

BRITISH GLIDING ASSOCIATION

TECHNICAL COMMITTEE

TNS 4/5/81

1. AIRWORTHINESS AGGRO (Please add to 1981 Pink Pages).
  - 1.1. ASW 19/20 Aileron Hinge-Pins NOT secured. AD/81-74 (herewith) requires inspection for missing rivets.
  - 1.2. ASW 20/ASW 20L Aileron/Flap 'Buzz'. Where high frequency 'buzz' is reported, and at C. of A. renewal, check backlash limitations in accordance with flight manual instructions. (Gliding Federation of Australia).
  - 1.3. GROB ASTIR G103 'TWIN II' & 'TWIN II ACCRO'. Serial Numbers as listed in TM 315-13 (herewith), requires 'Exchange of the Trim Tube in the Elevator' (incorrect welding).
  - 1.4. LS3 A Series Gliders Canopy Jettison Inoperative. Long instruments and associated plumbing/wiring may foul the Jettison mechanism. (Reported by Martin Wells).
  - 1.5. T.53 / YS53 Mandatory (C.A.A.) Modifications The revised list from Slingsby Engineering is attached hereto. Please check compliance.
  - 1.6. Unsecured Equipment Jams Controls and causes damage in subsequent forced landing. A Lead-acid scooter battery broke loose in turbulence, became inverted, jammed the ailerons, and caused damage in forced landing. The stowage of equipment which has significant mass must be considered in the light of its airworthiness implications. B.G.A. Inspectors please check at C. of A. renewal inspections.
  - 1.7. KESTREL RUDDER CABLES damaged adjacent to rudder pedal assembly, after only 200 hours this problem continues to arise notwithstanding modifications. (Reported by J.D. Holland, Cotswold Gliding Club).
  - 1.8. MOSQUITO - undetected Heavy Landing damage to Elevator Controls. 'Down' elevator travel was significantly reduced due to bending of the inter-elevator connecting link and related tailplane attachment bracketry. No other damage to sailplane - subsequently, control nearly lost during winch launch. This type of damage may not be exclusive to this type of glider, and highlights the importance of 'in-depth' inspections after heavy-landing incidents. Data on control movements are usually contained in glider flight/maintenance manuals.
2. GENERAL MATTERS
  - 2.1. IS-28-B2 - Inaccurate Rigging of Ailerons. Attached diagram shows up aileron  $28^{\circ} \pm 2^{\circ}$ , down aileron  $10^{\circ} \pm 2^{\circ}$ . Handling may be improved. (Gliding Federation of Australia).
  - 2.2. SKYLARK 4 MAIN WING LUGS. Special long reamer (.005" O/S) can be acquired on loan from P. Philpot, Blackpool & Fylde Gliding Club. Slingsby Engineering can supply O/S pins.

- 2.3. BLANIK Oleo Pneumatic Struts - possible repair. Where oleo struts have deteriorated and will no longer contain oil/air, 2 Chipmunk Main Undercarriage Rubber 'doughnuts' may be inserted in lieu. (Proposed by S.L. Hoy, RAFGSA).

3. TUGS & MOTOR GLIDERS

- 3.1. FALKE Engine Control Failure - substantial damage. Failure to secure the outer-case of the throttle bowden cable resulted in engine malfunction and serious damage. (Doncaster Gliding Club Accident Report).

G.T.O. NOTE. Engine controls should be the subject of duplicate inspections and of engineering standards of the same integrity as flying controls.

- 3.2. Exhaust System Failure Led to Fatal Ditching. CASI/3/81 refers to Jodel DR 1050 ditching, in which 2 children and one adult were drowned. (Life-jackets were not worn !!). Engine intake ingested its own exhaust gases!

- 3.3. Cross Compass Errors CASI/3/81 reports aircraft 50 miles off-track. Compasses should be check swung on Annual Inspections (Ref. LAMS Section 3 para 2.2 (d) ), or wherever significant changes have been made. (All Types of Motor Gliders have suffered from Magnetised Canopy Tubular Structures).

- 3.4. Severe Injuries - Propeller Swinging. CASI/3/81 reports Auster accident in which the owners left arm was severed, together with other injuries.

C.A.A. Guidelines 'What to do if - you hand swing a propeller' - are attached herewith! (For Notice Board).

- 3.5. CARB-ICING H.Q. Air Cadets 'Gliding Safety Bulletin' 1/81 - herewith, applies equally to Tugs & Motor Gliders, whether on AVGAS or MOGAS. (Humidity is as important as OAT when it comes to making ICE!)

- 3.6. LAMS - C.A.A. request that we pay special attention to proper Log Book record keeping, especially the Green Pages, and the Red Pages, as well as recording repair work authorised by Regulation 16, so that C. of A. renewals ('Star' Inspections) will involve minimum 'Aggro' and minimum cost to you!

- 3.7. PA-18 Series (Piper Super Cubs) A/D 81-06-08, and Piper Service Bulletin 706 (23.2.81) requires inspection for cracks of the Tailplane Bracing Wire attachment TABs, on the rear fuselage.

- 3.8. Tug Tow Releases There are still some which have not yet been repositioned to give best access in a crisis, particularly under negative 'g' conditions (glider pitching the tug nose-down).

It is indefensible to continue to defy the advice that has been given following two fatal accidents in recent years, and to fail to comply with BCAR Section K4 - 10 - 6.1 (b) which states:

'The release control shall be so located that:

- a) it can be operated by the pilot in command, and,
- b) it is convenient to the hand normally used for operation of the engine power controls.

'It is recommended that the release control should take the form of a yellow grip of a convenient shape for grasping with a gloved hand'.

C.T.O. NOTES Floor mounted releases (PA 18/ Citabria) unless extended to give access with upper body restraint tight, and releases buried between the seats (Austers) cannot sensibly be defined as 'convenient'.

3.9. MOTOR-GLIDER C. OF A. RENEWAL APPLICATIONS

A further reminder that such renewals take time to process via the B.G.A. office to C.A.A., and return to Registered Owner. The Motor-Glider may only be flown under 'A' Conditions for the purpose of C. of A. renewal flight test.

Therefore, please anticipate this situation and sensibly complete renewal before expiry. You can also accelerate the process by letting C.T.O. know that the submission is on the way to the B.G.A. office.

R.B. STRATTON.  
CHIEF TECHNICAL OFFICER.

TNS /4/5/81

Airworthiness Directive

81-74 Schleicher

ASW 19/20

Date of issue:  
13, April 1981

AILERON HINGES

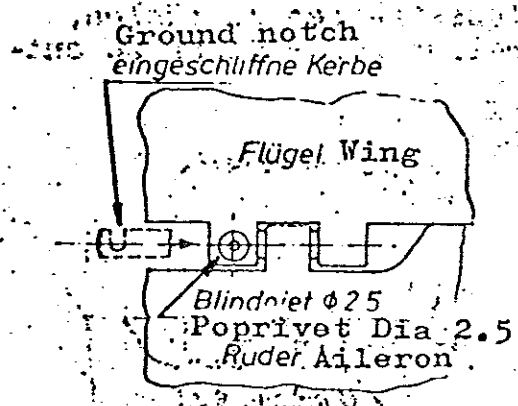
Affected sailplanes:  
German Type Certificate No.308  
Schleicher ASW 19,  
all serial numbers.

German Type Certificate No.314  
Schleicher ASW 20,  
all serial numbers.

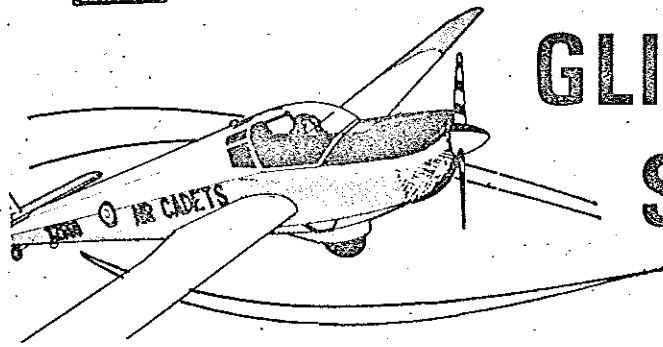
Subject:  
Aileron hinge

Reason:  
It may be possible that the aileron hinge shaft  
is not correctly secured.

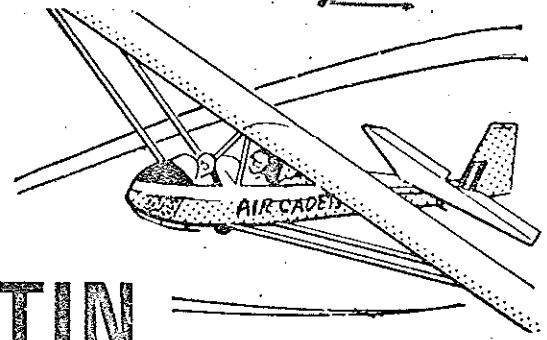
Action and compliance:  
Unless already accomplished, check the aileron hinges  
prior to next flight after publication of this AD to  
see, whether the pop rivet securing the aileron hinge  
shaft is in its place. (see figure).  
The rivet head can be felt under the adhesive tape.  
If necessary, remove this tape to facilitate checking.



Accomplishment and log book entry:  
Action to be accomplished by an approved service  
station and to be entered in the sailplane's log.



# GLIDING SAFETY BULLETIN



## CARBURETTOR ICE AND MOGAS

THE FOLLOWING ARTICLE WHICH APPEARED IN THE GENERAL AVIATION SAFETY COMMITTEE FLIGHT SAFETY BULLETIN No 4/80, WINTER 1980/81 IS COPIED BELOW FOR INFORMATION.

"AS NO DOUBT MANY OF OUR READERS ARE AWARE, FOR SOME MONTHS NOW THE BRITISH GLIDING ASSOCIATION HAS BEEN CONDUCTING A CAREFULLY MONITORED EXPERIMENT IN THE USE OF MOTOR-SPIRIT (MOGAS TO BS 4040, IE ORDINARY "4 STAR") IN A BEAGLE AIREDALE AEROPLANE FITTED WITH A STANDARD 8.5:1 COMPRESSION RATIO 180 HP LYCOMING O-360-A1A ENGINE. AS A RESULT OF SOME RECENT EXPERIENCE, THEY HAVE NOW ISSUED A WARNING TO ANYONE THINKING OF CONDUCTING A SIMILAR EXPERIMENT ABOUT A NEED DURING THE WINTER MONTHS FOR INCREASED VIGILANCE IN DETECTING THE SYMPTOMS OF CARBURETTOR ICING (POWER LOSS) AT ANY THROTTLE SETTING WHEN USING THIS FUEL.

IT WOULD APPEAR THAT, FROM NOVEMBER 1ST EACH YEAR, THE VOLATILITY OF MOGAS IS RAISED (AS MEASURED BY THE REID VAPOUR PRESSURE OR RVP) BY THE OIL COMPANIES IN ORDER TO ASSIST WITH STARTING IN COLD WEATHER. THE RVP OF AVGAS, ON THE OTHER HAND REMAINS UNCHANGED THROUGHOUT THE YEAR.

ACCORDING TO BGA, TESTS WITH THEIR AIREDALE TRIALS AIRCRAFT WHICH IS VERY COMPREHENSIVELY INSTRUMENTED, HAVE CONFIRMED THAT THE EFFECT OF THE HIGHER VOLATILITY OF WINTER GRADE MOGAS IS TO REDUCE THE CARBURETTOR CHOKE TEMPERATURE BY SOME 7°C WHEN COMPARED WITH SUMMER GRADE MOGAS OR AVGAS. So, USERS OF MOGAS, YOU HAVE BEEN WARNED!

/INCIDENTALLY

INCIDENTALLY, IF YOU ARE ONE OF THOSE THAT THINK THAT YOU CANNOT GET CARBURETTOR ICING WHEN OPERATING THE ENGINE AT FULL THROTTLE, ACCORDING TO EXPERIENCE IN THIS COUNTRY, YOU ARE IN FOR A RUDE SHOCK. IT WOULD SEEM THAT, NOT ONLY WILL ICE FORM READILY IN THE CARBURETTOR, ESPECIALLY WHEN OPERATING WITH A HIGH VOLATILITY FUEL IN HIGH HUMIDITY CONDITIONS, BUT SUFFICIENT CAN FORM TO CAUSE A SIGNIFICANT LOSS OF ENGINE POWER. IF ALLOWED TO CONTINUE FORMING UNCHECKED FOR TOO LONG, AND THAT COULD MEAN ONLY A FEW MINUTES WHEN USING WINTER GRADE MOGAS, THE LOSS OF ENGINE POWER COULD BE SUFFICIENT TO RESULT IN INSUFFICIENT HEAT BEING AVAILABLE FROM THE ENGINE TO CLEAR ALL THE ICE ON SELECTING CARBURETTOR HEAT ON, BEARING IN MIND THAT THE HEAT WILL MELT COME OF THE ICE TURNING IT INTO WATER WHICH THEN HAS TO GO THROUGH THE ENGINE CAUSING TEMPORARY FURTHER POWER LOSS AND ROUGH RUNNING. IT EASILY COULD RESULT IN A KIND OF VICIOUS CIRCLE RESULTING IN COMPLETE ENGINE FAILURE. INDEED, IT COULD WELL BE THE EXPLANATION FOR A RECENT FORCED LANDING DURING A FULL THROTTLE GLIDER TOW."

SERIAL 1/81 (MAR)  
(VENTURE)  
AC/27426/1/TA

HEADQUARTERS AIR CADETS



Technical Information  
TM 315-13

TNS/4/5/81

GROB G 103  
"TWIN II"  
GROB G 103A  
"TWIN II ACRO"

## GROB - ELEVATOR TRIM TUBE

**Subject:** Exchange of the trimm-tube in the elevator.

**Effectivity:** Glider aeroplane GROB G 103 "TWIN II" and GROB G 103A "TWIN II ACRO" of the following serial-numbers:

Serial-N° 3510, 3511 und 3515,  
from n° 3517 to 3529 and  
from n° 3531 to 3554,  
n° 3558, 3561, 3564, 3570 and 3571,  
and from n° 3574 to 3577 and n° 3605 included

**Accomplishment:** Latest date of action to be taken:  
31.03.1981

**Reason:** This action should be taken, because the trimm-tube of the mentioned gliders has an incorrect welding seam. It is possible that this incorrect seam breaks after a longer operation.

**Instructions:** This exchange should be taken in accordance to the repair instructions of TM 315-13.

**Material:**

- 1 trimm-tube n° 103B-4354 with fork-end and screw (M5)
- 1 tube  $\emptyset$  5 x 0,5 (11 mm long)
- 1 tube  $\emptyset$  5 x 0,5 (8 mm long)
- 2 screws M4 (LN 9348)
- 4 stretch-pins 2 x 10 DIN 1481

The material can be obtained by the manufacturer.

**Weight and balance:** No influence

**Remarks:** The correct action has to be certified by an authorized inspector (Prüfer Klasse 3) in the log book.

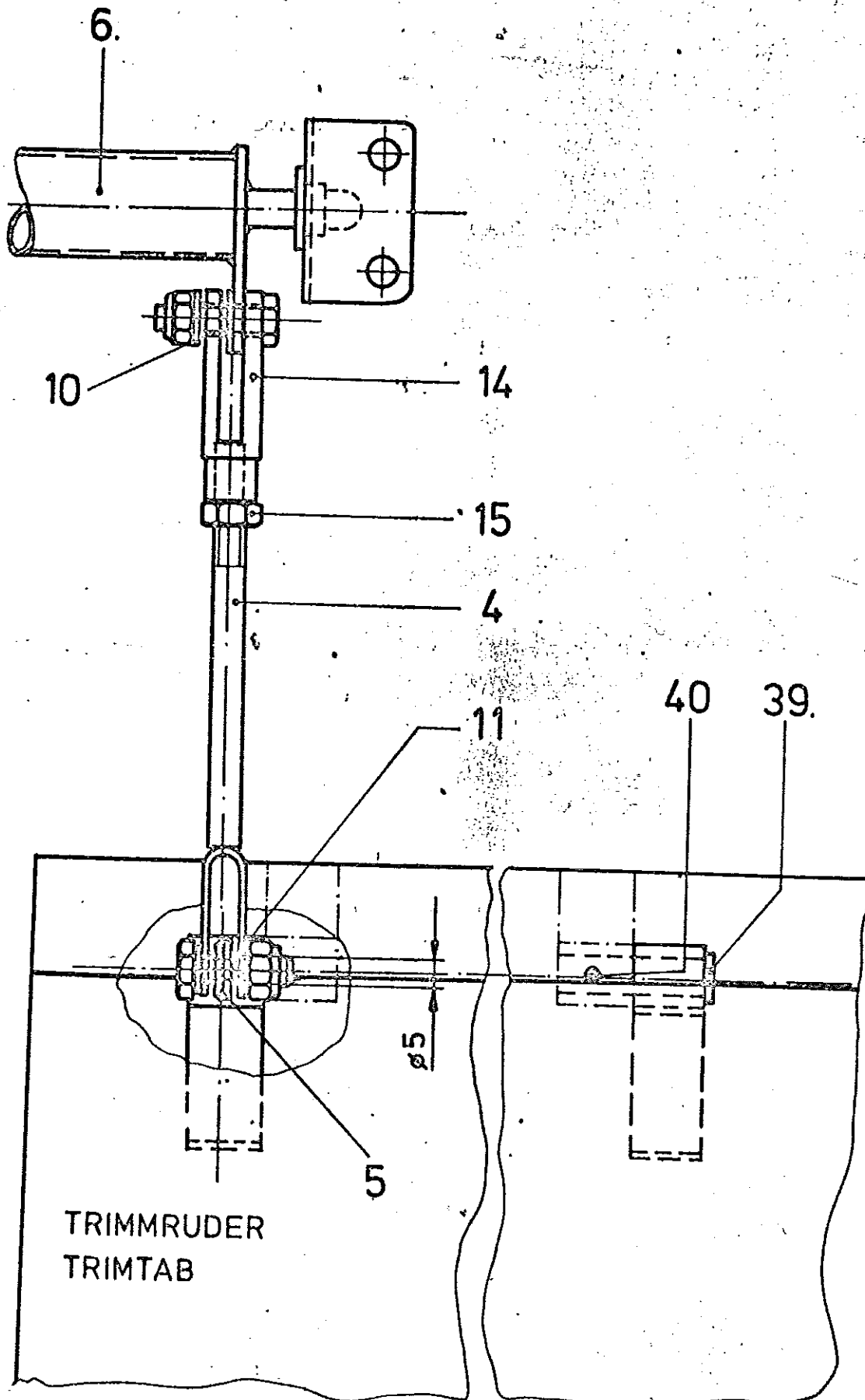
Mattsies, 12.01.1981

Signed: i.A. Dipl. Ing. H. Wilser

LBA-approved: 22.1.81

P.S. Provided your a/c is sold in the meantime, you are kindly requested to send this bulletin to the new owner as soon as possible and to inform us about this adress.

Datum	ersetzt Ausgabe vom	Bearbeitung		Seite
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Datum  
12.01.1981

ersetzt Ausgabe  
vom

Bearbeitung  
H. Wilser

Seite



T.53/YS53 MANDATORY MODIFICATIONS. APRIL 1981

T53

0156 PRE 80	Manufacturers MOD 11 Replacement of Mounting Bracket for Elevator Lever (Rear Control Box)	TI 36
0157 PRE 80	MOD 15 Change of Tailplane Incidence	TI 40

T53/YS53

0158 PRE 80	Inspection of Wing Centre Section	TI 66
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The above are Mandatory and listed in the U.K. Civil Aviation Authority publication "Mandatory Aircraft Modifications and Inspections Summary".

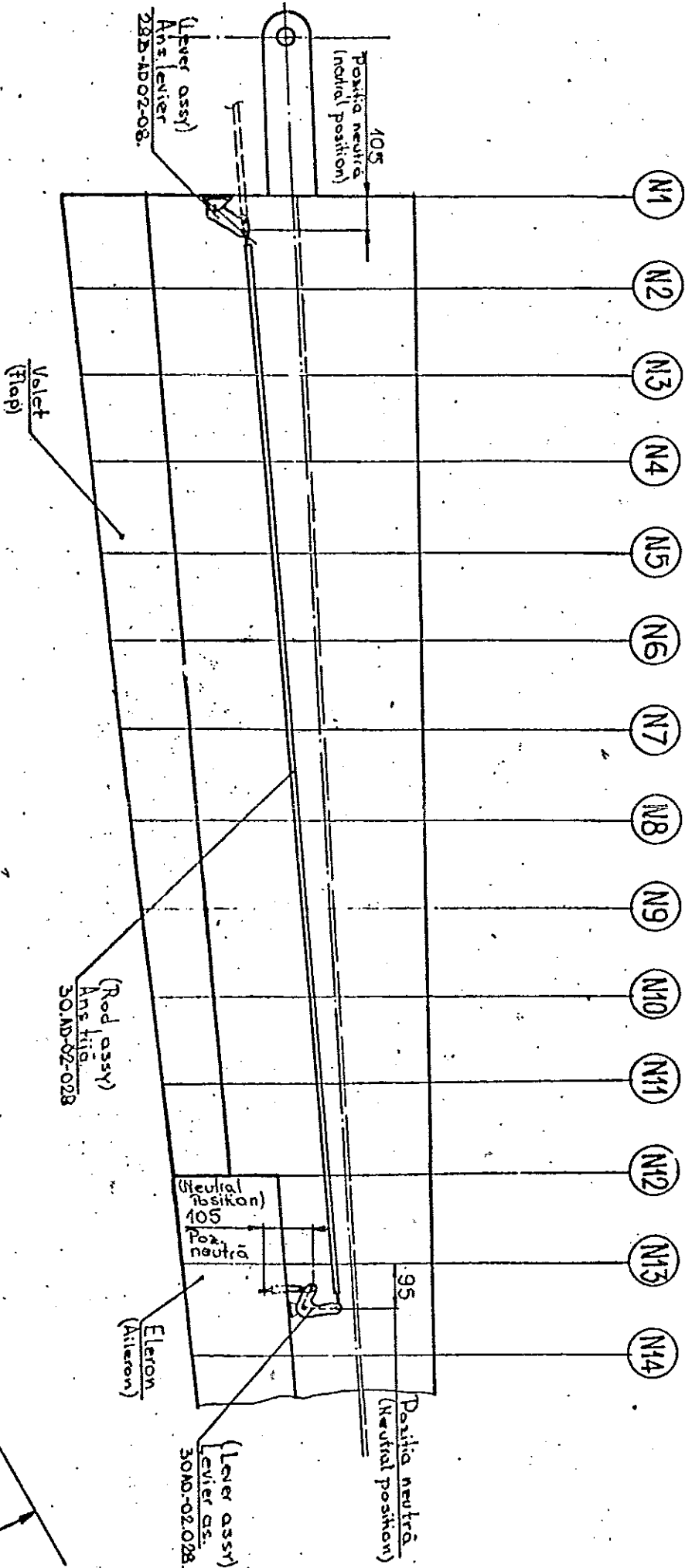
T53/YS53

	Introduction of Stronger Lifting Handle (Optional)	TI 38
	Strengthening of Wing Centre Section (Mandatory if TI 66 to be removed)	TI 68
	Replacement of attachment Bracket in Wing Centre Section (Mandatory to lift restriction imposed by TI 69.)	TI 70
	Inspection of Attachment of Wing Centre Section to Frame 6 Mandatory.	TI 69
	Inspection of Wing Centre Section. Recurrence of Defect TI 69 on modified aircraft.	TI 90

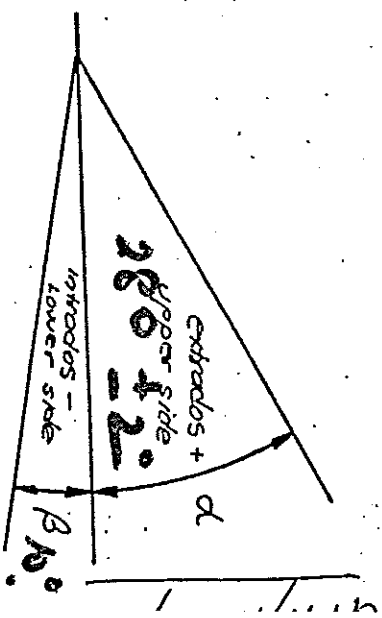
The above were declared Mandatory by Slingsby Sailplanes.

TI 68 and TI 70 required to be carried out by an Approved Repair Organisation.

**POZITIONARE LEVIERE C-DR ELERON - Pozitia - 0°**  
 POSITIONING OF ALERON CONTROL LEVERS - 0° Position



IS. 28.R.2. AILERON FIGURE



Bracarea eleranelor : +28 ± 2  
 Aileron

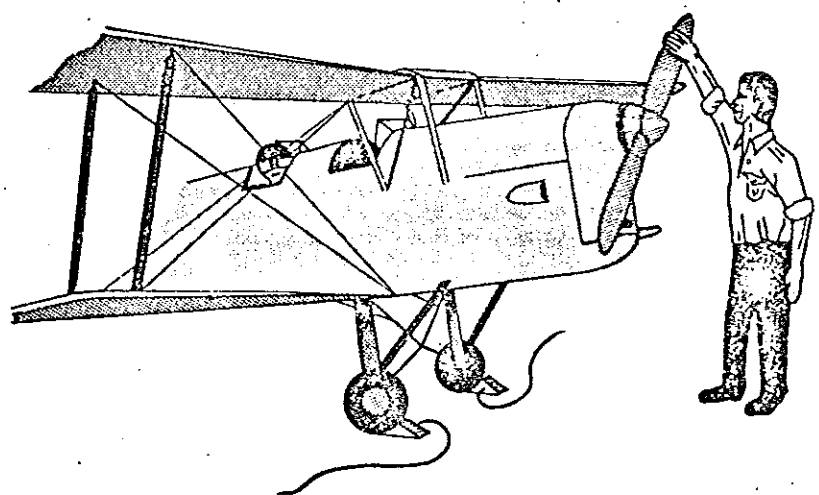
TNS 4/5/81

YOU HAND SWING A PROPELLER

PROPELLER SWINGING.

The following general procedures are based on CAA Civil Aircraft Inspection Procedures Part II "Aircraft Handling", and on FAA Mechanics General Handbook Chapter II Ground Handling. It is recognised that on certain aircraft different techniques may be necessary, but the general advice is still relevant.

1. Extreme care is essential when starting piston engines by hand swinging. Many accidents have occurred and both pilots and maintenance personnel should be given demonstrations and be checked out on this method of starting before being allowed to hand swing a propeller.
2. The propeller swinger is in charge of the operation. He should not wear scarves, head wear or loose clothing which could catch in the propeller.
3. The aircraft should be properly chocked.
4. The ground immediately in front of the propeller should be firm; slippery grass, mud, oil or loose gravel could lead to a fall into the propeller.
5. The propeller should always be treated as 'live' since the switches which control the magnetos operate on the principle of short-circuiting the current to turn the ignition off. If the switch is faulty it can be in the off position and still permit current to flow in the magneto circuit. In any case it has been known for a hot engine to fire even with the switches off.
6. No attempt should ever be made to start an engine without someone in the cockpit to operate the switches, throttle, etc.
7. Never allow any portion of the body to be in the propeller path.
8. A set sequence of calls and responses should be used to ensure that the swinger and the pilot are fully aware of the action being taken.
9. Stand close enough to the propeller to be able to step away at an angle of 45° to the propeller as it is pulled down. Stepping away is a safeguard in case the brakes fail. Do not stand in a position that requires leaning towards the propeller to reach it, as the body will be off balance and could result in falling into the propeller when the engine starts.
10. When swinging the propeller always move the blade downwards by pushing with the palm of the hand. Do not grip the blade with the fingers curled over the edge, since any kickback may break them or draw the body into the blade path. Follow through with the arm so that it is clear of the blade path.



11. Starting at the position shown in the Figure the propeller should be swung by moving the
  - right arm clockwise for Gipsy, Cirrus, Renault and Volkswagen engines i.e. European designed engines
  - left arm anticlockwise for horizontally opposed American designed enginessmartly down and across the body turning away from the propeller and stepping away.
12. When cold, engines should always be turned through at least two revolutions before starting to free the reciprocating and rotating parts and to determine whether a hydraulic lock has formed. The switches must be off.
13. To prime the cylinders the swinger should stand away from the propeller, face the pilot so that each is visible to the other and call SWITCHES OFF, PETROL ON, THROTTLE CLOSED, SUCK IN. The pilot should repeat these words, carrying out the appropriate actions at the same time. The swinger should then set the propeller to the beginning of the compression stroke and turn the engine through at least two revolutions.
14. To start the engine the swinger should set the propeller at the start of the compression stroke, and standing away from the propeller, face the pilot and call THROTTLE SET - CONTACT. The pilot should set the throttle for starting call THROTTLE SET - CONTACT and switch on the appropriate magneto(s) - as detailed in the operating instructions. The swinger should then swing the propeller as outlined in para 11. If the engine does not start, the swinger should call SWITCHES OFF and the pilot should switch off and confirm this by calling SWITCHES OFF before the propeller is reset for a further attempt.
15. If the engine fails to start through over-richness, the swinger should face the pilot and call SWITCHES OFF, PETROL OFF, THROTTLE OPEN, BLOW OUT. The pilot should repeat these words, carrying out the appropriate actions at the same time. The swinger should then turn the propeller for several revolutions in the reverse direction of rotation to expel the mixture from the engine. This will usually entail swinging the propeller up from about the 6 o'clock position using the opposite hand. The throttle should then be closed, the petrol turned on, and the operations outlined in para 14 continued.
16. After the engine has started take particular care when removing the chocks.