582

mainair sports

MAINAIR BLADE

QUICK BUILD KIT MANUAL

Doc. Ref. BK1
Issue 3.
30th April 2002.

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Amendment Record

Date	Amendment	Reference
26th Oct 00	1	Drawing BK-232(99),255,256,257 Added Ref. Rotax 582-99
30th Apl 02	2	General Text, and Drawings Modified, Mod 99 Included.

Introduction

Thank you for purchasing your Mainair Blade Kit, this state of the art flexwing should provide many years of trouble free flying provided that you follow the guidelines included in the aircraft construction manual and the aircraft operators manual.

Building of the Blade is relatively straight forward and can be accomplished with the minimum of tools and equipment. No specialist equipment is required for the construction of your aircraft. The trike unit can be built in a relatively small area such as a garage, although power will be required. The wing frame can also be built in a similar area. However assembly of the completed wing requires a large clean area otherwise your wing will look dirty before its first flight. Prior to commencement of construction familiarise yourself fully with the instructions, plans and parts, a full parts list is provided in Blade Kit Parts List Manual, ref. BK2. The sequence of build has been laid out in a set order to minimise repeated operations, and is the order that over 1000 similar aircraft have been built and rebuilt without problem. There is no time limit to building and patience and pride are requirements for good workmanship. If there is any doubt or problem in the construction of your aircraft, then we, at Mainair Sports are just a phone call away on 01706 655134, or fax 01706 631561.

Care should be exercised during assembly to ensure that you do not over tighten bolts and crush tubes. If in any doubt, as a guide only 1.5 threads should show through all nyloc nuts, if there is too much you have either damaged the tube or used the wrong bolt or washers. If no thread is showing then you have used the wrong bolt or washer combination. If in any doubt please consult the factory, particularly if you think you have damaged something, as the damage may look insignificant but once you are flying it could prove fatal.

Once you have taken delivery of your kit you may start construction straight away. The only inspection stage required is the final inspection by qualified Mainair Staff, when both the wing and the trike will be checked, and the trike unit run for the first time ready for test flying.

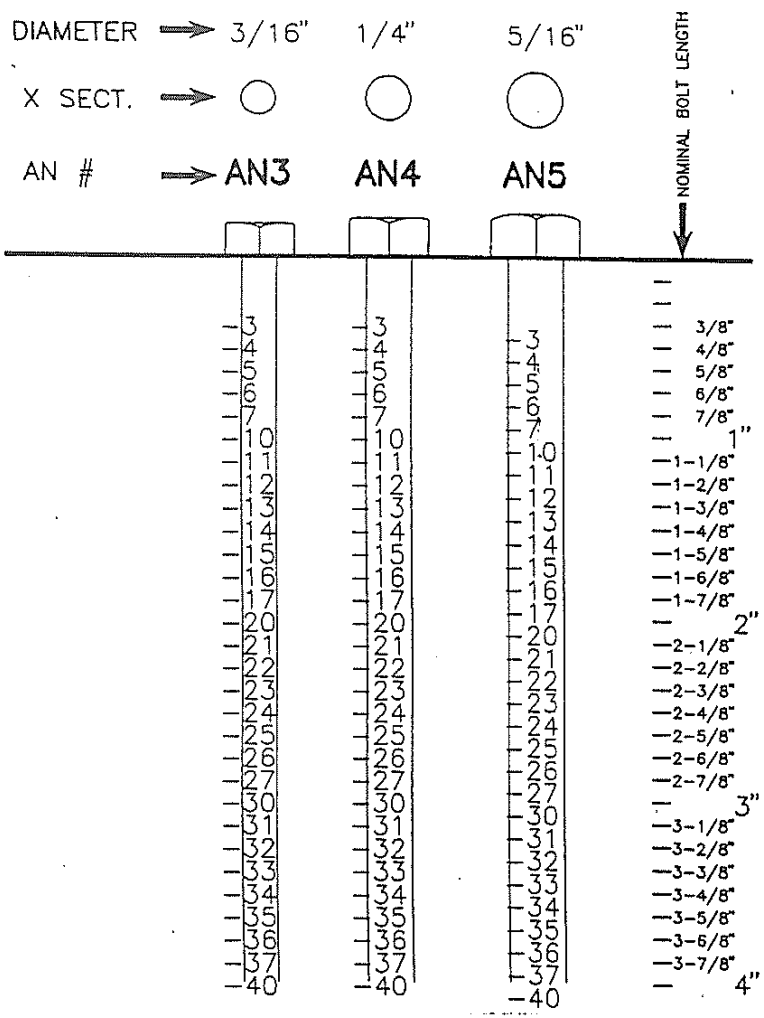
Happy Building.

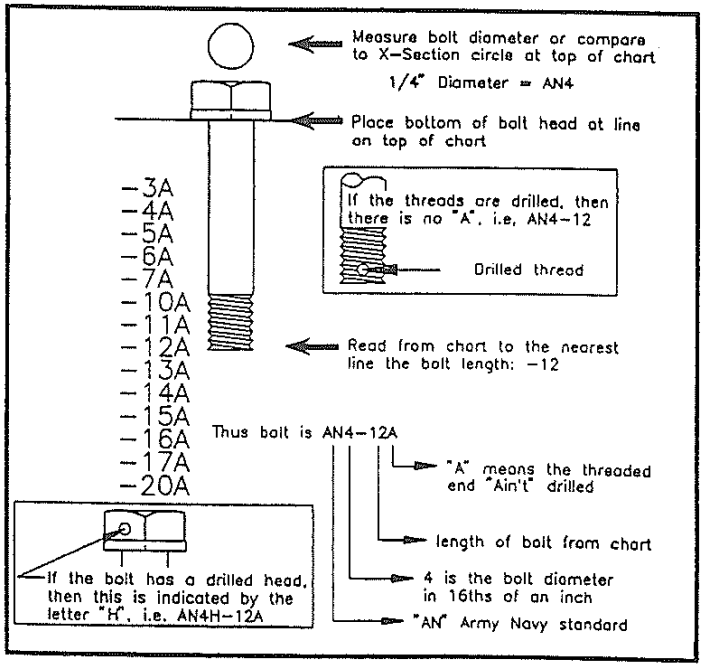
Airworthiness Procedure For Permit to Fly

Your Blade microlight is manufactured to full BCAR Section S certification and supplied by a CAA Approved A1 company and as such enjoys all the same rights as a factory assembled aircraft and can be used for training without any restrictions.

Prior to building your aircraft you should provide the factory with details for aircraft registration, and Permit application. All paperwork will be processed and dealt with by Mainair, requiring only a signature for registration together with the relevant payments, as shown on the current price list.

Once your aircraft has been completed, it will be returned to Mainair for inspection, and subsequent flight release documentation for test flying by either Mainair Sports or a specified Dealer Test Pilot only, no one else may fly the aircraft. The aircraft can be run in according to the schedule in the engine manual and then be test flown, and trimmed as required. On completion of the test flights a flight test report is lodged with Mainair, and the final application for a Permit to Fly forwarded to the BMAA by Mainair. Only after receipt of the Permit to Fly can you legally fly your aircraft. This process typically takes about 10 working days, depending upon how busy both the BMAA and the CAA are. Under no circumstances should you fly the aircraft until the Permit is in your hand, for to do so is in breach of the Air Navigation Order and liable to prosecution.





Bolt Identification Guide

DWG NO. MK-300

TITLE BOLT IDENT GUIDE

DATE 1ST DEC 1993

SUPERCEDES

DRAWN BY RP CHECKED BY JCLL

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
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TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

Wing Assembly

Prior to assembling the wing ensure that you are familiar with all the components and the drawings. Make sure that you have sufficient clean work space for the sail fitting and final assembly. This is very important, as the sail will show dust and dirt very easily, and this will spoil the appearance of any wing. During assembly patience is required, do not force any components and if anything is observed to go tight during rigging stop and check that assembly is correct. The loads imposed during rigging can be quite high and if assembly is wrong then damage could occur.

Wing Airframe Assembly

1. The wing airframe assembly is started with the keel, see drawing BK-108 and BK-109. First slide the hang strap bush, then the Apex block onto the keel, ensuring that they are the correct way round. The recommended hang point for the hang strap bush is front hole for the Rotax 582 engine and middle hole for Rotax 462 or 503 engines. The hang strap can then be fastened in place, with the hang point hole towards the front. Lightly grease, using lithium grease, the hang strap and channel, and ensure that it is free to rotate. Fit the two ear brackets to the Apex block as shown on drawing BK-109.

2. The nose plates can next be attached to the nose together with the nose catch channel, see drawing BK-105 for details. Ensure that the nose plate with the serial number on is facing uppermost, and towards the front. Do not fasten the rear bolt on the channel, as the top rigging wire is fastened to it once the wing sail is in place.

3. The plastic keel protector can be clipped into place, be careful not to trap fingers whilst doing this. Fasten in position using insulation tape at either end. The seam should be facing down.

4. Fit the channel for the king post, as shown on drawing BK-108. Next install the pull back return cord, see BK-108. First fit the bungee into the Apex block, and insert the spirol pin and nylon roller. Then fasten the bungee at the rear of the keel with a self tapping screw, and locate the other end of the return cord onto the rear of the keel. Do not tighten this bolt at this stage, as it also holds the wing sail keel in place.

5. The stainless pull back pins are loctited into position, as shown on drawing BK-108, ensure that these are tight, but do not over tighten otherwise the riv-nut will rotate. Once fitted mark in position with tipex or similar to ensure that if they creep in use it will be visible.

6. The leading edges which are marked left and right, are next fastened to the nose plates, see drawing BK-105 for details, note that these bolts face upwards. **Make sure that the leading edge bolts at the cross tube junction do not drop out as they are holding a spacer in position within the leading edge, and it is very difficult to re-locate.**

7. The small pieces of plastic bartol attached to the leading edge near the cross tube junction should first be cleaned and then glued with bostik, then clipped into place, and fastened using insulation tape. The seam should be positioned facing down. See BK-106 for details.

8. The cross tubes are next fitted, by first fastening to the leading edges, ensure that they are the correct way around, and that all spacers and protection pieces are in position as shown on drawing BK-106 as shown. The webbing strap is then fitted onto each cross tube, and passed around the keel to restrict upward movement of the cross tubes. The hinge block is then connected as shown on drawing BK-107. The pull backs are then installed as shown, do not forget the spacer that is fitted inside the cross tube, these are different lengths to allow for the sleeving. When tightening the eyebolts ensure that the hinge block is square to the cross tube, otherwise damage may occur. Make sure the pull back cables are on the correct sides.

9. Open the wing out slightly, and fasten the pull back wires as shown on drawing BK-107.

A Frame Assembly

1. The A frame assembly is quite straight forward, but be careful not to muddle wires and ensure that the A frame is facing the correct way, i.e. monobolts facing forwards, and trim wheel on stbd side. The bolts holding the wires should not be done up tightly, as the cables must be free to rotate during rigging and de-rigging. See drawing BK-109 and BK-110 for details. Please note that the side wire with the plastic sleeve should be positioned at the front with the sleeve end attaching to the cross tube. This sleeve is to protect the leading edge and cross tube during rigging and de-rigging.

King Post Assembly

1. The king post has the top rigging fastened to it prior to fitting. These are simply installed and fastened with a 1/4" bolt. Ensure that the side wires are in the top hole. Fasten the upper side wires and top rear rigging as shown on drawing BK-111.

2. If an aerial has been specified this should be fitted at this time. Feed the cable in from the top and out through the lower hole before fitting the end plug.

Sail Fitting and Wing Assembly

1. Check airframe against the Blade Wing inspection schedule.

2. Check wing sail for correct colours, and check all eyelets are in place, and holes burnt for cables and bolts.

3. Place airframe on a clean floor with wing leading edges folded in. Place the nose on a small box or similar approximately 18" above the ground. Position the sail at the rear of the leading edges, spread out ready for the frame to slide in through the nose. Ensure that the undersurface central root zip is open and that the inspection panel zips are closed. Carefully guide the leading edges into the sail along each side. Care should be taken to ensure that nothing snags, do not force the sail as it can be easily torn. Guide the keel into position. Once the end of the wing keel is matched in place the sail is in the correct position. The bolt at the end of the keel can now be fitted to the sail and tightened accordingly.

4. Open out the wing leading edges slightly and insert the outboard leading edges. Ensure that they are in the correct sides, and that they lock firmly on the locator in the inboard leading edge. They should not be able to turn once locked, check to make sure.

5. Ensure that the index tips are in the normal position, marked with an N, with the button pin to the rear. The tip can be bolted to the sail using the following bolts, in the following order, bolt through from the top:

AN3-26A
3/16" x 3/4" Penny Washer
Nylon Reducer
Wing Sail, Leading Edge, Wing Sail
Nylon Reducer
3/16" x 3/4" Penny Washers
3/16" Nyloc

Use the inner most hole. Make sure that you do not over tighten the bolt and crush the tube.

6. With the wing still partly folded the centre undersurface zip can be zipped up, along with the velcro.

7. The leading edges can be opened out completely at this stage, and all the top surface battens can be inserted into place. The wing can now be tensioned, but only onto the first pull back at this time. Take care when tensioning, as the trailing edge of the wing will be resting hard onto the keel. Ensure that the pull back assembly does not snag. Check that all battens are in place by gently tapping with a nylon hammer.

8. At the nose of the wing check the leading edge foams, and trim off any overlap with a pair of scissors.

9. Place king post with top rigging already attached, into the ear bracket, and fasten as shown on drawing BK-108, tieing the pull backs to the king post with bungee. Feed the side wires into holes in top surface, and feed the front cable through the hole in the sail and connect onto bolt, tighten and secure with split pin. Insert the nose batten at this stage, and tie a piece of cord onto the ducks foot. The loop should be long enough to hook over the keel tube.

10. Tension the wing up fully, this may be quite tight because the wing is brand new and the sail has not had time to stretch yet.

11. Lift up the nose of the wing and support it clear of the ground. The A frame, complete with lower rigging is to be fitted at this stage. Ensure that the A frame is the correct way around, i.e. monobolts at the top of each upright will face forwards once rigged. The A frame is fitted using AN4-17A bolts through from the rear. Two 1/4" washers are fitted between the A frame and the ear bracket, and a thin 1/4" washer is fitted under the nyloc. See BK-109.

12. The rear wires can be attached to the keel as shown on drawing BK-108. Do not over tighten this bolt as the rear wires must be free to rotate during rigging and de-rigging.

13. De-tension the wing.

14. The side wires are attached at this stage, and are fitted by working through the inspection panel. Thread the rigging wires into the holes, making sure that they are not twisted. **The front lower cable should be passed around in front of the cross tube, but behind the leading edge.** The bolt arrangement is as shown on drawing BK-106. It may be easier to remove adjacent battens, and to bring the wings in slightly. Do not tighten bolt up fully, as the cables must be free to rotate.

15. Insert the undersurface battens and tension the wing up fully again, it may feel even tighter now that the rigging wires are fitted. Whilst applying the tension check that the lower side wires are found to remain with some slack. If they are seen to go tight then stop and check that the cables are attached properly and not snagged on anything.

16. The wing can now be stood on its control frame. Check that the nose catch can be fitted without excessive force being required. With the rear of the wing keel resting on a work horse or similar the wing battens can have their cords fitted. All cords should be so fitted that they cannot be removed without the tool, and all cords should be to the same tension, and tied with a reef knot, (right over left and left over right). Cut all cords long as you work, and trim the ends after with a soldering iron or similar, to seal the cord properly.

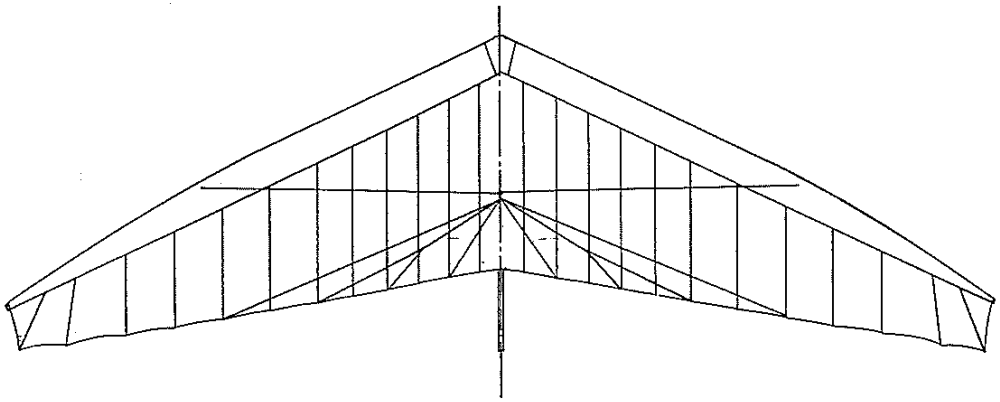
17. The luff lines should be fitted at this stage, as shown on drawing BK-111, and the trimmer cable connected to the luff line as shown, this feeds up between the two pull back cables. Check the stiffness of the trim wheel, and adjust with the split pin.

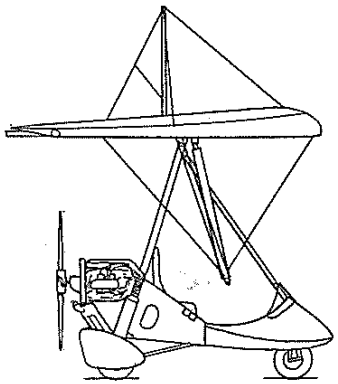
18. The holes at the wing root/nose should be drilled with a 1/8" drill bit, and fastened with a self tapper, nylon reducer and 3/16" washer.

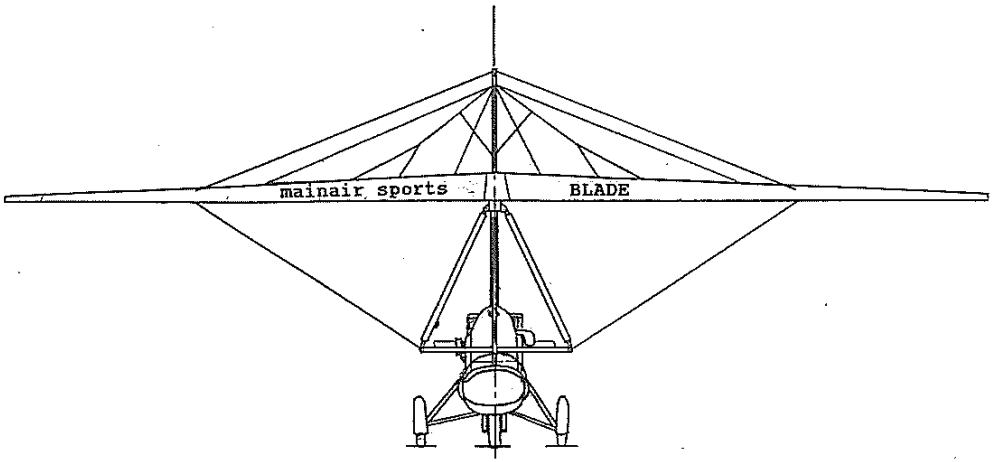
19. Check that the hang bolt fits into the hang strap hole, and stick the warning placard onto the port A frame so that it can be read by the pilot. The trimmer placard should also be fitted to the upright behind the trimmer cable.

20. Fit nose cone. The wing is now complete, and requires a full inspection before de-rigging.

N.B. Do not stick registration letters onto the wing, unless you are very confident, these will be stuck on during the inspection process at Mainair.







DWG NO.	BK-100
TITLE	MAINAIR BLADE
DATE	1st MARCH 1995
SUPERCEDES	
DRAWN BY	CHECKED BY

REF	DATE	AMENDMENT

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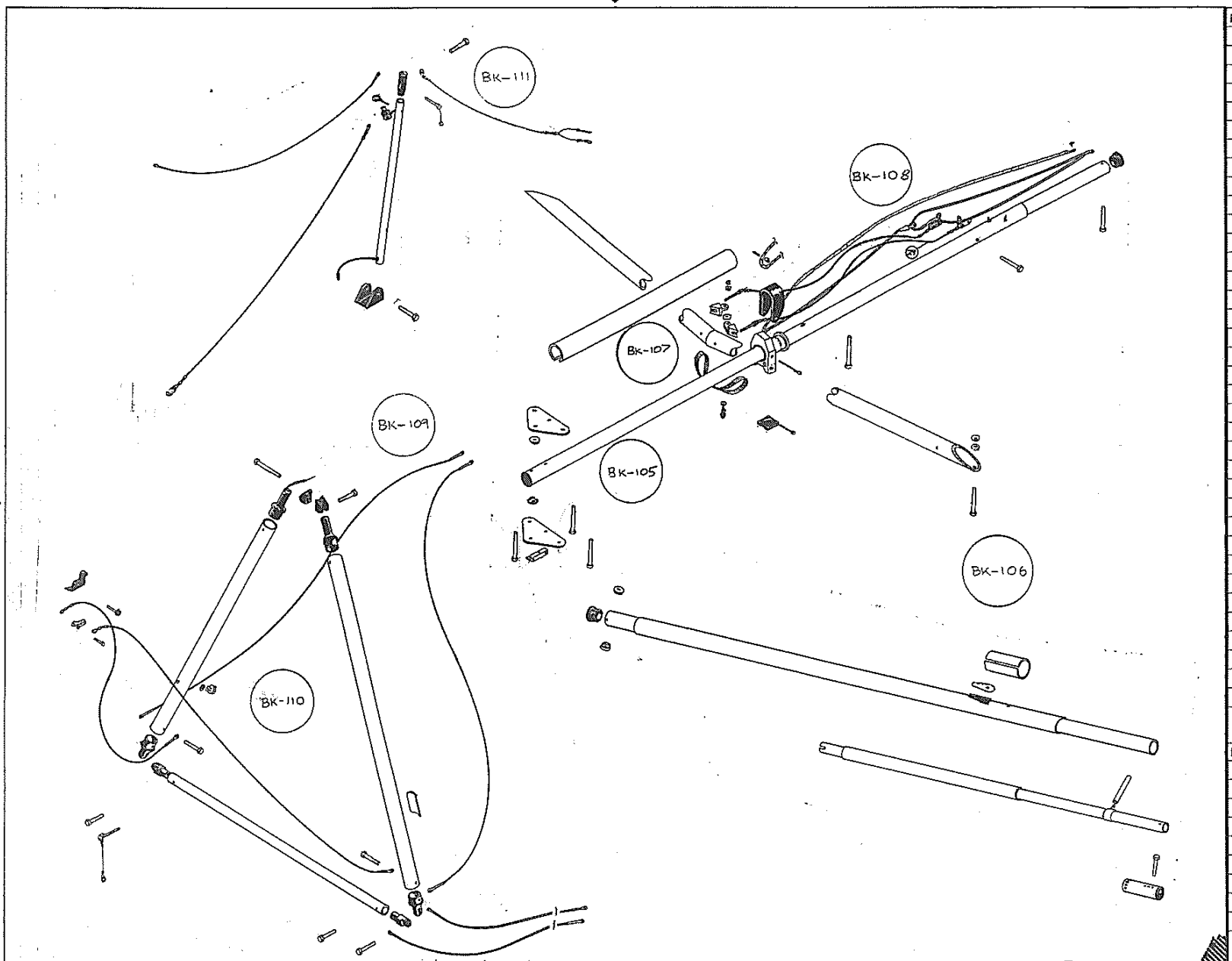
CENTRES ±0.5MM



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DRAWN BY

ENGINEER BY

ISSUE	DATE	AMENDMENT DETAILS
A	10-1-95	ORIGINAL USE

SOME DETAILS OMITTED FOR CLARITY. DO NOT SCALE

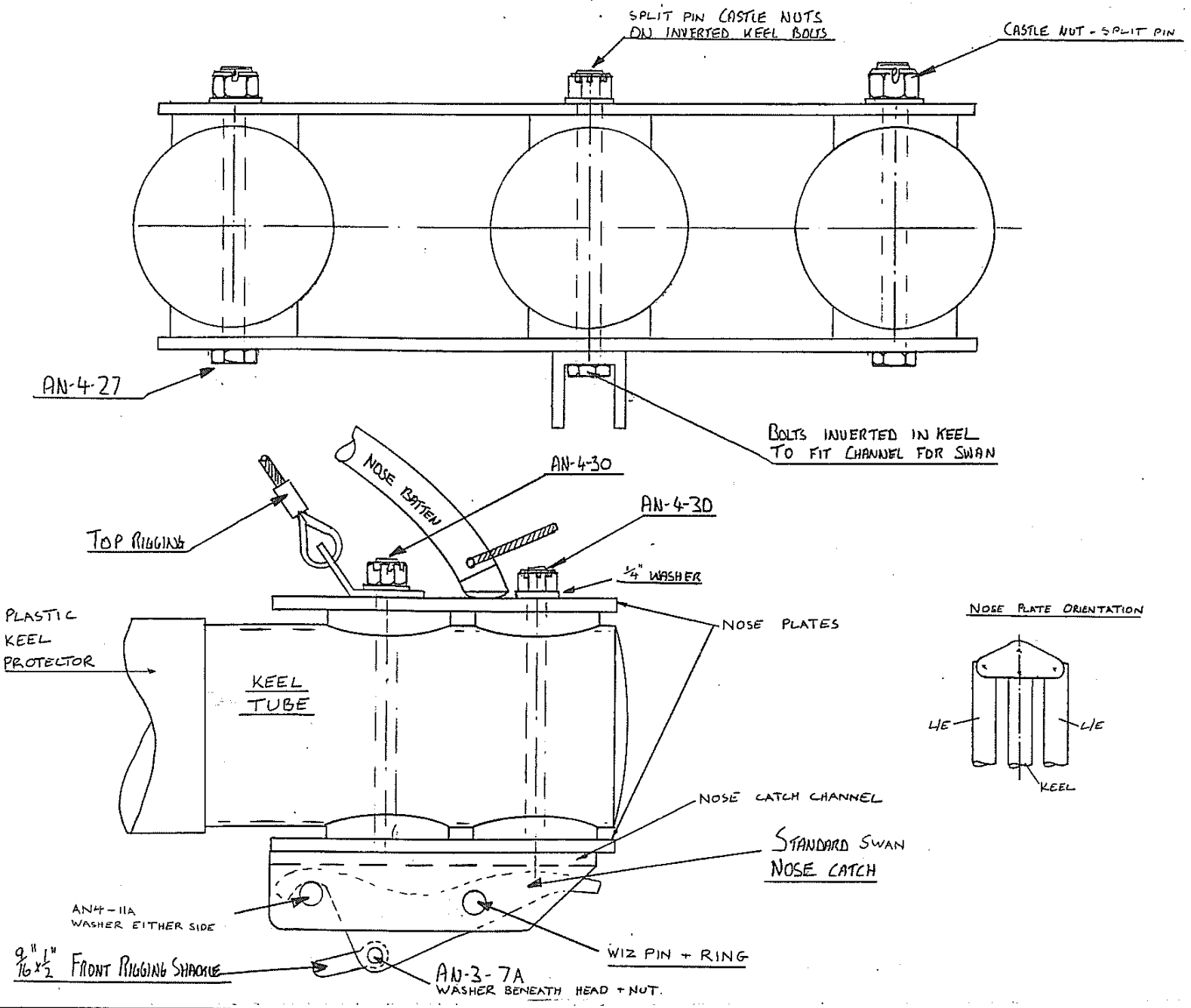
TO ORDER PARTS PLEASE SPECIFY:—QUANTITY, ITEM, DESCRIPTION, DRAWING NUMBER AND ISSUE LETTER

TITLE GENERAL WING FRAME LAYOUT — BLADE

mainair sports

DRAWING No. BK-101

PAGE No.



DWG NO.	BK-105
TITLE	NOSE ASSEMBLY
DATE	10th JAN 95
SUPERCEDES	
DRAWN BY	EJ.
CHECKED BY	10/2/95

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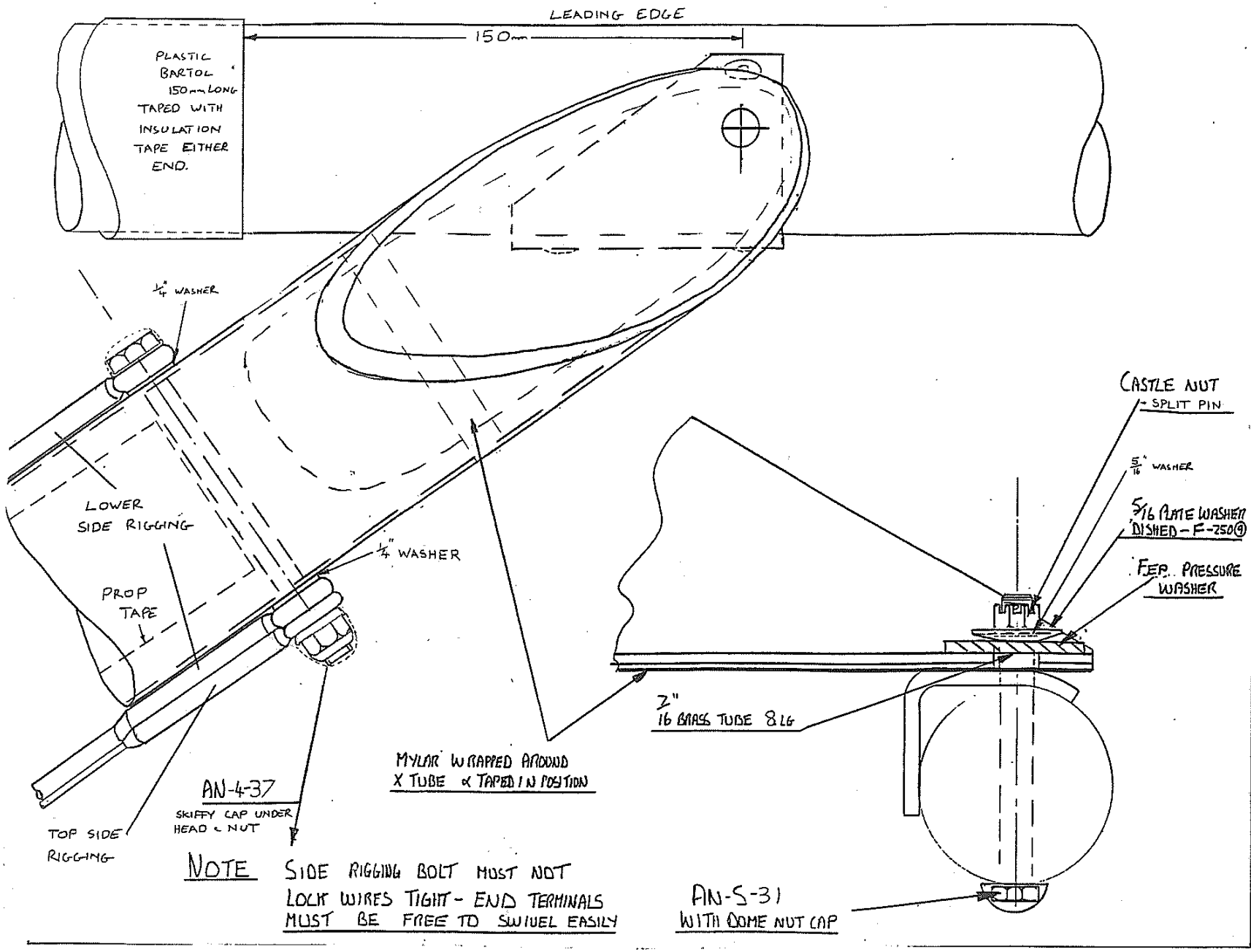

NOTE SIDE RIGGING BOLT MUST NOT LOCK WIRES TIGHT - END TERMINALS MUST BE FREE TO SWIVEL EASILY

DWG NO. BK-106

TITLE LE/X TUBE ASSEMBLY

DATE 10th JAN 95

SUPERCEDES

DRAWN BY PJ SUPERSEDED 10.2.95

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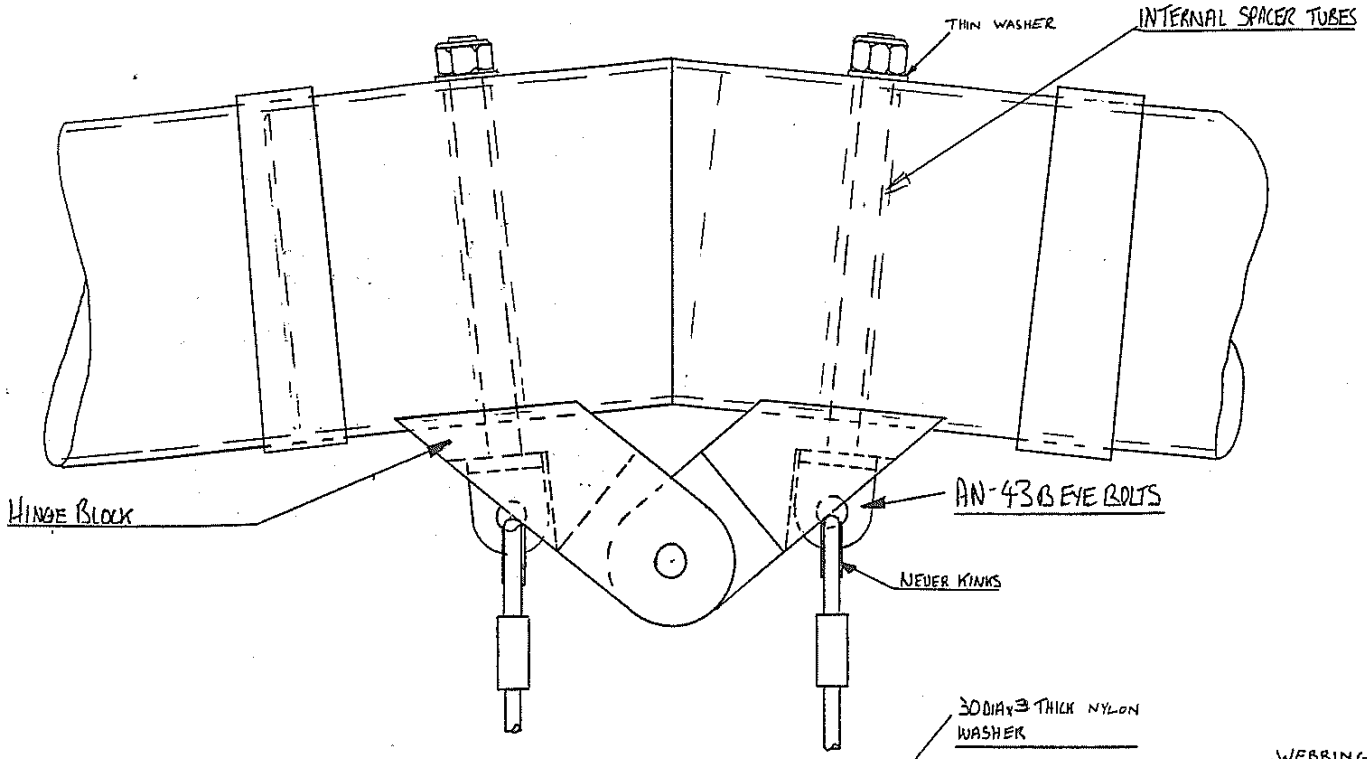

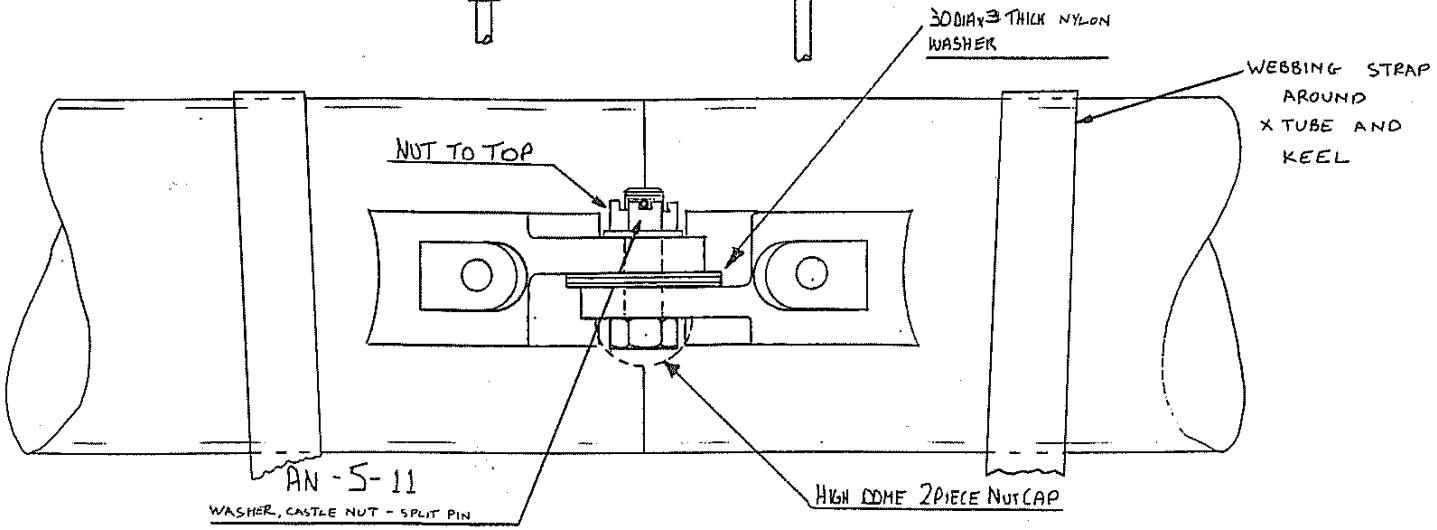

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TITLE	X TUBE PULL BACK ASSEMBLY
DATE	10TH JAN 95
SUPERCEDES	
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REF	DATE	AMENDMENT

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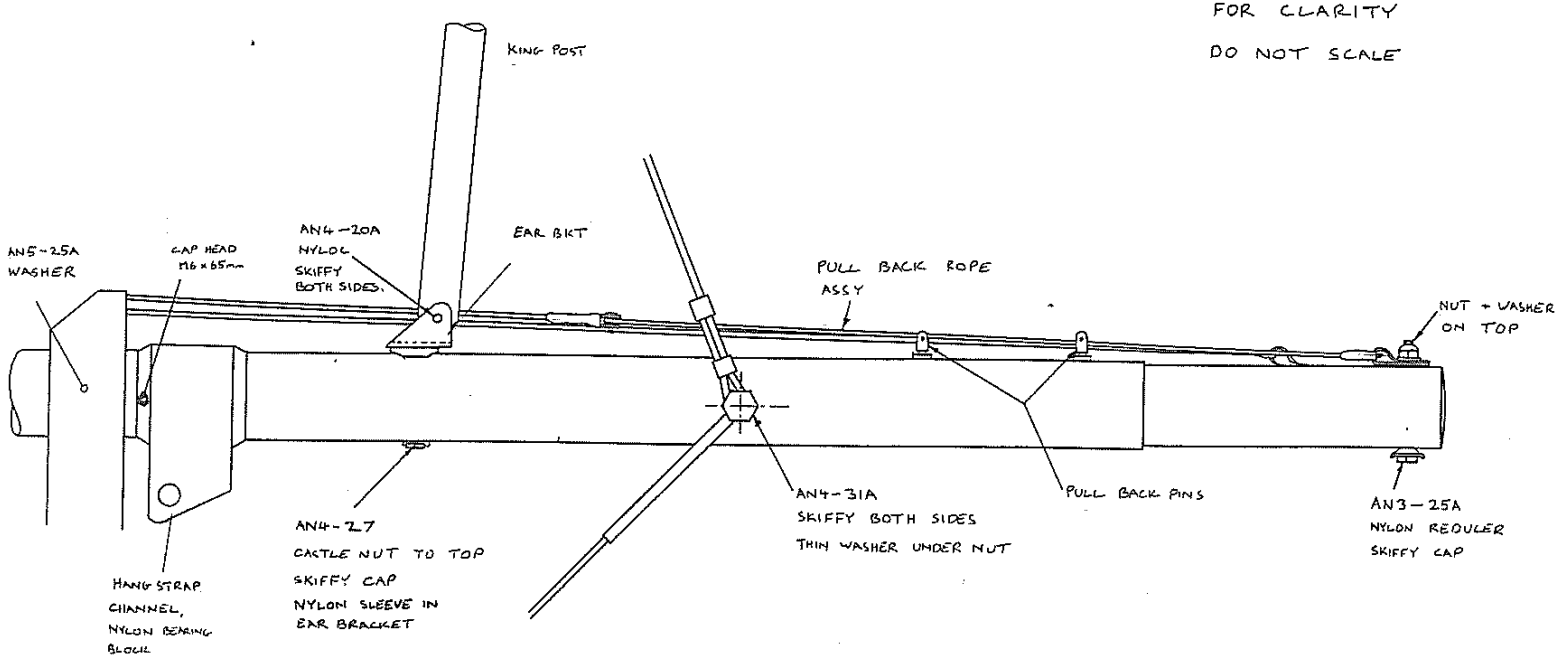

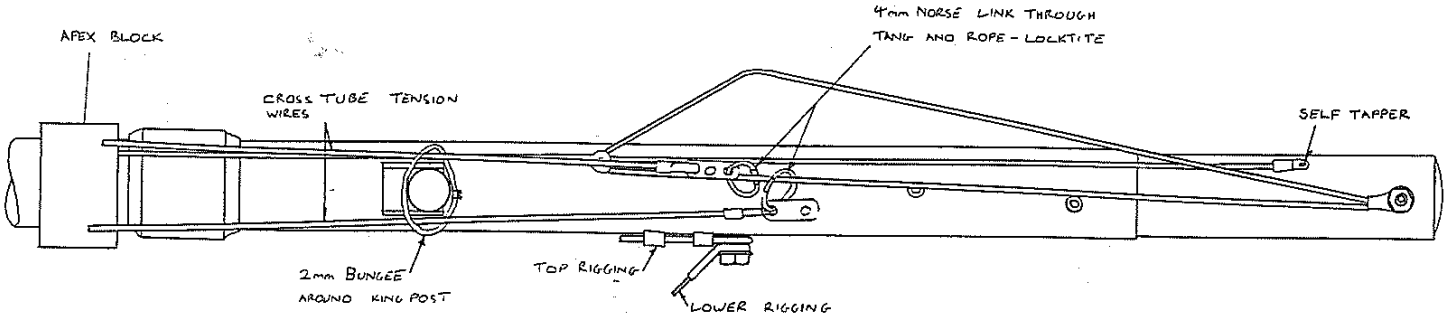

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TITLE	KEEL REF ASSEMBLY
DATE	10th JAN 95
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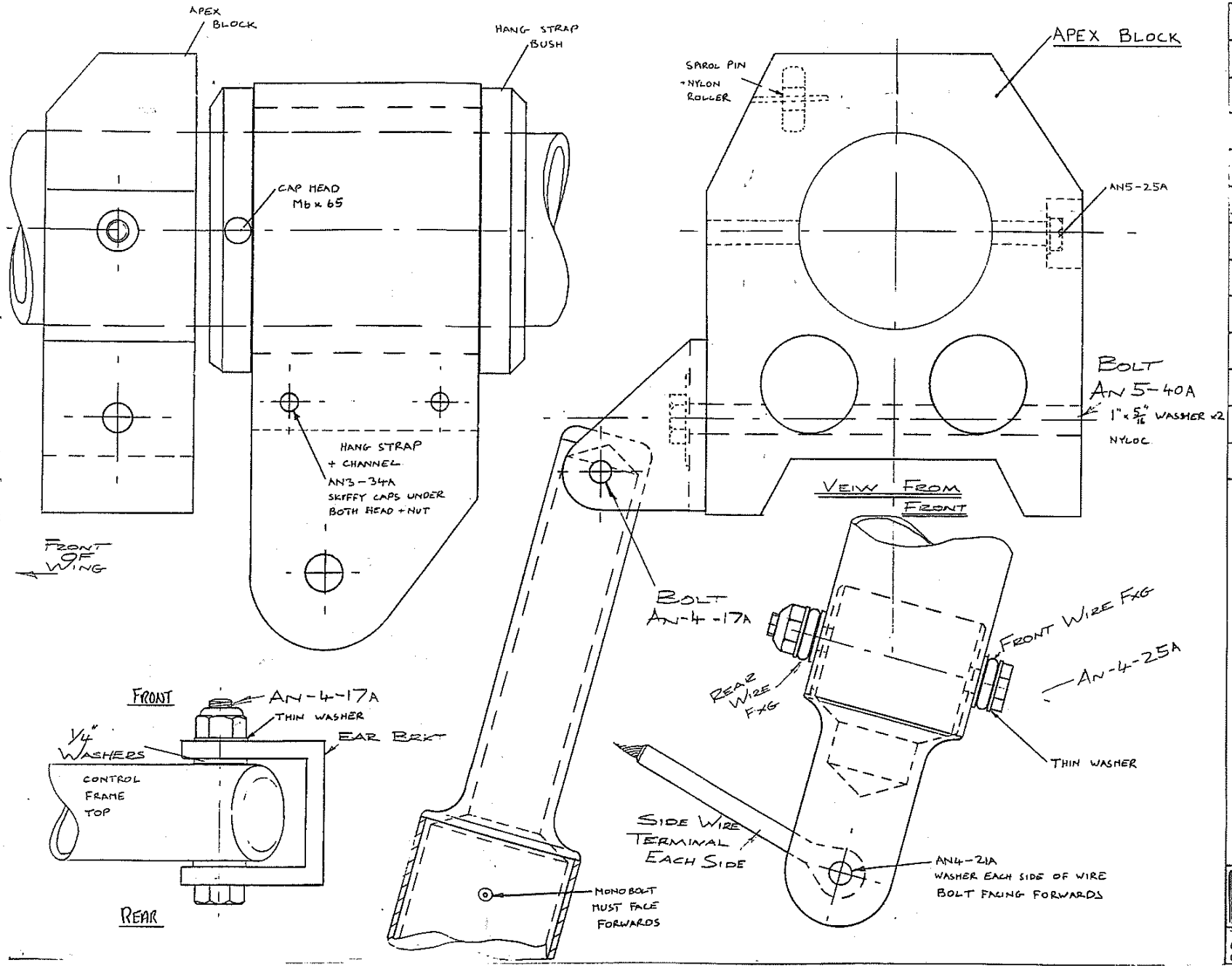

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TITLE	HANG STRAP AND CONTROL FRAME ASSY
DATE	10th JAN 97
SUPERCEDES	

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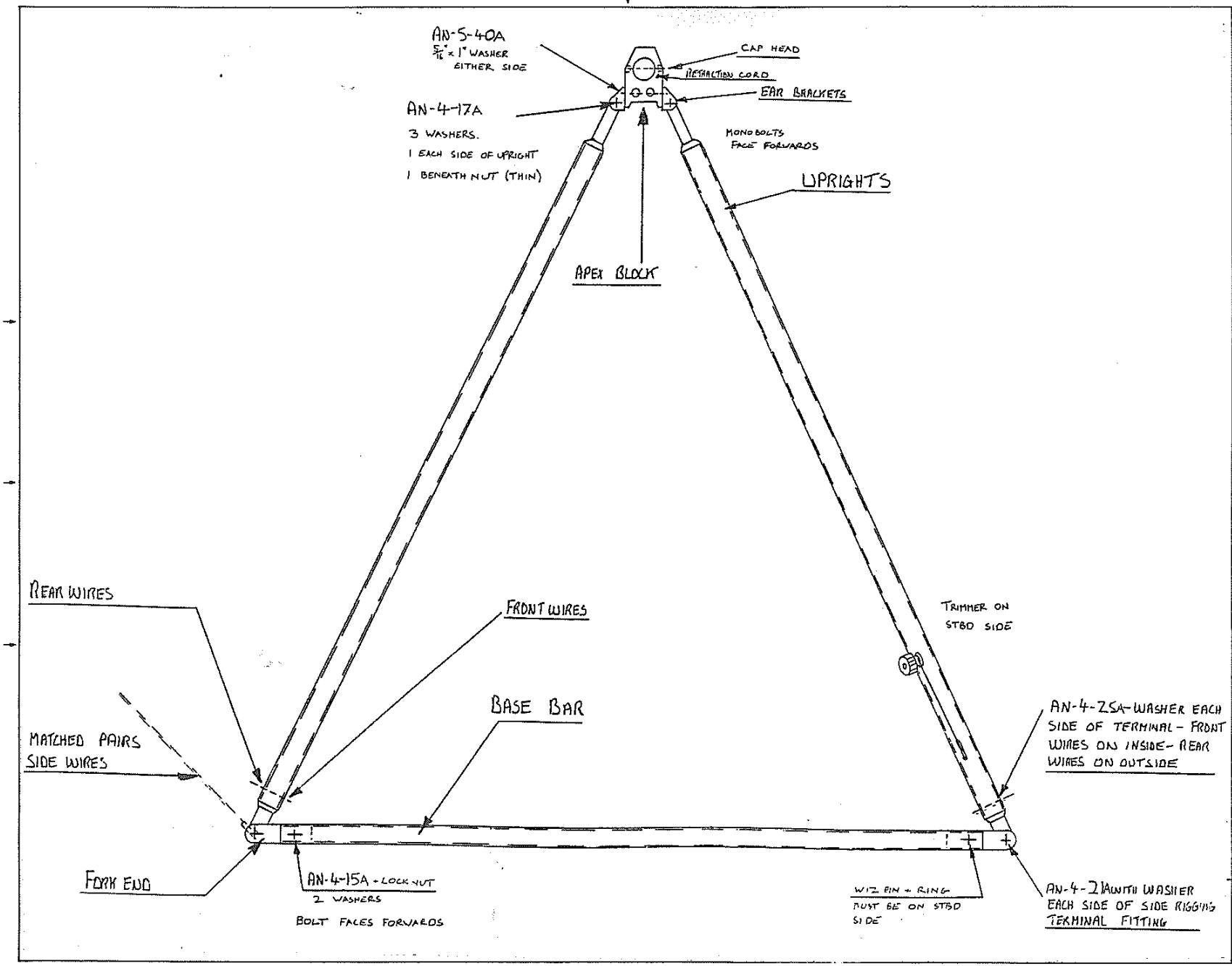

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DATE	12TH JAN 95
SUPERCEDES	

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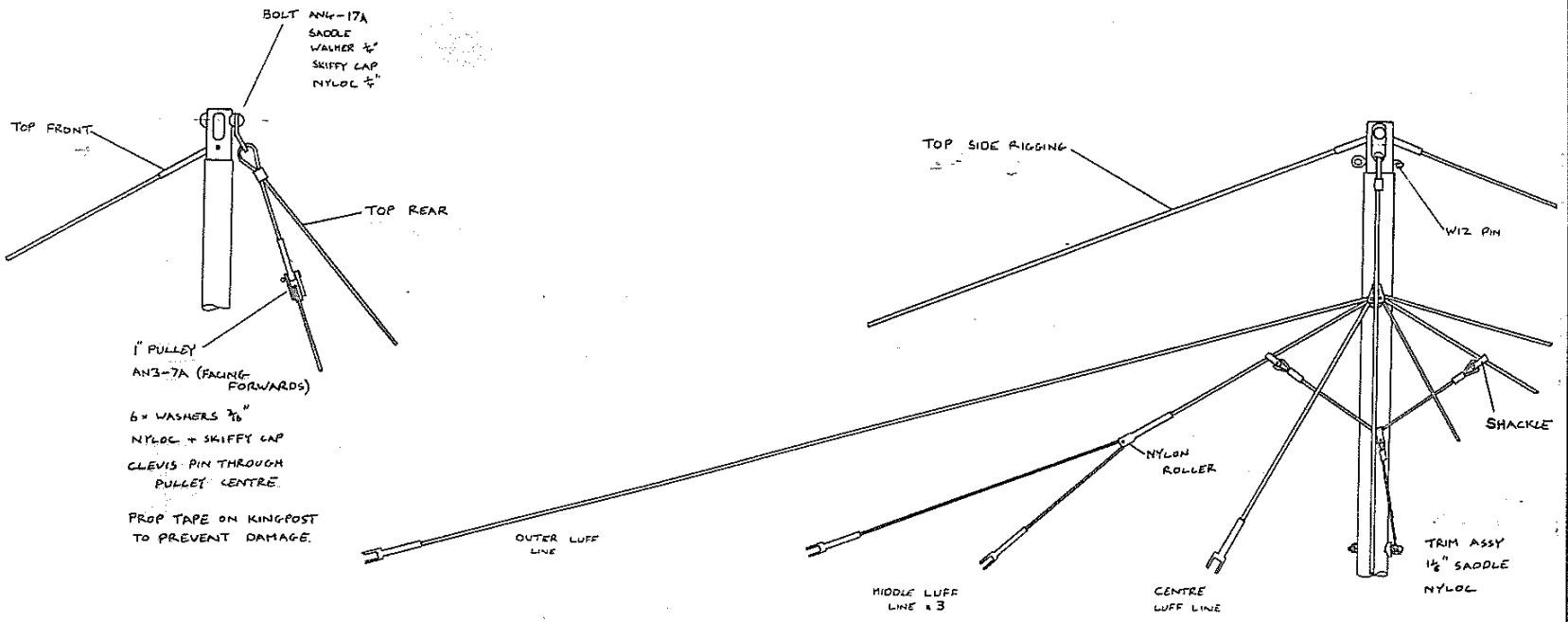
CENTRES ±0.5MM



DWG NO. BK-111

TITLE KING POST AND LUFF LINE ASSEMBLY

DATE 10th JAN 95

SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

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CENTRES ±0.5MM

TRIKE ASSEMBLY

Before you start to assemble the trike unit read through the instructions, and familiarise yourself with the drawings and component parts.

1. Assemble the seat frame, starting with the top half, fit the seat. Slide the long straps on first, then the straps either side, followed by the seat strap (webbing reinforcement faces forwards), **ensure that these long straps are free underneath the seat as shown on drawing BK-212**. Slide the lower straps onto the lower seat frame, and fasten the seat frame together, note that the R clips are no longer fitted to the bolt, as they are now part of the cockpit fabric. Check that all straps are not twisted, as it is far easier to correct now than later. Do not fit hand throttle at this stage, leave bolts protruding for now.

2. Fit the seat telescopics together with the ignition switch to the seat frame, see drawing BK-211, make sure that the seat strap is above the telescopic attachments, otherwise you will be unable to adjust the seat for dual and solo flight. The ignition switch cable should be fed up through the seat frame remembering to put a small grommet around the holes to prevent wear. Then fasten the telescopics, this may require filing a spanner down to fit into the ear bracket, the chamfer must face to the rear. On twin ignition engines the second switch is mounted lower down the seat frame, drilled in situ and fastened in position with the monobolt. This will be carried out on inspection at the factory.

3. Fit the bottom seat channel to the seat frame, together with rem straps as shown on drawing BK-213, the two AN4-22A bolts can be tightened until 1.1/2 threads are showing through the nut.

4. Assemble keel, see drawings BK-220 and BK-221, ensure that it is facing the correct way i.e. small 3/16" hole at front facing upwards, and the rear axle hinge studs facing down. Fit the hinge studs in at the rear of the keel, and ensure that the holes line up. Fit the two monopole plates, **the 5/16" hole goes to the top and faces forwards, this is very important**. The pull start pulley and spacers can also be fitted at this stage on the 503 engined models.

5. Fit the seat frame to keel, as shown on drawing BK-213. Do not fasten the AN4-44A bolt at this stage, as it also supports the rear of the pod.

6. Fit the monopole to the keel, see drawing BK-221, together with engine struts, these are handed, and should be marked left and right. (Note they are now fastened with bolts to the ear bracket on the lower engine plate if the 65 litre tank is fitted.) Ensure that the monopole is facing the correct way, with the aerial lead facing forwards. Fasten a strip of prop tape onto the back of the monopole between the engine plate hole and the base to reduce wear caused by the fuel tank when in service.

7. Connect the seat frame to the monopole, see drawing BK-213, and 99-00-306 (See Mainair Mod'99 Manual Addition) make sure that the seat straps around the seat frame are on the inside of the rem straps. (It is easier to leave the tank support straps off until after the tank is fitted)

8. Fit the two side struts to the monopole, make sure that this bolt is fastened tightly, see BK-223.

9. Fit the stub axles into the aerofoil axle leg, these are handed left and right, and secure with the 3/16" bolt. Fit the aerofoil axle to the trike keel. Do not forget the rubber boots. See BK-220 and BK-224.

10. Fit the side strut to the aerofoil axle, remembering to slide the rubber boots on first, note that these are handed.

11. Fit the drag links, marked L & R, to the aerofoil axles, be careful not to over tighten these bolts as it is easy to crush the drag strut. Then fasten the front of the drag links to the keel, see drawing BK-213.

12. Assemble the wheels. Ensure that the spacer is fitted between the wheel bearings. The inner tube valve should face away from the brake. When fitting the tyres use lots of soapy water to ease it over the rim. Fit the rear wheels with brakes and spat brackets as shown on drawing BK-224 and BK-225. Make sure that the wheel is free to rotate once the nuts have been tightened. It may be necessary to fit an extra 1"x5/8" washer if the nut becomes threadbound. There should be no side to side play from the brake once fitted and the wheel nut tightened.

13. Fit the bottom section of the telescopics to the keel, remembering to fit the seat belt retaining wire. This is further held in place with a cable tie. Make sure that the telescopic top half is around the correct way, with the **chamfer facing rearwards, otherwise damage will occur to the seat frame whilst folding, see BK-211.**

14. Assemble the front wheel, fit the sealed bearings, with the spacer between, see BK-240. Fit tyre and tube. A yellow plastic dust cover is provided for the wheel.

15. Assemble the front forks as follows: fit the trailing link to the shock absorber, this is fitted to the thinnest end, which will be the lowest point, see BK-228. Then attach the shock absorbers to the fork, make sure that the shock absorbers are screwed all the way in, and then out half a turn so that they are equal length. The trailing link can then be fitted to the fork legs. Finally fit the wheel and axle bolt as shown on drawing BK-240.

16. Fit the nylon steering stem bush into the front stub, this goes in from the bottom of the stub, and is just knocked in with a nylon hammer. Fit the front stub to the keel, push the stub all the way in, and insert the front forks and line up the wheel with the monopole and keel. (It may be easier to fit the front strut to help line up, see paragraph 20 for monopole top assembly.) Drill out holes to 1/4", get someone to help line up the vertical hole. Slide stub out and de-burr all the holes, both inside and out, then re-fit the stub using plenty of Araldite, and bolt into place. Fit the pull start pulley if required. See BK-226.

17. Prepare the cockpit for fitting. Drill two 1/4" holes as marked in the wheel well, then open up the rear hole with a hole saw to 1.1/4". Drill a 1/4" hole in the rear cockpit well as marked, and also in the centre of the dash for the front strut. The front strut hole should then be opened to 1.1/8" using a hole saw. At the rear of the cockpit two slots should be cut into the edge to allow

for the drag links as shown on drawing BK-241. Two 3/16" holes should be drilled for the cockpit foot rest tube, if the aircraft is not being fitted with rear seat steering. It is easier to drill instrument holes once the cockpit is fitted to the aircraft. Similarly the windscreen should be fitted after all holes have been cut out to save fibre glass dust from becoming trapped between the screen and the cockpit, although it can be drilled at this stage.

18. Fit the cockpit, by first aligning and fitting the two bolt fixings, one at the stub and the other at the lower seat frame. Then slide the front forks into position. Fit the front strut lower section, and then the cockpit foot rest, the holes for the foot rest are drilled in the centre of the recess, see drawing BK-226 and BK-213.

19. Fit the foot throttle pedal and the brake pedal to the steering bar, see BK-240 and BK-229. Also fit the brake cable as shown on drawing BK-238. Do not trim the cable too short as this could prove awkward later if adjustment or replacement is required. The steering bar can then be fitted to the front forks, these are then drilled in situ and bolted, see drawing BK-226. Once the steering bar has been fitted the brakes can be adjusted properly. Correct adjustment is for the parking brake to just engage the second slot when the brakes are applied.

20. Fold the trike unit down, and fit the front strut channel, engine rigging and front strut top, not forgetting to slide the shoulder straps on first, see BK-227. The backup loop should be fitted at this stage, make sure that the ends have been bent approximately 10 deg to allow correct fitting of the loop. The hang bolt should also be fitted.

21. Erect the trike unit and fit the front strut.

22. The front of the cockpit fabric has three aluminium strips inserted into it, check that they are the correct length, and trim to suit if necessary. (These may already be drilled for you, so can just be gently bent to suit the cockpit.) The strips should be first bent around to form the shape of the cockpit, then the holes should be drilled in the strip prior to fitting, as shown on drawing BK-241. The strips should be inserted into the front of the skirt, small cut outs are in the skirt for this. The holes in the strip should be located and burnt in the skirt using a soldering iron or similar. If you try to drill these you may tear the fabric if the drill grabs. Offer the skirt into place, making sure it is symmetrical, and drill the cockpit accordingly.

23. Tie the back of the skirt as shown on drawing BK-221, the edge of the skirt should just cover the front of the pulley (pull start models). The skirt is secured to the engine struts with velcro, self adhesive velcro is supplied for the struts. It is easier to fit the skirt with the zips undone at this stage. Do not fasten the seat frame bungee until the tank has been fitted, note also that the fabric will be loose until the tank is installed

24. Fit the seat foams, the wider foam is for the rear seat, and these are fitted in through a hole in the underside of each respective seat. Ensure that they are fitted the correct way around as shown on BK-212, **be patient when fitting as the foam can be easily damaged.** Slide the front seat wood beneath the seat, after first removing all sharp edges. There is no seat wood for the rear seat.

25. Engine preparation. Check that the engine is correct and that all bolts are fastened properly. The head stand-offs should already be fitted on the 503 engines, and the top engine cross angle mounts fitted on the 582 engines. The eight lord mounts should be fitted to the cross angles and the engine mounting plate as shown on drawing BK-230, BK-231, BK-232 (99) and BK-233, as appropriate, **note the orientation of the lord mounts, this is important.** The cross angle mounts should then be fitted to the engine box mounts, as shown, **do not over tighten these bolts as the box mounts will crush, and require replacement.** Note the bolt orientation, and also that the mounts are handed. The engine should then be turned over so that it is resting upside down, and the lower engine mount fitted, as shown on drawing BK-233. If the original engine studs, are still fitted these should be removed, either use a pair of mole grips, or two M10 nuts tightened one against the other. The D section rubber and top hat are no longer fitted on the engine mounts. Fit the two ear brackets for the engine support tubes. The engine can then be turned back over, the correct way up.

26. The wiring box should then be assembled, ready for installation with the engine as shown on drawing BK-234. Fit all rubber grommets. The main loom is best fitted to the connector block before bolting the connector block into the box. Strip each wire back approximately 1/4", and then solder the end ready for fitting. Fasten all wires as per the wiring diagram in the aircraft manual, even if you do not wish to fit all the instrument options, as it makes fault finding or future upgrades easier. The wiring from the box to the engine is carried out once the engine has been fitted.

27. Fit the engine to the airframe, see BK-230, BK-231, BK-232 and BK-233 as appropriate, you may find that it is easiest with a helper and also with a small hoist to take the weight of the engine whilst offering it upto the trike. Make sure you have all bolts ready to hand. First fit the engine table bolt that passes through the monopole, not forgetting the engine earth strap, note orientation. Then fit the two engine struts onto the engine table, note that for the Rotax 462 and 582 engines these are secured with exhaust rubbers, see drawing BK-252. Finally fit the box mounts together with the wiring box. Note the bolt orientation, also you may need to file the edge of a washer away if it fouls on the weld. **Do not over tighten these bolts as the box mounts will crush, which will then require replacement.**

28. Fit the engine support wires, these bolts should be tightened such that the wires are still free to rotate, BK-230, BK-231 or BK-232.

29. The fuel pump, fuel tap and fuel line can now be installed, note the routing of the fuel line on BK-239, BK-240 and BK-253, as this routing has been used for many years, and has shown itself to be trouble free. The over springs should be cut to approximate length, and should be such that they are compressed when fitted, this may require stretching some of the springs to fit. **When cutting the fuel pipe use a sharp knife,** and if fitting is tight, for example at the fuel tap, use Vaseline to ease fitting. If you suspect that the fuel pipe end has been damaged whilst fitting remove the pipe, trim the end and start again. It is important that no small particles are allowed into the fuel line or system as they may cause a blockage and engine failure at the most critical stage of flight.

30. On the Rotax 462 the carburettor and intake silencer can now be fitted, ensure that the carb is mounted exactly as per the Rotax engine installation requirements. The intake silencer should be loosely fitted to the carburettor, and lined up for drilling for the two supports, make sure that the Air Box bolt set will fit. After drilling the intake silencer remove it, and clean all swarf from within. The lower of the two intake plugs can be removed to fit the bolts and to aid cleaning. Once fitted the intake silencer filter can be fitted, ensuring that the plug is firmly back in position. The intake filter should be wired in place using the hole in the intake silencer box, and passing the lock wire through the rubber case of the filter. See BK-236.

31. For the Rotax 503 and 582 the twin carburettors can now be fitted, ensure that the carburettors are mounted exactly as per the Rotax installation instructions. The intake filter should be fitted and the locking wire backup.

32. If the gearbox screws are already lockwired then it has already been filled with oil, otherwise follow the instructions below. The gearbox, should next be filled with oil, use either EP90 or EP140 oil, and fill upto the level screw, **which is the lower of the two screws on the side of the gearbox**. Before filling check that the drain plug is fitted and tight. After filling wire lock all connections, these are the drain, the two level screws on the side, and the breather/filler. **If you forget to fill the gear box with oil the gearbox WILL fail and your warranty WILL be invalid.**

33. On the Rotax 462 and 582 engines, fit the radiators, note that the Rotax 582-99 engine (Blue Top) uses the export radiator mounting, see drawing BK-252 for lower mounting and BK-256 for top fitting details. The bracket for the lower hose has to be gently bent to suit. Ensure that when cutting the hoses to fit, that they do not rub on any other part of the aeroplane, remember to make allowance for the exhaust brackets. Hose fittings are as per BK-255 and BK-257

34. Fit the spark plugs, checking that the plug gap is as per the engine manual specifications, and fit the plug caps. Remember to fit any cylinder head senders at this time if required.

35. The wiring from the engine should already be connected to the plug, check that the colours are correct. The wiring diagram for the engine is supplied in the Aircraft Operators Manual, and also in the Rotax engine manual. Drawing number 99-44-58.

36. Feed the cables into the wiring box through the grommets, also fit the ignition cables and any cylinder head or exhaust gas senders. The sender cable should be neatly coiled, by winding around a piece of 1 inch tube or similar to take up surplus length, the end fittings for these will plug straight into the connector block. The engine wiring should have the ends stripped back approximately 1/4" and the end soldered prior to fitting to ensure a good contact. Tighten only those screws with a cable going into them. Stick a piece of insulation tape over the connector block to ensure that those screws which are currently loose will not fall out. Fit the wiring box lid, but **do not secure with locktite as the lid will be removed during inspection.** The cable passes through a P clip that should be fastened to the monopole bolt, which also takes the electric starter solenoid. All wiring for the electric starter can also be fitted at this stage.

37. Fit the exhaust manifold, not forgetting the exhaust gaskets, with the outlet facing forwards and at 90deg to the engine, see drawing BK-236. Only three cap head screws are used per outlet on the Rotax 582 engine. Wire lock the bolts in place. The exhaust bracket should next be fitted, and similarly wire lock the two bolts in place, also fit the rubber exhaust bobbin. The other exhaust bobbin should be screwed into the engine casing. The exhaust should be fitted using copper slip or similar around the ball joint. Apply this sparingly as any excess will just squirt out all over the propeller and anything else parked behind the aircraft. The springs should finally be fitted and then wire locked in position. The locking wire should be doubled in this region. The wire locking should not be tight, as it is there to support a spring should it or the metal lug fail, and if tight could help to transmit vibration.

38. Fit the two earth straps onto the pull start housing bolts, one to each of the lower mounting bolts.

39. Fit the rear fuel tank. This is slid into position from the rear and then secured in place with the engine struts, which should now be bolted to the ear brackets.

40. The throttle cable and choke cables can be fitted, see BK-235 and BK-240, make sure the routing is correct, as shown on drawing BK-237. Do not forget the dust covers. The choke cable is best fitted to the choke by releasing the choke lever and letting the cable off further than is normal. Then fit the choke lever onto the seat frame, and finally screw the choke back into its housing on the carburettor. The throttle is connected to the carburettor first, ensure that reassembly is correct, referring to the engine manual if unsure. **The white nylon spring cup should be above the needle and spring clip, this is very important.** Fit the foot throttle and hand throttle ends as shown. The foot throttle return spring should be wound around the throttle cable, so that it is outside the cable. Check the adjustment and travel of the throttle, they should be such that the outer cable has a small amount of free movement when seated in the carburettor with the throttle and choke closed.

41. The hand throttle cover and handle can now be fitted, if the throttle is found to catch the slots in the cover these may be further elongated with a file, BK-235. The hand throttle lever should have the bend facing out, this ensures that the lever does no catch on the passengers leg.

42. The pull start should be routed around the two pulleys and below the cockpit foot rest bar. Use a double knot in the handle.

43. Drill the instrument panel for the instruments, check the spacings carefully to ensure that the instruments will fit, and also that enough room is available should you wish to add to the layout at a later stage. Use the correct size hole saw for the holes otherwise you could spoil the whole appearance of the aircraft. The compass is fitted using small nylon nuts and bolts supplied, this will require drilling the mounting hole out slightly. The windscreen should be fitted after all drilling and filing has been completed. Locate the position for the map pocket, ensuring that it is clear of the steering. The short alloy strip is drilled in two places and slid into the seam at the top of the pocket, and then fitted, normally the front hole is located at the rear windscreen attachment. The larger windscreen rivets are used for the map pocket. Fit cockpit edge trim.

44. If an electric starter is fitted, install the battery box and all wiring, see drawing BK-260 and BK-261 for details. The solenoid is fastened at the rear of the monopole. Ensure that all connections are tight before the battery is connected. Also whilst working in this area ensure that the ignition is switched off, and take care not to earth the live contact on the battery with any part of the airframe. **When working on the battery and wiring connections always treat the area around the propeller as live, just in case you make a mistake.**

45. Connect up the engine instruments from the wiring loom. Those cables that are not used should be taped back for future use, do not cut these off short. The complete wiring, and throttle cable should be neatly tied up using a cable tie to the side of the cockpit.

46. Fit seat belts, referring to drawing BK-212 for routing details.

47. Fit the exhaust guard onto the engine box mount. This will require filing to fit, remove only that which is required to ensure that it is tightly fitted. Before drilling the hole for the self tapping screw fit the engine cover. This will also require filing around the exhaust guard area to ensure a good fit. Cockpit edge trim should be fitted where it contacts the exhaust guard. With the engine cover fitted you can determine where to drill the exhaust guard for the self tapper, do not forget to allow enough room for the skiffy cap. Use locktite with the self tapping screw, see BK-240.

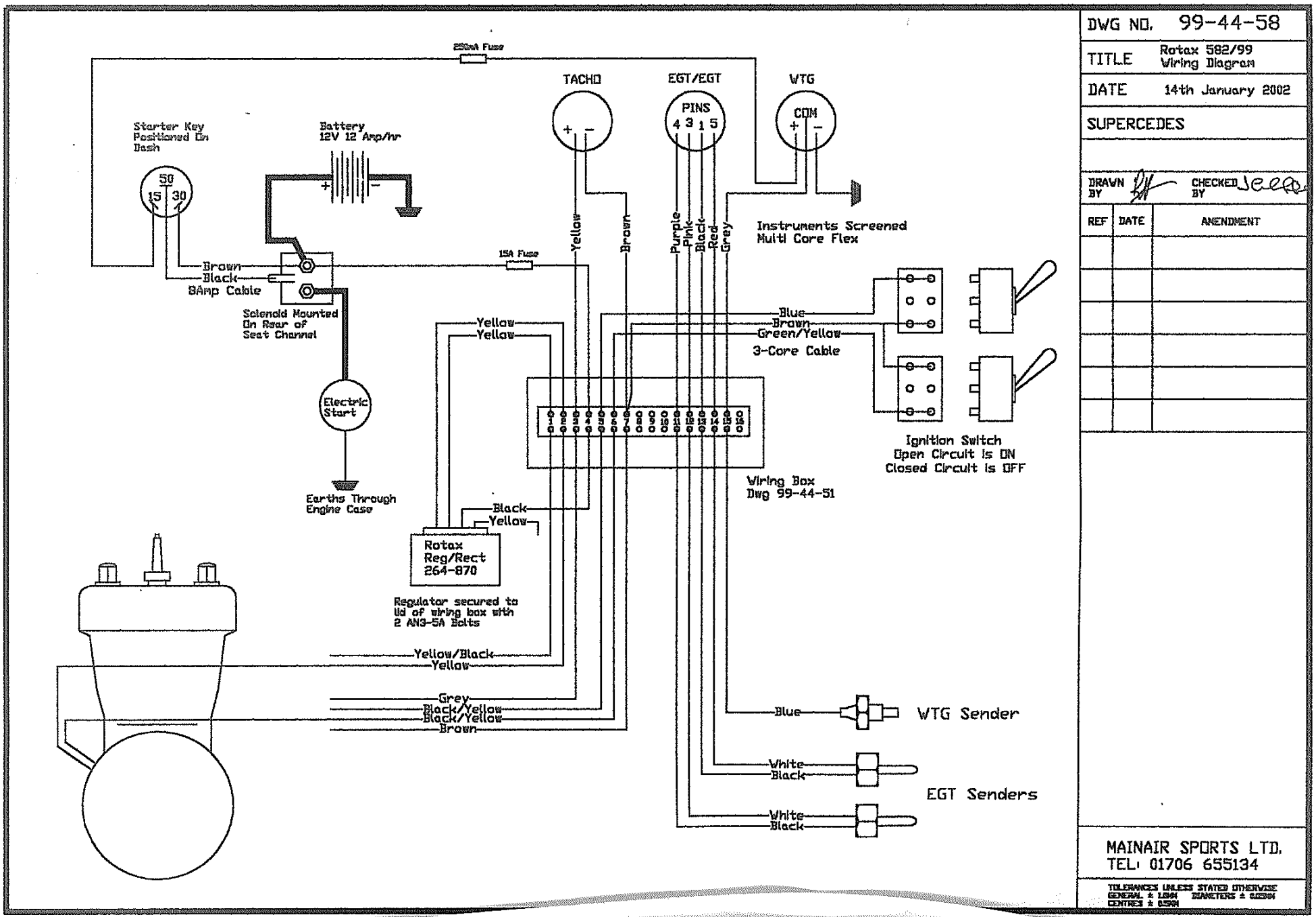
48. Install the propeller, following the relevant instructions supplied with the propeller, and found in the Aircraft Operators Manual

49. Fit cockpit stickers, these are applied by first trimming to within one inch of the edge of each logo. Then trim to the edge of one part of the logo and offer the logo upto the cockpit. Mark on the cockpit the position of this trimmed edge and repeat on the opposite side to ensure symmetry, them remove the backing paper and offer the design to position, once satisfied smooth the logo onto the cockpit and then remove paper.

50. Fit all placards, the main placard onto the keel tube, the throttle placard on the top of the throttle cover, the ignition switch placard onto the ignition switch housing (forwards is off), the fuel tank placard on the back of the engine cowling, or radiator, and the fuel tap placard on the engine cover adjacent to the switch. Finally install the owners name plate onto the monopole channel using self tappers, this plate by law requires only the registration number of the aircraft.

51. Fit wheel spats as per drawing BK-224 and BK-225.

Your Blade trike unit is now completed, and should be inspected to check that no bolts have been left loose etc. You should also contact Mainair Sports for final inspection so that the documentation can be organised for its first flight and the issue of a Permit to Fly. The inspection by Mainair Sports will take 4 hours or more and will include initial running of the engine. If you require your engine to be run on a particular brand of fuel and oil ensure that you have some available for the inspection. **Under no circumstances should you attempt to run your engine, if you do so you will invalidate all warranties.**



DWG NO.	99-44-58
TITLE	Rotax 582/99 Wiring Diagram
DATE	14th January 2002
SUPERCEDES	
DRAWN BY	CHECKED BY

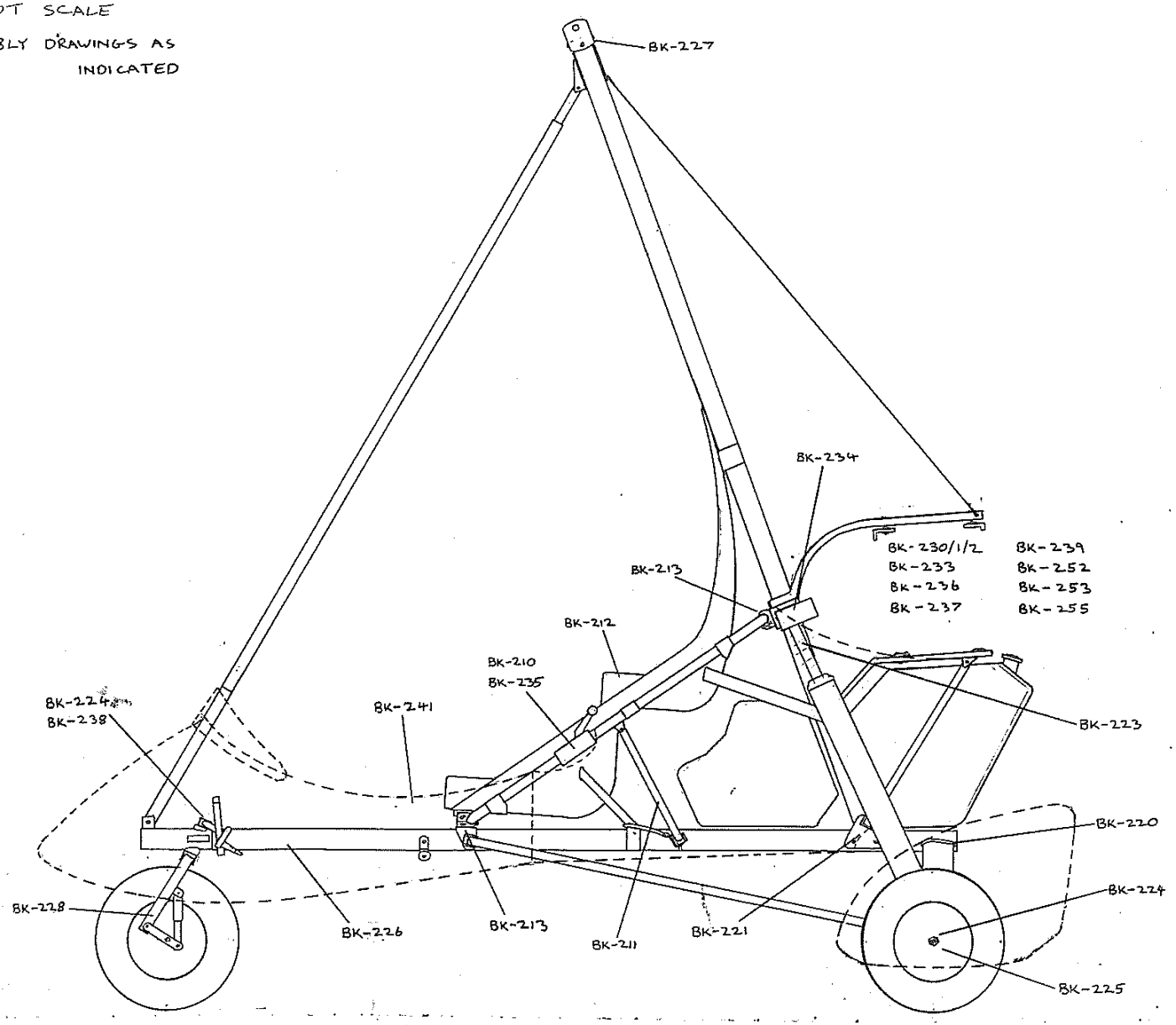
REF	DATE	AMENDMENT

MAINAIR SPORTS LTD.
TEL: 01706 655134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0mm DIAMETERS ± 0.05mm
CENTRES ± 0.5mm

DO NOT SCALE

ASSEMBLY DRAWINGS AS INDICATED



DWG NO.	BK-200
TITLE	BLADE TRIKE GA
DATE	1ST MARCH 1995
SUPERCEDES	

REF	DATE	AMENDMENT

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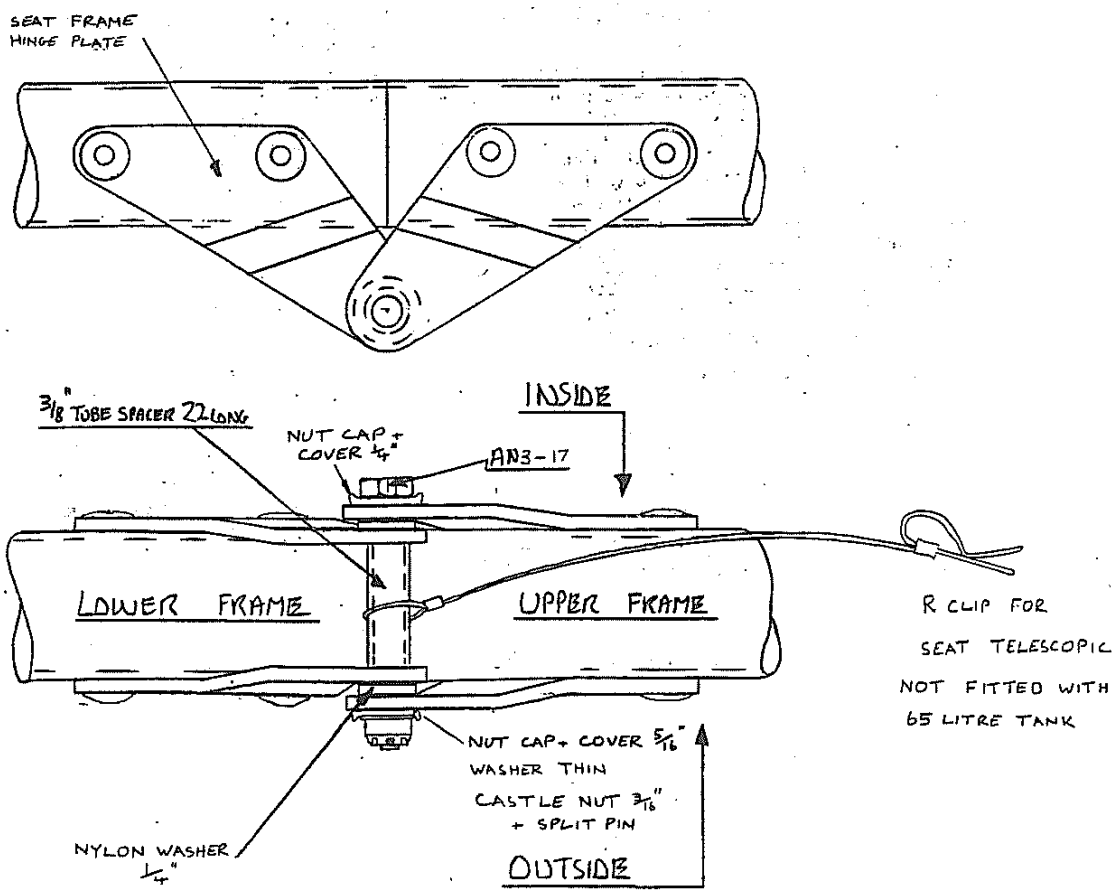
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

RIGHT SIDE SHOWN



NOTE: FOR LEFT SIDE, SEAT HINGE PLATE SECURED WITH AN3-34A BOLT INCORPORATING HAND THROTTLE SEE DWG: BK-235

DWG NO. BK-210

TITLE SEAT FRAME HINGE

DATE 13TH JAN 1995

SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

REF	DATE	AMENDMENT
A	25-4-02	NOTE ADDED ABOUT R CLIP AND 65 LITRE TANK [signature]

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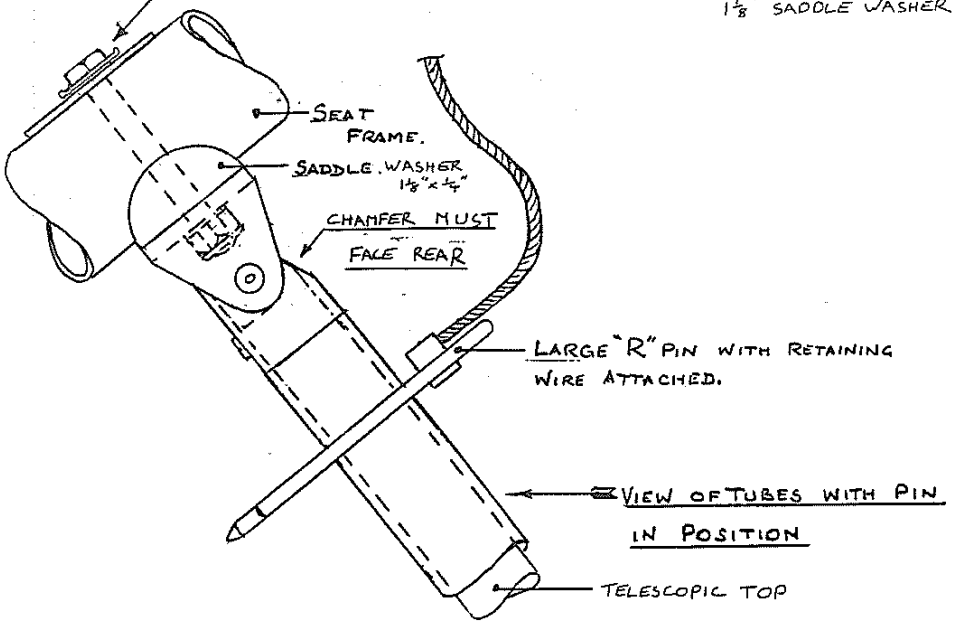
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

RIGHT SIDE: AN3-17A
NUT CAP + COVER ¼"
WASHER THIN
IGNITION SWITCH

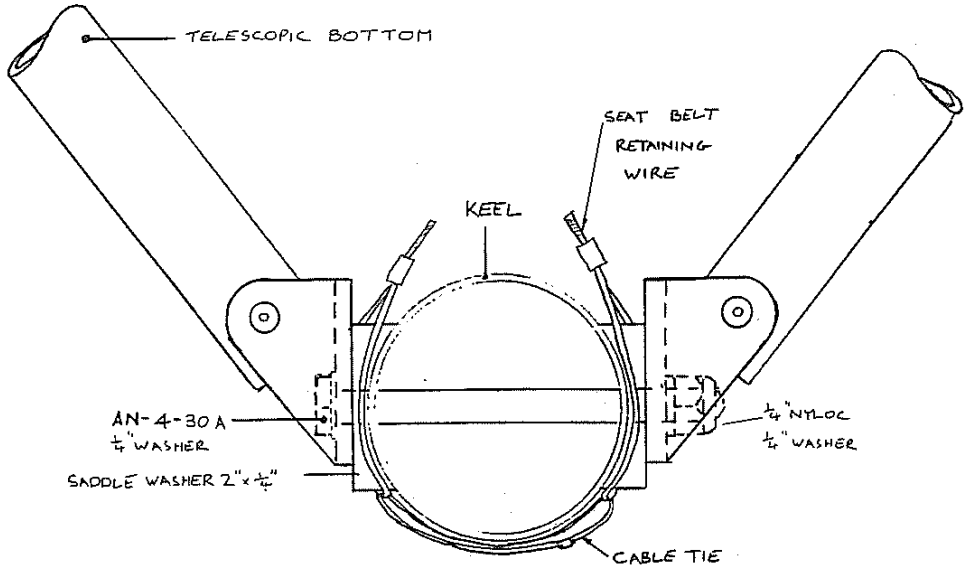
LEFT SIDE: AN3-17A
NUT CAP + COVER ¼"
WASHER THIN
1⅛" SADDLE WASHER



NOTE

FOR TWIN IGNITION ENGINES SECOND SWITCH IS MOUNTED BELOW ORIGINAL AND FASTENED WITH 3/16" MONOBOLT

3/16" HOLE IS DRILLED IN SITU.



DWG NO.	BK-211
TITLE	SEAT TELESCOPIC
DATE	10th JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

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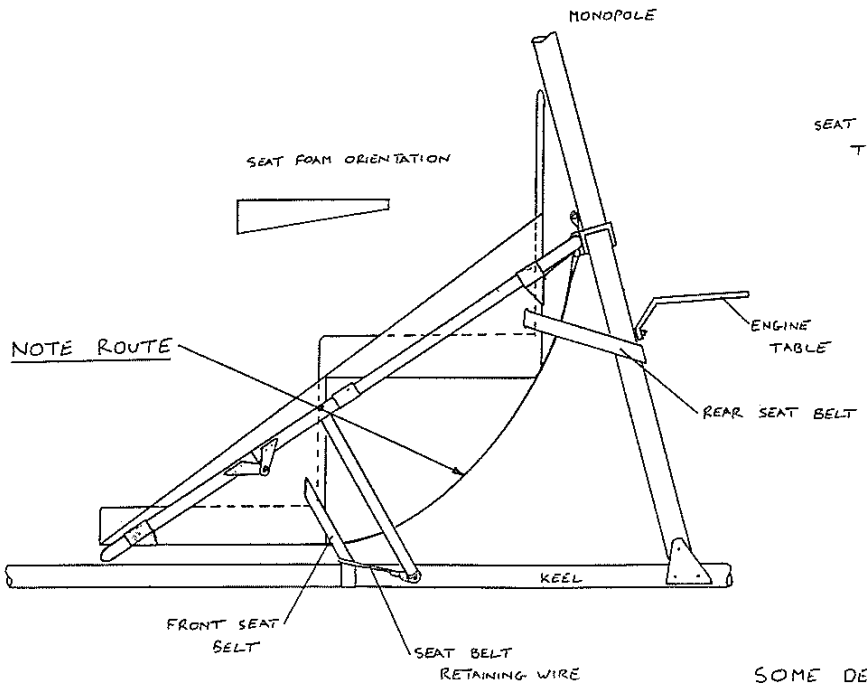
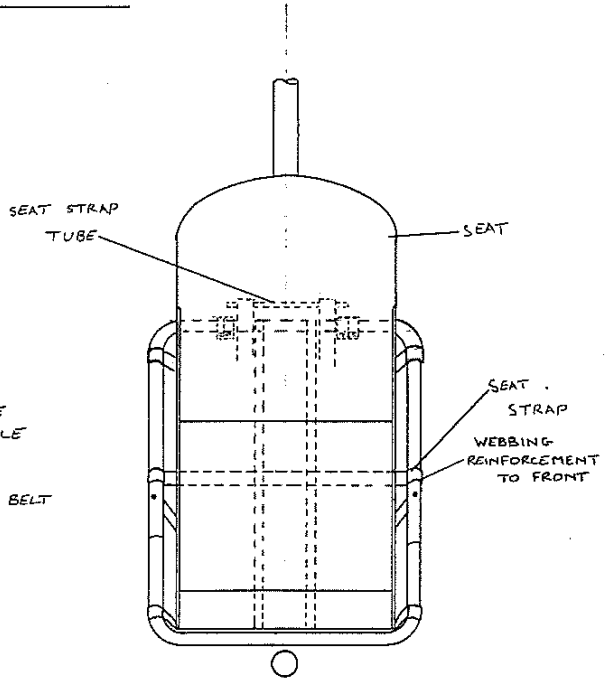
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

NOTE: 2" WEBBING AT TOP OF SEAT DOES NOT FASTEN AROUND SEAT FRAME BUT SLIDES BETWEEN FRAME AND CHANNEL
1" WEBBING FROM FRONT OF SEAT FASTENS AROUND SEAT FRAME TOP - NOTE ROUTING





SOME DETAILS MISSING FOR CLARITY

DWG NO. BK-212

TITLE SEAT AND BELTS

DATE 11th JAN 95

SUPERCEDES

DRAWN BY ff CHECKED BY JC Wells

REF	DATE	AMENDMENT
A	8-3-96	NOTE ADDED ABOUT WEBBING ff

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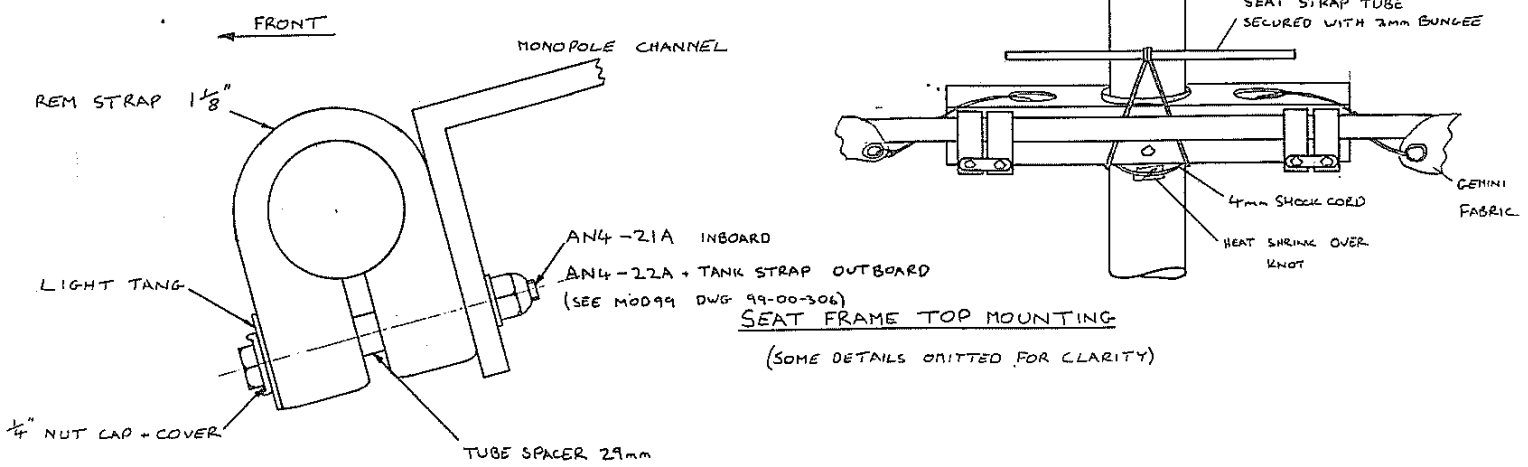
TEL: 0706 55134

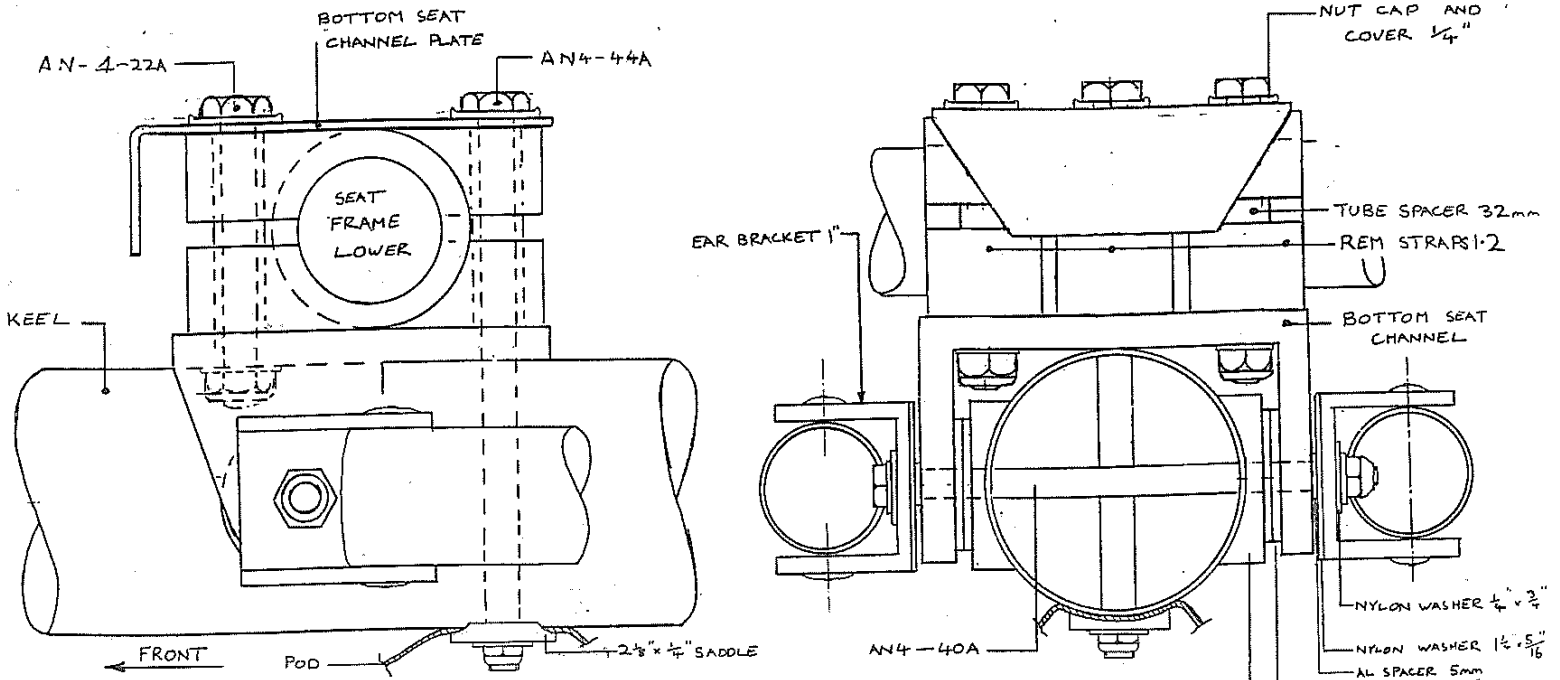
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

DO NOT SCALE



SEAT FRAME TOP MOUNTING

(SOME DETAILS OMITTED FOR CLARITY)



SEAT FRAME LOWER MOUNTING

DWG NO.	BK-213
TITLE	SEAT FRAME ATTACHMENT
DATE	12TH JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	25-1-02	SEAT STRAP TUBE ADDED ALSO NOTE ABOUT TANK STRAP + BOLT

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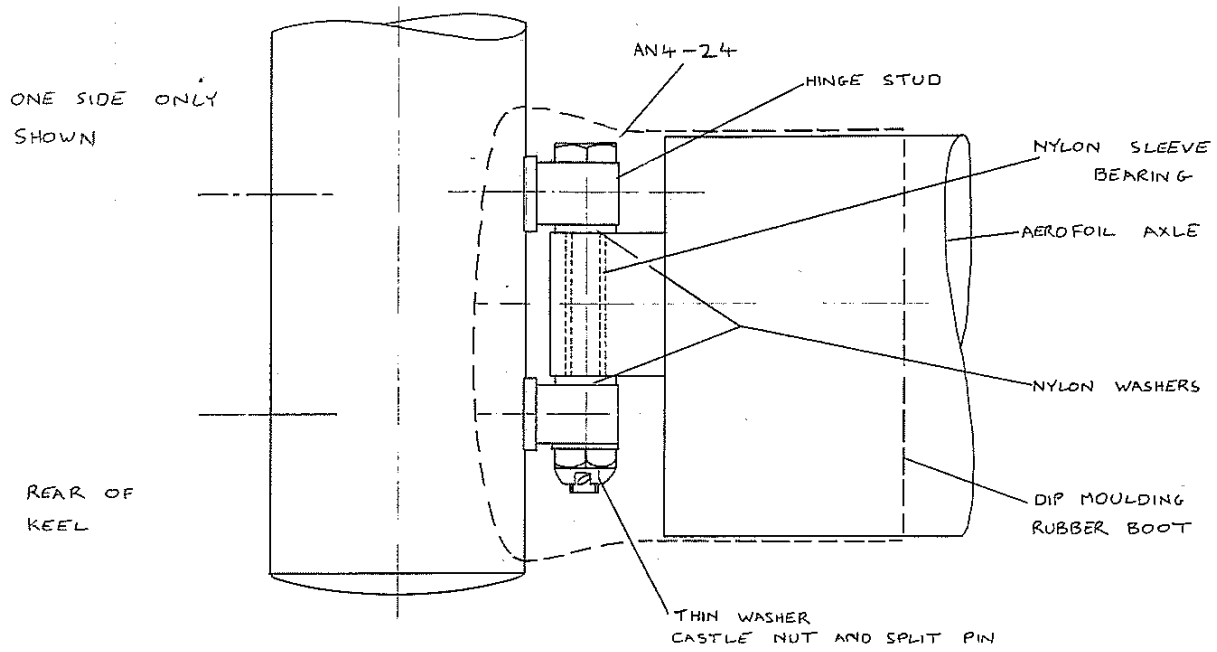
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO.	BK-220
TITLE	AXLE/KEEL ASSEMBLY
DATE	1ST MARCH 1995
SUPERCEDES	
DRAWN BY	pf
CHECKED BY	JEPH

REF	DATE	AMENDMENT
A	25-4-02	BOLT ARRANGEMENT CORRECTED pf

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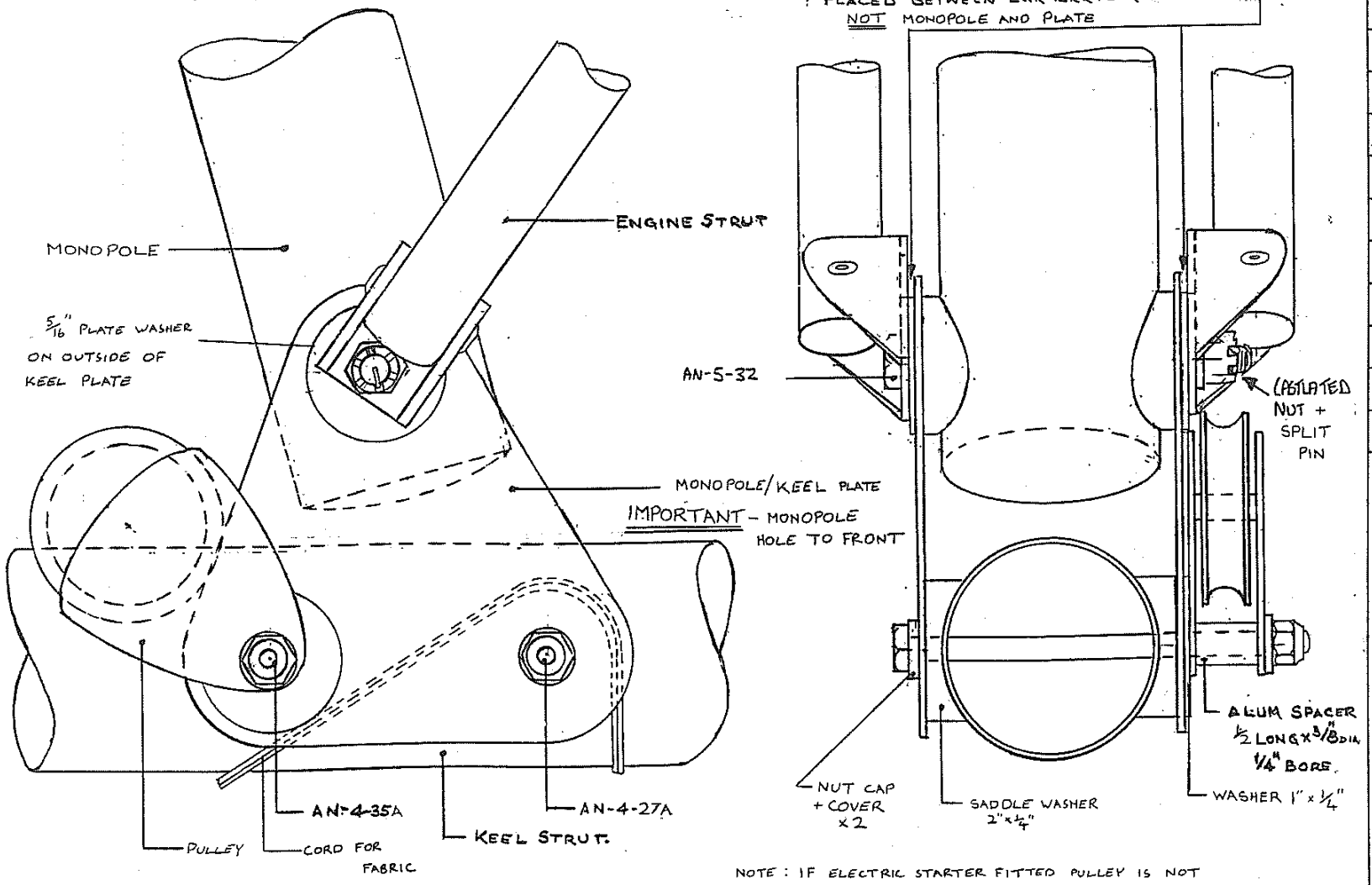
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



NOTE : IF ELECTRIC STARTER FITTED PULLEY IS NOT FITTED, USE AN4-27A BOLT

DWG NO. BK-221

TITLE KEEL/MONOPOLE ASSY

DATE 12th JAN 1995

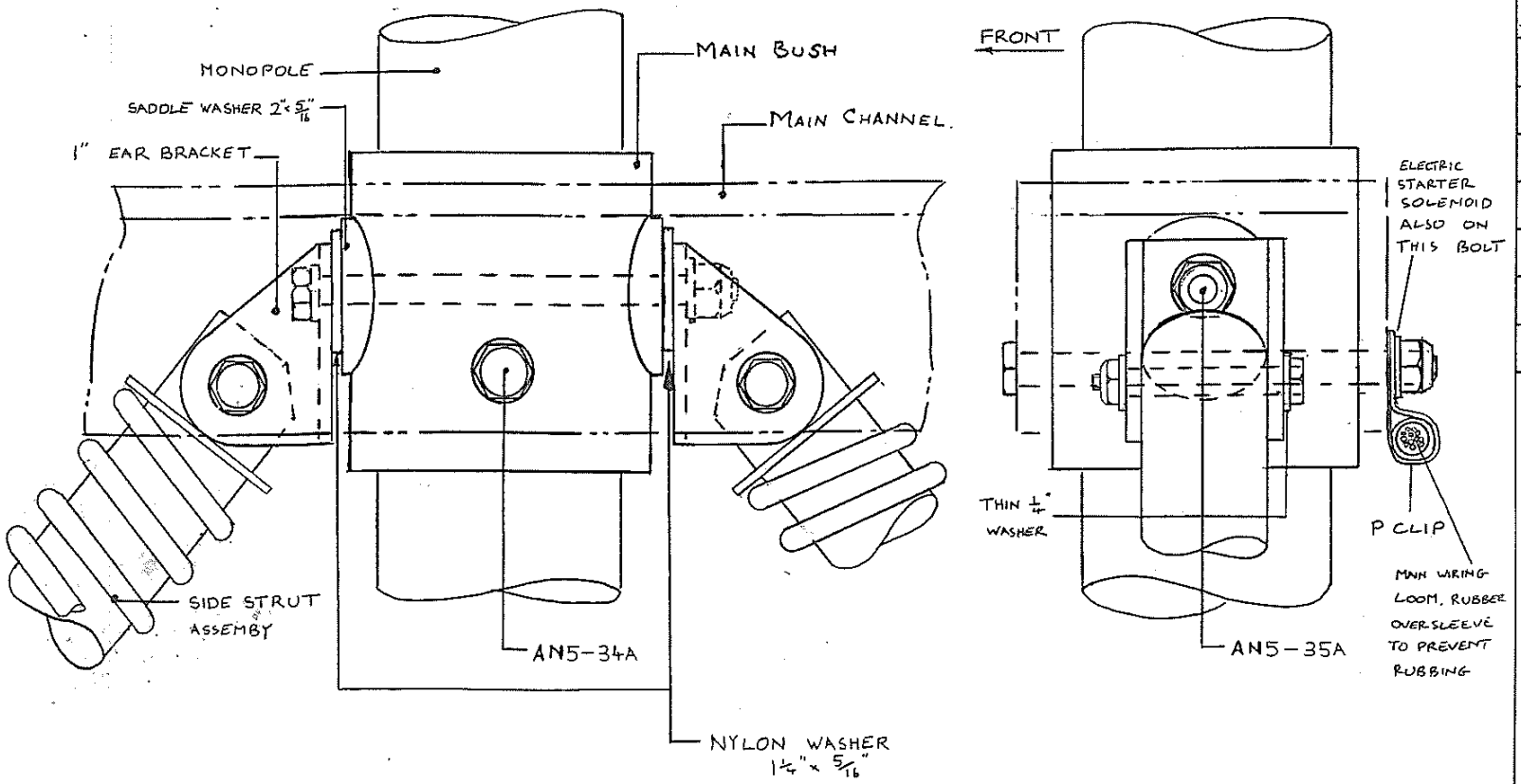
SUPERCEDES

DRAWN BY BF CHECKED BY terra

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. BK-223

TITLE MONOPOLE/SIDESTRUT

DATE 16th JAN 1995

SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

REF	DATE	AMENDMENT
A	25-2-02	NOTE ABOUT STARTER SOLENOID [signature]

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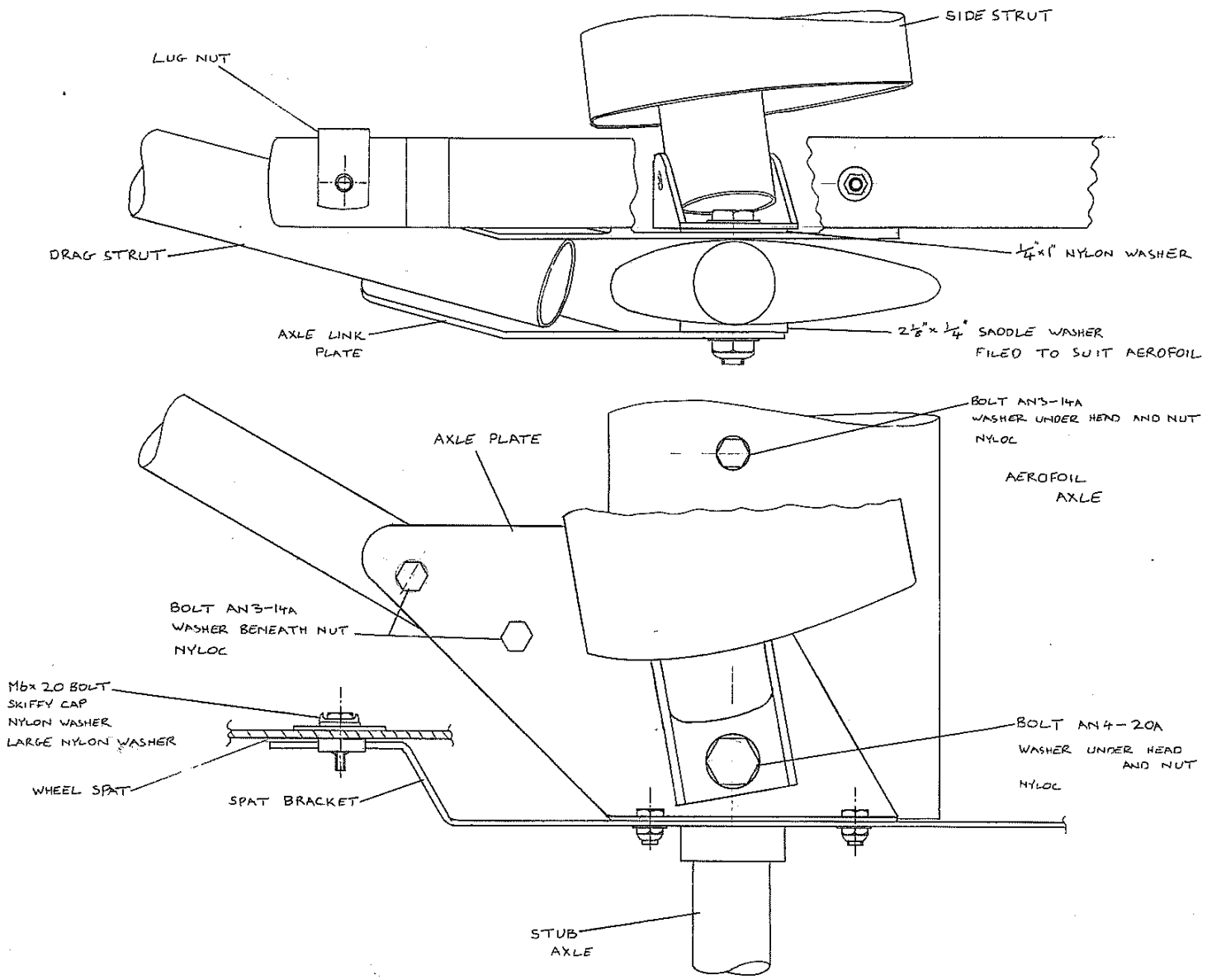
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. BK-224

TITLE REAR AXLE ASSEMBLY

DATE 23rd JAN 95

SUPERCEDES

DRAWN BY PF CHECKED BY JRRR

REF	DATE	AMENDMENT

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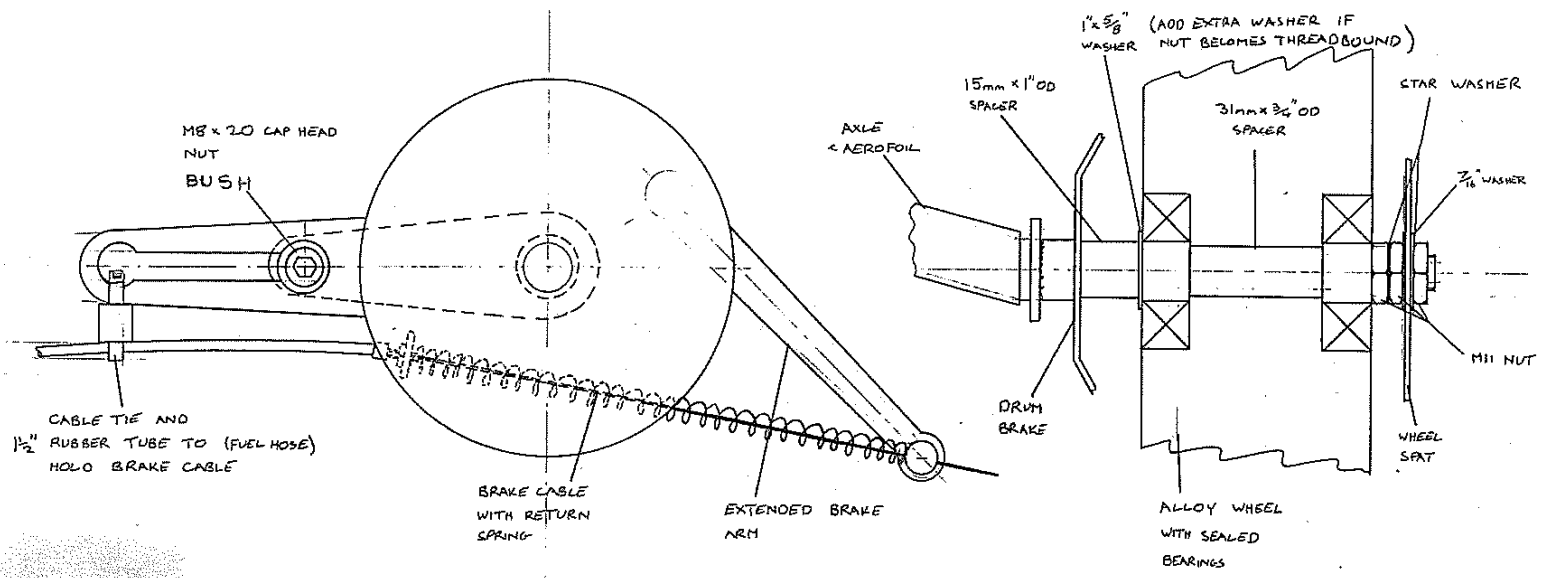
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

DO NOT SCALE



SEE DRAWING BK-238 FOR CABLE ROUTE

DWG NO.	BK-225
TITLE	REAR BRAKE AND WHEEL ASSEMBLY
DATE	1ST MARCH 1995
SUPERCEDES	
DRAWN BY	CHECKED BY

REF	DATE	AMENDMENT

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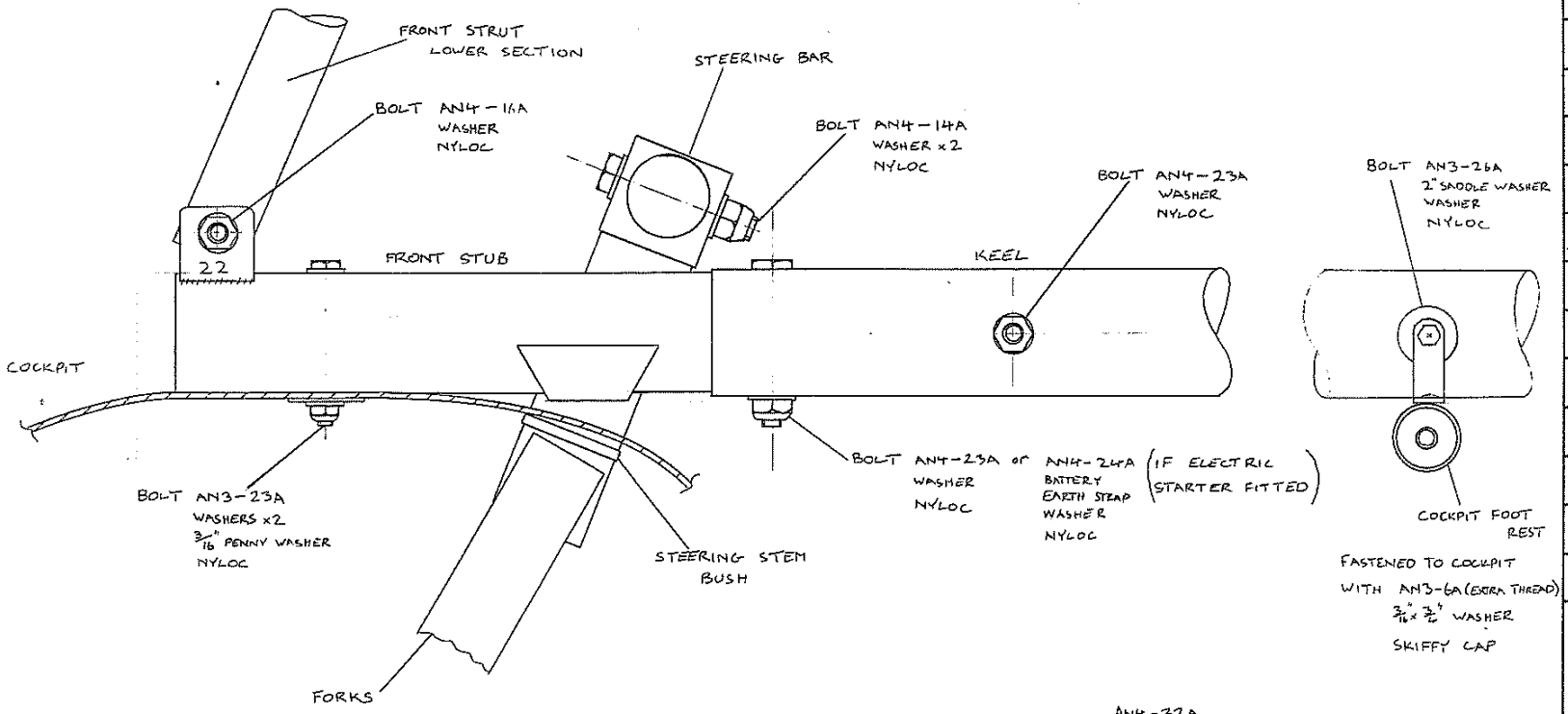
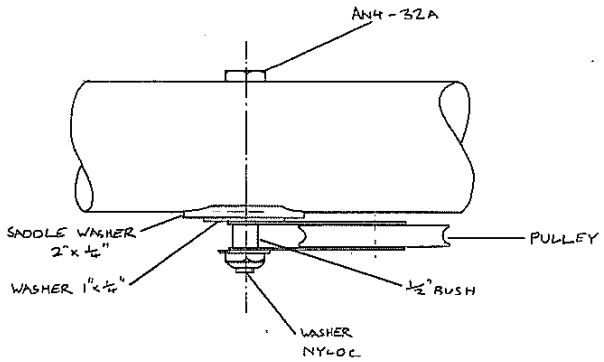
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

DO NOT SCALE





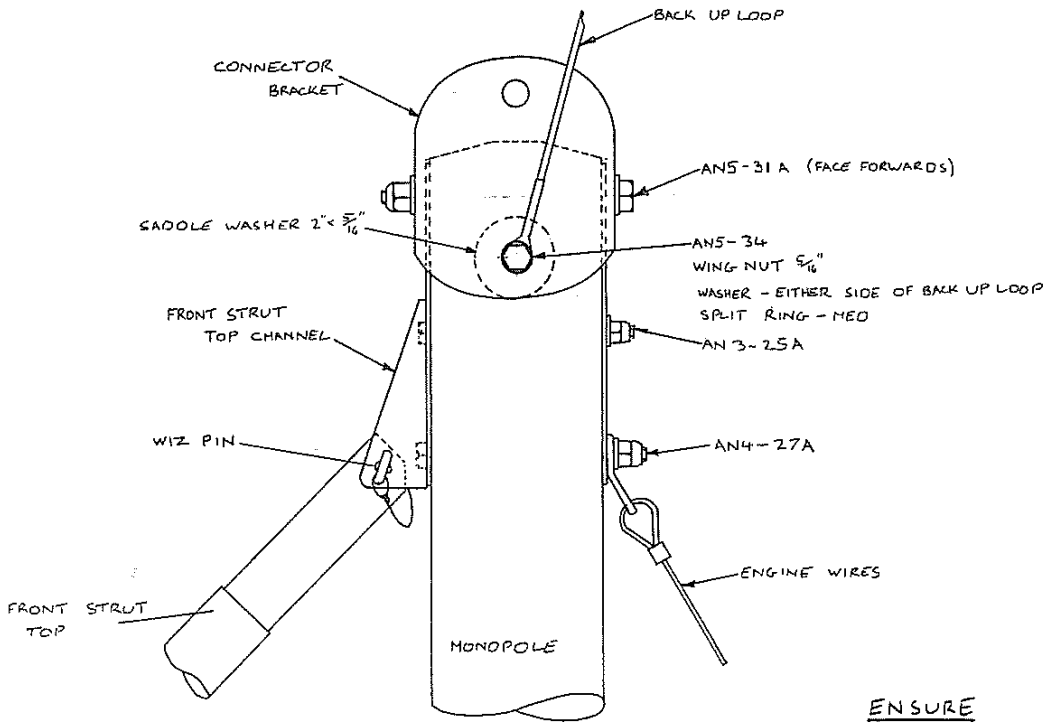
REAR BOLT DETAILS - WITHOUT ELECTRIC STARTER

DWG NO.	BK-226
TITLE	FRONT STUB ASSY
DATE	24th JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	Jeeee

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



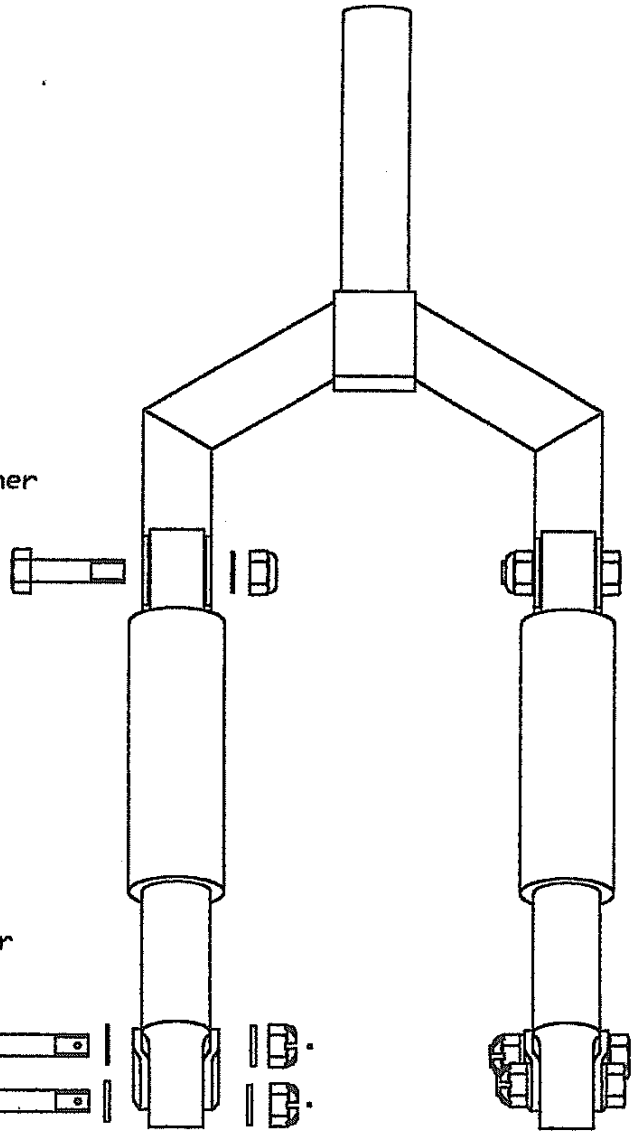
ENSURE SHOULDER STRAPS ARE FITTED FIRST

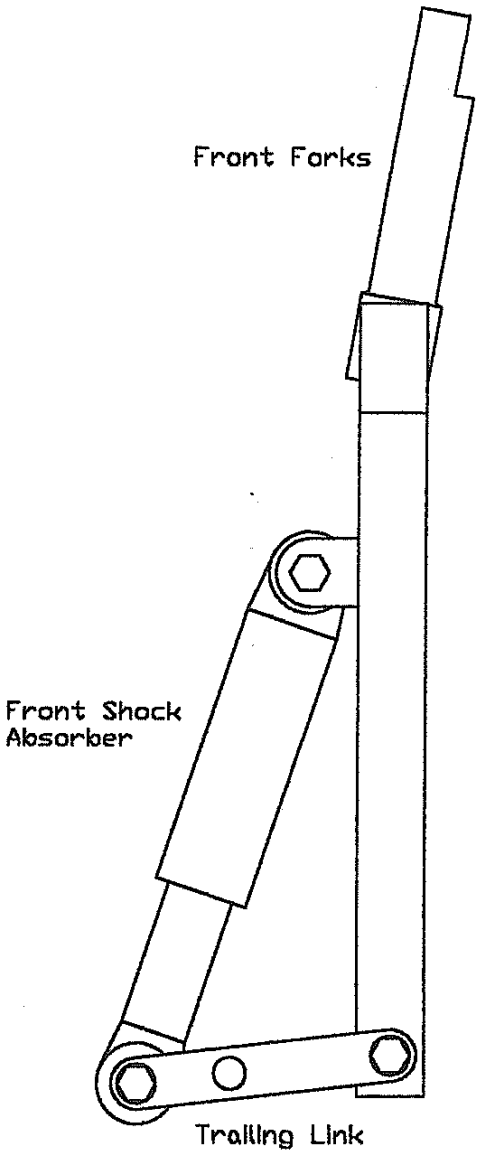
DWG NO.	BK-227
TITLE	MONOPOLE TOP ASSY
DATE	12th JAN 1995
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	Jellis

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





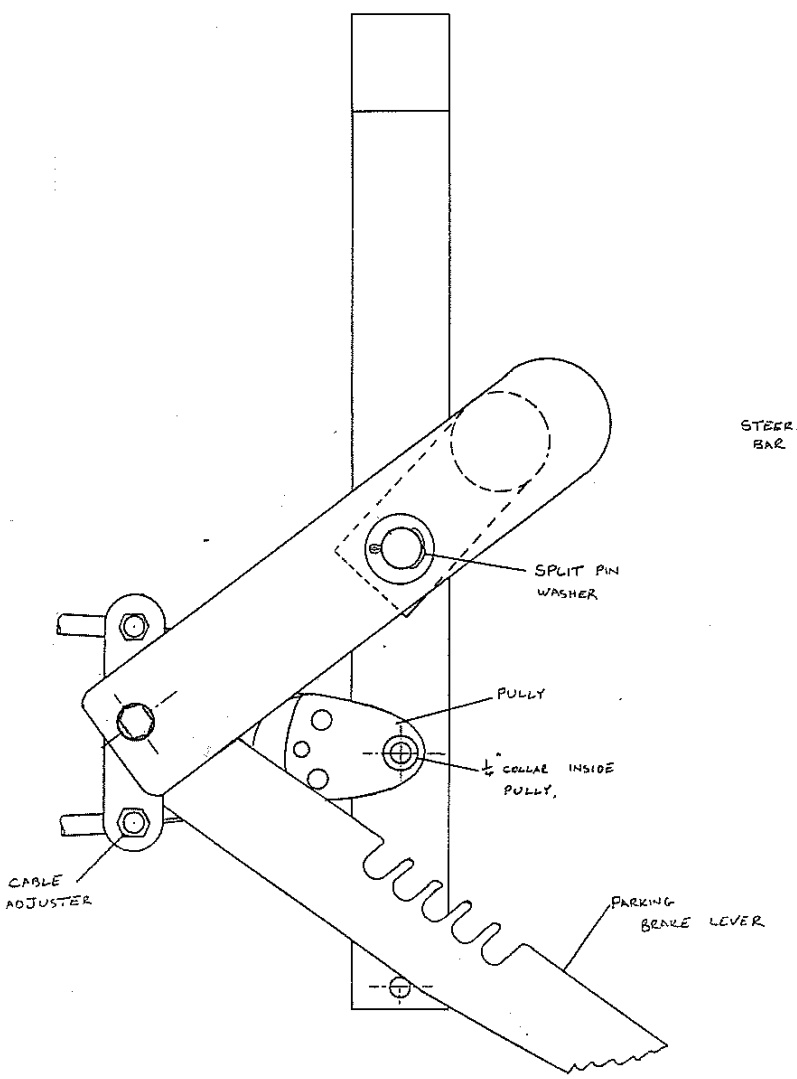
For Axle Details See BK-240

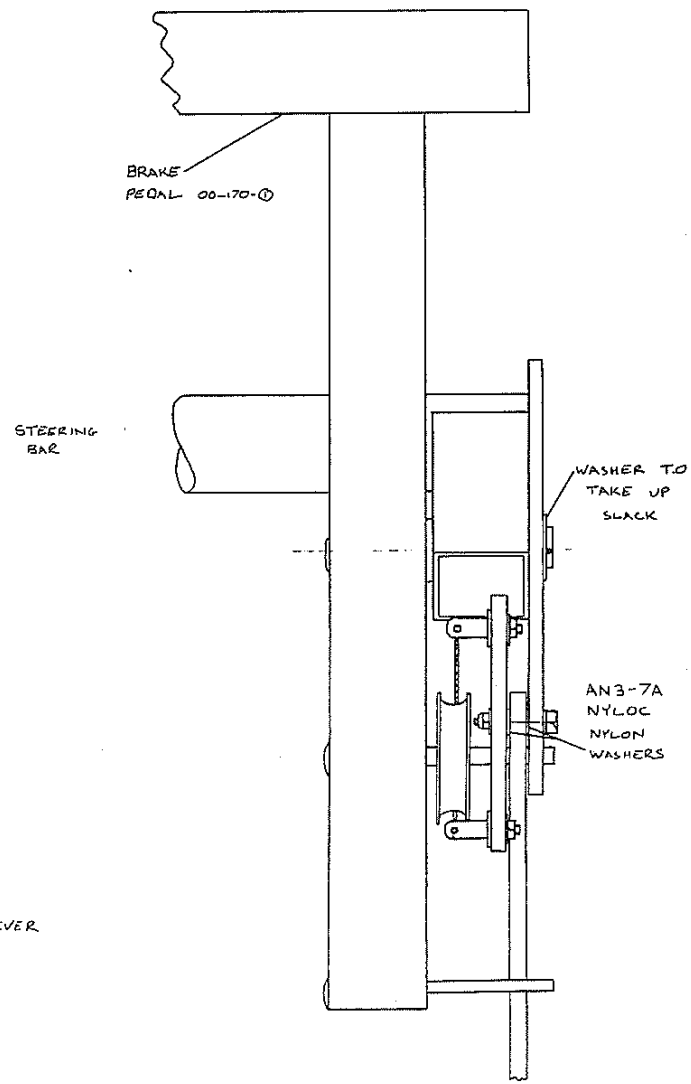
DWG NO.	BK-228
TITLE	Fork Assembly
DATE	25th April 2002
SUPERCEDES	BK-228 Issue A
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
B	03/05/02	New Drawing

MAINAIR SPORTS LTD.
TEL: 01706 655134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 0.5mm DIAMETERS ± 0.05mm
CENTRES ± 0.25mm



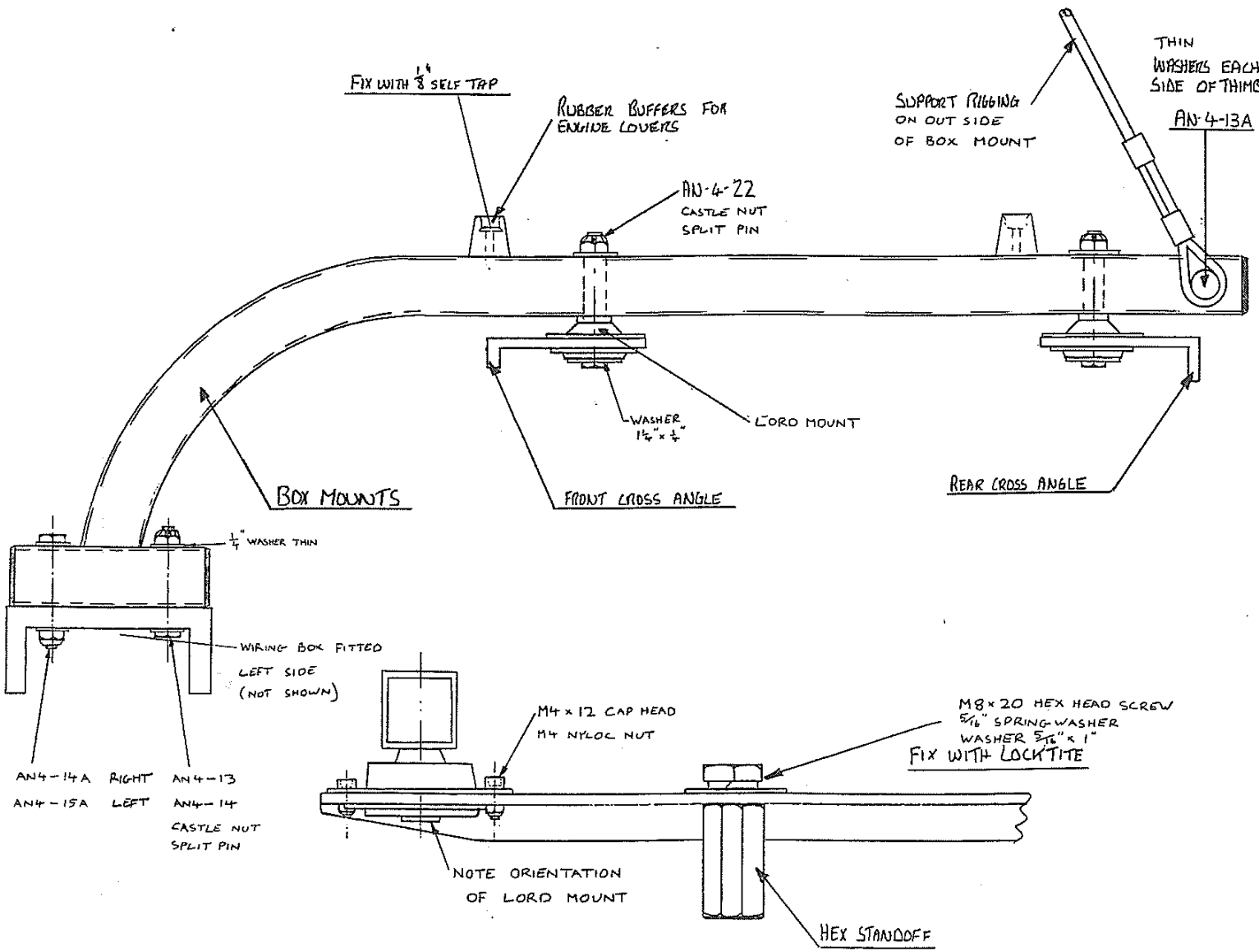


DWG NO.	BK-229
TITLE	BRAKE PEDAL ASSEMBLY
DATE	1ST MARCH 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	25-4-02	BOLT FIXING AMENDED

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

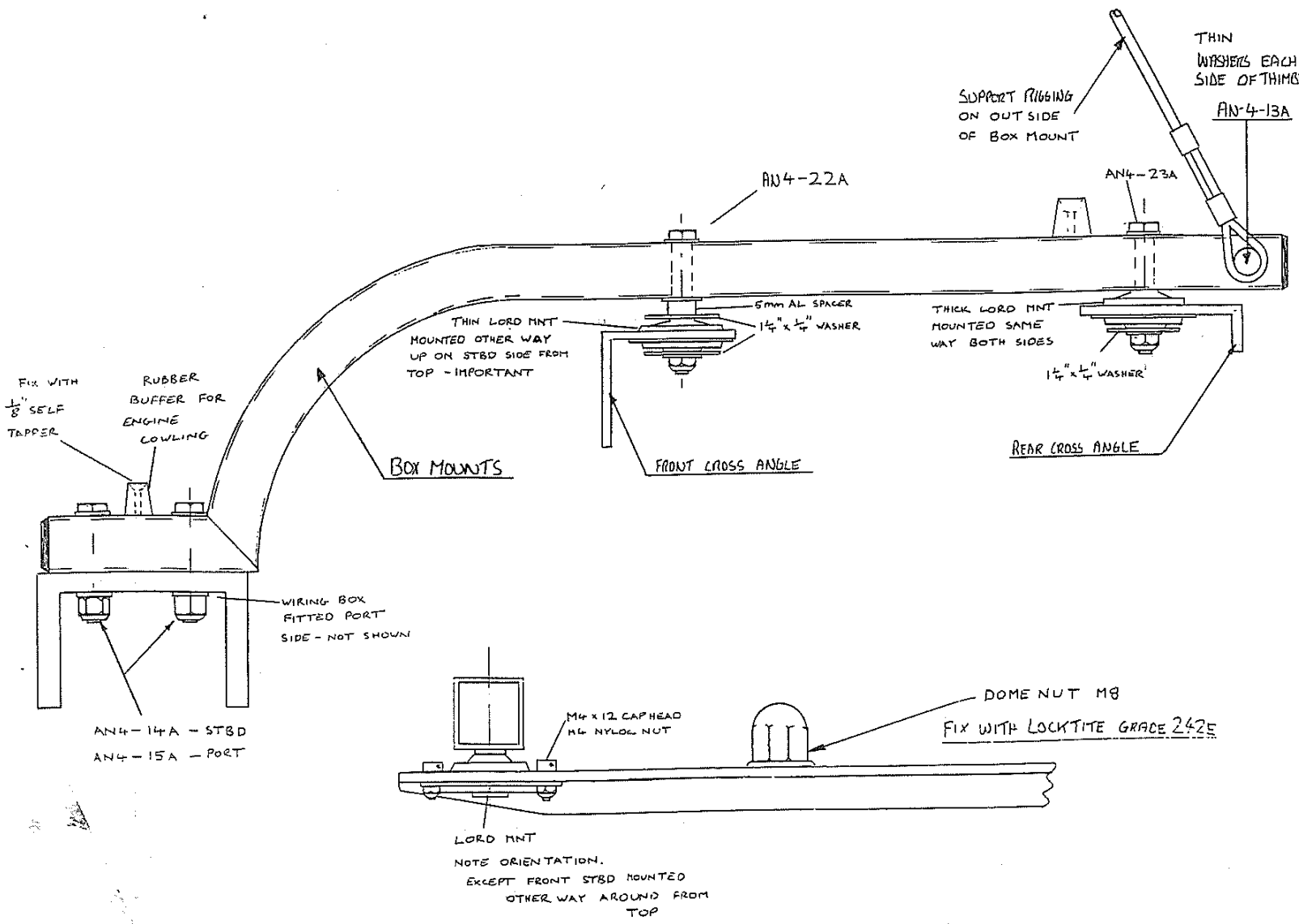


DWG NO.	BK-230
TITLE	ROTAX 503 ENGINE BOX MNTS
DATE	12th JAN 1995
SUPERCEDES	
DRAWN BY	CHECKED BY

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



DWG NO. BK-231

TITLE ROTAX 462 ENGINE BOX MOUNTS

DATE 12TH JAN 1995

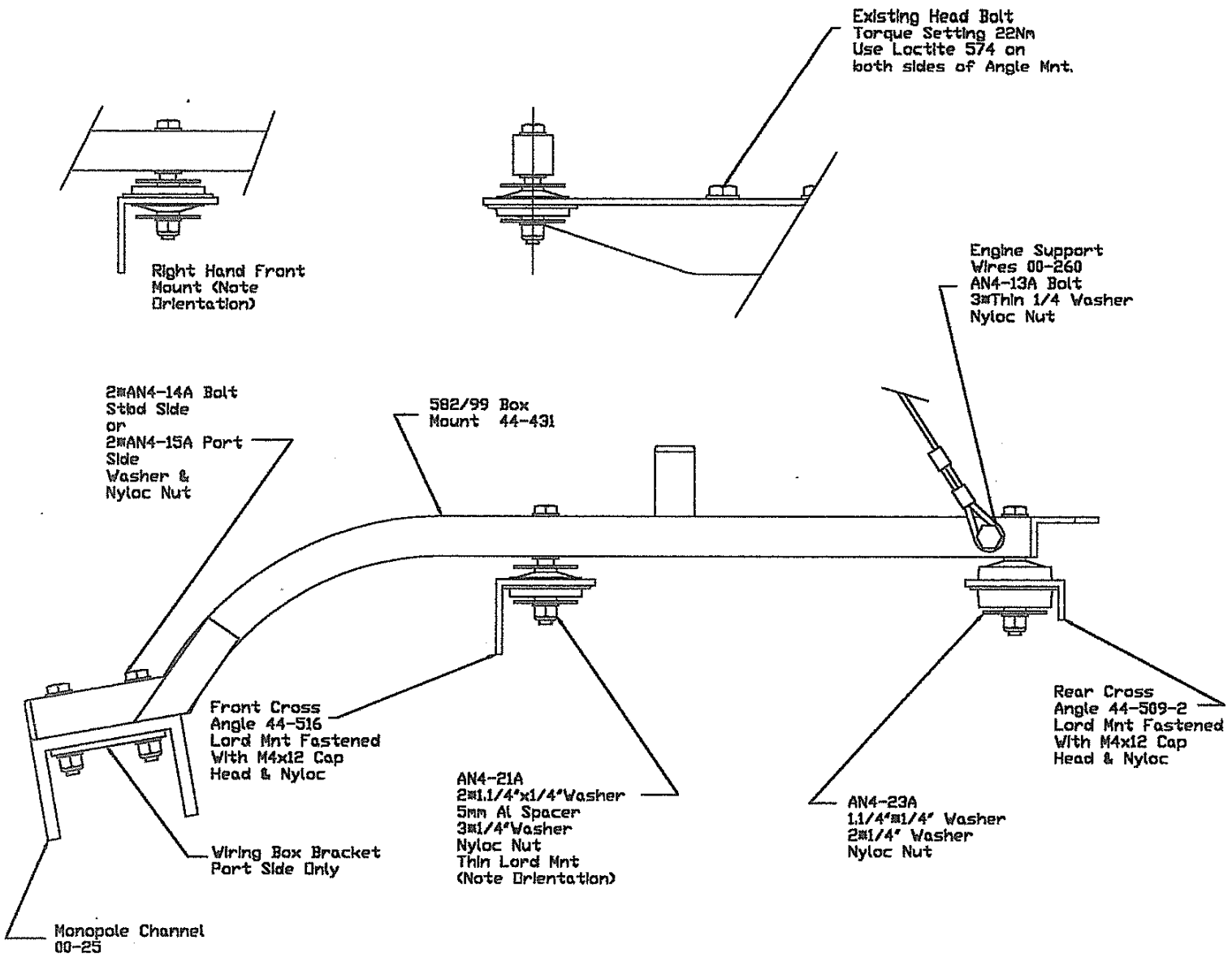
SUPERCEDES

DRAWN BY [signature] CHECKED BY J. Caulfield

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



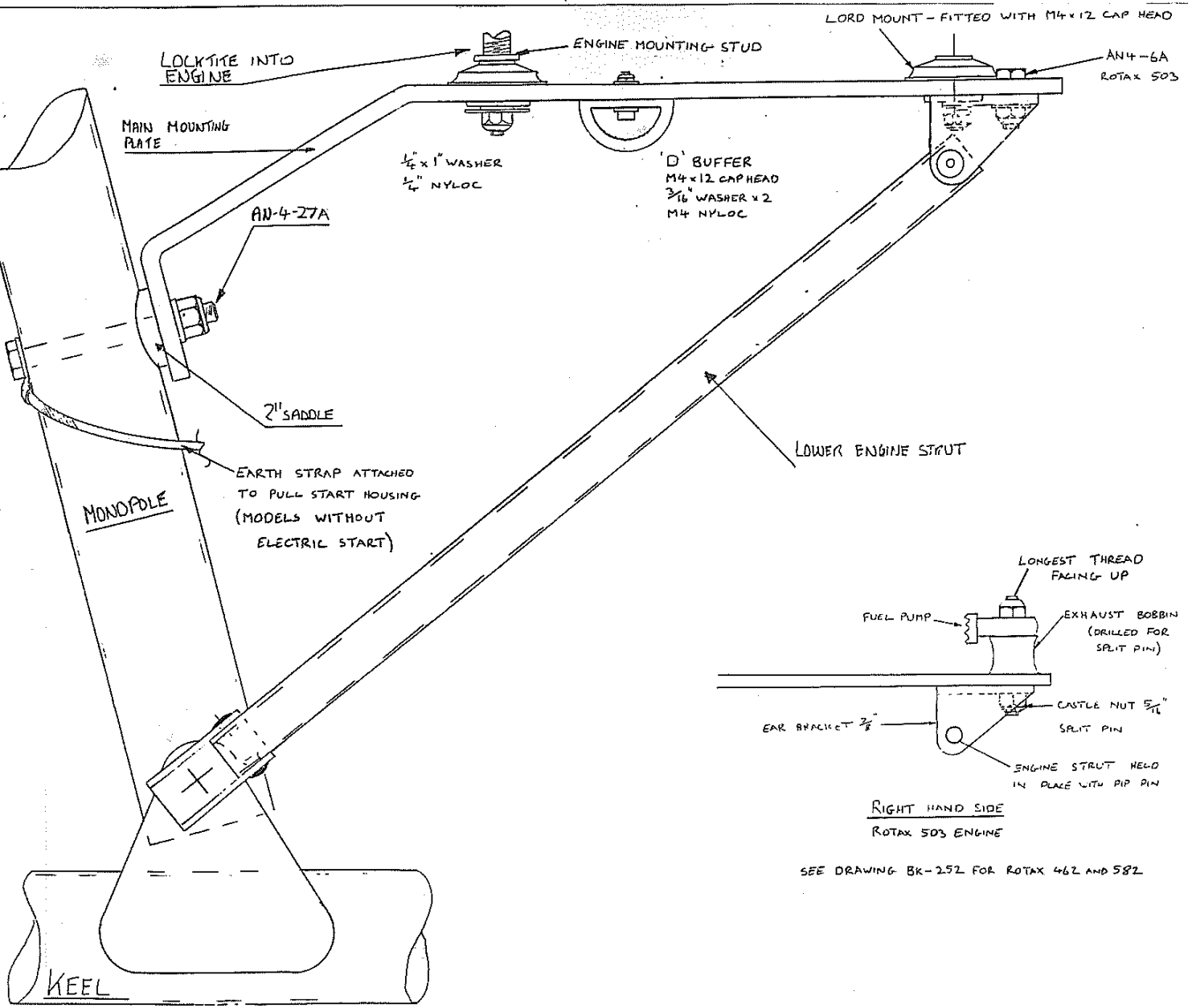
DWG NO.	BK-232 (99)
TITLE	Rotax 582/99 Box Mount Assembly
DATE	24th October 2000
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT

Installation for Rotax 582
Model 99
Mainair Modification 97

MAINAIR SPORTS LTD.
TEL: 01706 655134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0mm DIAMETERS ± 0.05mm
CENTRES ± 0.5mm



RIGHT HAND SIDE
ROTAX 503 ENGINE

SEE DRAWING BK-252 FOR ROTAX 462 AND 582

DWG NO. BK-233

TITLE ENGINE TABLE ASSY

DATE 13th JAN 1995

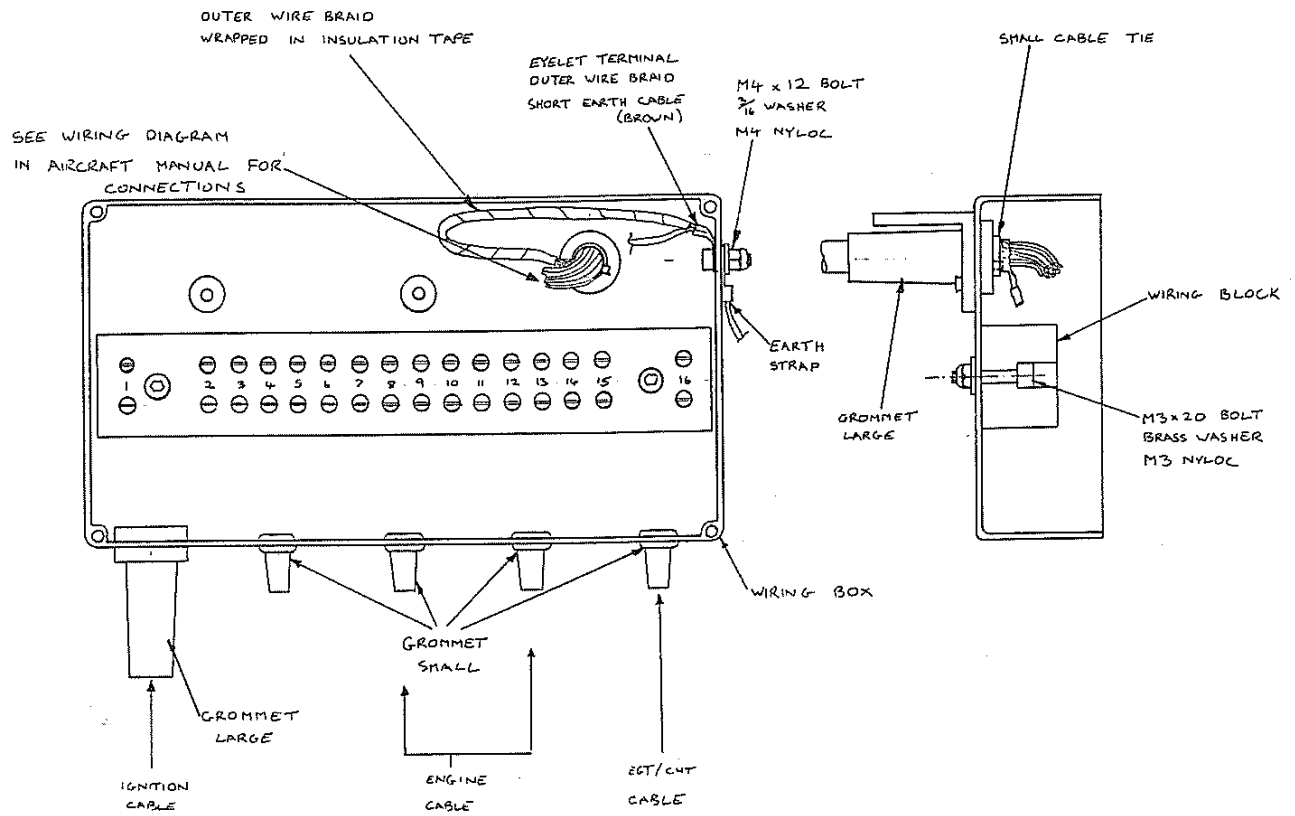
SUPERCEDES

DRAWN BY RF CHECKED BY JC Wilks

REF	DATE	AMENDMENT
A	8-3-96	NOTE ADDED ABOUT EARTH STRAP RF
B	25-4-02	D BUFFER ARRANGEMENT CORRECTED RF

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



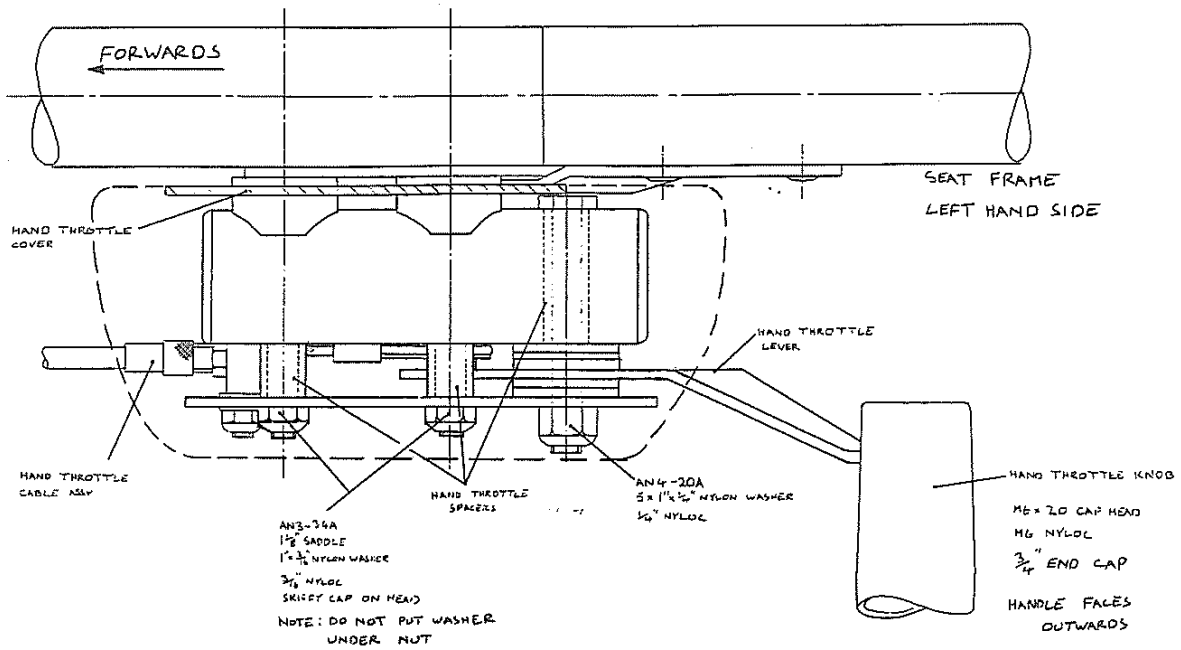
GROMMET ARRANGEMENT MAY DIFFER

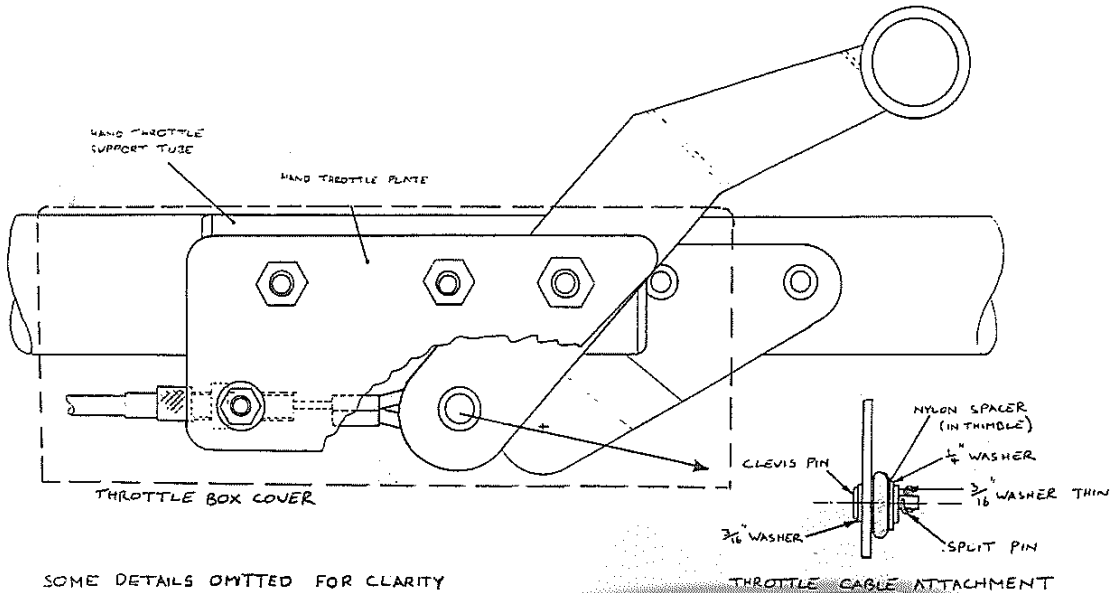
DWG NO.	BK-234
TITLE	WIRING BOX ASSEMBLY
DATE	13TH JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	8-3-96	NOTE ADDED ABOUT GROMMET ARRANEMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





SOME DETAILS OMITTED FOR CLARITY

DWG NO. BK-235

TITLE HAND THROTTLE ASSY

DATE 13TH JAN 1995

SUPERCEDES

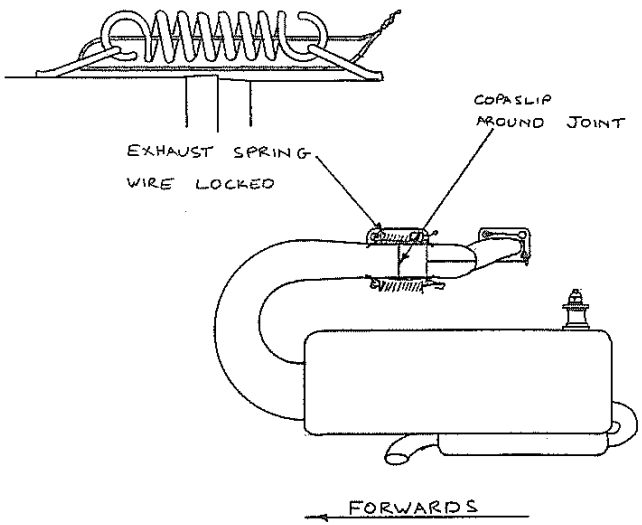
DRAWN BY [signature] CHECKED BY [signature]

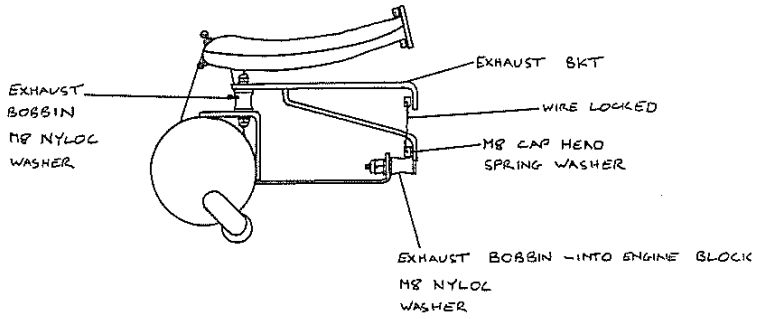
REF	DATE	AMENDMENT
A	8-3-96	DRAWING ERRORS NOTE ADDED [signature]

SLOT IN COVER SHOULD BE FILED IF REQUIRED

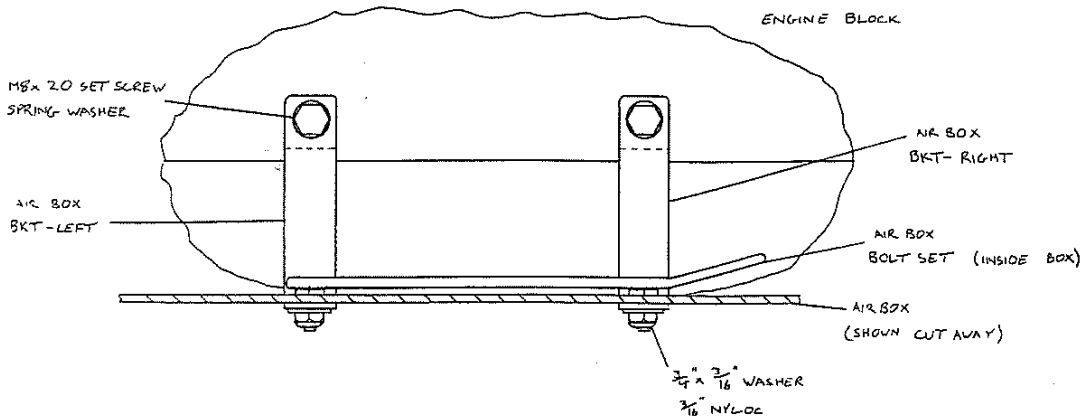
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





AIR INTAKE SILENCER MOUNTING - ROTAX 462



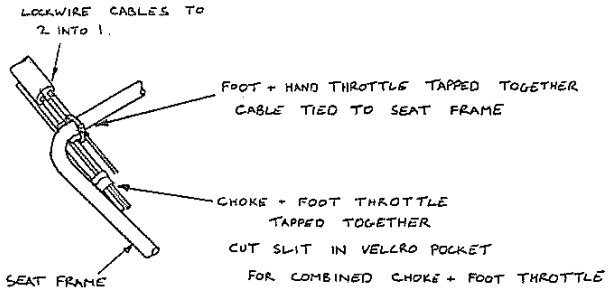
DWG NO.	BK-236
TITLE	EXHAUST AND INTAKE DETAILS
DATE	13th JAN 1995
SUPERCEDES	
DRAWN BY	BP
CHECKED BY	Jellie

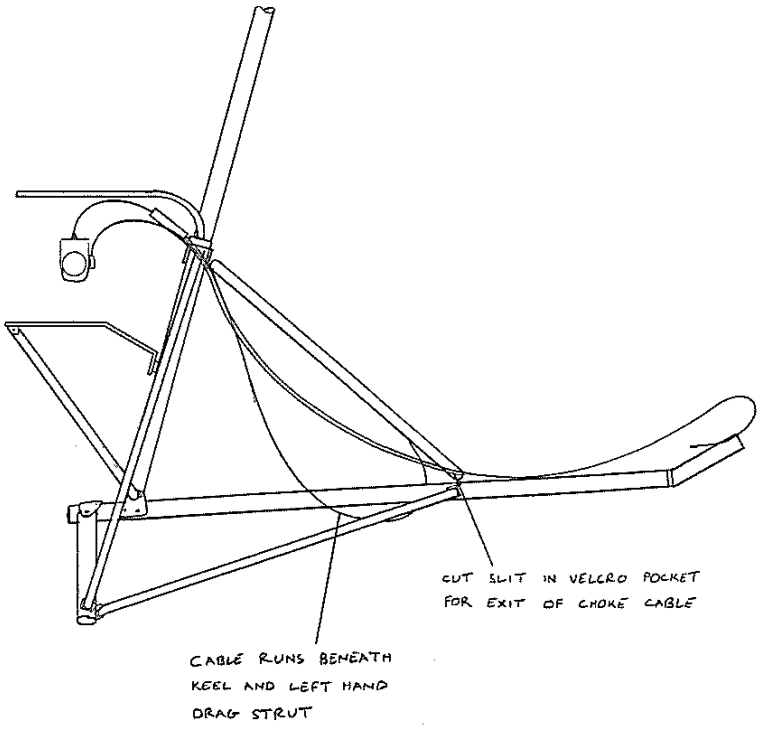
REF	DATE	AMENDMENT

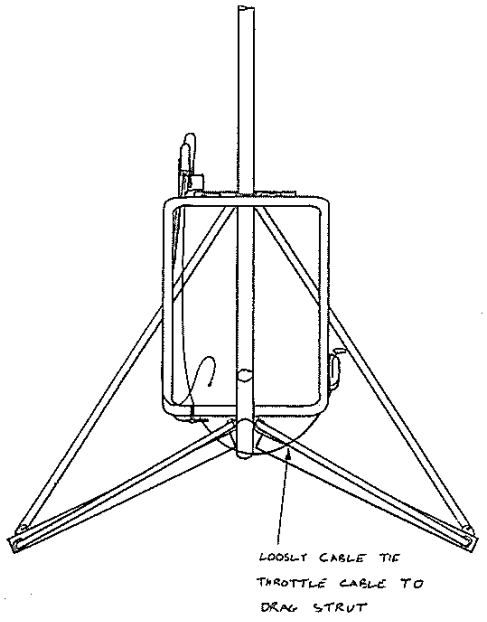
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

DO NOT SCALE







DWG NO. BK-237

TITLE THROTTLE AND CHOKE CABLE ROUTE

DATE 16th JAN 1995

SUPERCEDES

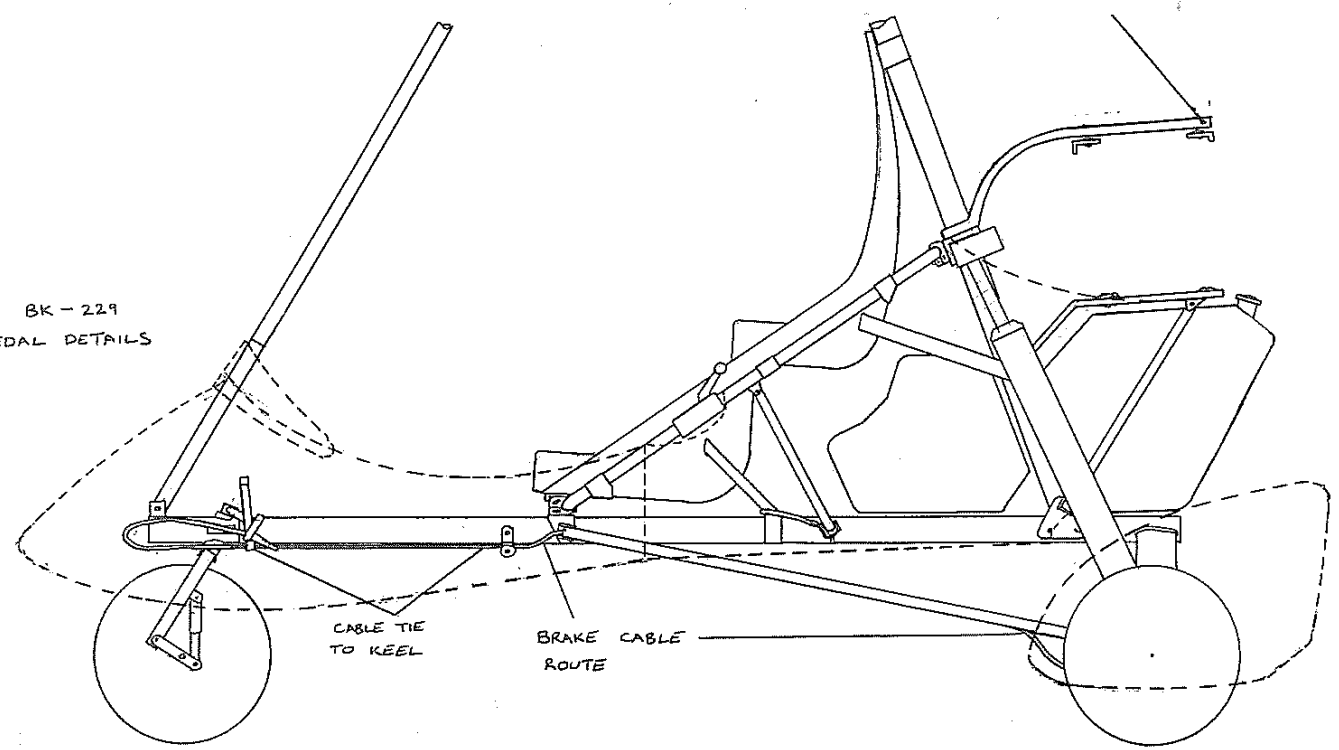
DRAWN BY

CHECKED BY

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM



SEE BK-225
FOR BRAKE DETAILS

SINGLE INNER CABLE TO SUIT

OUTER CABLE WITH LINER 2560 x2

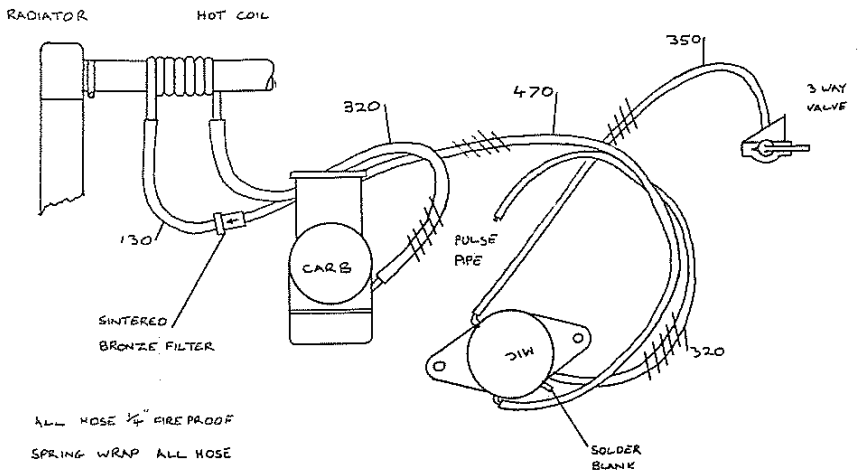
DWG NO.	BK-238
TITLE	BRAKE CABLE ROUTE
DATE	1ST MARCH 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	J. Cullen

REF	DATE	AMENDMENT

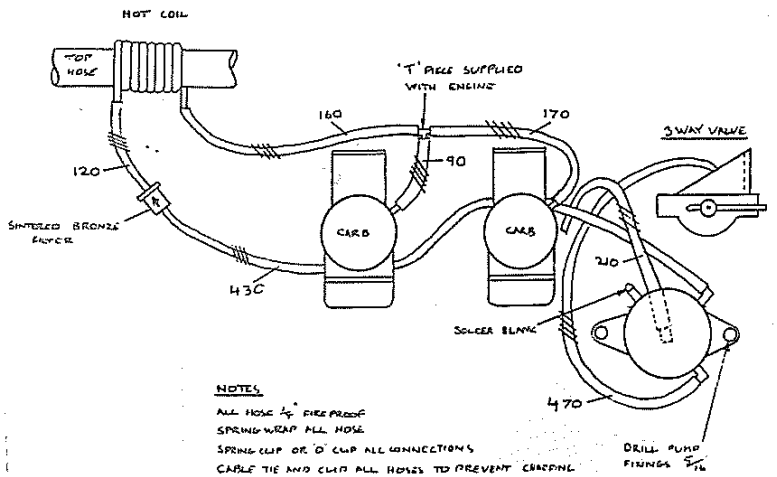
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

462 ENGINE LAYOUT

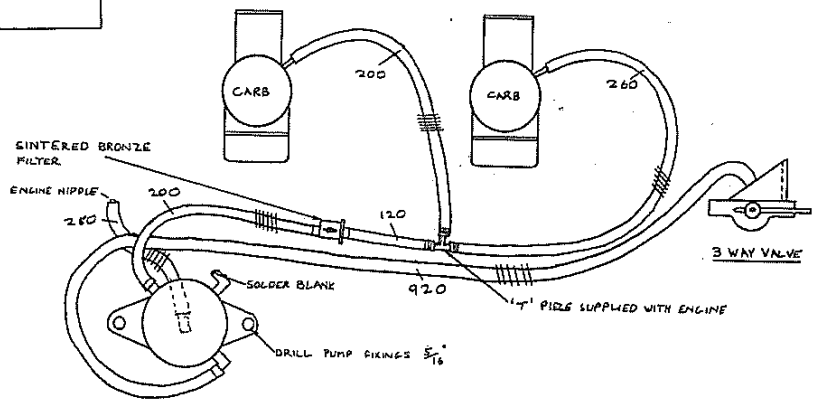


ALL HOSE ¼" FIRE PROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP HOSES TO PREVENT CHAFFING

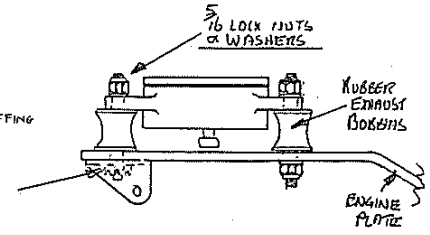


NOTES
ALL HOSE ¼" FIREPROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP ALL HOSES TO PREVENT CHAFFING

582 ENGINE LAYOUT



NOTES
ALL HOSE ¼" FIREPROOF
SPRING WRAP ALL HOSE
SPRING CLIP OR 'O' CLIP ALL CONNECTIONS
CABLE TIE AND CLIP ALL HOSES TO PREVENT CHAFFING



503 - 2V ENGINE LAYOUT

DWG NO. BK-239

TITLE FUEL SYSTEMS

DATE 13th JAN 1995

SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

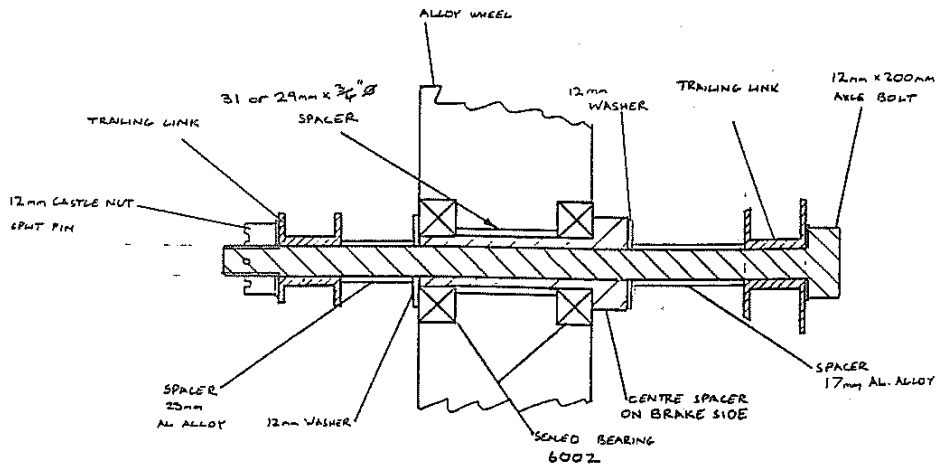
REF	DATE	AMENDMENT
A	15th APR 97	NOTE ADDED ABOUT FUEL PIPE LAYOUT FOR ROTAX 503-2V [signature]

(A)

SEE BK-242 FOR FUEL PIPE LAYOUT FOR ROTAX 503-2V

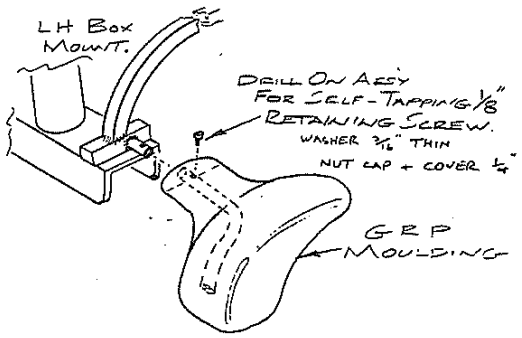
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

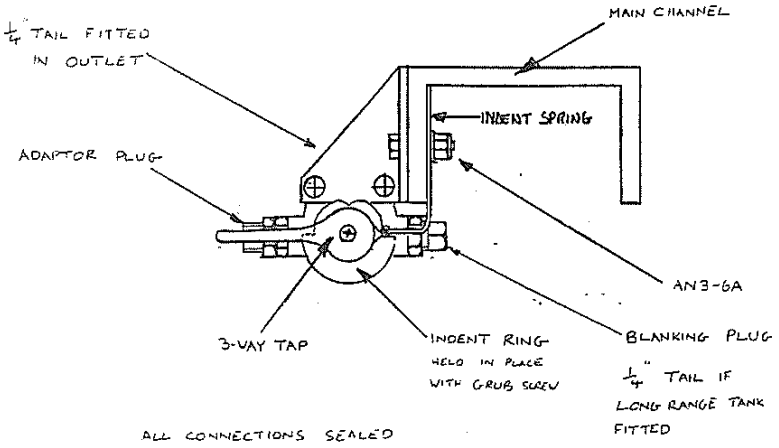


ENSURE WHEEL IS CENTRAL IN FORK

FRONT AXLE

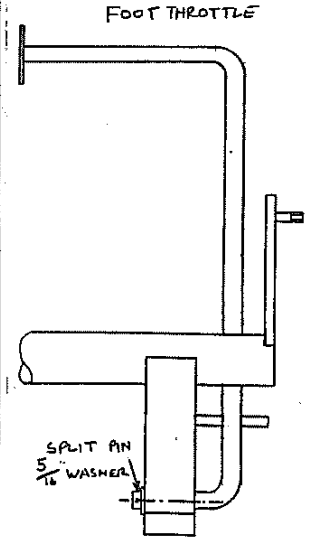


EXHAUST GUARD

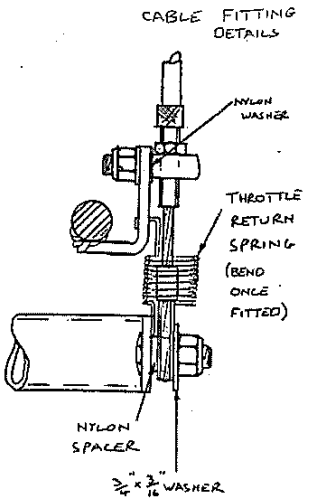


ALL CONNECTIONS SEALED WITH LOCTITE

FUEL TAP



THROTTLE SPRING WOUND SUCH THAT CABLE RUNS INSIDE

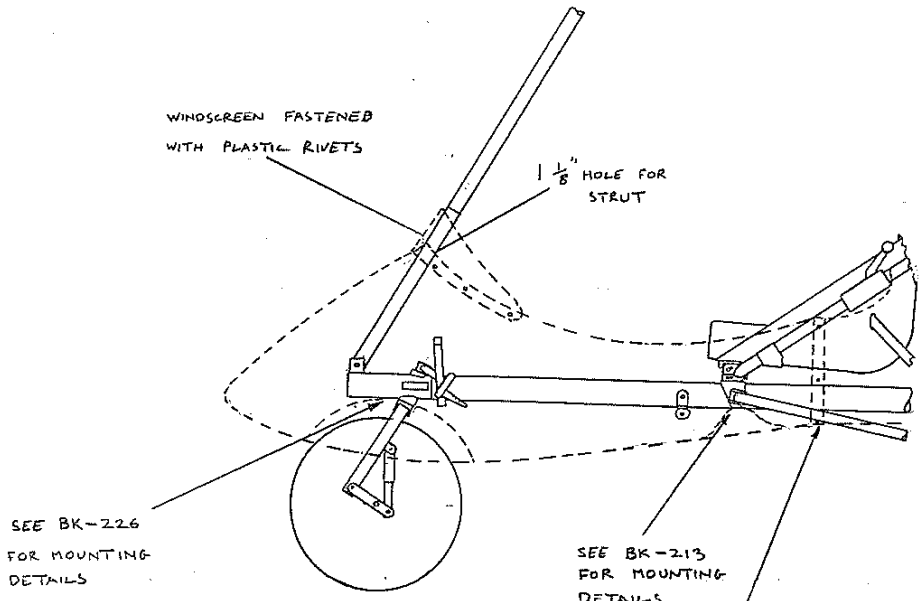


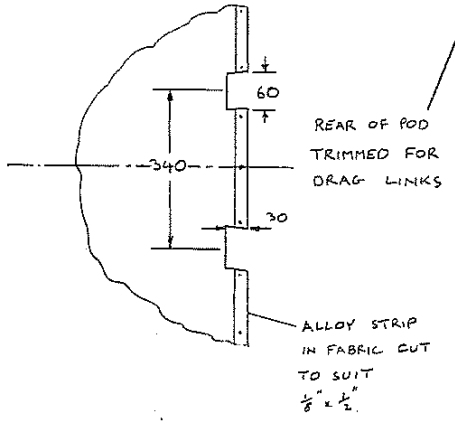
DWG NO.	BK-240
TITLE	
DATE	16th JAN 1995
SUPERCEDES	
DRWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	8-3-96	NOTE ADDED ABOUT WHEEL + THROTTLE SPRING

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

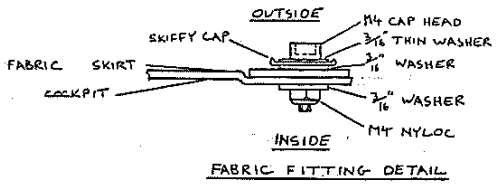




FABRIC FASTENED WITH 3 ALLOY STRIPS 1/8" x 1/2".

BENT TO SHAPE PRIOR TO DRILLING

EACH STRIP MOUNTED USING 3 BOLTS EQUI SPACED FITTED AS SHOWN.



FABRIC FITTING DETAIL

DWG NO. BK-241

TITLE POD AND FABRIC FITTING

DATE 1ST MARCH 1995

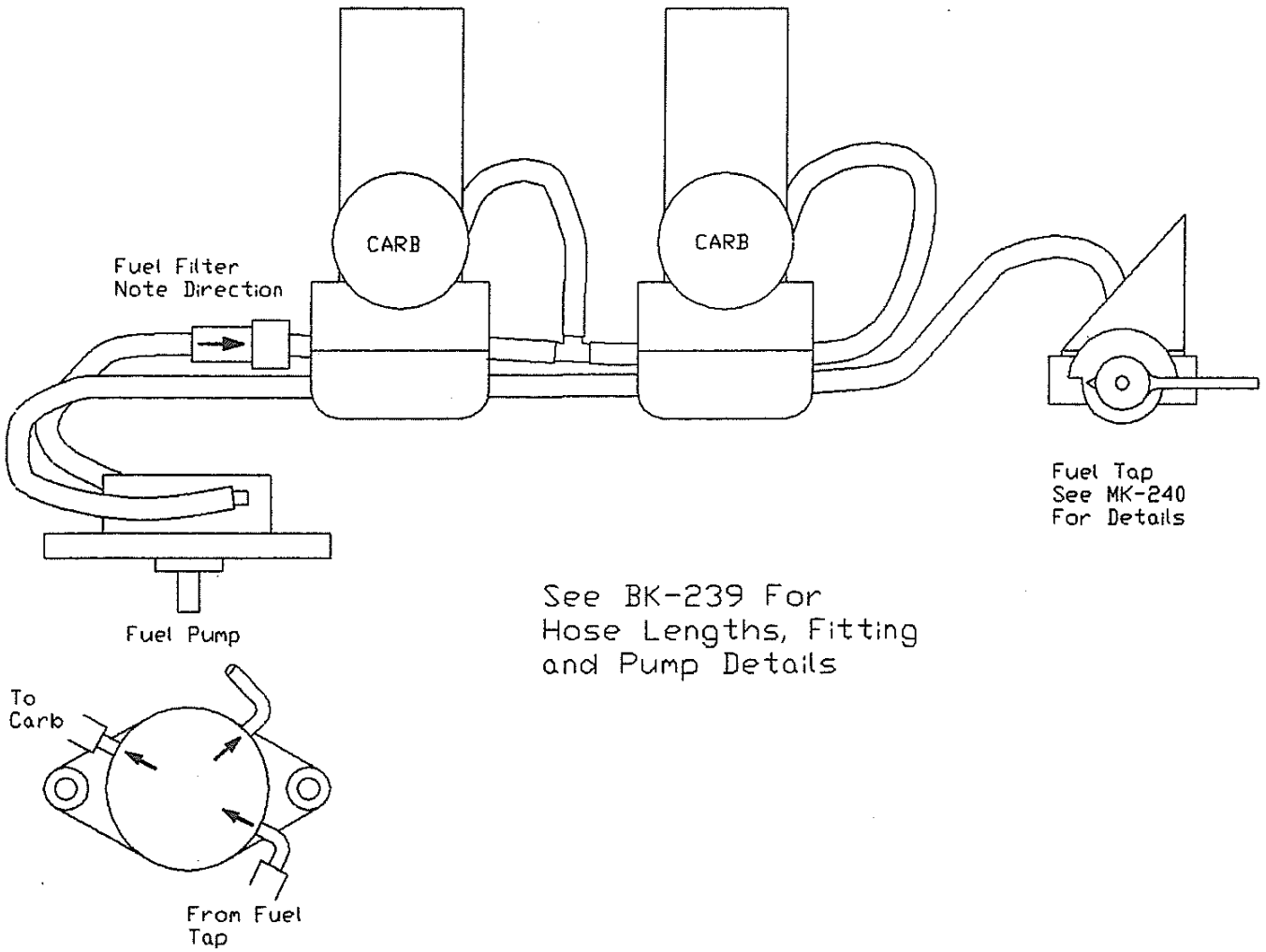
SUPERCEDES

DRAWN BY [signature] CHECKED BY [signature]

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

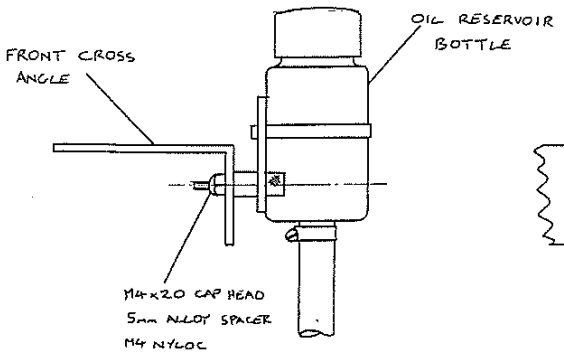


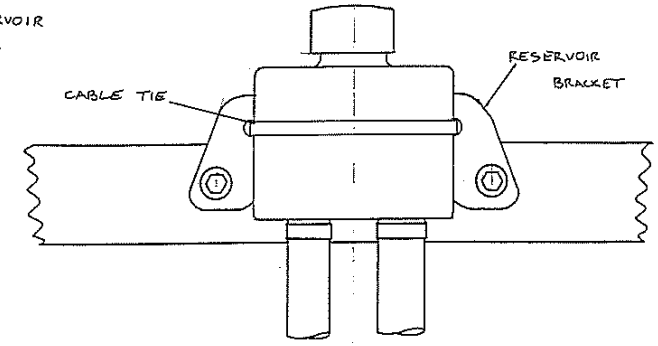
See BK-239 For
Hose Lengths, Fitting
and Pump Details

DWG NO.	BK-242
TITLE	Rotax 503-2V Fuel Pipe Layout
DATE	15th. April 1997
SUPERCEDES	
DRAWN By	CHECKED By

REF	DATE	AMENDMENT

MAINAIR SPORTS LTD.
TEL: 01706 55134





(A) NOTE : OIL RESERVOIR MOUNTED DIRECT ONTO ANGLE ON ROTAX 582-99 ENGINE

DWG NO. BK-251

TITLE 462 - 582 ENGINE COMPONENTS

DATE 1ST MARCH 1995

SUPERCEDES

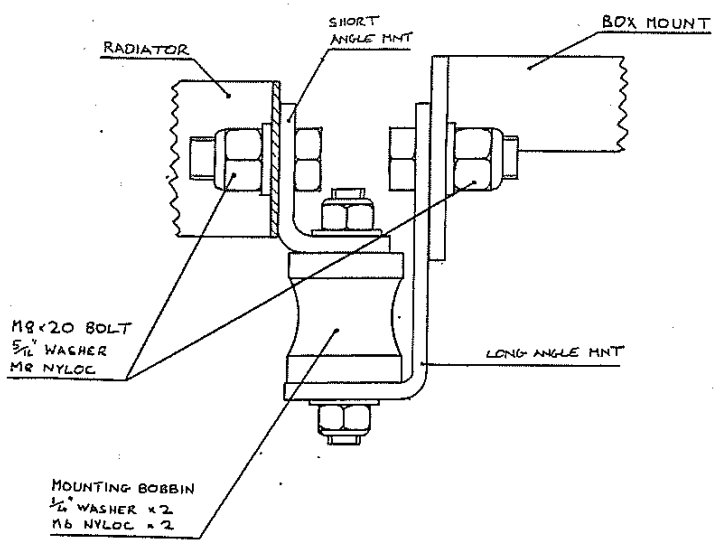
DRAWN BY [signature] CHECKED BY [signature]

REF	DATE	AMENDMENT
A	14-3-01	NOTE ADDED FOR ROTAX 582-99 [signature]

MAINAIR SPORTS LTD
TEL: 0706 55134

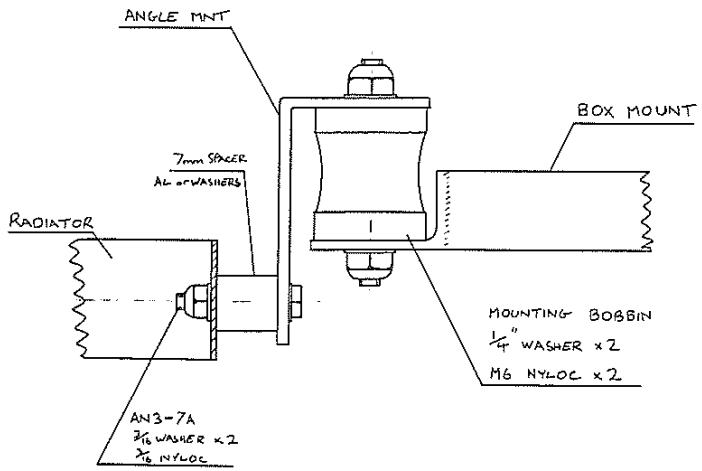
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

ROTAX 462 TOP RADIATOR MOUNT

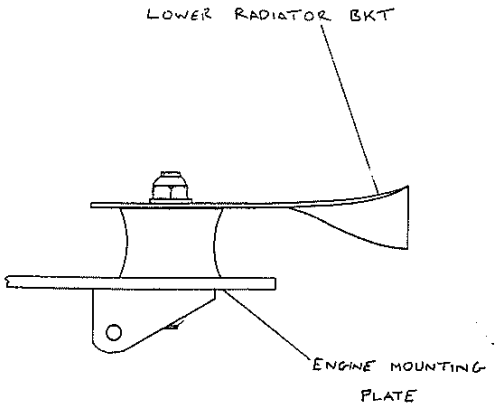


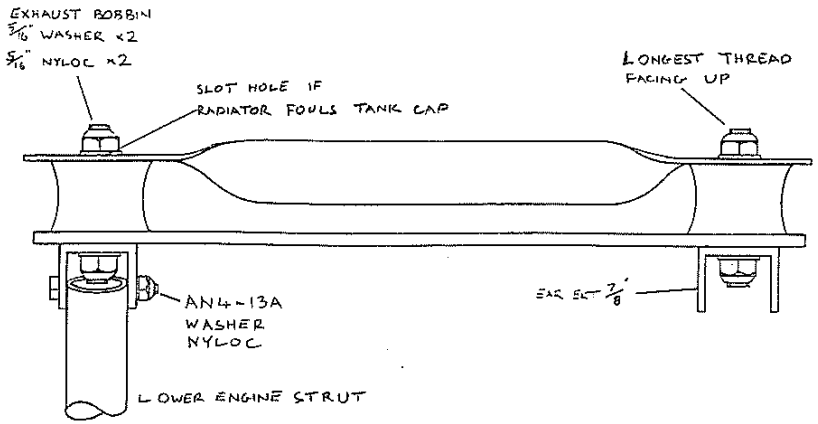
ROTAX 582 TOP RADIATOR MOUNT

SEE BK-256 FOR ROTAX 582-99



LOWER RADIATOR MNT





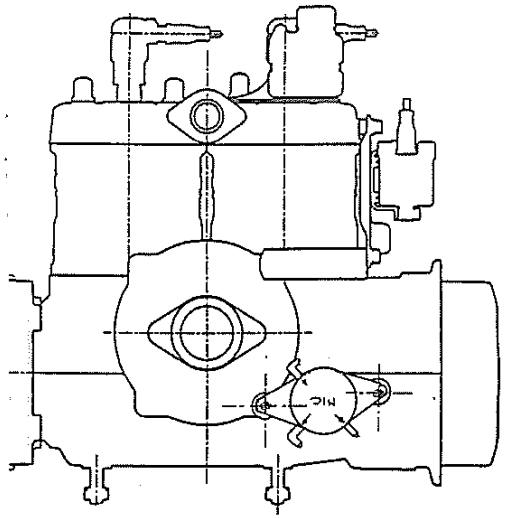
DWG NO.	BK-252
TITLE	RADIATOR MOUNT 462+582 ROTAX
DATE	13th JAN 1995
SUPERCEDES	
DRAWN BY	bf
CHECKED BY	Pebble

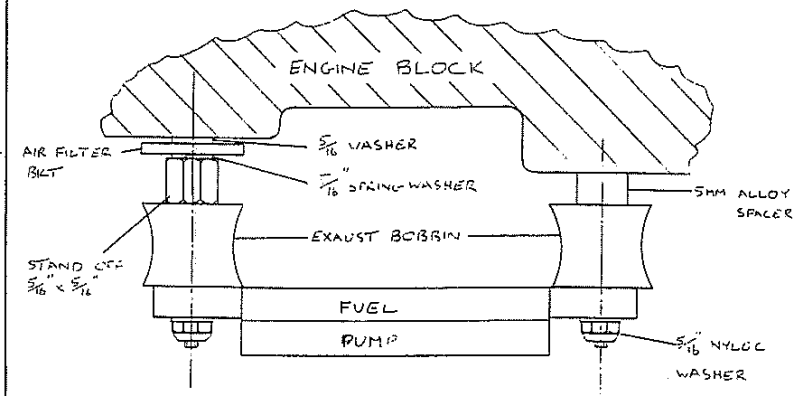
REF	DATE	AMENDMENT
A	30-4-02	LOWER RAD MNT ENGINE STRUT BOLTED

MAINAIR SPORTS LTD
TEL: 0706 55134

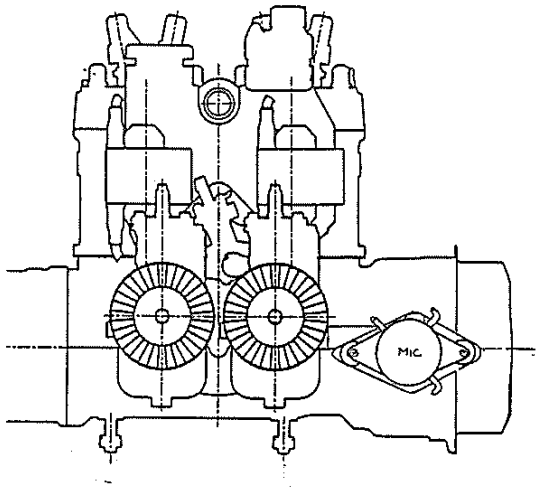
TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

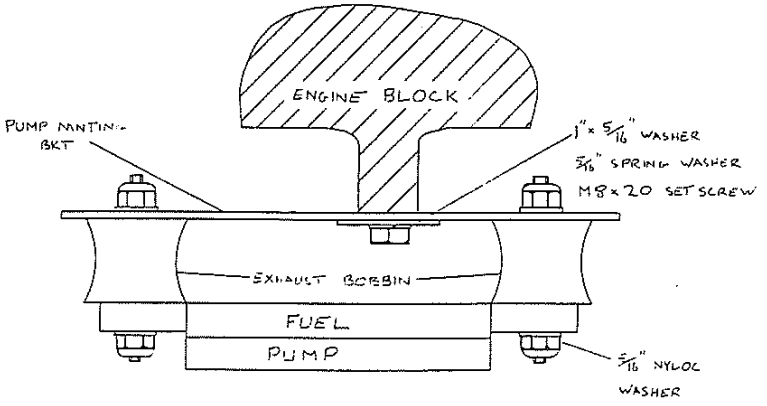
ROTAX 462





ROTAX 582-2V





DWG NO.	BK-253
TITLE	ROTAX 462 and 582 PUMP MOUNTING
DATE	13TH JAN 1995
SUPERCEDES	
DRAWN BY	BF
CHECKED BY	JOHN

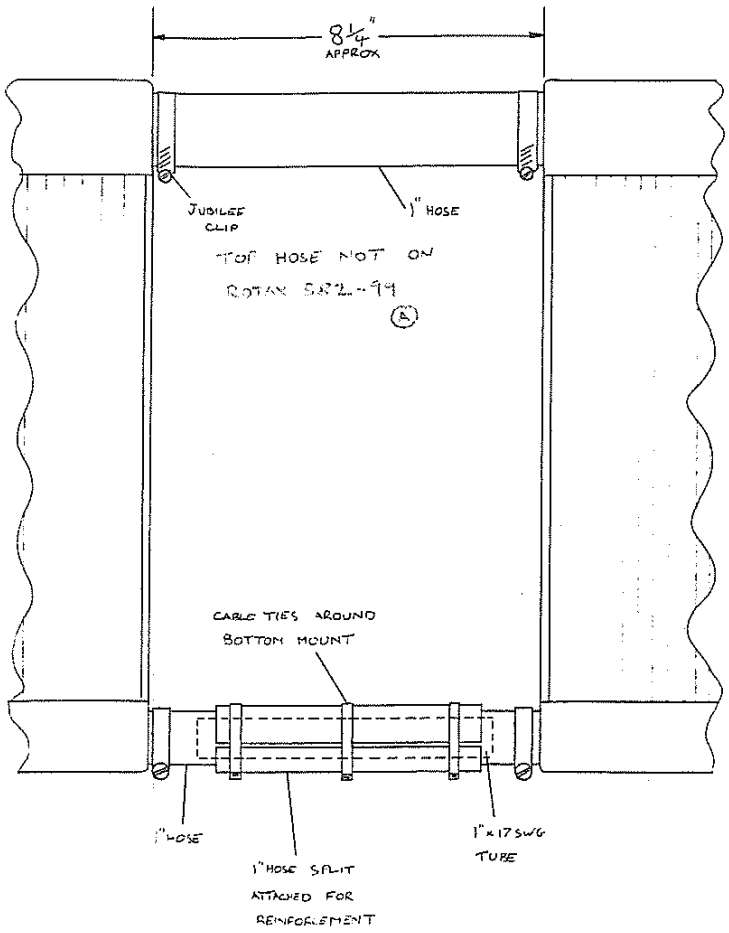
REF	DATE	AMENDMENT

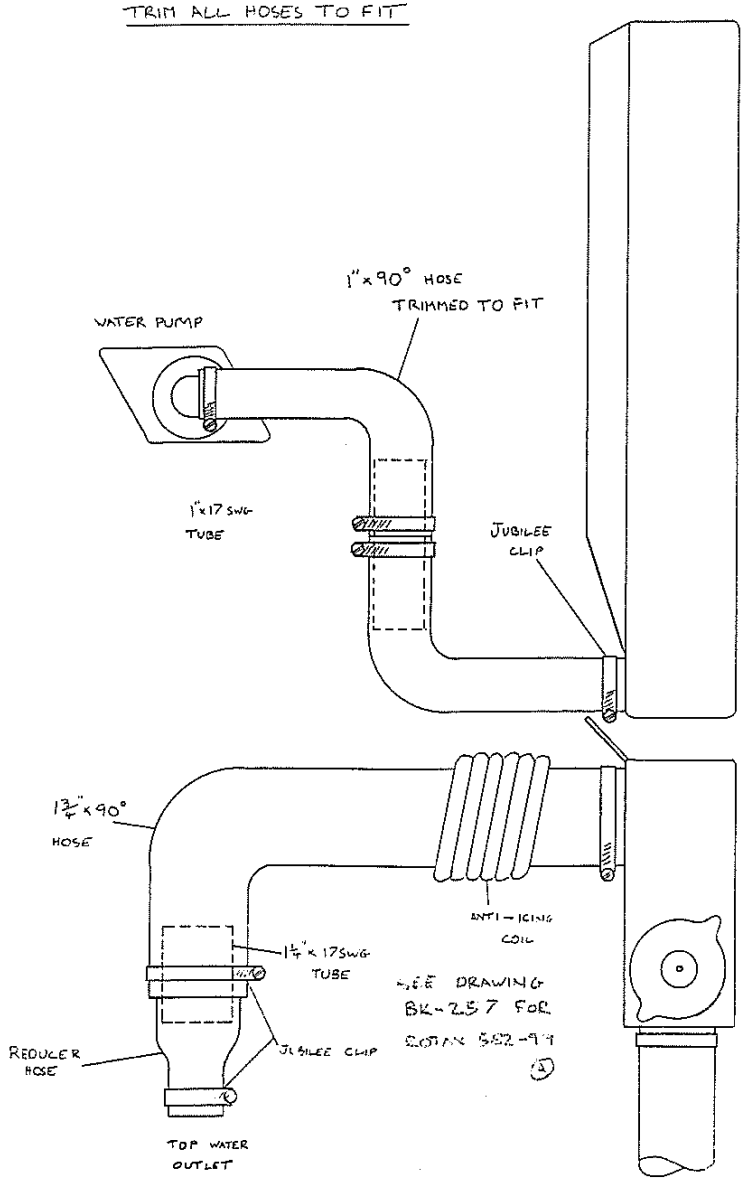
MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL DIAMETERS ±0·05MM
CENTRES

DO NOT SCALE

TRIM ALL HOSES TO FIT



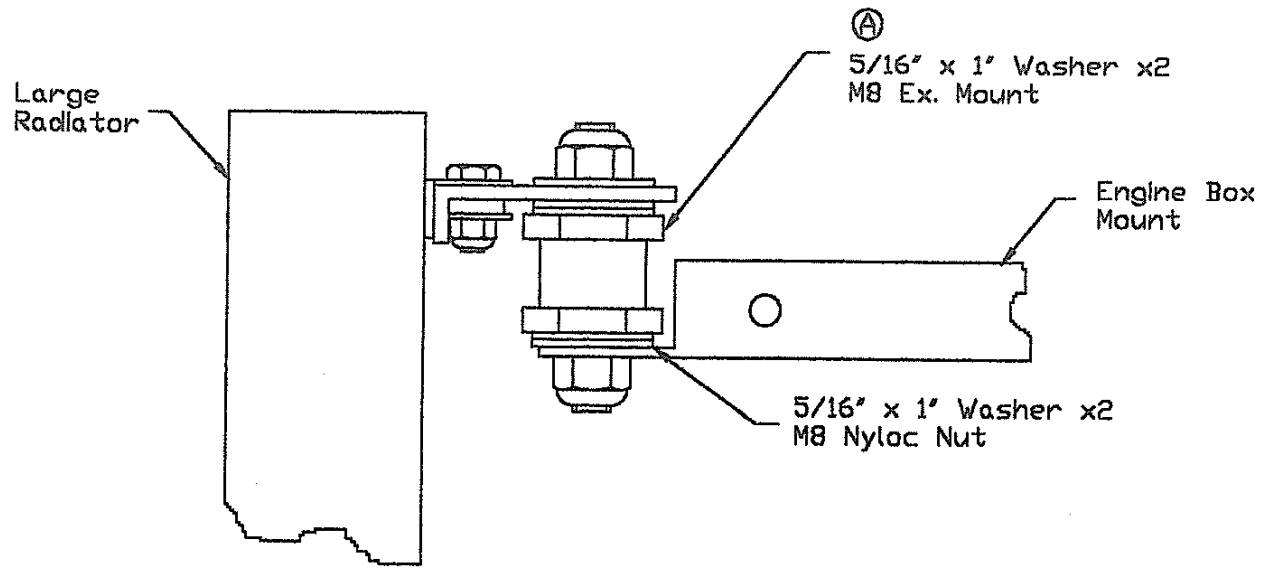


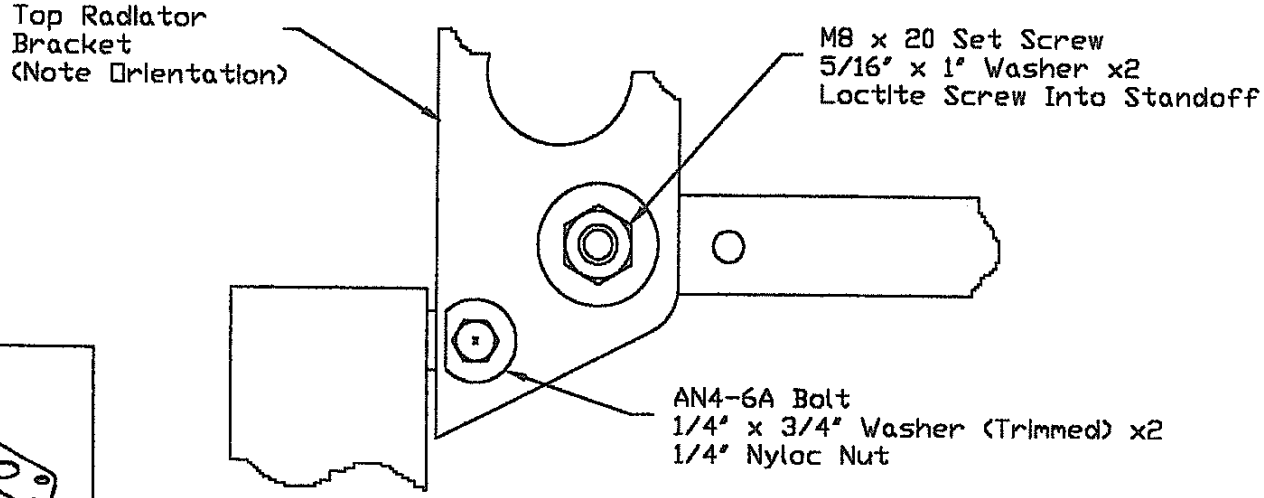
DWG NO.	BK-255
TITLE	RADIATOR HOSE ASSY
DATE	13TH JAN 1995
SUPERCEDES	
DRAWN BY	
CHECKED BY	J. Cribb

REF	DATE	AMENDMENT
A	21-10-00	NOTES ADDED & POINT ROTAX 582-99

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM





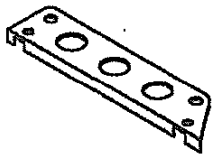


Illustration of
Top Radiator Bracket

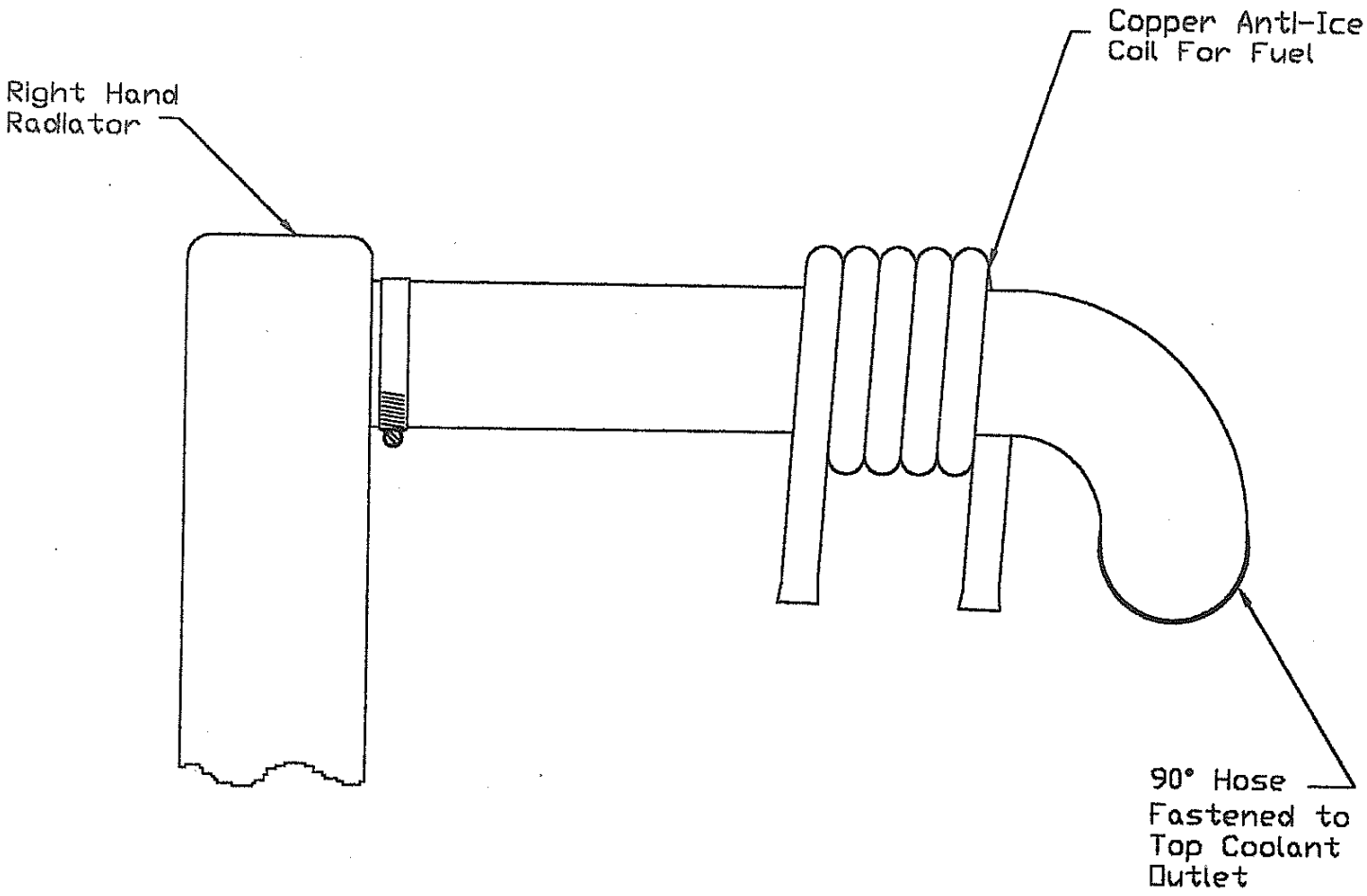
SOME DETAIL OMITTED FOR CLARITY

DWG NO.	BK-256
TITLE	Export Radiator Top Mounting
DATE	3rd March 1997
SUPERCEDES	
DRAWN BY	CHECKED BY Jerale

REF	DATE	AMENDMENT
A	7/10/97	Spacer removed @ top. Rad Error.
B	29/4/98	3/16" Washer Ammended

MAINAIR SPORTS LTD.
TEL: 01706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0MM DIAMETERS ± 0.05MM
CENTRES ± 0.5MM



DWG NO.	BK-257
TITLE	Export Radiator Top Hose Assy
DATE	3rd March 1997
SUPERCEDES	
DRAWN BY	
CHECKED BY	

REF	DATE	AMENDMENT
A	29/12/05	90deg Hose Detail

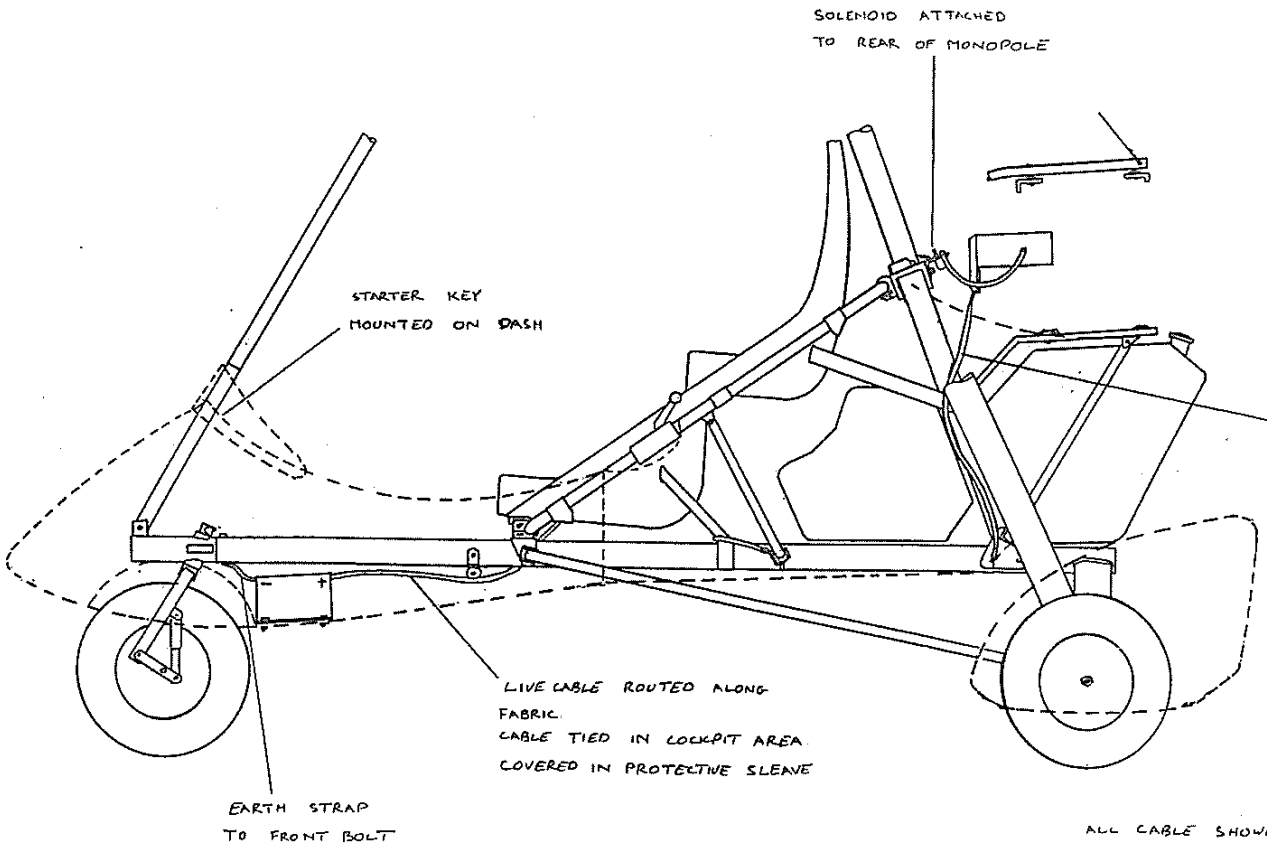
All hoses trimmed to suit.
All connections secured with hose clamps.
Note: There is no top cross hose.
For all other details consult build manual.

Some Details Have Been Left
Out For Clarity
Do Not Scale

MAINAIR SPORTS LTD.
TEL: 01706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0mm DIAMETERS ± 0.05mm
CENTRES ± 0.25mm

SOME DETAILS OMITTED FOR CLARITY



ALL CABLE SHOWN - HEAVY DUTY 10mm²

ALL CONNECTIONS FASTENED TIGHTLY WITH SPANNER.

BATTERY BOX MOUNTED IN COCKPIT
WITH AN3-6A BOLTS LARGE
WASHERS UNDER HEAD AND NUT
SKIFFY CAPS UNDER HEAD AND NUT

DWG NO. BK-260

TITLE ELECTRIC START CABLE ROUTE

DATE 3rd MARCH 1995

SUPERCEDES

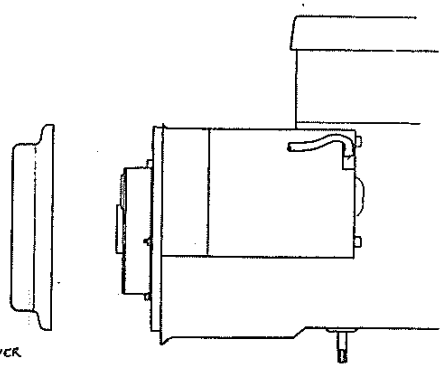
DRAWN BY BH CHECKED BY JC

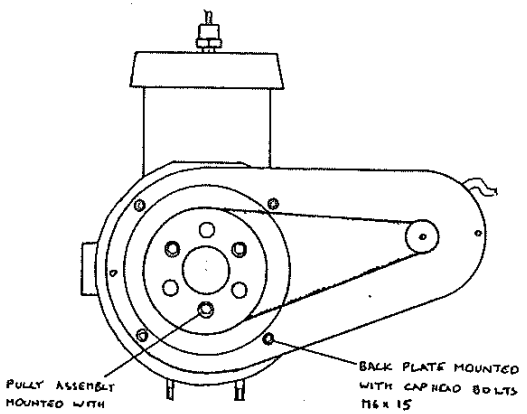
REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1·0MM DIAMETERS ±0·05MM
CENTRES ±0.5MM

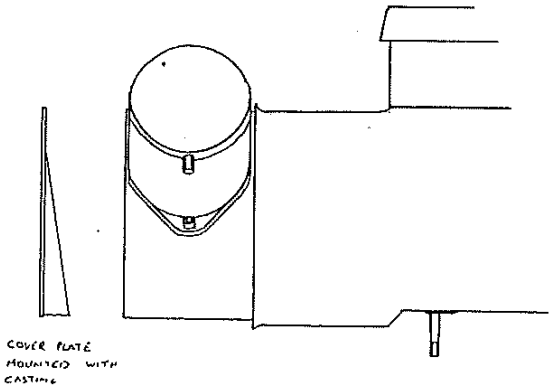


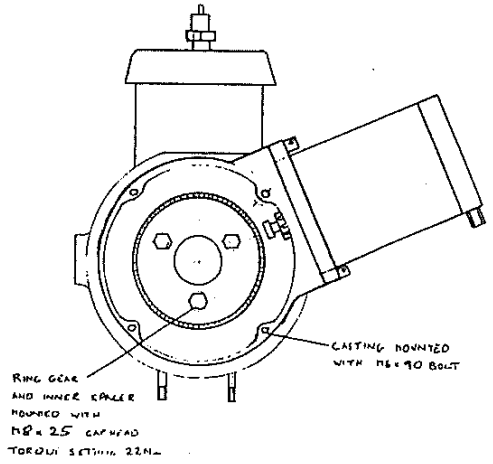


M4 STARTER INSTALLATION

APPLICABLE TO ROTAX 503 462 AND 582 ENGINES

INSTALLED AS PER INSTALLATION INSTRUCTIONS WITH MOTOR





GPL STARTER INSTALLATION

MOTOR INSTALLED AS PER INSTALLATION INSTRUCTIONS WITH MOTOR

APPLICABLE TO ROTAX 582 ENGINE

DWG NO.	BK-261
TITLE	STARTER INSTALLATION
DATE	3rd MARCH 1995
SUPERCEDES	
DRAWN BY	RP
CHECKED BY	J Cribble

REF	DATE	AMENDMENT

BLADE KIT

MAINAIR SPORTS LTD
TEL: 0706 55134

TOLERANCES UNLESS STATED OTHERWISE
GENERAL ± 1.0MM DIAMETERS ±0.05MM