



# **MODELLBAU USA**

## **BUILDING INSTRUCTIONS – AERMACCHI 339/ARF**

It is important to read and study the safety notes and building instructions. Make sure you understand them completely!

|                  |                |
|------------------|----------------|
| Wingspan approx. | 73"            |
| Fuselage approx. | 73"            |
| Weight approx.   | 19lbs.         |
| Power system     | Jetcat P70,P80 |

Important: The construction of this model requires a high level of technical knowledge, manual skill and piloting experience. Operation a model with a jet engine calls for a highly circumspect approach and specialized technical expertise. Please read and observe the safety notes in the operating instructions.

***\*\*PLEASE READ ENTIRE INSTRUCTION MANUAL BEFORE BUILDING\*\****

**Retracts, Tail Pipe are available but not included in this kit.**

# FUSELAGE

**To complete the fuselage follow the steps below:**

- 1 First glue part #6 and #7 to the retract unit mount. #6 gets glued to the front (see 1) and #7 gets glued to the rear. (see 1a)
- 2 Take part #5 and mark 4 spots on each corner. Install with the 4 small self tapping screws.
- 3 Install the servo in part #5. (Can use a standard or better servo)
- 4 In order to correctly cut out the fiberglass for the nose wheel. We first drill 4 holes from the inside of the canopy where the holes are already drilled in the retract mount. Drill through those holes and out through the fuselage.
- 5 As a good reference. You can measure 235mm from the tip of the nose on the fuselage all the way back to where the nose strut center section sits. (see 1b)
- 6 Once that is done you can start tracing out the nose wheel retract unit and carefully cutting away with a dremel or similar tool.
- 7 Install the retract unit.
- 8 Install the pull-pull steering cables that were supplied with the kit.(Bag 1)
- 9 Now you are ready to install part #1.
- 10 This is for the pin that will work for you on the locking and unlocking mechanism for the canopy. (not included with the kit)
- 11 Glue part #1 to the fuselage in the middle of the canopy opening under the lip. (see 1c). Make sure this is glued well. We recommend that you reinforce this with fiberglass cloth. (not included)

## **Turbine/Electronics Installation Plate**

These steps are for the installation of Part #12

- 1 All your turbine electronics should be placed on this plate in order to get the correct C.G.
- 2 The plate gets fitted in the space between the rear nose mount bulkhead and the front of the wing saddle. (We recommend that the plate gets installed with four screws so it can be removable.)
- 3 You might have to trim the plate a little to get it to fit properly in that space.
- 4 Once you installed all your electronics on this plate, you can test fit it to make sure it fits good.

# STABS

**To complete the stabs you need to follow the steps below:**

- 1 First take the 12" aluminum tube that was provided with the kit. Insert it into the hole in the rear of the fuselage. Measure each side so they are even in length. Glue the tube with appropriate glue making sure that both sides are even in length.
- 2 Get both stabs and glue the incident dowel (bag 1) in the already made hole at the leading edge of each stab using appropriate glue. (see 3)
- 3 After the aluminum tube is glued in place. Turn the fuselage upside down. Take one stab and insert it half way into the tube. Mark the center position of the tube on the bottom of each stab. Now remove the stab and measure 1/2" from the end point. (see 3a) Drill a 2.4mm hole in the marked spot to make a point. **DO NOT DRILL ALL THE WAY THROUGH! \*\*\* TIP:** To make a stronger and more reliable holding surface, drill out a larger hole and insert a dowel. (not provided) Glue that into place with appropriate glue. Then drill the 2.4mm hole for the screw. **\*\*\* DO NOT DRILL ALL THE WAY THROUGH!**
- 4 Once that is done. You can proceed to put both stabs back on the tubes and drill the same hole through the aluminum tubing. **DO NOT DRILL ALL THE WAY THROUGH!!!!** Drill until it gets inside the aluminum tubing but has not passed through to the other side.
- 5 Remove the stabs and install your servos. One in each stab. Recommended servo is DS3421 Digital Servo. This is the perfect servo that fits in each stab. You can use something different but just make sure that it has similar components.
- 6 Once the servo is installed, you will need to cut away the stab opening where the servo arm needs to move with a dremel or similar tool for the servo horn to move within the stab. (see 3c)
- 7 Now you are ready to install both stabs and run the extension wire. Extension wire for each stab will be about 32" in length. Depending on where you put your receiver.

# RUDDER

**The vertical fin comes already molded into the fuselage. Now follow the steps below to install and complete the rudder.**

1 Take the fuselage and look at the rear where the vertical fin is. On the inside you will see the bulk head mount for the rudder servo to be installed. Install your servo with a long servo arm. (see 4).

**\*\*Tip: For install the servos in an easier manner. On the vertical fin, mark and cut out a square box in order to access the servo mount.\*\* (see 4a)**

2 The slot position is not marked on the fuselage. You need to determine where to cut the slot on the vertical fin of the fuselage for the servo horn. **\*\*\*Tip: When servo is mounted. Move the servo arm slowly until it makes an indentation on each side of the fin. \*\*\***

3 With a dremel tool or similar, carefully cut out the slots on both sides for the servo arm.

4 Take the rudder and glue the 3 hinges that were supplied in the kit. You can see that the rudder has plywood reinforcement to glue the hinges.

5 Once you have glued the hinges to the rudder and to the vertical fin, you are now ready to install the control horn.

6 Make the two controlling pushrods from the threaded rods and four clevises supplied in the kit. (Bag 1)

**Note: You can make the rudder connection with only one pushrod. But two is recommended for better performance and safety**

# WING:

**The composite wing of the Aermacchi comes pre assembled. There are some steps that you need to construct in order to complete the wing.**

1. Connect the fuselage and the wing together using masking tape or similar method until they are perfectly positioned.
2. Take the machine cut 6mm plywood (Bag 1) for the leading edge and place it on the leading edge of the wing from inside the canopy.(see 2)
3. \*\*\*Tip\*\*\*Glue temporarily in place with little CA or tape. Then when you remove the wing you can mark the spot and glue accordingly.\*\*\*
4. Mark off the top of the plywood piece and trim it so its flush with the wing.(see 2a)
5. Remove the wing.
6. Glue in place with (epoxy or aeropoxy recommended).
7. After plywood is glued and perfectly positioned, drill the (2), 3mm holes through the plywood all the way into the wing.
8. Insert the provided hardware for extra strengthening (Bag 1) (M3X16 socket-head cap screws, captive nuts, washers) (see 2b).
9. Steps 10 and 11 you will need to trim the wood pieces to fit. (Parts 9 and 10 are the same size)
10. Glue part #10 on each inside of the center section part of the wing where the holes for the wing bolts go. (We recommend some reinforcement on this using some fiberglass cloth.)(not included) (see 2c)
11. Glue part #9 which is the upper mounts for the wing nuts on the fuselage. (See 2d). Trim to fit and glue in place. (We recommend some reinforcement on this using some fiberglass cloth.) (not included)
12. Install the wing back onto the fuselage with tape, flip the plane upside down. Where the holes are for the wing bolts, Drill a 6mm hole that goes all the way through to the fuselage. Make sure you drill straight and through both part numbers 9 and 10. Do this in both holes of the wing.
13. Once that is done. Remove the tape and the wing. Install the blind nuts (bag 1) in the fuselage, screw in the screws (bag 1) to get the blind nuts to stick into the plywood. Remove the screws and put the wing back on again. Take the screws and place them into the holes to fit the wing to the fuselage. Tighten them to get a correct and perfect fit.

14. Now you can remove the screws and the wing.
  15. Before cutting out the pre drawn diagram on the underside of the wing for the retracts (see 2e). Cut out a small square hole in the middle of that diagram. This will give you a more accurate cut for the rest of the retract diagram.
  16. **\*\*Now before installing the main retracts you must first install the flap servo (JR2721 recommended)\*\***
  17. The Flap servo sits inside the wells of the retracts (see 2f).
  18. Install the servo and secure it with the provided screws that were supplied with your package. Make control arms from the supplied hardware. (Bag 1). Take one of the control horns and glue for each flap using (epoxy, aeropoxy recommended). Make sure you dremel out a notch for the horn to sit firmly before gluing. (see 2g)
  19. Aileron servo (JR2721 recommended) fits in each side of the wing. Cut out the pre drawn diagram for the aileron servo using a dremel or similar device. Install servo, drill **\*\*\*CAREFULLY\*\*\*** 4 holes for the screws that came with the servo kit. **\*\*\*Do not go all the way down when making the holes or you will make a hole right through the wing\*\*\***. Make control arm from supplied hardware. (bag 1) Take one of the control horns and glue on each side of the ailerons using (epoxy, aeropoxy recommended). Make sure you dremel out a notch for the horn to sit firmly before gluing. (see 2h)
  20. Now you are ready to install your retracts.
    - We recommend that you unlock and extend the retract unit  
Mark the correct position of the retracts and then drill 4-2.2mm holes for the retaining screws.
- \*\*\*\* Do not forget to drill the holes first, otherwise the mounting wood might split when trying to install the screws\*\*\*\***

# FUEL TANK MOUNT

**These steps are for mounting the fuel tank holders.**

- 1 Part # 2, 3 and 4 are for the fuel tank mounts
- 2 The mounts #2 and #3 are placed together for the rear tank support. The two mounts are held together using two M3 socket head cap screws, captive nuts and washers. All supplied with the kit.
- 3 The mount is glued in the rear 220mm from the front of the wing opening in the fuselage.  
(see 5)
- 4 The position of the front mount #4 is determined with the correct length of the fuel cell.  
**\*\*\*Make sure that the fuel cell does not touch the canopy before you glue the front mount\*\*\***
- 5 You will probably have to do some trimming of the front mount in order for the canopy to fit without touching.
- 6 Now you can glue your front mount for the fuel tank
- 7 Make sure that when you install the fill and overflow tubes for the tank, you get the correct measurement for the fill and overflow tubes so you will get the most out of your tank.

# GENERAL INFORMATION

- **Center of Gravity:** Place the nose of the Aircraft on a scale and block up the main wheels as necessary to have the aircraft level. The nose should weigh 2.2 lb.
- **Elevator Travel:** 11mm up/down
- **Rudder Travel:** 30mm up/down
- **Aileron Travel:** 18mm up/down
- **Flaps Travel:** Take off 15% Landing 30%

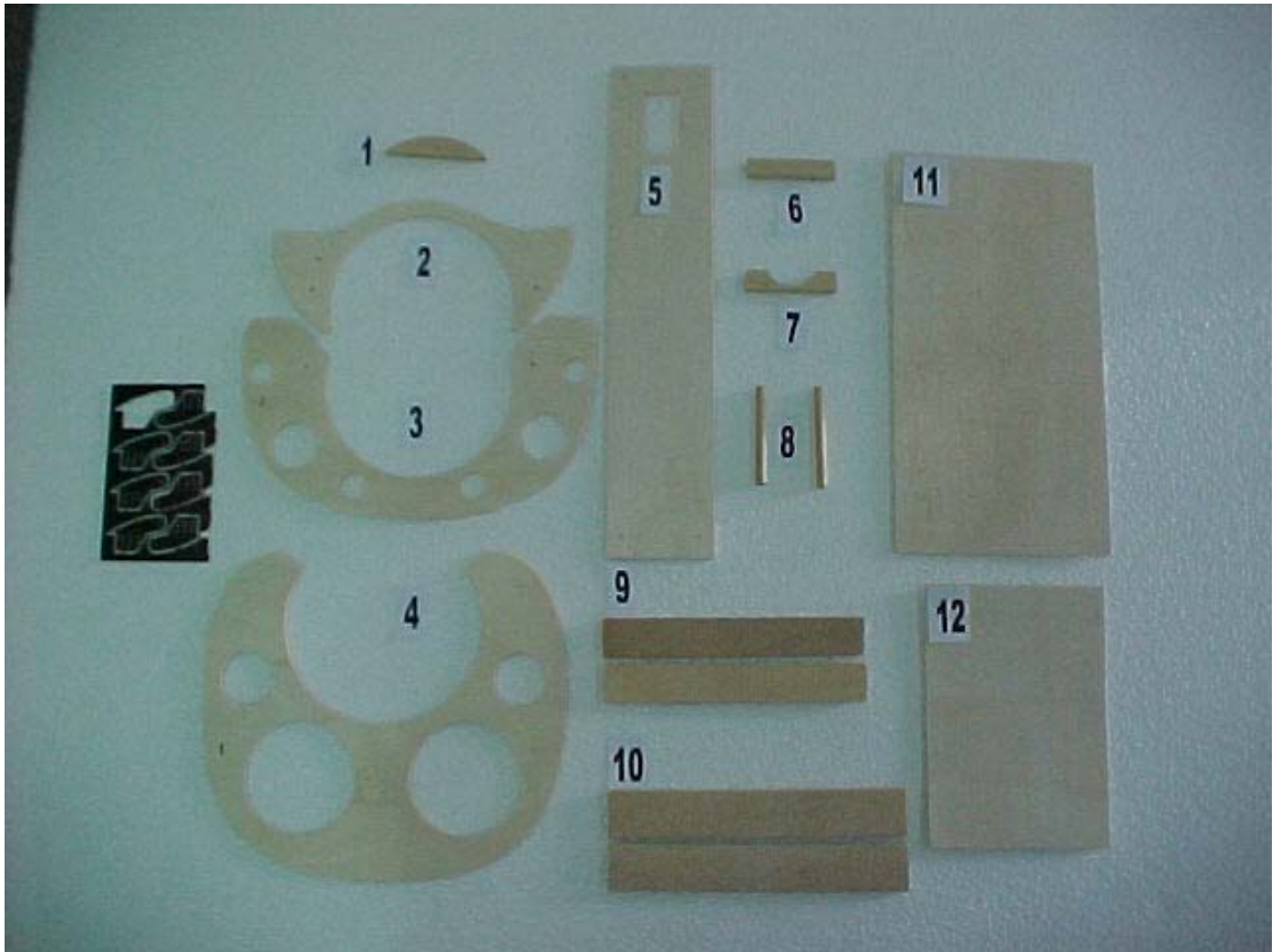
**\*\*DO NOT EXCEED RECOMMENDED TRAVEL RATES. MOLDED HINGES WILL BREAK APART IF MOVEMENT IS TOO MUCH\*\***

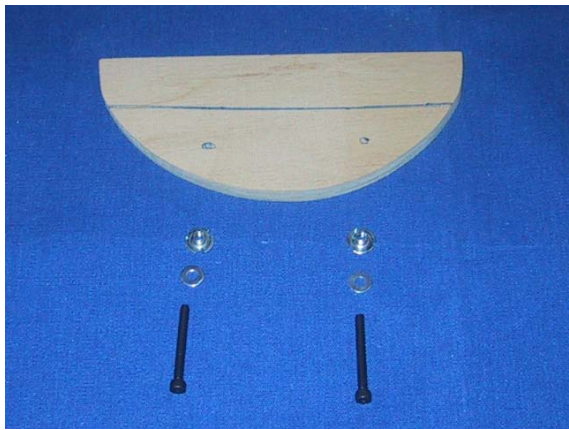
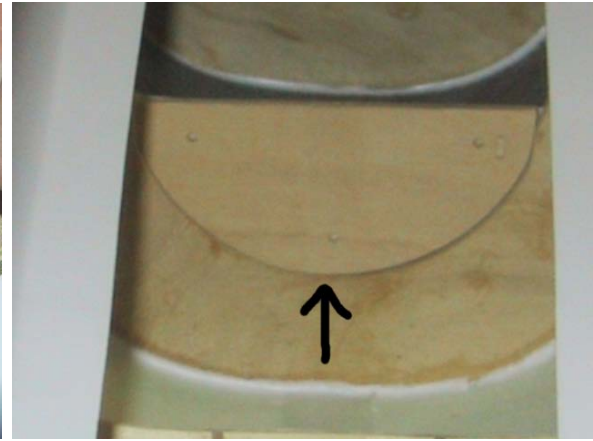
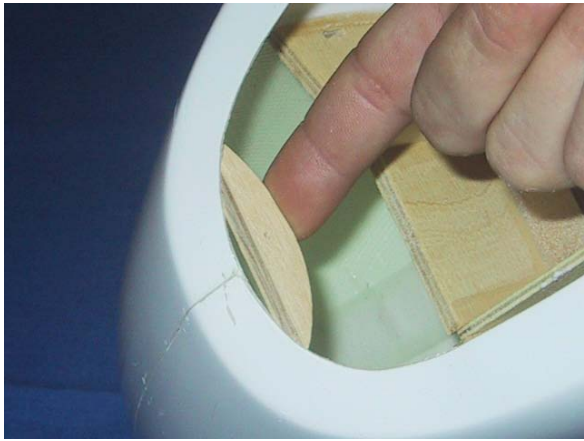
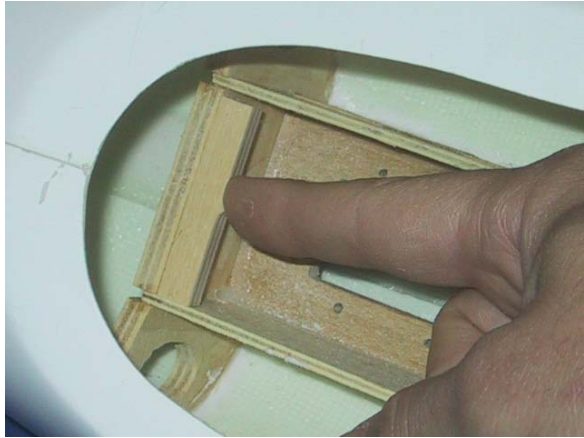
## **Important information**

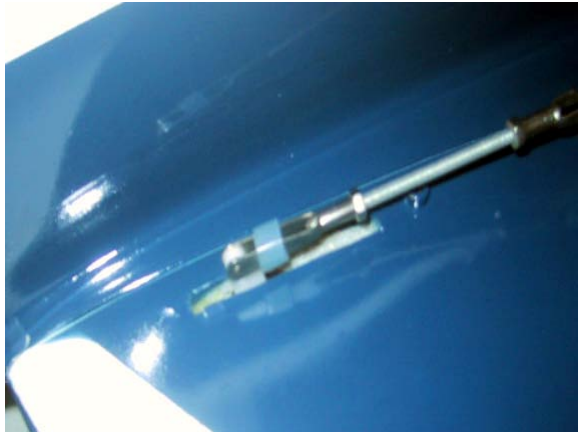
All servo extension leads and electrical cabling should be properly installed for heat resistance when installed by the turbine or tail pipe.

Make sure you always check all control surfaces and linkages before each flight.

One of the most major important roles in flying is CG. Make sure that you have taken the time to check your CG and that it is setup correctly. We recommend that you test the CG with your hopper tank full (If using a hopper tank) and with a little less than a ¼ tank of fuel in the main tank.







# Template for Strakes and Spoilers

(Not included with the kit)

Make out of polyply or similar

