

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO39 ISSUE: 1

TYPE 110SX/CHASER

- (1) MANUFACTURER: Aerial Arts (no longer trading)
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION BASIS: Type Acceptance to BCAR Section S Advance Issue, March 1983 reduced as per CAA letter dated 17/01/86 ref 9/30/UL18.
- (4) DEFINITION OF BASIC STANDARDS: As described in these TADS, MAAN 1156 and MAAN 1156 appendix 1.
- (5) DIMENSIONS/WEIGHT FO COMPLIANCE WITH MICROLIGHT DEFINITION
 - (a) Wing area (inc canard area, excluding winglets): 10.m²
 - (b) Span: 8.1m
 - (c) Standard Mean Chord: 1.24m
 - (d) Dry Empty Weight: 80kg
 - (e) Max take-Off Weight: 188kg
 - (f) Wing Loading (Weight Empty/Wing Area): 8kg/m²
 - (g) Wing Loading (Max Take-Off Weight/Wing Area): 18.8kg/m²
 - (h) Fuel Capacity: 23Litres

(6) POWER PLANTS

Designation	110SX/ Chaser				
Engine Type	Rotax 377				
Reduction Gear	2.58:1				
Exhaust System	Rotax 2x90 with After Muffler				
Intake System	K & N Rotax Muffler				
Propeller Type	Cyclone Semi Scimitar	GSC Tech II 2 blade Gnd. Adj.			
Propeller Dia x Pitch	59" x 39"	60" x 38"			
Noise Type Cert No.	60M Issue 2	60M Issue 3			

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- (7) MANDATORY LIMITATIONS: * To be placarded
- (A) Max Take-off Weight: 188kg
- (B) C G Limits (3-Axis Aircraft): N/A
- (C) C G Datum: N/A
- (D) Cockpit Loadings: Front Rear Total
- Pilot and Baggage or Ballast (Min) 55kg 55kg
- Pilot and Baggage (Max) 90kg 90kg
- (E) Permanent Ballast, Weight and Position: None
- (F) Empty C of G (3-Axis Aircraft): N/A
- (G) Never Exceed Speed: 65mph
- (H) Manoeuvring Speed: 48mph
- (I) Permitted Manoeuvres: Non Aerobatic
- (J) Fuel Contents (Max Useable): 23litres
- (K) Power Plant: See Table

Engine	Rotax 377				
Max RPM	6800				
MAX CHT	480 ^o				
Fuel Spec	4 Star or Unleaded Petrol/Oil				
Oil Spec	Two Stroke				
Fuel/Oil Mix	50:1				
Max EGT	1200 ^o F				
Oil Press	N/A				
Oil Temp	N/A				

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(8) INSTRUMENTS REQUIRED FOR TYPE ACCEPTANCE:

ASI Required*	Altimeter Required*	RPM Optional	CHT Optional	Compass Optional	EGT Opt
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(9) CONTROL DEFLECTIONS (3-Axis Systems): N/A

Pitch Control	Up:-	Down:-
Tailplane Trim	Up:-	Down:-
Ailerons	Up:-	Down:-
Rudder	Left:-	Right:-
Steering	Left:-	Right:-

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

Aerial Arts Ltd. Chaser Owners Manual.

(11) MANDATORY MODIFICATIONS/SERVICE BULLETINS/AIRWORTHINESS DIRECTIVES ECT:

BMAA defect reports A2.01 to A2.08.

See inspectors notes BMO39 appendix 1.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb:	925ft/min at 35mph IAS
Stalling Speed:	24mph IAS

* NOTE

Wrist Altimeter permitted provided thatL-

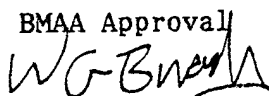
- (a) A cockpit placard states, "WRIST ALTIMETER MANDATORY" and
- (b) A wrist altimeter is part of the aircraft equipment.

Notes

1. G A Drawings and/or colour photographs illustrating the principal features of the aircraft submitted for type approval shall be attached to, and form part of, this Data Sheet.

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Date
3/3/94

BMAA Approval


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The following placards must be furnished:-

- 1 At the top of the instrument panel.

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Max Take Off Weight:	188kg
Max Occupant Load:	90kg
Min Cockpit Load:	55kg
Never Exceed Speed (Vne)	65mph
Max Manoeuvring Speed (VA)	48mph

NO LOOSE ITEMS IN COCKPIT

- 2 On the seat frame adjacent to the fuel tank filler cap.

FUEL 23 Litres
2 Stroke 50:1
Min 4 Star or unleaded

- 3 On the instrument panel adjacent to the ignition switch.

ON
IGNITION
OFF

- 4 On the carburettor adjacent to the fuel cock.

ON
FUEL
OFF

- 5 On the undercarriage drag link tubes.

NO STEP

- 7 On the instrument panel in place of the optional altimeter.

Wrist altimeter mandatory.

- 8 Adjacent to optional engine instruments.

Max CHT:	480 ⁰ F
Max EGT:	1200 ⁰ F
Max RPM:	6800

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KEY POINTS FOR INSPECTION:

- 1) The undercarriage drag link to main axle connection should be inspected very closely for cracks and/or yielding. These connection points have been known to fail when landing heavily on rough ground.
- 2) The welded fitting which joins the two sections of the base tube together underneath the pilots seat should be inspected very carefully. These were originally two tubes butt welded together and sometimes the weld did not penetrate the tube walls properly. The Section S fittings have a washer welded between the two tubes as a diaphragm. In case of doubt the fitting can be replaced with a Section S one.
- 3) The fuel system should be checked extremely carefully for leakage particularly at the fuel cap. There have been instances reported of fuel caps leaking. Once again, the system can be replaced with a section S one.
- 4) The trike pylon connects using a single large diameter pin running from the front strut through the main pylon. At the top of the pylon there is a light alloy internal sleeve which is attached to the pylon tube itself with blind rivets. The area around the hole where the large diameter pin goes through must be cleaned up and checked very carefully for cracks with either a magnifying glass and or dye penetrant system, both in the pylon and in the sleeve. Any visible cracks will imply replacement before further flight.
- 5) The transverse bolt attaching the main undercarriage legs to the main structure must be tight enough to prevent rotation of the legs. Rotation of the legs causes unpredictable rear wheel steer.
- 6) The design of the hang bracket is two 16 gauge plates welded together with a circular tube which is the bearing for the hang point. Cracking has been known to start where the plates are welded to the tube. If any cracking is discovered, the bracket must be replaced with one where the bracket extends right round the top of the keel to continuously down the other side i.e., like an inverted U. It is possible to fit a Section S Chaser hang bracket. This involves removal of the keel assembly from the wing and replacement of at least the outer sleeve of the keel. A new hole must be drilled transversely through the keel to accommodate the Section S bracket.

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7) Abrasion has been noted of the trailing edge of the wing keel pocket where it joins the sail trailing edge due to the cross boom pull up cables. Abrasion and stitching damage in this area is quite critical and should be put right by a competent aviation sail loft. The pull back cables should be protected against inflicting further such abrasion damage.

8) With the trailing edge flutter found on G-MTDE there are three possibilities:

Firstly the leading edge tubes must be checked by removal from the airframe to ensure that they are straight. Any permanent deformation MUST be rectified by replacement.

Secondly the VNE must be restricted to 65 mph where flutter is acceptably small. This requirement is to be placarded.

Thirdly, an optional modification AA-110-001 has been proposed to reinforce the trailing edge with a strip of Trilam or 7oz patch dacron material suppress the flutter and give the trailing edge some redundancy in the event of a propeller debris strike. Contact the BMAA Chief Technical officer for details.

Obviously, the consequences of loose items being dropped into the propeller of the Chaser can be extremely serious and a placard stating "no loose items in the cockpit" must be in view of the pilot, particularly if the optional modification is not adopted.

9) Both Cyclone Airsports, manufacturers of the Chaser S, and Betts Sails, manufacturers of the original Aerial Arts sails, will help with spares and advice. Contact the BMAA if modifications are required.

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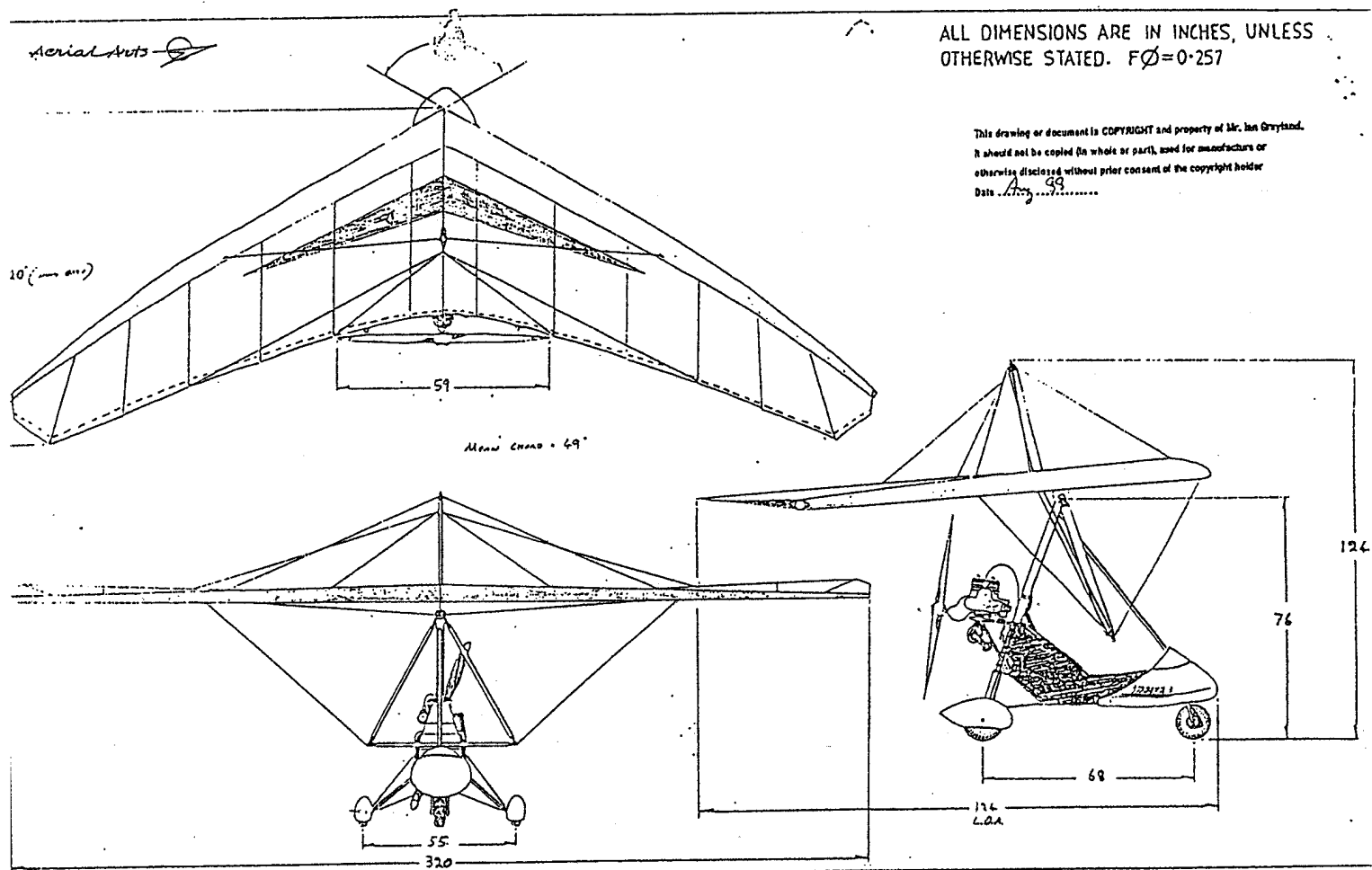
NOTES FOR CHECK PILOTS:

- 1) The example aircraft G-MTDE has exceptionally fast roll response and roll rate. Care must be taken not to over-control; test flights should be in reasonably smooth conditions.
- 2) The aircraft has very good climb performance, particularly just after takeoff.
- 3) Watch the trailing edge when gradually increasing speed to VNE - some trailing edge flutter is acceptable but gross movement liable to cause damage is not. Slow down if excessive flutter is apparent. Note TADS placarded VNE speed. Contact the BMAA technical office if unacceptable flutter is apparent below VNE.
- 4) The aircraft has small wheels. Avoid particularly rough or boggy ground.

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GENERAL ARRANGEMENT DRAWING (SIMILAR CHASER S SHOWN)



ALL DIMENSIONS ARE IN INCHES, UNLESS OTHERWISE STATED. $F\varnothing=0.257$

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Date: Aug 99

DRAWN	ISSUE	DATE	REVISION DETAILS	APPROVED	MATERIAL	SCALE	AERIAL ARTS Ltd Truligh Sands, Edburton, W. Sussex. (079156) 236	
					FORM	TOLERANCES	TITLE	DRG NO
					FINISH	N/A	CHASER "S"	CH-03-AA
							G.A.	