TYPE-CERTIFICATE

DATA SHEET

EASA.IM.A.500

for

TT32 (HÜRKUŞ)

Type Certificate Holder

TUSAŞ-TÜRK HAVACILIK VE UZAY SANAYİİ A.Ş.
Turkish Aerospace Industries, Inc. (TAI)

Fethiye Mah. Havacılık Bul. No:17
06980 Kazan-ANKARA / TURKEY

For models: TT32

SECTION A: TT32

A.I. General

1. Type/ Model/ Variant

Type:	TT32
Model:	TT32

2. Airworthiness Category: CS-23 Normal and Aerobatic Category

3. Manufacturer: TUSAŞ-TÜRK HAVACILIK VE UZAY SANAYİİ A.Ş.
Turkish Aerospace Industries, Inc. (TAI)
Fethiye Mahallesi, Havacılık Bulvarı No:17
06980 Kazan-ANKARA
TURKEY

4. EASA Certification
Application Date: 22 December 2008

DGCA-TR Type Certification Date: 11 July 2016
EASA Type Certification Date: 11 July 2016

A.II. EASA Certification Basis

1. **Reference Date for DGCA-TR Certification:** 11 July 2013

Reference Date for EASA Certification: 11 July 2013

DGCA-TR Type Certificate Data Sheet No: TR.A.001

2. **DGCA-TR Certification Basis:** CS 23 – “Normal, Utility, Aerobatic and Commuter Category Aeroplanes”, Amendment 3;

CS-36 Amendment 3 (ICAO Annex 16, Volume I, Sixth Edition (Amendment 10) ;

CS-34 Amendment 1 (Part II, Chapter 2 of ICAO Annex 16, Volume II, Third Edition (Amendment 7) and;
additional requirements as per DGCA-TR CRI A-01.

3. EASA Airworthiness Requirements:

CS 23 – "Normal, Utility, Aerobatic and Commuter Category Aeroplanes" amendment 3 and additional requirements as per EASA CRI A-01.

4. EASA Special Conditions:

B-01	Stalls (Stall Power)
C-03	Speed Margin
C-04	Yawing Manoeuvre
C-05	Dynamic Response
D-01	Take-Off Warning System
D-02	Landing Gear Extension and Retraction System
D-03	Wheels
D-04	Brakes and Braking Systems
D-06	Bird Strike
D-12	Hydraulic Systems
D-102	Emergency Exits - Canopy Fracturing System
D-103	Ejection Seats
E-14	Turbine Engine Installation - Rain Ingestion
E-52	Cold Soaked Fuel
F-01	Battery Endurance Requirement
F-52	Protection from Effects of HIRF
F-54	Protection from the Effects of Lightning Strike, Indirect Effects

5. EASA Exemptions:

N/A

6. EASA Equivalent Safety Findings:

D-05	Depressurization Beyond Safe Limits (Exceedance of 15,000 ft Cabin Altitude Limit)
D-07	23.841.b.6 Cabin Pressure Altitude Warning Indication
D-10	Operation above 25.000 ft
D-101	Fire Extinguishers in cockpit-non installation
D-105	Emergency Evacuation Provisions
D-106	Emergency Landing Conditions
D-107	Emergency Landing Conditions-Lumbar Loads
E-18	Starter Generator Air Inlet in Cowling

F-03 "OBOGS (On Board Oxygen Generating System)
F-10 Emergency Oxygen System

F-40 Cabin Pressure Rate of Change Indicator

7. **EASA Environmental Standards:**

EASA Noise certification basis:
CS-36 Amendment 3 (ICAO Annex 16, Volume I, Sixth Edition (Amendment 10)

EASA Emissions(Prevention of Intentional Fuel Venting) certification basis: CS-34 Amendment 1 (Part II, Chapter 2 of ICAO Annex 16, Volume II, Third Edition (Amendment 7)

CRI N-01 Noise requirements
CRI N-02 Prevention of Intentional Fuel Venting

8. **Elect to Comply Requirements:** NONE

9. **Additional National Design Requirements for Operational Approval:** NONE

A.III. Technical Characteristics and Operational Limitations

1. Design Standard: List of main drawings defined in Hürkuş Type Design Definiton (Ref:EU0000SPT006); Issue 1 and up.

2. Description: HURKUS (TT32) is a tandem seat aerobatic airplane. It has a low-wing design and a conventional tail with a steered nose wheel tricycle retractable landing gear. HURKUS (TT32) aircraft is powered with PT6A-68T, lightweight free turbine turboprop engine manufactured by Pratt & Whitney Canada. Engine drives five bladed Hartzell HC-B5MA-2A constant speed propeller.

HURKUS (TT32) has winglets, speed brake, mechanical flight control system and ejection seats. The structure is conventional and predominant structure material is aluminium.

HURKUS (TT32) is designed as an aerobatic, basic and intermediate pilot training aircraft for VFR & IFR operations.

3. **Dimensions:**

Length	11.17 m	(36.66 ft)
Span	10.38 m	(34.06 ft)
Height	3.70 m	(12.15 ft)
Wing Area	16.32 m^2	(175.62 ft^2)

4. **Engine & Propeller:** PWC PT6A-68T(EASA TCDS EASA IM.E.038)
Tractor Type Single Turboprop with Metal
Type, five bladed Hartzell HC-B5MA-2A/M9128N()
propeller

(EASA TCDS reference EASA IM.P.129)

5. **Fuel**: JP8, Jet A-1
Total: 683,8 lt
Usable: 680 lt
The aerobatic tank allows 30 seconds of inverted flight (negative g).
Refer to P&WC Service Bulletin 18104 for acceptable additives.

6. **Oil:**

Oil Tank Capacity	Liters/US Gallons
Normal:	3.0 lt / 0.79
Aerobatics:	1.0 lt / 0.26

Refer to P&WC Service Bulletin 18101 for oil acceptable oil types.

7. **Airspeeds:** V_{MO} =295 KCAS, M_{MO} =0.55 MACH (See Airplane Flight Manual)

8. **Maximum Operating Altitude**: 9144 m (30,000 ft) MSL

9. **Operational Capability:** Single Pilot / Two Pilots
VFR Day and Night
IFR Day/Night
(Flight into known icing conditions is prohibited)

10. **Maximum Certified Weights:** Takeoff: 3650 kg (8046 lb)
Landing: 3650 kg (8046 lb)
Basic Empty Weight: 2976 kg (6561 lb)

11. **Centre of Gravity:** 28% – 32% of MAC (clean)

12. **Datum:** 0.8 m (31.4 in) forward of the spinner

13. **Mean Aerodynamic Chord (MAC):** 1.675 m (64.76 in.)
L.E. of MAC a 4.8898 m (19.51 in.) aft of datum

14. **Levelling Means:** See Weight and Balance Manual (Ref: HURA-T0544-WBM01-01)

15. **Minimum Flight Crew:** 1 pilot (Solo Flight is limited to front cockpit)

16. **Maximum Passenger Capacity:** Not Applicable

17. **Baggage / Cargo Compartment:** 30 kg (66.1lb)

A.IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM):

Airplanes must be operated according to the EASA approved Airplane Flight Manual, (Ref: HURA-T0544-AFM01-01) Change 1 (or later EASA approved revision)

2. Airplane Maintenance Manual (AMM):

Airplane Maintenance Manual, (Ref: HURA-T0544-AMM01-01), Issue No. 003-00 (or later revision). See Maintenance Planning Document (MPD), (Ref: HURA-T0544-AMP01-01) Chapter 4 for "Airworthiness Limitations"

3.	**Structural Repair Manual**	HURA-T0544-SRM01-01
4.	**Weight and Balance Manual**	HURA-T0544-WBM01-01
5.	**Illustrated Parts Catalogue**	Included in AMM

A.V. Operational Suitability Data (OSD)

See Note 6

1. Master Minimum Equipment List (MMEL)

See Note 6

2. Flight Crew Data (FCD)

See Note 6

A.VI. Eligible Serial Numbers: SN 001 and up (see Note 5)

A.VII. Notes

Note 1 - "Airworthiness Limitations" may not be changed without the approval of EASA.

Note 2- This aircraft contains a canopy fracturing system and ejection seat system that was EASA approved based on the Equivalent Level of Safety provisions on EASA 21.A.17. Due to the uniqueness of this equipment, corresponding operational characteristics, and need for recurring maintenance activity, all maintenance and component replacement schedules must be conducted in accordance with the Maintenance Planning Document (MPD) (Ref No: HURA-T0544-AMP01-01) and Airworthiness Limitations Section of MPD, Chapter 4.

Note3 - Inverted flight is limited to thirty (30) seconds.

Note4 - All placards required in EASA Approved Airplane Flight Manual (Ref: HURA-T0544-AFM01-01) must be installed in the appropriate location.

Note5 - SN 001 and 002 are only eligible for a standard CofA when retrofited to the type design definition standard.

Note6 – As per EU 748/2012 Article 7a.2 applicable OSD requirements including MMEL must be fulfilled before the aircraft is operated by an EU operator.

Note7 – For serial aircraft to be exported to EU/EASA Member states, the aircraft has to be produced under an EASA Part 21 Production Organisation Approval covering the production of the TT32 Hurkus.

Note 8- In case of replacement fireworthiness property of battery installed on firezone to be identified and CRI E-13 (Battery Installation in Engine DFZ) should be complied.

Note 9- Flight Loads limitation Factor is 0.9 until the successful completion of the Flight Load Survey. Allowed maneuvers should consider this g-load limitation.

Note 10- The sink rate is limited to 7 ft/s until the successful completion of the dynamic landing gear analysis.

ADMINISTRATIVE SECTION

I. Acronyms & Abbreviations

AFM	Airplane Flight Manual
Amdt.	Amendment
AMM	Airplane Maintenance Manual
CG	Centre of Gravity
CS-LSA	Certification specification for Light Sport Aeroplanes
DWN	down
EASA	European Aviation Safety Agency
IAS	Indicated Airspeed
ICAO	International Civil Aviation Organization
kg	kilograms
km/h	kilometres per hour
MAC	Mean Aerodynamic Chord
N.A.	Not applicable
SC	Special Condition
TCDSN	Type Certificate Datasheet Noise
VFR	Visual Flight Rules

II. Type Certificate Holder Record

TUSAŞ-TÜRK HAVACILIK VE UZAY SANAYİİ A.Ş.
Turkish Aerospace Industries, Inc. (TAI)
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III. Change Record

Issue	Date	Changes
Issue 1	11.07.2016	Initial Issue