

European Aviation Safety Agency

ENGINE TYPE-CERTIFICATE DATA SHEET EASA.IM.E.005

Issue : 01
Date : 31 March 2004
Type : Continental IO-360 series engines

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Section 1: Continental IO-360-A

I - General

1. **Type** : IO-360 **Variant** : IO-360-A
2. **Type Certificate Holder** : Teledyne Continental Motors
Mobile, Alabama 36601
3. **Manufacturer** : Teledyne Continental Motors
4. **Date of application** : -A: 03/07/1972 LBA Germany

II - Certification Basis

1. **Reference Date for determination of the applicable requirements** : 15/06/1956
2. **Certification Date** : -A: 28/09/1972 LBA Germany TC/TCDS no. 4583
3. **Certification Basis** :
- a) **Airworthiness Requirements** : CAR 13 Amendment 13-1 to 13-3
 - b) **Special Conditions** : none
 - c) **Exemptions** : none
 - d) **Equivalent Safety Finding** : none
 - e) **Environmental Standards** : none

III - Technical Characteristics

1. **Type Design Definition** : IO-360 Series Parts Catalogue, May 1992
2. **Description** :

The Continental IO-360 engine is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement: 5.900 dm³
Bore x stroke: 112.7 mm x 98.4
Compression ratio: 8.5 : 1
Gear ratio: none

3. **Equipment** :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566 (Iskra P/N 11.130.961), TCM P/N 656181 (Iskra P/N 11.131.234)

Magnetos: TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR86, SR-83P, SR-93, S86R HSR86, HSR-83P, HSR-93; Auto Lite SH26, SH260, PH26, PH260; Champion REM38E, REM38P, RHM38E, RHM38P, REM38W, RHM38W, REM38S; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1, RSH 23-3R/1; Autolite by Unison UREM38E, URHM38E; Red Seal SJ270, SJ270P, SE270P

Oil filter adapter: TCM EQ. No. 6001

4. Dimensions :

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight : 133.4 kg

6. Ratings :

Rating	Engine Speed (rpm)	Power (kW / HP)	Manifold Pressure (bar / in. Hg)	Altitude
Maximum Continuous	2800	145 / 195	0.90 / 26.5	2250 ft.
Maximum Continuous	2800	145 / 195	0.90 / 26.5	Sea Level
Take-off 5 min.	2800	157 / 210	Full Throttle	Sea Level

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere.

7. Control System

Mechanical fuel injector: TCM Injector 639230A10

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 100, 100LL or B95/130 CIS

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			Continuous	static	
Propeller governor ¹⁾	CW	1 : 1	3.28	93.21	5.65
Tachometer	CCW	1.239:1	0.79	5.65	2.82
Generator	CCW	2.035:1	6.78	67.79	5.65
Vacuum pump ²⁾	CCW	1.545:1	11.30	90.39	5.65

Notes : - CW - clockwise; CCW – counter clockwise

¹⁾ Modified AND 20010 pad

²⁾ AND 20000 pad modified for speed

IV - Operational Limitations

1. Temperature limits

- Cylinder head bayonet, thermocouple: 238 °C
- Cylinder barrel: 154 °C
- Oil inlet: 107 °C for IO-360-A

2. Pressure Limits :

2.1 Oil pressure 2-4-6 side

- Idle : 70 kPa
- Normal operating range : 210 to 410 kPa

2.2 Fuel pressure

- Inlet to injection pump: min. minus 14 kPa
max. plus 55 kPa
- Outlet to vapour return line plus 24 kPa

3. Installation Assumptions :

See Installation Manual

V - Operational and Service Instructions

Maintenance and Operator's Manual IO-360 Series	X-30617
Overhaul Manual	X-30594A
Parts Catalogue	X-30595A
Service Bulletins	

VI - Notes

1. Propeller shaft: ARP-502, Type I flange; 4-7/8 inch OD with 6-1/2 inch bolt holes in 4 inch diameter circle.
2. IO-360-A engines incorporate crankshaft with two 6th order dampers.
3. IO-360-A engines are eligible for pusher and tractor operation and are approved for installation of propellers or propeller-fan combination having inertias up to 9 kgs² (20 lb sec²) and overhang moments up to 55.4 Nm (490 in lb).
4. IO-360-A engines were also produced under license of TCM by Rolls-Royce plc. with the designation: Rolls-Royce IO-360-A.

Section 2: Continental IO-360-B

I - General

1. **Type** : IO-360 **Variant** : IO-360-B
2. **Type Certificate Holder** : Teledyne Continental Motors
Mobile, Alabama 36601
3. **Manufacturer** : Teledyne Continental Motors
4. **Date of application** : 03/07/1972 LBA Germany

II - Certification Basis

1. **Reference Date for determination of the applicable requirements** : 15/06/1956
2. **Certification Date** : 28/09/1972 LBA Germany TC/TCDS no. 4583
3. **Certification Basis** :
- a) **Airworthiness Requirements** : CAR 13 Amendment 13-1 to 13-3
 - b) **Special Conditions** : none
 - c) **Exemptions** : none
 - d) **Equivalent Safety Finding** : none
 - e) **Environmental Standards** : none

III - Technical Characteristics

1. **Type Design Definition** : IO-360 Series Parts Catalogue, May 1992
2. **Description** :

The Continental IO-360 engine is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement: 5.900 dm³
Bore x stroke: 112.7 mm x 98.4
Compression ratio: 6.5 : 1
Gear ratio: none

3. **Equipment** :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566 (Iskra P/N 11.130.961), TCM P/N 656181 (Iskra P/N 11.131.234)

Magnetos: TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR83IR, SR38P, HSR83P, S88, HS88, HSR83IR, S88D, SR88, SR88D, HSR88, HSR-93; Auto Lite SH15, SH15R, SH20A, SH200A, SH26, SH260, SH150; Champion REM38E, REM38P, RHM38P, REM40E, RHM40E, EM42E, EM41E, HM41E, REM38W, REM38S, RHM38W, RHM38S; Red Seal SJ190, SE230, SJ230, SE270; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1,

RSH-23-3R/1; Autolite by Unison UREM40E, UREM42E, UREM38E, URHM40E, URHM42E, URHM 38E.

Oilfilter adapter: TCM EQ. No. 6001

4. Dimensions :

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight : 135.6 kg

6. Ratings :

Rating	Engine Speed (rpm)	Power (kW / HP)
Maximum Continuous	2800	134 / 180
Take-off 5 min.	2800	134 / 180

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere at sea level.

7. Control System

Mechanical fuel injector: TCM Injector 6006

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 80/87

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			continuous	static	
Propeller governor ¹⁾	CW	1 : 1	3.28	93.21	5.65
Tachometer	CCW	1.239:1	0.79	5.65	2.82
Generator	CCW	2.035:1	6.78	67.79	5.65
Vacuum pump ²⁾	CCW	1.545:1	11.30	90.39	5.65

Notes : - CW - clockwise; CCW – counter clockwise

¹⁾ Modified AND 20010 pad

²⁾ AND 20000 pad modified for speed

IV - Operational Limitations

1. Temperature limits

- Cylinder head bayonet, thermocouple: 238 °C
- Cylinder barrel: 154 °C
- Oil inlet: 107 °C

2. Pressure Limits :

2.1 Oil pressure 2-4-6 side

- Idle : 70 kPa
- Normal operating range : 210 to 410 kPa

2.2 Fuel pressure

- Inlet to injection pump: min. minus 14 kPa
max. plus 55 kPa
- Outlet to vapour return line plus 24 kPa

3. Installation Assumptions :

See Installation Manual

V - Operational and Service Instructions

Maintenance and Operator's Manual IO-360 Series	X-30617
Overhaul Manual	X-30594A
Parts Catalogue	X-30595A
Service Bulletins	

VI - Notes

1. Propeller shaft: ARP-502, Type I flange; 4-7/8 inch OD with 6-1/2 inch bolt holes in 4 inch diameter circle.
2. IO-360-B engines incorporate crankshaft with two 6th order dampers.

Section 3 : Continental IO-360-C, -CB, -D, -DB, -E, -G, -GB, -H

I - General

- 1. Type :** IO-360 **Variant :** IO-360-C, -CB, -D, -DB, -E, -G, -GB, -H
- 2. Type Certificate Holder :** Teledyne Continental Motors
Mobile, Alabama 36601
- 3. Manufacturer :** Teledyne Continental Motors
- 4. Date of application :**
- | | |
|-------------|------------------------|
| -C, -D, -E: | 03/07/1972 LBA Germany |
| -DB, -GB: | 10/10/1978 LBA Germany |
| -CB: | 09/09/1988 LBA Germany |

II - Certification Basis

- 1. Reference Date for determination of the applicable requirements :** 15/06/1956
- 2. Certification Date :**
- | | |
|-------------|--|
| -C, -D, -E: | 28/09/1972 LBA TC/TCDS no. 4583 |
| -DB, -GB: | 06/11/1979 LBA TC/TCDS no. 4583 |
| -CB: | 21/09/1988 LBA TC/TCDS no. 4583 |
| -G: | 23/02/1970 DGAC-F Aircraft TC no. 50
and TCDS no. 124 (Reims F337) |
| -H: | 27/09/1972 DGAC-F Aircraft TC no. 61
and TCDS no. 131 (Robin HR100-210) |
- 3. Certification Basis :**
- a) **Airworthiness Requirements :** CAR 13 Amendment 13-1 to 13-3
 - b) **Special Conditions :** none
 - c) **Exemptions :** none
 - d) **Equivalent Safety Finding :** none
 - e) **Environmental Standards :** none

III - Technical Characteristics

- 1. Type Design Definition :** IO-360 Series Parts Catalogue, May 1992

2. Description :

The Continental IO-360 engine is is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement:	5.900 dm ³
Bore x stroke:	112.7 mm x 98.4
Compression ratio:	8.5 : 1
Gear ratio:	none

3. Equipment :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566(Iskra P/N 11.130.961),TCM P/N 656181(Iskra P/N11.131.234)Magnetos:
TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR86, SR-83P, SR-93, S86R HSR86, HSR-83P, HSR-93; Auto Lite SH26, SH260, PH26, PH260; Champion REM38E, REM38P, RHM38E, RHM38P, REM38W, RHM38W, REM38S; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1, RSH 23-3R/1; Autolite by Unison UREM38E, URHM38E; Red Seal SJ270, SJ270P, SE270P

Oil filter adapter: TCM EQ. No. 6001

4. Dimensions :

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight : 135.2 kg for IO-360-C, -CB, -G, -GB
133.4 kg for IO-360-D, -DB, -E, -H

6. Ratings :

Rating	Engine Speed (rpm)	Power (kW / HP)	Manifold Pressure (bar / in. Hg)
Maximum Continuous	2800	157 / 210	Full Throttle
Take-off 5 min.	2800	157 / 210	Full Throttle

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere and at sea level.

7. Control System

Mechanical fuel injector: TCM Injector 639231A23

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 100, 100LL or B95/130 CIS

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			continuous	static	
Propeller governor ¹⁾	CW	1 : 1	3.28	93.21	5.65
Tachometer	CCW	1.239:1	0.79	5.65	2.82
Generator	CCW	2.035:1	6.78	67.79	5.65

Vacuum pump ²⁾	CCW	1.545:1	11.30	90.39	5.65
Vacuum pump ³⁾ (1-3-5 side)	CW	1.316:1	3.05	90.39	0.94
Vacuum pump ⁴⁾ (2-4-6 side)	CCW	1.316:1	3.05	90.39	0.94

Notes : - CW - clockwise; CCW – counter clockwise

¹⁾ Modified AND 20010 pad

²⁾ AND 20000 pad modified for speed, -D, -DB, -E, -H only

³⁾ AND 20000 pad modified (no oil provision; accessory clearances limited), -C, -CB, -G, -GB only ⁴⁾ AND 20000 pad modified, -C, -CB, -G, -GB only

IV - Operational Limitations

1. Temperature limits

- Cylinder head bayonet, thermocouple: 238 °C
- Cylinder barrel: 154 °C
- Oil inlet: 116 °C

2. Pressure Limits :

2.1 Oil pressure 2-4-6 side

- Idle : 70 kPa
- Normal operating range : 210 to 410 kPa

2.2 Fuel pressure

- Inlet to injection pump: min. minus 14 kPa
max. plus 55 kPa
- Outlet to vapour return line plus 24 kPa

3. Installation Assumptions :

See Installation Manual

V - Operational and Service Instructions

Maintenance and Operator's Manual IO-360 Series	X-30617
Overhaul Manual	X-30594A
Parts Catalogue	X-30595A
Service Bulletins	

VI - Notes

1. Propeller shaft: ARP-502, Type I flange; 4-7/8 inch OD with 6-1/2 inch bolt holes in 4 inch diameter circle.
2. IO-360-C, -D and -E engines incorporate crankshaft with two 6th order dampers. IO-360-CB, -DB, -G, -GB and -H engines incorporate crankshaft with one 6th and one 4 1/2 order dampers.
3. All engines except the IO-360-E engine are eligible for pusher and tractor operation and are approved for installation of propellers or propeller-fan combination having inertias up to 9 kgs² (20 lb sec²) and overhang moments up to 55.4 Nm (490 in lb).
4. The IO-360-D engine is similar to the IO-360-A engine except for rating and oil cooled pistons.
The IO-360-C engine is similar to the IO-360-D engine except for accessory drive provisions.
The IO-360-E engine is similar to the IO-360-D engine except for oil sump and suction tube.
The IO-360-G engine is similar to the IO-360-C engine except for crankshaft counterweight tuning.
The IO-360-H engine is similar to the IO-360-D engine except for crankshaft counterweight tuning.
The IO-360-DB engine is similar to the IO-360-D engine except for modified crankshaft.
The IO-360-GB engine is similar to the IO-360-G engine except for modified crankshaft.
The IO-360-CB engine is similar to the IO-360-C engine except for modified crankshaft.
The IO-360-HB engine is similar to the IO-360-H engine except for modified crankshaft.
5. Those engines which are designated with a suffix letter "B" (e.g. IO-360-CB) are interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-C).
6. Those engines which are designated without a suffix letter "B" (e.g. IO-360-C) are non-interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-CB).
7. IO-360-C, -D, -G and -H engines were also produced under license of TCM by Rolls-Royce plc. with the designation Rolls-Royce IO-360-C, -D, -G and -H.

Section 4 : Continental IO-360-J, -JB

I - General

- 1. Type :** IO-360 **Variant :** IO-360-J, -JB
- 2. Type Certificate Holder :** Teledyne Continental Motors
Mobile, Alabama 36601
- 3. Manufacturer :** Teledyne Continental Motors
- 4. Date of application :** -JB: 10/10/1978 LBA Germany

II - Certification Basis

- 1. Reference Date for determination of the applicable requirements :** 15/06/1956
- 2. Certification Date :** -J: 27/10/1972 DGAC-F Aircraft TC no. 43 and
TCDS no. 117 (Reims FR172)
-JB: 06/11/1979 LBA TC/TCDS no. 4583
- 3. Certification Basis :**
- a) **Airworthiness Requirements :** CAR 13 Amendment 13-1 to 13-3
 - b) **Special Conditions :** none
 - c) **Exemptions :** none
 - d) **Equivalent Safety Finding :** none
 - e) **Environmental Standards :** none

III - Technical Characteristics

- 1. Type Design Definition :** IO-360 Series Parts Catalogue, May 1992
- 2. Description :**

The Continental IO-360 engine is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement: 5.900 dm³
Bore x stroke: 112.7 mm x 98.4
Compression ratio: 8.5 : 1
Gear ratio: none

3. Equipment :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566(Iskra P/N 11.130.961), TCM P/N 656181(Iskra P/N11.131.234)

Magnetos: TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR86, SR-83P, SR-93, S86R HSR86, HSR-83P, HSR-93; Auto Lite SH26, SH260, PH26, PH260; Champion REM38E, REM38P, RHM38E, RHM38P, REM38W, RHM38W, REM38S; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1, RSH 23-3R/1; Autolite by Unison UREM38E, URHM38E; Red Seal SJ270, SJ270P, SE270P

Oil filter adapter: TCM EQ. No. 6001

4. Dimensions :

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight : 133.4 kg

6. Ratings :

Rating	Engine Speed (rpm)	Power (kW / HP)
Maximum Continuous	2600	145 / 195
Take-off 5 min.	2800	157 / 210

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere and at sea level.

7. Control System

Mechanical fuel injector: TCM Injector 639231A23

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 100, 100LL or B95/130 CIS

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			continuous	static	
Propeller governor ¹⁾	CW	1 : 1	3.28	93.21	5.65
Tachometer	CCW	1.239:1	0.79	5.65	2.82
Generator	CCW	2.035:1	6.78	67.79	5.65
Vacuum pump ²⁾	CCW	1.545:1	11.30	90.39	5.65

Notes : - CW - clockwise; CCW – counter clockwise

¹⁾ Modified AND 20010 pad

²⁾ AND 20000 pad modified for speed

IV - Operational Limitations

1. Temperature limits

- Cylinder head bayonet, thermocouple: 238 °C
- Cylinder barrel: 154 °C
- Oil inlet: 116 °C

2. Pressure Limits :

2.1 Oil pressure 2-4-6 side

- Idle : 70 kPa
- Normal operating range : 210 to 410 kPa

2.2 Fuel pressure

- Inlet to injection pump: min. minus 14 kPa
max. plus 55 kPa
- Outlet to vapour return line plus 24 kPa

3. Installation Assumptions :

See Installation Manual

V - Operational and Service Instructions

Maintenance and Operator's Manual IO-360 Series	X-30617
Overhaul Manual	X-30594A
Parts Catalogue	X-30595A
Service Bulletins	

VI - Notes

1. Propeller shaft: ARP-502, Type I flange; 4-7/8 inch OD with 6-1/2 inch bolt holes in 4 inch diameter circle.
2. IO-360-J and -JB engines incorporate crankshaft with one 6th and one 4 1/2 order dampers.
3. All engines are eligible for pusher and tractor operation and are approved for installation of propellers or propeller-fan combination having inertias up to 9 kgs² (20 lb sec²) and overhang moments up to 55.4 Nm (490 in lb).
4. The IO-360-J engine is similar to the IO-360-H engine except for rating.
The IO-360-JB engine is similar to the IO-360-J engine except for modified crankshaft.
5. Those engines which are designated with a suffix letter "B" (e.g. IO-360-JB) are interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-J).
6. Those engines which are designated without a suffix letter "B" (e.g. IO-360-J) are non-interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-JB).
7. IO-360-J engines were also produced under license of TCM by Rolls-Royce plc. with the designation: Rolls-Royce IO-360-J.

Section 5 : Continental IO-360-K, -KB

I - General

- | | | | |
|-------------------------------------|--------|------------------|--|
| 1. Type : | IO-360 | Variant : | IO-360-K, -KB |
| 2. Type Certificate Holder : | | | Teledyne Continental Motors
Mobile, Alabama 36601 |
| 3. Manufacturer : | | | Teledyne Continental Motors |
| 4. Date of application : | | -K: | 10/10/1977 LBA Germany |
| | | -KB: | 10/10/1978 LBA Germany |

II - Certification Basis

- 1. Reference Date for determination of the applicable requirements :** 15/06/1956
- 2. Certification Date :**

-K:	12/01/1978 LBA TC/TCDS no. 4583
-KB:	06/11/1979 LBA TC/TCDS no. 4583
- 3. Certification Basis :**
 - a) Airworthiness Requirements :** CAR 13 Amendment 13-1 to 13-3
 - b) Special Conditions :** none
 - c) Exemptions :** none
 - d) Equivalent Safety Finding :** none
 - e) Environmental Standards :** none

III - Technical Characteristics

- 1. Type Design Definition :** IO-360 Series Parts Catalogue, May 1992
- 2. Description :**

The Continental IO-360 engine is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement:	5.900 dm ³
Bore x stroke:	112.7 mm x 98.4
Compression ratio:	8.5 : 1
Gear ratio:	none

3. Equipment :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566(Iskra P/N 11.130.961), TCM P/N 656181(Iskra P/N11.131.234)

Magnetos: TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR86, SR-83P, SR-93, S86R HSR86, HSR-83P, HSR-93; Auto Lite SH26, SH260, PH26, PH260; Champion REM38E, REM38P, RHM38E, RHM38P, REM38W, RHM38W, REM38S; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1, RSH 23-3R/1; Autolite by Unison UREM38E, URHM38E; Red Seal SJ270, SJ270P, SE270P

Oil filter adapter: TCM EQ. No. 6001

4. Dimensions :

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight : 133.4 kg

6. Ratings :

Rating	Engine Speed (rpm)	Power (kW / HP)
Maximum Continuous	2600	145 / 195
Take-off 5 min.	2800	157 / 210

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere and at sea level.

7. Control System

Mechanical fuel injector: TCM Injector 639231A23

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 100, 100LL or B95/130 CIS

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			continuous	static	
Propeller governor ¹⁾	CW	1 : 1	3.28	93.21	5.65
Tachometer	CCW	1.239:1	0.79	5.65	2.82
Generator	CCW	2.035:1	6.78	67.79	5.65
Vacuum pump ²⁾	CCW	1.545:1	11.30	90.39	5.65

Notes : - CW - clockwise; CCW – counter clockwise
¹⁾ Modified AND 20010 pad
²⁾ AND 20000 pad modified for speed

IV - Operational Limitations

1. Temperature limits

- Cylinder head bayonet, thermocouple: 238 °C
- Cylinder barrel: 154 °C
- Oil inlet: 116 °C

2. Pressure Limits :

2.1 Oil pressure 2-4-6 side

Idle : 70 kPa
 Normal operating range : 210 to 410 kPa

2.2 Fuel pressure

- Inlet to injection pump: min. minus 14 kPa
max. plus 55 kPa
- Outlet to vapour return line plus 24 kPa

3. Installation Assumptions :

See Installation Manual

V - Operational and Service Instructions

Maintenance and Operator's Manual IO-360 Series	X-30617
Overhaul Manual	X-30594A
Parts Catalogue	X-30595A
Service Bulletins	

VI - Notes

1. Propeller shaft: ARP-502, Type I flange; 4-7/8 inch OD with 6-1/2 inch bolt holes in 4 inch diameter circle.
2. IO-360-K and -KB engines incorporate crankshaft with one 6th and one 4 1/2 order dampers.
3. All engines are eligible for pusher and tractor operation and are approved for installation of propellers or propeller-fan combination having inertias up to 9 kgs² (20 lb sec²) and overhang moments up to 55.4 Nm (490 in lb).
4. The IO-360-K engine is similar to the IO-360-H engine except for rating.
The IO-360-KB engine is similar to the IO-360-J engine except for modified crankshaft.
5. Those engines which are designated with a suffix letter "B" (e.g. IO-360-KB) are interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-K).
6. Those engines which are designated without a suffix letter "B" (e.g. IO-360-K) are non-interchangeable with those engines of the same model letter without the suffix letter (e.g. IO-360-KB).

Section 6 : Continental IO-360-ES

I - General

- | | | | |
|-------------------------------------|--------|------------------|--|
| 1. Type : | IO-360 | Variant : | IO-360-ES |
| 2. Type Certificate Holder : | | | Teledyne Continental Motors
Mobile, Alabama 36601 |
| 3. Manufacturer : | | | Teledyne Continental Motors |
| 4. Date of application : | | | 08/08/2000 LBA Germany |

II - Certification Basis

- 1. Reference Date for determination of the applicable requirements :** 02/09/1988
- 2. Certification Date :** 31 March 2004
- 3. Certification Basis :**
 - a) Airworthiness Requirements :** JAR-E Change 7
 - b) Special Conditions :** none
 - c) Exemptions :** none
 - d) Equivalent Safety Finding :** none
 - e) Environmental Standards :** none

III - Technical Characteristics

- 1. Type Design Definition:** IO-360 Series Parts Catalogue, May 1992

2. Description:

The Continental IO-360 engine is a horizontally opposed, six cylinder cooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement:	5.900 dm ³
Bore x stroke:	112.7 mm x 98.4
Compression ratio:	8.5: 1
Gear ratio:	none

3. Equipment :

Starter: TCM P/N 627841 (Delco-Remy P/N 1108234), TCM P/N 646238-2, TCM P/N 646275-1, TCM P/N 655565 (Iskra P/N 11.130.960), TCM P/N 655566(Iskra P/N 11.130.961), TCM P/N 656181(Iskra P/N11.131.234)

Magnetos: TCM/Bendix S6LN-25 (L/R); TCM S6LSC-25(L/R); TCM S6LSC-25T(R) **and** TCM S6SC-25(L); Slick 6214 (L/R); Slick 6314 (L/R)

Spark plugs: AC SR86, SR-83P, SR-93, S86R HSR86, HSR-83P, HSR-93; Auto Lite SH26, SH260, PH26, PH260; Champion REM38E, REM38P, RHM38E, RHM38P, REM38W, RHM38W, REM38S; Smiths Industries RSE-23-3R, RSH-23-3R, RSE-23-3R/1, RSH 23-3R/1; Autolite by Unison UREM38E, URHM38E; Red Seal SJ270, SJ270P, SE270P

Oil filter adapter: TCM EQ. No. 6001

4. Dimensions:

Dimension	(m)
Overall Length	0.93
Overall Height	0.67
Width	0.84

5. Dry Weight: 145.1 kg

6. Ratings:

Rating	Engine Speed (rpm)	Power (kW / HP)	Manifold Pressure (bar / in. Hg)
Maximum Continuous	2800	157 / 210	Full Throttle
Take-off 5 min.	2800	157 / 210	Full Throttle

Note : the performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere and at sea level.

7. Control System

Mechanical fuel injector: TCM Injector 639289A160

8. Fluids (Fuel/Oil/Additives) :

Fuel: Aviation Gasoline, minimum grade 100, 100LL or B95/130 CIS

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives :

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque (Nm)		Max. Overhang moment (Nm)
			continuous	static	
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max. plus 55 kPa
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2. IO-360-ES engines incorporate crankshaft with one 6th and one 4 1/2 order dampers.
3. All engines are eligible for pusher and tractor operation and are approved for installation of propellers or propeller-fan combination having inertias up to 9 kgs² (20 lb sec²) and overhang moments up to 55.4 Nm (490 in lb).
4. The IO-360-ES engine is similar to the IO-360-HB engine except for modified spider induction system.