

AIR
PUBLICATION OFFICE
HEADQUARTERS, 64 (N) GAD
RAF, RUFFORTH, YORK

RESTRICTED

AIR PUBLICATION

4309 A

VOLUME 2



SEDBERGH TX Mk. 1 LIGHT GLIDER

GENERAL ORDERS AND MODIFICATIONS

Prepared by direction of
the Minister of Supply

A. T. Poulton

Promulgated by Order
of the Air Council

J. H. Barnes

AIR MINISTRY

AMENDMENT RECORD SHEET

Incorporation of an Amendment List in this publication is to be recorded by inserting the Leaflet Section Letter and number against the Amendment List number, signing in the appropriate column and inserting the date of making the amendment. The necessary entries must also be made on the relevant Section Contents Lists.

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AIRCRAFT

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**Sedbergh TX Mk. 1 Light Glider—Spoiler Control Shackles, Part No.
A.G.S.690/B, introduced to replace existing Spring Loaded Clips**

(MOD. NO. SEDBERGH/26.)

(Class B/2.)

(7/Mods/11,523.—8.1.51.)

1. This modification has been necessitated in consequence of reports of straightening of the spring loaded clips, joining the spoiler cables between the fuselage and wings, and provides for replacement of the clips with shackles, Part No. A.G.S.690/B. The modification will take approximately $\frac{1}{4}$ man-hour to fit.

2. Subject to the availability of parts, this modification is to be embodied by:—

2nd Line Servicing Units: On or before the next Minor Servicing

3rd Line Servicing Units (R.S.U.s): As detailed in Air Publication 3158, Vol. 2, Leaflet B/6

4th Line Servicing Units (Repair Depots): Before issue of aircraft

Aircraft Storage Units: Before issue of aircraft.

3. The following is the sequence of operations:—

(Refer to Drg. No. A.P.4309A/D.1/51.)

(1) Remove wing root cover plate.

(2) Disconnect spoiler cables at spring clips and remove spring clips. Insert shackles, Part No. A.G.S.690/B, through ends of cables from wing and connect up as shown in the drawing.

(3) When the modification has been embodied and inspected in accordance with current procedure, the wing modification plates are to be marked with the modification number as given at the heading of this leaflet, and the relevant entries are to be made in the appropriate Servicing Records (including the copy of Form 1125 carried in the aircraft.

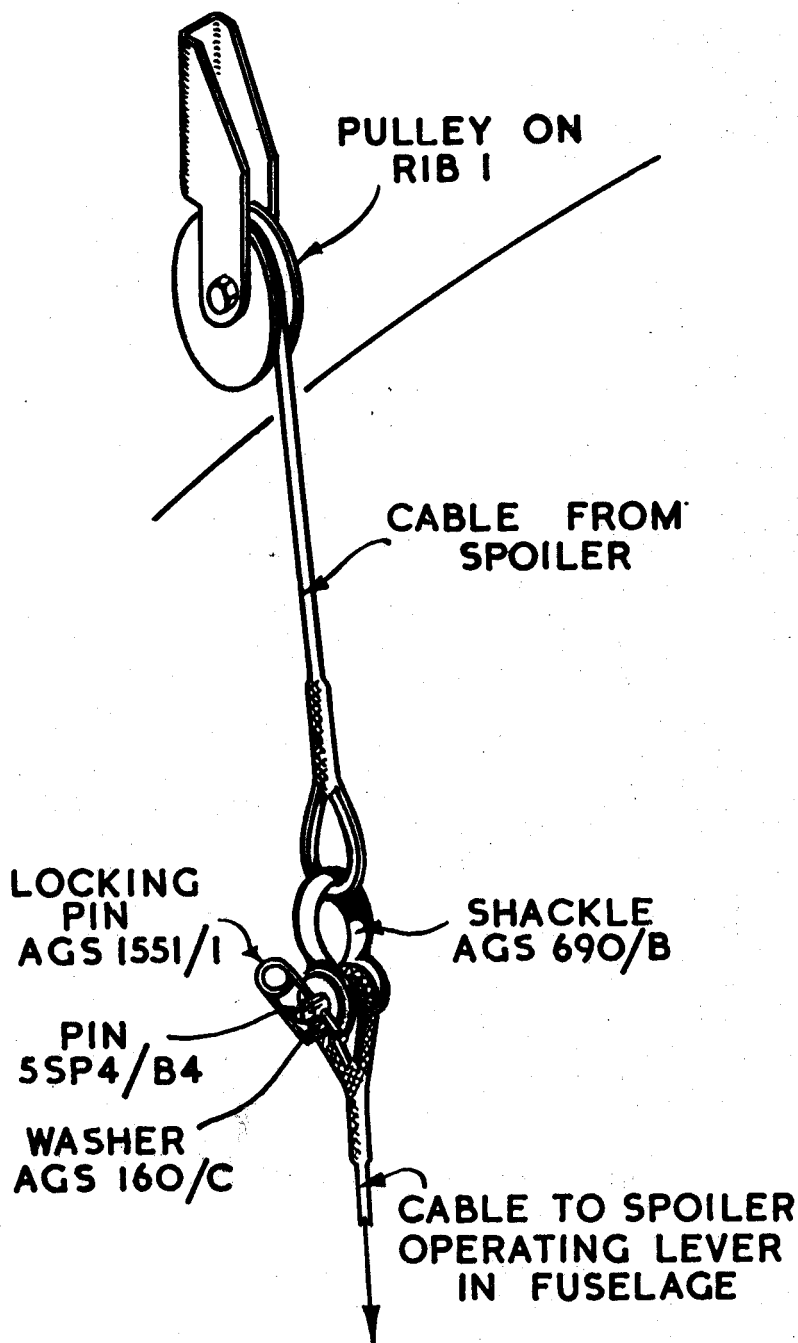
4. The undermentioned parts are required and are to be provided under Unit arrangements:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
28Y/2899	A.G.S.690/B	Shackle	2	C
28P/830	SP4Y/B4	Pin	2	C
28W/3071	A.G.S.160/C	Washer	2	C
28P/5210	A.G.S.1551/1	Safety pin	2	C

5. The following items are rendered redundant and are to be disposed of in accordance with current authorized procedure:—

<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
Spring clips	2	C

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DRG. NO A.P.4309 A /D.1 / 51

L.P.22993 1/51 375 C & P Gp.959 (4)

**Sedbergh TX Mk. 1 Light Glider—Rudder Control Cable Pulleys Deleted,
Cable Runs Revised and W.9 in place of W.2 Cable—Introduction**

(MOD. NO. SEDBERGH/21.)

(Class B/4 on replacement.)

(7/Mods/10823.—5.6.51.)

1. This modification has been necessitated by the high rate of wear occurring in rudder cables and makes provision for straightening the cable runs and altering the material for the cable. The work will take approximately 4 man-hours.

2. This modification is to be embodied on replacement of rudder control cables made from material to B.S. Specification W.2.

3. The following is the sequence of operations:—

(Refer to Drg. No. A.P.4309A/D.2/51, sheets 1 and 2)

Note:—Cables made from material to B.S. Specification W.9., have W.9. stamped on the inspection tag and this should be checked before new cables are installed.

(1) Disconnect cables from rudder pedals by removing clevis pins, attaching turnbuckles to links on pedals.

(2) Remove rudder control pulleys in rear fuselage.

(3) Disconnect cables from rudder horn, by removing pin attaching cable to horn on starboard side, and pin attaching shackle to link on port side.

(4) Attach lengths of cord to front end of cables, and withdrew cable from rear fuselage, at the same time paying out cords from the cockpit. Unfix cables from cords and tie cords to structure to prevent them from pulling back into fuselage.

(5) Remove fabric in area where new ply web is to be attached.

(6) Cut away existing ply web in the area shown on sheet 1 of the drawing.

(7) Make up reinforcing blocks, Part No. 21B-1-18/131, and fix to diagonal, as shown in sheet 1 of the drawing.

(8) Cut 12 to 1 splices round edges of existing ply webs.

(9) Fix bracing member, Part No. 21B-1-18/134, as shown in sheet 1 of the drawing.

(10) Mark out and prepare new ply web, as shown in sheet 1 of the drawing.

(11) Glue new ply web into position, and hold all glued joints with nailed strip until glue has hardened.

(12) Fix front fairlead, Part No. 21B-1-111/C and 7-1-71/3, with 4 B.A. screws, A.G.S. 249/65, 4 B.A. stiffnuts, A.G.S. 2001/B/1, and 4 B.A. washers, A.G.S. 160/B.

(13) Fix rubbing strip, Part No. 21B-1-111/D, with No. 4 woodscrews, A.G.S. 250/20.

(14) Disconnect bottom elevator cable from elevator control lever on frame 4 and withdraw cable through fairlead on frame 5.

(15) Remove the three positioned fairleads of frame 5, which takes rudder and bottom elevator cables, and reposition on rear face of frame, using same attachment holes; fix with 4 B.A. screws A.16Y/13B and stiffnuts, A.G.S. 2001/B/1. Thread bottom elevator

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cable through centre hole in fairlead, as shown in sheet 2 of the drawing, and reconnect to bottom of elevator horn, using existing clevis pin and new split pin, A.G.S.784/2.

(16) Withdraw cords which were attached to old rudder cable from old slots in rear fuselage and thread through slots in new ply webs.

(17) Attach front ends of new rudder cables to ends of cord hanging through slots in rear fuselage, ensuring that cable, Part No. 21-B0176/E is attached to the starboard side and cable, Part No. 21B-1-76/F, is attached to port side.

(18) Pull cable down rear fuselage, by means of cords, to fairlead on frame 5. Thread cable from starboard side through top hole in fairlead and cable from port side through bottom hole, as shown in sheet 2 of the drawing.

(19) Thread rubber cables through fairleads on frame 4 and attach to rudder pedals, ensuring that cable from port slot in the rear fuselage passes through the fairlead on the starboard side of frame 4 and attaches to the starboard rudder pedal arm, and that the cable from the starboard slot passes through the port fairlead and attaches to the port arm.

(20) Replace fabric which was removed in rear fuselage and fix fabric patch over old rudder cable slot. Treat fabric as instructed in A.P.4309A, Vol. 6, Part 1, Chap. 1.

(21) Connect rudder cables to rudder horn, using existing clevis pins and new split pins, A.G.S.784/2.

(22) Adjust rudder and elevator cables as instructed in A.P. 4309A, Vol. 1, Part 2, Sect. 3, Chap. 1.

(23) Lock all turnbuckles.

(24) When the modification has been embodied and inspected in accordance with current procedure, the fuselage modification plate is to be marked with the modification number as given at the heading of this leaflet, and the relevant entries are to be made in the appropriate Servicing Records (including the copy of form 1125 carried in the aircraft).

4. The following parts are required and are to be provided under Unit arrangements:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>Class of</i> <i>No off Store</i>	
26EE/93	21B-1-76/F	Rudder, cable, port	1	C
26EE/94	21B-1-76/E	Rudder, cable, stab'd.	1	C
26EE/-	21B-1-111/C	Fairlead, (Make from (Stores Ref. 5F/2132))	4	C
26EY/18	7-1-71/3	Fairlead	4	C
26EE/-	21B-1-111/D	Rubbing, strip, (Make from (Stores Ref. 5F/2129.))	2	C
26EE/-	21B-1-18/131	Block, spruce, (Make from (Stores Ref. 31A/141. 2½ in. × ¾ in. × ½ in.))	4	C
26EE/-	21B-1-18/134	Member, spruce, (Make from (Stores Ref. 31A/142. 7½ in. × ¾ in. × ¾ in.))	2	C
26EE/-		Web, birch ply, (Make from (Stores Ref. 31A/27. 16 in. × 6½ in. × ⅛ in.))	2	C
28D/11993	A.S.1242/12B	Bolt, 4 B.A.	4	C
28M/10287	A.G.S.2001/B/1	Nut, stiff, 4 B.A.	4	C
28W/3070	A.G.S.160/B	Washer	4	C
28S/2176	A.G.S.250/20	Woodscrew	4	C
28P/503	A.G.S. 784/2	Pin, split	4	C

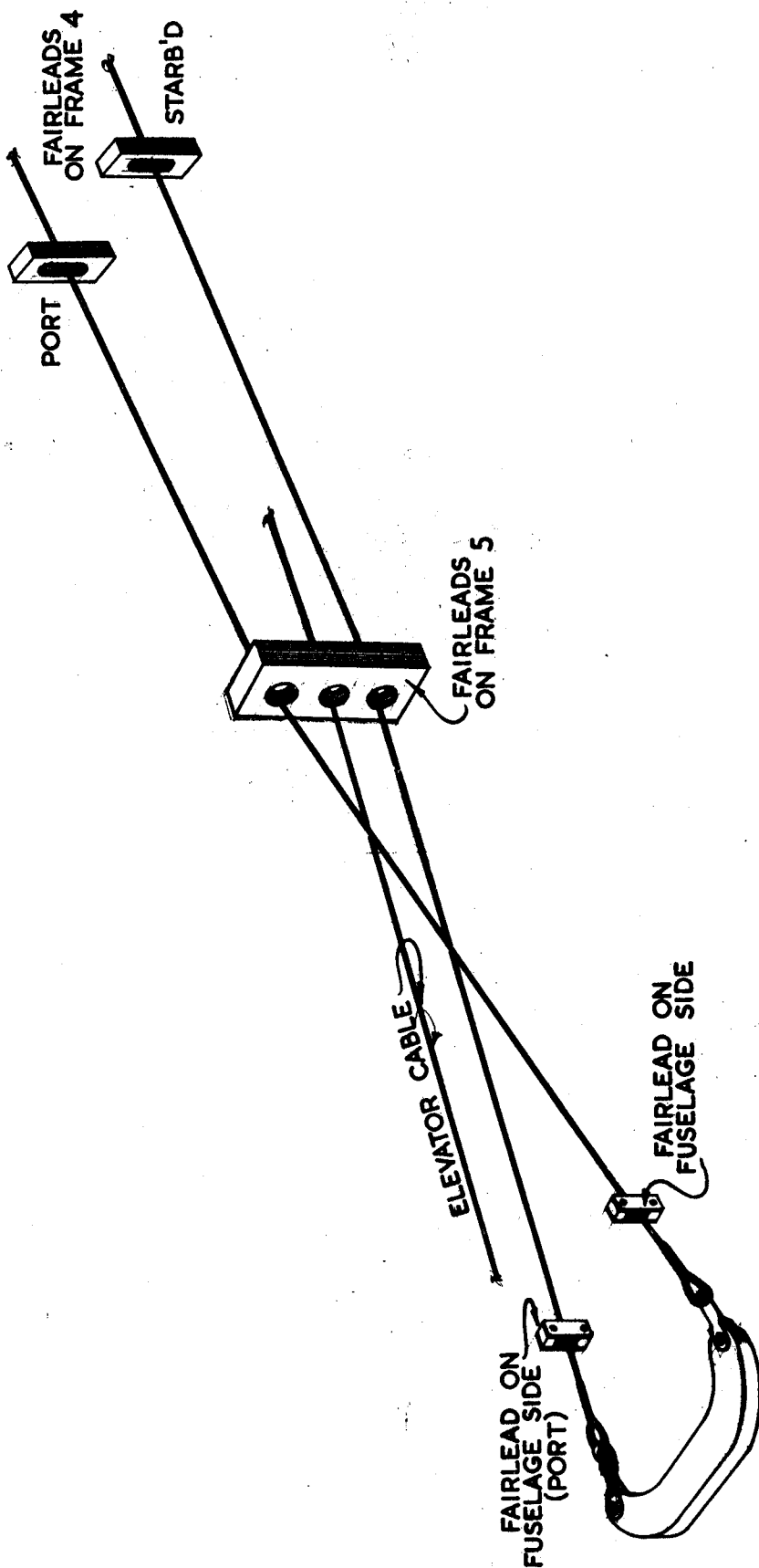
Materials to be obtained from local resources.

None

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5. The undermentioned parts rendered redundant by the embodiment of this modification are to be handed over or reported to the Unit Salvage Officer for disposal as salvage in accordance with Air Publication 3045:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>Class of No. off Store</i>	
26EE/93	21B-1-76/F	Rudder, cable, port (in W.2 material).	1	C
26EE/94	21B-1-76/E	Rudder, cable, stb'd. (in W.2 material).	1	C
26EE/-	I.P.64	Pulley	2	C
26EE/-	7-1-69/2	Bush	2	C



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DRG. N° A.P4309A / D.2 / 51
SHEET 2

LP23493 6/51 375 C & P Gp. 959 (4)

A.L. No. 5 (Control cables)

A.P.4309A, Vol. 2
Leaflet No. D.3

Sedbergh TX Mk. 1 Light Glider—Top Elevator and Hook Quick Release Control Cable changed from W.2 to W.9 to improve Durability—Introduction

(MOD. NO. SEDBERGH/19.)

(Class B/4 on replacement.)

(7/Mods/10,822.—7.7.51.)

1. This modification has been introduced to replace the top elevator and quick release control cables, which were made from material to B.S. Specification W.2., with cables made from material to B.S. Specification W.9. This change will reduce the replacement rate for the cables concerned. The work will take approximately 3 man-hours to fit.

2. This modification is to be embodied on replacement of top elevator cable or quick release cable made from material to B.S. Specification W.2.

3. The following is the sequence of operations:—

Note:—Cables made with W.9 material have the letters W.9 stamped on the inspection tag, and this should be checked before new cables are fitted.

Quick Release Cable.

(1) Disconnect cable from release by removing splitpin, and clevis pin attaching it to operating lever.

(2) Remove splitpin which acts as cable guard in pulley assembly at top of frame 1.

(3) Remove shackle from cable and withdraw cable through hole in frame 1 and fairlead on instrument panel.

(4) Thread in new cable, Part No. 21B-1-76/G, and fix to lever on quick release, using original clevis pin and new split pin, Part No. A.G.S.784/2.

(5) Insert new splitpin, Part No. A.G.S.784/2, in pulley on frame 1 to act as cable guard.

Top Elevator Cable.

(6) Disconnect existing elevator cable from link plates at top position of frame 4 and top of lever in rear fuselage.

(7) Remove pulley from bracket on former in front of tailplane.

(8) Attach length of cord to front of existing cable and withdraw existing cable from tail end.

(9) Thread in new cable, Part No. 21B-1-76/C, by means of cord, and fix to lever on frame 4 and in rear fuselage. Use existing clevis pins, and lock with new splitpins, Part No. A.G.S.784/2.

(10) Position cable in groove of pulley and refix pulley in bracket on former, in front of tailplane. Lock slotted nut with new splitpin. Part No. A.G.S.784/2.

(11) Adjust turnbuckles as instructed in Air Publication 4309A, Vol. 1, Part 2, Section 3, Chapter 1, and lock.

(12) When the modification has been embodied and inspected in accordance with current procedure, the fuselage modification plate is to be marked with the modification number as given at the heading of this leaflet, and the relevant entries are to be made in the appropriate Servicing Records (including the copy of Form 1125 carried in the aircraft).

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4. The undermentioned parts are required, and are to be provided under Unit arrangements:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
26EE/116	21B-1-76/G	Cable, quick release	1	C
26EE/95	21B-1-76/C	Cable, top elevator	1	C
28P/5031	A.G.S.784/2	Pin, split	5	C

5. The undermentioned parts, rendered redundant by the embodiment of this modification, are to be handed over or reported to the Unit Salvage Officer, for disposal as salvage in accordance with Air Publication 3045:—

<i>Nomenclature</i>	<i>No. off</i>
Top elevator cable in B.S. Spec. W.2 material	1
Quick release cable in B.S. Spec. W.2 material	1

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Section I Contents List

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**Sedbergh TX Mk. 1 Light Glider—Harness, type Q (Stores Ref. 6F/198)
replaces Sutton Harness, type A—Introduction**

(MOD. NO. SEDBERGH/17.)

(Class B/3.)

(7/Mods/11,522.—6.4.51.)

1. This modification has been necessitated by the requirement to replace the Sutton harness, and makes provision for the incorporation of Harness, type Q. The work will take approximately 4 man-hours.

2. Subject to the availability of parts, this modification is to be embodied by:—

2nd Line Servicing Units: On or before next Major Servicing

3rd Line Servicing Units (R.S.U.s): As detailed in A.M.O. A.719/47 or A.P.3158, Vol. 2, Leaflet No. B.6

4th Line Servicing Units (Repair Depots): Before issue of aircraft

Aircraft Storage Units: Before issue of aircraft.

3. The following is the sequence of operations:—

(Refer to Drg. No. A.P.4309A/J.1/51.)

(1) Remove existing Sutton harnesses by disconnecting the lap straps where they attach to the links projecting through frame 3, at bottom edges of the parachute boxes, and the shoulder straps by removing bolt fixing attachment links to strut attachment fitting.

(2) Assemble harness shoulder straps to link up Part No. 21B-1-112, as shown in the drawing.

(3) Assemble shoulder straps into fuselage by threading links through harness slots in frames 3 and 4, and fixing links to strut attachment fittings with $\frac{1}{4}$ in. B.S.F. bolt, nut and washer, as shown in the drawing. Lock nut by pipping bolt in three places.

(4) Assemble lap straps to fuselage by fixing end lug to links at frame 3, as shown in the drawing. Ensure when assembling lap straps, to see that the release is positioned in such a way that the word "FASTEN" is at the top.

(5) When the modification has been embodied and inspected in accordance with current procedure, the fuselage modification plate is to be marked with the modification number as given at the heading of this leaflet, and the relevant entries are to be made in appropriate Servicing Records (including the copy of Form 1125 carried in the aircraft).

4. The following parts are required:—

(1) *Modification Kit.*

These parts comprise a kit, and are to be demanded, as such, by Home Units from the P.S.C.O., No. 25. Maintenance Unit. Demands for sets of parts must quote the relevant modification number.

(a) Modification kits are not yet available. Home Commands will be advised by postagram from Air Ministry when sets have been received.

Stores Ref.	Part No.	Nomenclature	No. off	Class of Store
26EE/117	21B-1-112	Link	2	C
26EY/38	7-1-87	Link	8	C

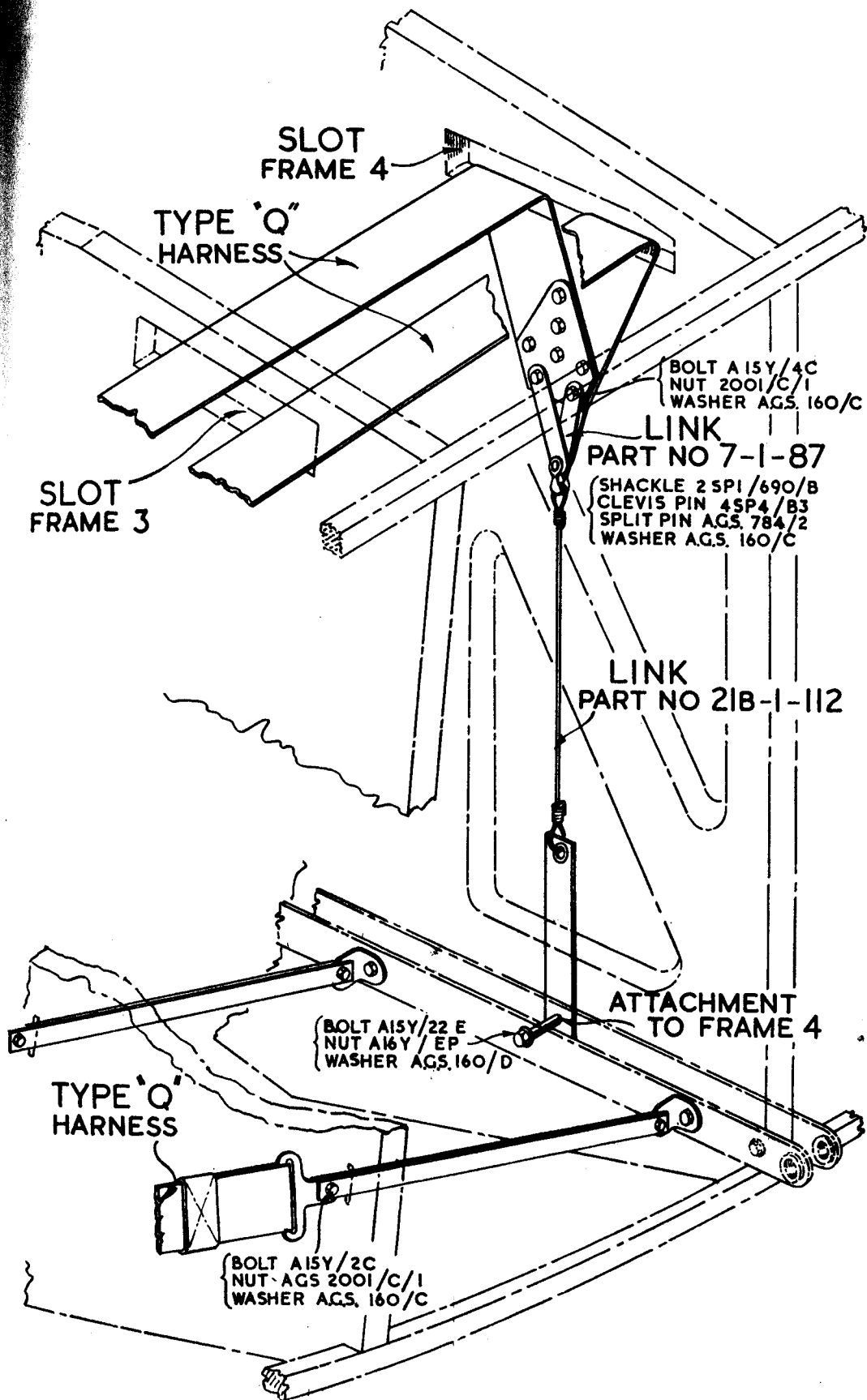
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(2) The undermentioned parts are required, and are to be supplied under Unit arrangements:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
6F/198	—	Harness, type Q	2	A
28D/7887	A15Y/22E	Bolt, $\frac{1}{4}$ in. B.S.F.	2	C
28D/7064	A15Y/4C	Bolt, 2 B.A.	4	C
28D/7277	A15Y/2C	Bolt, 2 B.A.	4	C
28M/756	A16Y/EP	Nut, $\frac{1}{4}$ in. B.S.F.	2	C
28M/10288	A.G.S.2001/C/1	Nut, stiff, 2 B.A.	8	C
28W/3072	A.G.S.160/D	Washer	2	C
28W/3071	A.G.S.160/C	Washer	10	C
28Y/2899	2SP1/690/B	Shackle	2	C
28P/829	4SP4/B3	Pin, Clevis	2	C
28P/5031	A.G.S.784/2	Splitpin	2	C

5. The undermentioned parts, rendered redundant by the embodiment of this modification, are to be handed over or reported to the Unit Salvage Officer for disposal as salvage in accordance with Air Publication 3045:—

<i>Stores Ref.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
6F/165	Sutton harness, type A	2	A
26EE/-	Link, 21B-1-20	2	C



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DRG. N° A.P.4309A /J.1 /51

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2	Harness Type ZR Intro	37	10							
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**Sedbergh TX Mk. 1 Light Glider—Harness, type Q (Stores Ref. 6F/198)
replaces Sutton Harness, type A—Introduction**

(MOD. NO. SEDBERGH/17.)

(Class B/3.)

(7/Mods/11,522.—6.4.51.)

1. This modification has been necessitated by the requirement to replace the Sutton harness, and makes provision for the incorporation of Harness, type Q. The work will take approximately 4 man-hours.

2. Subject to the availability of parts, this modification is to be embodied by:—

2nd Line Servicing Units: On or before next Major Servicing

3rd Line Servicing Units (R.S.U.s): As detailed in A.M.O. A.719/47 or A.P.3158, Vol. 2, Leaflet No. B.6

4th Line Servicing Units (Repair Depots): Before issue of aircraft

Aircraft Storage Units: Before issue of aircraft.

3. The following is the sequence of operations:—

(Refer to Drg. No. A.P.4309A/J.1/51.)

(1) Remove existing Sutton harnesses by disconnecting the lap straps where they attach to the links projecting through frame 3, at bottom edges of the parachute boxes, and the shoulder straps by removing bolt fixing attachment links to strut attachment fitting.

(2) Assemble harness shoulder straps to link up Part No. 21B-1-112, as shown in the drawing.

(3) Assemble shoulder straps into fuselage by threading links through harness slots in frames 3 and 4, and fixing links to strut attachment fittings with $\frac{1}{4}$ in. B.S.F. bolt, nut and washer, as shown in the drawing. Lock nut by pipping bolt in three places.

(4) Assemble lap straps to fuselage by fixing end lug to links at frame 3, as shown in the drawing. Ensure when assembling lap straps, to see that the release is positioned in such a way that the word "FASTEN" is at the top.

(5) When the modification has been embodied and inspected in accordance with current procedure, the fuselage modification plate is to be marked with the modification number as given at the heading of this leaflet, and the relevant entries are to be made in appropriate Servicing Records (including the copy of Form 1125 carried in the aircraft).

4. The following parts are required:—

(1) *Modification Kit.*

These parts comprise a kit, and are to be demanded, as such, by Home Units from the P.S.C.O., No. 25 Maintenance Unit. Demands for sets of parts must quote the relevant modification number.

(a) Modification kits are not yet available. Home Commands will be advised by postagram from Air Ministry when sets have been received.

Stores Ref.	Part No.	Nomenclature	No. off	Class of Store
26EE/117	21B-1-112	Link	2	C
26EY/38	7-1-87	Link	8	C

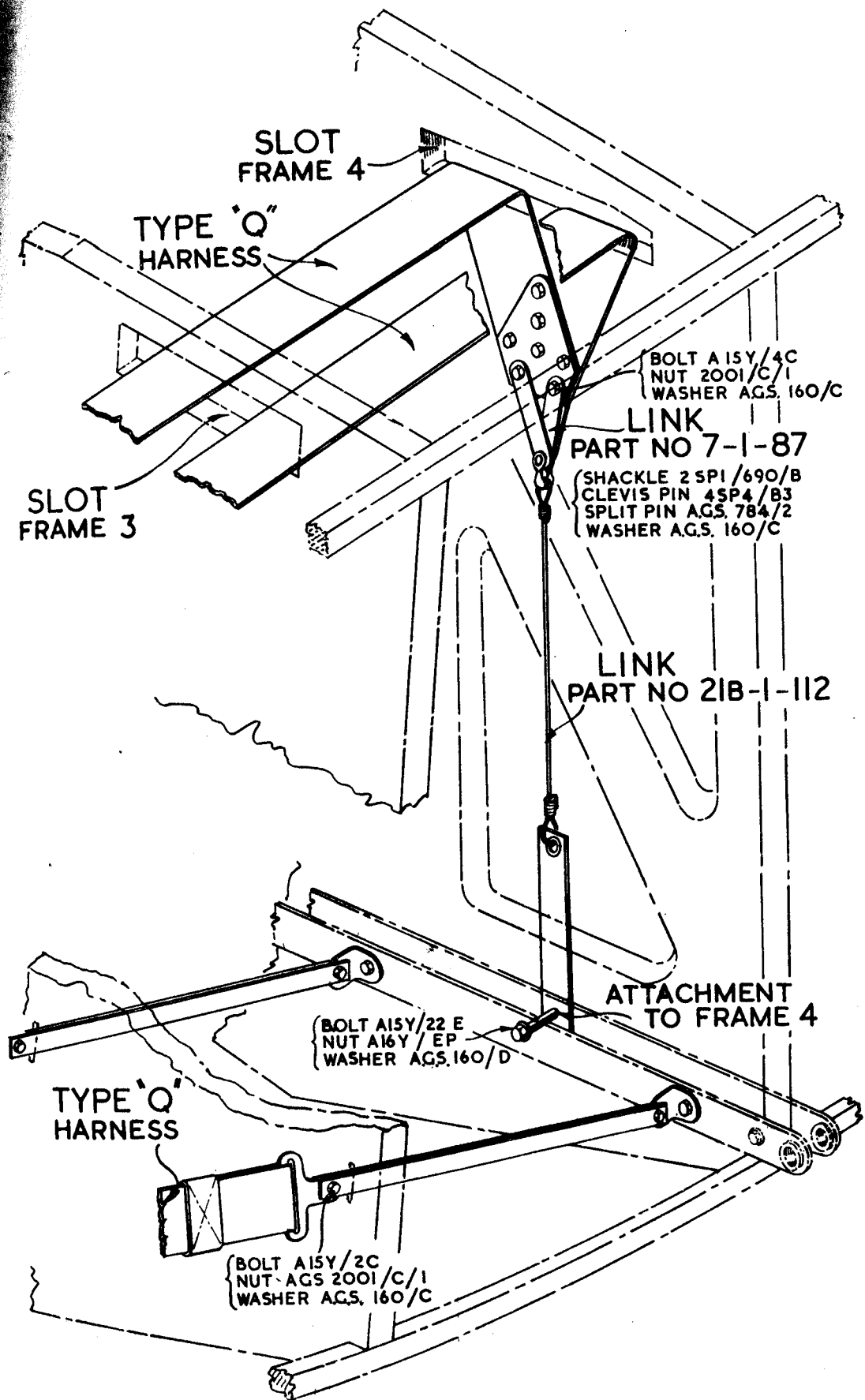
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(2) The undermentioned parts are required, and are to be supplied under Unit arrangements:—

<i>Stores Ref.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
6F/198	—	Harness, type Q	2	A
28D/7887	A15Y/22E	Bolt, $\frac{1}{4}$ in. B.S.F.	2	C
28D/7064	A15Y/4C	Bolt, 2 B.A.	4	C
28D/7277	A15Y/2C	Bolt, 2 B.A.	4	C
28M/756	A16Y/EP	Nut, $\frac{1}{4}$ in. B.S.F.	2	C
28M/10288	A.G.S.2001/C/1	Nut, stiff, 2 B.A.	8	C
28W/3072	A.G.S.160/D	Washer	2	C
28W/3071	A.G.S.160/C	Washer	10	C
28Y/2899	2SP1/690/B	Shackle	2	C
28P/829	4SP4/B3	Pin, Clevis	2	C
28P/5031	A.G.S.784/2	Splitpin	2	C

5. The undermentioned parts, rendered redundant by the embodiment of this modification, are to be handed over or reported to the Unit Salvage Officer for disposal as salvage in accordance with Air Publication 3045:—

<i>Stores Ref.</i>	<i>Nomenclature</i>	<i>No. off</i>	<i>Class of Store</i>
6F/165	Sutton harness, type A	2	A
26EE/--	Link, 21B-1-20	2	C



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DRG. N^o A.P.4309A /J.1 /51

LP23266 4/51 375 C & P Gp. 959 (4)

**Sedbergh TX. Mk. 1 Light Glider—Equipment—Introduction of ZB Harness
(Ref. No. 6F/245)**

(Mod. No. Sedbergh 37.)

(Class C/3, W.O.T.S.A.C.)

(AB/A/9455.—25.3.59.)

1. INTRODUCTION

The Type ZB harness is introduced to replace the obsolescent Type Q harness previously fitted, stocks of which are no longer available. This modification supersedes Mod. No. 17.

2. EMBODIMENT

This modification is to be embodied when old type spares are consumed.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 1 man-hour.

4. DRAWINGS REQUIRED

No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and/or Materials

- (a) The Modification Kits which consist of the following items will be assembled by No. 35 Maintenance Unit under Ref. No. 26EE/100037:—

(i) Items supplied by the Contractor:—

Ref. No.	Part No	Nomenclature	Qty.	Class of Equip-ment
26EE/-	21B-1-127/15	Tube, distance	6	—

(ii) Service Supply Items:—

Ref. No.	Part No.	Nomenclature	Qty.	Class of Equip-ment
6F/245	—	Harness, ZB	2	B
28D/12513	A.25/2C	Bolt	4	C
28M/10288	AGS.2001/C/1	Nut	4	C
28P/829	SP.4Y/B3	Pin	2	C
28W/14206	SP.23/C	Washer	2	C
28P/5031	AGS.784/2	Split pin	2	C

R.A.F. Units at home and abroad and all other users are to demand separately their requirements of kits, as listed in sub-para. (a) above, in accordance with current regulations.

(2) Special Tools and/or Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. SPARES AFFECTED

No spares are affected by this modification.



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7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no change of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:—

- (1) Remove seats seat backs and parachute boxes.
- (2) Disconnect the port shoulder strap by removing the pin attaching the shackles at the end of the wire links to the four links on the straps. Remove the shoulder straps.
- (3) Thread in the shoulder straps of the harness, ZB ensuring that buckles are to the top. Attach to wire link by using existing shackles through D-ring and pin, Part No. SP.4Y/B3, distance tube, Part No. 21B-1-127/15, washer, Part No. SP.23/C and split pin, Part No. AGS.784/2.
- (4) Repeat operations (2) and (3) for starboard harness.
- (5) Remove Q-type lap straps from port side by removing nuts and bolts attaching them to the links in front of frame 3.
- (6) Fit ZB lap strap by attaching the D rings to the links in front of frame 3 using bolts, Part No. A.25/2C, distance tubes, Part No. 21B-1-127/15, and nuts, Part No. AGS.2001/C/1.
- (7) Repeat operations (5) and (6) for starboard side.
- (8) Replace seats, parachute boxes and seat backs.

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on Aircraft Form 700.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by this modification are to be disposed of as scrap in accordance with A.P.830, Vol. 1 (5th Edition), Part 1, Leaflet A.19/1:—

Ref. No.	Part No.	Nomenclature	Qty.	Class of Equip- ment
6F/198	—	Harness	2	B
26EY/37	7-1-86	Links, port	4	C
26EY/38	7-1-87	Links, stbd.	4	C

12. EFFECT ON WEIGHT AND C. OF G.

This modification has no effect on weight or moment.

A.L. No. 12

(Additional Ballast - provision)

A.P.4309A, Vol. 2

Leaflet No. J. 3

(Alteration 1)

Sedbergh T.X. Mk. 1 Glider - Structure/Fuselage - Part A - To make provision for additional ballast. Part B - To introduce ballast weight, Part No. 21B-1-131 (Ref. No. 26EE/164.)

(AB/A/13525. - 19.3.52.)

1. A.P.4309A, Vol. 1, Leaflet No. J.3 (Mod. No. Sedbergh 41.)
is amended as follows:-

((1) Title. Amend "A.P.4309A, Vol. 1, to read "A.P.4309A, Vol.2".

(2) Para. 5 (1) (a) Item 2, Ref. 26EE/-, Part No. 21B-1-132/3 - Block. Amend "Qty. 4" to read "Qty. 2".

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51/1438/4. 375. 3/52. S(P.D)L.

A.L. No. 13
(Additional ballast—provision)

A.P.4309A, Vol. 2
Leaflet No. J.3
(Alteration 2)

Sedbergh T.X. Mk. 1 Glider—Structure/Fuselage—Part A—To Make Provision For Additional Ballast. Part B—To Introduce Ballast Weight, Part No. 21B-1-131 (Ref. No. 26EE/164)

(AB/A/13525.—15.8.62.)

1. A.P.4309A, Vol. 2, Leaflet No. J.3 (Mod. No. Sedbergh 41) is amended as follows:—

(1) Para. 12 (1). *Amend* to read “This modification causes a weight change of plus 2 lb. and a change in moment of minus 96 lb. in.”

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Sedbergh T.X.1 Glider - Structure/Fuselage - Part A - To make provision for additional ballast. Part B - To introduce ballast weight, Part No. 21B-1-131 (Ref. No. 26EE/164)

(Mod. No. Sedbergh 41.)

(Part A - Class B/2.)

(Part B - Class S.O.O.)

(AB/A/13525. - 17.4.64.)

Note:- This leaflet supersedes A.P.4309A, Vol. 2, Leaflet No. J. 3 and Alterations 1 and 2 and is the authority for cancelling A.L. Nos. 11, 12 and 13.

1. INTRODUCTION

The additional ballast is required when the aircraft is flown solo by A.T.C. Cadets. This is because their average weight is considerably less than that used for the purpose of calculating the aircraft weight and balance data.

- (1) This modification does not supersede or render unnecessary any work called for by approved modifications, Command modifications, S.T.I.s, S.I.s or S.R.I.M.s.
- (2) This modification is not essentially connected with any other modification.

2. EMBODIMENT

Part A:

- (1) This modification is to be embodied by:-

2nd Line Servicing Units: At the first opportunity and not later than 1 month after receipt of parts.

3rd Line Servicing Units (R.S.U.s): As detailed in A.P.3158, Vol. 2, Leaflet No. B.6.

4th Line Servicing Units (Repair Depots): Before issue of aircraft.

Aircraft Storage Units: In accordance with the Standard of Preparation.

- (2) *Part B:*

This modification is to be embodied to Special Order Only.

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3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 25 man-hours.

4. DRAWINGS REQUIRED

Drawing No. A.P.4309A/J.3/64 is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and Materials

The Modification Kit, which consists of the following items, will be assembled by No. 35 Maintenance Unit, under Ref. No. 26EE/100041.

(a) Items supplied by the contractor (Part A only)

Ref. No.	Part No.	Nomenclature	Qty.	Class of Equipment
26EE/166	21B-1-133/C	Bracket	1	C
26EE/-	21B-1-132/3	Block	2	-
26EE/-	21B-1-132/4	Block	2	-
26EE/-	21B-1-132/5	Block	2	-
26EE/167	21B-1-133/D	Fitting	1	C
26EE/-	21B-1-132/10	Ply Block	4	-
26EE/-	21B-1-132/11	Block	1	-
26EE/-	21B-1-132/15	Ply	2	-
26EE/-	21B-1-132/16	Ply	2	-
26EE/169	21B-1-134	Rudder Compensator	1	C
26EE/176	21B-1-83 (issue 2)	Limitations Label	1	C
26EE/168	21B-1-135	Pin	1	C
28D/1010031	A25/8E	Bolt (1/4 in. B.S.F.)	6	C
28M/10290	AGS.2001/E/1	Nut (1/4 in. B.S.F.)	8	C
28W/3082	AGS.161/D	Washer	9	C
28D/12533	A.25/5C	Bolt (2 BA)	2	C
28M/10288	AGS.2001/C/1	Nut (2 BA)	2	C
28W/3071	AGS.180/C	Washer	2	C
28D/1011080	A25/1E	Bolt (1/4 in. B.S.F.)	2	C
28P/5412	AGS.1551/2	Pin locking	1	C

All the above items will be issued to R.A.F. Units at home on issue order - no demands are to be submitted. R.A.F. Units abroad, and all other users, are to demand separately their requirements of kits as listed in sub-para. (a) above, in accordance with current regulations.

Part B of this Mod. consists of the following item which is not part of the Mod. Kit and is to be demanded as a spare only when required:-

Ref. No.	Part No.	Nomenclature	Qty.	Class of Equipment
26EE/164	21B-1-131	Ballast Weight	1	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the

RESTRICTED

6. SPARES AFFECTED

No spares are affected by this modification.

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations:-

- (1) Remove the Rudder Compensator Pulley Bracket.
- (2) Mark out and cut the hole for the Ballast Bracket, Part No. 21B-1-133/C.
- (3) Remove the ply from the top of the fuselage nose 10 in. back from the nose point.
- (4) Unscrew the ply from the top of the two front formers.
- (5) Fit blocks, Part No. 21B-1-132/4 and 21B-1-132/5 Corner blocks, Part No. 21B-1-132/3 and Packing block, Part No. 21B-1-132/11.
- (6) Level the stringers to suit the blocks.
- (7) Trim the blocks, Part No. 21B-1-132/4 and 5 to allow the Ballast Bracket, Part No. 21B-1-133/C to pass through the hole in the fuselage.
- (8) Replace the ply, Part Nos. 21B-1-132/15 and 16 on the fuselage nose.
- (9) Slot the Ballast Bracket, Part No. 21B-1-133/C through the hole in the fuselage nose.
- (10) Bolt the Bracket, Part No. 21B-1-133/D to the bracket on the rear end of the Ballast Bracket with Bolts (A25/1E) Nuts (AGS.2001/E.1) and washers (AGS.160/D). Position and mark the rear attachment packings on the formers.
- (11) Fit and fix the ply packings, Part No. 21B-1-132/10 on to the formers.
- (12) Drill front attachment holes.
- (13) Slot link on Pin, Part No. 21B-1-135 on to one Bolt (A25/8E).
- (14) Secure Ballast Bracket, Part No. 21B-1-133/C with Bolts (A25/8E) Nuts (AGS.2001/E/1) and washers (AGS.161/D) (One bolt to have pin attachment link assembled to it).
- (15) Drill rear attachment holes and secure with Bolts (A25/8E) Nuts (AGS.2001/E/1) and washers (AGS.161/D).

RESTRICTED

- (16) Re-fix the ply on to the top of the formers.
- (17) Re-position the Rudder Compensator Pulley Bracket.
- (18) Assemble the Rudder Compensator Elastic Cord, Part No. 21B-1-134 round the pulley and to the Rudder Pedal attachments.
- (19) Dope to existing finishing scheme.
- ◀ (20) Replace Limitations Label (Part No. 21B-1-83 issue 1) with Limitations Label (Part No. 21B-1-83 issue 2). ▶

9. TESTING AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on Form 700.

11. DISPOSAL OF REDUNDANT PARTS

The undermentioned parts rendered redundant by this modification are to be disposed of as scrap, in accordance with A.P.830, Vol. 1 (5th Edition) Leaflet A.19/1:-

Ref. No.	Part No.	Nomenclature	Qty.	Class of Equipment
28EE/145	21B-1-76/M	Rudder Pedal Compensator	1	C
◀ 28EE/150	21B-1-83 (issue 1)	Limitation Label	1	C ▶

12. EFFECT ON WEIGHT, MOMENT AND SERVICING

- (1) This modification causes a weight change of plus 2 lb. and a change in moment of minus 96 lb. in.
- (2) This modification has an effect on the Servicing Schedule.

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Section

K

Contents List

Leaflet No.	Short Title	Mod. No.	A.L. No.	Leaflet Alteration No.						Cance by A.L. I
				1	2	3	4	5	6	
K 1	Total Energy Varier	38,	9							
K 2										
K 3										
K 4										
K 5										
K 6										
K 7										
K 8										
K 9										
K 10										
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K 12										
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K 22										
K 23										
K 24										
K 25										
K 26										

Sedbergh TX Mk. 1 Glider—Introduction of Total Energy Variometer

(MOD. NO. SEDBERGH/33.)

(Class C/3.)

(AB/A/1633.—29.1.55.)

1. INTRODUCTION

This modification has been introduced to improve the indications on the Variometer and makes provision for the introduction of a total energy venturi which is attached to the pressure head and connected to the static side of the variometer.

2. EMBODIMENT

This modification is to be embodied by:—

2nd Line Servicing Units: At the first opportunity (not later than six months after receipt of parts)

3rd Line Servicing Units (R.S.U.s): As detailed in A.P.3158, Vol. 2, Leaflet B/6

4th Line Servicing Units (Repair Depots): Before issue of aircraft

Aircraft Storage Units: Before issue of aircraft.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 2 man-hours.

4. DRAWINGS REQUIRED

(1) Drawing No. A.P.4309A/K.1/55, Sheets 1 & 2, is incorporated in this leaflet.

5. PARTS AND SPECIAL TOOLS REQUIRED**(1) Parts and Materials**

(a) The modification set consists of the following items:—

(i) Items to be supplied by the Contractor.

Stores Ref.	Part No.	Nomenclature	Qty.	Class of Store
26EE/-	21B-1-125/C	Venturi assembly	1	C
26EE/-	WT/30	Water trap	1	C
26EE/-	VC/29	Clamp	1	C
26EE/-	RJ/31	Reducing joint	1	C

The complete Kit is to be demanded from No. 35 Maintenance Unit under Stores Ref. 26EE/100033.

(b) The undermentioned items are also required to embody this modification and are to be supplied under Unit arrangements.

Stores Ref.	Part No.	Nomenclature	Qty.	Class of Store
32C/176	—	$\frac{1}{4}$ in. o/dia. \times $\frac{1}{8}$ in. i/dia. rubber tube	20 in.	C
32C/472	—	$\frac{1}{2}$ in. o/dia. \times $\frac{1}{4}$ in. i/dia. rubber tube	7 in.	C
30A/3055	—	22 s.w.g. locking wire, Spec. D.T.D.189	18 in.	C

(2) Special Tools and Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

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6. SPARES AFFECTED

There are no spares affected by this modification.

7. CHANGE OF STORES REFERENCE, PART, AND ASSEMBLY NUMBERS

There are no changes of Stores Ref., Part, or Assembly Nos. as a result of this modification.

8. SEQUENCE OF OPERATIONS

The following is the sequence of operations.

(1) Remove pressure head by removing the four screws and nuts attaching it to the fuselage nose.

(2) Drill $\frac{5}{16}$ in. dia. hole in attachment plate of pressure head as shown in Sheet 1 of the drawing to take tube from venturi.

(3) Open up hole in pressure head attachment block in fuselage nose to take venturi tube as shown in Sheet 1 of the drawing.

(4) Re-fix pressure head using original screws and nuts.

(5) Fix venturi, Part No. 21B-1-125/C to pressure head as shown in Sheet 1 of the drawing.

(6) Drill instrument panel to take water trap, Part No. WT/30 as shown in Sheet 1 of the drawing, and fix water trap using the screws supplied with the part.

(7) Cut 6 in. length of $\frac{1}{4}$ in. outside dia. \times $\frac{1}{8}$ in. inside dia. rubber tube (Stores Ref. 32C/176) and connect static side of Variometer indicator to starboard side of water trap as shown in Sheet 2 of the drawing.

(8) Cut 6 in. length of $\frac{1}{2}$ in. outside dia. \times $\frac{1}{4}$ in. inside dia. rubber tube (Stores Ref. 32C/472) and insert large end of reduction joint, Part No. RJ/31 in one end and connect the other end to venturi tube as shown in Sheet 2 of the drawing.

(9) Cut 12 in. length of $\frac{1}{4}$ in. outside dia. \times $\frac{1}{8}$ in. inside dia. rubber tube (Stores Ref. 32C/176) and connect from small end of reduction joint to port side of water trap.

(10) Lock all ends of rubber tubes connected to variometer indicator, water trap and venturi tube by taking two turns of 22 s.w.g. locking wire (Spec. D.T.D.189) round the rubber tube and twisting ends until the wire is tight as shown in Sheet 2 of the drawing.

9. TESTING AFTER EMBODIMENT

When this modification has been embodied and inspected in accordance with current procedure, the following tests are to be carried out:—

(1) Close water trap by pressing knob forward.

(2) Nip rubber tube between venturi and water trap and check that the RED indicator in the instrument rises.

(3) Nip rubber tube between Variometer flask and instrument and check that the GREEN indicator rises.

10. RECORDING ACTION

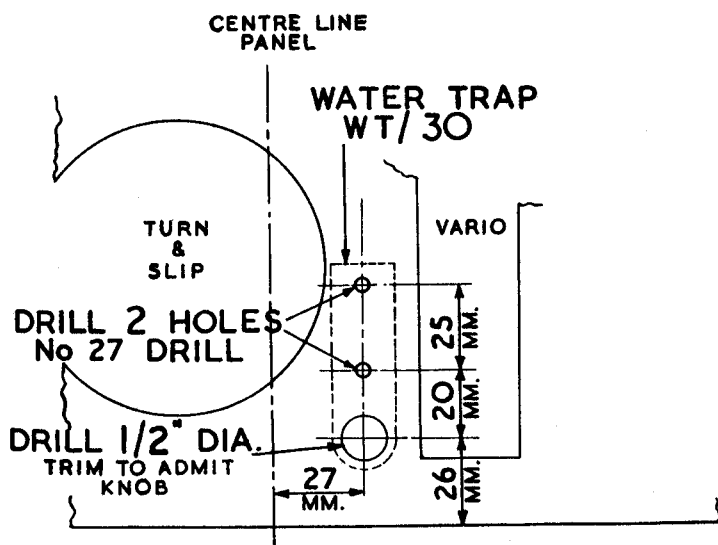
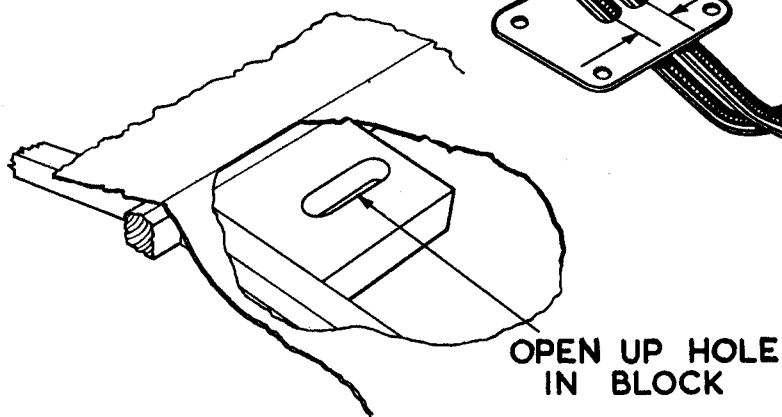
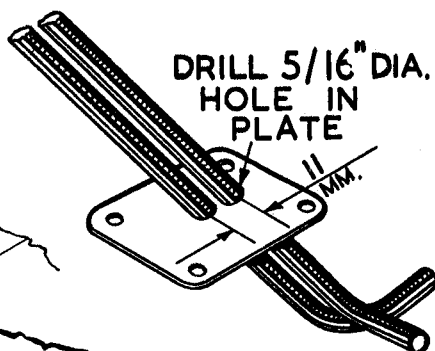
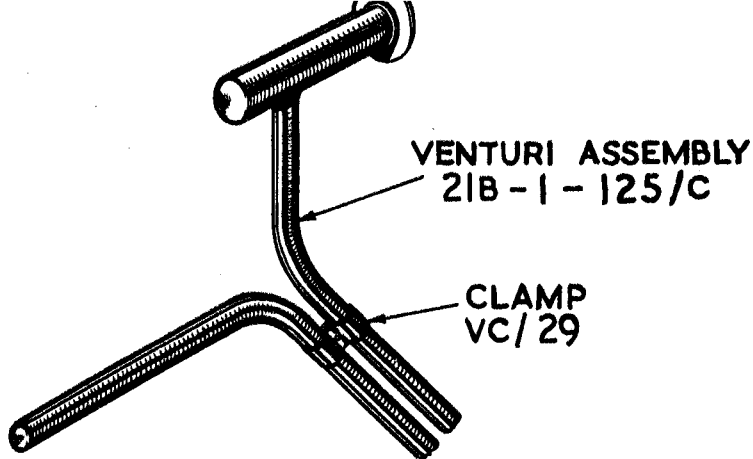
Record on Form 700.

11. DISPOSAL OF REDUNDANT PARTS

There are no parts rendered redundant by the embodiment of this modification.

12. EFFECT ON WEIGHT AND C. OF G.

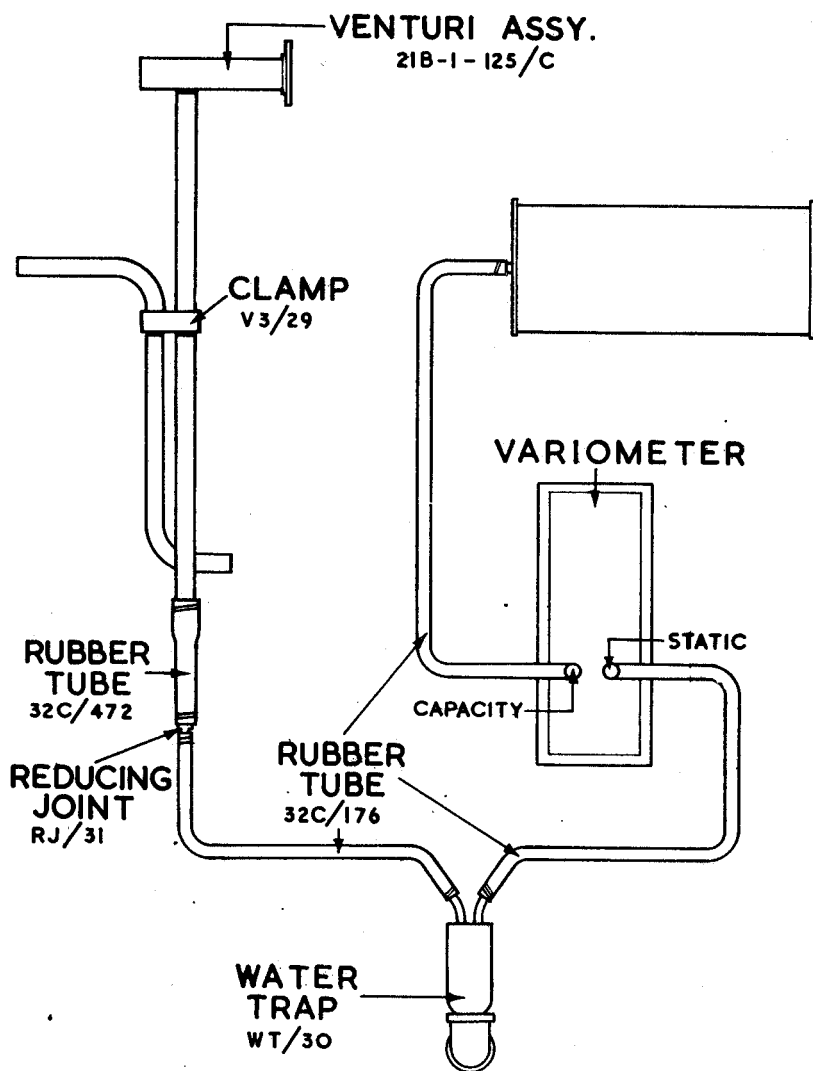
This modification causes a weight change of -0.75 lb. and a change of moment of -1.5 lb. ft. round the C. of G. datum.



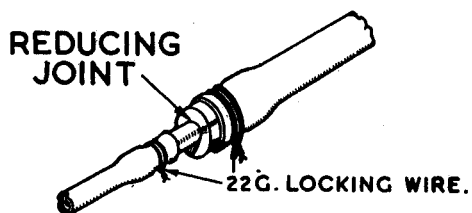
RESTRICTED

DRG. N° A.P. 4309 A / K. 1 / 55
SHEET I

LP29462 2/55 375 C & P Gp. 959 (4)



DIAGRAM



RESTRICTED

DRG. NO A.P. 4309 A / K. 1 / 55
SHEET 2

LP29462 2/55 375 C&P Gp. 959 (4)

M

Contents List

Leaflet No.	Short Title	Mod. No.	A.L. No.	Leaflet Alteration No.						Can A.L.
				1	2	3	4	5	6	
				Introduced by A.L. No.						
M 1										
M 2										
M 3										
M 4										
M 5										
M 6										
M 7										
M 8										
M 9										
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M 19										
M 20										
M 21										
M 22										
M 23										
M 24										
M 25										
M 26										

**Sedbergh T.X. Mk. 1 Aircraft — Structure/Introduction of "Scotchcal" tape
for Identification Markings**

(Mod. No. Sedbergh/42.)

(Class C/3 on renewal of markings.)

(AB/A/17110.—23-3-64.)

1. INTRODUCTION

Scotchcal tape is introduced to replace the existing yellow cellulose markings on service aircraft, to improve the recognition of training machines.

(1) The modification does not supersede the work called for by any other Modifications, Command Modifications, S.T.I. or S.I.

2. EMBODIMENT

This modification is to be embodied by all holders of Sedbergh Aircraft at first opportunity and not later than four months after the receipt of leaflet.

3. APPROXIMATE TIME REQUIRED FOR EMBODIMENT

The work will take approximately 34 man-hours.

Rear Fuselage — 7 man-hours

Fuselage Nose — 8 man-hours

Tailplane — 5 man-hours

Each Wing 7 hours — 14 man-hours

4. DRAWINGS REQUIRED

The following drawings are required and are to be demanded in accordance with A.P.3158, Vol. 2, Leaflet D.7.

Drawing No.

Title

21B-1-136

Scotchcal finish on Service Aircraft

5. PARTS AND SPECIAL TOOLS REQUIRED

(1) Parts and/or Materials

(a) A modification Kit will not be assembled.

(b) The following materials are required and are to be provided under unit arrangements: —

<i>Ref. No.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>Qty.</i>	<i>Class of Equipment</i>
32B/1213	—	Sheet Fluorescent Red	90¼ ft.	C
33H/119	—	Compound Sealing Edge Sealer No. 3960	As Req'd.	C

RESTRICTED

(2) Special Tools and/or Test Equipment

No special tools or test equipment are required for the embodiment of this modification.

6. MODIFICATION OF SPARES

The following list shows the spares affected by this modification and the materials required to modify them:—

<i>Ref. No.</i>	<i>Part No.</i>	<i>Nomenclature</i>	<i>Qty.</i>	<i>Class of Equipment</i>
26EE/1	21B-3-95/A	Mainplane, Port	1	A
Parts required:—				
32B/1213	—	Sheet Fluorescent Red	22 $\frac{3}{4}$ ft.	C
33H/119	—	Compound Sealing Edge Sealer No. 3960	As Reqd.	C
26EE/2	21B-3-95/B	Mainplane, Stbd.	1	A
Parts required:—				
32B/1213	—	Sheet Fluorescent Red	22 $\frac{3}{4}$ ft.	C
33H/119	—	Compound Sealing, Edge Sealer No. 3960	As Reqd.	C
26EE/6	21B-2-26	Tailplane	1	A
Parts required:—				
32B/1213	—	Sheet Fluorescent Red	19 ft.	C
33H/119	—	Compound Sealing, Edge Sealer No. 3960	As reqd.	C

Spares will be modified by the Stock Holding Unit as directed by the Air Ministry (D.G.E.).

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS

There are no changes of Reference, Part or Assembly Numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS

Apply Schotchcal Tape to aircraft as required by drawing.

9. SPECIAL TESTS AFTER EMBODIMENT

No special tests are required after the embodiment of this modification.

10. RECORDING ACTION

Record on Form 700.

11. DISPOSAL OF REDUNDANT PARTS

No parts are rendered redundant by the embodiment of this modification.

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12. EFFECT ON WEIGHT AND MOMENT

This modification has no effect on weight or moment.

13. EFFECT ON AIRCRAFT OR EQUIPMENT OPERATION AND HANDLING

This modification does not affect the operating or handling of the aircraft equipment.

14. EFFECT ON SERVICING AND SERVICING SCHEDULE

This modification does not affect the servicing schedule.

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