

Slingsby (UK)

Status	Subject	Detail	Reference information	TNS
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Contact: Slingsby Aviation Ltd, Kirbymoorside, York. YO6 6EZ. 01751 432474

T 1 Grasshopper

Air Cadet Operational Notes and Maintenance Manuals are available from the BGA

Tutor (Cadet Mk 2) & T.31 (Cadet Mk 3, Tandem Tutor)

M	Main spar failure Rudder cable stops	major modification adjust to avoid fin loads	Mod.80	1962? 08/89
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T.21A & B Sedbergh

Tow hook	side plates cracked			10/93 & 08/80
Control stick	inter connect – failure threads cracked			12/93,10/91 & 06/83
Drag spar	attachment at pylon front cracked at bolt-hole			10/83
Elevator	disconnection in flight clevis pin too long - safety pin fouls on tailplane			06/84
Elevator	drive rod failure at ball-end fitting in cockpit - inspect annually			08/85
Elevator	end fitting to drive tube rivet failure- inspect annually			02/96 & 08/95
Main frames	1 & 4 cracked inspect annually			09/85 & 06/86
Control cables	damaged by lightening			04/87
Rudder cable stops	adjust to avoid fin loads			08/89
Wing root fittings	Cracks in welds			06/93

T.41 Skylark 2

M	Shoulder harness	canvas seats	Mod 96 (CAA)	
M	Shoulder harness	non canvas seats	Mod 97 (CAA)	
M	Canopy catch	improved type (lift off)	Mod 98 (CAA)	
M	Canopy catch	improved type (hinged)	Mod 99 (CAA)	
	Rudder stops	adjust to avoid fin load		06/87
	Fin spar inspection at the base	annual & after heavy landings etc	TN 107/T50	08/87
	Rudder cables	fouling on the fin		04/88

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Status	Subject	Detail	Reference information	TNS
<u>T.42 Eagle</u>				
M	Canopy retention strap Wing spars	fouls rear stick strengthening	Mod 1 Mod 5	
<u>T.43 Skylark 3 & T.50 Skylark 4</u>				
M	Wing root strengthening Wing fittings	severe corrosion inspect & treat as necessary	Mod 7	10/96 & 12/81
M	Harness attachments Canopy catch worn Fin spar inspection at the base Rudder stops Aileron misrigging Aileron pip-pin connector Elevator misconnected Rudder horn	excess backlash external lever does not function annual & after heavy landings etc adjust to avoid fin loads fit wing tips with ailerons neutral failed - aileron disconnected driver lower lug not in slot - loosens in flight severe corrosion	Mod 96 & 97 Mod 99 TN 107/T50 Skylark 3	06/83 08/87 06/87 10/92 06/93 04/97 02/99
<u>T.45 Swallow</u>				
M	Canopy catches Fin spar Rudder stops insecure Cockpit torque tube	insecure damaged by rudder cables after wearing through the fairlead resulting in rudder over-travel cracks	Mod 10	04/88 12/90
<u>T.49 A & B Capstan</u>				
	Cracks in bracing at frame 3 Air brake rod Tow release Rudder lower hinge Rudder stops Rudder-post Airbrakes jammed Fuselage skin Rudder cables	threaded end fractured adjacent to the brake cable frayed at pulley guard corroded adjust to avoid fin loads cracked at weld protruding bolt on brake paddle damaged by skid rubber air brake mechanism damaged damage airbrake rod cables wrapped around rod behind cockpit		08/74 03/75 08/84 12/82 08/87 10/93 06/97 08/98 08/98
M	Rudder torque tube	Inspection and modification	BGA 029/05/2002 iss.1	06/02

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Status	Subject	Detail	Reference information	TNS
<u>T51 Dart 15, 15R, 15WR, 17, 17R, 17WR</u>				
M	Undercarriage strengthening		Mod 66	
	Drag spar safety pins too long	become unlocked		08/79
	Aileron flutter	caused by excessive backlash (5 mm total play)		10/76 & 10/83
	Longerons	cracked at frame 6 in flight break up inspect annually & after any "event"		04/85
	Centre section frames & diagonals	cracked		08/85
	Longerons inspection	after heavy landings etc & annually		08/87
	Spar	corrosion at wing root		04/93 & 12/91
M	Dural spar boom	corrosion at bond mandatory inspection every 5 years	TI 109 iss 3	
	Elevator flutter	Revised inspection at issue 3 excess play between elevators		12/97 & 08/00 10/98
<u>T.53/YS-53 Sovereign</u>				
	Airbrakes locked out	mechanism jammed at fuselage frame 6		08/80
M	Elevator lever mounting bracket	replace (at rear control box)	TI 36, Mod 11	05/81
M	Tailplane incidence change		TI 40, Mod 15	05/81
M	Wing centre section	inspection and strengthening	AD 002-05-81, TI 66 & 68	05/81
M	Wing attachment	bracket (frame 6) inspection and replacement	AD 003-05-81, AD 004-05-81, TI 69 & 70	05/81
	Wing attachment	bracket (frame 6) inspection of replacement parts	TI 90	02/80 & 05/81
	Centre sections cracks	at frames 4 & 6	TI 100	08/85
	Frames 4 to 6	corrosion and loose rivets		07/86
M	Wing	Inspection of centre section	AD 001-10-82, TI 100/T53	
<u>T.59 A, C, D & H Kestrel 17, 19, 20 & 22 (Kestrel "2")</u>				
See Glasflugel section for Glasflugel 401 aircraft				
M	canopy	Modify canopy catch spigot mounting	TI 43, Mod 4	1973
M	Landing Gear	Reposition bolts on u/c operating shaft	Mod 5	
	Seal flaps and ailerons		TI 49, Mod 11	1973
M	Fit servo tab to elevator	series I becomes series II, aft C of G limit from 14.76" to 15.83"	TI 52, Mods 9 & 13	1973
M	Controls	Introduction of take off flap position on landing flap control	Mod 15	
M	Aileron	mass balance limits changed to avoid wing flutter	TI 54	1973
	Wings	Inspection	TI 62	

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Status	Subject	Detail	Reference information	TNS
	Elevator	Actuator fitting inspection	TI 63	
	Landing flap rods	check for end bending	TI 64	
M	Elevator actuator replacement	by part number 59A-30-25	TI 65, Mod 18	1974
	Rudder actuator	improved bearings fitted	TI 67, Mod 26	
	Airbrake	Tensions airbrake caps as necessary to prevent flap flutter		10/75
	Dive brakes	Operating limitations	TI 72	
M	Air brake	control system improvement	TI 75, Mod 28	04/75 & 06/75
	Root rib	'uniballs' - loctite them in	TI 76, Mod 31	1975
	Rudder cables	Inspection	TI 77	
M	Rudder cable failures (fatal)	fit stop to prevent rudder pedals going fully forward.	TI 78, Mod 33	10/75
	Controls	Repeated failures if pedal geometry is wrong		04/76
	Controls	Frequently inspect cables in the nose		04/77
M	New mass balancing limits	addendum 7 to pilot's notes		01/76
	Flap/aileron connections	reversed at bell cranks - check after assembly		07/76
	Critical areas	Inspection for loose bolts	TI 89	
M	Rudder drive annual crack check	mandatory 'Magnaflux' check	AD 002-01-82, TI 101/T59	
	07/86 & 12/81			
	Undercarriage operating arm	weld failure R H side of wheel box		09/82
	Flap drive shaft mount loose	damaged while rigging - caused flap flutter		10/83
	Flap and aileron 'buzz'	max total freeplays $\frac{1}{8}$ " & $\frac{1}{16}$ "		06/88 & 09/85
M	Elevator push rod inspection	for internal corrosion	TI 106,	02/87
	LE delamination	water ballast leak drill extra drain holes & inspect annually		08/88 & 06/87
	Aileron skew-drives	assemble with loctite to minimise backlash		06/88
	Aileron LE foul	with detached/loose gelcoat		06/90
	Tailplane front mounting lock	must be wire locked		BGA
	Winch hook angle changed	improved launch (optional)		04/99
	Water ingress at wing root rib	caused 12" x 6" of disbonding		12/99

T61 Series

Airworthiness Directives and Mandatory Modifications listed in CAA MAMIS

M	Elevator	Change of control rigging pin T61A	AD0170 PRE 80, TI 42, Mod 3
M	Engine mount studs	replacement of 10mm studs	AD0171 PRE 80, TI 45, Mod 10
M	Canopy	Addition of fasteners	AD0172 PRE 80, TI 50, Mod 15
M	Elevator ctr hinge	Inspection & replacement	AD0173 PRE 80, TI 53, Mod 16
M	Elevator tab	Inspection	AD0174 PRE 80, TI 55

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M	Aileron	Inspection of operating lever	AD 011-10-80, TI 79, Mod 17	
M	Rudder pedals	Reduction of stops	AD 012-10-80, TI 80, Mod 18	
M	Wing root fitting	Pin inspection	AD 009-11-80, TI 94	
M	Fuel shut off valve Truma V8M	8 year (seals) life limitation	AD 82-50/2, SB 653-41	02/90
M	Tailplane	Forward bracket inspection	AD 003-01-82, TI 102/T61	04/90
M	Wings	Inspection of wing centre pin	AD 003-06-82	04/95
M	Truma V8 fuel valves made after 1/6/96	exchange valve for new	AD 97-140, SB 653-67	08/97
M	Fuel shut off valve NK 490	fitted in place of Truma V8M	SB 653-70	02/98
M	Wings	Inspection of wing centre joint additional limitations	AD 001-07-82, TI 103/T61	07/82
M	Structural Audit (F)	Inspection of airframe (to be completed by April 2004)	TI 111/T61	02/03

T61 In Service Reports (Advisory)

I	SF-25/T-61 elevator tab cables	wire lock at tab		06/73
I	T-61 spar delamination at wing root			11/74
I	Longerons corroded at fin post	adjacent to microballoon filler		01/75
I	T-61 aileron hinges cracked	cracked at pin supporting plate weld	TI 73	06/75
I	T-61 elevator push rod fitting	cracks around holes at fork end in fus centre	TI 74	06/75
I	Wheel assembly bolt failures	fit larger (8mm) bolts		11/77
I	T-61 tailplane spar delamination	inspect annually	TI 81	03/79
I	SF-25/T-61 compass errors	magnetised canopy frame		12/79
I	Spar deterioration	water in spoiler boxes		06/95 & 12/80
I	SF-25/T-61 wing main pin holes	worn & splayed oval		12/80
I	T-61 ignition switch "live"	test		12/85
I	Crank case cracks	numerous cases - inspect regularly		02/87
I	SF-25/T-61 tailplane	front attachment cracked	TI 102	04/90
I	SF-25 fuel flow restriction	filter incorrectly installed		06/90
I	Top harness attachments	secure to transverse tube		01/93
I	Tubing on fuel gauges	hardens and leaks		06/95
I	T-61 magneto to crankshaft coupling	failure of type without reinforcing ring		06/96
I	Rear fuselage structure corrosion	near fin attachments		02/99
I	Aileron drive bearing failure	central hanger upper bearing between sticks		04/99
I	Tailplane front mount cracked through	inspect for cracks and poor welds		08/99
I	Throttle cable disconnected	check security at carburettor connection		10/99

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<u>T.65 A & D Vega & T.65C Sport Vega</u>				
	Loose pieces of resin in the wings	jam ailerons to be shaken out	TI 83	06/84, 08/83 & 08/79
M	Aileron actuator	fouls outboard hand hole	TI 84	08/79
M	Flap/airbrake	Modification if Mod 12 not c/out	TI 85, Mod 12	
	Water tanks	do not pressure fill at more than 2½ PSI	TI 86	08/79
M	Airbrakes inadvertently opening	airspeed restriction - lifted when Mod 12 has been carried out	TI 82	08/79
M	Wing spigots	replace	TI 87 issue 2	10/79
M	Wing strengthening		TI 88, Mod 27	10/79
	Critical areas	Inspection for loose bolts	TI 89	
M	Elevator actuator pin retention	replace circlip with split-pin	TI 91	04/80
M	Aileron vibration	mass balance increased (all models)	AD 002-05-81, AD 004-01-82, TI 92, TI 95	12/80
M	Elevator centre hinge-mounting	rib loose in TP - reinforce	TI 104	11/82
	Canopy jettison inoperative	check system annually	TI 105	11/82
	Flap drive failure	at universal joint at pilots quadrant Pre Mod 16 aircraft only	TN 108	08/90 & 08/87
	Tailplane attachment	cracks inspection within 6 months and after ground loops etc	TI 110/T65	06/99
M	Elevator Drive	BGA inspection of elevator drive U channel	BGA 006/08/2000 iss1	08/00
M	Flying controls	Elevator disconnection and tailplane attachment	BGA 013/13/2001 iss1, TI 104/T65 iss2	04/01

Vega In Service Reports, Advisory

Seat pan fouls elevator control	cut clearance as necessary	10/80
Canopy lock	screws loose in frame	12/80
Stern post detached from fin skin	inspect & repair as necessary	03/82
Tailplane mounting spigot	tongue cracked at bolt holes	02/83
Rudder travel restricted	at extremes of pedal adjustment limit pedal adjustment	06/84
Rudder cables	damaged by a screw at tail wheel retraction hinge, inspect	06/84
Elevator drive at base of fin	delaminated	08/85
Ailerons	jammed by wheel retraction with one U/C mechanism bolt reversed	09/85
Elevator hinge	axis & drive misaligned align to avoid excess backlash & flutter	02/88 & 10/86
Undercarriage mechanism wear	excess free play causes collapse	04/87
Rudder	water drains blocked	06/87
Tailplane	attachments cracks in GRP inspect frequently	02/88
Aileron	hinges and drive box corroded	08/88
Tailplane upper skin	unbonded from root rib	02/89
Tow release & brake cables	corroded & failed	06/89
Aileron actuator cover plate	jammed ailerons - always tape into place	06/89

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	Undercarriage lever failure	at rod end bearing in cockpit		06/91
	Undercarriage lever failure	at weld on u/c		12/93
	Flap drive yokes dis-bonded	noticed because of excess play in flaps		10/97
	Canopy	locking lever must face upwards to prevent accidental canopy opening		08/98
	Canopy	Latching lever bent, fouling seat and difficult to operate		04/05
	Landing gear	Frame damaged by incorrectly fitted bolt on operating arm.		3-2006