

TITLE	Quik wing control frame top rivets
CLASSIFICATION	The CAA have classified this bulletin as Mandatory.
COMPLIANCE	Before further flight
APPLICABILITY	All Pegasus Quik aircraft up to serial number 8070

INTRODUCTION -

This service bulletin makes it necessary to carry out modification 124, fitting of additional control frame top knuckle rivets, before further flight and to check by independent inspection that the modification has been correctly carried out.

INVESTIGATION-

Rotation of the top knuckle fitting rearwards about the original two rivets 25mm below the top edge of the upright can occur by buckling in compression if the rivets are worn, if the tube top edge is splayed, or if there is enough gap between the upright top edge and the shoulder of the turned fitting. If the fitting rotates, the rivets may not hold the joint together, with serious consequences.

To prevent this from happening, modification 124 was introduced in May 2004 by issue 1 of this service bulletin. It is now considered necessary to:

- 1) Ensure the modification is carried out before further flight
- 2) Where the modification has been carried out, to check it has been carried out correctly.
- 3) Remove the PVC boots that cover the joint so as to enable easy continued inspection of the area.

ACTION – The following applies to both uprights

1) Cut off and discard the PVC boots around the joint area. Apply polyurethane tape no more than 0.75mm thick to the inside surface of the upright in the rivet area, as protection from the hang bracket, as shown in drawing YQC-050 (fig 4, item 7). Protect the sail from the knuckle area when de-rigged in the bag using a foam pad.

2) If there are no Avdel (solid core flush with domed top) rivets applied 7mm below the top surface of the aerofoil tube, then modification 124 has not been carried out. Remove the uprights and send them, or the whole wing, to the Factory for modification.

3) Where modification 124 has been carried out, the following checks A - F are necessary to ensure it has been done correctly. Inspection must be carried out independently of the person who carried out the work. If found unsatisfactory in any way, mark the uprights as unserviceable and why. Return them to the factory for exchange units, or return the whole wing to the factory for modification and checking.

Remove the top knuckle bolt, part 1 in drawing YQC-050 (fig 4.) Then referring to figs 1 and 2 below:

A) Ensure that there are two Avdel domed head steel monobolt rivets, Mainair part no. FR-006-002, installed 7mm from the top edge of the upright tube, on the centreline of the knuckle fitting. The rivets must be installed squarely and be tight, with the Avdel core no more than flush with the top and with the retaining burr formed in the head. No other rivet type is acceptable here. They must be installed in the correct positions to a tolerance of +- 1.0mm.

B) Ensure there are two more rivets 25mm below the top surface of the upright tube, which must also be installed correctly and be tight. These may be Monel (nickel alloy) pop-type hollow rivets or steel Avdel rivets. Aluminium rivets are not acceptable.

C) Grasp the top of the upright and move the knuckle forwards and rearwards, feeling for rocking or rotating movement of the top knuckle fitting in the aerofoil tube, signs of fretting or loose rivets.

D) Using a feeler gauge, ensure any gap between the upright top edge and the fitting shoulder is no more than 0.63 mm (.025") The surfaces must not be burred, worn or distorted.

E) Using a vernier calliper, measure the width of the upright extrusion 38mm below the top edge. Lock the caliper at an easy sliding fit. The locked caliper must slide as easily, close to the top edge of the extrusion, i.e. there must be no measurable splaying of the end of the extrusion.

F) Ensure that the internal upright stiffening sleeve, which may be installed in the nose of the aerofoil extrusion or in line with the turned fitting, does NOT butt against the fitting. There must be a gap of at least 1mm between the sleeve top edge and the fitting.

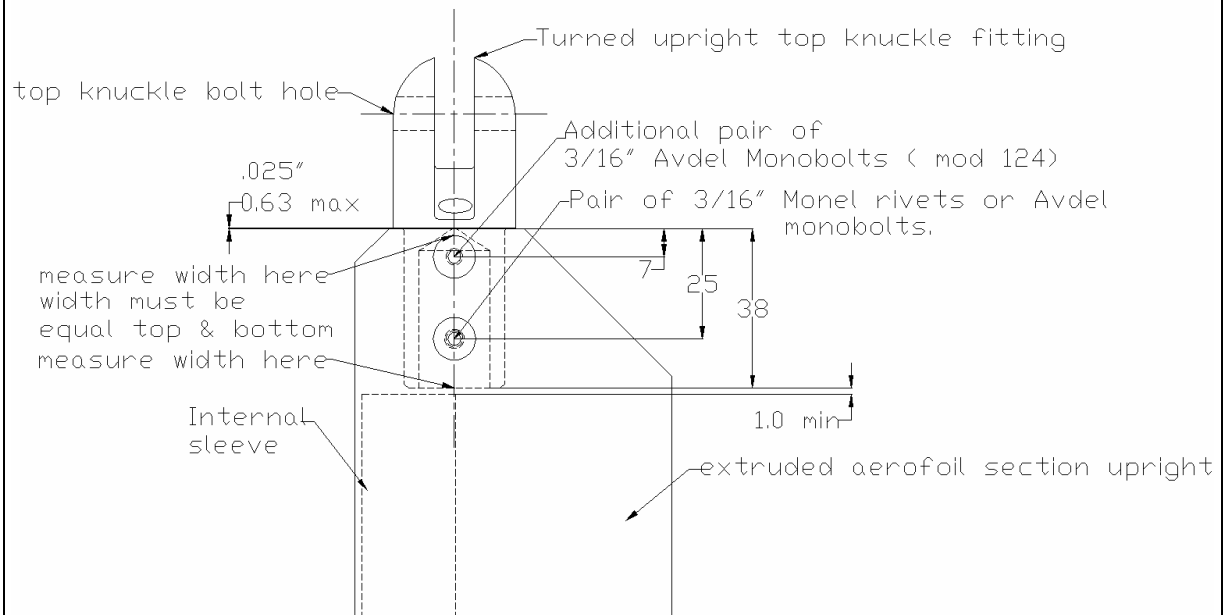


Fig 1 Upright top knuckle joint fitting

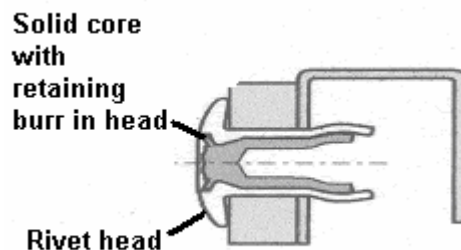


Fig 2 Correct setting of Avdel monobolt rivet

REMOVAL AND REFITTING OF UPRIGHTS

Removal and replacement must be done with the wing separated from the trike and de-rigged. On reassembly, new nyloc nuts must be used on all disturbed fasteners. At least 1 complete thread must protrude through the nyloc. Independent inspection of this primary structure is required before return to service.

Referring to the following figs 3- 5,

RH upright – removal – If desired, the trim cable can be un-knotted from the trim cable cord above the sail, the dome bolt removed from the kingpost and the upright returned to the factory complete with trim cable assembly. Otherwise proceed as follows:

- 1) Mark the position of the trim bug on the trim cable using a felt pen.
- 2) Push the trim cable end out of the trim wheel and detach the solderless nipple and trim indicator bug.
- 3) Pull out the trim cable through the upright.
- 4) Remove the ¼” unf fore and aft rigging bolt, detach the rigging cables and the bottom knuckle joint.
- 5) Unbolt the top knuckle bolt and detach the upright.

Replacement –

- 1) Straighten the trim cable as far as possible and feed it through the upright.
- 2) Reconnect the bottom knuckle and fore and aft rigging cables ensuring the bolt protrudes at least 1 complete thread through the new nyloc.
- 3) Reconnect the top knuckle bolt using a little grease on the bearings, refit the new nyloc nut so that the joint is free to move.
- 4) Feed the trim cable around the pulley at the bottom knuckle, replace the trim bug at the marked position and feed the cable through the trim wheel. Reattach the solderless nipple.

Repeat the procedure for the LH upright without the trim cable. Check trimmer operation and full roll bracket articulation before re-rigging for flight. Replace the plastic caps on the top knuckle bolt heads.

CONTINUED AIRWORTHINESS

- 1) The inspections detailed in 3 A to F above must be repeated at 50 hour intervals and after any heavy landing.
- 2) General visual inspection of the joint area and security of fittings must form part of the daily inspection of the aeroplane. The following page must be appended to the operator’s manual.
- 3) Any concerns about the integrity of the joint area must be reported to the Factory.

WING	Pre-flight	First 10 hrs	Every 25 hrs	Every 50 hrs	Annually /100 hrs	Other
SAIL: check for damage and wear				Inspect		
SAIL & STITCHING: Betts test for UV damage. (1.2mm needle 1360 grams)					Inspect	
BATTEN ELASTICS: check security and tensions	Inspect			Inspect		
BATTEN ELASTICS: Replace every 200 hours						Service
BATTENS: check profiles, check fibreglass for splits				Inspect		
ALL CABLES: check for damage, corrosion, elongation of thimbles				Inspect		
TENSIONER CABLE & STUD: check	Inspect			Inspect		
NOSE PLATE: check plates for wear & damage	Inspect			Inspect		
NOSE PLATE: Check fasteners for wear					Inspect	
Uprights top knuckle fittings and joints	Inspect			Inspect		
Hang point connection and CG bolt	Inspect			Inspect		
TRIM SYSTEM: Check & reset indicator		Inspect				
TRIM SYSTEM: Check cable, pulleys, bridle cable for wear				Inspect		
TRIM SYSTEM: Change bridle cable every						200 hours
ALL WING TUBES: visual check for damage & bends				Inspect		
BASE BAR: check for fatigue cracks around holes, dents & bends	Inspect	Inspect				
FIN TUBE: check for wear at pivot end				Inspect		
X SPAR JOINTS: check centre pivot, check leading edge/x spar fasteners for wear				Inspect		
WING VISUAL CHECK: a complete and thorough check should be carried out annually by a competent inspector. The wing should then be test flown.					Inspect	
COMPLETE WING STRIP: after any accident damage however caused or after Test fly after rebuild.						1000 hours

Insert in Pegasus Quik Manual page 65

Fig 4 Drawing YQC-050

SHEET 2 OF 3

MASTER IN YELLOW

QTY	DESCRITION	QTY	PART/FAST CODE
1	50 QUIK NOSE RIB	1	YQC-71300
1	18 QUIK LH UPPER RIB 9	1	YQC-71250
1	18 QUIK RH UPPER RIB 9	1	YQC-71150
1	47 QUIK LH UPPER RIB 8	1	YQC-71245
1	45 QUIK RH UPPER RIB 8	1	YQC-71145
1	44 QUIK LH UPPER RIB 7	1	YQC-71240
1	42 QUIK RH UPPER RIB 7	1	YQC-71140
1	43 QUIK LH UPPER RIB 6	1	YQC-71235
1	41 QUIK RH UPPER RIB 6	1	YQC-71135
1	40 QUIK LH UPPER RIB 5	1	YQC-71230
1	38 QUIK RH UPPER RIB 5	1	YQC-71130
1	39 QUIK LH UPPER RIB 4	1	YQC-71225
1	37 QUIK RH UPPER RIB 4	1	YQC-71125
1	36 QUIK LH UPPER RIB 3	1	YQC-71220
1	34 QUIK RH UPPER RIB 3	1	YQC-71120
1	35 QUIK LH UPPER RIB 2	1	YQC-71210
1	33 QUIK RH UPPER RIB 2	1	YQC-71110
1	32 QUIK LH UPPER RIB 1	1	YQC-71200
1	31 1/4 NYLOCK 1/2 TYPE NUT	1	PNJ4-NP
1	30 7/16X1/4-18 WASHER	1	PM4-12
5	38 SAFETY WASHER 10mm	5	PM6-010
2	28 SAFETY WASHER 10mm PAN HEAD 30214	2	PM5B-10
4	27 1/2 NYLOCK 1/2 TYPE NUT	4	PNJ3-001
1	25 KEEL RIGGING STRUT ADAPTER (FRONT)	1	YQC-020A
1	24 KEEL RESTRAINT STUD	1	YQC-010M
1	23 KEEL RESTRAINT STUD	1	YQC-010
1	22 LOWER REAR WIRE ASSY	1	YQC-048
1	21 LOWER REAR WIRE ASSY	1	YQC-048
1	20 LOCATION OF SERIAL NUMBER	1	RM-1
2	19 MEDIUM HEX HT BOLT	2	YQB-71140
2	18 1/2" W/ 8 WASHER	2	YQBA-12
2	17 1/2" NYLOCK 1/2 TYPE NUT	2	PM5B-12
1	16 1/2" NYLOCK 1/2 TYPE NUT	1	YQC-020
1	15 RESTRAINT LABEL ASSY	1	YQC-033
1	14 SAFETY CAP 10mm	1	PM6-005D
1	13 1/2" W/ 8 1/2" X 1/4" (1/2" TANG)	1	PM5P-002
2	12 1/2" NYLOCK 1/2 TYPE NUT	2	PM5B-12
1	11 UPPER RIGGING REAR LINK WIRE	1	YQC-054
5	10 1/4" W/ STEEL WASHER 1/4"	5	PM4-14
1	9 KING POST ASSY	1	YQB-051
1	8 SPRING WRAP COIL (SMALL)	1	YQB-002
1	7 1/2" W/ 8 1/2" X 1/4" (1/2" TANG)	1	PM5P-002
1	6 1/2" W/ 8 1/2" X 1/4" (1/2" TANG)	1	PM5P-002
2	5 SAFETY CAP 8mm	2	PM6-008
2	4 SAFETY WASHER 8mm	2	PM6-008
2	2 1/2" NYLOCK 1/2 TYPE NUT	2	PM5B-12
2	1 1/2" W/ 8 1/2" X 1/4" (1/2" TANG)	2	PM5P-002

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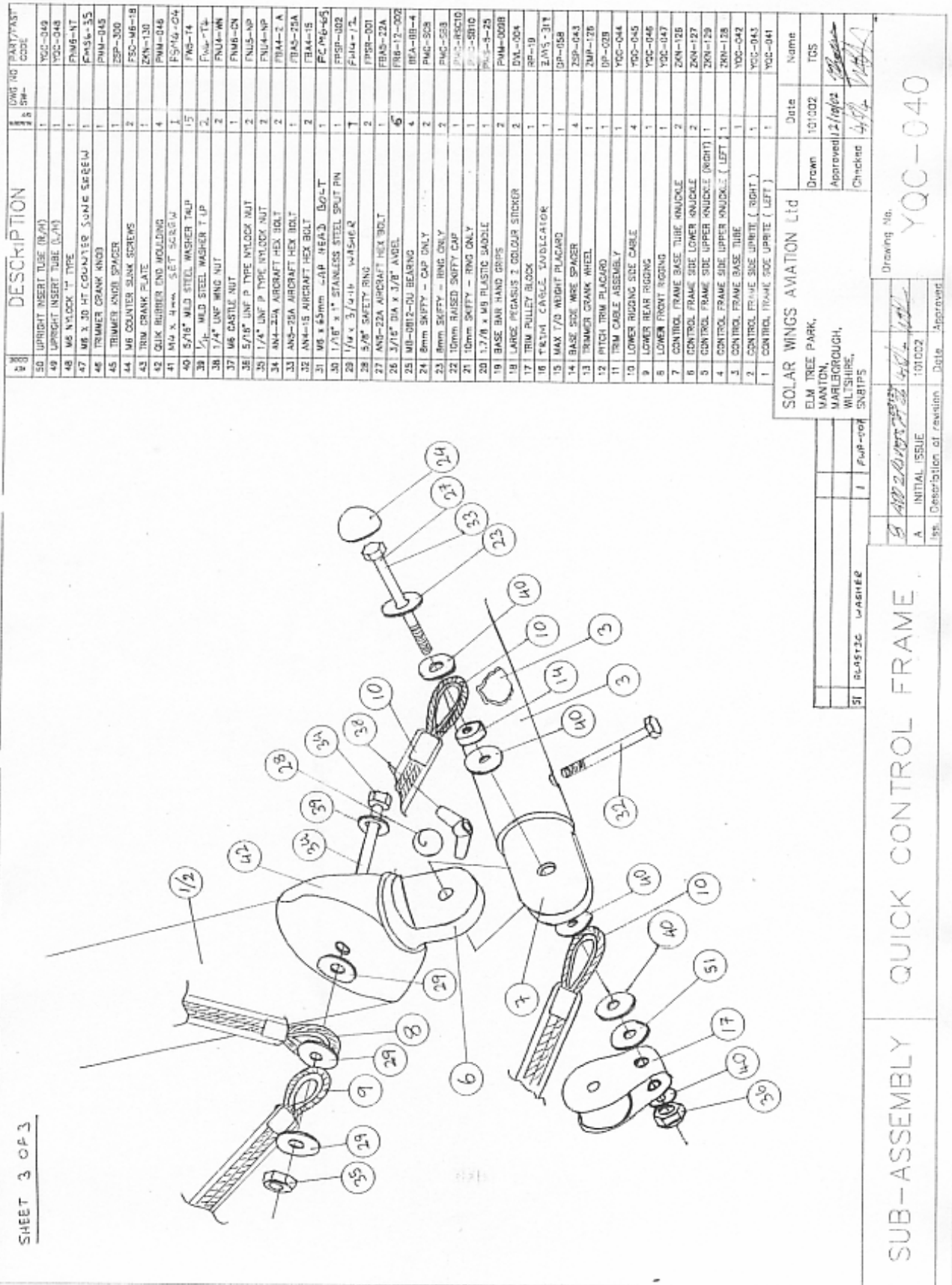
C: 100 PWC BOOTS
 D: 100 PWC BOOTS
 A: INITIAL ISSUE 14/02/02

Ins: Description of revision | Date | Approved

Drawing No. YQC-050

SUB-ASSEMBLY QUIK FINAL ASSEMBLY

Fig 5 Drawing YQC-040



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Drawing No. YQC-040

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SUB-ASSEMBLY QUICK CONTROL FRAME

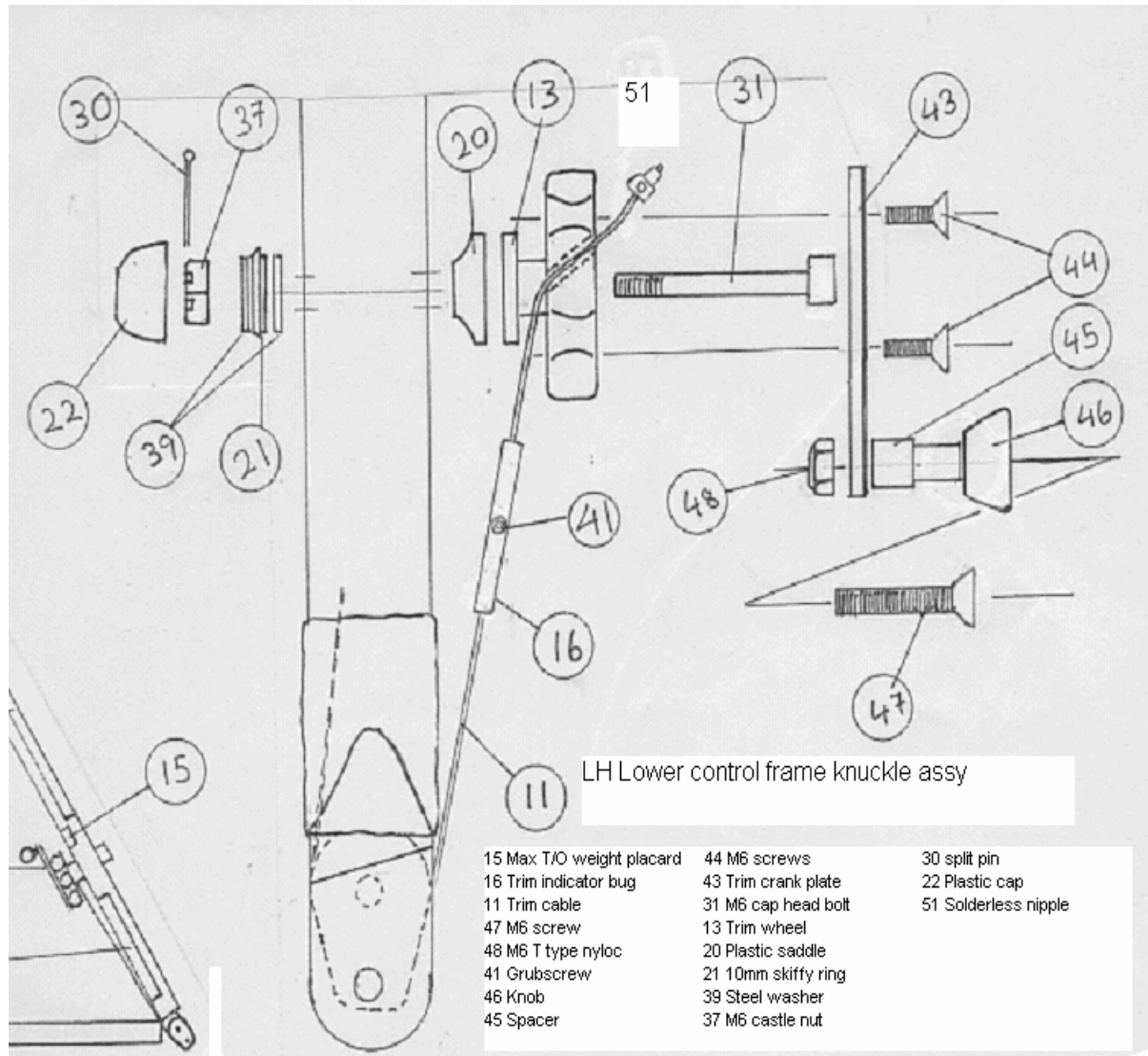


Fig 6 RH upright trim cable assy

DOCUMENTATION

The above actions must be entered in the aircraft technical log "Service Bulletin 116 issue 2 top knuckle rivets inspection" and "modification 124, additional top knuckle upright rivets installed" signed by a BMAA or Factory inspector who must be independent of the person who carried out the work.

ISSUED BY: Chief Engineer W.G.Brooks

DATE 23/09/04

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