# Surrendered October 27, 2009

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A14EU
Revision 6
Hamburger Flugzeugbau
HFB 320 HANSA

November 24, 2009

TYPE CERTIFICATE DATA SHEET NO. A14EU

This data sheet, which is a part of Type Certificate No. A14EU, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder Hamburger Flugzeugbau G.m.b.H.

**(1) This TC was surrendered for cancellation on October 27, 2009. Only standard airworthiness certificates issued prior to October 27, 2009 are valid.**
**(2) Future unsafe conditions existing in the aircraft may result in the revocation of the airworthiness certificates of the aircraft if there is no entity to comply with 14 CFR § 21.99(a), "Required design changes."**
**(3) Replacement parts may not be available in the future.**

**I - Hamburger Flugzeugbau Model HFB 320 HANSA (Transport Aircraft), approved April 7, 1967**

| | | | |
|---|---|---|---|
| Engines | 2 General Electric turbojet engines (See NOTE 7) CJ 610-1CJ 610-5 | | |
| Fuel | JP-1, JP-4, JP-5; in accordance with General Electric Specification D 50 T F 2 Class A, or later approved issue (See NOTE 3) | | |
| Oil | Synthetic oils in accordance with General Electric Specification D 50 T F 1-S 2 or later approved Issue. *(See NOTE 4)* | | |
| Engine limits | Take-off static thrust, (5 min.), standard day sea level | 2850 lb. | 2950 lb. |
| | Maximum Continuous thrust, standard day sea level | 2700 lb. | 2780 lb. |
| | Maximum permissible engine rotor operating speeds: | | |
| | Take-off (5 min.) 101.2% 16,700 rpm | | |
| | Max. Continuous 100.0% 16,500 rpm | | |
| | Maximum permissible exhaust gas temperatures: | | |
| | Take-off (5 min.) | 704°C | 716°C |
| | Max. Continuous | 677°C | 702°C |
| | Max. Transient (10 secs.) | 782°C | 782°C |
| | Starting Transient (5 secs.) | 854°C | 854°C |
| | Max. permissible oil scavenge temp. | 193°C | 193°C |
| | Fuel and oil pressure limits: | | |
| | Fuel: Min., 5 psi above true fuel vapor pressure | | |
| | Max., 50 psi | | |
| | Oil: Min., 5 psig | | |
| | Max., 60 psig | | |
| | Maximum permissible air bleed extractions: 6% of compressor output | | |
| Airspeed limits (IAS) | Vmo (Maximum operating) | | |
| | Sea level 320 kts | | |
| | 10,000 ft. 324 kts | | |
| | 15,000 ft. 327 kts | | |

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| | | |
|---|---|---|
| 20,000 ft. | 330 kts | |
| 22,500 ft. | 333 kts | |
| Straight line variation between points | | |
| Mmo 22,500 ft. and above | M = 0,76 | |
| | Maximum Take-Off Weight | |
| | 19,400 lbs | 20,280 lbs |
| Va (Maneuvering) | | |
| Sea level | 202 kts | 190 kts |
| 10,000 ft. | 203 kts | 191 kts |
| 20,000 ft. | 205 kts | 192 kts |
| 30,000 ft. | 208 kts | 194 kts |
| 38,000 ft. | 210 kts | 197 kts |
| Straight line variation between points | | |
| Vfe (Flap Extension) | 13° and 20° | 190 kts |
| | 50° | 175 kts |
| Vse (Slat Extension) | | 200 kts |
| Vlo (Landing gear operation) Extend and retract | | 170 kts |
| Vle (Landing gear extended) | | 170 kts |
| Vab (Speed brake operating) *(See NOTE 5)* | | 380 kts/0,83 M |
| Vdc (Drag chute extended) | | |
| 3 - meter dia | | 150 kts |
| 4 - meter dia | | 135 kts |
| Vmc (Minimum control speeds) Sea level, ISA | | |
| Flight | | 105 kts |
| Ground | | 100 kts |
| | Maximum Take-Off Weight | |
| | 19,400 lbs | 20,280 lbs |
| Tire limit speed (groundspeed) | 146 kts | 156 kts |

Datum — Reference Datum is fuselage Frame No. 1, located at Body Station (B.S.) 3000

Leveling means — No permanent fixture. Two spirit levels are used on cabin seat rails in accordance with procedure specified in HFB 320 Weight and Balance Manual

Mean aerodynamic chord — M.A.C. = 95.54 ins. (2427 mm) L.E. of M.A.C. at B.S. 10089

C.G. range (Gear extended)

| Weight (lb) | Forward Limit | Aft Limit |
|---|---|---|
| All weights up to 15,400 lb (7000 kg) | 10% MAC B.S. 10332 | 23% MAC B.S. 10648 |
| All weights between 16,500 lb (7500 kg) and 20,280 lb (9200 kg) | 13% MAC B.S. 10405 | 23% MAC B.S. 10648 |

Linear variation between points given
Retracting gear moves C.G. forward 1,3% MAC

Maximum weights *(See NOTES 7 and 8)*

| | | |
|---|---|---|
| Taxi (Ramp) | 19,620 lb (8900 kg) | 20,500 lb (9300 kg) |
| Take-off | 19,400 lb (8800 kg) | 20,280 lb (9200 kg) |

| | | |
|---|---|---|
| Landing | 18,520 lb (8400 kg) | 19,400 lb (8800 kg) |
| Zero fuel weight | 15,870 lb (7200 kg) | |

Minimum crew: Two (Pilot and Copilot)

Maximum passengers: Twelve (See NOTE 6)

Maximum baggage: Passenger configuration: 660 lbs. in compartment at aft end of passenger cabin, B.S. 11194 Limit compt. floor loading 61.44 lbs/sq ft.

(See NOTE 6 for cargo configuration)

Fuel capacity: Usable fuel. *(See NOTE 1 for unusable fuel)*

| | | Applicable to SN 1023 to 1035 | Applicable to SN 1036 and up |
|---|---|---|---|
| LOCATION | Arm Body Sta. No. | Volume U.S. Gals | Volume U.S. Gals |
| Right or left tip tank (each) | 9287 | 145.3 | 145.3 |
| Right or left main wing tank (each) | 10982 | 310.4 | 310.4 |
| Fuselage tank | 11534 | 165.1 | 181.2 |
| Total (all tanks) | 10609 | 1076.5 | 1092.6 |

Oil capacity: Usable oil (Unusable oil is negligible)

| Location | Arm Body Sta. No. | Volume U.S. Galls |
|---|---|---|
| Right or left tank (each) | 13794 | 0.75 |

Maximum operating altitude: 38,000 ft. Pressure Altitude

Other operating limitations: Aircraft shall be operated in compliance with the Operating Limitations specified in the Luftfahrt-Bundesamt (LBA) approved HFB 320 HANSA Airplane Flight Manual.

Control surface movements:

| Surface | Travel | | Tolerance |
|---|---|---|---|
| Elevator | Up | 19.5° | ± 0.5° |
| | Down | 15.5° | ± 0.5° |
| Rudder | Right | 19.5° | ± 0.5° |
| | Left | 19.5° | ± 0.5° |
| Ailerons | Up | 22.5° | ± 0.5° |
| | Down | 17.5° | ± 0.5° |
| Flaps (total) | | 50° | |
| Speed brakes | | 75° | |

For detailed rigging instructions refer to HFB 320 HANSA Maintenance Manual.

Serial Numbers eligible: A Luftfahrt-Bundesamt (LBA) Certificate of Airworthiness for Export, endorsed as noted below under import Requirements, must be submitted for each individual aircraft for which application for an FAA Certificate of Airworthiness is made.

Certification basis: FAR 21.29 and CAR 4b, dated December 1953; Amendments 4b-1 through 4b-12 thereto; the provisions of Special Civil Air Regulation SR-422 B; Special Conditions of the Deutsche Versuchsanstalt fur Luftund Raumfahrt e.V. and Prufstelle fur Luftfahrtgerat (DVL - PfL) as listed in DVL-PfL report dated 21 March 1963 and HFB report dated 17 December 1963; and Special Conditions listed in Attachment A to FAA letter to Luftfahrt Bundesamt (LBA) dated 17 January 1966.

Type Certificate (Import) No. A14EU issued April 7, 1967
Date of Application for Type Certificate: February 6, 1963

Compliance with the following additional requirements has been established:
CAR Amendment 4b-14
CAR 4b.361 - Ditching
CAR 4b.640 - Ice Protection
FAR 25 Amendment 25.15

The LBA originally type certificated this aircraft under its type certificate. The FAA validated this product under U.S. Type Certificate Number A14EU. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the LBA

Import requirements

A U.S. Certificate of Airworthiness may be issued on the basis of a Federal Republic of Germany Certificate of Airworthiness for Export signed by an authorized representative of the Luftfahrt Bundesamt containing the following statement: "The airplane covered by this certificate has been examined and found to comply with U.S. Civil Air Regulation Part 4b- issued December 31, 1953, including amendments 4b-1 through 4b-12, additional requirements as stated under Certification Basis of Type Certificate Data Sheet No. A14EU, conforms to Type Certificate A14EU issued on April 7, 1967 or later revision and is airworthy".

The FAA can issue a U.S. airworthiness certificate based on an LBA Export Certificate of Airworthiness (Export C of A) signed by a representative of the LBA on behalf of the European Community. The Export C of A should contain the following statement: 'The aircraft covered by this certificate has been examined, tested, and found to conform to the type design approved under U.S. Type Certificate No A14EU and to be in a condition for safe operation.

Required equipment

The basic required equipment as prescribed in the applicable airworthiness and operating regulations must be installed in the aircraft for certification.

A required Equipment List approved by Luftfahrt-Bundesamt is appended to the approved HFB 320 HANSA Airplane Flight Manual and contains under "Required Equipment" the minimum equipment required by the airworthiness regulations plus the additional equipment required for VFR/IFR Day/Night operation under FAR Part 91.

A current LBA-Approved HFB 320 HANSA Airplane Flight Manual must be carried on the aircraft at all times.

Service information

All HFB 320 HANSA Service Bulletins are approved by the Luftfahrt- Bundesamt, or an authorized representative of that authority, and carry a statement to that effect. Supplementary and important information for operation and maintenance are provided in:

HFB 320 HANSA
- Weight and Balance Manual
- Operation Manual
- Maintenance Manual
- Structure Repair Manual
- Illustrated Parts Catalog

NOTES

NOTE 1.

(a) A current Weight and Balance Report including list of equipment in certificated empty weight and loading instructions, must be in each aircraft at the time of original certification and at all times thereafter.

(b) The airplane must be loaded so that the C.G. is within the specified limits at all times.

(c) The weight of system fuel as defined below and hydraulic fluid must be included in the empty weight of the airplane.

(d) Unusable fuel
Drainable unusable fuel is the amount of fuel in the tanks which is not available for engine supply under critical flight conditions. This drainable unusable fuel does not include the trapped fuel in the tanks and the unusable fuel in the feed lines. The total unusable fuel must be included in the airplane empty weight. The total unusable fuel is distributed as follows:

| Applicable to SN 1023 to 1035 | Volume | Weight | Arm Body |
|---|---|---|---|

| Location | U.S. Gals. | lb | Station |
|---|---|---|---|
| Fuselage tank (undrainable) | 2.8 | 18.7 | 11515 |
| Wing tanks (both) (undrainable) | 2.6 | 17.6 | 11155 |
| Tip tanks (both) (undrainable) | 1.3 | 8.8 | 9345 |
| Feedlines | 1.8 | 12.1 | 13065 |
| Fuselage tank (drainable) | 3.3 | 22.1 | 11515 |
| Wing tanks (both) (drainable) | 7.0 | 46.3 | 11895 |
| Tip tanks (both) (drainable) | 3.3 | 22.1 | 9345 |
| TOTAL unusable fuel | 22.1 | 147.7 | 11267 |
| Applicable to SN 1036 and up | | | |
| Fuselage tank (undrainable) | 1.0 | 6.6 | 11515 |
| Wing tanks (both) (undrainable) | 5.3 | 35.3 | 11155 |
| Tip tanks (both) (undrainable) | 1.3 | 8.8 | 9345 |
| Feedlines | 1.8 | 12.1 | 13065 |
| Fuselage tank (drainable) | 0.7 | 4.4 | 11515 |
| Wing tanks (both) (drainable) | 6.6 | 44.1 | 11895 |
| Tip tanks (both) (drainable) | 3.3 | 22.0 | 9345 |
| TOTAL unusable fuel | 19.9 | 133.5 | 11267 |

NOTE 2. Service Life Limits
Structural components of which the service life is restricted, are identified in the HFB 320 HANSA Maintenance Manual, Volume 5, and the approved airplane Flight Manual.

NOTE 3. Approved fuels by brand designation for the CJ 610 - series engines are listed in the Operation Manual, section 14.

NOTE 4. Approved oils by brand designation for the CJ 610 - series engines are listed in the Operation Manual, section 14.

NOTE 5. Design speed for the speed brakes is Vd (380 kts, IAS) and Md (M - 0,83)
In emergency the speed brakes may be operated up to this speed.

NOTE 6. After removal of the passenger seats and installation of the cargo net the aircraft may be used for cargo. For detail information with regard to the conversion from one version into the other refer to the Operation Manual.

Max. allowable compartment loadings for the cargo configuration are:

| Compt. | Body Station | Weight (lb) | Floor loading (lb/sq.ft.) |
|---|---|---|---|
| Cabin | 7315-10369 | 2,860 | 81.92 |
| Baggage compt. | 10369-12166 | 660 | 61.44 |

NOTE 7. Variations in engine configurations listed are eligible by applying LBA approved Modification Kits or Service Bulletins.

NOTE 8. Aircraft with CJ 610-1 engines are eligible for higher take-off weight by applying HFB Service Bulletins containing LBA approved AFM-Revision. In this case all weights, c.g. and speed data for 20,280 lbs maximum take-off weight apply.

NOTE 9. The aircraft is eligible for a maximum operating altitude of 40,000 ft. by applying HFB Service Bulletin 28-13 and LBA approved AFM-Revision 19 (or subsequent LBA approved AFM Revisions).

NOTE 10. SERVICE INFORMATION:

Each of the documents listed below that contain a statement that it is approved by the European Aviation Safety Agency (EASA) - or for approvals made before September 28, 2003 - by the LBA., are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.

Hamburger Flugzeugbau G.m.b.H Service Bulletins, except as noted below,
- Structural repair manuals
- Vendor manuals referenced in Hamburger Flugzeugbau G.m.b.H*J*service bulletins
- Aircraft flight manuals

- Repair Instructions
- Design changes that are contained in Service Bulletins and are classified as level 1 major in accordance with the US Bilateral Aviation Safety Agreement Implementation Procedures for Airworthiness must be approved by the FAA

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