TYPE-CERTIFICATE
DATA SHEET

NO. EASA TC NO IM.A.051

for

Type Certificate Holder
Textron Aviation Inc.
One Cessna Boulevard
P.O. Box 7704
Wichita, Kansas 67277
USA

For models: 172R
172S
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SECTION 1: GENERAL, Model 172R Type Design

A. General

1. a) Type: Model 172R
   b) Variant: N/A

2. Airworthiness Category: Normal Category
                            Utility Category

3. Type Certificate Holder: Textron Aviation Inc.
                            One Cessna Boulevard
                            P.O. Box 7704
                            Wichita, Kansas 67277
                            USA

4. Manufacturer: Textron Aviation Inc.
                One Cessna Boulevard
                P.O. Box 7704
                Wichita, Kansas 67277
                USA

5. JAA Certification Application Date: N/A

6. JAA recommendation Date: N/A

7. EASA Type Certification Date: 28 September 2003

B. Certification Basis

1. Reference Date for determining the applicable requirements: FAA application date 25 September 1995

2. (Reserved)

3. (Reserved)

4. Certification Basis: As defined in FAA TCDS 3A12

5. Airworthiness Requirements: FAR 23 as defined in FAA TCDS 3A12, and JAR-23, Change 1, plus Special Conditions as defined in Garmin G-1000 EASA CRI A-01, Issue 5, dated 17 March 2008 for the Nav III Avionic option.

6. Requirements elected to comply: None

7. EASA Special Conditions: As defined in CRI A-01 for the Nav III Avionics option only.
8. EASA Exemptions: None

9. EASA Equivalent Safety Findings: None

10. EASA Environmental Standards: CS 36 (ICAO Annex 16, Volume I, as applicable.)

C. Technical Characteristics and Operational Limitations

1. Type Design Definition: Master Drawing List, Document No.172-96-005, latest FAA Approved Revision.

2. Description: Single-engine, all-metal, four-place, high-wing airplane, fixed tricycle landing gear.

3. Equipment: Equipment list, Pilot's Operating Handbooks 172RPHUS00 or 172RPHAS00 (Garmin) or 172RPHBUS00 (GFC-700), latest revision.

4. Dimensions:
   - Span: 10.9982 m (36.08 ft.)
   - Length: 8.20522 m (26.92 ft.)
   - Height: 2.35661 m (7.73 ft.)
   - Wing Area: 16.3045 m² (175.5 ft²)

5. Engines: Lycoming IO-360-L2A, Rated at 160 hp

   When modified by Cessna Modification Kit MK172-72-01 (See Note 4)
   Lycoming IO-360-L2A, Rated at 180 hp

   The EASA Engine Type Certification standard includes that of FAA TC 1E10, based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards conforming to TC/TCDS standards Certificated by individual EU member States prior to 28 September 2003 are also acceptable.

   5.1 Engine Limits: For all operations: 2400 RPM (160 hp)

   For power-plants limits refer to Owners Manual, No. 172RPHUS00, 172RPH180US00 or 172RPHAS00 (Garmin) or 172RPHBUS00 (GFC-700), latest revision.
6. Propellers

a. (1) McCauley Propellers. Model Number 1C235/LFA7570

The EASA Propeller Type Certification standard includes that of FAA TC P12EA, based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards conforming to TC/TCDS standards Certificated by individual EU member States prior to 28 September 2003 are also acceptable.

- Maximum Diameter: Not over 1.9050 m (75 in.)
- Minimum Diameter: Not under 1.8796 m (74 in.)
- Number of Blades: 2
- No operating limitations to 2360 RPM

(2) Spinner: Drawing No. 0550236

b. When Modified by Cessna Modification Kit MK172-72-01 (SEE NOTE 4)

(1) McCauley Model 1A170E/JHA7660

(2) Spinner: Drawing No. 0550236

The EASA Propeller Type Certification standard includes that of FAA TC P-857, based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards conforming to TC/TCDS standards Certificated by individual EU member States prior to 28 September 2003 are also acceptable.

Propeller Limits

- Static RPM at full throttle: Not over 2165 RPM; Not under 2065
- No Additional Tolerance Permitted
- Diameter: Not over 1.905 m (75 in.); not under 1.8796 m (74 in.)

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)

- Static RPM at full throttle: not over 2.400; not under 2.300
- No Additional Tolerance Permitted
- Diameter: Not over 76 inches; not under 75 inches

7. Fluids:

7.1 Fuel: 100/100LL minimum grade aviation gasoline
7.2 Oil: Engine

MIL-L-6082 or SAE J1966 Aviation Grade Straight Mineral Oil or MIL-L-22851 or SAE J1899 Aviation Grade Ashless Dispersant Oil. Oil conforming to Textron Lycoming Service Instruction No. 1014, latest revision, must be used after first 50 hours or once oil consumption has stabilized.

7.3 Coolant:

Not Applicable

8. Fluid capacities:

8.1 Fuel:

Total: 211.983 liters (56 US Gallons)
Usable: 200.627 liters (53 US Gallons)

[Two 105.992 liters (28 US Gallon) tanks in wings at 1.2192 m (48.0 in.) aft of datum]

See NOTE 1 for data on unusable fuel.

8.2 Oil:

7.57082 liters (2.0 gal) at 0.33274 m (13.1 in.) forward of datum
3.31224 liters (3.5 qts ) usable.

When modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
7.57082 liters (2.0 gal) at 0.33274 m (13.1 in.) forward of datum
2.83906 liters (3.0 qts ) usable.

9. Air Speeds:

a. Airspeed Limits

Maneuvering 99 Knots IAS (97 Knots CAS)
Max Structural Cruising 129 Knots IAS (126 Knots CAS)
Never Exceed 163 Knots IAS (160 Knots CAS)
Flaps Extended 85 Knots IAS (84 Knots CAS)

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
Maneuvering 105 Knots IAS (102 Knots CAS)
Max Structural Cruising 129 Knots IAS (126 Knots CAS)
Never Exceed 163 Knots IAS (160 Knots CAS)
Flaps Extended 85 Knots IAS (84 Knots CAS)

10. Maximum Operating Altitude:

With a portable oxygen system, the aircraft is limited to 5334 m (17500 ft MSL). Oxygen must be provided as required by the operating rules. Only portable oxygen systems listed in the AFM, document number 11934-002, 11934-003, or later FAA approved revisions, are allowed

11. Operational Capability:

VFR Day and Night
IFR Day and Night
12. Maximum Masses:
   When using POH.AFM 172RPHUS-00 or later rev or 172RPHAUS-00 thru 03

   Normal Category
   Maximum Ramp 1114,48 kg (2.457 lbs)
   Maximum Takeoff and Landing 1111,30 kg (2.450 lbs)

   Utility Category
   Maximum Ramp 955,719 kg (2.107 lbs)
   Maximum Takeoff and Landing 952,544 kg (2.100 lbs)

   When using POH.AFM 172RPHAUS-04 or later rev or 172RPHBUS-00 or later

   Normal Category
   Maximum Ramp 1114,48 kg (2.457 lbs)
   Maximum Takeoff and Landing 1111,30 kg (2.450 lbs)

   Utility Category
   Maximum Ramp 1001,00 kg (2.207 lbs)
   Maximum Takeoff and Landing 997,90 kg (2.200 lbs)

   When Modified by Cessna Modification Kit MK172-72-01 (see NOTE 4)

   Normal Category
   Maximum Ramp 1160,29 kg (2.558 lbs)
   Maximum Takeoff and Landing 1156,66 kg (2.550 lbs)

   Utility Category
   Maximum Ramp 1001,53 kg (2.208 lbs)
   Maximum Takeoff and Landing 997,90 kg (2.200 lbs)

13. Centre of Gravity Range:
   When Using POH.AFM 172RPHUS-00 or later rev or 172RPHAUS-00 thru -03

   Normal Category
   (1) Aft Limits: 1,20142 m (47.3 in) aft of datum at 1111,30 kg (2.450 lbs) or less.

   (2) Forward Limits: Linear variation from 1,016 m (40.0 in) aft of datum at 1111,30 kg (2.450 lbs) to 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs); 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs) or less

   Utility Category
   (1) Aft Limits: 1,0287 m (40.5 in) aft of datum at 952,554 kg (2.100 lbs) or less.

   (2) Forward Limits: Linear variation from 0,9271 m (36.5 in) aft of datum at 952,544 kg (2.100 lbs) to 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs); 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs) or less
When using POH.AFM 172RPHAUS-04 or later rev or 172RPHBUS-00 latest rev

Normal Category
(1) Aft Limits:
1.20142 m (47.3 in) aft of datum at 1111,30 kg (2.450 lbs) or less.

(2) Forward Limits:
Linear variation from 1 016 m (40.0 in) aft of datum at 1111,30 kg (2.450 lbs) to 0,889 m (35.0 in) aft of datum at 884,505 kg (1,950 lbs); 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs) or less

Utility Category
(1) Aft Limits:
1,0287 m (40.5 in) aft of datum at 997,90 kg (2.200 lbs) or less.

(2) Forward Limits:
Linear variation from 0,9525 m (37.5 in) aft of datum at 997,90 kg (2.200 lbs) to 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs); 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs) or less

When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)

Normal Category
(1) Aft Limits:
1,20142 m (47.3 in) aft of datum at 1156,66 kg (2,550 lbs) or less

(2) Forward Limits:
Linear variation from 1,0414 m (41.0 in) aft of datum at 1156,66kg (2.550 lbs) to 0,889 m (35.0 in) aft of datum at 884,903 kg (1.950 lbs); 0,889 m (35.0 in) aft of datum at 884,903 kg (1.950 lbs) or less

Utility Category
(1) Aft Limits:
1,0287 m (40.5 in) aft of datum at 997,903 kg (2.200 lbs) or less

(2) Forward Limits:
Linear variation from 0,9525 m (37.5 in) aft of datum at 997,903 kg (2.200 lbs) to 0,889 m (35.0 in) aft of datum at 884,505 kg (1.950 lbs); 0,889 m (35.0 in) aft of datum at 884,903 kg (1.950 lbs) or less

14. Datum: 1.49352 m (58.8 in.);
Leading edge of MAC 13.3579 (25.9 in.) aft of datum

15. (Reserved)

16. Levelling Means: Left side of Tailcone at 2.7432 m (108 in.)
and 3.6068 m (142 in.) aft of datum
17. Minimum Flight Crew: 1 (Pilot)
18. Maximum Occupant Seating Capacity: 4 [2 at 0.8636 m to 1.1684 m (34 in. to 46 in.) aft of datum; 2 at 1.8542 (73 in.) aft of datum]
   54.4311 kg (120 lbs.) at 2.413 m (95.0 in.)
   When Modified by Cessna Modification Kit MK172-72-01 (See NOTE 4)
   54.4311 kg (120 lbs.) at 2.0828 m to 2.7432 m (82 to 108 in.) aft of datum
   22.6796 kg (50 lbs.) at 2.4432 m to 3.6068 m (108 to 142 in.) aft of datum
   (Maximum combined weight capacity for baggage areas is 54.4311 kg (120 lbs.))

20. Wheels and Tires
   Nose Wheel Tire Size 5.00 x 5 (6-ply)
   Main Wheel Tire Size 6.00 x 6 (4-ply)

21. Control surface movements
   Wing flaps
   Takeoff 0° - 10°
   Landing 0° - 30° + 0°/-2°
   Ailerons
   Up 20° ± 1° Down 15° ± 1°
   Elevator tab
   Up 22° + 1°/-0° Down 19° + 1°/-0°
   Elevator
   Up 28° + 1°/-0° Down 23° + 1°/-0°
   (Neutral position is with bottom of balance area flush
   with bottom of stabilizer)
   Rudder (Measured parallel to W.L.):
   Right 16° 10' ± 1° Left 16° 10' ± 1°
   Rudder (Measured perpendicular to Hinge):
   Right 17° 44' ± 1° Left 17° 44' ± 1°

D. Operating and Service Instructions
   Airplane Flight Manual (AFM): Document No.172RPHUS00, 172R180PHUS00 or 172RPHAUS00 or 172RPHBUS00, latest approved revision.


E. Operational Suitability Data
   Master Minimum Equipment List (MMEL) 172MMELEU, Initial Issue, EASA approved
   24 November 2015, or any later EASA approved issue.
F. Notes

Production Basis
Production Certificate No. PC-4 issued March 28, 1997. Applies to airplane serial numbers 17280014, 17280015, 17280017, 17280021 through 17280029, and 17280031 and on. Airplane serial numbers not listed were produced under Type Certificate only. Textron Aviation Inc. is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. CE-1 in accordance with Part 21 of the Federal Aviation Regulations.

Equipment
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1: Weight and Balance:
Serial Nos. 17280001 and On
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 8.16466 kg (18 lbs.) at 1.1684 m (46.0 in.) aft of datum, and full oil of 6.80389 kg (15.0 lbs.) at 0.33274 m (13.1 in.) forward of datum.

NOTE 2: The airplane must be operated according to the appropriate Pilot’s Operating Handbook and FAA Approved Airplane Flight Manual (POH/AFM). POH/AFM part number 172RPHUS00 (or later approved revision) is applicable to Production Model 172R. POH/AFM part number 172R180PH00 (or later approved revision) is applicable to Production Model 172R airplanes when modified by Cessna Modification Kit MK172-72-01. All POH/AFM Supplements approved for part number 172RPHUS00, are also applicable to part number 172R180PH00, unless specifically noted otherwise in the Supplement. All FAA required placards are included in Section 2 of the applicable POH/AFM, the applicable operating rules, or the certification basis must be installed as specified via the parts list for 0500530, Airplane Assembly (A useful placarding reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection need to be reconciled using the previously stated parts list).

FAA Approved Airplane Flight Manual (AFM): Part Number 172RPHAUS-00 (or later FAA approved revisions) is applicable to the Model 172R equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM, the applicable operating rules, or the certification basis must be installed as specified via the parts list for 0500530, Airplane Assembly (A useful placarding reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection need to be reconciled using the previously stated parts list).

FAA Approved Airplane Flight Manual (AFM): Part Number 172RPHBUS-00 (or
NOTE 3: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum weight for Normal Category; and (2) The Never Exceed Airspeed ($V_{NE}$) and Maximum Structural Cruising Speed ($V_C$) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of $+2.5$ g. to $-1.0$ g. may not be exceeded. Requirements for any additional oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

NOTE 4: Only certain Model 172R airplane serial numbers are eligible for modification by Cessna Modification Kit MK172-72-01. Applicable serial numbers are as follows:

17280159  17280242  17280251  17280253  17280257
17280262  17280281  17280292  17280301  17280305
17280426  17280488  17280606  17280607  17280608
17280609  17280610  17280613  17280614  17280616
17280621  17280622  17280623  17280624  17280631
17280632  17280633  17280634  17280638  17280639
17280640  17280646  17280647  17280648  17280652
17280653  17280659  17280660  17280661  17280662
17280664  17280667  17280668  17280669  17280670
17280672  17280673  17280674  17280675  17280701
17280707

NOTE 5: FAA Certification Basis (Model 172R)

Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6, except as follows:
FAR 23.423; 23.611; 23.619; 23.623; 23.689; 23.775; 23.871; 23.1323; and 23.1563 as amended by Amendment 23-7.
FAR 23.807 and 23.1524 as amended by Amendment 23-10.
FAR 23.507; 23.771; 23.853(a),(b) and (c); and 23.1365 as amended by Amendment 23-14.
FAR 23.951 as amended by Amendment 23-15.
FAR 23.607; 23.675; 23.685; 23.733; 23.787; 23.1309 and 23.1322 as amended by Amendment 23-17.
FAR 23.1301 as amended by Amendment 23-20.
FAR 23.1353; and 23.1559 as amended by Amendment 23-21.
FAR 23.603; 23.605; 23.613; 23.1329 and 23.1545 as amended by Amendment 23-23.
FAR 23.441 and 23.1549 as amended by Amendment 23-28.
FAR 23.779 and 23.781 as amended by Amendment 23-33.
FAR 23.1; 23.51 and 23.561 as amended by Amendment 23-34.
FAR 23.301; 23.331; 23.351; 23.427; 23.677; 23.701; 23.735; and 23.831 as amended by Amendment 23-42.
FAR 23.961; 23.1093; 23.1143(g); 23.1147(b); 23.1303; 23.1357; 23.1361 and 23.1385 as amended by Amendment 23-43.
FAR 23.562(a), 23.562(b)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 as amended by Amendment 23-44.
FAR 23.33; 23.53; 23.305; 23.321; 23.485; 23.621; 23.655 and 23.731 as amended by Amendment 23-45.

FAR 36 dated December 1, 1969, as amended by Amendments 36-1 through 36-21.

Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:

14 CFR 23.303; 23.307; 23.601; 23.1163(a); 23.1367 and 23.1381 as amended by Amendment 23- N/C.
14 CFR 23.771(a) as amended by Amendment 23-14.
14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17.
14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20.
14 CFR 23.561(e); 23.1523; 23.1581(a)(2); and 23.1583(a), (c), (d), (f) as amended by Amendment 23-34.
14 CFR 23.301 as amended by Amendment 23-42.
14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45.
14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (b)(3), (b)(4)(i), (b)(4)(ii), (b)(4)(iii), (b)(4)(iv), (c)(1), (c)(2)(iii), (c)(3), (d), (e), (f)(1); 23.1311; 23.1321 (a)(c)(d)(e); 23.1323(a), (b)(1), (b)(2), (c), 23.1329 (g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49.
14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 23.1545(a), (b)(1), (b)(2), (b)(3), (b)(4); 23.1553; 23.1555(a)(b); 23.1563(a) and 23.1567(a) as amended by Amendment 23-50.
14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51.
14 CFR 23.901(a)(b) as amended by Amendment 23-53.

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:
14 CFR 23.1335 as amended by Amendment 23-20,

Equivalent Safety Items
(1) Induction System Icing Protection
   FAR § 23.1093; Refer to FAA letter dated 5/3/96
(2) Throttle Control
   FAR § 23.1143(g); Refer to FAA letter dated 3/22/96
(3) Mixture Control
   FAR § 23.1147(b); Refer to FAA letter dated 3/22/96
(4) Anti-Collision Light System
   14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07
(5) Aviation White Color Reqmt.
   14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07

Date of Application for Amended Type Certificate was September 25, 1995.
Type Certificate No. 3A12 was amended June 21, 1996.

Serial Numbers Eligible 17280001 and On

Special Conditions as follows:
No. 23-159-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 172R Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF)."
SECTION 2: GENERAL, Model 172S Type Design

A. General

1. a) Type: Model 172S  
b) Variant: N/A

2. Airworthiness Category: Normal Category  
   Utility Category

3. Type Certificate Holder: Textron Aviation Inc.  
   One Cessna Boulevard  
   P.O. Box 7704  
   Wichita, Kansas 67277  
   USA

4. Manufacturer: Textron Aviation Inc.  
   One Cessna Boulevard  
   P.O. Box 7704  
   Wichita, Kansas 67277  
   USA.

5. JAA Certification Application Date: N/A

6. JAA recommendation Date: N/A

7. EASA Type Certification Date: 28 September 2003

B. Certification Basis

1. Reference Date for determining the applicable requirements: FAA Application date 13 November 1997

2. (Reserved)

3. (Reserved)

4. Certification Basis: As defined in FAA TCDS 3A12

5. Airworthiness Requirements: FAR 23 as defined in FAA TCDS 3A12, and JAR-23, Change 1, and Special Conditions as defined in Garmin G-1000 EASA CRI A-01, Issue 5, dated 17 March 2008 for the Nav III avionics option.

6. Requirements elected to comply: None

7. EASA Special Conditions: As defined in CRI A-01 for the Nav III avionics option only.
8. EASA Exemptions: None

9. EASA Equivalent Safety Findings: None

10. EASA Environmental Standards: CS 36 (ICAO Annex 16, Volume 1, as applicable.)

C. Technical Characteristics and Operational Limitations

1. Type Design Definition: Master Drawing List, Document No. 172-96-005, latest FAA Approved Revision.

2. Description: Single-engine, all-metal, four-place, high-wing airplane, fixed tricycle landing gear.

3. Equipment: Equipment list, Owner’s Manual No. 172SPHUS00 or 172SPHAUS00 (Garmin) or 172SPHBUS00 (GFC-700), latest revision.

4. Dimensions:

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5. Engines: Lycoming IO-360-L2A, Rated at 180 hp

The EASA Engine Type Certification standard includes that of FAA TC 1E10, based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards conforming to TC/TCDS standards Certificated by individual EU member States prior to 28 September 2003 are also acceptable.

5.1 Engine Limits: For all operations: 2700 RPM (180 hp)

For power-plants limits refer to Owners Manual, No. 172SPHUS00 or 172SPHAUS00 (Garmin) or 172SPHBUS00 (GFC-700), latest revision.

6. Propellers (1) McCauley Propellers. Model Number 1A170E/JHA7660
(2) Spinner: Drawing No. 0550236

The EASA Propeller Type Certification standard includes that of FAA TC P-857, based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards conforming to TC/TCDS standards Certified by individual EU member States prior to 28 September 2003 are also acceptable.

Static RPM at full throttle: Not over 2400 RPM; Not under 2300
Diameter: Not over 1.9304 m (76 in.); not under 1.905 m (75 in.)

7. Fluids:

7.1 Fuel: 100/100LL minimum grade aviation gasoline

7.2 Oil: Engine
MIL-L-6082 or SAE J1966 Aviation Grade
Straight Mineral Oil or MIL-L-22851 or SAE J1899 Aviation Grade Ashless Dispersant Oil.
Oil conforming to Textron Lycoming Service Instruction No. 1014, latest revision, must be used after first 50 hours or once oil consumption has stabilized.

7.3 Coolant: Not Applicable

8. Fluid capacities:

8.1 Fuel:
Total: 211.983 liters (56 US Gallons)
Usable: 200.627 liters (53 US Gallons)
Two 105.992 liters (28 US Gallon) tanks in wings at 1.2192 m (48.0 in.) aft of datum
See NOTE 1 for data on unusable fuel.

8.2 Oil: 7.57082 liters (8.0 qts) at 0.33274 m (13.1 in.) forward of datum
2.83906 liters (3.0 qts ) unusable.

9. Air Speeds:
a. Airspeed Limits
   Maneuvering 105 Knots IAS (102 Knots CAS)
   Max Structural Cruising 129 Knots IAS (126 Knots CAS)
   Never Exceed 163 Knots IAS (160 Knots CAS)
   Flaps Extended 85 Knots IAS ( 84 Knots CAS)

10. Maximum Operating Altitude:
With a portable oxygen system, the aircraft is limited to 5334 m (17500 ft MSL). Oxygen must be provided as required by the
operating rules. Only portable oxygen systems listed in the AFM, document number 11934-002, 11934-003, or later FAA approved revisions, are allowed.

11. Operational Capability:  VFR Day and Night  

   IFR Day and Night

12. Maximum Masses:

   **Normal Category**
   - Maximum Ramp: 1160.29 kg (2,558 lbs.)
   - Maximum Takeoff and Landing: 1156.66 kg (2,550 lbs.)

   **Utility Category**
   - Maximum Ramp: 1001.53 kg (2,107 lbs.)
   - Maximum Takeoff and Landing: 997.903 kg (2,200 lbs.)

13. Centre of Gravity Range:

   **Normal Category**
   - (1) Aft Limits: 1.20142 m (47.3 in.) aft of datum at 1156.66 kg (2,550 lbs.) or less.
   - (2) Forward Limits: Linear variation from 1.0414 m (41.0 in.) aft of datum at 1156.66 kg (2,550 lbs.) to 0.889 m (35.0 in.) aft of datum at 884.505 kg (1,950 lbs.); 0.889 m (35.0 in.) aft of datum at 884.505 kg (1,950 lbs.) or less.

   **Utility Category**
   - (1) Aft Limits: 1.0287 m (40.5 in.) aft of datum at 997.903 kg (2,200 lbs.) or less.
   - (2) Forward Limits: Linear variation from 0.9525 m (37.5 in.) aft of datum at 997.903 kg (2,200 lbs.) to 0.889 m (35.0 in.) aft of datum at 884.505 kg (1,950 lbs.); 0.889 m (35.0 in.) aft of datum at 884.505 kg (1,950 lbs.) or less.

14. Datum: 1.49352 m (58.8 in.); Leading edge of MAC 13.3579 (25.9 in.) aft of datum

15. (Reserved)

16. Levelling Means: Left side of Tailcone at 2.7432 m (108 in.) and 3.6068 m (142 in.) aft of datum

17. Minimum Flight Crew: 1 (Pilot)

18. Maximum Passenger Seating Capacity: 4 [2 at 0.8636 m to 1.1684 m (34 in. to 46 in.) aft of datum; 2 at 1.8542 (73 in.) aft of datum]

19. Baggage / Cargo Compartment 54.4311 kg (120 lbs.) at 2.0828 m to 2.7432 m (82 to 108 in.) aft of datum
22.6795 kg (50 lbs.) at 2.7432 to 3.6068 m (108 to 142 in.) aft of datum

(Maximum combined weight capacity for baggage areas is 54.4311 kg (120 lbs.)

20. Wheels and Tires
Nose Wheel Tire Size 5.00 x 5 (6-ply)
Main Wheel Tire Size 6.00 x 6 (6-ply)

21. Control surface movements
Wing flaps
Takeoff 0° - 10°
Landing 0° - 30° + 0°/-2°

Ailerons
Up 20° ± 1° Down 15° ± 1°

Elevator tab
Up 22° + 1°/-0° Down 19° + 1°/-0°

Elevator
Up 28° + 1°/-0° Down 23° + 1°/-0°
(Neutral position is with bottom of balance area flush with bottom of stabilizer)

Rudder (Measured parallel to W.L.):
Right 16° 10’ ± 1° Left 16° 10’ ± 1°

Rudder (Measured perpendicular to Hinge):
Right 17° 44’ ± 1° Left 17° 44’ ± 1°

D. Operating and Service Instructions
Airplane Flight Manual (AFM): Document No. 172SPHUS00 or 172SPHAUS00 or 172SPHBUS00, latest approved revision.


E. Operational Suitability Data
Master Minimum Equipment List (MMEL) 172MMELEU, Initial Issue, EASA approved 24 November 2015, or any later EASA approved issue.

F. Notes
Production Basis
Production Certificate No. PC-4 issued August 27, 1998. Applies to airplane serial numbers 172S8003 and on. Airplane serial numbers not listed were produced under Type Certificate only. Textron Aviation Inc. is authorized to issue airworthiness certificates under the delegation provisions of Delegation Option Authorization No. CE-1 in accordance with Part 21 of the Federal Aviation Regulations.

Company name change effective 29 July 2015. The following serials are manufactured under the name Textron Aviation Inc.: 172S11615 and On.
Equipment
The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane for certification.

NOTE 1: Weight and Balance:

Serial Nos. 172S8001 and On
The certificated empty weight and corresponding center of gravity location must include unusable fuel of 8.16466 kg (18 lbs.) at 1.1684 m (46.0 in.) aft of datum, and full oil of 6.80389 kg (15.0 lbs.) at 0.33274 m (13.1 in.) forward of datum.

NOTE 2: Pilot's Operating Handbook and FAA Approved Airplane Flight Manual (POH/AFM): part number 172SPHUS-00 (or later approved revision) is applicable to the Model 172S. The airplane must be operated according to the appropriate POH/AFM. All FAA required placards are included in Section 2 of the POH/AFM, the applicable operating rules, or the certification basis must be installed as specified via the parts list for 0500531, Airplane Assembly (A useful placarding reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection need to be reconciled using the previously stated parts list).

FAA Approved Airplane Flight Manual (AFM): Part Number 172SPHAUS-00 (or later FAA approved revisions) is applicable to Model 172S equipped with Garmin G1000 Integrated Cockpit System. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM, the applicable operating rules, or the certification basis must be installed as specified via the parts list for 0500531, Airplane Assembly (A useful placarding reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection need to be reconciled using the previously stated parts list).

FAA Approved Airplane Flight Manual (AFM): Part Number 172SPHBUS-00 (or later FAA approved revisions) are applicable to the Model 172S equipped with Garmin G1000 Integrated Cockpit System and Garmin GFC-700 AFCS. The airplane must be operated according to the appropriate AFM. Required placards are included in the AFM, the applicable operating rules, or the certification basis must be installed as specified via the parts list for 0500531, Airplane Assembly (A useful placarding reference is the Textron Aviation Illustrated Parts Catalogue (IPC). Any discrepancies identified between the IPC and an aircraft under inspection need to be reconciled using the previously stated parts list).

NOTE 3: Special Ferry Flight Authorization. Flight Standards District Offices are authorized to issue Special overweight ferry flight authorizations. This airplane is structurally satisfactory for ferry flight if maintained within the following limits: (1) Takeoff weight must not exceed 130% of the maximum
weight for Normal Category; and (2) The Never Exceed Airspeed ($V_{NE}$) and Maximum Structural Cruising Speed ($V_C$) must be reduced by 30%; and (3) Forward and aft center of gravity limits may not be exceeded; and (4) Structural load factors of $+2.5$ g. to $-1.0$ g. may not be exceeded.

Requirements for any additional oil should be established in accordance with Advisory Circular AC23.1011-1. Increased stall speeds and reduced climb performance should be expected for the increased weights. Flight characteristics and performance at the increased weights have not been evaluated. Flight Permit for operations of overweight aircraft may be found in Advisory Circular AC21-4B.

**NOTE 4: FAA Certification Basis (Model 172S)**

Part 23 of the Federal Aviation Regulations effective February 1, 1965, as amended by 23-1 through 23-6, except as follows:

- FAR 23.423; 23.611; 23.619; 23.623; 23.689; 23.775; 23.871; 23.1323; and 23.1563 as amended by Amendment 23-7.
- FAR 23.807 and 23.1524 as amended by Amendment 23-10.
- FAR 23.507; 23.771; 23.853(a),(b) and (c); and 23.1365 as amended by Amendment 23-14.
- FAR 23.607; 23.675; 23.685; 23.733; 23.787; 23.1309 and 23.1322 as amended by Amendment 23-17.
- FAR 23.603; 23.605; 23.613; 23.1329 and 23.1545 as amended by Amendment 23-23.
- FAR 23.779 and 23.781 as amended by Amendment 23-33.
- FAR 23.1; 23.51 and 23.561 as amended by Amendment 23-34.
- FAR 23.301; 23.331; 23.351; 23.427; 23.677; 23.701; 23.735; and 23.831 as amended by Amendment 23-42.
- FAR 23.961; 23.1093; 23.1143(g); 23.1147(b); 23.1303; 23.1357; 23.1361 and 23.1385 as amended by Amendment 23-43.
- FAR 23.562(a), 23.562(b)2, 23.562(c)1, 23.562(c)2, 23.562(c)3, and 23.562(c)4 as amended by Amendment 23-44.
- FAR 23.33; 23.53; 23.305; 23.321; 23.485; 23.621; 23.655 and 23.731 as amended by Amendment 23-45.

FAR 36 dated December 1, 1969, as amended by Amendments 36-1 through 36-21.

Additions for the Garmin G1000 Integrated Cockpit System (ICS) Only:

- 14 CFR 23.303; 23.307; 23.601; 23.1163(a); 23.1367 and 23.1381 as amended by Amendment 23- N/C.
- 14 CFR 23.771(a) as amended by Amendment 23-14.
- 14 CFR 23.607 and (Electrical System) 23.1309(a)(1)(2), (c) as amended by Amendment 23-17.
- 14 CFR 23.1301; 23.1327 and 23.1547(e) as amended by Amendment 23-20.
14 CFR 23.561(e); 23.1523; 23.1581(a)(2); and 23.1583(a), (c), (d), (f) as amended by Amendment 23-34.
14 CFR 23.301 as amended by Amendment 23-42.
14 CFR 23.305; 23.773(a)(1), (a)(2); 23.1525 and 23.1549 as amended by Amendment 23-45.
14 CFR 23.1303(a)(b)(c)(f); 23.1309(a)(1)(i), (a)(1)(ii), (a)(2), (b)(1), (b)(2)(i), (b)(2)(ii), (b)(3), (b)(4)(i), (b)(4)(ii), (b)(4)(iii), (b)(4)(iv), (c)(1), (c)(2)(iii), (c)(3), (d), (e), (f)(1); 23.1311; 23.1321 (a)(c)(d)(e); 23.1323(a), (b)(1), (b)(2), (c); 23.1329 (g)(h); 23.1351(a)(1), (a)(2)(i), (b)(1)(iii), (b)(2)(3), (c)(4), (d)(1); 23.1353(a)(b)(c)(d)(e); 23.1359(c); 23.1361; 23.1365(a)(b)(d)(e)(f) and 23.1431(a)(b)(d)(e) as amended by Amendment 23-49.
14 CFR 23.1325(a), (b)(1), (b)(2)(i), (b)(3), (c)(d)(e); 23.1543(b)(c); 23.1545(a), (b)(1), (b)(2), (b)(3), (b)(4); 23.1553; 23.1555(a)(b); 23.1563(a) and 23.1567(a) as amended by Amendment 23-50.
14 CFR 23.777(a)(b); 23.955(a)(2); 23.1337(a)(1), (a)(2), (b)(1), (c) as amended by Amendment 23-51.
14 CFR 23.901(a)(b) as amended by Amendment 23-53.

Additions for the Garmin GFC-700 Automatic Flight Control System (AFCS) only:


Additions for the Garmin GI 275 Electronic Flight Instrument Only:


Equivalent Safety Items
(1) Induction System Icing Protection
   FAR § 23.1093; Refer to FAA letter dated 5/1/98
(2) Throttle Control
   FAR § 23.1143(g); Refer to FAA letter dated 5/1/98
(3) Mixture Control  
   FAR § 23.1147(b); Refer to FAA letter dated 5/1/98  

(4) Anti-Collision Light System  
   14 CFR § 23.1401(d); Refer to ACE-07-09, FAA letter dated 10/12/07  

(5) Aviation White Color Reqmt.  
   14 CFR § 23.1397(c); Refer to ACE-07-10, FAA letter dated 11/29/07  

Date of Application for Amended Type Certificate for the 172S was November 13, 1997.  

Type Certificate No. 3A12 was amended May 1, 1998 for the Model 172S.  

Serial Numbers Eligible 172S8001 and on  

Special Conditions as follows:  
No. 23-159-SC, "Special Conditions: Cessna Aircraft Company; Cessna Model 172S Airplane; Installation of Electronic Flight Instrument System and the Protection of the System From High Intensity Radiated Fields (HIRF)."  

SECTION 3: Reserved
ADMINISTRATIVE SECTION

I. Acronyms

AFM    Airplane Flight Manual
Amdt.  Amendment
AMM    Airplane Maintenance Manual
EASA   European Aviation Safety Agency
MMEL   Master Minimum Equipment List
POH    Pilot’s Operating Handbook
SC     Special Condition
TAI    Textron Aviation Inc.
TC     Type Certificate
TCDS   Type Certificate Data Sheet

II. Type Certificate Holder Record

Cessna Aircraft Company transferred to Textron Aviation Inc. on 29 July 2015.

III. Change Record

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<th>Issue</th>
<th>Date</th>
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<td>07.12.2012</td>
<td>Section 1: C.3, C.6.b, 8.2, 12, 13, 18, Note 4</td>
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<td>Airworthiness categories clarified (sections 1.A &amp; 2.A)</td>
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<td>Sections 1 &amp; 2: point 20 corrected</td>
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<td>17.12.2015</td>
<td>Transfer of Type Certificate Holder and of Production Organisation; New Sections E with OSD data introduced</td>
<td>07.12.2015</td>
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<td>29.10.2020</td>
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<td>Additions for the Garmin GI 275 Electronic Flight Instrument</td>
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