



TYPE-CERTIFICATE DATA SHEET

EASA.A.606

for
VIPER SD-4

Type Certificate Holder

TOMARK, s.r.o.

Strojnícka 5
080 01 Prešov
Slovak republic

For models: Viper SD-4 RTC
Viper SD-4 Night-VFR





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SECTION A: VIPER SD-4 RTC

A.I. General

1. Type/ Model/ Variant

Type: Viper SD-4
Model: Viper SD-4 RTC

2. Airworthiness Category: Restricted

3. Manufacturer: TOMARK, s.r.o.
Strojnícka 5
080 01 Prešov
Slovak republic

4. EASA Certification

Application Date: 07 December 2012

A.II. EASA Certification Basis

1. Reference Date for determining

the applicable requirements: 07 December 2012

2. Airworthiness Requirements: Certification Specification for Light Sport Aeroplanes (CS-LSA), Amdt. 1

3. Special Conditions:

4. Exemptions: None

5. Deviations: None

6. Equivalent Safety Findings: None

7. Environmental Protection

Requirements: Chapter 10 of ICAO Annex 16, Volume I. For details see TCDSN EASA.A.606





A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Master document list TOM-TC-01-MDL.A
2. Description: The Viper SD-4 RTC features:
- Conventional low wing configuration;
- Conventional tail;
- Single piston tractor engine;
- Fixed pitch propeller;
- 2 seats, side by side;
- Fixed tricycle landing gear with steerable nose wheel and streamlined wheel covers.
3. Equipment: Minimum equipment list according to flight manual (TOM-TC-01-AFM)
4. Dimensions:
- | | |
|-----------------|----------------------|
| Total length: | 6.40 m |
| Maximum height: | 2.20 m |
| Wing span: | 8.34 m |
| Wing area: | 10.45 m ² |
5. Engine:
- | | |
|-------------------|--|
| Model: | Rotax 912 ULS2/ Rotax 912 S2 |
| Type Certificate: | Certified as part of the aircraft / EASA.E.121 |
| Limitations: | None |
6. Load factors:
- | | |
|----------|------------------------|
| +4g, -2g | (clean) |
| +2g, 0g | (flapped) (see note 1) |
7. Propeller
- | | |
|--------------------|-----------------------------------|
| Model: | Neuform, CR3-65-(IP)-47-101.6 |
| Manufacturer: | Neuform Composites GmbH |
| Type Certificate: | Certified as part of the airplane |
| Number of blades: | 3, ground adjustable |
| Diameter: | 1.65 m |
| Sense of Rotation: | Right (in flight direction) |
| Weight: | 5.1 kg |





8. Fluids

Fuel: see Flight Manual
Oil: see Flight Manual
Coolant: see Flight Manual

9. Fluid capacities

Fuel: 90 L (usable)
Oil: 3 L
Coolant system: 1.5 L (approximately)

10. Air Speeds (IAS):

V _{S0}	Stall speed flap pos. II	43 kts
V _{S1}	Stall speed clean	49 kts
V _F	Flap speed	79 kts (see note 1)
V _A	Manoeuvring speed	88 kts
V _C	Cruise speed	102 kts
V _{NE}	Never exceed speed	126 kts

11. Flight Envelope

Maximum altitude 15.500 ft

12. Approved Operations

Capability: Day-VFR

13. Maximum Masses:

Maximum permissible empty mass	405 kg
Maximum take-off mass	600 kg

14. Centre of Gravity Range:

Forward CG	310 mm (24% MAC)
Aft CG limit	413 mm (32% MAC)

15. Datum (origin):

X (aft positive)	Wing leading edge
Y (right positive)	on centre line
Z (up positive).	propeller flange / centre line

16. Control surface deflections:

Aileron	27° up, 16° down (+/- 1°)
Flap	0°, 15°, 30°, (40°) down (+/- 2°) (see note 2)
Elevator	25° up, 20° down (+/- 1°)
Rudder	30° left/right (+/- 1°)

17. Levelling Means

Design level attitude is defined by a 0° inclination of the rear fuselage rivet row between tail and canopy.





18. Minimum Flight Crew: One (1) pilot (left seat)
19. Maximum Passenger Seating Capacity: One (1) passenger
20. Baggage/ Cargo Compartments: Maximum 15 kg baggage placed behind the seats inside closable containers (each 7.5 kg).
21. Wheels and Tyres:
- | | |
|-----------------|---------------------------------|
| Main wheel | 4.00 – 6 (Kaspar K-226A-000 6") |
| Main wheel tyre | Kaspar Sava 6" |
| Nose wheel | 4.00 – 6 (Kaspar K-106A-000 6") |
| Nose wheel tyre | Kaspar Sava 6" |

A.IV. Operating and Service Instructions

- | | |
|--------------------------------|---|
| 1. Flight Manual | TOM-TC-01-AFM, 1 st edition or later approved revision |
| 2. Maintenance Manual | TOM-TC-01-AMM, 1 st edition or later approved revision |
| 3. Structural Repair Manual | N.A. |
| 4. Weight and Balance Manual | TOM-TC-01-AFM, 1 st edition or later approved revision |
| 5. Illustrated Parts Catalogue | N.A. |

A.V. Notes

Note 1: In case of spin recovery, it may happen that the published load factors and V_{FE} are exceeded. The aeroplane has been proven to withstand such exceedance. Corresponding instructions are provided in the AFM.

Note 2: The conditions for use of Flap position III (40°) are described in AFM.





SECTION B: VIPER SD-4 NIGHT-VFR

B.I. General

1. Type/ Model/ Variant

Type: Viper SD-4
Model: Viper SD-4 Night-VFR

2. Airworthiness Category: Normal

3. Manufacturer: TOMARK, s.r.o.
Strojnícka 5
080 01 Prešov
Slovak republic

4. EASA Certification

Application Date: 07 December 2012

B.II. EASA Certification Basis

1. Reference Date for determining

the applicable requirements: 07 December 2012

2. Airworthiness Requirements: Certification Specification for Light Sport Aeroplanes (CS-LSA), Amdt. 1

3. Special Conditions: SC-OLSA-div-01 – Night VFR Operation for LSA

4. Exemptions: None

5. Deviations: None

6. Equivalent Safety Findings: None

7. Environmental Protection

Requirements: Chapter 10 of ICAO Annex 16, Volume I. For details see TCDSN EASA.A.606





B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Master document list TOM-TC-15-MDL.A
2. Description: The Viper SD-4 RTC features:
- Conventional low wing configuration;
- Conventional tail;
- Single piston tractor engine;
- Fixed pitch propeller;
- 2 seats, side by side;
- Fixed tricycle landing gear with steerable nose wheel and streamlined wheel covers.
3. Equipment: Minimum equipment list according to flight manual TOM-TC-15-AFM
4. Dimensions:
- | | |
|-----------------|----------------------|
| Total length: | 6.47 m |
| Maximum height: | 2.27 m |
| Wing span: | 8.34 m |
| Wing area: | 10.45 m ² |
5. Engine:
- | | |
|-------------------|--------------|
| Model: | Rotax 912 S2 |
| Type Certificate: | EASA.E.121 |
| Limitations: | None |
6. Load factors:
- | | |
|----------|------------------------|
| +4g, -2g | (clean) |
| +2g, 0g | (flapped) (see note 1) |
7. Propeller:
- | | |
|--------------------|--------------------------------|
| Model: | H-FSH_3-D-R_I_RX_C/FSH-D-R_I_C |
| Manufacturer: | DUC Hélices |
| Type Certificate: | EASA.P.038 |
| Number of blades: | 3; ground adjustable |
| Diameter: | 1.73 m |
| Sense of Rotation: | Right (in flight direction) |
| Weight: | 5.26 kg |





Blade pitch: 23.5° measured at a distance of 250 mm from the tip of the blade at intrados side (flat).

8. Fluids

Fuel: see Flight Manual

Oil: see Flight Manual

Coolant: see Flight Manual

9. Fluid capacities

Fuel: 90 L (usable)

Oil: 3 L

Coolant system: 1.5 L (approximately)

10. Air Speeds (IAS):

V_{S0} Stall speed flap pos. II 43 kts

V_{S1} Stall speed clean 49 kts

V_F Flap speed 79 kts (see note 1)

V_A Manoeuvring speed 88 kts

V_C Cruise speed 102 kts

V_{NE} Never exceed speed 126 kts

11. Flight Envelope

Maximum altitude 15.500 ft

12. Approved Operations

Capability: Day-VFR, Night-VFR

13. Maximum Masses:

Maximum permissible empty mass 405 kg

Maximum take-off mass 600 kg

14. Centre of Gravity Range:

Forward CG 310 mm (24% MAC)

Aft CG limit 413 mm (32% MAC)

15. Datum (origin):

X (aft positive) Wing leading edge

Y (right positive) on centre line

Z (up positive). propeller flange / centre line

16. Control surface deflections:

Aileron 27° up, 16° down (+/- 1°)

Flap 0°, 15°, 30°, 35° down (+0°/- 2°) (see note 2 and 3)

Elevator 25° up, 20° down (+/- 1°)

Rudder 30° left/right (+/- 1°)





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

TOMARK, s.r.o.
Strojnícka 5
080 01 Prešov
Slovak republic

III. Change Record

Issue	Date	Changes
Issue 1	22.03.2016	Initial Issue
Issue 2	12.04.2016	Correction to model designation
Issue 3	01.04.2019	Section B: Add model Viper SD-4 Night-VFR. Section 1: Specified designation "S2" for engines, plus some minor corrections

