JUNKER JU 52

READY TO FLY ALMOST TRUE ARF

ASSEMBLY & OPERATIONS MANUAL

Please review this manual thoroughly before assembling or operating this model.

Proceeding with assembly and use of this product indicates Agreement With & Acceptance of the following Liability Disclaimer.

Model airplanes, model engines, model engine fuel, propellers and related accessories, tools and equipment can be hazardous if improperly used. Be cautious and follow all safety recommendations when using your VMAR model airplane. Keep hands, tools, clothing and all foreign objects well clear of engines when they are operating. Take particular care to safeguard and protect your eyes and fingers and the eyes and fingers of other persons who may be nearby. Use only a good quality propeller that has no cracks or flaws. Stay clear of the propeller and stay clear of the plane of rotation defined by the propeller. The Manufacturer, Distributor, Retailer and/or other suppliers of this product expressly disclaim any warranties or representations, either expressed or implied, including but not limited to implied warranties of fitness for the purposes of achieving and sustaining remotely controlled flight. In no event will the Manufacturer, Distributor, Retailer and/or other suppliers of this product have any obligation arising from contract or tort, or for loss of revenue or profit, or for indirect, special, incidental, consequential or other damages arising from the use of this product. In purchasing and/or using this product, the user accepts all responsibility for its use and accepts all liability associated with such use.

CAUTION

A Remote Control Model Aircraft is not a toy. It is a flying model that functions much like a full size airplane. If you do not assemble and operate this product properly you can cause injury to yourself and others and damage property. DO NOT FLY this model if you are not qualified. You are entirely responsible for the mechanical, aeronautical and electrical integrity of this model and it's structure, control surfaces, hinges, linkages, covering, engine, radio, wiring, battery and all other components. Check all components before and after each flight.

Don't fly until it's right!

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POLYCOTE ECS ENHANCED COVERING SYSTEM

The Graphics and Detailing are inside the POLYCOTE ECS!

STAGE 1 JOINNING THE WING

The Junker 52 have 3 Pieces wing must glue togethe The wing center section and the left wing side are pre-joint to the center wing panel by factory.See 1A

Step 1.1 Indentified the wing joiner and determine the limit line.See 1C

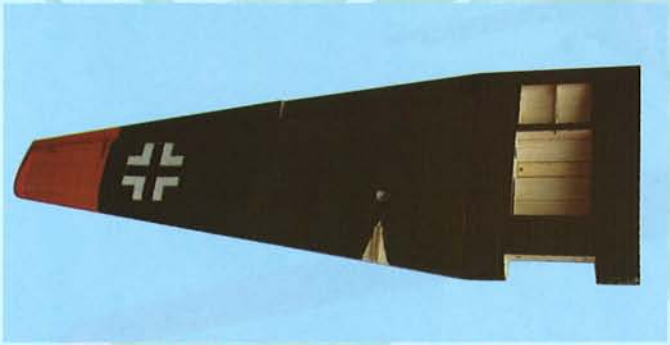
Step 1.2 Trial fit the wing joiner to the center wing panel.See 1D

Step 1-3 Trial fit the wing joiner to the right wing panel.See 1D

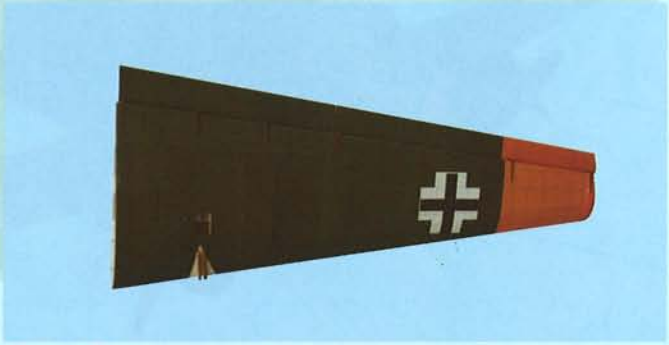
Step 1.4 Trial fit the wing right wing panel to the wing center.See 1E

Step 1.5 Put the 30 minute epoxy to the wing joiner on the side that will insert to the wing center.See 1F

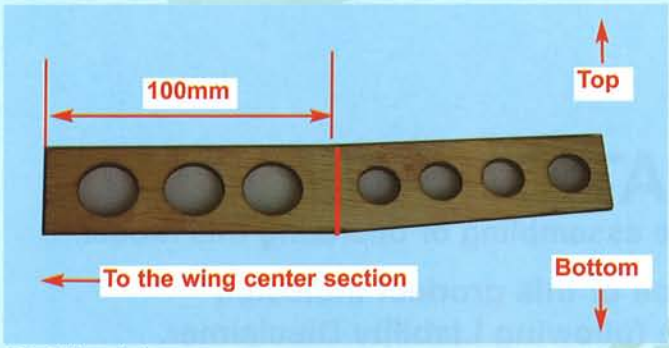
Step 1.6 Put the 30 minute epoxy to the wing joiner now insert to the wing center panel .See 1G also to the right wing panel .See 1H



1A- Pre-assembly left wing panel and center win panel



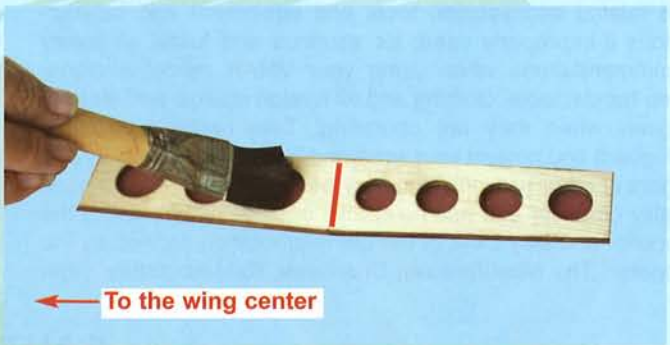
1B- Right wing pannel



1C- Wing joiner

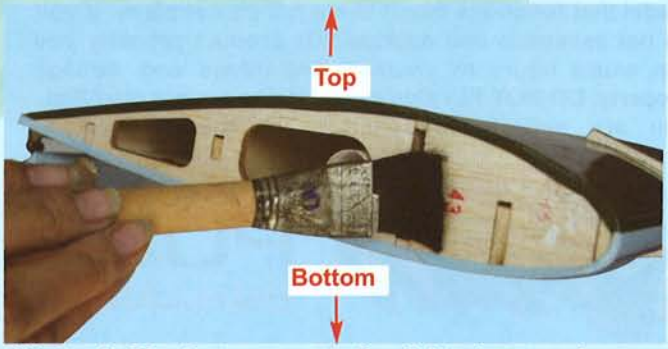
1D-Trial fit the wing joiner t the wing center panel

1E-Trial fit the wing joiner to the right wing panel



1F- Apply 30 minute epoxy to the Wing joiner

1G- Insert the wing joiner to the center wing panel then apply the 30 minute epoxy to other side of the wing jiner



1H- Apply 30 minute epoxy to the right wing panel

1I- Insert the wing joiner to the right wing panel ,align the position same as the position of the left wing panel

1J- Use low tack masking tape to hold tightl together

Step 1.7 Insert the wing joiner to the right wing panel>aligh the position same as the left wing panel

Step 1.8 Use low tack masking tape t hold tight the wing together

Step 1.9 Clean off any excess epoxy with a rag r tissu before it cures.

STAGE 2 INSTALLING ENGINE MOUNT TO THE WING

Step2.1 The Junker 52 has 2 motor mounts to be attached ot the wing. See 1A & 1B.

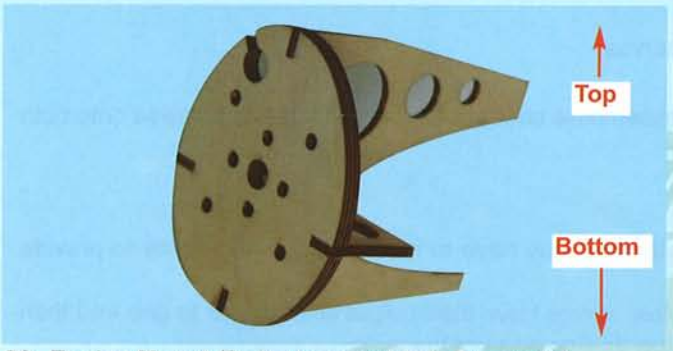
Step 2.2 Locate the engine mount rails in the wing. See 1B and 1C

Step 2.3 Trial fit one of the engine mounts shown in 1A to the Wing. See 1B, 1C and 1D.

Step 2.4 Remove the engine mount from the wing. Apply sufficient 30 minute epoxy to the top & bottom engine mount rail (see 1E & 1F) and the mating surfaces of the engine mount.

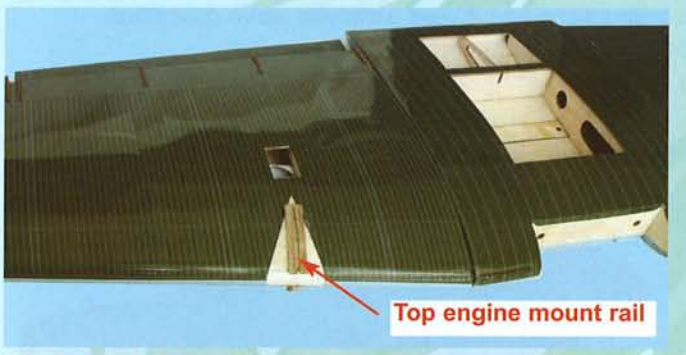
Step 2-5 Carefully slide the engine mount onto the engine mount rails. Wiggle it fore and aft several times to co-mix the epoxy then slide the engine mount firmly aft and into place on the wing. See 1G

Step 2.6 Repeat steps 1.2 - 1.5 for the second engine mount

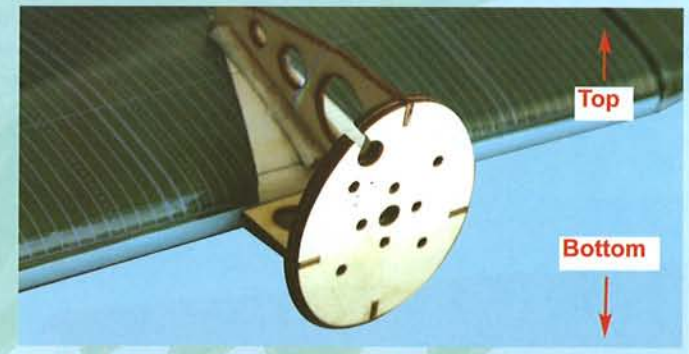


2A- Engine Mount (factory assembled, 2 mounts)

2B- Engine mount locations

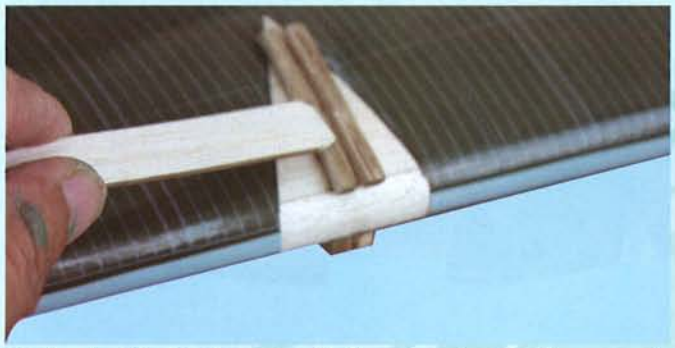


2C- Pre-installed engine mount rail

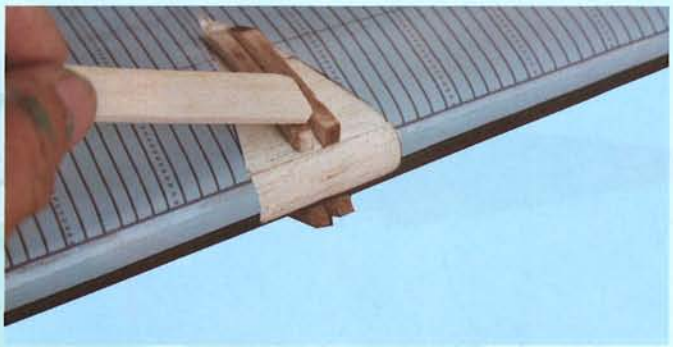


2D-Trail fit both engine mounts to the wing
BEFORE GLUING

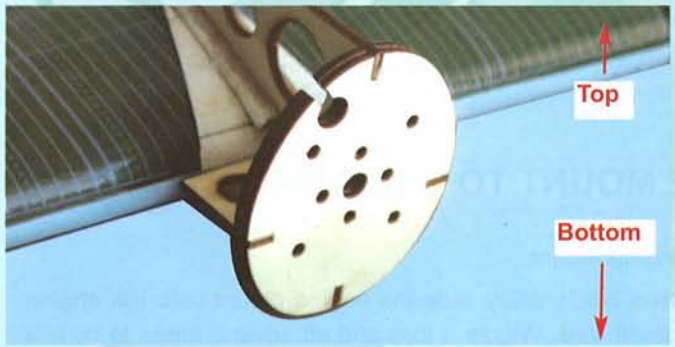
In some market area the stage 2 have prepassembly by factory



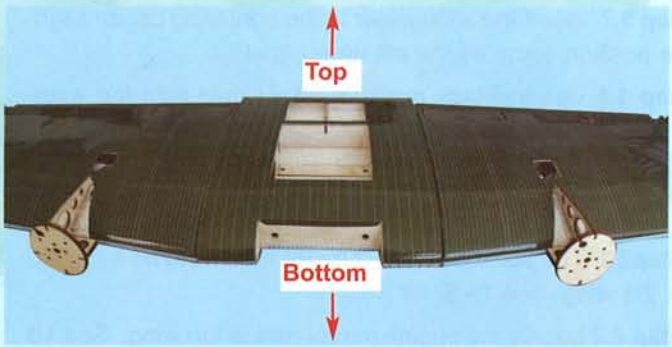
2E-Apply 30 minute epoxy to the top wing engine mount rail



2F- Apply 30 minute epoxy to the appropriate bottom engine mount rail



2G- Install the engine mount and hold in place while the epoxy cures.



2H- Install the 2 engine mount to the wing

STAGE 3 INSTALLING THE AILERON SERVOS INTO THE WING

To install the aileron servos into the wing you will need the following items:

- 2 micro servos
- Servo mounting screws and grommets as supplied with the servos
- Servo control arms as supplied with the servos
- Two aileron control rod assemblies supplied with the kit. The assemblies consist of a rod with a clevis screwed onto both ends
- 2 aileron control horn assemblies

Step 3.1 Turn the wing bottom side up.

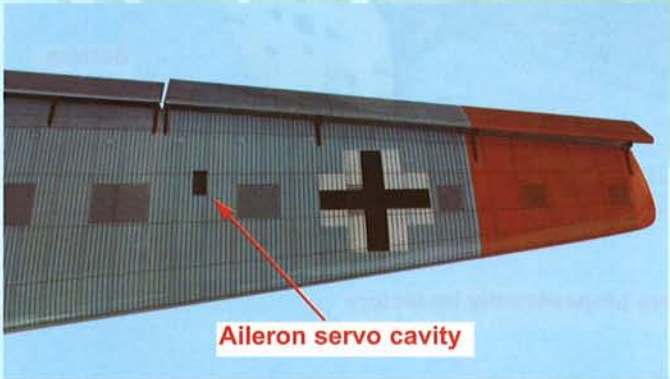
Step 3.2 Trial fit the aileron servo into the servo mounting cavity. You may have to modify the cavity slightly to provide clearance for the servo and servo wires.

Step 3.3 Use a hobby knife to modify the cavity as required. Most servos have their output shaft closer to one end than the other. Mount the servo so that the output shaft is closer to the trailling edge of the wing.

Step 3.4 Screw the servo into place with the screws and grommets supplied. It is important to install the grommets and screws correctly. See the manual that came with your radio for instructions about your particular servo grommets.

Step 3.5 Fasten the screws down according to the servo manufacturers recommended tightness.

Step 3.6 Repeat steps 2.1 to 2.5 for the second aileron servo

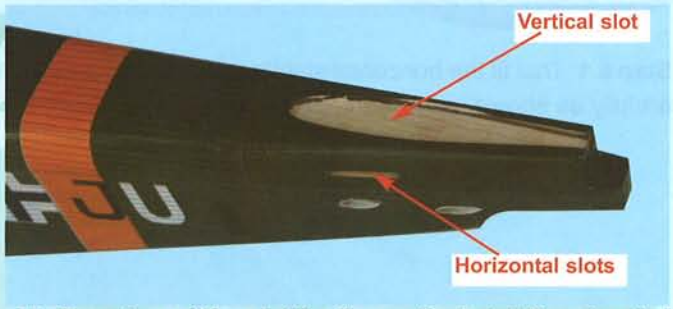


3A- Bottom view of typical location of aileron servo & wing strut anchor.

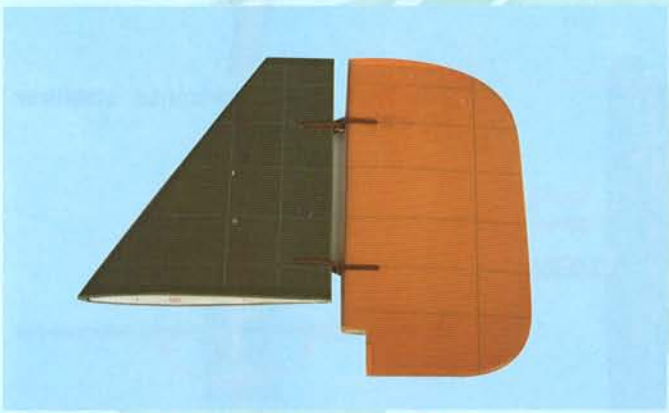
3B- Install servo using the rubber grommets & ferrules supplied with the servo.

STAGE 4 PREPARING THE HORIZONTAL AND VERTICAL STABILIZERS

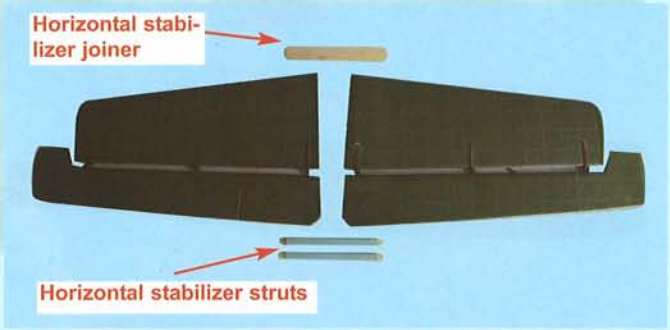
To install the stabilizers into the fuselage you will need:
- Fuselage
- Vertical stabilizer with pre-installed rudder
- Horizontal stabilizer with pre-installed elevator with horizontal stabilizer joiner& horizontal stabilizer struts



4A- Top view of the slot for the vertical stabilizer located at the aft end of the fuselage.



4C- Vertical stabilizer with pre-installed hinges and rudder



4B- Horizontal stabilizer with pre-installed elevator & horizontal stabilizer struts & horizontal stabilizer joiner

STAGE 5 INSTALLING THE VERTICAL STABILIZER

5A - Trial fit the vertical stabilizer into the slot in the fuselage.

5B - Apply sufficient 30 minute epoxy into the slot in the fuselage.

5C - Apply 30 minute epoxy to the bottom plate and dowels of the vertical stabilizer.

Step 5.1 Trial fit the vertical stabilizer into the slot in the top of the fuselage. Ensure a good clean fit and alignment. See 4A, 5A &5D

.**Step 5.2** Remove the vertical stabilizer. Apply sufficient 30 minute epoxy to the slot in the fuselage and to the bottom surface and dowels of the vertical stabilizer. See 5B and 5C. Re-install the vertical stabilizer. Ensure it is fully seated into the fuselage slot and that it is aligned vertically. See 5B and 5C.

Step 5.3 Clean off any excess epoxy with a rag or tissue before it cures. See 5E.

5D - Align the vertical stabilizer so that it is straight and at right angles to the top of the fuselage.

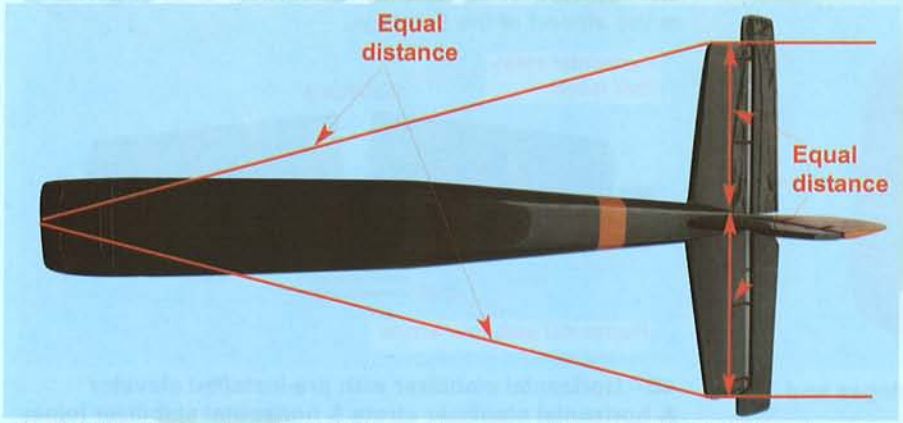
5E- Wipe off excess 30 minute epoxy

STAGE 6 INSTALLING THE HORIZONTAL STABILIZER

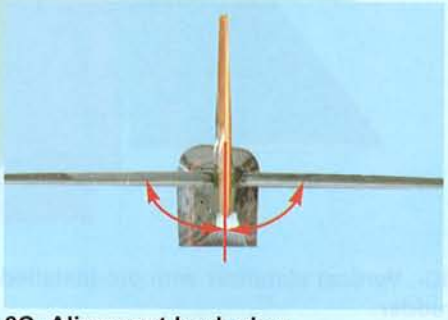
Step 6.1 Trial fit the horizontal stabilizer joiner into its slot in thefuselage Align carefully as shown in 5A, 5B & 5C.

Do not glue anything yet.

6A- Trial fit the horizontal stabilizer joiner in its slot



6B- Trial fit the horizntal stabbilizer. Alignment of horizontal stabilizer top view



6C- Alignment back view

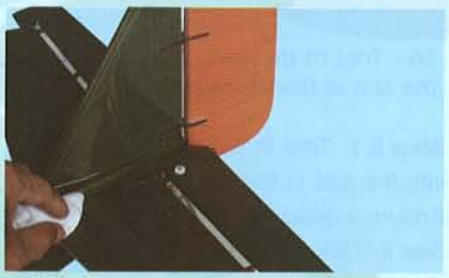
6D- Mark the outline of the hrizontal stabilizer right and left panels

6E- Carefull cut through the covering (Do NOT cut the wood),then remove the covering

6F- Insert the horizontal stabilizer joiner then apply 30 minute epoxy to the expose wood area

6G Apply 30 minute epoxy to the expose wood area

6H- Carefull insert both left and right horizntal stabilizer to the joiner ,make sure it align and square



6I- Wipe off excess 30 minute epoxy

6J Turn over the fuselage then attache the horizntal struts to the horizntal stabilizer

6K attache the struts to the both horizntal stabilizer

STAGE 7 FITTING THE MAIN LANDING GEAR

Identify the main landing gear components shown below
- 2 pre-assembled main landing gear wth struts
- 4 landing gear strap
- 8 screws 10x2 [mm)
- 4 aluminium collars

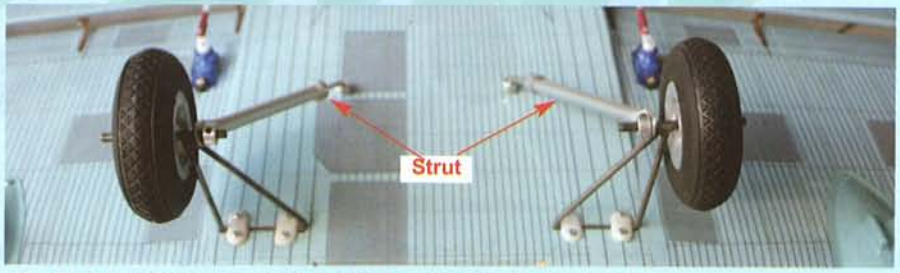
The main landing gear are located in the bottom of the wing

7A- Main landing gear components

7B- Main landing gear location

7C- Insert the pre-bent main landing gear into the slot then secure with 2 straps and 4 screws

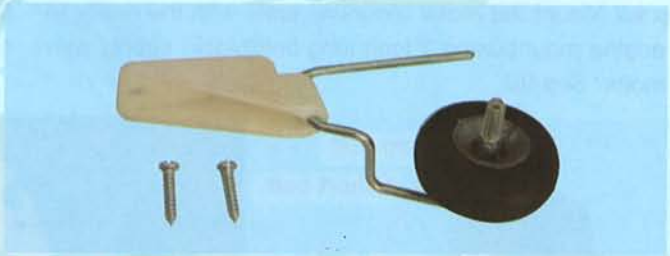
7D- Install the strut and secure with the collar



7E- Mainlanding gear installed t the wing with the struts

STAGE 8 INSTALLING THE TAIL WHEEL

Identify the nose gear components per illustration 8A:
- 1 Tail wheel assembly
- Two 2 x 10 sheet metal screws



8A- Tail wheel assembly

8B- Tail wheel location

8C- Slide the tail wheel assembly into the pre-installed sleeve tube

8D - Secure the tail wheel with two 2 x 10 sheet metal screws

STAGE 9 INSTALLING THE ELECTRIC MOTOR AND ESC

Electric motors vary in size, styles and mounting method. Items shown here are typical & for illustration purposes only. Actual appearance may vary. Always refer to the mounting instructions applicable to your motor

We illustrate the general installation procedure here utilizing the recommended VMAX 7.4-11.1V Brushless Motor (#VMM-111B18VM) and VMAX 18 Amp Speed Control (#VMC-120B18VC).

For aftermarket purchases of the recommended VMAX motors and Electronic Speed Controls (ESC) please conact your supplier.

The Junker JU 52 has 3 motor 2 mounting to the wing and one mount to the fuselage

Mouth the motor to the wing you will meed the following items

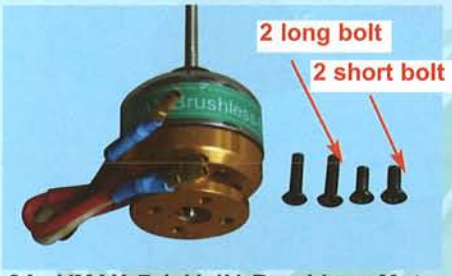
- 2 motor with 4 mounting bolts (2 short & 2 long black color)
- 2 motor mounting plates with 8 sets mounting bolts completed with 16 washes and 8 nuts (3x15mm)

Step 9.1 Mount the motor to the motor mounting plate by using 2 short bolt(black) supply with the motor. See 9D

Step 9.2 Mount the motor mounting plate with the motor to the engine mount,using 2 long long bolt(black) supply with the motor. See 9E

Step 9.3 Secure the motor mounting plater to the engine mount by using four bolts(3x15mm).See 9C ,9F

Step 9.4 Repeat step 9.1 9.2 & 9.3 for mounting to the other side



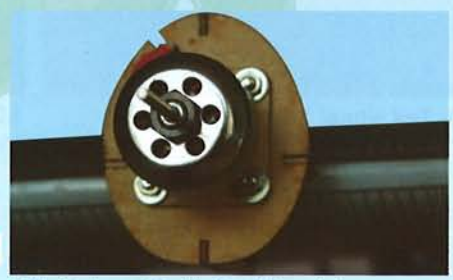
9A- VMAX 7.4-11.1V Brushless Motor (#VMM-111B18VM) with 4 mounting bolt recommended. 3 sets required

9B- A special pre-drilled firewall is included for mounting the recommended VMAX motor.

9C- Fasten the motor to the motor mounting plate using 4 bolts (3x15mm) four nuts & 8 washs

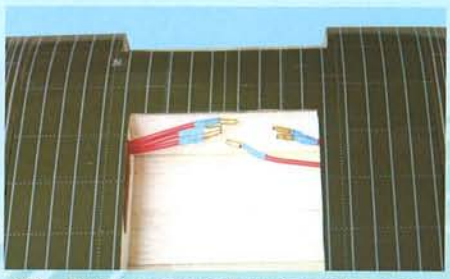
9D- using 2 short bolt (black)l to the motor mounting plate

9E- Using 2 long bolt(black) to mount the motor mounting to the engine mount

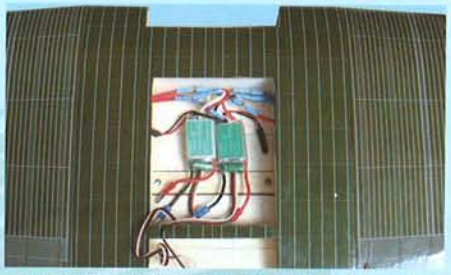


9F- Using 4 bolts(3x15mm) to secure the engine mounting plate to the engine mount

9G Connect the motor extension wire on both left and right motor



9H Both motor extension wire route through the pre-install tube guide to the wing center



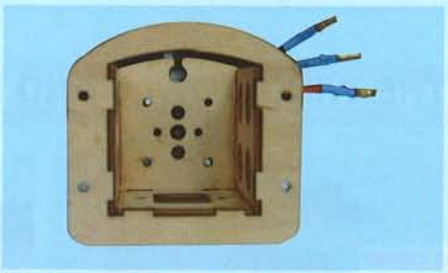
9I Connect the motor extension wire to the Electronic Speed Controler (ESC)

Mouth the motor to the fuselage you will need the following items

- 1 Pre-assembly laser cut engine mount with 4 mounting bolts (3x15mm)
- 1 motor with 4 mounting bolts (2 short & 2 long black color)
- 1 motor mounting plates with 4 sets mounting bolts completed with 16 washes and 4 nuts (3x15mm)

9G- Pre-assemly laser cut engine mount

9H using 2 short bolt (black)I to the motor mounting plate



9I- Using 2 long bolt(black) to mount the motor mounting to the engine mount

9J- Using 4 bolts(3x15mm) to secure the engine mounting plate to the engine mount

9K Using 4 bolts(3x15mm) to secure the engine mount to the fuselage

9L Motor mount to the fuselage

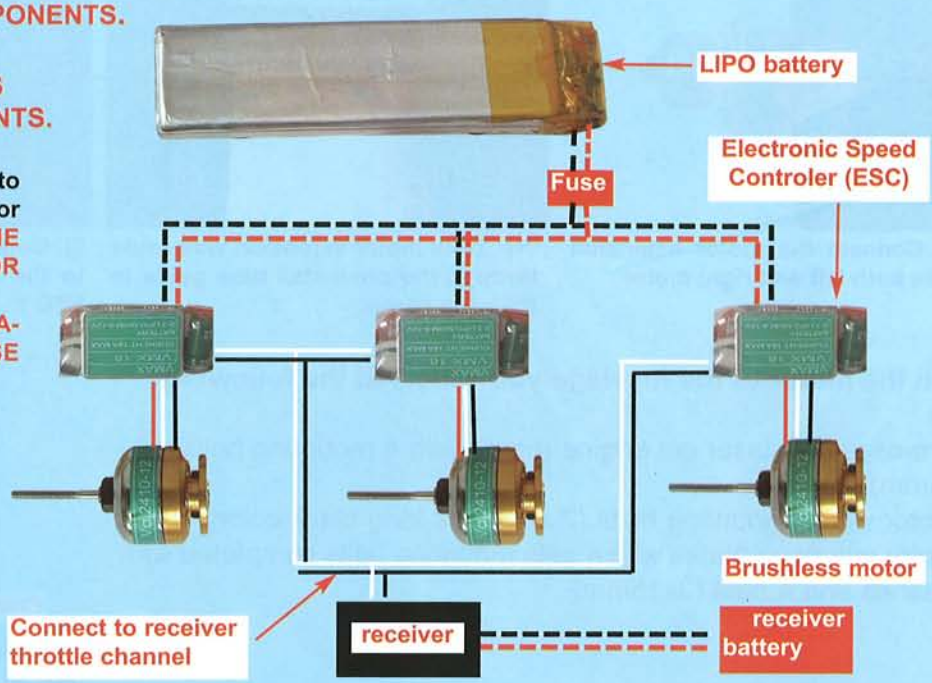
9M Mount the ESC to the fuselage

CONSULT READ ME FIRST SHEET BEFORE CONNECTING COMPONENTS.

WARNING
WRONG CONNECTIONS WILL DESTROY COMPONENTS.

Fuse holder/Switch. The fuse is to be inserted only when flying or testing. ALWAYS REMOVE THE FUSE WHEN NOT FLYING OR TESTING
TO ENSURE RELIABLE OPERATION OF YOUR MODEL, FUSE MUST BE RATED AT 30 AMPS

BEFORE PLUGGING THROTTLE CONTROL CONNECTOR INTO THROTTLE CHANNEL OF RECEIVER ENSURE PLUG IS CORRECTLY POSITIONED TO MATCH YOUR RECEIVER & SERVO WIRING.



9N- Typical wiring schematic using 2 Brushless Motors plus 2 Electronic Speed Controls plus a stand alone BEC.

STAGE 10 INSTALL THE WING COWLS AND FUSELAGE COWL

The Junker JU 52 has 3 engines. Test the electric power system installed in Stage 9. When you have confirmed that the motors work correctly, you are ready to install the cowls and propellers for both motors located to the wing and one located to the fuselage

To install the cowl to the wing you will need

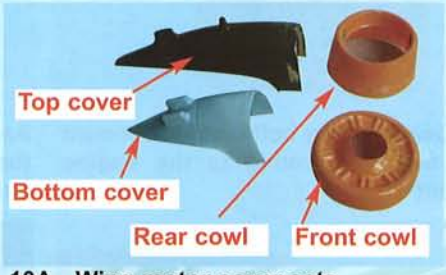
- Engine cover sets for 2 motors consisting of top cover, bottom cover rear cowl& front cowl for each motor. See 10A
- CA glue

Step 10.1 Work on one motor first. Attach the top motor cover (See 10A & 10B) to the top of the motor mount (See 9B) using one 2 x 8 mm screws.

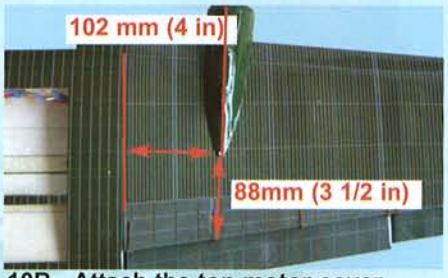
Step 10.2 Attach the bottom motor cover (See 10C) to the bottom of the motor mount (See 9B) using one 2 x 8 mm screws.

Step 10.3 Install the rear/front cowl (See 10D, 10E,). Ensure that the cowl is aligned with the motor and centered over the motor shaft

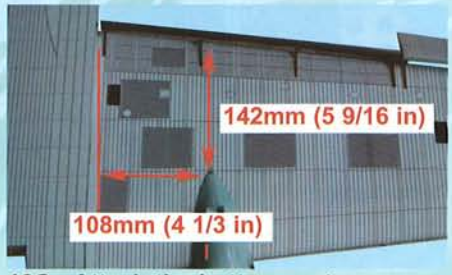
Step 10.4 Use CA glue to secure the cowl to the motor covers. See 10F



10A- Wing motor cover sets



10B- Attach the top motor cover



10C- Attach the bottom motor cover

10D- Position the rear cowl over the engine covers. Align cowl & center about the motor shaft.

10E- Position the front cowl over the rear cowl . Align cowl & center about the motor shaft.

10F- Use CA glue to secure the cowl to the motor covers.

To install the cowl to the fuselage you will need

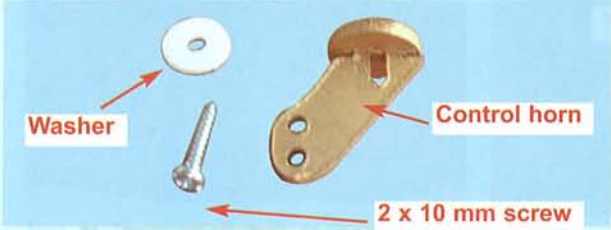
- Pre-assembly engine cover sets for fuselage motor . See 10G
- CA glue

Step 10.5 Install the pre-assembly fusegage motor cover sets to the fuselage ,and secure it by using four 2 x 10mm scrwes .See 10H

10G- Pre-assembly motor cover sets for fuselage motor

10C- Using four 2 x 10mm screws to secure the motor cover to the fuselage

STAGE 11 FITTING THE ELEVATOR AND RUDDER CONTROL HORNS



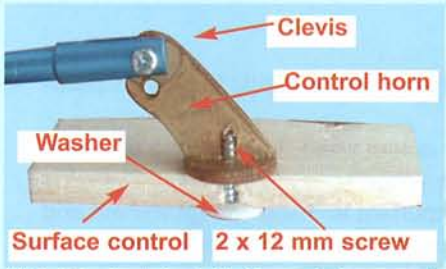
11A- Control horn assembly for rudder with 2 x 12 mm screw and washer

11B- Control horn assembly for rudder with 2 x 15 mm screw and washer

Laser cut lexan control horns for the aileron & elevator use a 2 x 10 mm screw. See 11A. The control horn for the rudder uses a 2 x 12 mm screw. See 11B.

STAGE 12 INSTALLING THE RUDDER AND ELEVATOR SERVOS

Install the control horns using 30 minute epoxy and the appropriate screw. See 11C.
Install the control horns as shown in 11D and 11E
-Wipe away excess epoxy before it cures.



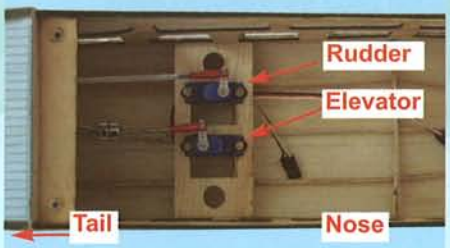
11C- Typical installation of laser cut lexan control horn assembly.

11D- Install the elevator control horn using 30 minute epoxy, washer and 2 x 12 mm screw.

11E- Install the rudder control horn using 30 minute epoxy, washer and 2 x 15mm screw

Select two suitable micro servos and and install the rubber servo grommets & brass ferrules supplied with your servos. The two servos that control the elevator and rudder are to be installed in the servo tray located in the fuselage.

12A - Servo tray. 1 for Rudder servo. 1 for Elevator servo.



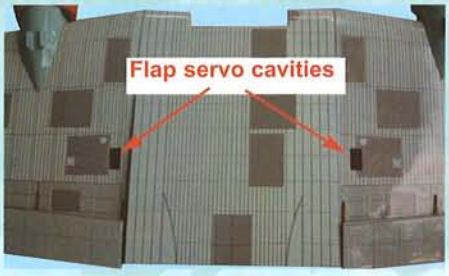
12B - Servo mounted to the servo tray.

12D- Elevator&rudder clevises connect to the elevator and rudder control surface

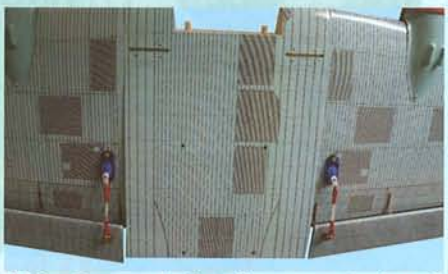
STAGE 13 INSTALLING THE FLAP CONTROL SYSTEM

To install the flap servos into the wing you will need the following items:
- 2 micro servos
- Servo mounting screws and grommets as supplied with the servos
- Servo control arms as supplied with the servos
- Two flap control rod assemblies supplied with the kit. The assemblies consist of a rod with a clevis screwed onto both ends
- 2 aileron control horn assemblies

13A- Typical laser cut control horn assembly

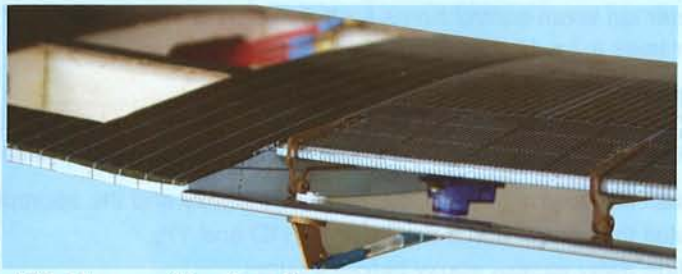


13B- Flap servo cavities



13C- Connect the flapn control rod between the servo arm and the control horn

13D- Flap position bottom view



13E- Flap position top view

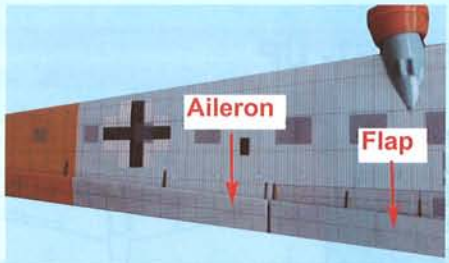
Step 13.1 Turn the wing upside down. Install one servo first, then the second servo.
Step 13.2 Trial fit the flap servo into the servo mounting cavity. You may have to modify the cavity slightly to provide clearance for the servo and servo wires.
Step 13.3 Use a hobby knife to modify the cavity as required. Most servos have their output shaft closer to one end than the other. Mount the servo so that the output shaft is closer to the trailling edge of the wing.
Step 13.4 Screw the servo into place with the screws and grommets supplied. It is important to install the grommets and screws correctly. See the manual that came with your servos for instructions about your particular servo grommets.
Step 13.5 Fasten the screws down according to the servo manufacturers recommended tightness.
Step 13.6 Repeat steps 13.2 to 13.5 for the second flap servo.

STAGE 14 INSTALLING THE AILERON CONTROL SYSTEM

To install the aileron servos into the wing you will need the following items:
- 2 micro servos
- Servo mounting screws and grommets as supplied with the servos
- Servo control arms as supplied with the servos
- Two aileron control rod assemblies supplied with the kit. The assemblies consist of a rod with a clevis screwed onto both ends
- Low tack masking tape
- 2 aileron control horn assemblies

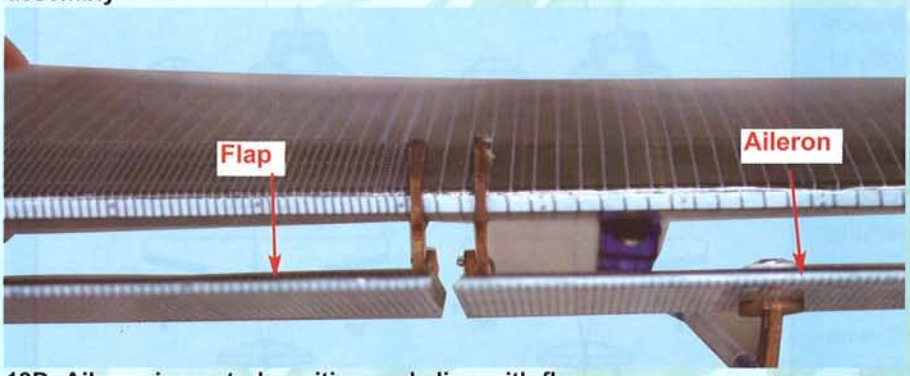
Ensure Stage 13 has been completed before continuing.

14A- Typical laser cut control horn assembly



13BAileron servo cavities

13C- Connect the aileron control rod between the servo arm and the control horn



13D- Aileron in neutral position and align with flap

13F - Wing with aileron and flap in neutral position

Step 14.1 Turn the wing upside down. Install one servo first, then the second servo.
Step 14.2 Trial fit the aileron servo into the servo mounting cavity. You may have to modify the cavity slightly to provide clearance for the servo and servo wires.
Step 14.3 Use a hobby knife to modify the cavity as required. Most servos have their output shaft closer to one end than the other. Mount the servo so that the output shaft is closer to the trailling edge of the wing.
Step 14.4 Screw the servo into place with the screws and grommets supplied. It is important to install the grommets and screws correctly. See the manual that came with your servos for instructions about your particular servo grommets.
Step 14.5 Fasten the screws down according to the servo manufacturers recommended tightness.
Step 14.6 Repeat steps 14.2 to 14.5 for the second aileron servo.

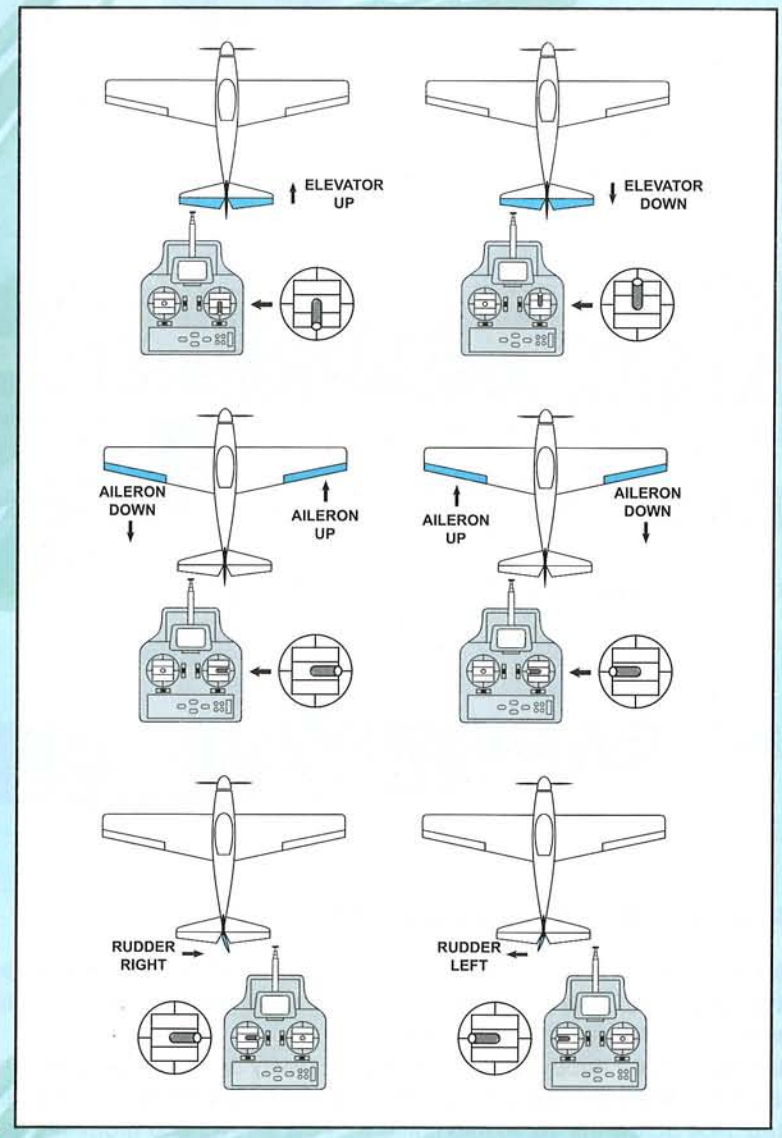
STAGE 15 ADJUST CONTROL SURFACE THROW LIMITS

Adjust the deflection of the control surfaces to match the specifications on page 12. You can reduce the amount of throw by doing either or both of the following:
- From the servo end, move the clevis to a hole in the servo arm that is closer to the servo output shaft.
- From the control horn end, move the control rod/clevis further out on the horn (away from the control surface). Always confirm that the clevis is firmly attached after making any adjustment.

STAGE 16 FINAL RC SET- UP

Before starting the final set-up of the model, switch on the radio and ensure that all trims are in their neutral positions. Check that the ailerons, elevator and rudder are centered. If any adjustments are needed, do these by uncoupling the relevant clevis and turning it clockwise to shorten the linkage or counter - clockwise to lengthen it. Only when each control surface has been centered mechanically in this way should you begin adjusting the surface movement (or throw)

Now confirm that the control surfaces are moving in the correct direction. Use the servo reversing switches on your transmitter to reverse the direction of a servo if necessary. The most popular transmitter mode (with the throttle on the left, with ailerons and elevator on the right) is shown here.



STAGE 17 INSTALLING THE RECEIVER

Step17.1 Consult your radio manual for instructions about hooking up your receiver.

Step17.2 Plan where you are going to put the receiver with consideration for routing the antenna safely.

Step 17.3 Wrap the receiver securely in foam suitable for RC equipment and wrap the foam insulated receiver in a plastic bag or cling wrap.

Step 17.4 Generally in the absence of specific instructions from the radio manufacturer, it is recommended that the receiver should be placed where it is least likely to have impact during a crash. Keep the battery pack and other heavy loose items ahead of the receiver.

STAGE 18 CONFIRM RADIO OPERATION

Carefully review how your Electronic Speed Controls (ESC) work. Most ESC's will not power up a motor until the throttle has been reduced to zero. Avoid both props in case either or both of the two motors suddenly start to turn.

Step 18.1 Consult your radio manual for instructions about testing and operating your radio system.

Step 18.2 Pay particular attention to charging your batteries and range testing your system before and after each flight.

Step 18.3 Check that all controls are working correctly before and after each flight.

FOR ELECTRIC POWER, YOU WILL NEED TO INSTALL THE FUSE AND YOUR BATTERY TO TEST THE ESC'S AND THE MOTORS.

STAGE 19 BALANCING THE AIRCRAFT

Step 19.1 The CG for your Junker JU 52 is located at 3 1/2" to 3 2/3" (90 - 95 mm) back from the leading edge of the wing when the wing has been attached to the fuselage as per illustration 20A.

Step 19.2 For the initial flight, the CG should be located at 3 1/2" (90mm) back from the leading edge of the wing when the wing has been attached to the fuselage.

Step 19.3 The CG is measured with the motor, battery and all other components installed.

Step 19.4 Set up the CG as it will be when you fly it.

Step 19.5 It is very important to have the CG correct. Flying your model with the CG too far back will likely lead to loss of control and a crash. If you discover that after you have assembled your model and installed your radio, motor and battery that the CG of your model is incorrect you must bring the CG to the correct location by doing the following BEFORE FLYING :

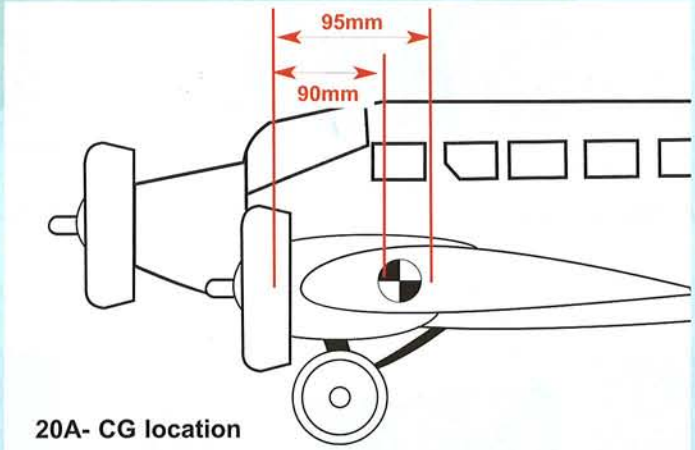
- Move the battery pack fore or aft
- Do not add weight to correct the CG. Move components & especially your battery pack rather than add weight. Only add weight as a measure of last resort.

STAGE 20 CONFIRM MECHANICAL INTEGRITY

Step 20.1 Once you have confirmed that the CG is correct, you should do a thorough review of the entire model before your first flight. Check everything twice! Every hook up, every coupling, everything! Do it twice!!

Step 20.2 Before your first flight, have an experienced flyer review your work. Do not fly your model until it has been checked out by a third party who knows how to fly and how to set up a model aircraft. Do not fly alone. Seek experienced help.

Step 20.3 Once you have completed your first flight, get in the habit of checking your model over before and after each flight! Don't fly if you find something that is not right!

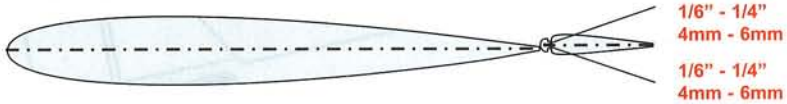


20A- CG location

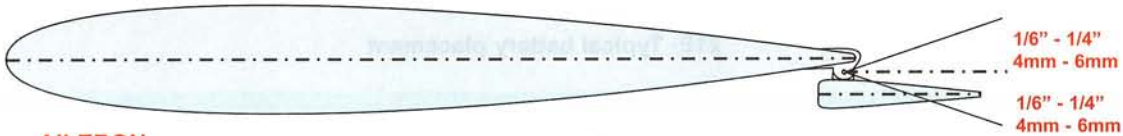
CONTROL SURFACE THROW SPECIFICATIONS:

The throws are measured at the widest part of the control surface. Adjust the position of the pushrods at the control and/or servo horns to control the amount of throw. You may also use ATV's if you radio has them but the mechanical linkages should still be set so that the ATV's are near 100% for best servo resolution.

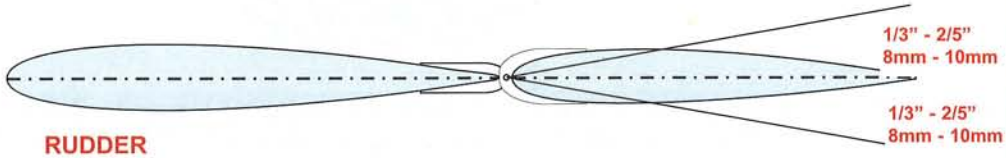
	Low rate		High rate	
ELEVATOR	1/6 " (4mm)	up	1/4" (6 mm)	up
	1/6 " (4mm)	down	1/4" (6 mm)	down
AILERON	1/6" (4 mm)	up	1/4" (6 mm)	up
	1/6" (4 mm)	down	1/4" (6 mm)	down
RUDDER	1/3 " (8 mm)	right	2/5" (10 mm)	right
	1/3 " (8 mm)	left	2/5" (10 mm)	left



ELEVATOR



AILERON



RUDDER

STAGE 21 BATTERY INSTALLATION

Install the battery by securing the battery to the battery platform:

Step 21.1 Intall the battery platform to the fuselage by using three 2 x 10mm screws

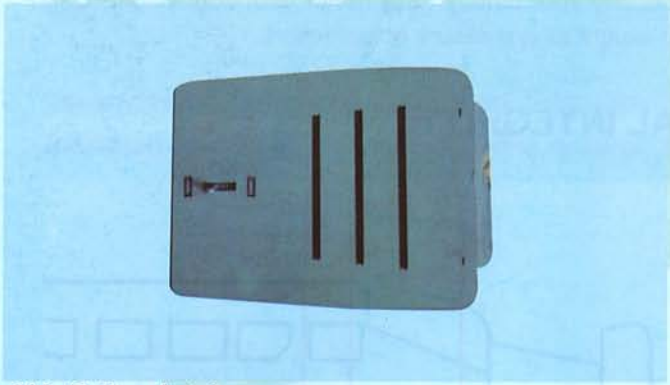
Step 21.2 **REMOVE THE FUSE and STAY CLEAR OF THE PROPELLERS AT ALL TIMES.**

Step 21.3. Connect the battery to the Electronic Speed Controls. We recommend using a Lithium Polymer (LiPo) battery.

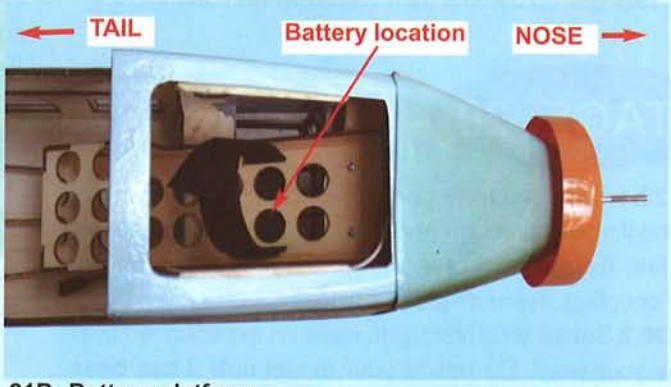
Step 21.4 Place the battery on the battery platform (see 20B, 20C & 20E).If the battery moves it will shift the CG location and/or possibly unplug itself causing loss of control.

Step 21.5 Secure the battery in place on the platform using Velcro straps &/or foam padding so that the battery cannot move. **DO NOT FLY WITH A LOOSE BATTERY.**

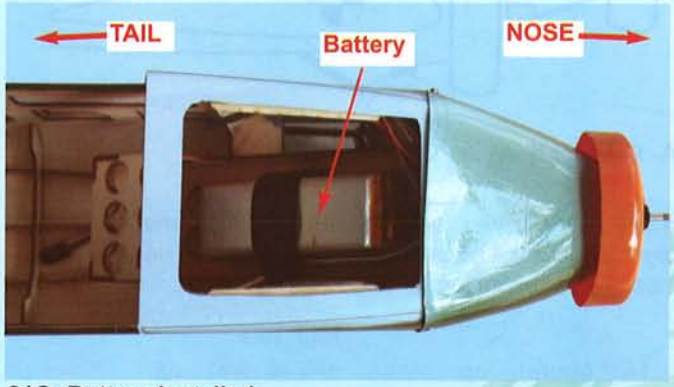
Step 20.6 Re-install the battery hatch. See 20D



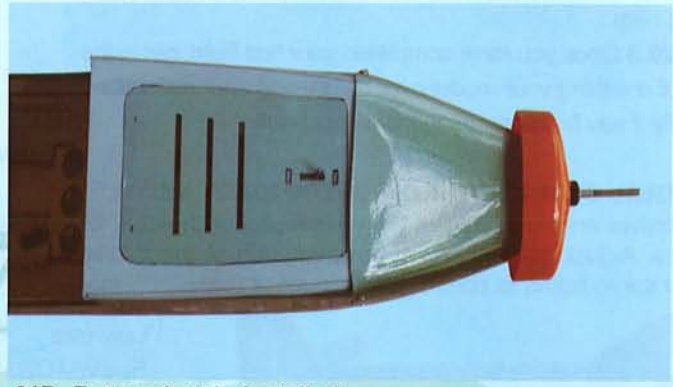
21A- Battery hatch



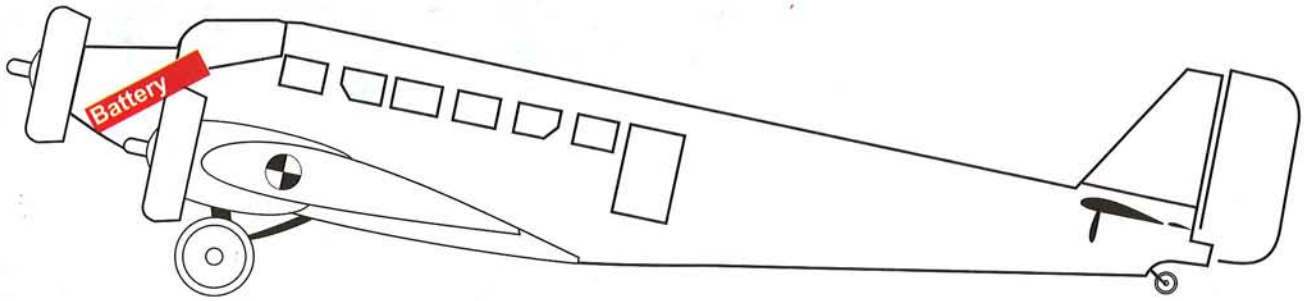
21B- Battery platform



21C- Battery installed



21D- Battery hatch installed



21E- Typical battery placement