AIR SAFETY INVESTIGATION REPORT REVIEW

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Operations - Engineering - Aviation Medicine -INVESTIGATION 1. The weekage examination has apparently been very shallow and there is no report of this. Itrustural in flight failures require carefully documented observations and analysis. Possillos, tule should have been tested for material sper., also cut to check for conssion. 2. Jechnicel data on glider incomplete and confusingly documented. (Lee progr 18 0 19.) Summary refers to "mini stringer" ('18 hes pricture of "Pelto Glider," will monscript Stringer written bore. (19 refers to "ministinger" is the any difference " a statement from manufactures of noterials used would have sufficient. (With disgrams of course). Tale materials, diameters, well thicknesses, cable diameter's, material ele. 3. Witnesses not probed in areas of great interest. What was BREPORT glides attitude immediately prior to failure, was there anything Evidence Presentation unusual on the chief, out, what was chief out (a) There is not gradient or this blight. (Summary says 45° but not requence of events ratice any channel whe trussion? (By large in line say). (b) he disgram of take off area - accident location.

Analysis (i) Insufficient analysis of wreckeys damage. (would appear to le difficult to lo without detailed report.) (ii) This discussion of hogos statement on P15, concerning use of a shorter rohe and hogonds of larger rohe. In my opinion the • efflanction give dos not stard up to scientific analysis. The clinic angle of a shorter robe call to similar, lad of, shorter duration. The clinic angle would i bad to controlled by the pild is both cores. I. I have not up steeper clinic. A simile agained call be but barend for steed. Will a longer robe the CA Form 149A' temptation would be there, as there is not steeper (iii) the clinic dos not form an adapted bosis for modelle cause concerning indequets forsteep protections. (iii) the clinic that full has any adapted by the site of steeper is another that any steeper is steeper is and more that full any steeper is steeper. (iii) the clinic dos not form an adapted bosis for modelle cause concerning indequets forsteing procedure. (if this may well be concert, but is not properly had up too) but not to support regularly is stated is could be deposite is another in the index of the start is and they will depose is not for is mostly (if is and more that the any good is short for is mostly is the adapted concerning which may not seen a collipse is into the start to prove a start of a start of the deposed is into the the start of the register of the start of a start is the adapted concerning which may not seen a collipse is into the start the short of the register of the start the the investigation in the way were thorough anongh. I have a short be adapted of the the start of a start the start is and the concerning above adapted be not the the investigation in the one was thorough anongh. I have a start the order of the the interplayets in the pick of the conclusion action of logically lead up to the interplayed of the conclusion action of the start of the the interplayets in the pick of the conclusion action action. It is interplayed that the interplayed of the termine action action is down not logically lead of the interplayets. efflavation give does not stand up to scientific analysis. cause, inadequale ofty. procedures inspect. It could be interpreted that poor that bout crew proceedings is what is mant by This

AIDODALT ACCIDENT INVECTION	GOVERNMENT OF ALISTRALIA DEPARTMENT OF TRANSPORT			Reference No.	
AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT Publication of this report is authorised by the Secretary under the provisions of Air Navigation Regulations 283 (1)			SI/762/	SI/762/1508	
1. LOCATION OF OCCURRENCE					
Lake Macquarie, New South Wales	Height a.m.s.l. Sea level	Dote 16.4.76	Time (Local) 1445	Zone	
2. THE AIRCRAFT					
Make and Model		Registratio			
3 CONCLUSIONS		<u>l</u>		<u> </u>	
(i) At about 11/15 hours FCM on 16th August			lan Im		
(1) At about 1449 nours for 10th April,	1970, a Moyes Mini	Stinger' Han	ig Glider/Tow	Kite	
Weles The bits men under the busic mater by the	Bned into the waters	of Lake Maco	luarie, New So	outh	
wates. The kite was under tow by a motor boat a	t the time of the oc	currence. Th	e pilot suffe	ered	
latal injuries and the kite was severely damaged	in the accident. I	nere was no i	njury to any	other	
person and no damage to property.					
(ii) The pilot was	aged 29 years. He ha	ad been	ngaged in the	8001	
of towed ski-kiting for some 18 months prior to	the accident.		ngagea m and		
	and an	• •			
(iii) The kite had been borrowed from	, the manufacture	r, by a group	of enthusias	ts wh	
included '. The intention was to f.	ly the kite during th	ne Easter wee	kend, so that	the	
group could assess its suitability with a view to	possible purchase o	of a similar	type. The ki	te wa	
of the "Rogallo" type, consisting of a delta shar	ed sail supported by	v a frame con	structed from	mete	
tubing. A transversely mounted cross tube was at	ttached to the centry	, a lland Jordin	a odro tuboc	. ше ос Ът	
holts holding the tubes in negition such that the	bollooding odge tube	ar and isaum	g euge tubes	by	
domons. The kite had been newsfactured for w	ne reading edge tuber		pe suste ol s		
degrees. The kite had been manufactured for us	se as both a free if	ight hang gil	der and a tow	ea Ki	
(iv) The tow rope used for Launching and tow	wing was 8 millimetro	e mono polyth	ylene with a	publi	
breaking strain of 697 kilograms. The rope was a	attached to the kite	at the tow-p	oint-which wa	 s∙at	
pottom of the "A" frame. The tow line could be a	released by the pilot	t by means of	a hand opera	ted	
Lever fitted to the "A" frame. A further release	e was fitted at the s	aft end of the	e tow boat fo	r use	
the observer.					
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(v) The tow boat was a 16 foot "Ramsay Rebe	el"/speedboat incorpo	rating a 350	horsepower i	nbo ar	
engine. The steering and speed of the boat were	controlled by the dr	iver, while	the observer	sat	
at the rear facing the kite and holding the boat	release. The driver	and observe	r each had ab	out	
18 months experience in towed kiting.					
vi) On 16th April had comple	eted a number of flig	chts and had o	doubled as bo	at	
river/while other members of the group flew the	kite. During this	period exper:	iments were c	arrie	
out using various lengths of tow rope until final	lly a length of 152 m	netres was emp	ployed.		
vii) The weather was fine with a surface win	nd of about 10 knots	from east-no:	rth-east.		
viii) On the last planned flight before a lur	ncheon break	'was p	iloting the k	ite	
in free flight and landed in the water some dista	ance from the beach w	here friends a	awaited. He	haile	
the boat and requested another towed launch, indi	cating to his compar	ions that he	would make the	he	
peach on this occasion. The tow rope was attack	ned to the kite and t	he boat move	d off into wi	nd,	
away from the beach, accelerating to a surface sp	beed of about 17 knot	s. The kite	became airbo	rne v	
quickly and commenced climbing at an angle estime	ated to be about 45 d	legrees. At a	a height of b	etwee	
200 and 300 feet, while still climbing. one side	of the kite appeared	to collense.	- Mho kito o		

a spiral to the left, descending rapidly to the water with the tow rope still attached.

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3. CONCLUSIONS (Contid)

(ix) Examination of the damaged kite revealed that a buckling failure had occurred to the cross tube approximately mid-way between the centre tube and the port leading edge. The evidence indicated that this was the initial failure, which allowed the port leading edge tube to collapse inwards, and led to the uncontrollable descent. The cross tube failure was due to an encounter with high in flight load forces.

(x) During towed flight, particularly when the angle between the tow line and the kite reaches large values, kites can be exposed to very high load situations, sufficient to result in structural failure. A commonly used device which exerts forces to hold the kite at a lower angle with respect to the tow line, is the climb restricting 'V' bridle. Such a device was not used on this occasion. Recommended practice is for boat driver activities to be confined to steering while the observer is provided with a throttle control in a position which permits the person to face rearwards and be able to also operate the tow release. Should the observer detect a hazardous tow situation is developing he is able to assist by carefully reducing boat speed. The observer did not have access to a throttle control on this occasion.

4. OPINION AS TO-CAUSE

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The cause of the accident was that in flight the kite was subjected to loads in excess of its structural strength. From the available evidence it has not been possible to identify the precise circumstances which led to this high load being imposed but it is probable that the high loading was associated with inadequate procedures adopted by the pilot and the boat crew.

Delegate of the Secreta

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