

MB339C

AERMACCHI

EPP Slope Soarer
By Canterbury Sailplanes



Congratulations on your purchase of the *Aermacchi*

The Aermacchi is a stand-off scale flying model of an advanced jet trainer used by air forces around the world. It is made from EPP (expanded polypropylene) which is a fantastic material for Model Aeroplanes. It is incredibly resilient and will take almost all the punishment you can give it.

Assembly is quite straightforward and should not be too difficult for the first time builder. If you have any problems please contact the shop you bought the kit from, a friendly modeller or us.

We hope you really enjoy building the Aermacchi

We guarantee you will enjoy flying it!

Canterbury Sailplanes

www.flycs.co.nz

GENERAL NOTES

1. This box contains nearly everything you need to build your model; only a 2-channel radio control set, a knife and some basic tools are required to get your model ready to fly.
2. If your kit has been purchased or delivered outside New Zealand, shipping regulations prohibit sending 3M Spray 77 Contact adhesive. This is a great glue for adhering the tape to EPP and is worth getting. Ados F2 does a similar job.
 - Locate Spray 77 in your country by calling 3M and asking for your nearest stockist. (In Australia Call toll Free 136136) The Product Number for the small can we use is 3M ID No.62-4437-0926-6, Net Wt 2OZ/56g Spray 77. There are larger cans available.
3. The kit includes Coloured Polypropylene tape and Strapping tape (fiberglass reinforced) make sure you use the correct tape as specified in the instructions. There are 50 meters of Coloured tape and only 15 meters of Strapping tape. There is only enough Strapping tape to complete the model as described in these instructions.
4. You might like to decorate your model using different coloured tapes, iron on covering film (available from a model shop) or self-adhesive vinyl (available from your local sign writer). Where the Assembly instructions specify coloured tape, these other products can be used instead. If you use other coloured tape products, they must be of similar spec, i.e. Polypropylene or vinyl, but not PVC.
 - Iron on film produces a very good finish; apply it carefully; use low heat. There is no need to use clear or coloured tape first, just apply the iron on film after the strapping tape, use Spray 77 with iron on films as this will help the film bond to strapping tape and EPP. You can test covering film and heat settings on a scrap piece of EPP.
These Assemble instructions will however generally only refer to “coloured tape” in order to differentiate it from the “strapping tape”.
5. It is worthwhile investing in a Lost Model Alarm, if your model lands or crashes in trees, bushes or long grass, it may be hard or even impossible to find. With a lost model alarm you can walk straight to your model. The alarm will sound for up to 2 days. Ask your model shop or check out our website.
6. When applying the SPRAY 77 to the model; apply by spraying onto the model and leave it a minute or two, waiting until the glue on the surface is tacky, before laying the tape onto the glued surface or joining to pieces of foam together. Once the tape is on however, it is difficult to remove - so take care.
7. If you need help there are several resources available to you; apart from friends with some modeling experience, try the shop from which you bought the model, our website has FAQ pages and online forums where you may find answers or be able to post questions. We are keen to make these instructions and our kits as good as they can be – if you have suggestions, comments, or find fault in either, please let us know.

BEFORE YOU BEGIN ASSEMBLY

8. Check that all the parts as per the parts list page are packed in the box. You will note that the parts list page also has pictures of some items to help you identify them. This will help you later when reading the assembly instructions.
9. Other tools that you will need include:
- Small hand or power drill
 - 1.5 mm drill bit
 - 2.5mm drill bit
 - Small ruler or tape measure
 - Sharp knife, scalpel or modeling knife, snap-off type knives are ideal
 - Scissors (if you'd rather use them) to cut tape
 - Sandpaper (40 grit is fine)
 - Marker - a ballpoint pen will do.
 - Small Phillips head screwdriver (for the servo's)
 - Small flat head screwdriver (for the control horn screws)
 - Needle / point nose pliers (or good tweezers)
 - Soldering iron (not 'needed' but can be helpful)
 - Either a clothes or modeling iron (for smoothing tape and film - not essential)
 - Paper masking tape (not essential)
10. It's probably also a good idea while you're getting all these items ready, to make sure you have enough batteries for both your transmitter and components to be mounted in the model. If you have rechargeable batteries, put them on charge now as they will probably need to charge overnight and you will need them to be ready prior to fitting the servos into the model
11. It is quite reasonable for a complete beginner to assemble the Aermacchi to a ready to fly state in 3 nights; the estimated time a "complete beginner" would take for each section has been suggested at each section heading. Decorating the model to a high standard will take a more time.

ASSEMBLY INSTRUCTIONS

WINGS (part 1) (estimated time = 1 hour)

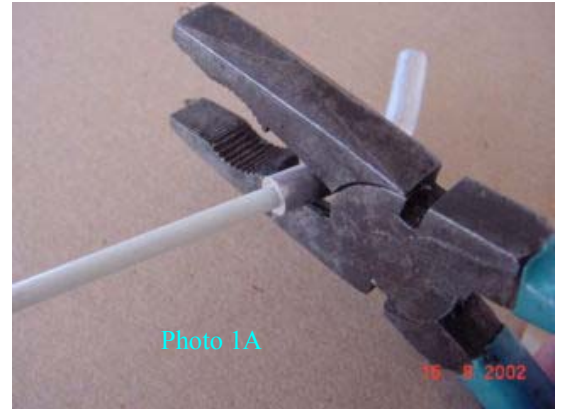
- Notes:
- The bottom of the wing is the flatter of the upper and lower surfaces.
 - The spar slots are the grooves cut in the top and bottom surfaces of the wings.
 - The spars are the 4 longest rods in the package

12. Fold open the EPP that surrounds the wing cores and remove the wing cores
13. Join the fibreglass rods to make a top and bottom spar. Apply a smear of glue around one tip of each fibreglass rod and insert into the alloy joiner tube up to the bend. Repeat with the other rods and tube to complete the top and bottom spars. Use pliers or a crimp tool to put *one* crimp in each end of the joiner tubes, about 10mm in from each end. This will ensure they do not move. See photo 1A

14. Place the left and right wing cores side by side on your table or bench and place the two wing roots together, check they line up OK. Glue together with *Spray 77*.

15. Temporarily tape the wing halves together with a 300mm length of coloured tape applied top and bottom - avoid taping over the spar slots.

16. Lay one spar on top of the wing, mark the location of the joiner tube in the centre of the wing and cut away a *minimal* amount of foam to allow it and the spar to sit in the slot in the wing (a soldering iron does this job easily). Repeat for the underside. Test fit the completed spars to ensure a neat fit into the spars slots, check also the alloy joiners to sit as flush to the foam surface as possible.



17. Squeeze adhesive into the top and bottom spar slots and spread out thinly.

18. Push the spars into place, so they don't protrude above the wing surface.

19. Check the wing is straight and has no twists.

20. Wipe off excess adhesive. Place a strip of coloured tape full length of spar the bottom of wing to cover the wet glue and prevent in sticking to your bench. If you need to put weight on the top spar, cover with tape or clear kitchen film.

21. Allow 12-24 hrs for the glue to set.

22. You can now begin work on the fuselage

23. THE FUSELAGE, FIN AND TAIL

(Estimated time = 3 hours)

The fuselage comes in three pieces; place the top canopy to one side for now. The two main fuselage parts have to be joined.

24. Coat the surfaces to be joined with glue (not *Spray 77*) adhesive, spread thinly all over the surface with a spreader such as an old credit card. Align the pieces carefully on a flat surface & push together firmly for 30 secs. The critical point to line up is the wing seat; this should be a smooth surface from the front to the rear.

25. Apply a 300mm length of coloured tape to each side on fuselage to hold the joint together.

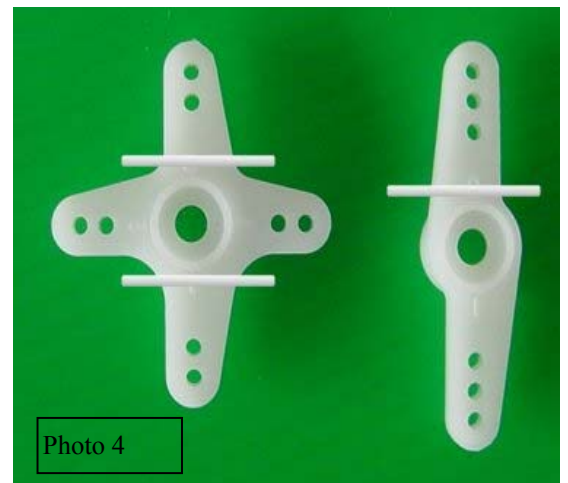
26. Use a sharp knife to shape the fuselage around the nose, canopy seat, the canopy and top rear fuselage. Refer cross sections for a shaping reference. *Do not* round the fuselage at all on the bottom, from forward of the wing cut out, all the way back to the back edge of the tailplane cut out.

27. Put a piece of tape around the rear end of the fuselage across the slot for the fin to prevent sideways movement whilst rough shaping.
28. Use your knife and a ruler to cut a hinge on the underside of the Corflute tailplane by making a single cut *along the centreline of the first flute* forward of the two elevator halves. Use only the very tip of the knife blade, taking care not to cut into the other side. Run a screwdriver down the flute to fold in the cut edges, so they won't bind. (See plan).
29. Fold the elevator halves up over the top surface and place the U shaped elevator hinge wire over the elevators, equally spaced both sides. Mark a spot on the exposed flutes of each elevator half, where the wire is to go in and drill a 1.5mm hole. Push the wire in on both sides, so that the plastic tube sits snugly in the back flute of the tailplane. Centre the tube between the 2 elevator halves and secure the tube with a piece of coloured tape. See photo 3.



You can now cover the tailplane and fin if you wish. De-grease the surfaces with warm water and dishwashing detergent, rinse and dry well. Cover with coloured tape or self adhesive covering film – but not iron on film, the heat will warp the Corflute. We do not recommend painting the Corflute. **DO NOT cover the surface of the tailplane or the fin in the area where they will be glued into the fuselage.**

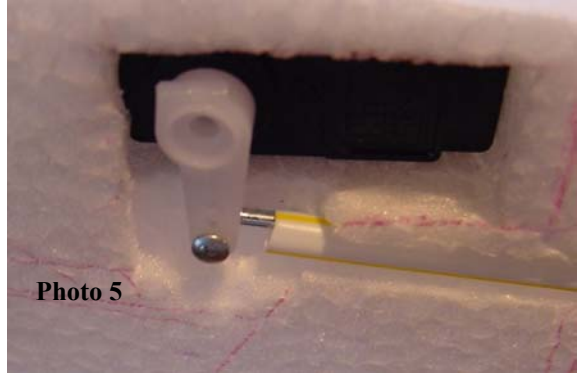
30. Place the control horn in position on the elevator on the left side as viewed from the rear, with the holes for the clevis aligned vertically below the hinge line and about 5mm away from the edge of the fuselage. (see photo 6a) Mark the location, remove the tailplane and drill the 2 X 1.5mm holes required for mounting the control horn. Thread the screws provided through the holes and screw into the backing plate, which is placed on the elevator's lower surface, screw until firm, but do not over tighten or compress the Corflute. Cut off the excess screws on the bottom side.
31. Temporarily pin and tape the horizontal tailplane in position on the fuselage.
32. Plug your radio control set together (including the servos and receiver) and turn them on. The elevator servo plugs into channel 2 and the aileron servo Channel 1. Centre the trims on the transmitter, this will ensure both servos are in the neutral position. Fit a one-sided servo horn about 15mm long to the elevator servo (the one which operates when the



radio control lever is moved up and down), set at right angles to the servo (See photo 4). Fit a straight 2-sided horn about 25mm long to the aileron servo also set at right angles to the servo. If you have horns with more arms than required, cut off the extra horns with a pair of side cutters. Enlarge the holes in both the outer holes of the aileron servo horns and the outer hole in the Elevator horn with a 2mm drill.

33. The elevator servo, receiver and battery will be fitted into pre-cut recesses in the fuselage that should be just the right size and depth for standard components. If you need to enlarge or make extra cut outs, do so with a knife to cut the outline down to the correct depth, then remove foam with point nose pliers. Work slowly and carefully – you don't need an oversize hole!

34. Mount the elevator Servo; The servo horn must be closest to the front of the model (see Photo 5) i.e. The 'body' of the servo will be behind the horn. The servo should go deep enough into the hole so that the top of the elevator servo horn will be just below surface of the foam.



35. Cut the mounting lugs off the sides of the elevator servo with side cutters or a very fine saw - be careful not to cut the servo lead! (Don't worry, new servo cases are cheap!)

36. This hole is cut suitable for the shallowest servo so it may be necessary to make it deeper for your servo. If you wish to make the hole deeper, cut carefully thru the bottom of the hole around the edge, and remove the epp (needle nosed pliers work well for pulling out small chunks of foam).

37. Cut away a small amount of EPP on the lower side of the servo so the elevator horn can move.

38. Secure the elevator servo in position with a very small smear of glue.

39. The elevator pushrod runs from the servo horn to the elevator control horn on the tailplane.

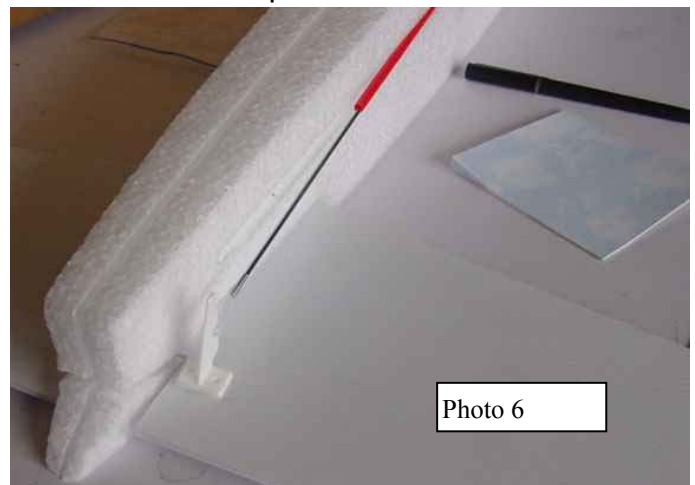
40. Remove the elevator servo horn from the servo; put the screw in a safe place!

41. Slip the steel rod with the knob on one end through the end hole in the horn and slide to the end and around the corner. (See Photo 6)

42. Slide a piece of plastic tube over the pushrod and thread the plastic clevis onto the threaded end of the rod.

43. Temporarily replace the horn on the servo.

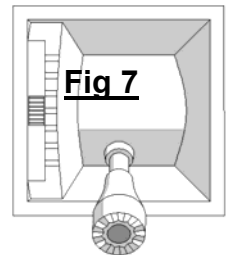
44. Attach the elevator clevis to one of the middle elevator horn holes.



45. With the servo centred the elevator should be flat in line with the tailplane with no upward or downward trim. If the elevator is up then the rod is too long and needs to be threaded onto the tube and/or the clevis more, if the opposite is true then adjust the thread accordingly.

46. Plug the servo and battery into the receiver, turn on the transmitter (always turn the transmitter on first) Check the movement available. The above set up should achieve about 15mm of travel up and down of the elevator, measured at the middle of the trailing edge half, when the servo operates it. If it does not move that much you need to move the clevis down to a hole closer to the elevator. To achieve less movement, move it to a hole further out on the horn

47. Test the elevator servo to check free movement, when the elevator stick on the transmitter is moved down (see Fig 7) or towards the base of the transmitter case, the elevator should move up and vice versa. If not, switch the reverse switch on the transmitter to correct.



48. Position the plastic tube so it starts to cover the wire about 12mm from the end of the clevis attached to the servo. Fix the tube in place in the fuselage slot with two or three blobs of glue.

49. Refit the screw into the servo horn.

50. Apply a piece of strapping tape from about 50mm forward of the servo, over the servo and about to 50mm back from it, take care not to stick the tape onto the servo horn as this will jam it, if this looks possible, cut a small piece of paper the size of the top of the servo and apply it to the tape first, then place the tape over the hole.

51. Remove the tailplane.

52. Install a square battery pack in its recess near the nose. Note the receiver and battery pack are not glued in place, just a tight fit. **Tip:** put a band of insulation tape around the battery case, and join the ends of the tape together to make a tab with which to pull the battery pack out.

53. Cut a 4mm deep knife slot from the battery and elevator servo to the receiver recess; push the leads into the slot. If using a switch make a small hole just large enough to fit this into.

54. Temporarily install the receiver in its recess with the leads facing inwards; it may be necessary to cut a deeper recess to accommodate the leads where they plug into the receiver. Check the fit of the Corflute cover and cut to provide a hinge 1/3 back from front edge in the same manner as the elevator hinge. Glue the Corflute cover in place in the pre-cut step adjacent the deeper receiver hole. The cover should sit flush with the foam over the receiver hole when closed.

55. As the receiver is central the aerial begins in the middle of the model and should be long enough to go from the receiver, around the tail and back up the other side. Around the rear is also best for damage control. Cut a slot for the aerial along the side of the fuselage and back along the other side. **WATCH OUT FOR THE ELEVATOR SERVO LEAD!** Leave about 20mm slack in the receiver hole and push the rest of the aerial into this slot.

56. You can either use a switch set into the fuselage or just plug the battery straight into the receiver, in which case you will need to install the receiver with the leads facing outwards. Note that if you are installing a switch, make sure ON is forward and OFF is backwards, that way when throwing your glider you will not accidentally turn it off. If you have a rechargeable battery use a switch harness with a charging jack, so you don't need to unplug anything.
57. Glue the shaped canopy in place on the fuselage.
58. Glue the EPP spine in place behind the canopy, hold in place with 3 or 4 pins.
59. Lightly spray the fuselage with Spray 77 Adhesive, mask any radio components (i.e. servo) with coloured tape that you don't want covered in adhesive.
60. Apply a length of strapping tape full length down each side, along the top from in front of the fin to the top of the canopy. Do not cover where the Corflute strap will be installed on the bottom of the fuselage. You will find the compound curves difficult to tape without creasing the tape, take your time and carefully split the tape length ways so it will go around the curves. A warm iron is also very useful for shaping tape around curves.
61. Now we will "Barrel wrap" the nose with strapping tape. Work carefully with the strapping tape around the front of the dummy intakes, it may be necessary to make a few slits in the tape, this is ok, but do not cut right across the tape as this will critically reduce the strength of the tape as a reinforcement of the fuselage sides.
62. Starting forward of the wing slot, wrap pieces of strapping tape over the top of the nose and forward part of the canopy and 2/3rds of the way down the sides.
63. Repeat this going forward, overlapping each piece 5mm (1/4"). As you approach the nose use thinner strips of tape by cutting the 50mm (2") wide tape down between the fibre strands. This is best easily done by tearing the tape along lengthways. As each piece is stuck in place, shrink down wrinkles with your iron set to 150deg C. Try not to cut across the fibres as that destroys the effectiveness of the "Barrel Wrapping". Don't scrimp here as weight in the nose is beneficial at this stage. Repeat the process on the underside overlapping up the sides.
64. Finally go over the whole nose carefully with the Iron to get the tape as smooth as possible.
65. Now cover the fuselage with the coloured tape provided, or with iron on film. The tape is easiest applied in bands around the fuselage, work from the rear to front. In the under wing area lay the tape length ways; don't tape where the wing strap will be attached later.
66. Cut slots to permit access to the receiver and switch. If you are using dry cell batteries, cut away the tape and secure the battery holder in position with insulation tape – it is much easier to remove and reattach. If you have rechargeable batteries it is possible to leave only the charging socket or the plug between battery and switch outside the tape to enable easy charging.

67. Permanently glue the fin and tailplane to the fuselage. Make sure the tailplane is parallel to the bottom of the fuselage bottom as viewed from the side, this will ensure the wing and tailplane are at the same angle to the fuselage. Also check that the fin is at right angles to the tailplane as view from the rear of the model.

68. Let the tailplane glue set overnight

THE WING - PART 2

(Estimated time = 3 hrs)

69. Reinforce and cover the wing with tape. It is possible to build in curves and twists during this phase; **TAKE CARE NOT TO APPLY THE TAPE UNDER TENSION.** Lay the wing on a flat tabletop. Try not to get any wrinkles and creases in the tape.

70. Remove all the tape you put on gluing the spars in.

71. Lightly spray the wing top with Spray 77 Adhesive. Allow to cure for a few minutes.

72. When dry you can add the strapping tape to the top of the wing as shown in the wing taping drawing. Apply the strapping tape smoothly, avoiding creases or bubbles. Do not stretch it tight, but lay flat and smooth down with a finger or cloth pad as you lay it down with the other hand.

73. Now tape the underside of the wing as shown.

74. When the wing is all taped up, go over it with a warm iron (100 deg C) to ensure maximum bonding.

75. Increase the irons temp to 150 Deg C and firmly iron down all the edges of the tape to get a smooth surface. Move evenly and keep moving so you don't overheat any one spot. Follow the iron with a damp cloth pad to cool the tape quickly, and feel the edge of the tape with a finger tip. If you can feel it standing proud ---iron it again. This way you will get a very smooth surface on the whole wing.

76. Draw a line 30mm either side of the wing join line, parallel to the join line, to indicate where NOT to apply any coloured tape in the next step. Repeat for the underside. (This makes it easier to bond the wing to the fuselage as the coloured tape does not bond well)

77. Apply lengths of coloured tape to each side of the wing, starting from the marked line out to the wing tips. Start at the trailing edge and work forward, half overlapping the previous layer of tape. Continue until you have reached the leading edge.

78. Apply coloured tape to the bottom of the wing using the same technique described for the top.

AILERONS

79. The Balsa ailerons provided are slightly too long and need to be cut to the correct length.

80. Carefully position the wing in place in the fuselage.

81. Lay the ailerons in position behind the wing, with a gap of about 3mm between the fuselage side pad and the aileron and use a ruler and pencil/pen to draw a line on the outer ends of the ailerons. See the dashed line in photo 8.

82. Trim the aileron to length with knife or razor saw. Note if you intend to fit the EPP tip tanks to the ailerons, make the cut 15mm short of the wingtip to allow the tanks to be fitted (the solid line in Photo 7).

83. Take your aileron servo and remove the horn. If the servo horn still has four arms, cut two off opposite each other, to make a horn about 25mm long. Carefully set aside with screw for now. Some aileron differential is provided by the slight rearward bend in the aileron wires (Aileron Differential helps the model roll more axially rather than like barrel rolls). If you would like more aileron differential, use a round servo horn rather than a horn with arms and fit the pushrod wires in the 30deg rearward holes on the servo wheel. (see plan)

84. Place the servo in position on the wing join line on the underside of the wing. The rearward edge of the servo should be 43mm from the trailing edge of the wing, measured on the centreline. Mark the outline of the servo. See photo 9.

85. Cut a rectangular hole right through the wing. Make it a snug fit for the servo. Glue the servo in place with a dab of glue; align the servo so it sits slightly proud of the underside of the wing. Check with a ruler that the aileron assembly is set far enough into the wing that it will clear the Corflute wing strap when installed. The servo horn goes toward the rear of wing see photo 8.

86. Locate the pre-bent aileron rods. Screw the white nylon horns onto the threaded ends of the aileron rods. Screw them all the way down until the wire is flush with the top of the horn.

87. Drill a 2mm hole into the forward edge of each aileron, 30mm from the root of the aileron; make the hole 23mm deep. Take care that the hole is parallel to the bottom

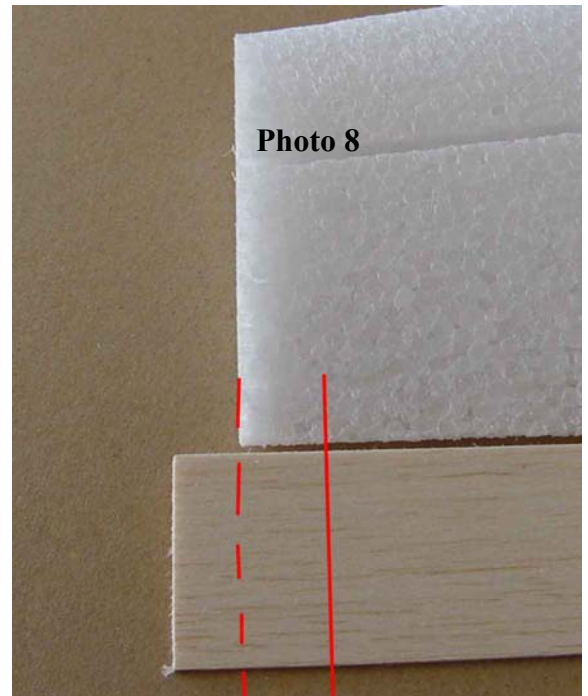


Photo 8

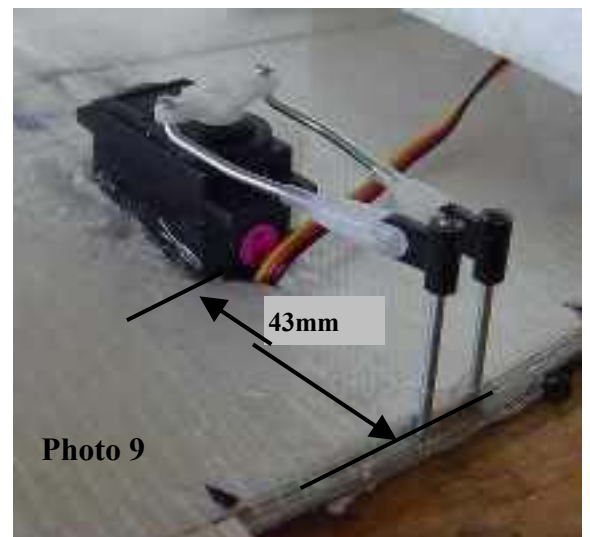


Photo 9

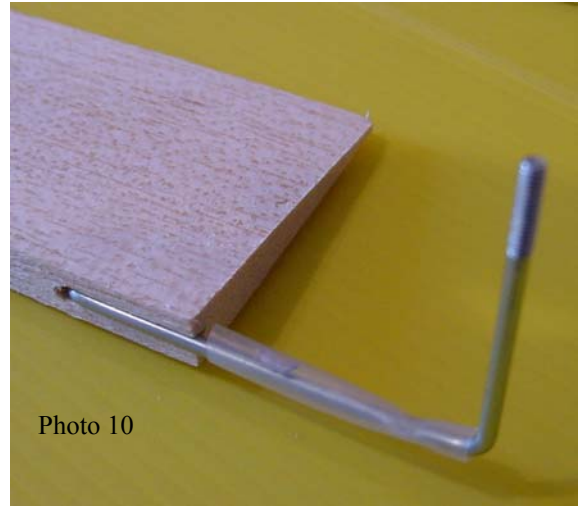
surface of the aileron. See Photo 10

88. Use your knife to make slot in the leading edge from the hole to the end of the aileron for the wire to push into. See photo 10

89. Glue the ends of the wires into the balsa ailerons.

90. Spray the underside (including the small forward facing edge) of the ailerons with Spray 77 Adhesive.

91. Cover the undersides of the ailerons a layer of coloured tape laid lengthways. Work carefully and do not stretch the tape, ensure you do not build in any twists. Stick it on from the 'leading' edge back and allow the extra tape to just 'trail' off the trailing edge (the tape does not wrap around the trailing edge very well, so when doing the upper side of the aileron we will let the tape join together at the trailing edge, then cut with a ruler and knife about 2mm beyond the balsa.



92. Turn the ailerons over and spray with Spray 77 Adhesive, cover the upper surface of the ailerons with a layer of coloured tape laid lengthways. Again work carefully and do not stretch the tape and do not build in any twists. This time however overlap the tape a little (about 20mm) over the 'leading' edge, allowing the extra tape to also just 'trail' off the trailing edge. This tape will meet the tape from the underside and will join together at the trailing edge.

93. Cut the tape at the trailing edge off using a ruler to get a straight line about 2mm beyond the edge of the balsa.

94. Position the ailerons with about a 1mm gap between the wing and ailerons, and about 3mm between the ailerons and fuselage.

95. Temporarily hold in position with 2 short pieces of tape on the underside of the wing.

96. Apply coloured tape the length of the hinge line on the top surface only.

97. Tape the tube over the aileron wires to the rear of the wing. See Photo 8

98. Centre the servo using your RC gear, check that the trim lever (on the transmitter just below the aileron stick) is in the middle and re-install the servo arm making sure it is at a right angle to the centreline of the wing.

99. Clip the clevises into the aileron connectors.

100. Check also that both ailerons are lined up with each other, adjust the length of the linkage if required

101. When the transmitter aileron stick is moved left, the left aileron goes up and the right aileron goes down. If not, switch the reverse switch on the transmitter to correct.

102. Check all linkage attachments are secure. Check the system for free movement and for proper

aileron movement up and down (about 15mm up and 12 down measured at the trailing edge of ailerons)

103. Now before you glue the wing on, Re-check;

- The aileron servo is securely mounted in the wing,
- Put the screw back in the servo horn.
- The clevises are properly clipped into the aileron connectors
- Make sure the servo lead won't get in the way of the linkage. If you are not sure, make a recess up toward the RX (a soldering iron does this easily) and stuff the excess wire up into it using a wooden stir stick as you offer the wing up to the fuselage.

104. Test fit the wing to the fuselage. Slide the wing in from the back to the front lifting the bottom foam flap to allow the servo and pushrods to slide under. It will most likely be necessary to remove a little more foam from the fuselage where the base of the aileron servo will be situated to allow the wing to seat correctly. The rear of the fuselage cavity may also need a little more space for the aileron pushrods wires to move freely back and forth. When you are happy with the alignment and seating either glue the wing in place or use double sided sticky tape.

105. Glue the Corflute wing strap onto the wing into the pre-cut fuselage recess. Run a piece of strapping tape full length along the bottom of the fuselage covering the Corflute/foam intersection.

106. Add 2 x 50mm lengths of strapping tape as reinforcements across the bottom of the fuselage just in front of the leading edge and just behind the trailing edge.

107. Glue the air intake EPP parts to the wing up against the fuselage.

108. Spray the EPP tip tanks with 3M77 and cover with tape. They will push onto each wing tip firmly without requiring any further fixing.

109. Leave the glue to set 12-24 hours

110. Now you can complete the covering of the fuselage with coloured tape or covering film. Dress up your Aermacchi with insignia etc (not included).

111. It is **essential** to balance your model so it will fly properly. The balance point at which to test fly is right under the wing spar in the centre of the wing (i.e. under the fuselage). Balance the model at this point on your fingertips, if necessary add lead or similar weight to the nose or tail until the model balances. While you are fine tuning the balance just tape the weight on to the top of the nose. When you are happy you have it right make a small hole under the nose or tail for the weight and then tape it over to secure.

CONGRATULATIONS – Your model is now assembled – LET’S GO FLYING!!!

A few notes on flying for beginners

If you haven’t flown before it is well worth getting some help. Ask at the local model shop or go to a local flying slope, most fliers will be very happy to help.

If you are a first time flier, before going to a slope, go to the local park and practice throwing and gliding the plane flat and level into the wind. This will get you used to the controls so that corrections become quick and automatic because on the slope you don't get time to think about which stick to push in which direction. Before flying, check the basic functions, i.e. up is up, down is down (stick forward) and right is right and left is left. Check the radio range by following your radio manufacturers’ instructions. These initial flights will also be a good opportunity to trim your model for straight and level flight.

Once on the slope and you have mastered level flight try some turns. As you turn you will need to add a small amount of up elevator to keep the model level. Be very gentle on the controls, the model will not fly well if you use lots of Jab type control movements on the sticks. It is best to **always turn into the wind** as down wind turns can take up a lot of airspace; it can also be tricky to judge the correct airspeed.

Good soaring slopes are a little hard to find, however this makes an interesting challenge for this captivating sport. A good slope is characterised by the wind blowing straight up a slope that is steeper than 45 degrees. Tall sand dunes over about 6 Meters and hills higher than about 30 Meters should provide sufficient lift. You will often see birds soaring in these areas. **It is best to talk with local flyers** or see where others are flying to find the best sites for each wind direction and strength. You can also then get first-hand tips on flying and trimming. Most foam planes will fly well in winds from 10 knots to 20 knots. Experts can fly outside this window.

Choose a place to fly that offers a landing site. With EPP models this is less important - just dodge rocks if you can. Long grass, tussock or bushes are fine. **Watch out for spectators!**

Thermals will also assist flying. Thermals are generated by sun the sun heating the land, warming air which then rises as it is lighter than surrounding air. This makes a sunny slope work better than a sheltered one. Before flying, ensure that your transmitter batteries are charged. Follow your radio manufacturer's instructions for proper safe radio operation. **Always make sure that no one is on your frequency before turning your radio transmitter on.** Do this by asking any other flyers if they are on your particular radio channel (refer radio manufacturer instructions to determine the channel you are on).

When you choose a slope, have a good look around and imagine where you will fly, pinpoint areas such as trees and cliffs where you don't want to fly and decide where you will land and perform a final range check (refer radio manufacturer instructions).

Always throw off straight into the wind, straight and level and quite hard. Be ready to stop a steep initial climb by pushing the stick forward. Also be ready for a sudden turn to one side. Concentrate on keeping the model in front of you and heading away from the slope. If the model heads down and out from the slope, try pulling up a little. *If the model continues to sink, land it before you loose it!*

If the model climbs nicely but starts to go back over your head, push down to get speed up and hold down until you can fly it some meters in front of you. Once you are comfortable, try some zigzag turns, always turning into the wind. Remember to add up elevator when turning. Don't try fancy moves yet, just concentrating on getting your hours up. Practice, practice, practice.

Note the bad areas are below the horizon and down wind of you. This will put you out of the lift and into turbulence.

It can be quite cold on the slope so be prepared to dress warmly so you can enjoy the day.

WARNING: Model Aircraft, even those made from foam like the Aermacchi can be extremely dangerous if you hit someone, be careful, think about where you are going to fly and the safety of yourself and those around you.

SUMMARY OF SLOPE ETIQUETTE

You will always be welcomed at an established slope flying location by experienced flyers. The majority of flyers will almost always be prepared to stop what they are doing to help out and offer advice if you ask for it, so don't be shy.

Some informal rules have developed over time that allow everyone to enjoy the slope. Some of these are listed below:-

Always check no other flyers are on the same frequency as you before turning anything on. *You can only establish this by asking around.*





Avoid flying or landing where other flyers are standing. Pay particular attention if there are any spectators nearby, foam models still hurt.

Do not engage in combat with a composite or balsa model at any time. These are very expensive models and do not bounce like your new EPP model!

Challenge other EPP flyers before beginning combat so they know what's going on and can decline if they wish.

Avoid at all times any hang gliders or Para gliders. If you intend to share the same slope make sure you talk to these people before launching. *You must give way at all times. A foam model has the potential to damage parts of a hang glider or para glider resulting in serious injury or death.*

PARTS LIST

		Balsa Ailerons
2 EPP Wing halves	Left & right	
EPP Fuselage pieces	3 (front,rear,canopy)	
EPP Tip tanks	2 (left and right)	
EPP Wing shoulders	2 (left and right)	
EPP Spine (between canopy and fin)	1	
Corflute tailplane	1	
Corflute Fin	1	
Spars	4	
Plastic tube	1	
Long Steel Rod (elevator pushrods)	1	
Short steel rod (aileron pushrods)	2	
Strapping Tape roll 15m	1	
Plastic Aileron connectors	2	
Coloured tape roll 50 metres	1	
Wing Spar joiner tubes	2	
Control Horn & Base Plate	1 set	
Control Horn screws	2	
Plastic Clevis	3 + 2 spare.	
Aileron Control wire (pre bent)	2	
Elevator Connector wire	1	
Instruction Manual	1	
Glue (either Bostik Clear Bond or Gorilla Glue)	1	
Spray 77 can (NZ only)	1	Not included in kits shipped overseas from NZ due to postal regulations
Graphics Sheet	1	