

PSR Jet System – Draline b.v.

PSR Jet System – Engine

PSR Jet System – Retraction system

PSR Jet System – Installation

PSR Jet System – ASW20CL-J

PSR Jet System – Engine – Certification

- single spool turbojet
radial compressor
axial turbine
- thrust, 180N
rotspeed, 100000rpm
fuel, 480g/min
max continuous
- thrust, 230N
rotspeed, 108500rpm
fuel, 640g/min
max 5min per engine run



- engine
- engine fuel board
supply of engine with
propane and fuel
- engine control unit
control of engine start,
operation and stop
- engine service data terminal



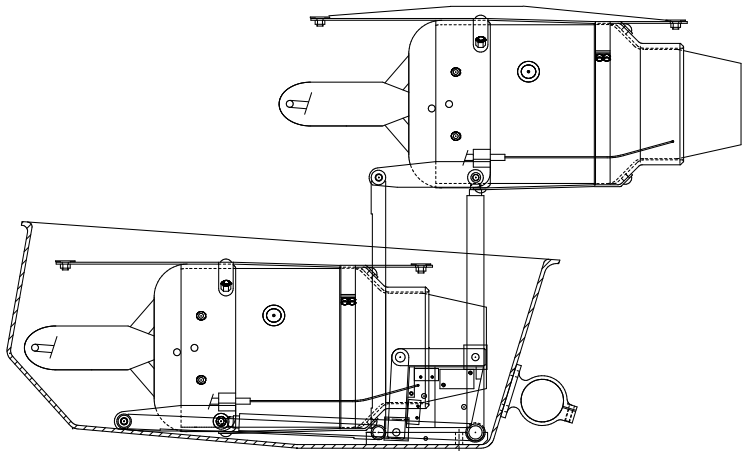
- start
engine deployment and start
- operation
adjust rotspeed
- stop
engine stop and retraction
- function
fuel volume, glow-plug



The retraction system is integrated in the engine box and is operated electrically

- motor
- gearbox
- cam belt
- 270° lever





Installation on sailplanes of the 15 to 18m class is possible.

- modular design
- small size
- low weight

The installation of the PSR Jet System is offered by company Eichelsdörfer¹ for Schleicher, Schempp-Hirth, DG and LS sailplanes.

Schempp-Hirth installs the PSR T01 engine with custom components on the new Ventus.

¹with support of the sailplane manufacturers

- The installation of the PSR Jet System is addressed as a Supplemental Type Certification to CS-22 by EASA.

PSR Jet System – Installation on the ASW20CL-J



- battery
separate, in luggage compartment
- fuel tank
two unvented 20 litre flexible wing tanks
- weight
PSR Jet System including battery and fuel tank, 16kg

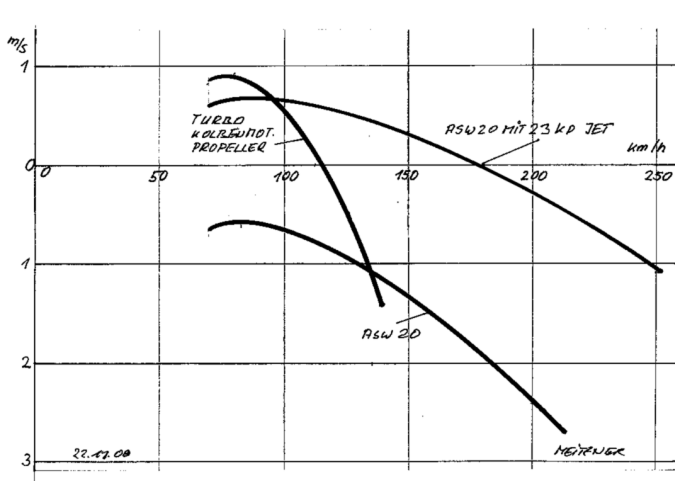




- climb
 - 0.7m/s at 110km/h and 108500rpm
 - 0.5m/s at 130km/h and 108500rpm
- velocity
 - 160km/h at level flight and 100000rpm
 - 180km/h at level flight and 108500rpm
 - 250km/h at 1.0m/s decline and 108500rpm
- range
 - 240km with 40 litre fuel² and sawtooth flight
- low aerodynamic drag³ of deployed engine

²consumption 15kg fuel per 100km

³not more than a deployed gear



Flugdetails

	Strecke	Dreieck
Punkte des Fluges:	14.07	
Wertungsdistanz:	12,34	1,73
Speed:	13,6 km	6,4 km
Wertungsdauer:	92,3 km/h	48,2 km/h
Wertungsklasse:	00:08:49	00:07:55
Wertungsindex:	15m	
Index:	110,0	
Club:	SFV Hoya	
Tag der Meldung:	17.10.2010 19:37:16	
Status:	IGC-Datei:  Flug: 	

Flugweg

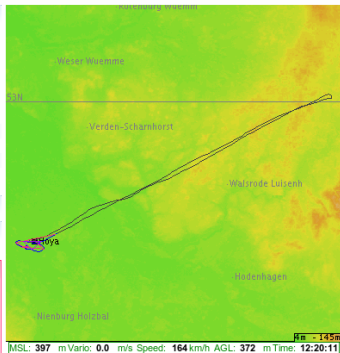
Statistik

Strecke (OLC-Classic):

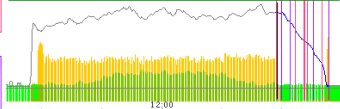
	s [km]	%Kurbel	NAufwinde	R/C [m/s]	E	V _d [km/h]
Leg1	6.17	0.00	0	0.00	68.61	115.77
Leg2	1.96	0.00	0	0.00	36.38	83.20
Leg3	0.23	0.00	0	0.00	38.22	68.80
Leg4	0.51	0.00	0	0.00	63.73	76.47
Leg5	3.03	0.00	0	0.00	27.58	75.83
Leg6	1.66	0.00	0	0.00	13.69	82.79
Total	13.57	0.00	0	0.00	34.88	92.33

Dreieck (FAI-OLC):

	s [km]	%Kurbel	NAufwinde	R/C [m/s]	E	V _d [km/h]
Leg1	0.00	0.00	0	0.00	0.00	0.00
Leg2	2.68	20.00	1	-0.44	54.64	107.10
Leg3	1.84	0.00	0	0.00	12.02	28.91
Leg4	1.34	0.00	0	0.00	7.30	30.83
Total	6.4	3.79	1	-0.44	15.20	44.36



MSL: 397 m Vario: 0.0 m/s Speed: 164 km/h AGL: 372 m Time: 12:20:11



Flugdetails

Punkte des Fluges: **189.25**

Wertungsdistanz:

Speed:

Wertungsdauer:

Wertungsklasse: 15m

Index: 110,0

Club: SFV Hoya

Tag der Meldung: 23.10.2010 16:29:34

Status: IGC-Datei: Flug:

Strecke Dreieck

183,81 5,44

202,2 km 19,9 km

63,3 km/h 8,8 km/h

03:11:43 02:15:14

Flugweg

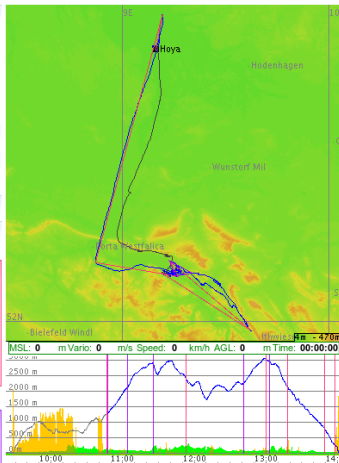
Statistik

Strecke (OLC-Classic):

	s [km]	%Kurbel	NAufwinde	R/C [m/s]	E	V _d [km/h]
Leg1	35.36	40.45	21	0.77	491.06	31.94
Leg2	35.81	37.89	8	0.78	35.63	44.24
Leg3	5.93	71.02	7	0.72	-29.23	19.10
Leg4	27.45	0.00	0	0.00	30.07	89.35
Leg5	85.35	0.00	0	0.00	64.96	166.27
Leg6	12.30	0.00	0	0.00	22.08	83.23
Total	202.20	30.94	36	0.75	54.92	63.28

Dreieck (FAI-OLC):

	s [km]	%Kurbel	NAufwinde	R/C [m/s]	E	V _d [km/h]
Leg1	3.40	66.18	9	0.80	-11.01	12.70
Leg2	5.61	49.08	9	0.80	-22.53	15.53
Leg3	8.66	31.64	12	0.75	5.15	6.85
Leg4	3.30	61.12	7	0.72	-25.80	9.15
Total	19.9	43.71	36	0.76	20.75	9.31



Flugdetails

Punkte des Fluges:	0.0	<i>Strecke</i>	0	<i>Dreieck</i>	0
Wertungsdistanz:			12,5 km		0 km
Speed:			151,7 km/h		0 km/h
Wertungsdauer:			00:04:56		
Wertungsklasse:	15m				
Index:	110,0				
Club:	SFV Hoya				
Tag der Meldung:	18.04.2011 08:36:54				
Status:	IGC-Datei:	Flug:			

Flugweg

Statistik

Strecke (OLC-Classic):

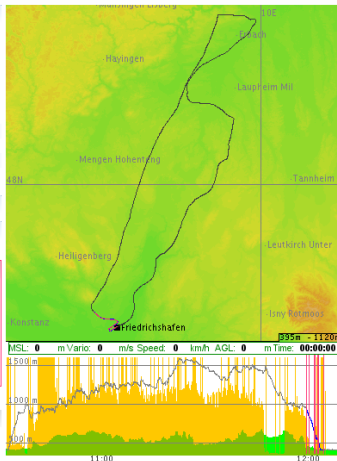
	s [km]	%Kurbel	N _{Aufwinde}	R/C [m/s]	E	V _d [km/h]
Leg1	2.41	0.00	0	0.00	24.30	196.82
Leg2	4.23	0.00	0	0.00	20.23	165.47
Leg3	0.35	0.00	0	0.00	-26.88	179.68
Leg4	2.92	0.00	0	0.00	29.47	190.96
Leg5	0.52	0.00	0	0.00	17.28	143.59
Leg6	2.04	0.00	0	0.00	19.47	86.60
Total	12.46	0.00	0	0.00	23.56	151.60

Dreieck (FAI-OLC):

s [km]	%Kurbel	N _{Aufwinde}	R/C [m/s]	E	V _d [km/h]

Relevante Wertungen

- OLC Tageswertung (Weltweit 15.04.2011)



The PSR T01 is the first engine to be certified according to the following regulations.

- EASA, CS-22H, Certification Specifications for Sailplanes and Powered Sailplanes, 11 paragraphs
- EASA, CRI-T1, Special Condition – Airworthiness Standard for CS-22H Turbine Engine to be operated in Powered Sailplanes, 18 paragraphs
- ICAO, Environmental Protection, Annex 16, Volume II, Part II, Chapter 2 – Fuel venting
Part III, Chapter 2 – Smoke number

In addition to analytical assessments, various certification tests have been conducted.

- bench
FH Aachen, 3 engines, 700 starts, 150h runtime
endurance, vibration, containment,
handling, smoke number
- flight
ASW20CL-J, 1 engine, 600 starts, 40h runtime
flight envelope
- component
fire resistance, electromagnetic compatibility



Draline b.v.

Pannenweg 270

6031 RK Nederweert

The Netherlands

+31 (0) 495 63 36 55

www.psr-jet-system.com

info@psr-jet-system.com