

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A45NM
Revision 9
Deutsche Aircraft GmbH
Dornier Model 328-100
February 10, 2022

FAA TYPE CERTIFICATE DATA SHEET NO. A45NM

This data sheet which is part of Type Certificate No. A45NM prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the US Federal Aviation Regulations.

Type Certificate Holder Deutsche Aircraft GmbH
Sonderflughafen Oberpfaffenhofen
D-82234 Wessling
Germany

Type Certificate Holder Record Dornier Luftfahrt GmbH transferred TC A45NM to Fairchild Dornier GmbH, effective August 8, 2000.

 Fairchild Dornier GmbH transferred TC A45NM to AvCraft Aerospace GmbH, effective July 28, 2003.

 AvCraft Aerospace GmbH transferred TC A45NM to 328 Support Services GmbH, effective June 7, 2006.

 328 Support Service GmbH re-named to Deutsche Aircraft GmbH, effective October 6, 2021.

Dornier 328-100 (Transport Category Airplane) approved November 10, 1993

Note: Major Modification "Mod 10" was approved November 3, 1994. Major Modification "Mod 20" was approved August 5, 1996. Pre "Mod 10" airplanes are designated by Dornier as "Mod 00.") Type Design Definition Document TD-00300 is the basis for the definition of the type design. The information in this data sheet applies to all Dornier 328-100 airplanes, unless otherwise noted.

Engines 2 Pratt and Whitney of Canada Ltd. PW 119B turboprops. Refer to Engine FAA-Type Certificate E20NE.

Mod 10: Same engines as the basic model.

Mod 20: Two (2) Pratt and Whitney of Canada Ltd. PW 119C. Refer to Engine FAA Type Certificate E20NE

Fuel (a) Specifications:
ASTM (D 1655) Jet A ASTM (D 1655) Jet A1
ASTM (D 1655) Jet B ASTM (D 1655) Jet A-2

(b) Additives:
According to latest version of Dornier 328 Aircraft Maintenance Manual.

Oil Types of approved oils for use in PW 100 engines are:
- 5 Centistoke oils (conforming to specification PWA 521, Type II).
- 4 Centistoke oils.
- Third generation oils.

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Mod 00: The following engine limits table applies to the Mod 00 airplane only.

Engine Limits (Mod 00 airplane only):

Conditions	Operating Limits							
	POWER	TQ	ITT	RPM	RPM	RPM	OIL	OIL
	% TQ at % N _p	(%)	°C	High Press Rotor N _H (%)	Low Press Rotor NL (%)	Prop NP (%)	Oil Press PSID	Oil Temp °C (8)
BEST PERF TAKEOFF(1)	100 at 100	100	800	102.7	104.4	102.5	55 to 65	0 to 115
MAX CONT. OPER. (2)	85 at 100	100	800	102.7	104.4	102.5	55 to 65	0 to 115
GND IDLE	-	-	-	min 64	-	-	min 40 (3)	-54 to 115
STARTING	-	-	950 (4)	-	-	-	200	min -54
TRANSIENT (5)	-	120	850	104.2	105.9	110	40 to 100	-
OTHER	-	-	-	-	-	110 (7)	-	125 (6)

Table references:

- (1) Operation is limited to 5 minutes.
- (2) Power limit is 1851 SHP. Operation between 85% and 100% TQ with N_p below 100% is not time limited provided the power limit is not exceeded. (Refer to Power Torque Setting Charts in Airplane Flight Manual (AFM) Section 6 - Performance).
- (3) Up to 75% N_H only.
- (4) 5 seconds maximum starting only.
- (5) 20 seconds maximum.
- (6) 20 minutes maximum.
- (7) In case of a propeller or propeller governor malfunction the flight can be completed with the indicated N_p speed. Power must be set not to exceed 75% torque.
- (8) Under icing conditions oil temperature must be maintained above 45°C to ensure intake strut deicing.

Mod 10; Mod 20: The following engine limits table applies to the Mod 10 and Mod 20 airplanes.

Engine Limits (Mod 10 and Mod 20 airplane):

Conditions	Operating Limits							
	POWER	TQ	ITT	RPM	RPM	RPM	OIL	OIL
	% TQ at % N _p	(%)	°C	High Press Rotor N _H (%)	Low Press Rotor NL (%)	Prop NP (%)	Oil Press PSID	Oil Temp °C (7)
BEST PERF TAKEOFF (1)	100 at 100	100	800	102.7	104.4	102.5	55 to 65	0 to 115
MAX CONT. OPER.	85 at 100 100 at 85 or below	100	800	102.7	104.4	102.5	55 to 65	0 to 115
GND IDLE	-	-	-	min 64	-	-	min 40 (2)	-54 to 115
STARTING	-	-	950 (3)	-	-	-	200	min -54
TRANSIENT (4)	-	120	850	104.2	105.9	110	40 to 100	-
OTHER	-	-	-	-	-	110 (6)	-	125 (5)

Table references:

- (1) Operation is limited to 5 minutes duration, but may be used up to 10 minutes for single engine operation.
- (2) Up to 75% NH only.
- (3) 850° C to 950° C for 5 seconds maximum.
- (4) 20 seconds maximum.
- (5) 20 minutes maximum.
- (6) In case of a propeller or propeller governor malfunction maximum power is 75% torque provided Np does not exceed 110%.
- (7) Under icing conditions oil temperature must be maintained above 45° C to ensure intake strut deicing.

Propellers and Propeller LimitsMod 00: 2 Hartzell six bladed HD-E6C-3A

Diameter: 11 ft 6 in (3.5 m). Refer to propeller FAA-Type Certificate P34NE

Mod 10, Mod 20: 2 Hartzell six bladed HD-E6C-3B.

Diameter: 11 ft 10 in (3.6 m). Refer to propeller FAA-Type Certificate P34NE

Mod 10, Mod 20: For propeller limits table refer to AFM 02-06-00, Page 2, April 25, 1996.Airspeed Limits (I.A.S.)

V _D		324 KIAS
V _{MO}		270 KIAS
MMO		.59 (above 20,000 ft pressure altitude)
V _A (Maneuvering) (Mod 00)		170 KIAS
V _A (Maneuvering) (Mod 10, 20)		180 KIAS
V _{FE} (Flaps Extended)	12°	200 KIAS
	20°	180 KIAS
	In addition for <u>Mod 10, 20:</u> 32°	160 KIAS
V _{MC} (Minimum Control)		Refer to AFM
V _{LE} = V _{LO}		200 KIAS
Tire Speed		165 KIAS
Windshield wiper operating speed		166 KIAS

Datum

The aircraft reference zero datum point is located 375.39 in. forward of the fuselage frame 23, 98.425 in. under the fuselage centerline and the aircraft buttock line.

Leveling Means

Plumb line in rear open and latched baggage door.

Weight and Center of Gravity Limits: The following weight and center of gravity limits apply to the Mod 00 airplane only.

	WEIGHT	CENTER OF GRAVITY LIMITS		
		Forward Limit		Rear Limit
		Flight	Takeoff/ Landing	MAC ARM
		MAC ARM	MAC ARM	
MIN. FLIGHT WEIGHT	9,600 kg 21,164 lb	14.0 % 9.663 m 380.44 in	16.0 % 9.704 m 382.04 in	40.0 % 10.193 m 401.29 in
up to WEIGHT	11,000 kg 24,251 lb	14.0 % 9.663 m 380.44 in		
up to WEIGHT	10712 kg 23616 lb		16.0 % 9.704 m 382.04 in	
connected by line up to MAX. ZERO FUEL WEIGHT	12,260 kg 27,029 lb	16.4 % 9.711 m 382.34 in	19.5 % 9.776 m 384.87 in	
connected by line up to MAX LANDING WEIGHT	13,230 kg 29,167 lb	17.9 % 9.742 m 383.55 in	21.3 % 9.812 m 386.31 in	
connected by line up to MAX. TAKEOFF WEIGHT	13,640 kg 30,071 lb	18.5 % 9.754 m 384.01 in	22.0 % 9.826 m 386.85 in	
connected by line up to MAX. RAMP WEIGHT	13,720 kg 30,247 lb		22.1 % 9.829 m 386.96 in	

Note 1: The limits are valid for the allowable flap positions corresponding to the flight speeds for takeoff, climb, cruise, approach, and landing. The envelope may be limited for operational conditions due to "In-Flight Movement." Note that takeoff and landing have different limits than the flight limits.

Note 2: 0% MAC is located 369.213 in. from the datum line.
100% MAC is located 80.197 in. from 0% MAC.

Weight and Center of Gravity Limits: The following weight and center of gravity limits apply to the Mod 10 and Mod 20 airplanes.

	WEIGHT	CENTER OF GRAVITY LIMITS			
		Forward Limit		Rear Limit	
		Flight	Takeoff & Landing	Takeoff & Landing	Flight
		MAC ARM	MAC ARM	MAC ARM	MAC ARM
MIN. FLIGHT WEIGHT	9,400 kg 20,724 lb	14.0 % 9.663 m 380.44 in	16.0 % 9.704 m 382.04 in	40.0 % 10.193 m 401.29 in	44.0 % 10.274 m 404.50 in
up to WEIGHT	10,712 kg 23,616 lb	14.0 % 9.663 m 380.44 in	16.0 % 9.704 m 382.04 in		
up to WEIGHT	11,000 kg 24,251 lb				
connected by line up to MAX. ZERO FUEL WEIGHT	12,610 kg 27,800 lb	16.9 % 9.723 m 382.80 in	20.2 % 9.790 m 385.42 in		
connected by line up to MAX LANDING WEIGHT	13,230 kg 29,167 lb	17.9 % 9.742 m 383.55 in	21.3 % 9.812 m 386.31 in		
connected by line up to MAX. TAKEOFF WEIGHT	13,990 kg 30,843 lb	18.9 % 9.763 m 384.39 in	22.5 % 9.837 m 387.30 in		
connected by line up to MAX. RAMP WEIGHT	14,070 kg 31,019 lb		22.7 % 9.840 m 387.39 in		

Note 1: The limits are valid for the allowable flap positions corresponding to the flight speeds for takeoff, climb, cruise, approach, and landing. The envelope may be limited for operational conditions due to "In-Flight Movement." Note that takeoff and landing have different limits than the flight limits.

Note 2: 0% MAC is located 369.213 in from the datum line.
100% MAC is located 80.197 in. from 0% MAC.

Minimum Crew

2 - Pilot and copilot

Maximum Passengers

33

Front row passenger seats must be equipped with integral three-point safety harnesses (reference change notice CN-00281, dated February 21, 1995)

Type of Baggage Compartment

Class "D" Compartment

Maximum Baggage

Total of 1653 lbs (750 kg) in the rear baggage compartment
- 882 lbs (400 kg) in the forward part
- 771 lbs (350 kg) in the aft part
- max. floor loading = 75 lb/ft²

Fuel Capacity

7531 lbs usable (gravity refueled)
7300 lbs usable (pressure refueled)

Oil Capacity

Oil capacity per Engine (incl. Propeller Oil System)

	TOTAL OIL TANK	MIN to MAX ON SIGHT GLASS	TOTAL OIL SYSTEM
US Gallons	4.70	0.75	5.60
Liters	17.70	2.84	21.00

Maximum Operating

Altitude 31,000 ft.

Control Surface Movements

Wing Flaps	12° and 20° (Mod 00)
Wing Flaps	12°, 20°, and 32° (<u>Mod 10, 20</u>)
Ailerons	30° up ($\pm 1^\circ$), 25° down ($+1^\circ$)
Elevator	30° up (-2°), 25° down (-1°)
Stabilizer	Fixed
Rudder	18° right, 16° left (<u>Mod 00</u>)
Rudder	24° right ($+1^\circ$), 20° left (-1°) (<u>Mod 10, 20</u>)

Serial Numbers

Mod 00: 3006 through 3030. All former Mod 00 airplanes are modified to Mod 10 in accordance with Service Bulletin SB 328-00-053

Mod 10: Production aircraft manufactured to the Mod 10 configuration begin at serial number 3031 and subsequent. Previous serial number aircraft are eligible to operate to the Mod 10 specifications if service bulletin SB328-00-053 is installed.

Mod 20: Mod 20 aircraft are produced by incorporation of Service Bulletin SB 328-00-175.

The following serial numbers are declared Non-TC compliant aircraft and excluded from the TCDS due to production details and known non-conformities:

Former test article aircraft S/No's.: 3001, 3002, 3003, and 3004.

Import Requirements

The FAA can issue a U.S. airworthiness certificate based on an 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 with the Type Design approved under U.S. Type Certificate No. A45NM and to be in a condition for safe operation.'

The U.S. airworthiness certification basis for aircraft type certificated under 14 CFR part 21, section 21.29, exported by country of manufacture is section 21.183(c) or 21.185(c).

The U.S. airworthiness certification basis for aircraft type certificated under section 21.29 exported from countries other than the country of manufacture (e.g., third party country) is section 21.183(d) or 21.185(b).

Certification Basis

Mod 00: FAR Part 25 Effective February 1, 1965, including Amendments 25-1 through 25-61, plus Amendments 25-62, -63, and -64, which were requested to be added to the Certification Basis by Dornier, with the exception of Sections 25.21(b) and 25.205 (removed from Part 25 by Amendment 25-72). In addition, the following paragraphs apply:

Section 25.571(e)(3) as amended by Amendment 25-72, effective August 20, 1990, and Section 25.905(d), as amended by Amendment 25-72.

Section 25.729(e)(2) as amended by Amendment 25-75, effective November 26, 1991.

Section 25.365 as amended by Amendment 25-71, effective April 10, 1990.

FAA Special Condition 25-ANM-76 dated August 31, 1993 (Lightning and HIRF).

FAA Grant Of exemption No. 5785 regarding Section 25.161(d), granted November 5, 1993.

Equivalent Level of Safety Finding for flight crew top hatch emergency exit markings (FAR 25.811(f))

Dornier elected to comply with the following optional requirement: Section 25.1419 for icing.

FAR Part 36 effective December 1, 1969, including Amendments 36-1 through 36-20.

FAR Part 34 effective September 10, 1990. SFAR 27-5 has been recodified as FAR Part 34, which is intended to continue the enforcement of 40 CFR Part 87 and make Part 34 a permanent part in the FAR's.

Mod 10, Mod 20: The certification basis for the Mod 10 and Mod 20 airplanes is the same as for the basic Mod 00 airplane.

All Variants

Based on 14 CFR section 21.29(a) for new import TCs, or section 21.101(g) for changes to TCs, applicable provisions of 14 CFR Part 26 are included in the certification basis. For any future 14 CFR Part 26 amendments, the holder of this TC must demonstrate compliance with the applicable sections.

The Luftfahrt-Bundesamt (LBA) originally type certificated this aircraft under its type certificate Number 2534. The FAA validated this product under U.S. Type Certificate number A45NM. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of the Federal Republic of Germany.

Equipment

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

Equipment approved for the Model Dornier 328-100 is listed in Document No. TD-34000, Equipment Register Document.

Airplane Flight Manual

Refer to AM-AFM-050893-ENV.

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. Additionally, the type certificate holder has contracted with 328 Design GmbH (328DO) as the EASA approved DOA holder. Approvals issued by 328DO or by the TC holder under the authority of EASA approved design organization EASA.21J.438 – or for approvals made prior to September 28, 2003 – by the TC holder under the authority of LBA approved design organization LBA.JA.002, are considered FAA approved. These approvals pertain to the design data only.

- TC holder Service Bulletins, except as noted below,
- Structural repair manuals
- Vendor manuals referenced in TC holder Service Bulletins
- Airplane flight manuals
- Repair instructions.

Note: Design changes that are contained in TC holder Service Bulletins and that are classified as Level 1 Major in accordance with the FAA/EASA agreed Technical Implementation Procedures for Airworthiness and Environmental

Certification (TIP latest Revision), must be approved by the FAA.

NOTES

NOTE 1.

Current weight and balance report including a list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at its delivery.

For further information see Weight & Balance Manual TM-WBM-190793-ALL

NOTE 2.

Airworthiness Limitations including structural inspections and retirement times for safe-life parts are listed in Dornier Airworthiness Limitations Document TM-ALD-010693-ALL.

NOTE 3.

Certification Maintenance Requirements (CMR) are listed in Document TM-CMR-010793-ALL.

NOTE 4.

Compliance with the optional ditching requirements of FAR 25.801, FAR 25.1411, and FAR 25.1415 has not been shown.

END