

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO:BM44 ISSUE: 5

TYPE: Pegasus Quasar 2 TC

- (1) MANUFACTURER: Solar Wings Ltd, now supported by P & M Aviation Ltd,
Unit B, Crawford St, Rochdale, Lancashire, OL16 5NU.
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR Section S - Advance Issue March 1983 ammended
11/10/88
- (4) DEFINITION OF BASIC STANDARD: Solar Wlngs Approval Submission - Document Ref
No. Sw-405-86
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	390kg
(b) No. Seats	2
(c) Maximum Wing Loading	25kg/m ²
(d) V _{so}	26mph CAS
(e) Permitted range of pilot weights	55 – 90 kg per seat.
(f) Typical Empty Weight (ZFW)	173 kg
(g) ZFW + 172 kg crew + 1 hr fuel (17litres /12 kg)	357 Kg
(h) ZFW + 86 kg pilot + full fuel (47 litres / 34kg)	293kg
(i) Max ZFW at initial permit issue	206kg

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(6) POWER PLANTS

Designation	Quasar2-TC	Quasar2-TC	Quasar2-TC	Quasar2-TC
Engine Type	Rotax 503-2V Upright (dual ign)	Rotax 503-2V Upright (single ign.)	Rotax 582/40 Liquid-Cooled Upright (40KW)	Rotax 582/40 Liquid-Cooled Upright (40KW)
Reduction Gear	Rotax Gearbox 2:58:1	Rotac Gearbox 2:58:1	Rotax "C" Type Gear Box 3:47:1	Rotax "C" Type Gear Box 3:47:1
Exhaust System	Rotax Side Mounted (with after muffler)	Rotax Side Mounted (with after muffler)	Rotax Side Mounted (with after muffler)	Rotax Side Mounted (with after muffler)
Intake System	K & N Intake Filter	K & N Intake Filter	K & N Intake Filter or Solar Wing Intake Muffler	K & N Intake Filter or Solar Wings Intake Muffler
Propeller Type	Arplast 162	Arplast 162	Arplast 168	Arplast 166
Propeller Dia x Pitch	162 cm Dia Settable Pitch 15° at 53.5 cm	162 cm Dia Settable Pitch 15° at 53.5 cm	168 cm Dia Settable pitch 24° at 53.5 cm	166 cm Dia Settable Pitch 19° at 53.5 cm
Noise Type Cert No.	126M Iss 3	126M Iss 3	140M Iss 2	140M Iss2
AAN approving configuration	22925	22925	23474	23474

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	390kg
(B) CG Limits	N/A
(C) CG datum	Front Wheel Axle
(D) Cockpit Loadings	Port Starboard Total
	Min 55kg - 55kg
	Max 90kg 90kg 180kg
(E) Never Exceed Speed	90mph
(F) Manoeuvring Speed	60mph
(G) Permitted Manoeuvres	Max 30° Nose up / 30° nose down Non Aerobatic, max 60° bank Normal acceleration flight limits, +4 / -0g
(H) Fuel Contents (Max Useable)	49L

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(I) Power Plant See Table

Engine	Rotax 503-2V	Rotax 582/40		
Max RPM	6800 6500 Cont	6400 6000 Cont		
MAX CHT	250°C	150°C		
MAX EGT	650°C	650°C		
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star /MOGAS leaded fuel to BS 4040, or AVGAS 100LL.			
Engine Oil Spec	Non Deterg 2 Stroke Self Mix	Non Deterg 2 Stroke Self Mix		
Gearbox oil spec	EP 90	EP 90		
Fuel/Oil Mix	50:1	50:1		
Coolant Temperature	N/A	90°C		
Oil Pressure	N/A	N/A		
Oil Temperature	N/A	N/A		
Fuel Pressure	0.2-0.4 bar	0.2-0.4 bar		

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball
Required (to 100mph min.)	Required	Optional	Optional	Optional	Required (582)	Optional	Optional	N/A

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(9) CONTROL DEFLECTIONS:

N/A Weightshift flexwing, control movements limited by main structure.

(10) PILOT'S NOTES, MAINTENANCE MANUALS REFERENCES:

10.1 Manuals approved for use with this aircraft.

(a) Document Ref SW-406-16

10.2 The following placards are to be fitted:-

(a) Flight Limitations Placard (to be visible to pilot)
See Annex D.

(b) Engine Limitations Placard (to be located near to engine instruments)
See Annex D.

(c) Fuel Limitations Placard (to be located near to filler cap)

A placard is to be fitted showing fuel capacity fuel type(s) and fuel:oil ratio. An example is shown at Annex D.

(d) Switches
See Annex D.

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(10) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC:

a) Mandatory modifications: See Annex A.

b) Service bulletins:

Service Bulletin ref.	Description	Notes	Issued
SB0036	New Pylon Fairing fitting	Optional	18/5/92
SB0039	Brake cables	MANDATORY	26/3/93
SB0040	Trim cables	Wings before 1/6/93	10/6/93
SB 0083	Luff line pulley on s/n 7104 to 7122	Advisory	13/12/95
SB 0084	Inspection of root stitching (superseded by mod. PG 138)	MANDATORY	18/9/96
SB 0085	TIG welded front fork trailing links	Advisory	06/11/96
SB 0086	Inspection of swages	Compulsory	20/05/97
SB 0088	Inspection of trim bridle	Advisory	15/09/97
SB0090	Roll bearing bolt security	Advisory	17/09/97
SB0091	Roll bearing flange cracking	Advisory	06/04/98
SB0095	Seat belt buckle on s/n 7428-7456	Advisory	30/07/98
SB0097	Q2 tip webbing stitching	Compulsory	17/08/98
SB0106	Luffline pulley rivet up to S/N 7838	Compulsory	17/7/01
SB0109	Component life extension	Advisory	21/3/02

Annual Bettsometer test is to be carried out to 1360 grammes with wing sails fitted and tensioned to flight. Test must be to both upper and lower surfaces.

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(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 500 ft/min (Rotax 503-2v engine)
600 ft/min(Rotax 582/40 engine)

Climb Speed: 46 mph (40 kts, 74 kph) IAS

Issue History

<u>Issue No.</u>	<u>Date</u>	<u>Reason and signatory</u>
1	October 1991	K D Russell
2	July 1992	K D Russell Introduction of Rotax 582 version of the Quasar-2 TC in accordance with modification 63.
3	December 1993	K D Russell : Addition of Arplast 166 propeller with Rotax 582/40 engine in accordance With modification No. 117
4	31 March 2003 J Barratt	New format
5	06/07/05	New company name

J Barratt

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Illustration of Aircraft - 3 View

MASTER IN YELLOW

SW-90125
Drawing No.

Quantity	Description	Part No.	Rev.	DATE	BY
1	QUASAR 582 GEN. ARRANGEMENT	SW-90125	1	10-2004	SW-90125

QUASAR 582	GEN. ARRANGEMENT	SW-90125
SOLAR WINGS AVIATION LH		
21 George Lane	Mariboroong	3000
Melbourne 3000	VIC	AUSTRALIA
TEL: 03 9572-5222	FAX: 03 9572-5222	

GEN TC. +-20mm

DUAL IGNITION
TWIN CARBURETTOR

SW-90125
Drawing No.

DATE: 10/2004

BY: SW-90125

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ANNEX A – MANDATORY MODIFICATIONS

1.

Mod ref.	Description	Notes	Issued
PG207	Q2 TIP WEBBING ATTACHMENT & PROTECTION		9.9.98
PG/AX279	NON PVC FUEL HOSES		9.3.99

ANNEX B - APPROVED OPTIONAL MODIFICATIONS

The installation of all optional modifications is to be inspected by a BMAA inspector and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not listed here.

1.

Mod ref.	Description	Notes	Issued
SW0063	Q2 WING ON QUASAR (ROTAX 582/40)	MAJOR	17/6/92
SW0065	Q2 WING ON QUASAR (ROTAX 503-2v)	MAJOR OPTIONAL	05/09/91
SW0070	PRELOAD SPACERS IN REAR U/C	MINOR COMPULSORY	17/04/91
SW0071	THROTTLE FOR ALL TYPES (HAND THROTTLE) FROM 20/01/91	MINOR OPTIONAL	17/04/91
SW0074	CARB. HEAT PLATE KIT	MINOR OPTIONAL	17/04/91
SW0075	Q-WING, QUASAR WING EXTERNAL BUNGEE RETRACT SYSTEM	MINOR OPTIONAL	17/04/91
SW0076	SPLIT REAR WIRE SYSTEM TO LIGHTEN ROLL	MINOR OPTIONAL	15/07/92
SW0080	SPECIFICATION OF AEROQUIP 2556-4 FUEL HOSE	MINOR OPTIONAL	05/09/91

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SW0081	CONVERSION OF QUASAR TO QUASAR TC	MINOR OPTIONAL	05/09/91
SW0091	NEW PYLON FAIRING (SEE SB 0036)	MINOR OPTIONAL	15/07/92
SW0096	IMPROVED FRONT WHEEL & AXLE SYSTEM	MINOR OPTIONAL	15/07/92
SW0097	NEW COCKPIT TOP MOULDING WITH SCREEN AND COMPASS	MINOR OPTIONAL	15/07/92
SW0098	AIR INTAKE SILENCER AND RE-JETTING CARBS (582 engine)	MINOR OPTIONAL	15/07/92
SW0099	FITTING OF PRIMER BULB IN LINE	MINOR OPTIONAL	15/07/92
SW0104	INTAKE MUFFLER - NEW FRONT MOUNTING SYSTEM (582 engine)	MINOR OPTIONAL	10/11/93
SW0117	ARPLAST 166 PROP ON QUASAR 582	MINOR OPTIONAL	10/11/93
SW0128	Q2 TRIM BRIDLES X 2	MINOR OPTIONAL	10/11/93
SW0129	Q2 UPPER REFLEX PULLEY (TRIPLE PULLEY BLOCK)	MINOR OPTIONAL	10/11/93
PG54	QTM/QSR SEAT CUSHION ADJUSTMENT	MINOR	16.11.95
PG73	BRONZE WELD -> TIG WELD ON QTM/QSR FORK LINKS	MINOR	10.5.96
PG92	Q2 SAIL TAPING & NEW SEAM LAYOUT	MINOR	10.5.96
PG124	Q WING 10mm WING BOLTS	MINOR	22.5.97
AX/PG126	ALL 12V AIRCRAFT BSM INDICATOR	MINOR	28.5.97
AX/PG127	BRAKE RETURN SPRING ADDED	MINOR	28.5.97
PG151	QTM/QSR LTS FUEL GAUGE	MINOR	5.2.98
PG177	LTS FUEL GAUGE FOR PRODUCTION	MINOR	8.6.98
PG/AX252	LYNX KIT FITTING	MINOR	7.1.99

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PG254	QUASAR SUSPENSION RUBBER MATERIAL	MINOR	15.1.99
PG282	Q2 STITCHING PROBLEMS - K/P HOLE, FIN, KEEL POCKET	MINOR	10.3.99
PG366	Luff lines repositioned on Q2 wing pulley to reduce Load on pulley block rivet	Minor	14.12.99

ANNEX C

WEIGHING INFORMATION

1. The CG of the trike is not critical as it only affects the speed range, not the trim.
 2. No significant masses should be attached to the wing.
- Empty weight of the whole aircraft must not exceed 206kg.

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ANNEX D

EXAMPLE PLACARDS

