Location</th>
<th>Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum load for R.H. Lateral</td>
<td>100 kg (220 lb)</td>
</tr>
<tr>
<td>Maximum load for L.H. lateral</td>
<td>120 kg (264 lb)</td>
</tr>
<tr>
<td>Maximum load for rear hold</td>
<td>80 kg (176 lb)</td>
</tr>
<tr>
<td>maximum load on cabin floor</td>
<td>Forward 150 kg (331 lb)</td>
</tr>
<tr>
<td></td>
<td>Rearward 310 kg (683 lb)</td>
</tr>
</tbody>
</table>


21. Life Limited Parts:

   Maintenance Manual AS355F2 Chapter 5 “Master Servicing Recommendations” have been accepted by DGAC-F to carry out maintenance of AS355F2 helicopters. Part 5.99 “Airworthiness Limitations” contains statements that must mandatorily be respected.

IV. Operating and service Instructions

   AS355F2 Flight Manual, approved by DGAC-F on May 9, 1983 or later DGAC-F or EASA approved revision (reference in English language).

   - AS355F2 PRE – Chapter 5.99 (Airworthiness Limitations), approved by DGAC-F on December 10, 1985 or later DGAC-F or EASA approved revision/edition (reference in English language).
   - Maintenance manual
   - Overhaul Manual
   - Illustrated Parts Catalogue

   Compatibility between optional items of equipment is described:
   - in the “Master Servicing Recommendations” Chapter 5-80 for installation
   - in section 10 of the Flight Manual for operation

3. Service Letters and Service Bulletins:
   As published by EUROCOPTER and approved by DGAC-F and/or EASA

V. Notes

1. Eligible Serial Numbers:
   Aircraft S/N 5334 and subsequent of AS355F2 version
   AS355F1 aircraft converted to AS355F2 by application of Service Bulletin No.01.20

2. Placards:
   2.1 – 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.

2.2 – Refer to the Flight Manual as regards the other placards.

3. Commercial Designations: ECUREUIL II/TWINSTAR

4. The AS355F2 is certificated as Group A under BCAR Section G (“Equivalent to Category A” in accordance with JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2)) 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 Flight manual Supplement 11-2 – “Takeoff and landing procedures and performance data on clear airfield and helipad with one engine inoperative”.
AS355N

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (g) Type: AS355
   (h) Variant or Model AS355N (commercial designation ECUREUIL)

3. Airworthiness Category: Small Rotorcraft

4. Type Certificate Holder:
   Since June 1, 1997 EUROCOPTER
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before June 1, 1997 EUROCOPTER France
   Aeroport International Marseille – Provence
   13725 MARIGNANE cedex
   FRANCE
   Before January 1, 1992 AEROSPATIALE
   37, Boulevard de Montmorency
   75781 PARIS cedex 16
   France

5. Manufacturer: As above

6. DGAC-F Certification Date 13 June 1989

7. DGAC-F Application Date: 10 October 1984

II Certification Basis

1. Airworthiness Requirements: FAR 27 amendment 20 included such as modified by CTC 27;
   Plus the following paragraphs of amendment 21:
   Performance of AS355N supplement 2 of Flight Manual was established in accordance with FAR 29 requirements part
   29-45 through 29-79.(See Note 4)

2. Special Conditions: Additional and special conditions specified in letter
   DGAC 54408 dated October 21, 1988

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings: N/A

III Technical Characteristics and Operational Limitations

1. Type Design Definition: 350A043470

2. Description: Small twin-engine helicopter designed as a derivative product of the
   former types certified model AS355F2.

3. Equipment: The approved equipment form the subject of EUROCOPTER
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 flight manual must be in the aircraft.

4. Dimensions:

- Fuselage: Length: 10.93m (35.86 ft), Width: 1.87m (6.14 ft), Height: 3.14m (10.30 ft)
- Main rotor: 3 blades, Diameter: 10.69m (35.07 ft)
- Tail rotor: 2 blades, Diameter: 1.86m (6.10 ft)

5. Engines: 2 turbine engines ARRIUS 1A manufactured by TURBOMECA

EASA Engine TCDS noE.080

5.11 Installed engine limits:

<table>
<thead>
<tr>
<th>Power rating</th>
<th>Torque: mN (%)</th>
<th>Generator Speed (RPM)</th>
<th>T4 temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Contingency Power (2'30&quot;)</td>
<td>1x683 (1x131)</td>
<td>56140</td>
<td>870</td>
</tr>
<tr>
<td>Maximum at takeoff (5 min)</td>
<td>2x406 (2x78)*</td>
<td>54685</td>
<td>800</td>
</tr>
<tr>
<td>Intermediate Contingency Power (30 min)</td>
<td>1x599 (1x115)*</td>
<td>55300</td>
<td>800</td>
</tr>
<tr>
<td>Maximum Continuous Power (AEO)</td>
<td>2x380 (2x73)* Vi &gt; 55 kt</td>
<td>53285</td>
<td>765</td>
</tr>
<tr>
<td></td>
<td>2x406 (2x78) Vi &lt; 55 kt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Continuous Power (OEI)</td>
<td>1x521 (1x100)*</td>
<td>53285</td>
<td>765</td>
</tr>
</tbody>
</table>

* Torque values corresponding to MGB limitations
** 100% - 328 kW – N2 = 45438 RPM – NR = 394 RPM

Refer to Flight Manual for limitations in transient conditions.

5.12 Transmission Torque Limits

- Max transient: 2x83%
- Max Take off: 2x80%
- Max Continuous: 2x73%

Note: 100% - 328kW – NR = 394 RPM

6. Fluids (Fuel/Oil/Hydraulic/Additives):

6.1 Fuel Refer to RFM for approved fuels and additives
6.2 Oil Refer to RFM for approved engine and gearbox oils

7. Fluids Capacities

7.1 Fuel total: 736.7 l
8. **Airspeed limits**

**Power ON VNE**
- Absolute VNE: 278 km/h (150 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above VNE

**Power OFF VNE**
- Absolute VNE: 222 km/h (120 kt) for HP=0
- In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
- In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)

Refer to RFM for approved airspeed with doors open or removed.

9. **Rotor Speed Limits:**

**Power-on flight:**
- AEO: 390 (+4, -5) rpm for IAS above 55 kt
  
  390 (+10, -5) rpm for IAS below 55 kt
- 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 HP:**

  - Maximum operating pressure altitude: 6090 m (20000 ft)
  - Maximum take off and landing pressure altitude: 6090m (20000 ft)

10.2 **Temperature:**

  Refer to Flight Manual

11. **Operating Limitations:**

  - VFR day and night
  - IFR day and night
  - Flights under icing conditions and aerobatic manoeuvres are prohibited

  For more information refer to Flight Manual

12. **Maximum Certified Weights:**

  Maximum take off weight 2600kg (5732 lb)

13. **Centre of Gravity:**

  - longitudinal: the C.G. limits are given below:
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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. Datum

- Longitudinal: 3.40m forward of the main rotor head centre
- Lateral: aircraft symmetry plane

15. Levelling means: Transmission deck

16. Minimum flight crew:

17. Maximum passenger seating capacity:

18. Passenger Emergency Exits:

19. Maximum Baggage/Cargo Loads:

20. Rotor Blade and Control Movement:

21. Life Limited Parts:

Maintenance Manual AS355N Chapter 5 “Master Servicing Recommendations” have been accepted by DGAC-F to carry
out maintenance of AS355N helicopters. Part 5.99 “Airworthiness Limitations” contains statements that must mandatorily be respected.

IV. Operating and service Instructions

1. **Rotorcraft Flight Manual, Document No.**
   AS355N Flight Manual, approved by DGAC-F on June 13, 1989 or later DGAC-F or EASA approved revision (reference in English language).

2. **Maintenance manual, Document No.**
   - AS355N PRE – Chapter 5.99 (Airworthiness Limitations), approved by DGAC-F on June 13, 1989 or later DGAC-F or EASA approved revision/edition (reference in English language).
   - Maintenance manual
   - Overhaul Manual
   - Illustrated Parts Catalogue

   Compatibility between optional items of equipment is described:
   - in the “Master Servicing Recommendations” Chapter 5-80 for installation
   - in section 10 of the Flight Manual for operation

3. **Service Letters and Service Bulletins:**
   As published by EUROCOPTER and approved by DGAC-F and/or EASA

V. Notes

1. **Eligible Serial Numbers:**
   Aircraft S/N 5361 and subsequent of AS355N version
   The aircraft whose s/n is listed in Eurocopter documents L102-001 are manufactured under Helibras license.

2. **Placards:**
   2.1 – 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.

   2.2 – Refer to the Flight Manual as regards the other placards.

3. **Commercial Designations:**
   ECUREUIL II/TWINSTAR

4. The AS355N is certificated as Group A under BCAR Section G (“Equivalent to Category A” in accordance with JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2)) 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 Flight manual Supplement 2 – “Takeoff and landing procedures and performance data on clear airfield and helipad with one engine inoperative – Normal Mode and Training Mode”.

AS355NP

I. General

1. Data Sheet No: EASA.R.146
   Superseding DGAC-F no168, Issue 11 dated December 2001

2. Type/Variant or Model:
   (g) Type: AS355
   (h) Variant or Model AS355NP (commercial designation ECUREUIL)

3. Airworthiness Category:
   Normal Category Rotorcraft, Category B and “Equivalence Category A” in accordance with JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2).

4. Type Certificate Holder:
   EUROCOPTER
   Aeroport International Marseille – Provence 13725 MARIGNANE cedex FRANCE

5. Manufacturer: As above

6. EASA Certification Date: February 15, 2007

7. DGAC-F Application Date: February 15, 2005

II Certification Basis

1. Airworthiness Requirements:
   As defined in CRI A-1, FAR 27 amendment 20 included such as modified by CTC 27;
   Plus the following paragraphs of FAR 27 amendment 21:
   §21; §45; §71; §79; §143; §151; §161; §173; §175; §177; §672; §673; §729; §735; §779; §807; §1329; §1413; §1519; §1525; §1555; §1585; §1587
   Plus the following paragraphs of FAR 27 amendment 23: §923
   As defined in CRI A-03, in addition to the requirements listed above, in support of “Equivalence Category A” operations as per JAR OPS 3, ACJ OPS 3.480 (a)(1)&(a)(2) the following FAR 29 paragraphs are applicable:
   §45(a) and (b)(2) Amdnt 24; §49(a) Amdnt 39; §51 Amdnt 39; §53 Amdnt 39; §55 Amdnt 39;
   §59 Amdnt 44; §60 Amdnt 39; §61 Amdnt 39; §62 Amdnt 44; §64 Amdnt 39; §65(a) Amdnt 39;
   §67(a) Amdnt 44; §75 Amdnt 39; §77 Amdnt 44; §79 Amdnt 39; §81 Amdnt 44; §85 Amdnt 44;
   §87(a) Amdnt 39; §861(a) Amdnt 30; §901(c) Amdnt 26; §903(b) (c) and (e) Amdnt 36; §908(a) Amdnt 26; §917 (c)(1)-- Rotor drive system: Design. Amdnt 40; §953(a) Amdnt 0; §1027(a) Amdnt 26; §1045(a)(1), (b), (c), (d), and (f) Amdnt 26; §1047(a) Amdnt 26; §1181(a) Amdnt 26; §1187(e) Amdnt 0; $1189(c) Amdnt 26; §1191(a)(1) Amdnt 3; §1193(c) Amdnt 26;
   §1195(a) and (d) Amdnt 17; §1197 Amdnt 13; §1199 Amdnt 13; §1201 Amdnt 0; §1305 (b) Amdnt 40; §1309(b)(2) (i) and (d) Amdnt 14; §1323(c)(1) Amdnt 44; §1331(b) Amdnt 24; §1587(a) Amdnt 44.

2. Special Conditions:
   Protection against the effects of High Intensity Radiated Fields (HIRF) (refer to CRI F1)

3. Reversions and Exemptions granted: N/A

4. Equivalent Safety Findings:
   Powerplant instrument markings (refer to CRI F-4)
5. **Environmental Standards:**

Refer to CRI A-1:
- **Noise:** CS-36 (provisions of Chapter 8 of ICAO Annex 16, volume I, Part II)
- **Fuel Venting:** CS-34 (Provisions of Chapter 11 of ICAO Annex 16, volume II, part II)

### III  Technical Characteristics and Operational Limitations

1. **Type Design Definition:**

   350A043975

2. **Description:**

   Small twin-engine helicopter designed as a derivative product of the former types certified model AS355N.

3. **Equipment:**

   As per compliance with AS355NP certification basis and included in the original Type Design standard or indicated on the section 2 – limitations of the Flight Manual

4. **Dimensions:**

<table>
<thead>
<tr>
<th>Fuselage</th>
<th>Length: 10.93m (35.86 ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width: 1.87m (6.14 ft)</td>
</tr>
<tr>
<td></td>
<td>Height: 3.14m (10.30 ft)</td>
</tr>
<tr>
<td>Main rotor:</td>
<td>3 blades</td>
</tr>
<tr>
<td>Diameter: 10.69m</td>
<td>Diameter: 10.69m (35.07 ft)</td>
</tr>
<tr>
<td>Tail rotor:</td>
<td>2 blades</td>
</tr>
<tr>
<td>Diameter: 1.86m</td>
<td>Diameter: 1.86m (6.10 ft)</td>
</tr>
</tbody>
</table>

5. **Engines:** 2 turbine engines ARRIUS 1A1 manufactured by TURBOMECA

   EASA Engine TCDS noE.080

5.11 **Installed engine limits:**

<table>
<thead>
<tr>
<th>Power rating</th>
<th>Torque: mN (%)</th>
<th>T4 temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEO max. transient (10s)</td>
<td>2x468 (2x89.6%)</td>
<td>800</td>
</tr>
<tr>
<td>Maximum at takeoff (5 min)</td>
<td>2x450 (2x86.4%)</td>
<td>773</td>
</tr>
<tr>
<td>Maximum Continuous Power</td>
<td>2x374 (2x71.8%)</td>
<td>749</td>
</tr>
<tr>
<td>AEO</td>
<td>(*)</td>
<td></td>
</tr>
<tr>
<td>Maximum Contingency Power</td>
<td>1x682 (1x131)</td>
<td></td>
</tr>
<tr>
<td>OEl 2,5 min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Continuous Power</td>
<td>1x599(1x115)*</td>
<td>812</td>
</tr>
<tr>
<td>OEl</td>
<td>(*)</td>
<td></td>
</tr>
</tbody>
</table>

(*) Torque values corresponding to MGB limitations

Refer to Flight Manual for limitations in transient conditions.

5.12 **Transmission Torque Limits**

| Max transient:          | 2x89.6% |
| Max Take off:           | 2x86.4% |
| Max Continuous:         | 2x71.8% |

Note: 100% - 328kW – NR = 394 RPM

6. **Fluids (Fuel/Oil/Hydraulic/Additives):**
6.1 Fuel Refer to RFM for approved fuels and additives
6.2 Oil Refer to RFM for approved engine and gearbox oils

7. Fluids Capacities
7.1 Fuel total: 736.7 l
   Usable 730.0 l
   Unusable 6.7 l
7.2 Oil capacities (at maximum level)
   Engine 5.7 l (capacity of the system)
   MGB 11 l (system included)
   TGB 0.33 l

8. Airspeed limits
Power ON VNE - Absolute VNE: 278 km/h (150 kt) for HP=0
   - In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
   - In cold weather, when OAT is below -35°C, subtract 19 km/h (10 kt) from the above VNE
Power OFF VNE - Absolute VNE: 222 km/h (120 kt) for HP=0
   - In altitude, speed decreases by 15 km/h every 1000m (2.5 kt per 1000 ft)
   - In cold weather, when OAT is below -35°C, subtract 37 km/h (20 kt) from the above VNE, without VNE being less than 120 km/h (65 kt)
Refer to RFM for approved airspeed with doors open or removed.

9. Rotor Speed Limits:
Power-on flight:
   - AEO: 390 (+4, -5) rpm for IAS above 55 kt
   - OEI : 390 (+10, -5) rpm for IAS below 55 kt
   - OEF : 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 HP:
   Maximum operating pressure altitude: 6090 m (20000 ft)
   Maximum take off and landing pressure altitude: 6090m (20000 ft)
10.2 Temperature:
   Refer to Flight manual

11. Operating Limitations:
   - VFR day and night
   - IFR day and night
   Flights under icing conditions and aerobatic manoeuvres are prohibited
   For more information refer to Flight Manual

12. Maximum Certified Weights:
   Maximum take off weight 2600kg (5732 lb)
13. **Centre of Gravity:**
- longitudinal: the C.G. limits are given below:

```
Weight and C.G Diagram

- lateral:  
  - L.H. Limit: 0.16m
  - R.H Limit: 0.09m
```

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 at its lifting points rather than using the skids. Should modifications, affecting weight and C.G. position to be incorporated, the Flight Manual instructions shall be referred to.

14. **Datum**
- Logitudinal: 3.40m forward of the main rotor head centre
- Lateral: aircraft symmetry plane

15. **Levelling means:**
- Transmission deck

16. **Minimum flight crew:**
1 pilot on R.H. 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 flight manual supplement.

18. **Passenger Emergency Exits:**
Refer to flight manual

19. **Maximum Baggage/Cargo Loads:**
Location Max Load

![Weight and C.G Diagram](image-url)
- Maximum load for R.H. Lateral hold 100 kg (220 lb)
- Maximum load for L.H. lateral hold 120 kg (264 lb)
- Maximum load for rear hold 80 kg (176 lb)
- Maximum load on cabin floor Forward 150 kg (331 lb) Rearward 310 kg (683 lb)

20. **Rotor Blade and Control Movement:** Refer to aircraft Maintenance Manual

21. **Life Limited Parts:** See below in § IV-2

### IV. Operating and service Instructions

1. **Rotorcraft Flight Manual, Document No.**
   AS355NP Flight Manual RN0 code date DECEMBER 06, approved by EASA on February 15, 2007 or later EASA approved revision (reference in English language).

2. **Maintenance manual, Document No.**
   - Maintenance manual
   - Overhaul Manual
   - Illustrated Parts Catalogue

   Compatibility between optional items of equipment is described:
   - in the “Master Servicing Recommendations” Chapter 5-80 for installation
   - in section 10 of the Flight Manual for operation

3. **Service Letters and Service Bulletins:** As published by EUROCOPTER and approved by EASA

### V. Notes

1. **Eligible Serial Numbers:** Aircraft S/N 5747 and subsequent of AS355NP version

   The aircraft whose s/n is listed in Eurocopter documents L102-001 are manufactured under Helibras license.

2. **Placards:**
   2.1 – 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.

   2.2 – Refer to the Flight Manual as regards the other placards.

3. **Commercial Designations:** ECUREUIL II/TWINSTAR