

Engines of models described herein conforming with this data sheet, (which is part of Type Approval Number 776) and other approved data on file with the Japan Civil Aviation Bureau, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Japan Civil Aeronautics Law and Regulations, provided they are installed, operated, and maintained as prescribed by the manufacturer's manuals and other instructions.

1. Type/ Model

2. Type Approval (TA) Holder Rolls-Royce Deutschland Ltd & Co KG
Eschenweg 11
Dahlewitz
15827 Blankenfelde-Mahlow
Germany

(EASA DOA 21J.065)

3. Manufacture Rolls-Royce plc

4. Date of Application / Certification

[illegible]

II. Certification Basis

1. JCAB Certification Basis

	1. Airworthiness Requirement For Trent XWB-75, -79, -79B and -84 engines CS-E amendment 2, effective 18 December 2009 CS-E 1040 “ETOPS” amendment 3, effective 23 December 2010 For Trent XWB-97 engine CS-E amendment 3, effective 23 December 2010. CS-E 650 “Vibration Surveys” amendment 4, effective 12 March 2015. For Trent XWB-75EP, -79EP, -79BEP and -84EP engine CS-E amendment 4, effective 12 March 2015. 2. Special Conditions None 3. Equivalent Safety Findings (All models) CS-E 790(a)(1) “Ingestion of Large Hailstones” CS-E 740 “Endurance tests” CS-E 840 & 850 “HP Rotor “Rotor Integrity” compliance” 4. Deviations None 5. Engine Emission requirement (All models) (See Notes J2) Civil Aviation Regulations Annex 3 (equivalent to ICAO Annex 16, Volume II, Part III, Amendment 10, amended on January 1, 2021
--	--

IMPORT REQUIREMENTS:	To be considered eligible for installation on Japan registered aircraft, each new engine to be exported to the Japan with UK CAA Form 1, Authorized Release Certificate. The UK CAA Form 1 should state that the engine conforms to the type design approved under the Japanese Type Approval No. 776-2, is in a condition for safe operation and has undergone a final operational check.
PRODUCTION BASIS	Production Certificate Number UK.21G.2003

III. Technical Characteristics

1. Type Design Definition

The certified engine configurations are defined in the following Drawing Introduction Sheet (DIS) or later approved issues:

Trent XWB-75	DIS 2304 Issue 3	Trent XWB-75EP	DIS 2392 Issue 3
Trent XWB-79	DIS 2338 Issue 3	Trent XWB-79EP	DIS 2393 Issue 3
Trent XWB-79B	DIS 2339 Issue 3	Trent XWB-79BEP	DIS 2394 Issue 3
Trent XWB-84	DIS 2306 Issue 3	Trent XWB-84EP	DIS 2395 Issue 3
Trent XWB-97	DIS 2341 Issue 3		

(See Note 4)

2. Description

Three-shaft, high bypass ratio, axial flow, turbofan with Low Pressure (LP), Intermediate Pressure (IP) and High Pressure (HP) compressors driven by separate turbines through coaxial shafts:

- Single stage LP compressor (fan), 8 stage IP compressor (IPC), 6 stage HP compressor (HPC)
- Annular combustor with 20-off fuel spray nozzles
- Single stage HP turbine (HPT), 2 stage IP turbine (IPT), 6 stage LP turbine (LPT)
- Dual channel full authority digital engine control (FADEC)

The LP compressor (Fan) diameter is 3.00m (118 inches). The LP and IP assemblies rotate in a counter clockwise direction; the HP assembly rotates clockwise, when viewed from the rear of the engine. The engine FADEC has an airframe interface for digital bus communications. An Engine Monitor Unit (EMU) provides vibration signal to the aircraft.

3. Equipment

The engine starter is part of the engine type design. Refer to the engine Drawing Introduction Sheet for details. The Thrust Reverser Unit is not part of the engine type design. (See Note 3)

4. Dimensions

	Overall Length (Front edge of A1 flange - fan case-to rear edge of A7 flange - tail bearing housing)	Maximum Radius (from centre line, not including drains mast)
Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84, Trent XWB-97, Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	4,483 mm (176.5 inches)	2,001 mm (78.8 inches)

5. Dry Weight (kg)

	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Maximum dry engine weight, not including fluids, nacelle and aircraft interface parts:	7,277	7,549	7,000

6. Ratings

	Thrust - kN (lbf)				
	Trent XWB-75, Trent XWB-75EP	Trent XWB-79, Trent XWB-79EP	Trent XWB-79B, Trent XWB-79BEP	Trent XWB-84, Trent XWB-84EP	Trent XWB-97
Take-Off Thrust (net) (5 minutes)	330.0 (74,200)	351.0 (78,900)	351.0 (78,900)	374.5 (84,200)	431.5 (97,000)
Equivalent Bare Engine Take-off	334.0 (75,094)	355.2 (79,845)	355.2 (79,845)	379.0 (85,213)	436.2 (98,074)

Thrust					
Maximum Continuous Thrust (net)	296.3 (66,600)	317.6 (71,400)	317.6 (71,400)	317.6 (71,400)	369.6 (83,100)
Maximum Continuous	299.9 (67,414)	321.4 (72,264)	321.4 (72,264)	321.4 (72,264)	373.6 (83,984)

(See Notes 1 and 2)

7. Control System

The software is part of the engine Type Design:

The control and monitoring system software meets the following levels according to EUROCAE ED-12B/RTCA DO-178B:

- Engine Electronic Controller is designated Level “A”.
- Engine Monitoring Unit is designated Level “E”, except that the flight deck vibration display is Level “C”.

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84 – At DIS issue 3 certification:

- Engine Electronic Controller: Version XWB-3.5.3 P/N RRY2FXWB0030008
- Engine Monitoring Unit: Version EX5.0 P/N RRY57M3A0000023

Trent XWB-97 – At DIS issue 3 certification:

- Engine Electronic Controller: Version XWB-5.3.1 P/N RRY2CXWB0011019
- Engine Monitoring Unit: Version EX6.1 P/N RRY5CM3A0000039

Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP At DIS issue 3 certification:

- Engine Electronic Controller: Version XWB-16.1 P/N RRY21XWB0003042
- Engine Monitoring Unit: Version EX6.1 P/N RRY5CM3A0000039

8. Fluids (Fuel, Oil, Coolant, Additives)

Fuel and Additives: Refer to the applicable engine “Operating Instructions” document, APPENDIX 1.

Oil: Refer to Civil Large Engines - Engine Oils Manual - Publication reference EOM-CIVIL-1RR.

9. Aircraft Accessory Drives

All Trent XWB engine models:

Drive	Rotation	Gear ratio / HP rotor	Wet weight (kg)	Overhung Moment (Nm)	Shear Torque (Nm)
Hydraulic Generation (2 drives)	CW	0.363	27.5	51.1	974
Electrical Generation (front)	CCW	1.726	57.6	124	612.2 – 703.9
Electrical Generation (rear)	CCW	1.762	57.6	124	612.2 – 703.9

CW = Clockwise / CCW = Counter Clockwise when looking at the gearbox drive pad.

Refer to the applicable engine “Engine Installation Manual” document for installation details and operational requirements.

10. Maximum Permissible Air Bleed Extraction

%W24, %W26 and %W30 represent the percentage of air mass –flow through the core of the engine at the IPC entry (location 24), HPC entry (location 26) and at the HPC exit (location 30). Bleed flows vary linearly between the points listed.

10.1 Cabin Environmental Bleed Air System (EBAS)

Maximum Normal Cabin Air Bleed Schedule					
Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84			Trent XWB-97		
TET (K)	% W26	Source	TET (K)	% W26	Source
1,000	11.0	HP6	1,000	10.8	HP6
1,415	11.0	HP6	1,575	10.8	HP6
1,716	4.9	HP6/IP8	1,675	6.6	HP6
>1,786	2.1	IP8	1,744.9	4.9	HP6
			1,745	4.0	IP8
			>1,886	2.6	IP8

Maximum Normal Cabin Air Bleed Schedule		
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP		
TET (K)	% W26, % W24	Source
800	11.2 % W26	HP6
1,484	6.7 % W24	IP8
1,687	3.3 % W24	IP8
1,793	2.2 % W24	IP8
>1,815	1.8 % W24	IP8

Maximum Abnormal Cabin Air Bleed Schedule					
Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84			Trent XWB-97		
TET (K)	% W26	Source	TET (K)	% W26	Source
1,000	14.6	HP6	1,000	14.1	HP6
1,485	14.6	HP6	1,685	14.1	HP6
1,685	12.8	HP6	1,790	13.5	HP6
1,720	10.4	HP6/IP8	1,814.9	9.9	HP6
1,750	6.5	IP8	1,815	3.9	IP8
>1,815	3.7	IP8	>1,886	3.1	IP8

Maximum Abnormal Cabin Air Bleed Schedule		
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP		
TET (K)	% W26, % W24	Source
800	14.9 % W26	HP6
1,555	14.9 % W26	IP8
1,589	14.2 % W24	IP8
1,704	5.5 % W24	IP8
1,737	5.1 % W24	IP8
1,784	4.1 % W24	IP8
1,808	3.4 % W24	IP8
>1,810	3.0 % W24	IP8

10.2 Nacelle Anti-Icing (NAI) Bleed Air System:

Nacelle Anti-Icing Bleed Schedule					
Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84			Trent XWB-97		
TET (K)	% W26	Source	TET (K)	% W26	Source
1,000	1.00	HP3	1,000	0.8	HP3
1,256	1.00	HP3	1,431	0.8	HP3
1,685	0.97	HP3	1,810.9	0.76	HP3
>1,815	0.45	HP3	1,811	0.4	HP3
			>1,900	0.3	HP3

Nacelle Anti-Icing Bleed Schedule		
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP		
TET (K)	% W26	Source
800	1.2	HP3
1,268	1.2	HP3
1,350	1.1	HP3
1,708	0.8	HP3
>1,805	0.3	HP3

IV. Operating Limitations

1. Temperature Limits

1.1 Turbine Gas temperature (°C)

All Trent XWB engine models: The turbine Gas Temperature (TGT) is measured by thermocouples positioned at the stage 1 Nozzle Guide Vane of the LP Turbine.

	Maximum Trimmed TGT (displayed) (See Note 6)
Take-Off (5 minutes)	900
Maximum Continuous	850
Ground start and shutdown	700
In-Flight relight	900
Maximum exhaust gas over temperature (*)	920

(*) The engine is approved for a maximum exhaust gas over temperature for inadvertent use for periods of up to 20 seconds without requiring maintenance action. The cause of the over temperature must be investigated and corrected.

1.2 Oil temperature (°C)

	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Minimum for starting	minus 40	minus 40	minus 40
Minimum for acceleration to power	50	50	50
Maximum Continuous	180	185.7 (Pre SB 73-K304) 188.1 (Post SB 73-K304)	188

1.3 Fuel Inlet temperature (°C)

At the pylon interface point:

	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Minimum	minus 54(*)	minus 54(*)	minus 54(*)
Minimum for ground starting	minus 54(*)	minus 54(*)	minus 54(*)
Maximum	55	55	55

(*) or fuel freeze point, whichever is higher

Refer to the applicable engine “Installation Manual” document for additional information.

1.4 Engine Equipment Temperatures

Refer to the applicable engine “Installation Manual” document.

1.5 Climatic Operating Envelope

The engine may be used in ambient temperatures up to ISA +40°C. Refer to the Installation Manual for details of the Operating Envelope, including the air inlet distortion at the engine inlet.

2. Rotational Speed Limits (rpm)

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84		LP Rotor (N1)	IP Rotor (N2)	HP Rotor (N3)
Reference Speed 100%		2,700	8,200	12,600
Take-Off (5 minutes)	Pre SB 73-J148	98.1%	100%	97.4%
	Post SB 73-J148 (4.2.1 Software)	99.1% Post SB 72-H706 (Mk2 Fan)	100%	97.4%
		98.1% Pre SB 72-H706 (Mk1d Fan)		
	Post SB 73-K228 (6.1.1 Software or later approved software version)	99.1% Post SB 72-H706 (Mk2 Fan)	100.2%	98.6%
		98.1% Pre SB 72-H706 (Mk1d Fan)		
	Maximum Continuous (*)	96.8%	98.5%	96.4%

(*) Maximum Continuous speed limitations recorded in this Data Sheet are not displayed as limitations on the aircraft flight deck. Non-display of these limitations was agreed during the certification programme.

Trent XWB-97		LP Rotor (N1)	IP Rotor (N2)	HP Rotor (N3)
Reference Speed 100% rpm		2,700	8,200	12,600
Take-Off (5 minutes)	Pre SB 73-K304	104.3%	102.6%	99.8%

	Post SB 73-K304 (XWB 97-7.0 Software)	104.3%	102.6%	99.9%
	Post SB 73-K698 (XWB-97_13.0 Software or later approved software version)	104.3%	102.6%	102.2%
Maximum Continuous (*)	Pre SB 73-K140	102.4%	100%	98.5%
	Post SB 73-K140 (Profile 4)	101.7%	100%	97.9%

(*) Maximum Continuous speed limitations recorded in this Data Sheet are not displayed as limitations on the aircraft flight deck. Non-display of these limitations was agreed during the certification programme.

Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	LP Rotor (N1)	IP Rotor (N2)	HP Rotor (N3)
Reference Speed 100% rpm	2,700	8,200	12,600
Take-Off (5 minutes)	98.6%	101.2%	98.6%
Maximum Continuous (*)	97.7%	99.3%	96.2%

(*) Maximum Continuous speed limitations recorded in this Data Sheet are not displayed as limitations on the aircraft flight deck. Non-display of these limitations was agreed during the certification programme.

Stabilized operation in the following N1 speed ranges is not permitted during all ground operations:

N1 Keep Out Zone (KOZ - % N1 – ISA day conditions)		
Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84(*)	Pre SB 73-K228	71.5% to 79.7%
	Post SB 73-K228 (6.1.1 Software)	68.6% to 79.7%
	Post SB 73-K386 (10.1 Software or later approved software version)	67% to 79.7%
Trent XWB-97(*)	All	64 % to 84%
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	Software version XWB-16.1	66.8 % to 79.7%

(*) The Engine Electronic Controller (EEC) software includes a logic which does not permit stabilised operation in this speed range as appropriate for the ambient conditions. However, passing through the above speed range, while increasing or decreasing thrust is permitted.

3. Pressure Limits

3.1 Fuel Pressure Limits

Measured at the pylon interface:

	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Minimum absolute	34.5kPa (5psi) above Fuel True Vapor Pressure	34.5kPa (5psi) above Fuel True Vapor Pressure (Minimum absolute pressure increases with reducing altitude below 14,600ft)	34.5 kPa (5 psi) + Fuel True Vapour Pressure
Maximum gauge pressure - Transient condition due to high	2,517kPa (365psi)	2,517kPa (365 psi)	2,517kPa (365 psi)

power shut down			
Maximum gauge pressure - Transient conditions when the engine is running	1,276kPa (185psi)	1,276kPa (185psi)	1,276kPa (185psi)
Maximum gauge pressure - Thermal relief after Engine shut down	689kPa (100psi)	689kPa (100psi)	689kPa (100psi)
Maximum gauge pressure - Steady state conditions	483kPa (70psi)	483kPa (70psi)	483kPa (70psi)

3.2. Oil Pressure Limits

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	NH Speed (%)	Oil Pressure kPa (psid)
Pre SB 73-J148 (Version 4.2.1 software)	0	172.4 (25)
	70	172.4 (25)
	92.5	330.9 (48)
	96	517.1 (75)
	97	517.1 (75)
	97.5	655.0 (95)
	100	655.0 (95)
Post SB 73-J148 (Version 4.2.1 software) or later approved software version	0	172.4 (25)
	70	172.4 (25)
	93	296.5 (43)
	96	517.1 (75)
	97	517.1 (75)
	97.5	655.0 (95)
	100	655.0 (95)

Trent XWB-97	NH Speed (%)	Oil Pressure kPa (psid)
Pre SB 73-K304 (Version 7.0 software)	0	172.4 (25)
	75	172.4 (25)
	91.8	289.5 (42)
	95	517.1 (75)
	97.7	517.1 (75)
	105	517.1 (75)
Post SB 73-K304 (Version 7.0 software) or later approved software version	0	172.4 (25)
	75	172.4 (25)
	96	310.3 (45)
	97.7	517.1 (75)
	105	517.1 (75)

Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	NH Speed (%)	Oil Pressure kPa (psid)
Version 16.1 software or later approved software version	0	172.4 (25)
	69.0	172.4 (25)
	70.4	172.4 (25)
	93.6	282.3 (41)
	96.3	330.9 (48)
	98.5	496.4 (72)
	98.5	655.0 (95)
	105.0	655.0 (95)

4. Installation Assumptions

Refer to applicable engine “Installation Manual” document.

5. Time Limited Dispatch

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	The engine is approved for Time Limited Dispatch in accordance with CS-E 1030 amendment 3 by EASA Certificate 10050644 dated 26 September 2014 (EEC software version XWB-3.5.3 and later approved revisions). The maximum rectification period for each dispatchable state is specified in the Airworthiness Limitations Section of the applicable “Time Limits Manual”.
Trent XWB-97	The engine is approved for Time Limited Dispatch in accordance with CS-E 1030 amendment 3 by EASA Certificate 10063455 dated 16 October 2017 (EEC software version XWB-5.3.1 and later approved revisions). The maximum rectification period for each dispatchable state is specified in the Airworthiness Limitations Section of the applicable “Time Limits Manual”.
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	The engine is approved for Time Limited Dispatch in accordance with CS-E 1030 amendment 4 by EASA Certificate 10043549 dated 03 December 2024 (EEC software version XWB-16.1 and later approved versions). The maximum rectification period for each dispatchable state is specified in the Dispatch section of the applicable "Engine Installation Manual" and specified in the "Time Limits Manual".

6. ETOPS Capability

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	The engine (DIS issue 3 and later approved revisions) are approved for ETOPS capability in accordance with CS-E1040 amendment 3 by EASA Certificate 10050670 dated 29 September 2014 for a Maximum Approved Diversion Time of 405 minutes at Maximum Continuous thrust plus 15 minutes at hold thrust. ETOPS does not require any special engine limitation, marking, placard, or configuration. Engine Condition Monitoring according to task Airbus A350-A-77-34-XX-00001-398A-A / Rolls-Royce TRENTXWB-A-77-34-00-00A01-370A-A is required. This approval does not constitute an approval to conduct ETOPS operations.
Trent XWB-97	The engine (DIS issue 3 and later approved revision) is approved for ETOPS capability in accordance with CS-E1040 amendment 3 by EASA Certificate 10065874 dated 15 June 2018 for a Maximum Approved Diversion Time of 405 minutes at Maximum Continuous thrust plus 15 minutes at hold thrust. Oil consumption limits apply to the actual approved diversion time as specified in the A350 ETOPS CMP. Condition Monitoring according to task Airbus A350-A-77-34-XX-00001-398A-A / Rolls-Royce TRENTXWB-B-77-34-00-00A01-370A-A is required. ETOPS does not require any special marking, placard, or configuration. This approval does not constitute an approval to conduct ETOPS operations.
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	The engine (DIS issue 3 and later approved revisions) is approved for ETOPS capability in accordance with CS-E1040 amendment 4 by EASA Certificate 10043549 dated 03 December 2024 for a Maximum Approved Diversion Time of 405 minutes at Maximum Continuous thrust plus 15 minutes at hold thrust. ETOPS does not require any special engine limitation, marking, placard, or configuration. Condition Monitoring according to task Airbus A350-A-77-34-XX-00001-398A-A / Rolls-Royce TRENTXWB-D-77-34-00-00A01-370A-A is required. This approval does not constitute an approval to conduct ETOPS operations.

V. Operating and Service Instructions

Manuals	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Installation Manual	EDNS01000727681	EDNS01000583229	EDNS01000778757
Operating Instructions	OI-TRENT-XWB-A350	OI-Trent-XWB-97-A350	OI-TRENT-XWB-84EP-A350

Instructions for Continued Airworthiness (ICA)			
Manuals	Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	Trent XWB-97	Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP
Engine Manual (EM)	TRENTXWB-K0680-EMAN0-01	TRENTXWB-K0680-EMAN0-01	TRENTXWB-K0680-EMAND-01
Time Limits Manual (TLM)	TRENTXWB-K0680-TIME0-01	TRENTXWB-K0680-TIME0-01	TRENTXWB-K0680-TIMED-01
Cleaning, Inspection and Repair Manual	TRENTXWB-K0680-CIRM0-01	TRENTXWB-K0680-CIRM0-01	TRENTXWB-K0680-CIRMD-01
Check and Rectify Manual	TRENTXWB-K0680-CREP0-01	TRENTXWB-K0680-CREP0-01	TRENTXWB-K0680-CREPD-01
Split Engine Transportation Manual	TRENTXWB-K0680-SETM0-01	TRENTXWB-K0680-SETM0-01	TRENTXWB-K0680-SETMD-01
Illustrated Parts Catalogue (IPC)	Trent XWB-75: TRENTXWB-K0680-EIPCD-01 Trent XWB-84: TRENTXWB-K0680-EIPCB-01	TRENTXWB-K0680-EIPCC-01	TRENTXWB-K0680-EIPCE-01
All Trent XWB			
Civil Large Engines - Engine Oils Manual	EOM-CIVIL-1RR		
Maintenance Manual	Airbus A350 Customer Aircraft Maintenance Manual		
Service Bulletins	Trent XWB - As published by Rolls-Royce		

VI. Notes

1. The take-off thrust, with the associated limits, shall not be used continuously more than 5 minutes. The duration may be extended to 10 minutes in case of engine failure of another engine on a multi-engine aircraft. If the duration exceeds 5 minutes, this shall be recorded in the engine log book.
2. The Equivalent Bare Engine Take-off and Maximum Continuous thrusts quoted above are derived from the approved Net Take-off and Net Maximum Continuous thrust by excluding the losses attributable to the inlet, cold nozzle, hot nozzle, by-pass duct flow leakage and the after body. No power off-takes are assumed.
3. The engines are approved for use with Airframer supplied thrust reverser units (TRU). Refer to the applicable "Installation Manual", paragraph 5.16.5 "TRU Part Numbers".
The maximum reverse thrust for all thrust reverser systems should not be used below 60 KCAS when idle reverse thrust should be promptly selected. Reverse thrust should be fully deselected below 40 KCAS.

4. Certified configurations:

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84	In issue 02 of EASA TCDS, the DIS issue 3 engine configuration approved by EASA Certificate 10050669 dated 29 September 2014 is replacing the originally certified DIS issue 2 configuration. No engines were produced to DIS 2.
Trent XWB-97	In issue 05 of EASA TCDS, the DIS issue 3 engine configuration approved by EASA Certificate 10063546 dated 20 October 2017 is replacing the originally certified DIS issue 2 configuration. No engines were produced to DIS 2.
Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP	In issue 17 of this TCDS, the DIS issue 3 engine configuration is approved by EASA Certificate 10043549 dated 03 December 2024.

5. The EASA approved Airworthiness Limitation Section of the Instructions for Continued Airworthiness is published in the applicable “Time Limits Manual”.
6. The measured TGT is modified by trimming to provide consistent cockpit maximum trimmed TGT indications across all engine models. The TGT trim profile is programmed into the engine Data Entry Plug (DEP), which is fitted to the Engine Electronic Controller (EEC). The EEC processes the measured TGT and calculates the indicated TGT. The maximum TGT pull-down is the maximum value permitted, which corresponds to the maximum cleared turbine temperature:

Trent XWB-75, Trent XWB-79, Trent XWB-79B, Trent XWB-84 maximum TGT pull-down			
TGT Trim Profile	Take-Off (5 minutes)	Maximum Continuous	Maximum exhaust gas over temperature (20 seconds)
DIS Issue 3 (See Note 4) (Profile 2)	-62	-70.5	-43.5
Post SB 73-J255 (Profile 5)	-73.5	-67.5	-49.5
Post SB 73-K118 (Profile 6)	-93	-85	-80.5

Trent XWB-97 maximum TGT pull-down			
TGT Trim Profile	Take-Off (2 minutes / 5 minutes)	Maximum Continuous	Maximum exhaust gas over temperature (20 seconds)
DIS Issue 3 (See Note 4) (Profile 2)	-124/-113.5	-106	-103
Post SB 73-K002 (Profile 3)	-127.5/-116.5	-109.5	-107.5
Post SB 73-K140 (Profile 4)	-138/-124	-111	-127
Post SB 73-K460 Post SB 72-K440 (Profile 6)	-129/-118	-111	-109
Post SB 73-K644 (Profile 7)	-138/-124	-111	-127
Post SB 72-K703 (Profile 7)	-138/-124	-111	-127
Post SB 73-L079 (Profile 8)	-152/-137	-130.5	-137.5

Trent XWB-75EP, Trent XWB-79EP, Trent XWB-79BEP, Trent XWB-84EP maximum TGT pull-down			
TGT Trim Profile	Take-Off (5 minutes)	Maximum Continuous	Maximum exhaust gas over temperature (20 seconds)
DIS Issue 3 (See Note 4) (Profile 9)	-54	-48.5	-35.5

7. In full thrust operating condition, the Smoke Number (SN) of the Trent XWB-97 exceeds the maximum level specified in ICAO Annex 16, Volume II, Part III, Chapter 2.2. EASA has issued a temporary Exemption No. IAW/19/0001 from this SN requirement until a design change has been approved and incorporated to restore full compliance. The design change restoring full compliance is defined by SB 72-K440.

J1. This Type Approval Data Sheet (TADS) is based on EASA TCDS No. E.111 Issue 19, dated April 16, 2025.

J2. This Type Approval Data Sheet (TADS) has been revised by environmental requirement on the following dates and change descriptions:

Letter date to JCAB	JCAB TADS Revised date	Change descriptions
August 23, 2021	August 30, 2021	ICAO Annex 16, Volume II, Part II and Part III, Amendment.7 to Amendment.9 for All models
January 11, 2023	March 23, 2023	ICAO Annex 16, Volume II, Part III, Amendment.9 to Amendment.10 for All models

...END...