ADDITIONAL INSTRUCTIONS & IMPROVEMENT MODIFICATIONS:

ENGINE INFORMATION: MFA now market the Bluebird .46 engine. After extensive tests, we have found this engine particulary suited to the Sport 500. It is easy starting, reliable, powerful, cool running and above all, has a low vibration level. As a bonus, the price is lower than most too! Contact MFA or your dealer for more information on this.

4. The hole in the flywheel has been drilled to suit most .40 - .46 size engines but some engines may be slightly outside this dimension (apart from the Irvine 40 which should be treated as detailed). It is important that the flywheel is accurately centred. If the flywheel appears loose (laterally) on your engine, proceed as follows: put a turn of very this plastic or tape round the crankshaft just where the flywheel is located then, assemble as detailed. It has been found that running with a badly centred flywheel not only causes excessive high frequency vibration (which is not good for the radio) but has, in extreme cases caused fracture of the engine plate.

27. This kit now inludes a rigid wire inner for the tube (in place of the flexible bowden cable). This gives more positive control. The rear tie-down (arrowed in Fig.43) should be mounted closer to the tailplane than illustrated (10 - 20mm from the rear of the tailplane) because of this extra rigidity.

29. Painting of the body: Paint the body as detailed but, for extra durability we recommend that a primer (any one suitable for styrene plastic) be first applied before the top coat.

31. Errata: Due to a printing error, the illustration Fig.46 is shown in reverse. Obviously the technique for checking the pitch as described remains unaltered. Checking the balance: It is important that the balance point is only just in front of the mast, only a very slight forward lean of the mast should be discernable when the model is picked up as described. Move the nicad to the front of the radio bay (if balance too far back) or add a small amount of lead to the boom at the extreme rear (if balance too far forward). In extreme cases, breakage of the teeter damper wire has resulted from a balance point much too far forward.

SPORT 500 LARGE FUEL TANK CONVERSION KIT. Pt.no.771.

This kit contains an 8oz. fuel tank and mounting hardware to enable the Sport 500 to be flown longer between refuelling. It is particularly recommended when a .45 or .46 cu.in. engine is being used, as these draw noticeably more fuel than a .40 engine. Also the tank is now resilliantly mounted so that fuel foaming, which was sometimes a problem with the standard 6 oz. tank, has been more or less eliminated.

ASSEMBLY:

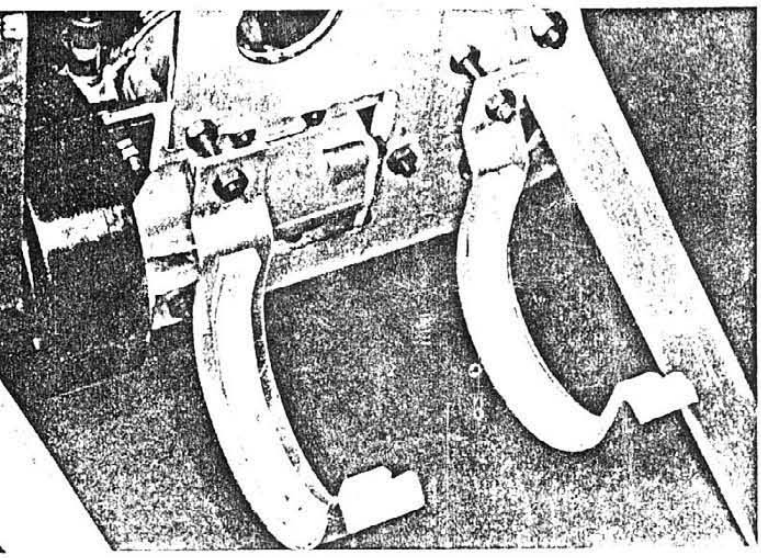
1. Remove the existing 6 oz tank, the two clips (H.84) and the tank plate (H.50). Remove the lower M4 x 25 screw & nuts and replace with an M4 x 12 screw & nut supplied. Then do the same with the middle M4 x 25 screw & nuts.

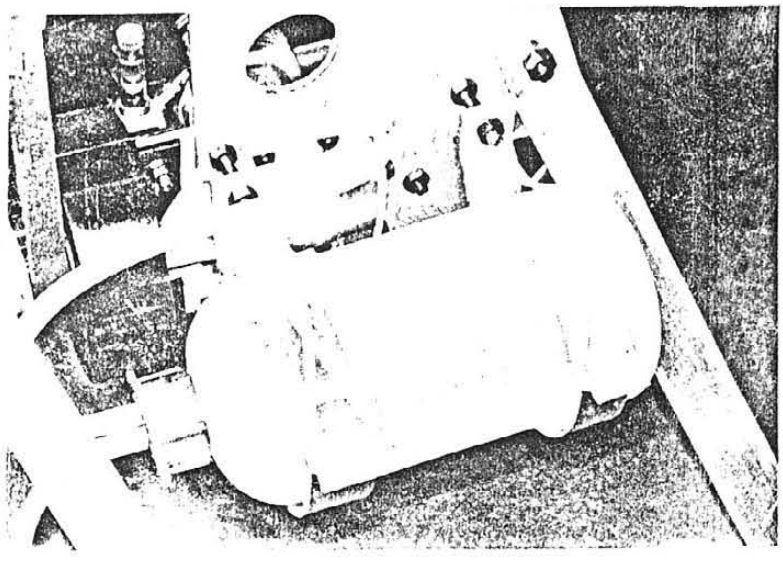
2. Drill a 4mm hole in the chassis 74mm in front of the top M4 x 25 screw and 68mm up from the bottom of the chassis (if you have an earlier chassis that does not already have this hole). Tighten an M4 x 25 screw and nut into this hole (head on the engine side).

3. Attach one the fuel tank clips (CO.34) to the just fitted M4 x 25 screw with two M4 nuts (end nut about 3mm in from the end of the screw). Attach the other clip to the existing (rear) M4 x 25 screw with two M4 nuts (end nut level with the end of the screw).

4. Apply the adhesive seating tape to the clips for the tank. Assemble the fuel tank as in the Sport 500 instructions and fit to the clips, retaining with two suitable rubber bands. NOTE: Make sure you have positioned the tank so that it does not touch the fan duct or the U/C leg.

12.88.





MFA SPORT 500

MFA SPORT 500 COLLECTIVE AUTO-ROTATION KIT.
Part no.768.

This kit is for the Sport 500 Collective (not suitable for the fixed pitch model) and gives full auto-rotation capability. Bearing in mind the standard rotor blades supplied in the kit are fairly light and if regular auto-rotation practice is anticipated, we would advise heavier blades which would give more 'thinking time'.

If your model is already assembled, remove the top and bottom mast bearing blocks, rotor assembly, swash plate and swash plate driver.

ASSEMBLING AND FITTING TO THE MODEL:

1. Attach the auto-rotation bevel gear (AR.3) to the auto-rotation clutch (AR.2) with the two M3 screws, not forgetting to apply the 'Loktite'.

2. Slide one of the 8mm mast shims (AR.5) and then the new gear assembly down the new mast (AR.1), followed by the lower mast bearing block and then the upper.

3. DO NOT REMOVE THE CIRCLIP (AR.6) unless necessary as any damage to the clip or the groove could endanger the model. Re-fit to the chassis using the upper set of elongated holes in the chassis for the lower mast bearing block. Make sure the gears are meshed correctly with no discernible up and down play. Apply silicone grease to the gear and a drop of oil to the circlip in the middle.

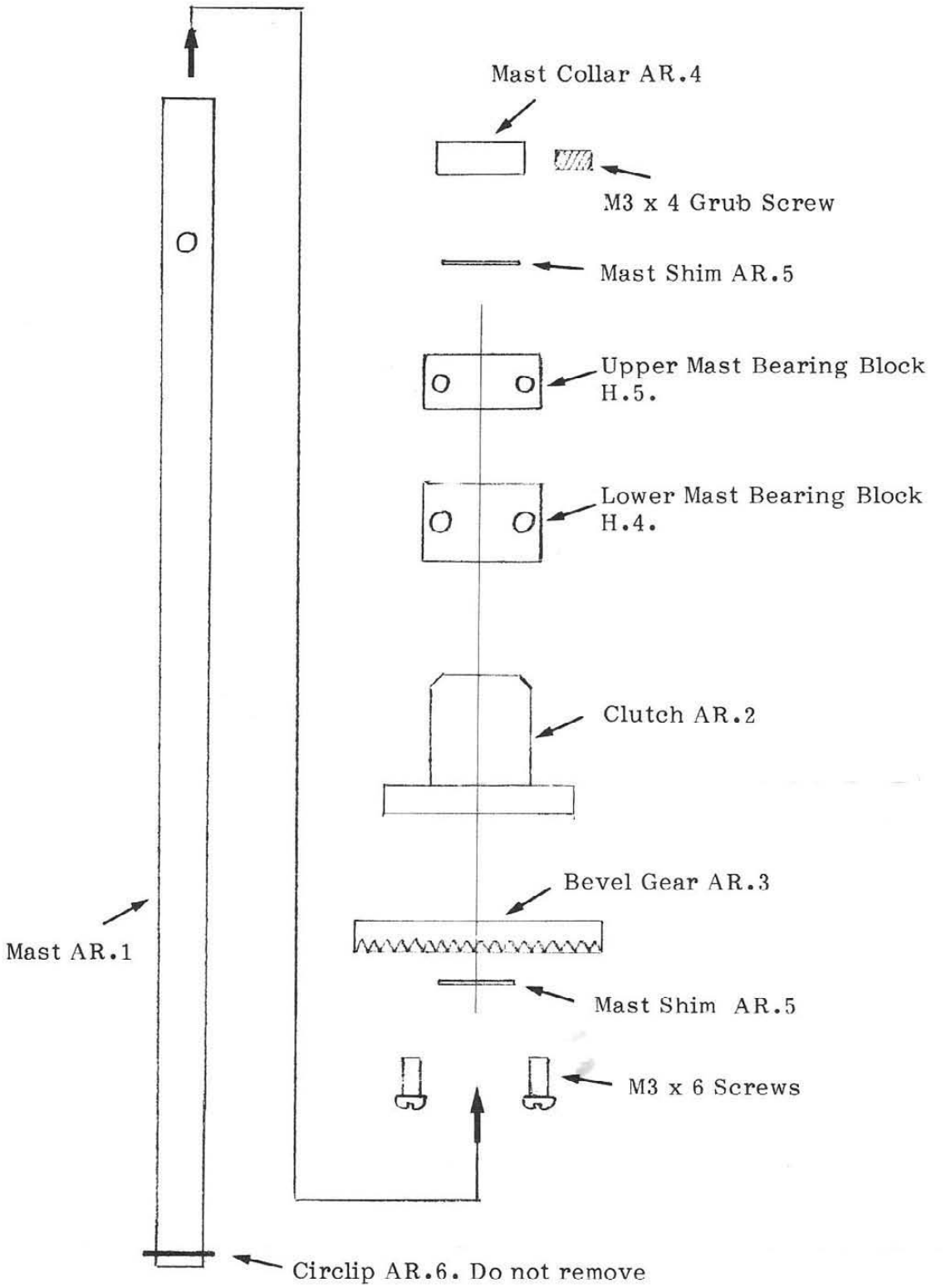
4. Slide the other 8mm mast shim (AR.5) down the mast and then fit the mast collar (AR.4) with its M4 grub screw. Pull the mast upwards and tighen so that again there is no discernible up and down play and the mast is free to rotate. Oil the upper mast bearing.

5. Re-fit (or assemble as in the main instructions if your model is not already built) the swash plate, swash plate driver and rotor assembly. Trim off (up to the ball link) the lower end of the for/aft cyclic crank so that it clears the lower mast bearing block on low throttle.

OPERATION:

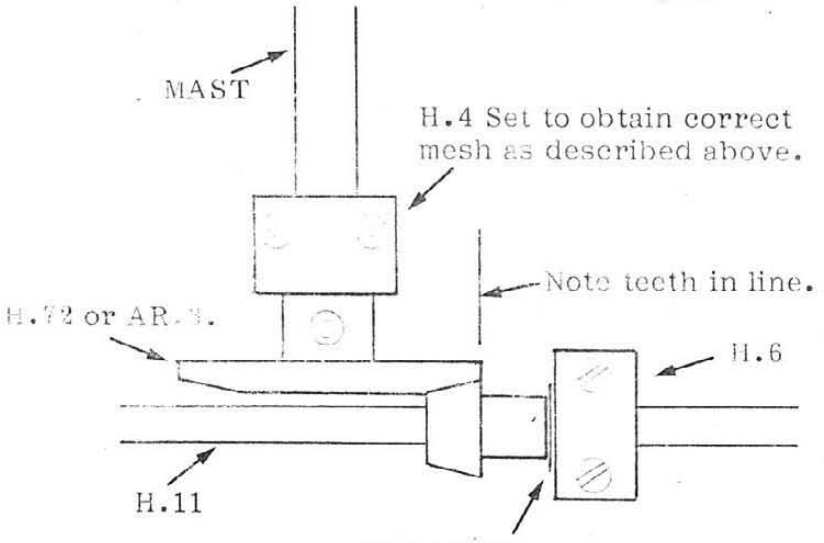
To practice auto-rotations, it is necessary to have a radio with a 'throttle hold' facility. This is a switch on the transmitter which closes the throttle to a pre-determined tick over while still allowing full collective control. If your radio does not have this facility, you can still practice by doing fast descents with the engine at tick over. Obviously when you put positive pitch on to stop the descent, the engine will pick up as well so it is not a proper auto-rotation but, this is still good practice and we advise first getting good at this in any case. It will also give you an idea of the rate of descent with different negative pitch settings. Initially set the minimum pitch to 2 degrees negative and keep trying the above, fine tune the pitch as necessary.

The vital thing to remember when doing an auto-rotation 'for real' i.e. your engine has stopped in flight, is to IMMEDIATELY CLOSE THE THROTTLE (to bring the collective to negative pitch). Hold slight forward cyclic to maintain forward flight on the descent. As the model approaches the ground i.e. about 2 metres high, begin to pull back cyclic (which will speed the rotor up), advance the throttle (which of course is now collective only) and then push forward cyclic to level the model for landing. This seems a lot to remember but, this is where practice pays off! When practising auto-rotations, a good reliable idle on the engine is essential. Spend a little while with your engine getting this right and make sure it picks up from tick over to full power cleanly in case you wish to abort an auto-rotation practice attempt.

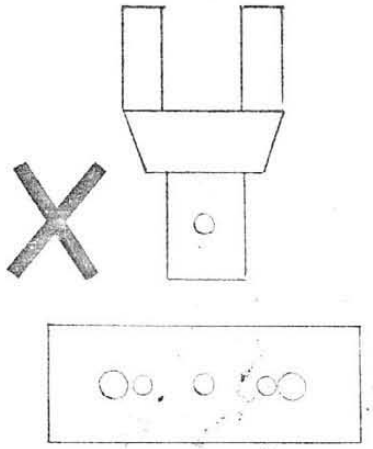

Mast Collar AR.4
M3 x 4 Grub Screw
Mast Shim AR.5
Upper Mast Bearing Block H.5.
Lower Mast Bearing Block H.4.
Clutch AR.2
Bevel Gear AR.3
Mast Shim AR.5
M3 x 6 Screws
Mast AR.1
Circlip AR.6. Do not remove

MFA SPORT 500 SUPPLEMENTARY INSTRUCTION:

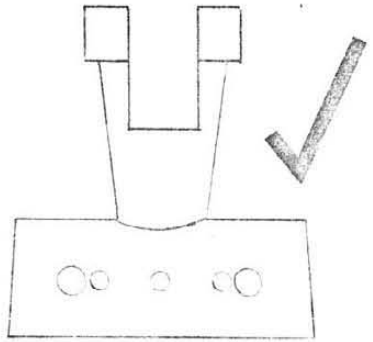
MAIN GEAR MESH: It is important that the main gears are set as detailed below to prevent premature failure. Check this carefully before initial engine running and flying! When correctly set, the gears should feel slightly 'notchy' when turned initially. This indicates full depth teeth meshing which will then run-in to give smooth running. Ideally, use 'Triflon' teflon based grease (available from model shops) to lubricate the gears, use sparingly when required.



DOUBLE CHECK THE ABOVE TO PREVENT GEAR FAILURE!



Pt.no.CO.1 & CO.2.



Pt.no.CO1/2.

NEW ROTOR HEAD.

This kit includes the latest glass filled nylon rotor head which has certain improvements over the two part aluminium one, namely slightly stiffer blade flap, built in coning angle and is lighter!

Note also that symmetrical section rotor blades are now included, these give a better performance (especially in forward flight and auto-rotation) than the flat bottom shown in the instructions. The ply sheet 3 (pt.no.CO.24S) has the correct pitch guage for these blades. Again this pitch guage is improved because you will notice the 'pointer' has slots in it, this is so that a small rubber band can be hooked round the rotor blade to hold the pitch guage in position leaving your hands free! Be careful to accurately cut out the pointer of the pitch guage where the blade sits otherwise inaccuracies may result.

CONE STARTER. Pt.no.851.

A new accessory now available from MFA is a "Cone Starter" assembly to enable you to connect your electric starter direct to the engine so doing away with the V belt. This consists of a cone nut that replaces the engines prop nut and V belt pulley, also a starter adaptor and rubber bush.

MFA SPORT 500 Mk.2 TAIL DRIVE COUPLINGS. Pt.no.H34A.

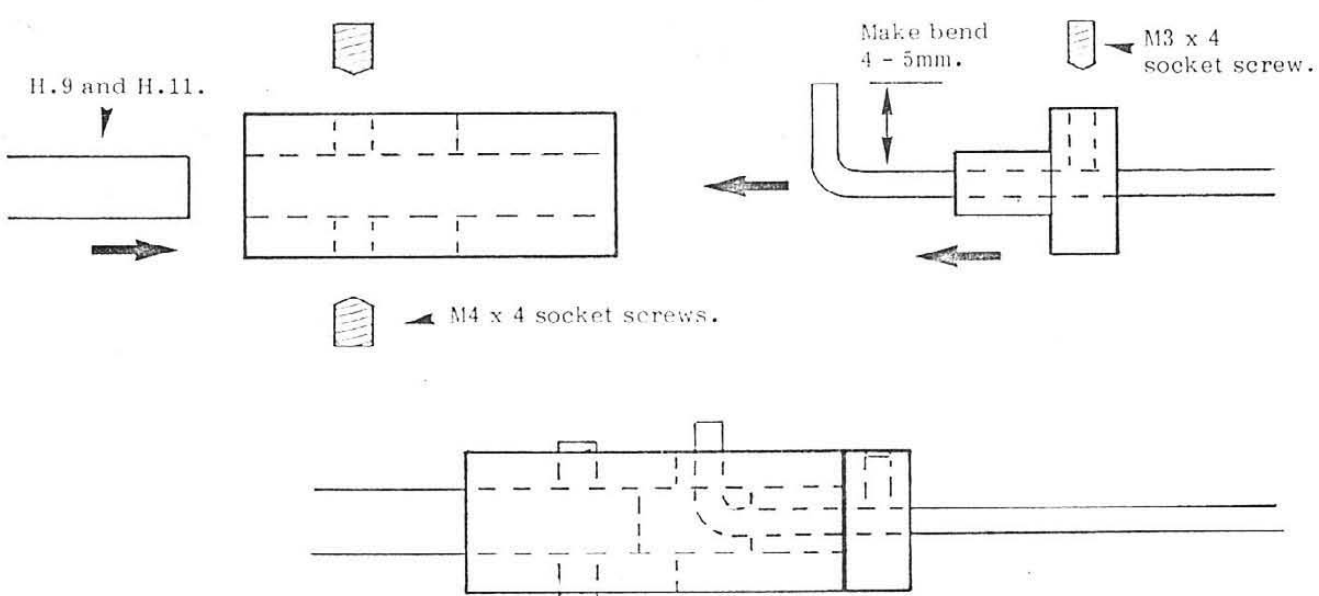
These are included in your Sport 500 kit in place of the H.34 illustrated in the instructions and parts list. Also available as an add-on assembly, including tail drive rod, for existing models. The advantage of these new couplings is the positive drive with no danger of slipping and easier disassembly. Also the drive rod ends are now free to move for and aft to accomodate the slight shrinkage that occurs when the tail drive is subjected to high loads.

INSTRUCTIONS FOR FITTING:

You will notice that only one end of the tail drive has a right angle bend in it. The other end has to be bent too but, first the rod needs to have the tail drive supports (H.46) threaded down it as well as the coupling inserts (see illustration).

Once these four components are on the rod (make sure they are on in the correct order and the coupling inserts are the right way round, double check this!). Now bend a 4 - 5mm length the other end as tight as possible using a large pair of pliers or vice. Check it is approximately 90 degrees.

When fitting this assembly to an already built model, you may find it easier to temporarily remove the two tail drive supports (H.46) from the boom. For 100% security, you can file/grind a slight flat on the main gearshaft (H.11) and the tail gearbox shaft (H.9) where one of the M4 x 4 socket screws sits in each case.



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