RADIO CONTROL MODEL / RC FLUGMODELL

46 Class (2T Engine)
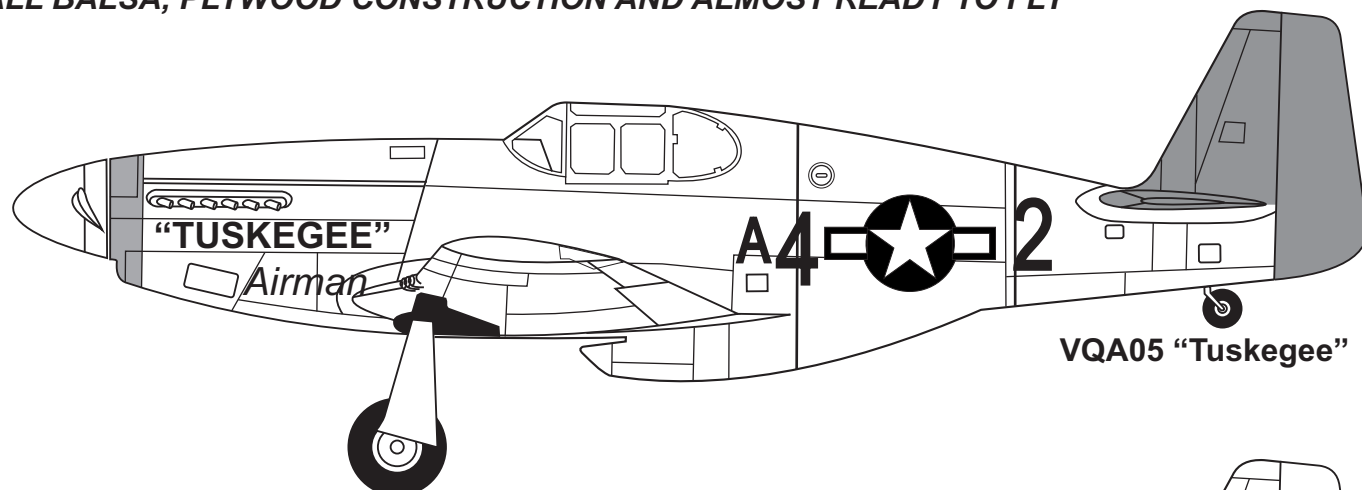# 70 Class (4T Engine)
Or Electric equivalent
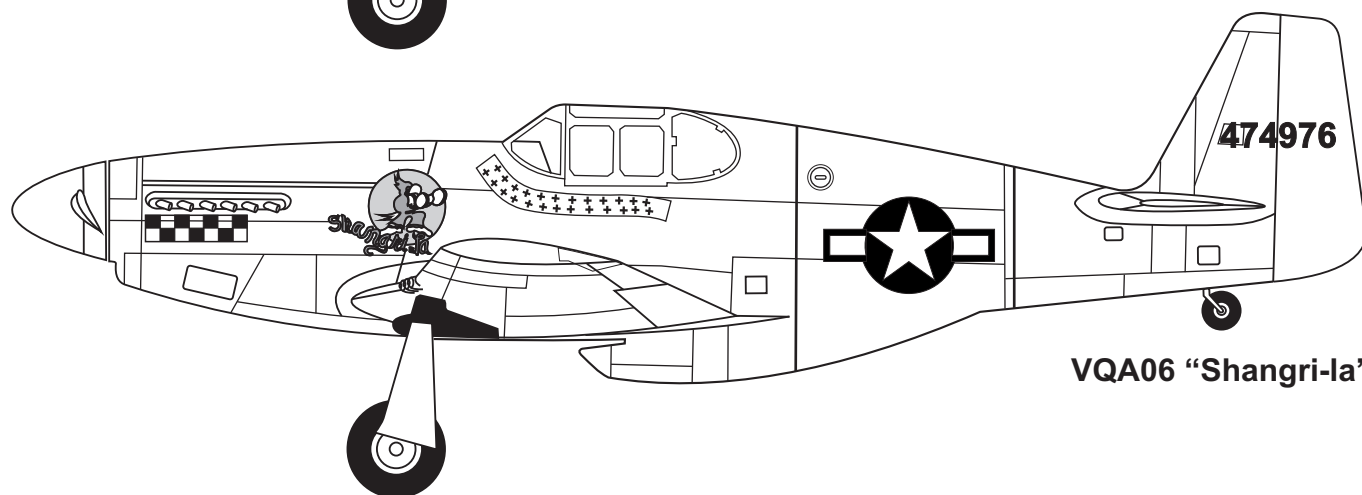## Instruction manual / Montageanleitung

NORTH AMERICAN
P-51B/C
MUSTANG

ALL BALSA, PLYWOOD CONSTRUCTION AND ALMOST READY TO FLY

"TUSKEGEE"
Airman
A4 ★ 2

VQA05 "Tuskegee"

474976

VQA06 "Shangri-la"

SPECIFICATIONS

Wingspan	1580mm
Length	1180mm
Electric Motor	870 Watt
Glow Engine	.46 2-T / .70 4-T
Radio	4-5 Channel / 4-5 Servos

TECHNISCHE DATEN

Spannweiter	1580mm
Länge	1180mm
Elektroantrieb	870 Watt
Verbrennerantrieb	7.5cc 2-T / 11cc 4-T
Fernsteuerung	4-5 Kanal / 4-5 Servos

VQ
RADIO CONTROL MODEL ®

WARNING! This radio controlled model is NOT a toy. If modified or flown carelessly it could go out of controll and cause serious human injury or property damage. Before flying your airplane, ensure the air field is spacious enough. Always fly it outdoors in safe areas and seek professional advice if you are unexperienced.

ACHTUNG! Dieses ferngesteuerte Modell ist KEIN Spielzeug! Es ist für fortgeschrittene Modellflugpiloten bestimmt, die ausreichende Erfahrung im Umgang mit derartigen Modellen besitzen Bei unsachgemäßer Verwendung kann hoher Personen- und/oder Sachschaden entstehen. Fragen Sie in einem Modellbauverein in Ihrer Nähe um professionelle Unterstützung, wenn Sie Hilfe im Bau und Betrieb benötigen. Der Zusammenbau dieses Modells ist durch die vielen Abbildungen selbsterklärend und ist für fortgeschrittene, erfahrene Modellbauer bestimmt.
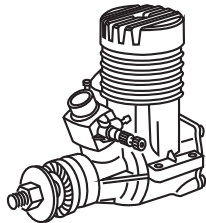
REQUIRED FOR OPERATION (Purchase separately)
# BENÖTIGTE KOMPONENTEN FÜR DEN ABFLUG (Nicht enthalten)

10.5x6 for .40 - 2 cycle engine
11x6 for .46 - 2 cycle engine
12x6 for .60 - 4 cycle engine
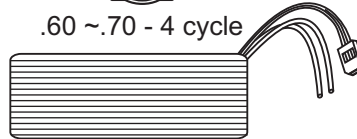12x7 for .70 - 4 cycle engine
13x6 for Quantum 4120/05

Retract servo x1

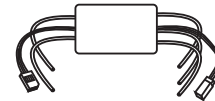Extension for aileron, retract servo and receiver battery pack.

Phoenix-60 Brushless Motor Control

.46 ~ .50 - 2 cycle

.60 ~ .70 - 4 cycle

Quantum 4120/05 Brushless Motor or equivalent.

Retract landing gear VQAR03
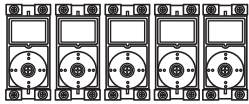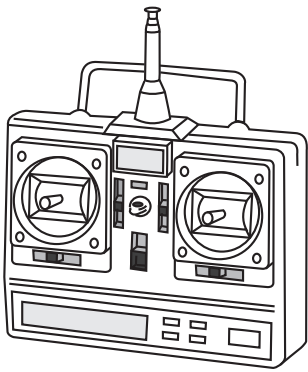
Minimum 5 channel radio for airplane with 5 servos
.Motor control x1 .Aileron x2
.Elevator x1 .Rudder x1
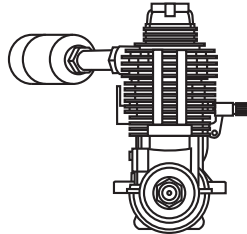
Silicone tube

Li-Po Battery, 14.8V, 4000mAH, 80A

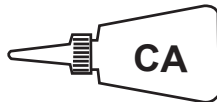Linkage Stopper x2 (for retract servo)

GLUE (Purchase separately)

SILICON
Silicon sealer

CA
Cyanoacrylate Glue

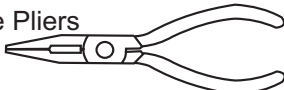EPOXY A
Epoxy Glue (5 minute type)
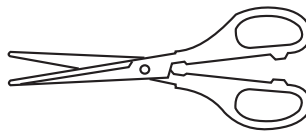
EPOXY B
Epoxy Glue (30 minute type)

TOLLS REQUIRED (Purchase separately)

Hobby knife

Phillip screw driver
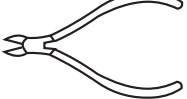
Hex Wrench

Needle nose Pliers

Awl

Scissors

Wire Cutters

Sander

Masking tape - Straight Edged Ruler - Pen or pencil - Rubbing alcohol - Drill and Assorted Drill Bits

If exposed to direct sunlight and/or heat, wrinkels can appear. Storing the model in a cool place will let the wrinkles disappear. Otherwise, remove wrinkles in covering film with a hair dryer, starting with low temperature. You can fix the corners by using a hot iron.
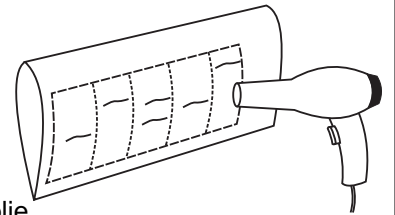
Bei Sonneneinstrahlung und/oder Wärme kann die Folie erschlaffen bzw. Falten entstehen. Verwenden Sie ein Warumluftgebläse (Haartrockner) um evtl. Falten aus der Folie zu bekommen. Die Kanten können Sie mit einem Bügeleisen behandeln. Nicht zuviel Hitze anwenden !

Symbols used throughout this instruction manual, comprise:

1.5mm Drill holes using the stated size of drill (in this case 1.5 mm Ø)

! Take particular care here

Hatched-in areas: remove covering film carefully

Check during assembly that these parts move freely, without binding

A B Use epoxy glue

CA Apply cyano glue

L/R Assemble left and right sides the same way.

X Not included. These parts must be purchased separately

1.5mm Löcher bohren mit dem angegebenen Bohrer (hier 1,5 mm)

! Hier besonders aufpassen

Schraffierte Stellen, Bespannfolie vorsichtig entfernen

Während des Zusammenbaus immer prüfen, ob sich die Teile auch reibungslos bewegen lassen

A B Epoxy-Klebstoff verwenden

CA Sekundenkleber auftragen

L/R Linke und rechte Seite wird gleichermaßen zusammengebaut

X Nicht enthalten. Teile müssen separat gekauft werden.

Read through the manual before you begin, so you will have an overall idea of what to do.

CONVERSION TABLE

|			
1.0mm = 3/64"	3.0mm = 1/8"	10mm = 13/32"	25mm = 1"
1.5mm = 1/16"	4.0mm = 5/32"	12mm = 15/32"	30mm = 1-3/16"
2.0mm = 5/64"	5.0mm = 13/64"	15mm = 19/32"	45mm = 1-51/64"
2.5mm = 3/32"	6.0mm = 15/64"	20mm = 51/64"	

1-Retract landing gear / Einziehfahrwerk

Trial fit the push rod into the wing. Join the pushrod to the retract
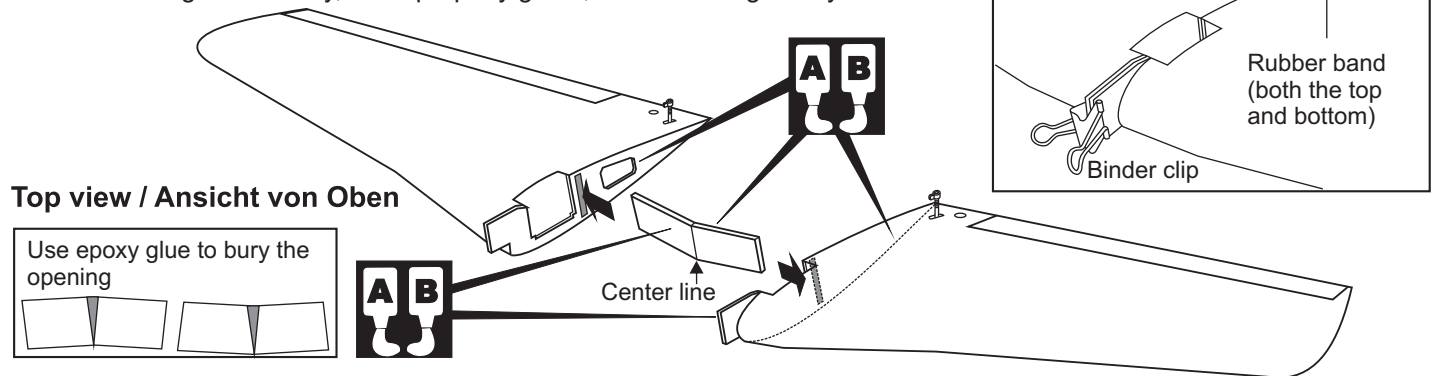gear arm and trial fit the retract into the wing.

**MECHANIC RETRACT
LANDING GEAR**

Retract push rod   Retract gear arm

Put the nylon ring

3x20mm screw
(not included)

VQ-AR03 -160223
Retract (option)

Plywood buffer
included with
retract set.

Retract pushrod
Fahrwerkanlenkgestänge

Bottom view /Ansicht von unten

2mm
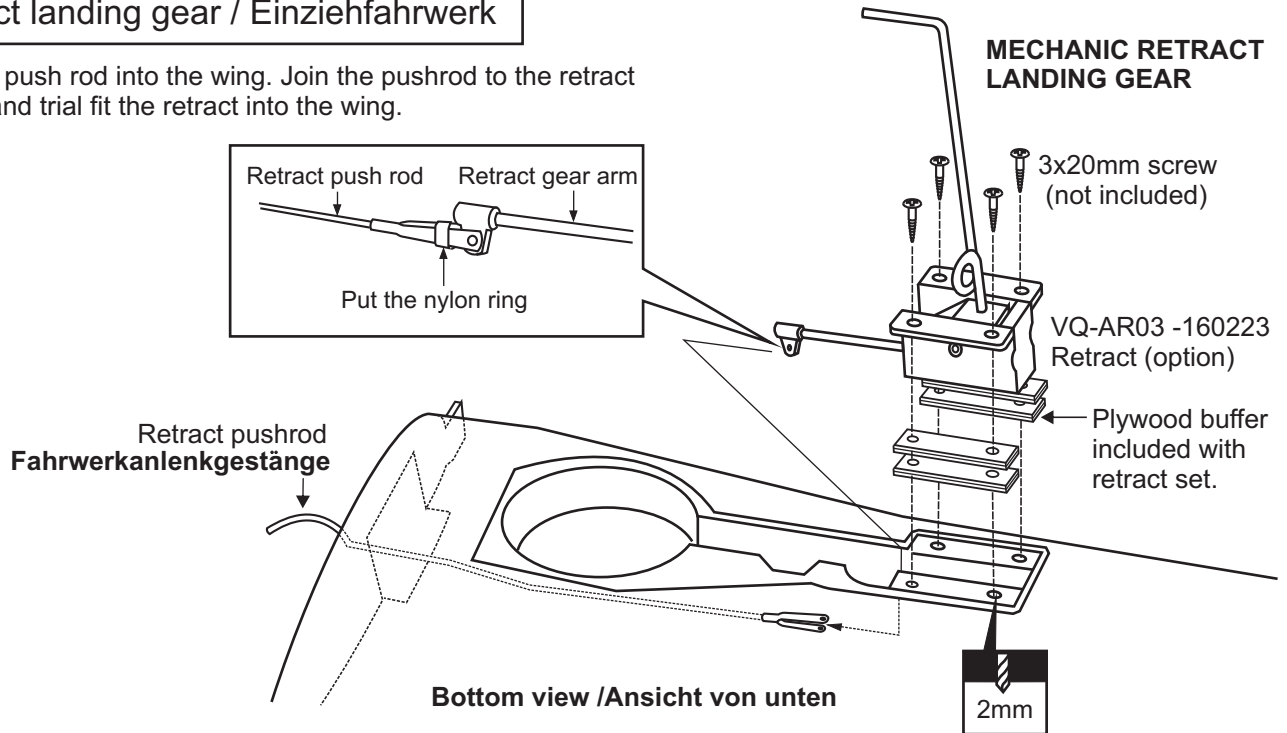
After checking that the retract works smoothly, fix the retract on the wing with 3x20mm self tapping screws.
Do the same way with other half wing.

Retract pushrod

WING-TOP

FRONT-VIEW

VQ-AR03 -160223
Retract (option)
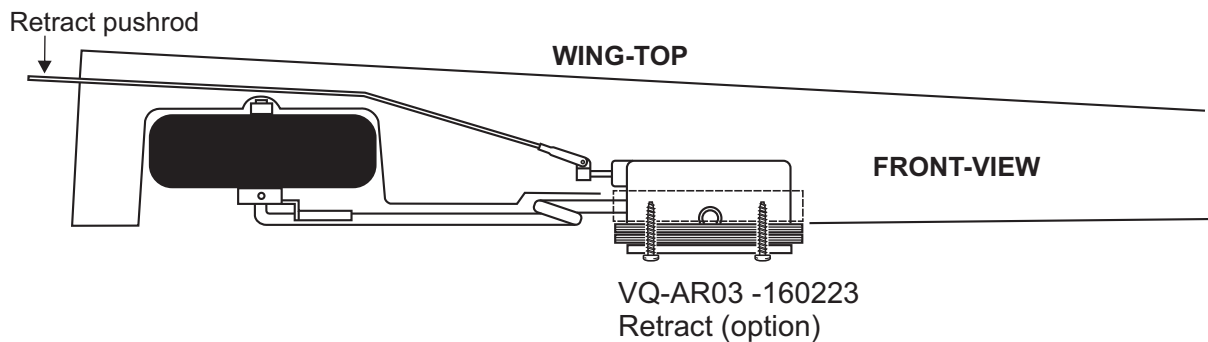
2-Joining the wing / Flächenverbindung

! Make sure to glue securely, If not properly glued, a failure in flight may occur.

Nylon wing bolt

Rubber band
(both the top
and bottom)

Binder clip

Top view / Ansicht von Oben

A B

Use epoxy glue to bury the
opening

A B

Center line

1- Using a pencil, mark the center of the brace.
2- Trial fit the wing joiner into one of the wing panels. It should insert smoothly up to the center line marked above.
3- Slide the other wing half onto the dihedral brace until the wing panel meet. If the fit is over tight, it may be necessary to
   lightly sand the dihedral brace.
4- Check for the correct dihedral angle.
5- Mix up some 30 minute epoxy and apply a generous amount of epoxy into the wing joiner cavity of one wing half.
6- Coat one half of the dihedral brace with epoxy up to the center line. Install the epoxy-coated side of the dihedral brace
   into the wing joiner cavity up to the center line, marking sure that the "V" of the dihedral brace is positioned correctly
7- Do the same way with the other wing half.
8- Carefully slide the wing halves together, ensuring that they are accurately aligned. Firmly press the two halves
   together, allowing the excess epoxy to run out. Clean off the excess epoxy with paper towel and kerosene.

   IMPORTANT: Please do not clean off the excess epoxy on the wing with strong solvent or pure alcohol, only use
                  kerosene to keep the colour of your model not fade.

3- Servo tray / Servohalterung

CENTER WING SECTION

CA   CA

A

B   C

CA   CA

BOTTOM

Retract servo tray installation

Fahrwerk servohalterung
Retract servo tray **A**
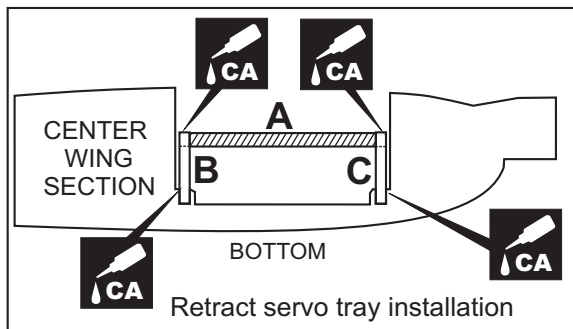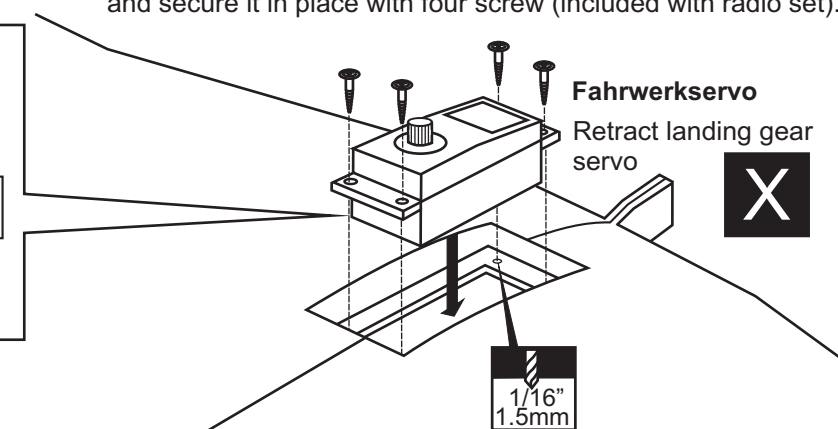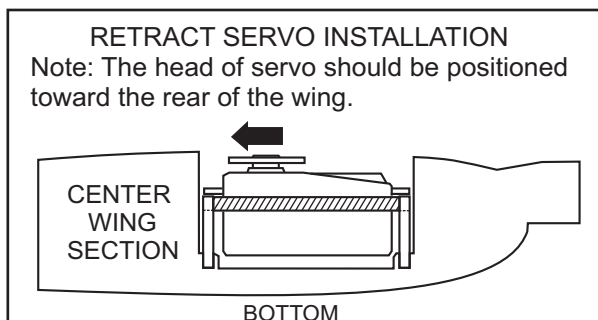
Retract servo mount **B**

Retract servo mount **C**

Cut away only the covering
Schneiden Sie etwas Folie weg

Top view / Ansicht von Oben

4- Servo Installation

Install the retract servo onto the retract servo mount
and secure it in place with four screw (included with radio set).

RETRACT SERVO INSTALLATION
Note: The head of servo should be positioned toward the rear of the wing.

CENTER WING SECTION

BOTTOM

Fahrwerkservo
Retract landing gear servo

X

1/16"
1.5mm

Top view / Ansicht von Oben

5- Retract landing gear linkage / Ruderanlenkung

With the retract and retract servo in the retracted position, mark the position where each of the pushrod will attach to the servo arm, a small piece of masking tape works well for this. Cut off the excess length each rod.
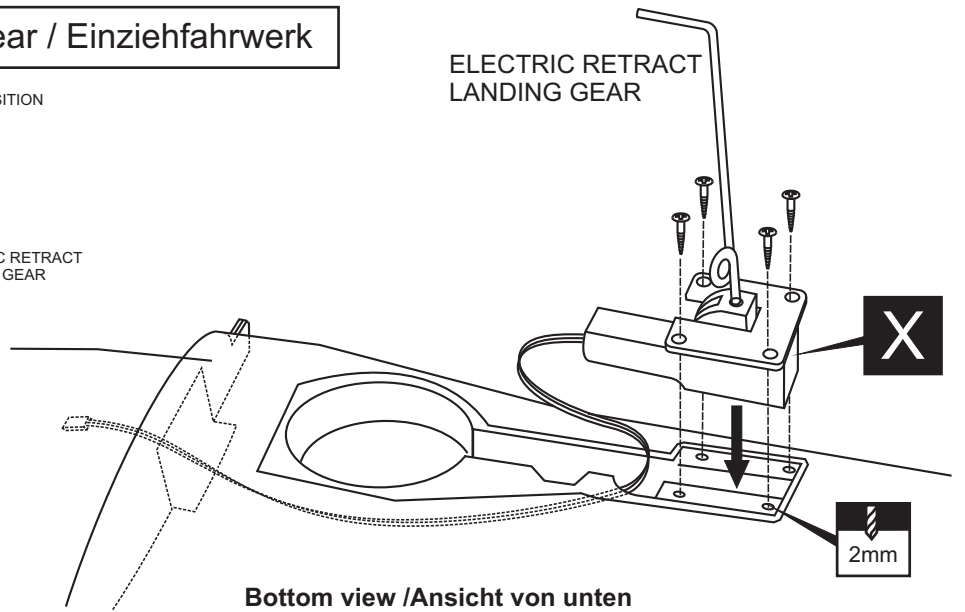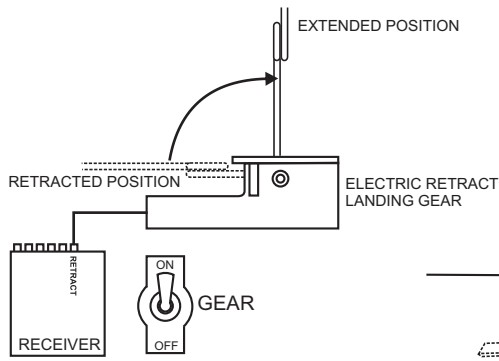
Link the servo and retract gear arm with push rod.
Be sure to adjust the stroke so that the landing gear locks in both up and down position.

RETRACTED
EINGEFAHREN

EXTENDED
AUSGEFAHREN

Retract servo
Fahrwerkservo

Retract gear
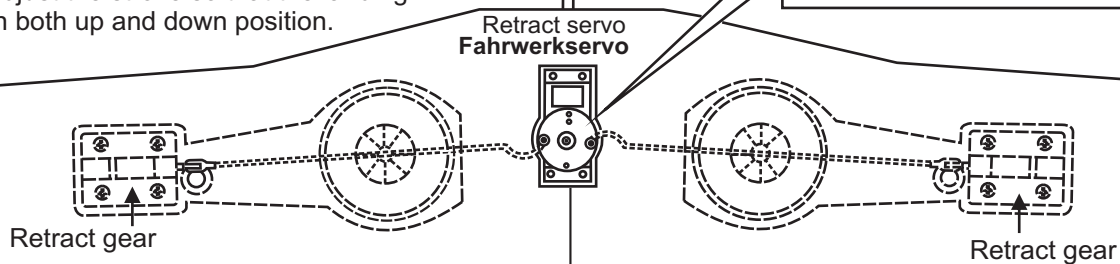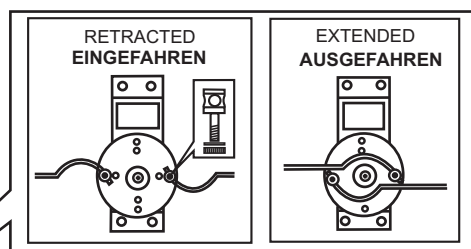
Retract gear

Top view / Ansicht von Oben

6- Electric retract landing gear / Einziehfahrwerk

EXTENDED POSITION

RETRACTED POSITION

ELECTRIC RETRACT LANDING GEAR

RETRACT

RECEIVER

ON
GEAR
OFF

ELECTRIC RETRACT LANDING GEAR

X

2mm

Bottom view /Ansicht von unten

7- Fixed gear / Starres Fahrwerk

3x12mm screw
..........8
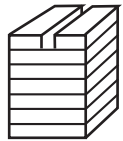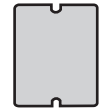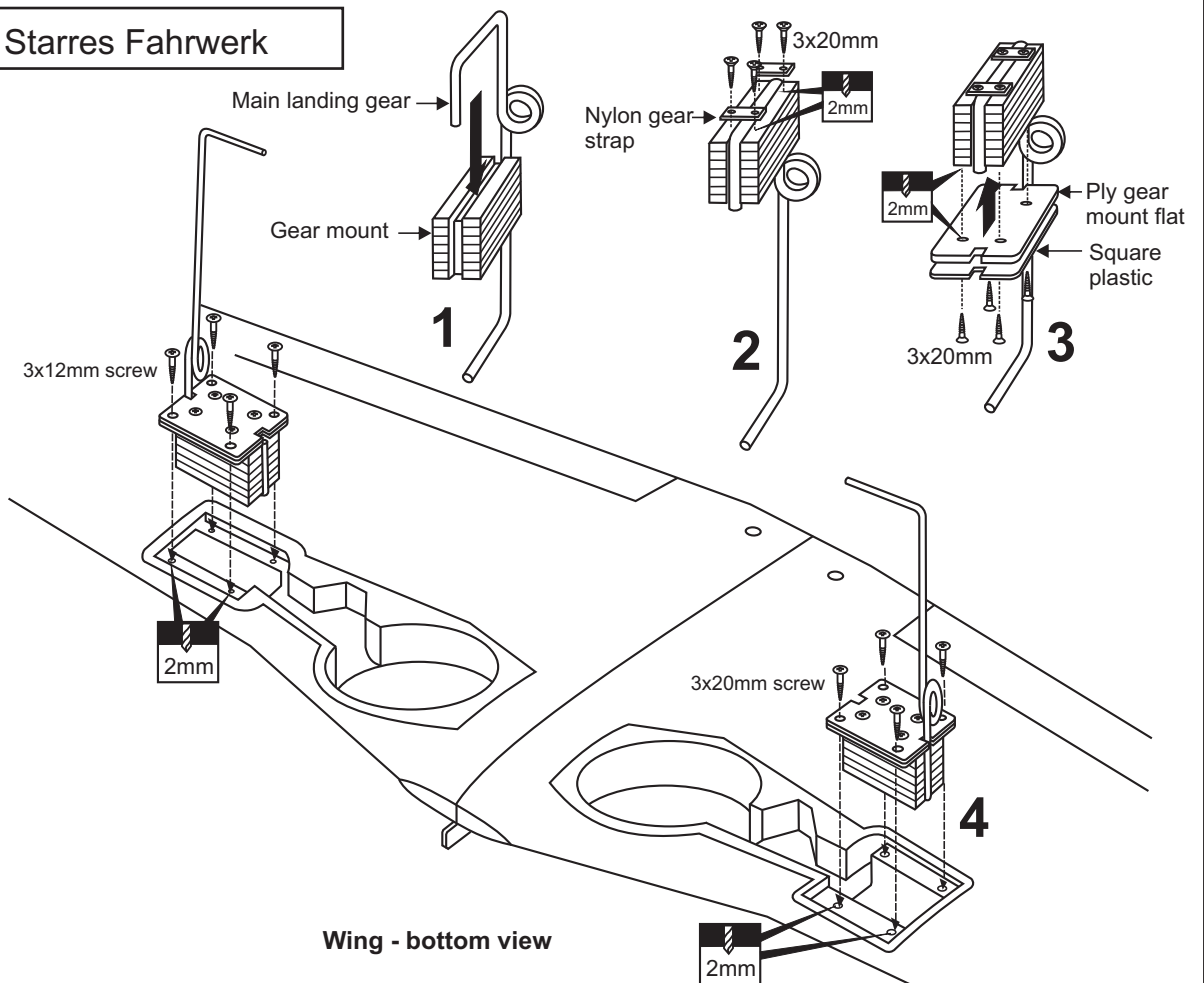
3x20mm screw
......16

Nylon gear strap
.......4

Gear mount x 2

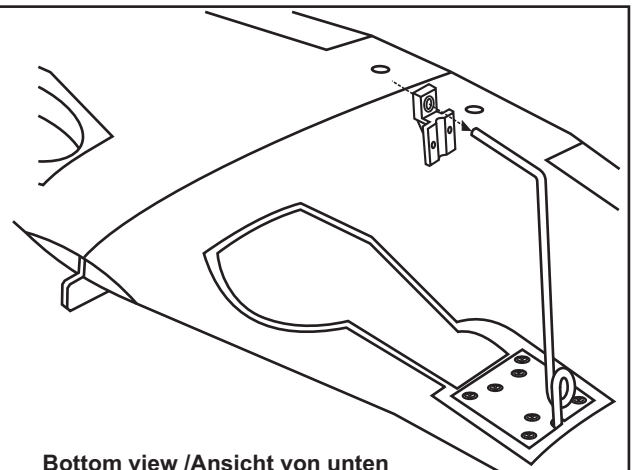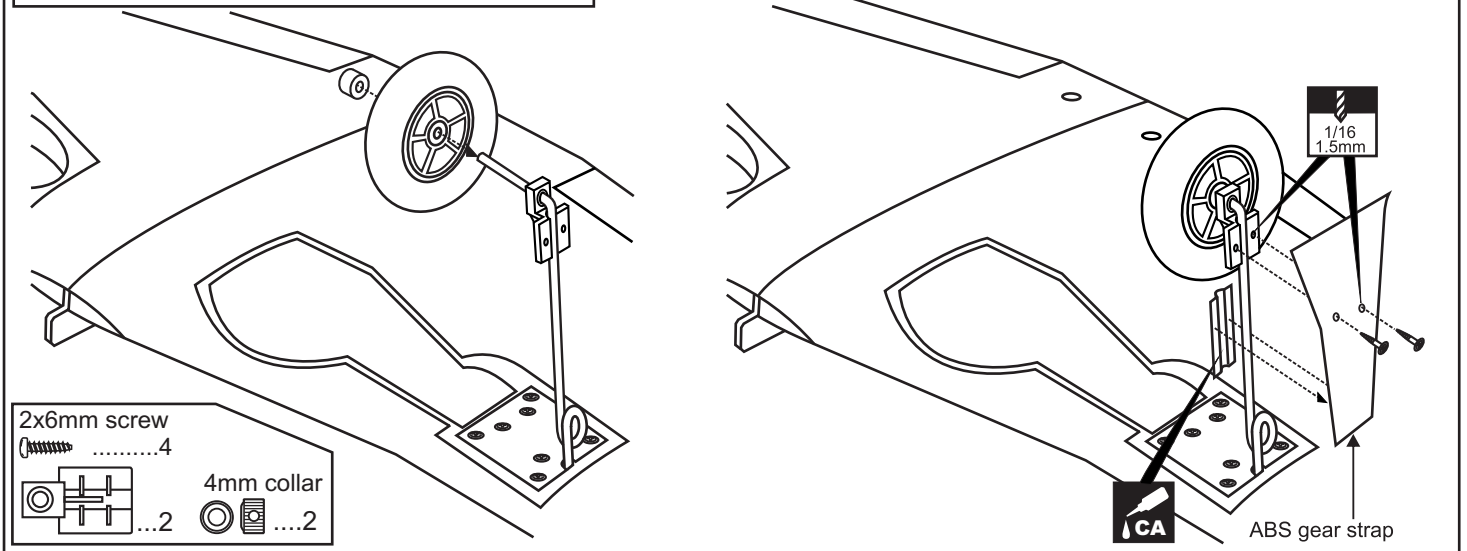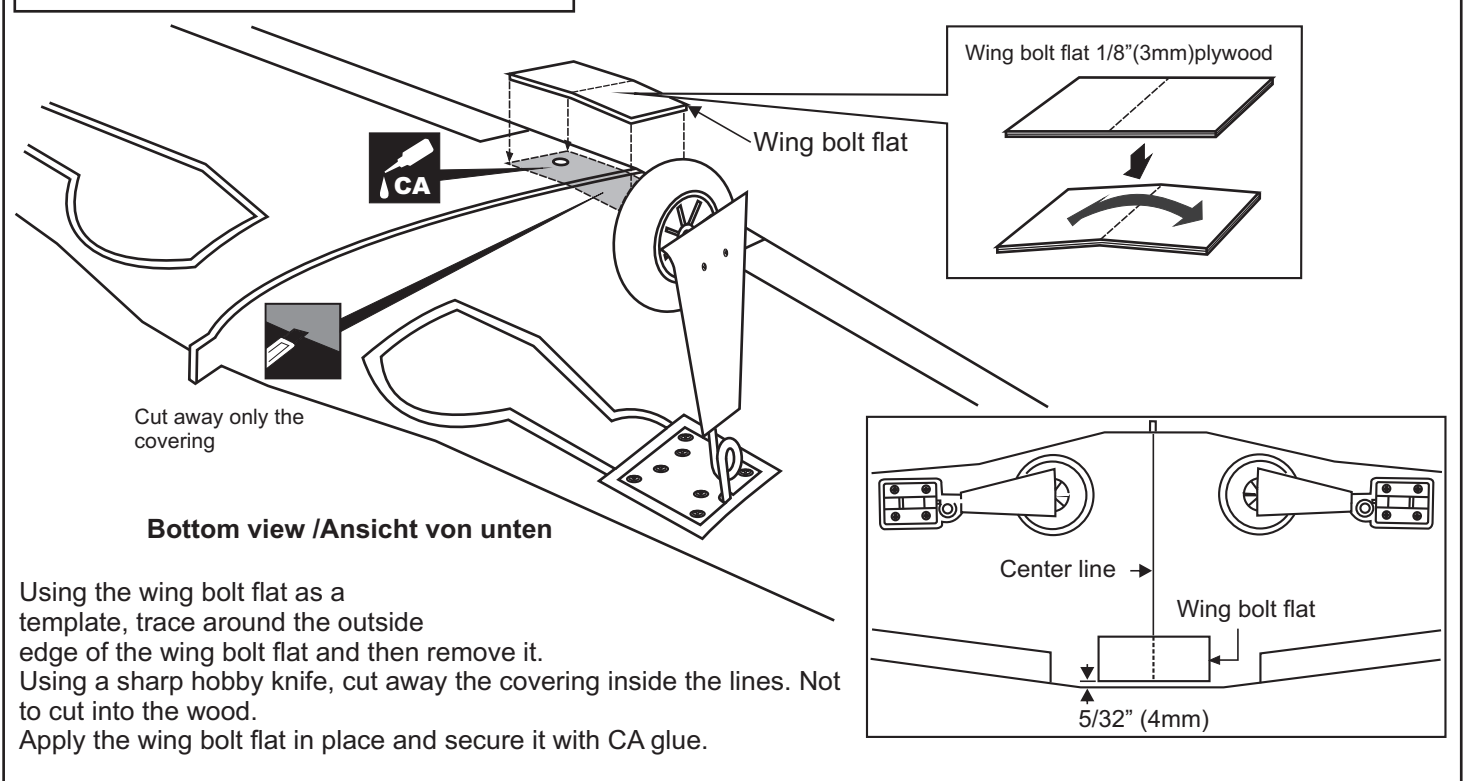Ply gear mount plate x 2

Square plastic x 2

Main landing gear

Gear mount

1

Nylon gear strap

3x20mm

2mm

2

2mm

Ply gear mount flat

Square plastic

3x20mm

3

3x12mm screw

2mm

3x20mm screw

4

2mm

Wing - bottom view

8- Fixed gear / Starres Fahrwerk

CA

ABS Wheel well cover

Bottom view /Ansicht von unten

10- Fixed gear / Starres Fahrwerk

1/16
1.5mm

2x6mm screw
..........4

4mm collar
....2

CA

ABS gear strap

10- Wing bolt flat / Verstärkung

Wing bolt flat 1/8"(3mm)plywood

CA

Wing bolt flat

Cut away only the covering

Bottom view /Ansicht von unten

Using the wing bolt flat as a
template, trace around the outside
edge of the wing bolt flat and then remove it.
Using a sharp hobby knife, cut away the covering inside the lines. Not
to cut into the wood.
Apply the wing bolt flat in place and secure it with CA glue.

Center line

Wing bolt flat

5/32" (4mm)

11- Wing bolt flat / Verstärkung

WRONG

RIGHT

17/64"
6.5mm

WING

BOTTOM

Top view / Ansicht von Oben

12- Aileron extension cord

Top view / Ansicht von Oben

Aileron extension cord exit hole

1

To one end of the aileron extension cord

Keep the aileron extension cord in place using sticker.

2

X

13- Aileron servo installation

Control horn

..............2

2x15mm screw

..........4

X

2mm

L/R

Bottom view /Ansicht von unten

To aileron extension cord (not include)

14- Linkage

Connector 2

2mm screw

Aileron pushrod

2 mm

X

L/R

Bottom view /Ansicht von unten

15- Air Scoop/wing cover / Ölkühlerattrappe

6x40mm nylon bolt

.........2

Plastic air scoop

15/32"
12mm

CA

Wing cover

CA

Wing bolt plat
1/8"(3mm) ply

Cut away the covering inside the line
before install the air scoop and wing cover
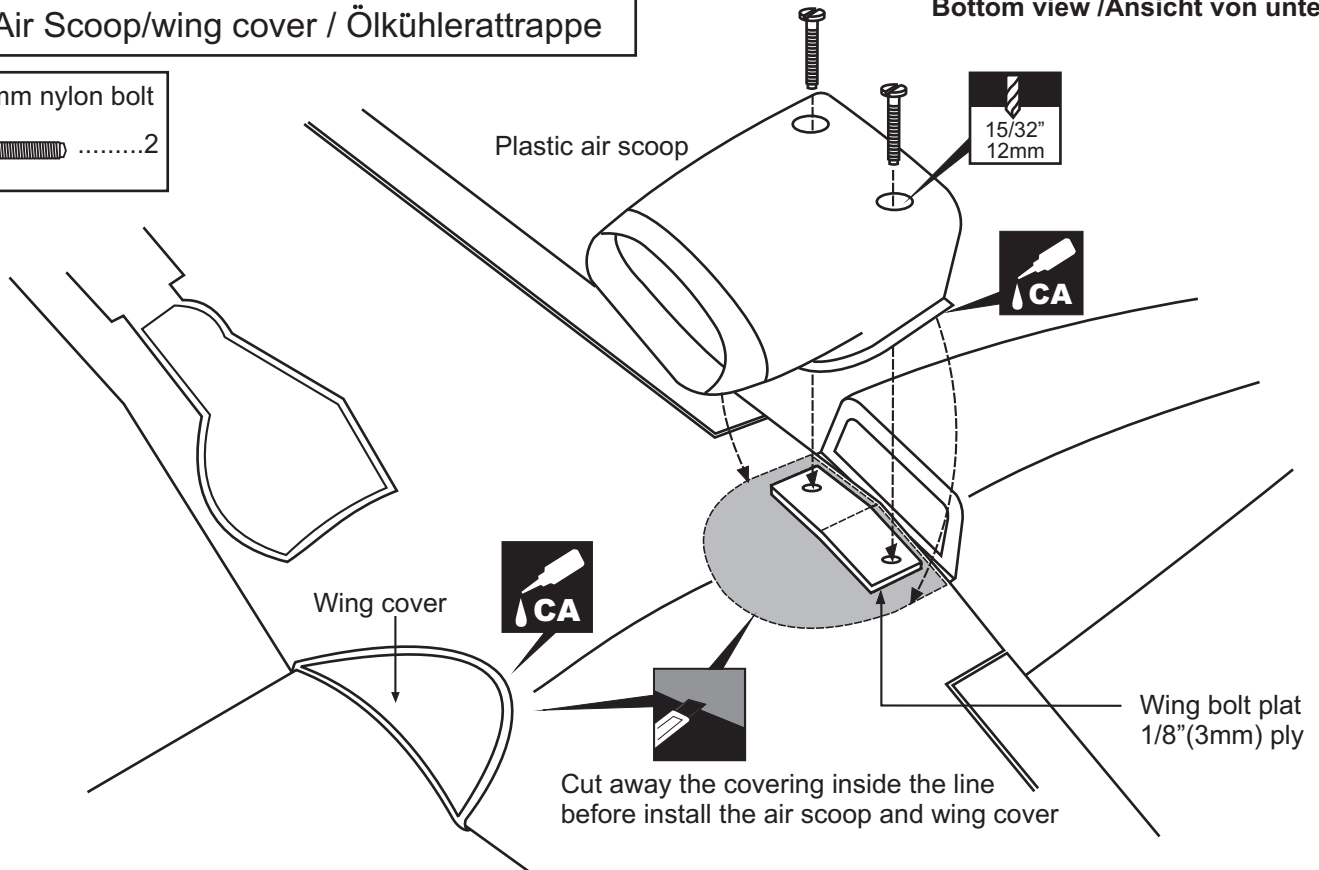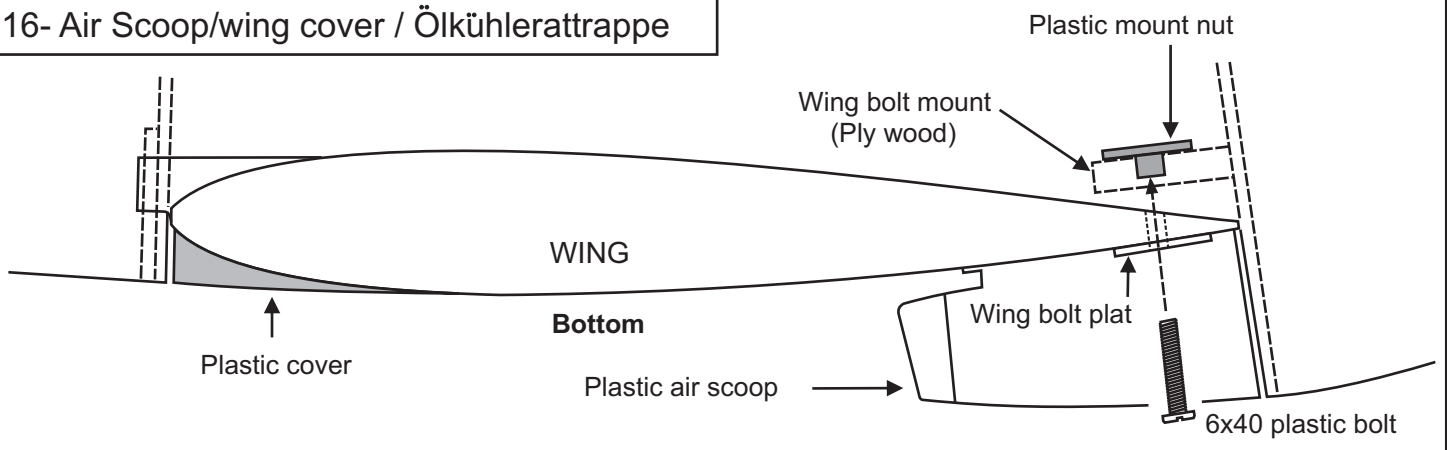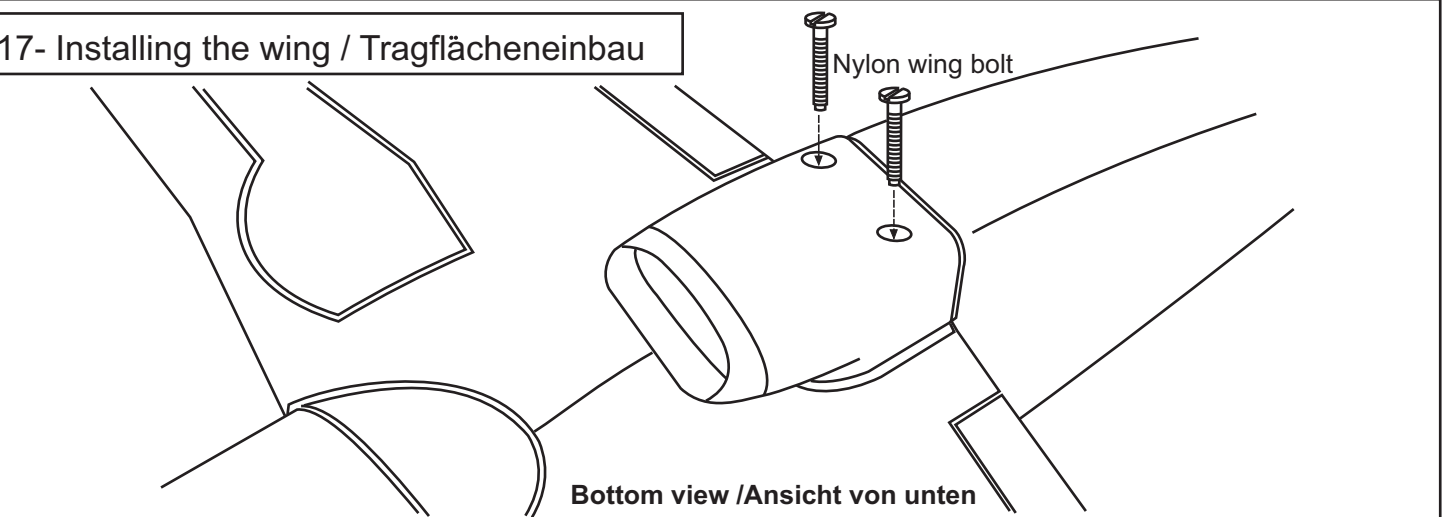
1-Using the ABS air scoop as a template, trace around the outside edge of the ABS air-scoop,and then remove it.
2-Using a sharp hobby knife, cut away the covering inside the lines. Not to cut into the wood.
3-Apply the ABS air scoop in place and secure with CA glue.
   Do the same way with the ABS wing cover.

16- Air Scoop/wing cover / Ölkühlerattrappe

Plastic mount nut

Wing bolt mount
(Ply wood)

WING

Bottom

Plastic cover

Wing bolt plat

Plastic air scoop

6x40 plastic bolt

17- Installing the wing / Tragflächeneinbau

Nylon wing bolt

Bottom view /Ansicht von unten

18- Engine mount - engine / Motoreinbau

5/32x1"
4x25mm screw ...4

1/8x5-1/64"
3x20mm screw ...4

Blind-nut 4

1/8"(3mm) nut 4

! Align the mark on both mounts with the mark on the fuselage

! Engine thrust on balk head is already adjust at factory

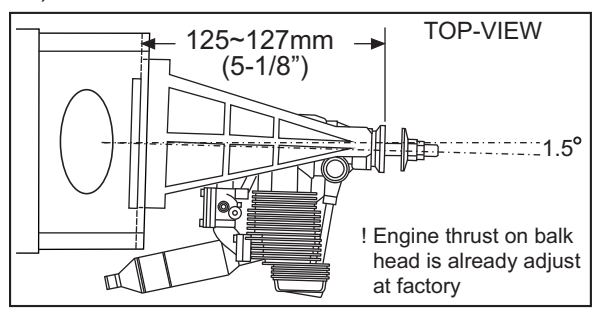FRONT-VIEW

B=B'

13/64"
5mm

A
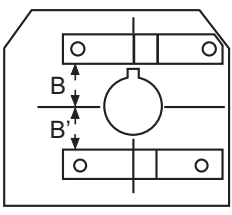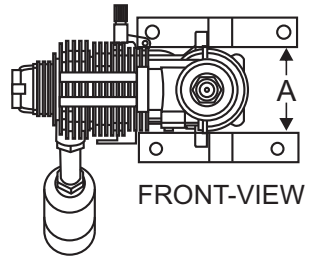
- Using a pencil or felt tipped pen, mark the fire wall where the four holes are to be drilled

- Remove the engine mount and drill a 13/64"(5mm) hole through the fire-wall at each of the four marks marked.

- Attach the four blind-nut to the fire-wall as show

- Reposition the engine mounts on to the fire-wall and secure them with four 4x25mm screw

- Reposition the engine on to the engine mounts so the distance from the prop hub to the fire wall is 5"(127mm)

- Mark the engine mounting plate where the four holes are to be drilled.
 Note: Mark the mounting plate through the engine mounting flanges.

- Remove the engine and drill a 1/8"(3mm) holes through the beam at each of the four marks made above.
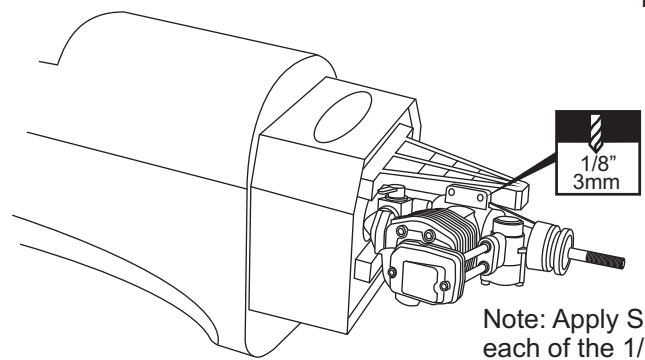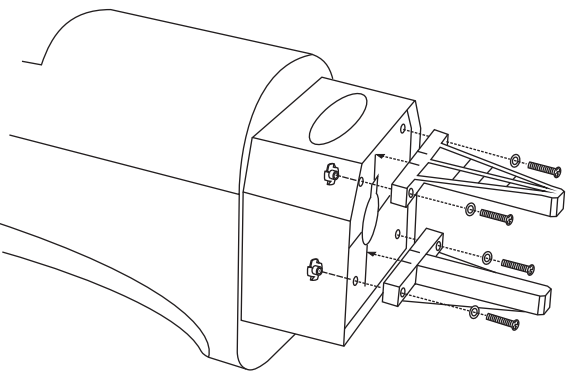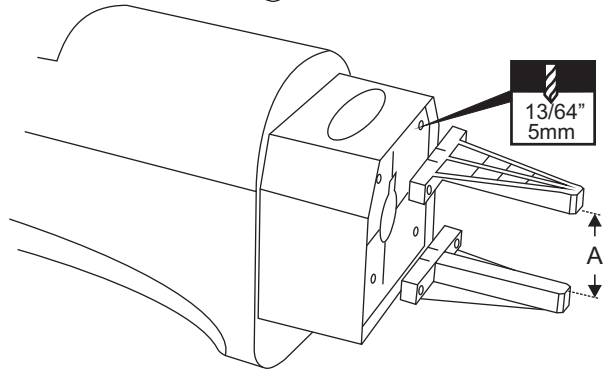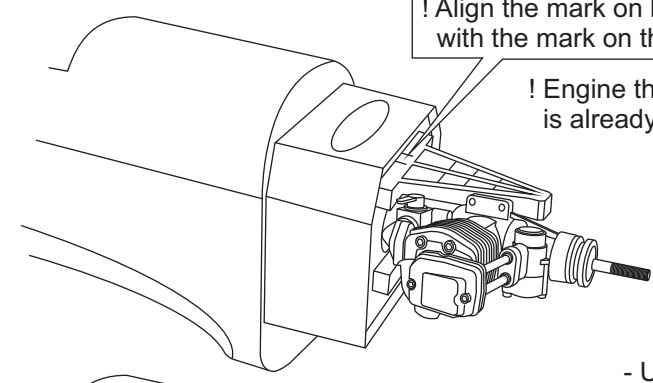
- Reposition the engine on the engine mount beams, aligning it with the holes. Secure the engine to the engine mount using four 1/8x51/64"(3x25mm) screws.
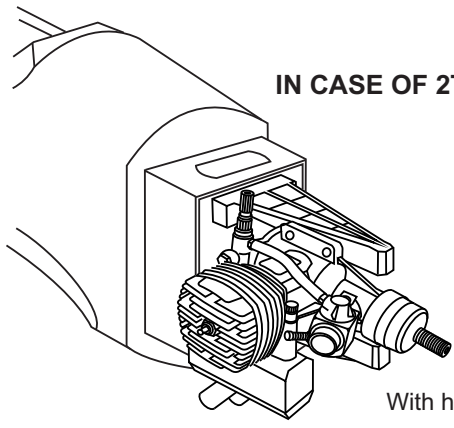
1/8"
3mm

125~127mm
(5-1/8")

TOP-VIEW

1.5°

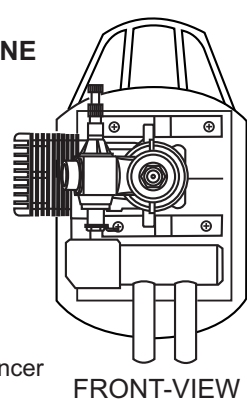! Engine thrust on balk head is already adjust at factory

Note: Apply Silicon sealer to each of the 1/8x51/64" screw.

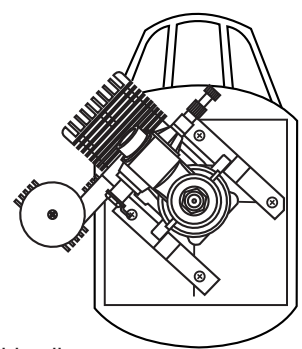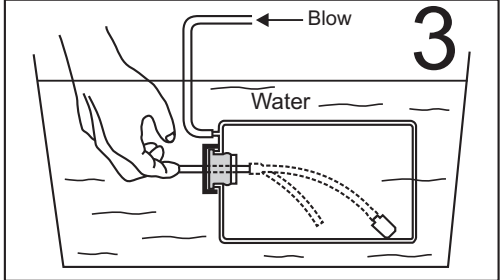**IN CASE OF 2T ENGINE**

With hang silencer

FRONT-VIEW

With side silencer

19- Fuel tank / Tankeinbau

1

To muffler
Filler tube
Rubber stopper
3x25mm screw
To engine

X

2

3x35 mm screw

4mm

3

Blow
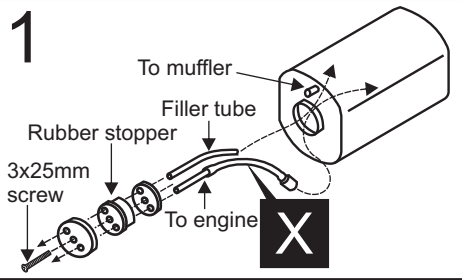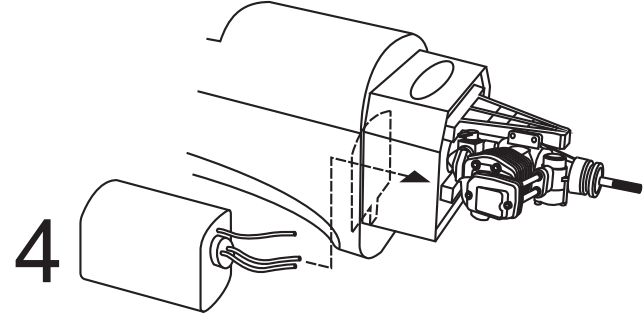Water
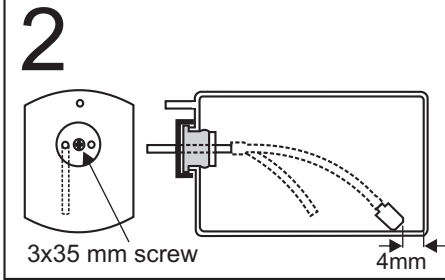
After confirming the direction . Insert this assembly, clunk end first, into the fuel tank and tighten and screw the fuel tank cap on firmly.

Ensure that the fuel tank clunk does not touch the rear of the fuel tank.

Checking for leaks - block the vents and blow into the feed - if in doubt submersing the tank in a blow of water will show up any problems.

4

Carefully install the fuel tank to ensure that they will not shift during flight (secure the fuel tank in place using foam padding).

20- Electric motor / Einbau Elektromotor

5x70mm.......4
5mm nut.......12
5mm washer...16
3mm screw/nut...4

1 CA

2 3mm
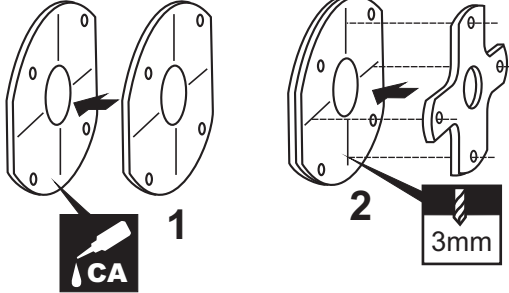
Using a aluminum motor mounting plate as a template, mark the plywood motor mounting plate where the four holes are to be drilled (2).

Remove the aluminum motor mounting plate and drill a 1/8"(3mm) hole through the plywood at each of the four marks marked .

Note: The aluminum motor mounting included with electric motor set.

Firewall

SIDE-VIEW / **Seitenansicht**

B
B=B'
B'
125~127mm (5-1/8")

TOP-VIEW / **Draufsicht**

A
A=A'
A'

! Engine thrust on balk head is already adjust at factory

21- Horizontal stabilizer / Höhenleitwerk

Cut away only the covering both the right and left side

B   B'

Cut away only the covering both the top and bottom side

Both the top and bottom side

A B

$A = A'$
$B = B'$

A   A'

90°   90°

1-Trial fit the horizontal stabilizer in place .
   Check the alignment of the horizontal
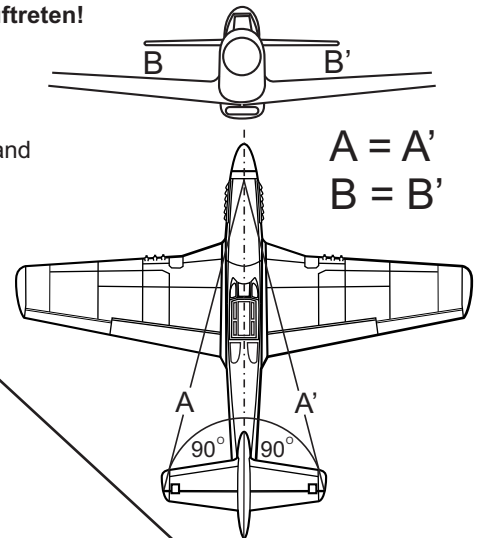   stabilizer. When you are satisfied with the
   alignment, use a pencil to trace around the top and
   bottom of the stabilizer where it meets the fuselage.
2-Remove the horizontal stabilizer from the fuselage. Using the
   sharp hobby knife, carefully cut away the covering inside the
   lines which were marked above.
3-Spread epoxy (30 minute) onto the top and bottom of the horizontal stabilizer
   along the area where the covering was removed and to the fuselage where the
   horizontal stabilizer mounts.
4-Install the horizontal stabilizer into the fuselage and adust the alignment as described in steep 1
5-Wipe off any excess epoxy using a paper towel and rubbing alcohol.
   Allow the epoxy to cure before proceeding to next step.

*** WARNING: When removing any covering from the airframe, please ensure that you secure the
cut edge with CA or similar cement. This will ensure the covering remain tight.**

22- Vertical stabilizer / Seitenleiwerk

C   C'

Cut away only the covering both the right and left side

Both the left and right side

A B
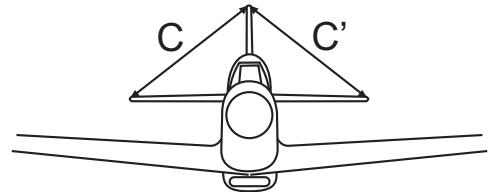
1-Trial fit the vertical stabilizer in place . Check the
   alignment of the vertical stabilizer. When you are
   satisfied with the alignment, use a pencil to trace
   around the right and left of the stabilizer where it
   meets the fuselage.
2-Remove the vertical stabilizer from the fuselage.
   Using the sharp hobby knife, carefully cut away the
   covering inside the lines which were marked above.
3-Spread epoxy (30 minute) onto the right and left and
   bottom of the vertical stabilizer along the area where
   the covering was removed and to the fuselage where
   the vertical stabilizer mounts.
4-Install the vertical stabilizer into the fuselage and
   adust the alignment as described in steep 1.
5-Wipe off any excess epoxy using a paper towel and
   rubbing alcohol.
   Allow the epoxy to cure before proceeding to next step.

A B

$C = C'$

* WARNING: When removing any covering from the airframe, please ensure that you secure the cut edge with CA or similar cement. This will ensure the covering remain tight.
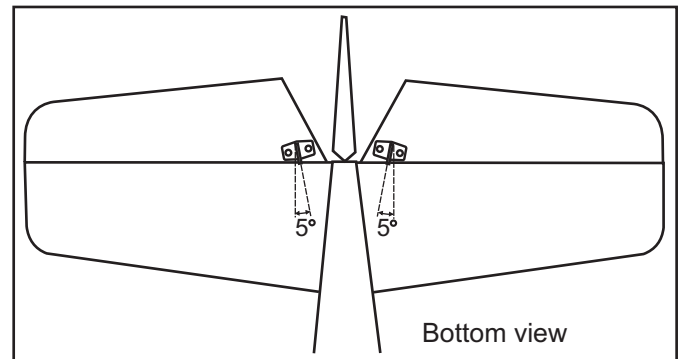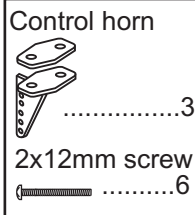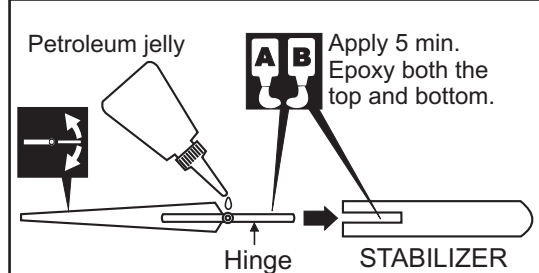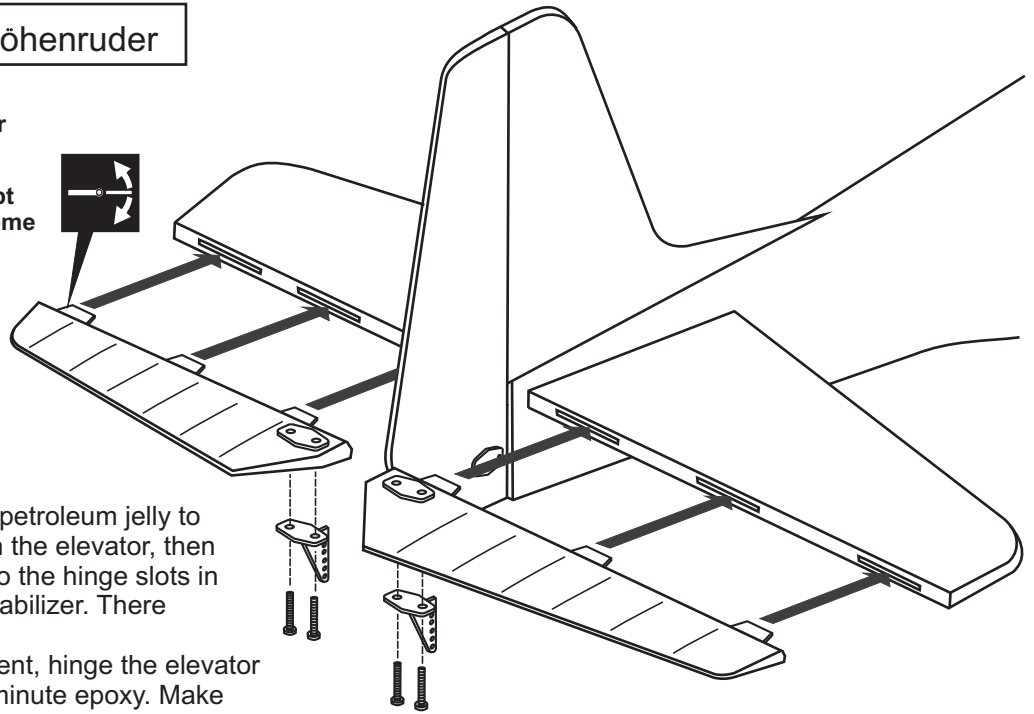
23- Elevator installation / Höhenruder

Securely glue together. If coming off during flight, you lose control of your air plane.

Vergewissern Sie sich, sauber geklebt zu haben. Andernfalls können Probleme mit der Flugeigenschaft auftreten!

← 3/8 in. (9.5mm)
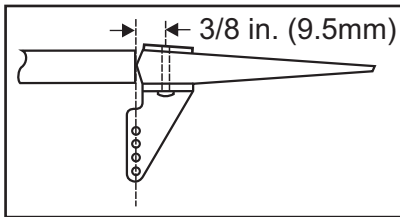
Apply a thin layer of machine oil or petroleum jelly to only the pivot point of the hinges on the elevator, then push the elevator and its hinges into the hinge slots in the trailing edge of the horizontal stabilizer. There should be a minimal hinge gap.
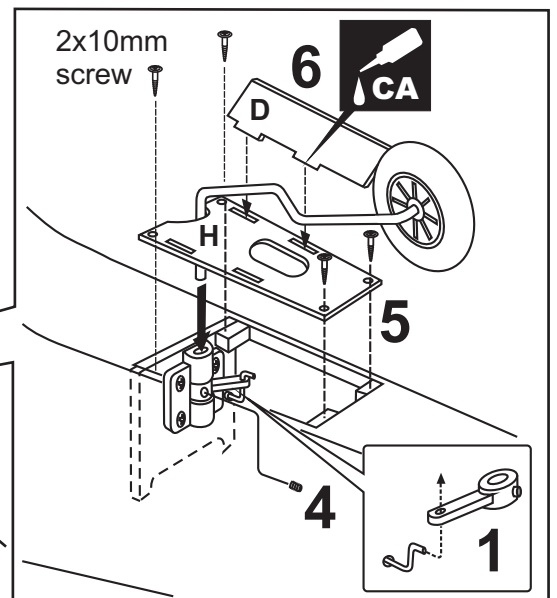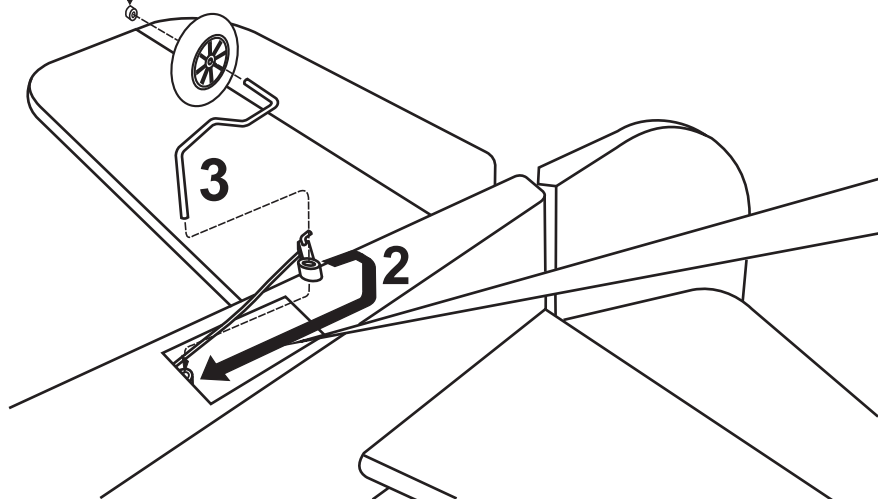
When satisfied with the and alignment, hinge the elevator to the horizontal stabilizer using 5 minute epoxy. Make sure to apply a thin layer of epoxy to the top and bottom of both hinges and to inside the hinge slots. Repeat the previous procedures to hinge the second elevator to the other side of the horizontal stabilizer.

Petroleum jelly

A **B** Apply 5 min. Epoxy both the top and bottom.

Hinge   STABILIZER

Control horn
...............3

2x12mm screw
..........6

5°   5°

Bottom view

24- Tail gear / Heckspornrad

Bottom view /Ansicht von unten

5/64 in.(2mm) I.D collar

2x10mm screw
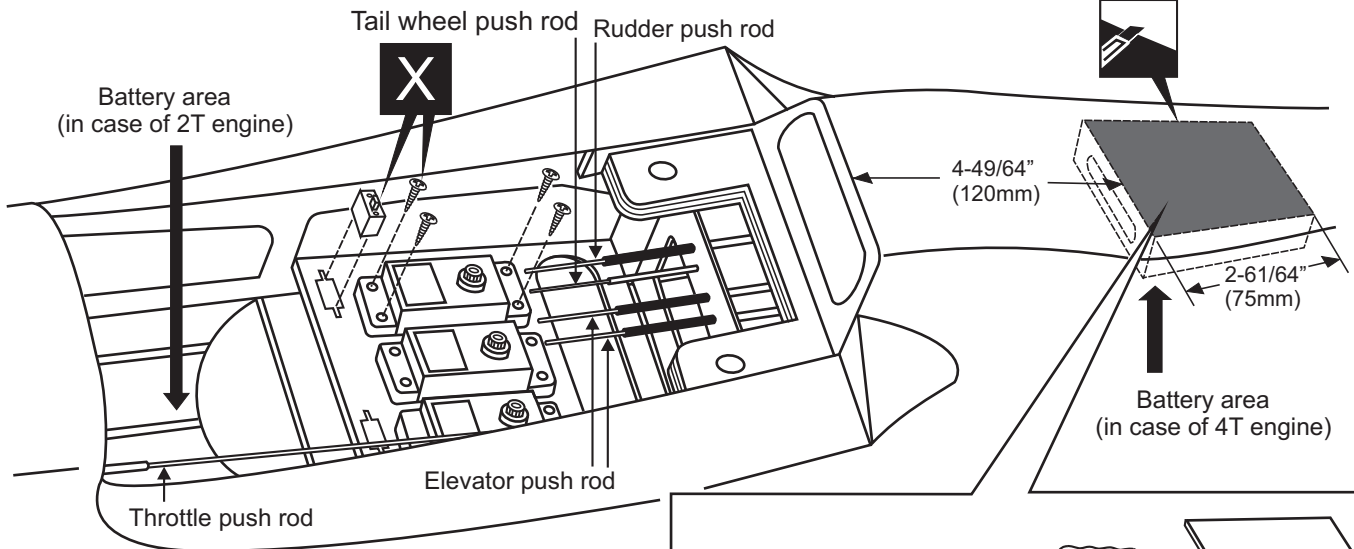
6 CA

D

H

3

2

5

4

1

1- Insert the tail wheel pushrod into the hole on the tail gear control horn (as show).

2- Install the tail wheel control horn ïn place.

3- Instal the tail wheel gear in place.

4- Secure the tail wheel control horn in place using a 5/64"(2mm) screw set, Ensure smooth non-binding movement.

5- Installing the tail wheel hatch (H) in place using a four 5/64x25/64"(2x10mm) self tapping screws.

6- Attach the tail wheel doors (D) in place using CA glue.

2x3mm screw
............1

2mm I.D collar
..............1

2x10mm screw
............4

Tail wheel control-horn
.................1

Tail landing gear
..........1

25- Radio and battery / Fernsteuerung u .Akku

Bottom view /Ansicht von unten

Battery area
(in case of 2T engine)

Tail wheel push rod

Rudder push rod

Elevator push rod

Throttle push rod

4-49/64"
(120mm)

2-61/64"
(75mm)

Battery area
(in case of 4T engine)

Carefully cut a 2-9/32"(58mm) wide area which is 2-61/64"
(75mm) in length through both the covering and the balsa
wood. Remove the excess balsa.
Put the battery pack into the box (pre-build at factory) and
fasten down with rubber bands or similar, ensuring it will not
come loose or rattle during flights.

800-1000mah, flat pack

Hatch

2-9/32"
(58mm)

Hatch

2"(51mm)

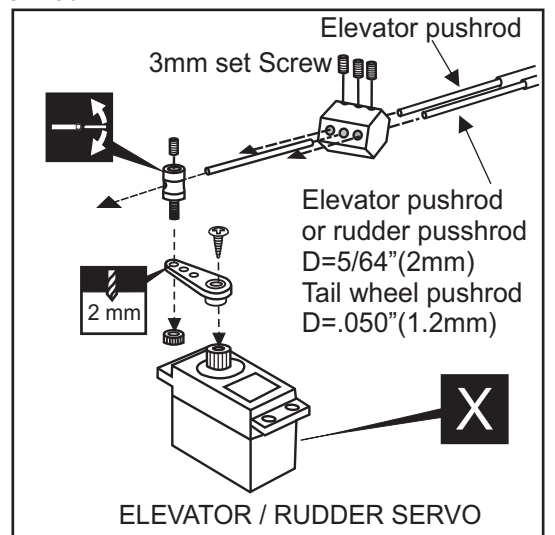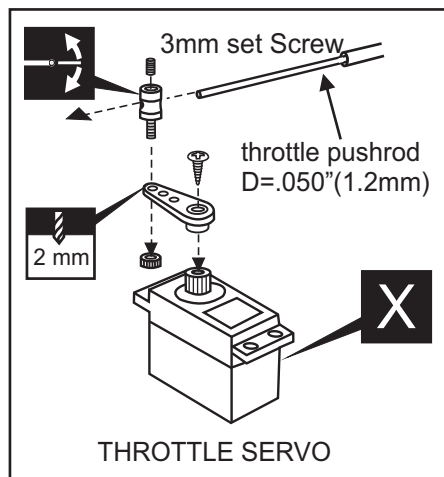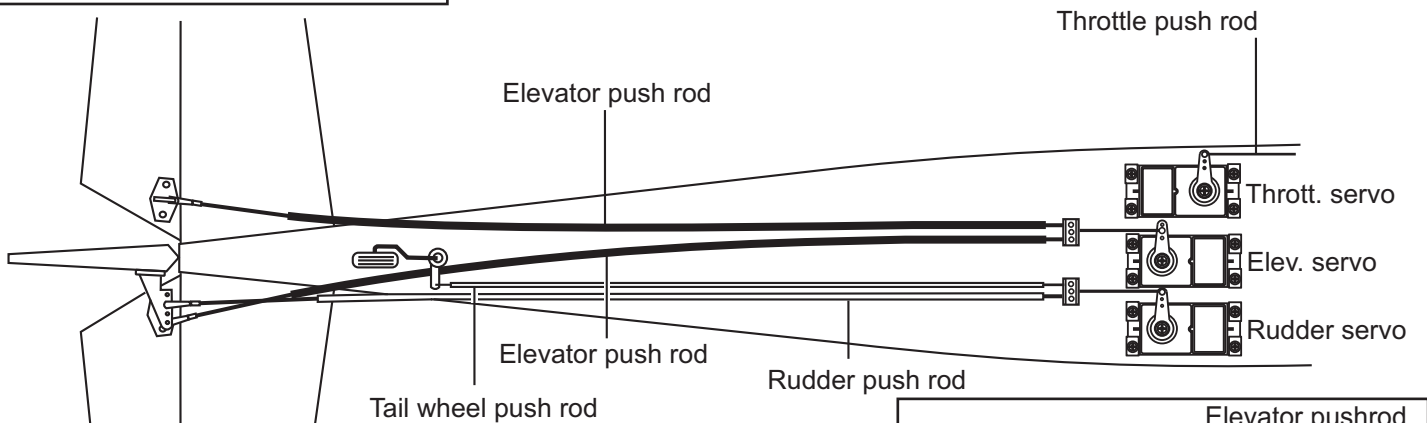FUSELAGE
BOTTOM

2-61/64"(75mm)
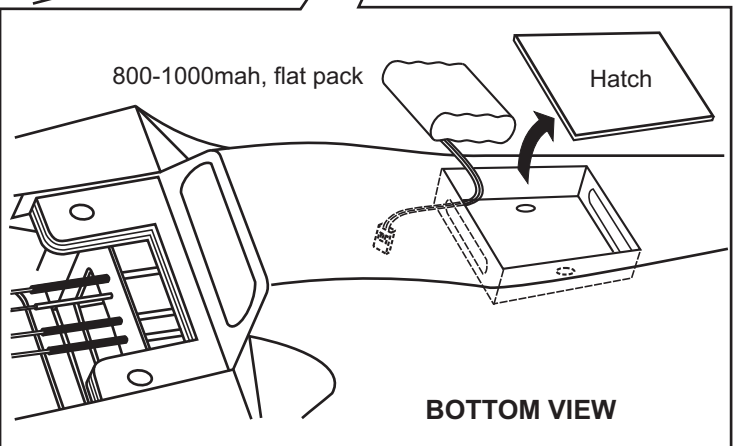
BOTTOM VIEW

Link the battery wire with the battery extension cord.
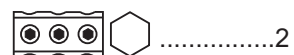Reposition the hatch in place and secure it with CA glue.
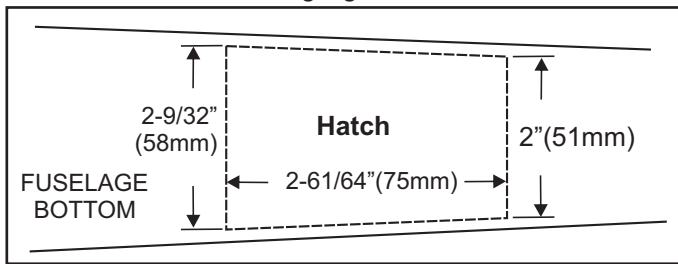
26- Linkages / Anlenkungen

Bottom view /Ansicht von unten

Throttle push rod

Elevator push rod

Thrott. servo

Elev. servo

Rudder servo

Elevator push rod

Rudder push rod

Tail wheel push rod

Elevator pushrod

3mm set Screw

3mm set Screw

throttle pushrod
D=.050"(1.2mm)

2 mm

Elevator pushrod
or rudder pusshrod
D=5/64"(2mm)
Tail wheel pushrod
D=.050"(1.2mm)

2 mm

THROTTLE SERVO

ELEVATOR / RUDDER SERVO
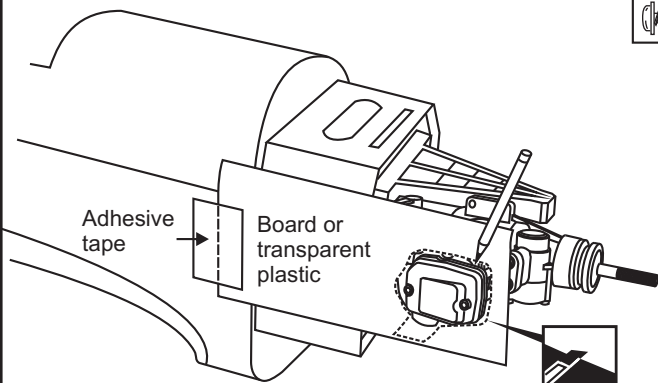
Connector

⚬⚬⚬ ⬡ 2

2mm 3

27- Cowling installation / Motorhaube

3/32x25/64" self tapping screw
2.5x10mm

|||||||||| 4

1/16"
1~2mm

Adhesive tape → Board or transparent plastic

Cut the opening

125mm — Ruler

1/16"
1.5mm

1/16"
1.5mm

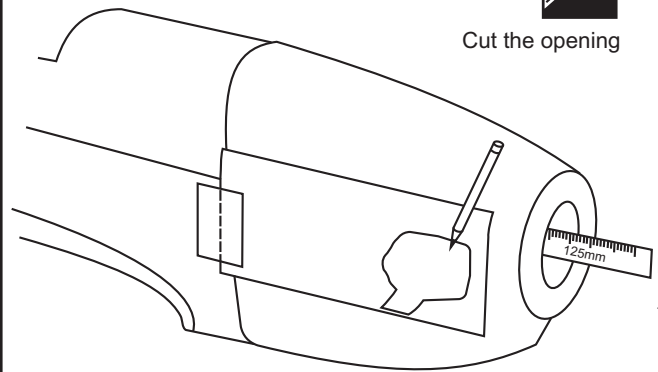2.5x10mm self tapping screw
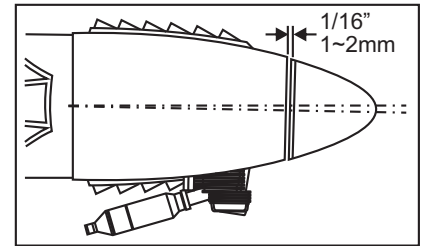
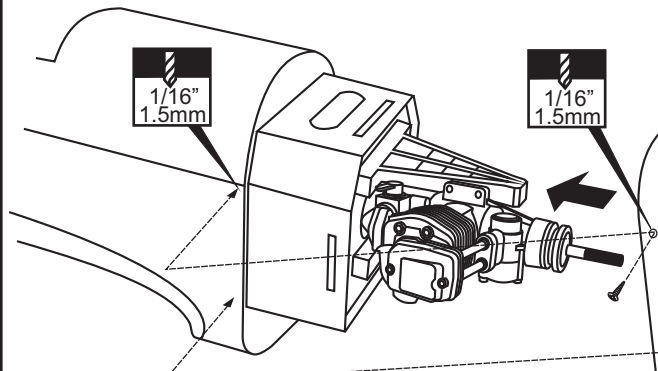Cut the opening

1-Attach the board or transparent plastic on the side of the fuselage with the adhesive tape as show.

2-Using a pencil or felt tipped pen trace around the engine head where it meet the cowl. Cut the opening the board or transparent plastic for the engine head as marked before.

3-Remove the engine and insert the cowl on to the fuselage so the distance from the fire wall to the front of the cowl is 4-59/64"(125mm). Trace around inside the hole on the board or transparent plastic with a pencil.

4-Remove the cowl from the fuselage and carefully cut the opening for the engine head as marked above. Do the same way with the hole for needle-valve.

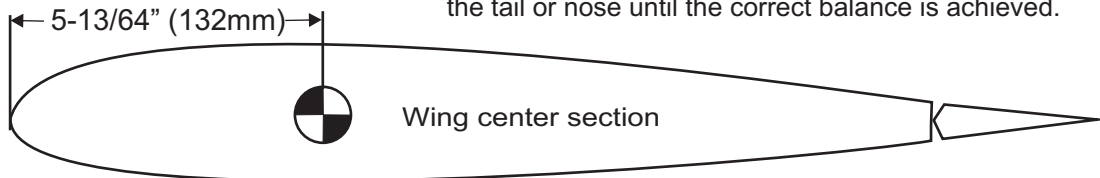5-Again. Insert the cowl on to the fuselage and secure it in place with five 2.5x10mm self tapping screws.

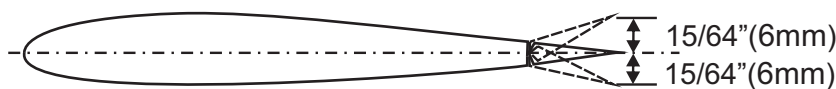## 28- Balance / Schwerpunkt

DO NOT try to fly an out-of-balance model !

Note: If necessary, move the battery pack or add weight to either the tail or nose until the correct balance is achieved.
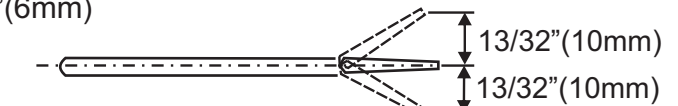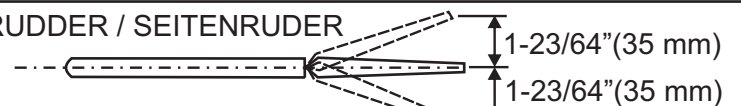
←— 5-13/64" (132mm) —→

Wing center section

29- Control Surface / Ruderausschläge

RUDDER / SEITENRUDER

1-23/64"(35 mm)
1-23/64"(35 mm)

15/64"(6mm)
15/64"(6mm)

AILERON / QUERRUDER

13/32"(10mm)
13/32"(10mm)

ELEVATOR / HÖHENRUDER

IMPORTANT: Flying your model at these throws will provide you with the greatest chance for successful first flights. If,after you have become accustomed to the way the P-51 flies, you would like to change the throws to suit your taste that is fine. However, too much control throw could make the model difficult to control, so remember, "more is not always better".

30- Decor / Aufkleber

Note: Cut out the stickers and apply them in the proper area.
Do not peel the backing paper off all at once.
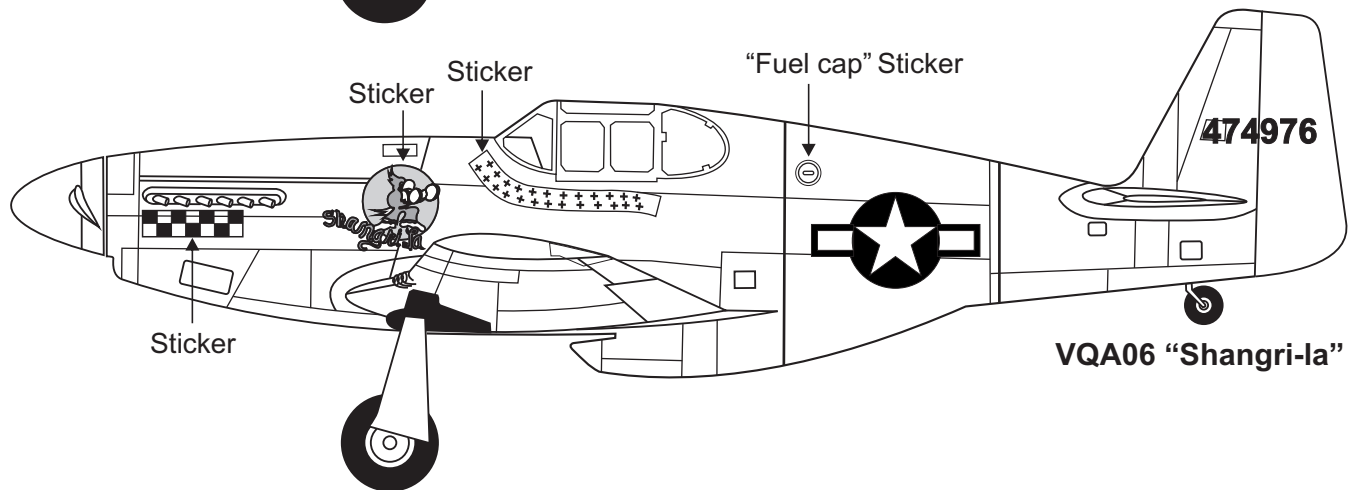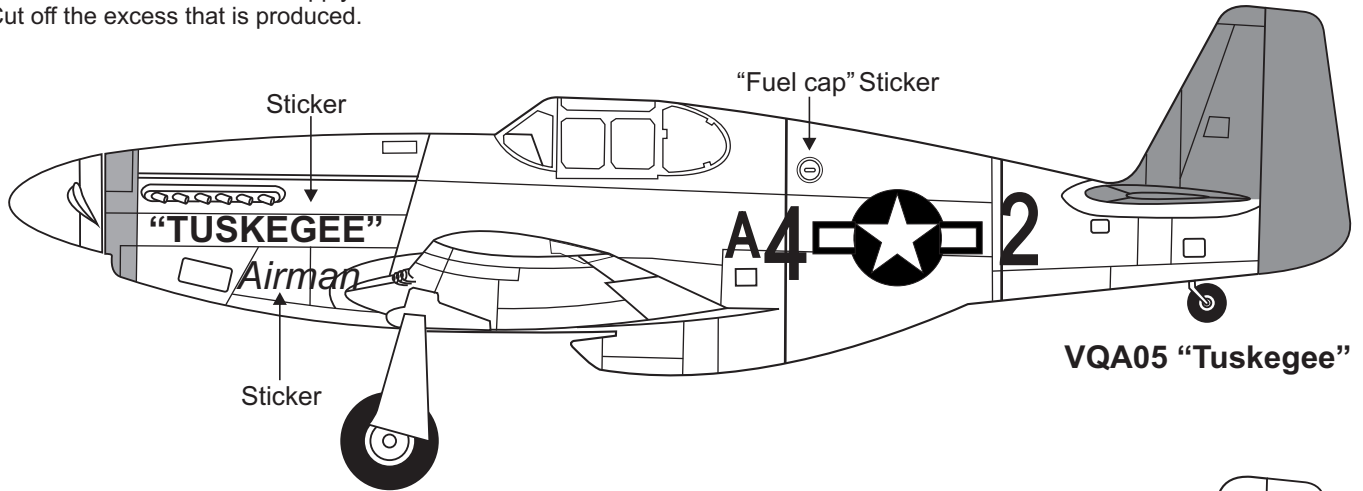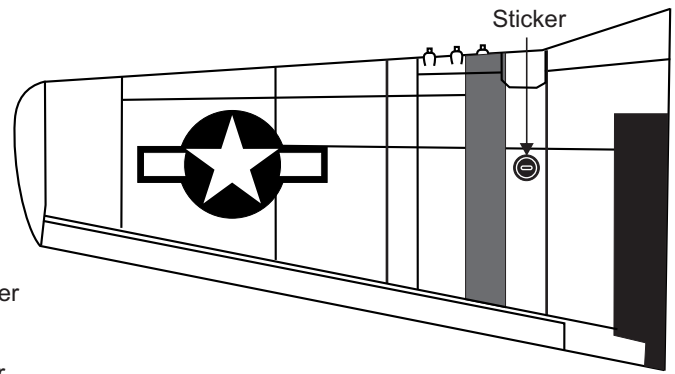Peel off one corner of the backing and cut off with scissors.
Arrange sticker on model and when satisfied adhere the corner without backing.
Carefully peel back the rest of the backing while at the same time adhering the rest of the sticker.
Try not to make air bubbles, if there are some, carefully puncture sticker (center of bubble) but not model surface with the tip of the knife or sharp pin and squeeze out the air.
At curves stretch sticker and apply a little heat so that no ceases occur.
Cut off the excess that is produced.

Sticker

Sticker

"Fuel cap" Sticker

Sticker

Sticker

"TUSKEGEE"

Airman

A4 2

VQA05 "Tuskegee"

Sticker

Sticker

"Fuel cap" Sticker

Sticker

474976

VQA06 "Shangri-la"

All details are subject to change without notice !

Technische Änderungen und Irrtümer vorbehalten !

IMPORTANT: Please do not clean your model with pure alcohol, only use liquid soap with water or use glass cleaner to clean on surface of your model to keep the colour not fade.