Constellation Miniatures

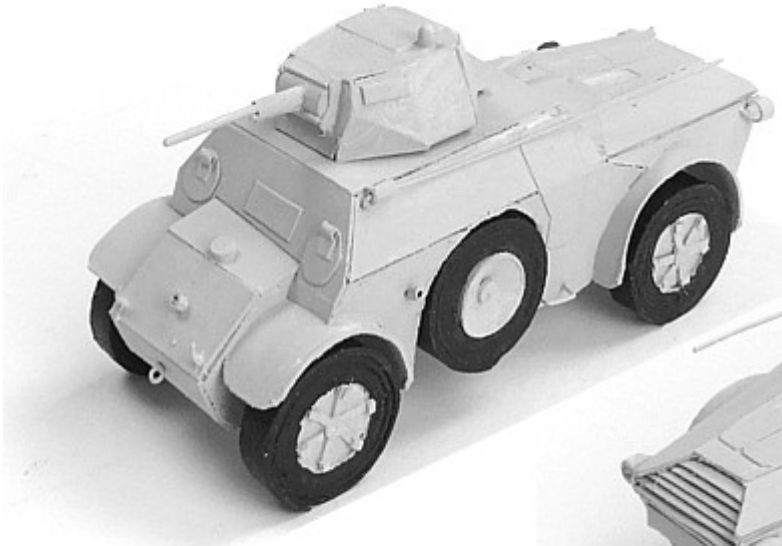
by Alexandre Karadimas

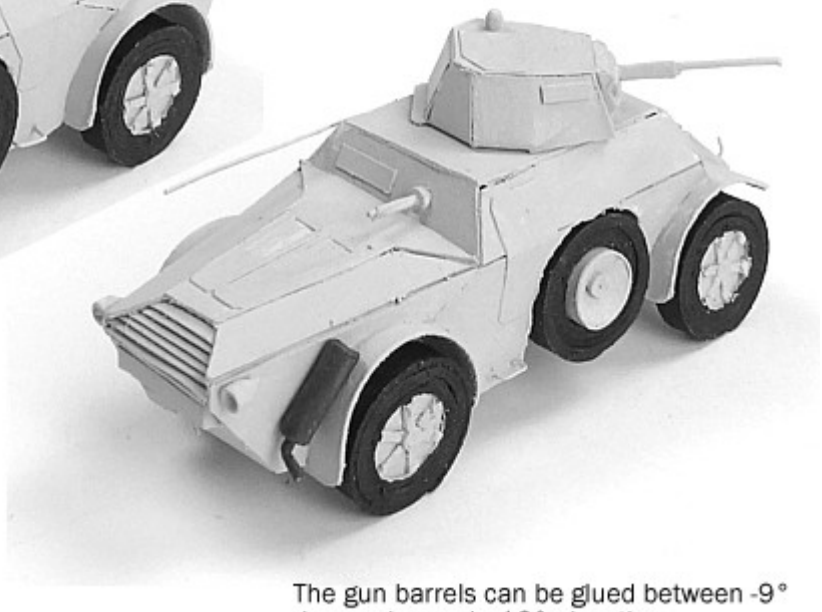
Make your own 1:64 miniatures with common household tools and materials

AB41 Autoblinda

All models in this booklet are historically accurate.

Difficulty: this is not an easy build.

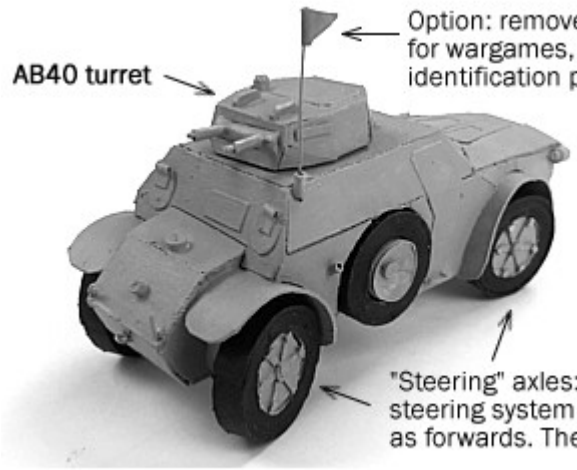




- Rear ventilator grille
- Details: hatches and driver ports, ladder rungs, exhaust, fuel inlet, headlight covers, rear lights, antenna.

The gun barrels can be glued between -9° depression and +18° elevation.
The turret rotates freely.





Download this booklet and others for free from **http://www.constellation-miniatures.com**
Visit the Youtube channel: https://www.youtube.com/@ConstellationMiniatures

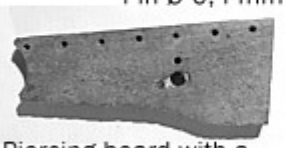
Booklet 21 – AB41 Version 1.0 – August 2026

Tooling, Materials and Production aspects

T01 Tools required for all Constellation Miniatures designs

Pin Ø 0,6 mm

Pin Ø 0,4 mm



Piercing board with a Ø 4 mm hole drilled through it, larger holes are useful



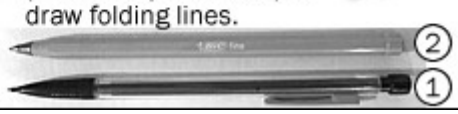
Pair of nail scissors



Small "snap-off blade" utility knife



Pair of thin pliers with a wire-cutting capability



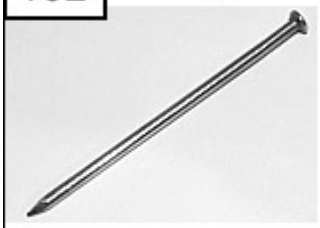
(1) Mechanical pencil Ø 0,7 mm or less (2) Roller pen (even a depleted one) to draw folding lines.

(*) Use a toothpick to apply glue to parts



(3) Set square in metric (4) Stationery hinge clips (5) Household glue, in liquid or gel form (*)

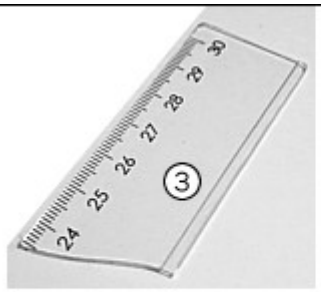
T02 Tools required for this design



Ø 3,6 mm nail, or object of a comparable diameter.



(1) Metal file to deburr wire after cutting. (2) Permanent marker to mark metal wire.





Recommended: a segment of a transparent ruler (3). (4) This ruler of the "aleph.pro" brand has matching measures on both sides, making it a small set square.

Always cut downwards on a cutting board and never towards any part of your body.

Please don't cut yourself.

Cutting board: a flat piece of wood, MDF, thick plastic or any other suitable material

M01 **Cardboard** used in packaging is technically called "thin cardboard". We will distinguish between :

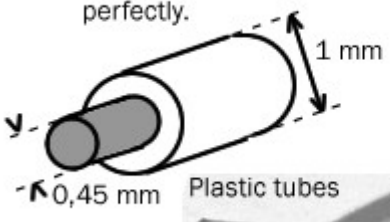
- "very thin" cardboard, as can be found for instance in biscuits packaging;
- "regular" **0,4 mm** cardboard found for instance in tissue boxes;
- "thicker" **0,5 mm** cardboard found in sturdier breakfast cereal boxes.

Glue works better on the **porous** side of cardboard packaging.
The smooth, printed side is better suited to be painted over.
Glueing two smooth sides together doesn't work well.



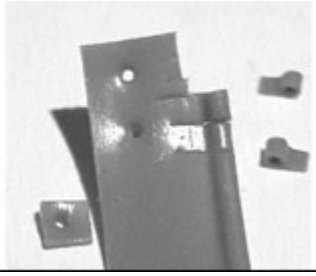
Accumulate several layers to measure the thickness. Here, the difference between regular and very thin cardboard is quite visible.

M02 **Double Wire Clips** can be found in bread packaging for instance, they have very malleable wire. DWC plastic can be transformed into parts that match the wire perfectly.



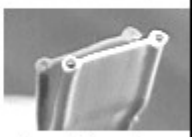
Plastic tubes





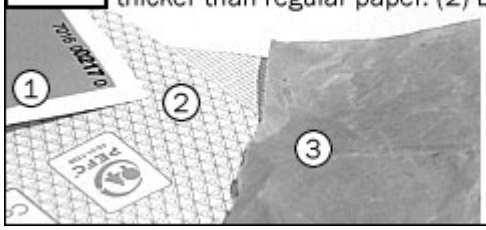


If you have double wire clips of slightly different thickness, sort them out and use only the thinner ones for this project.



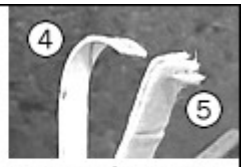
The basic car miniature will require at least three double wire clips, some special versions even more.

M03 (1) **Rigid Paper** can be found for instance in train tickets and magazine covers, it is thicker than regular paper. (2) Different patterns at the back of envelopes makes them a good source for **regular paper**, use a different pattern for each series of parts.



(3) **Thin Kraft paper** can be found in paper bags for fruits & vegetables.

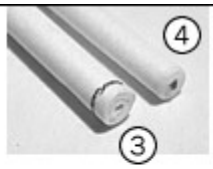


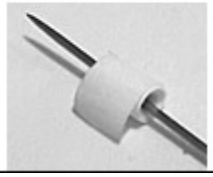


Rigid Paper is made of a single layer (4) whereas cardboard (5) is made of several layers that come apart when bent.

M04 (1) Ø 0,3 mm **thin wire** is typically sold as "florist wire" or "jewelry wire". Ø 0,25 mm thin plastic-wrapped "freezer" wire (2) can substitute for thin wire.







This design uses paper stems of ear cleaning swabs ("**Q-tips**"). Some varieties have a **hole** in their center (3).

Note that different varieties have been marked differently (4) so that the workshop's materials supply remains manageable.

(5) Q-tips stems are a tight roll of paper. Conical shapes can be made by pushing in the center with a nail or a similar object.

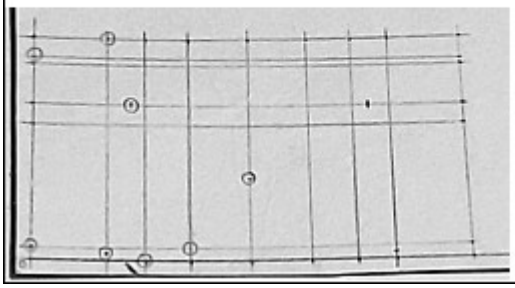


Some parts have a simple design and are best draw in batches, using a ruler. Severals examples are shown in the Steps illustrations.

Other parts have a complex design, which would be too time-consuming to draw from scratch. In these cases we will first make a **template**, a piece of cardboard with all the markings needed to replicate these parts, as well as indications to modify and position them precisely afterwards.

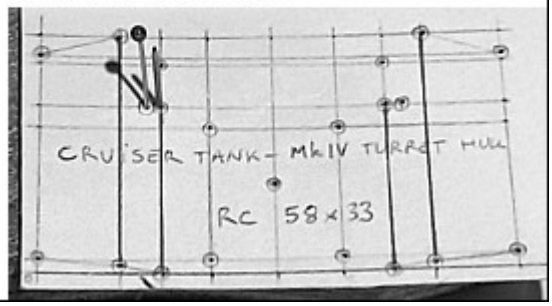
P01 **How to make templates**

1. On a white piece of cardboard, draw a rectangular frame and write the measures on all sides.



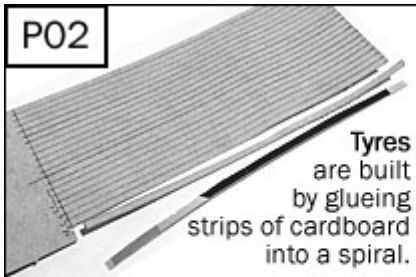
2. Use these marks as a grid to position points of the template. Draw the template.
3. Pierce the points as indicated then cut to shape.
4. Label the template. Draw the location of the folding lines with a distinct colour, also mark "special" dots.

First pierce with the Ø 0,4 mm pin then use the Ø 0,6 mm pin and wiggle it so the Ø 0,7 mm graphite tip of the mechanical pencil can get through.



Most templates are on the central pages (pages 8 & 9)

P02



Tyres are built by glueing strips of cardboard into a spiral.

2. Coil the strips around a pen to give it a shape.





3. Start by glueing a portion of the strip to the wheel rim, so you can position it precisely at the depth you want. Let the glue harden.

1. For both ends of the strip, shave off about 1 mm from the smooth side, in order to avoid a visible "step" where the strips ends.

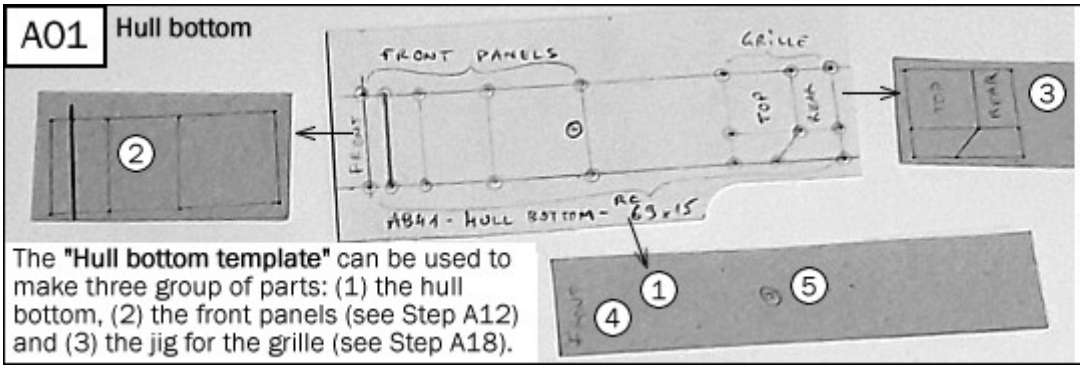


4. Glue the rest of the strip in a spiral, all at once. While the glue is still fresh, apply pressure on the spiral or rub it against a flat surface, so that the outward side has an even aspect.



Part A - AB41 hull

A01 Hull bottom



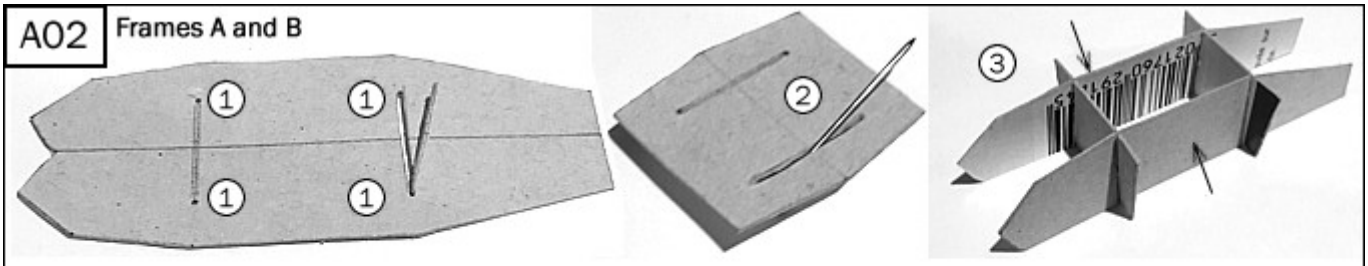
The **"Hull bottom template"** can be used to make three group of parts: (1) the hull bottom, (2) the front panels (see Step A12) and (3) the jig for the grille (see Step A18).

At this stage, we only need the "hull bottom" part.

(4) Write where the front of the part is.

(5) Perforate this dot, it is used by the turret's axle.

A02 Frames A and B



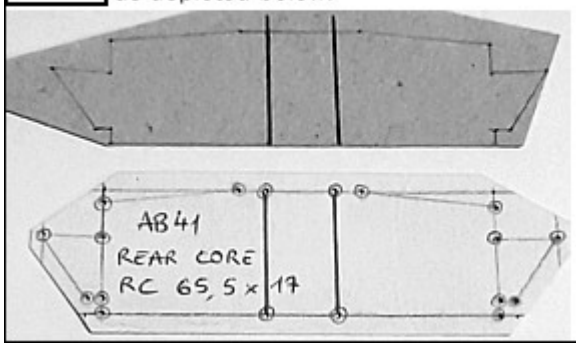
Cut out the outer shape of the "A" frames, but don't separate the two halves yet. Perforate the dots (1) then cut out a slim slit (less than 1 mm wide) between the dots as depicted.

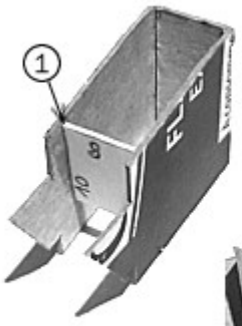
Apply the same procedure to the "B" frames. (2) If need be, use the pin to smoothen the cuts.

(3) Slide the frames together as depicted, **do not glue** them together. Make sure the **porous side** of the frame A parts is facing outwards.

Apply glue underneath the frame assembly, glue it to the "bottom" part, aligning it on the front.

A03 Draw, cut and fold the **rear core** part as depicted below.





Glue a 10x8 mm piece of carboard (1) to secure the folded part in place, so that the two sides are exactly aligned one to the other (2).

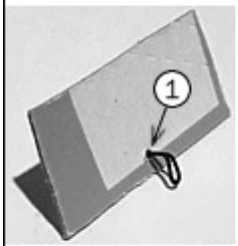
Glue the rear core aligned to the rear of the "bottom" part (3). Make sure the "rear" part will not be tilted to a side.

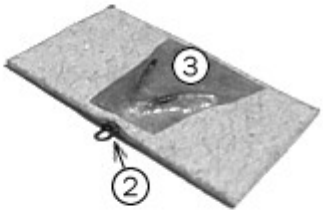


A04 "**Rear**" part with optional shacklebolt.



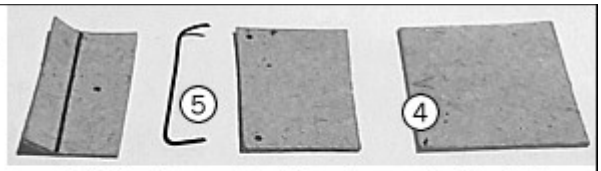
Bend about 15 mm of thin wire in the middle, use the pliers to bend the loop in a hook 2 mm long.





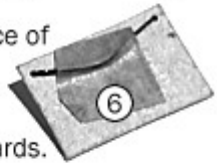
Perforate then cut the "rear" part. Insert the thin wire part (1) from the smooth side completely (2). On the porous back side, spread the thin wire into a "V" then glue thin paper kraft over it (3) to hold it in place.

"**Front**" parts with optional wire details.



Cut, perforate and fold the three "front" parts as depicted. The large part is almost square, make a marking (4) on the large part to know how to glue it.

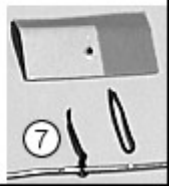
(5) Bend 3 mm at each end of a 20 mm piece of thin wire. Bend the piece so that each hook can be inserted into the holes, secure the part by glueing a piece of think kraft paper over it (6). Use pliers to bend the hooks inwards.



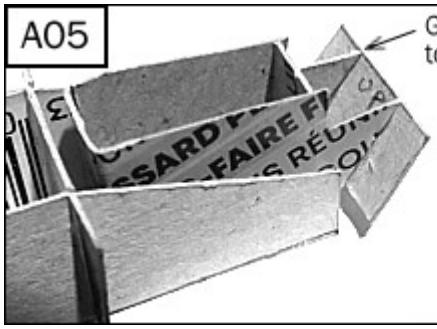


Bend 15 mm of thin wire and twist it around paperclip wire (7) into a loop.

Insert it and secure it like in steps (1), (2) and (3).



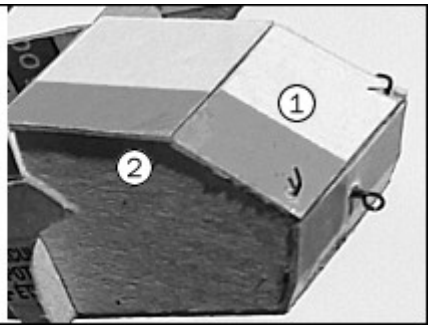
A05



Glue the "**rear**" part aligned with the top of the "rear core" prolongation.

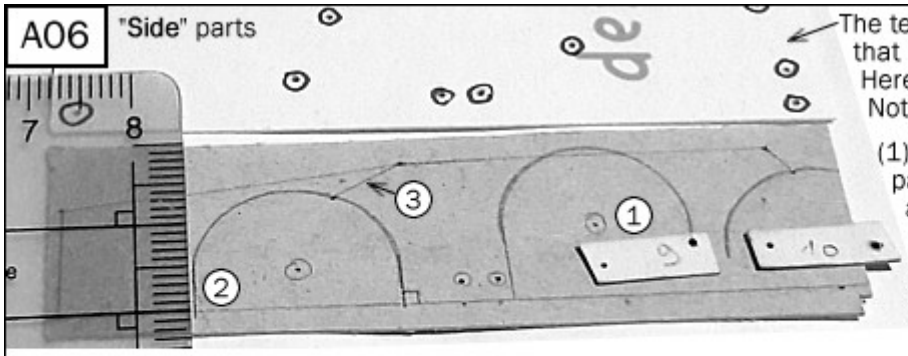
Glue the "**front**" panels, starting with the lower one. The middle panel (1) is positioned above and on top of the lower part.

(2) Trim the excess on both sides.



A06

"**Side**" parts



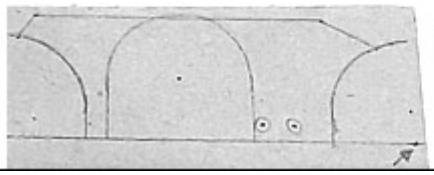
The template should be made on cardboard that has a light (or uniform) smooth side. Here the reverse side has been used. Notice the dots have all been marked.

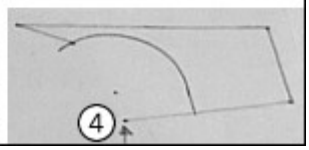
(1) The circles have to be drawn on the part. The arch for the spare wheel has a diameter of 9 mm.

(2) Use a set square to connect the half-circles to the lower limit of the part.

Cut away the arches for the wheels, but do **not** cut the arch for the spare wheel at this stage.

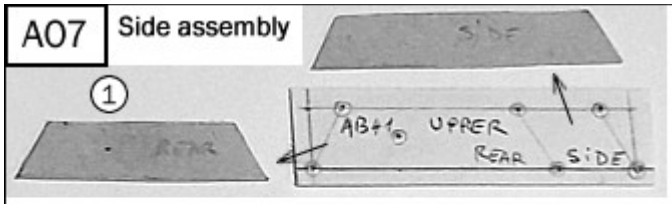
(3) This segment will have to be cut, the rear part will be at an angle. (4) If you remake a part, use the dot below the rear wheel axis to draw its lower limit.



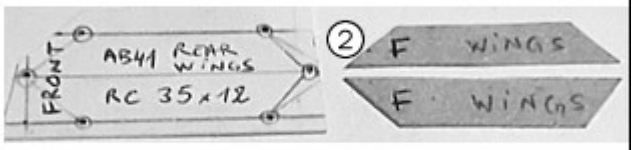


A07

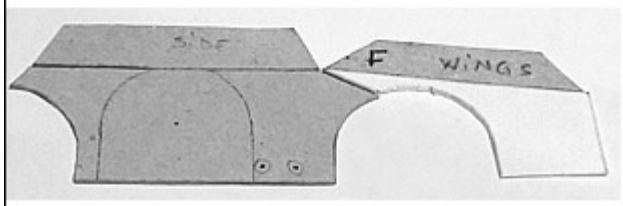
Side assembly

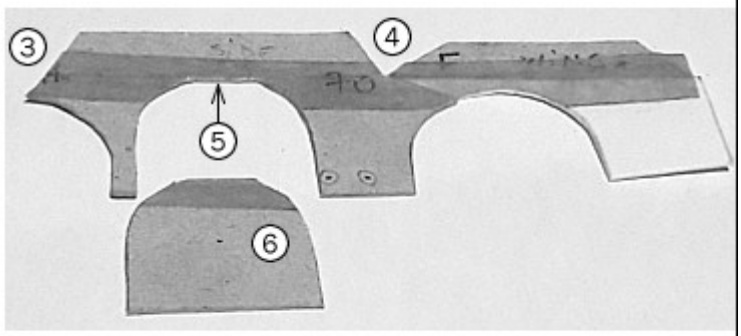


Use the"upper rear & sides" template to make one rear part and two sides parts. (1) The rear part has a dot for the machinegun port (see Step A10).



(2) Write an F on each "wing" part to locate the front position.





Position the four elements as depicted above. These are all porous sides.

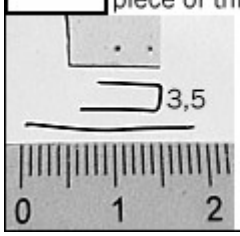
Prepare a 70 x 7 mm piece of thin kraft paper (3). Apply glue to it then glue it across all parts. Immediately make sure that all the parts are correctly positioned before the glue hardens.

When the glue has hardened, trim the excess paper parts (4).

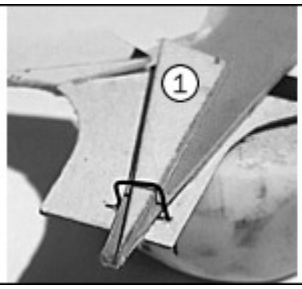
If the limits of the arch for the spare wheel is not visible through the paper, use the compass to redraw it.
(5) Remember that there is a straight portion.
(6) Cut away the central arch.

A08

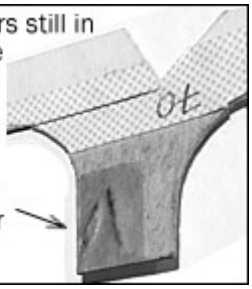
"**Ladder**" part, for each side. Cut a 17 mm piece of thin wire, bend it as depicted so the middle part is 3,5 mm long.



(1) Glue two layers of cardboard together, cut in pointy triangles as depicted. Insert the wire part into the holes, then position two double-layer triangles as spacers.



With the spacers still in place, bend the wires on the other side, vertically but not parallel. Glue a piece of thin kraft paper over it.



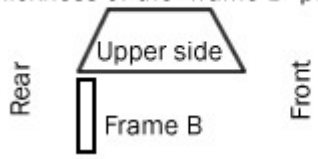
A09



Glueing the sides to the frame

Fold the paper at the seam between the "side" parts and the "upper side" and the "wing" parts.
Apply glue to the slice (the end) of the "frame" sides (1).

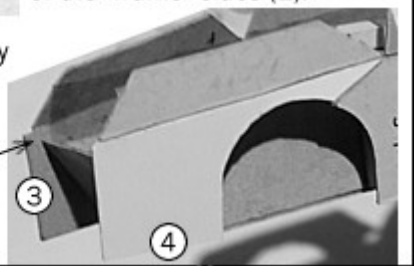
(2) Position the side assembly so that the end of the "upper side" part is over the thickness of the "frame B" part.



Glue the rear part of the side assembly to the "rear" part (3).

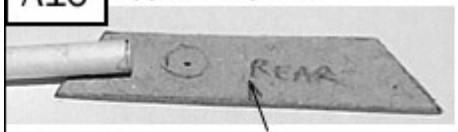
There should be about 2 mm between the top of the "rear" part and the top of the side part.

The bottom of the side should be at the level of the "bottom" part (4).



A10

Upper rear panel

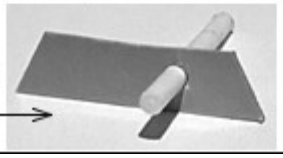




Position the stem of a Q-tip over the dot and draw a circle around it.

Cut an octogonal shape inside that circle.

Gently push the Q-tip stem through from the outside.



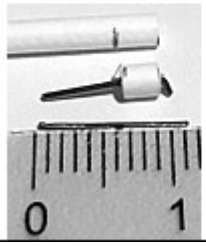


Tip the Q-tip as depicted so that the hole borders are at an angle.

Cut at least 11 mm of DWC wire, make a mark at 6 mm from one side. Cut 3 mm of Q-tip stem.

Dry-fit the 3 mm piece of Q-tip so that 6 mm of the wire protrudes.

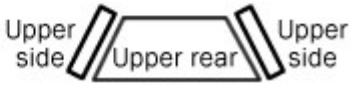
Mark the other end and bend it into a hook.



Glue the MG assembly to the upper rear part, its bottom part flush with the panel.
See final details on Step A12.

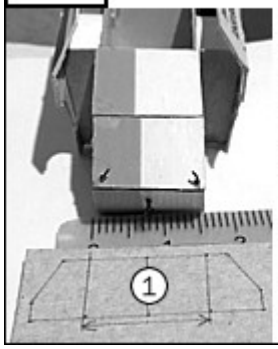


Glue the "upper rear" part between the "upper side" parts, align to the top.



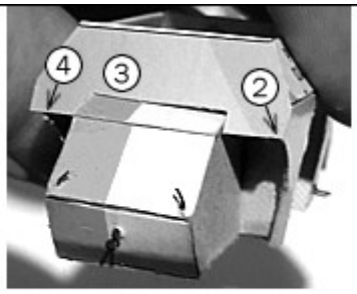
A11

Upper front panel



Mesure the width at the top of the front section.
Use the central line (1) to draw that width on the "upper front" part.

The "upper front" part is positioned in front of the "upper side" parts.



It is necessary to **adjust** the position of the bottom slit manually.

The bottom of the part should be flush with the end of the "hull side" part (2).

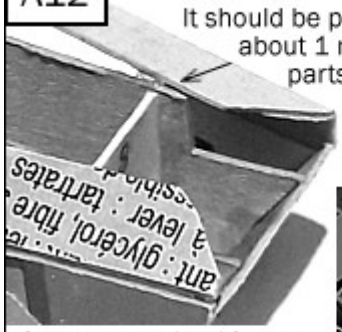
On this picture, we can see this alignment doesn't occur on the right hand side (4) because there is an excess (position "3") that needs to be cut.

This is why the adjustment should be made **gradually**, by removing thin slices at a time.

A12

Rear top panel

It should be possible to glue about 1 mm of each "wing" parts to the "rear core".
This provides the correct angle to the "wing" part.



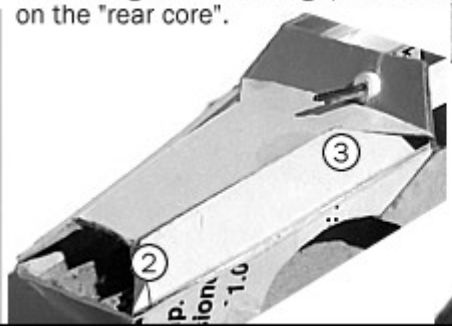
If not, glue a 15x10 mm piece of regular paper on top of the "rear core" (1). When the glue has dried, glue the wings on the paper.

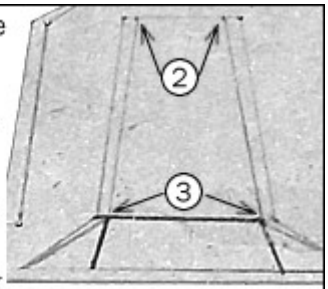


The "rear top" part obtained from the template is deliberately too large.

Measure the width between the "wing" parts at positions (2) and (3), adjust accordingly.

Glue against the "upper rear" part, on the edges of the "wing" parts and on the "rear core".

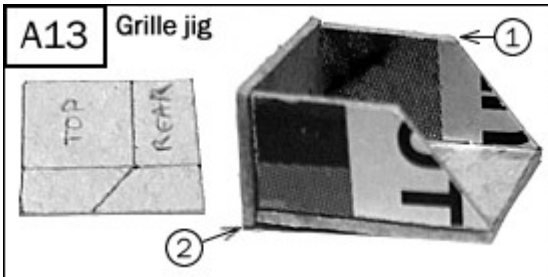




Glue a strip of thin kraft paper at the rear of the MG "hook".



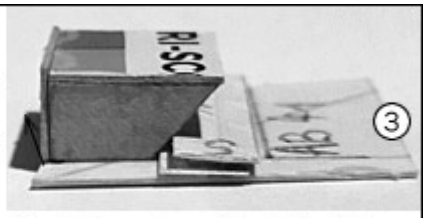
A13 Grille jig



Glue the jig's sides to the "top" part, the "rear" is glued to the sides, flush with their bottom (1) and to the "top" part.

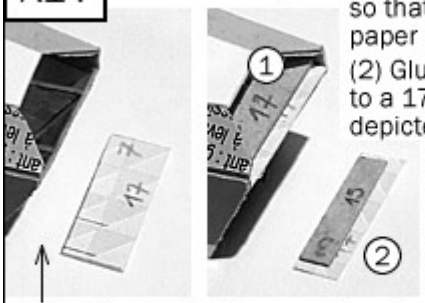
(2) Notice that the excess length is on the side that will be upwards.

Glue the assembly to a flat piece of cardboard (3).



Push the parts against the jig to get them at the correct angle.

A14 Grille assembly

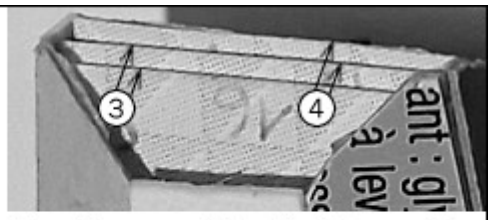


(1) Glue a 17x5 mm piece of cardboard so that 2 mm of the underlying rigid paper part remains free.

(2) Glue a 15x3 mm piece of cardboard to a 17x5 mm piece of rigid paper as depicted. Measure the width of the third rigid paper part directly on the model, use dry fitting.

Use the grille jig (see Step A13) to glue the third rigid paper part to the (2) assembly.

Apply glue on the "rear core" and on the top of the "rear" part. Glue a 17x7 piece of rigid paper, flush with the "rear" part, make sure there are no gaps.



Glue this assembly to the (1) assembly so that the **spacing** (3) obtained with the jig is maintained (4). Glue the next pieces of rigid paper using that spacing directly, without using the grille jig.

The spacing is too small to be measured precisely in any practical manner, this is why we have to use the jig.

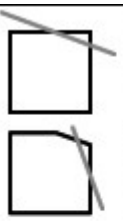
A15

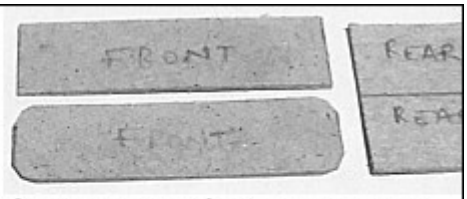
For the **spare wheel mudguard**, apply glue to one side of a 50x8 mm piece of regular paper.



Apply glue to the slice of the hull. When glueing the paper to the hull, make sure there are no gaps and that the paper is also glued to the "frame" part.

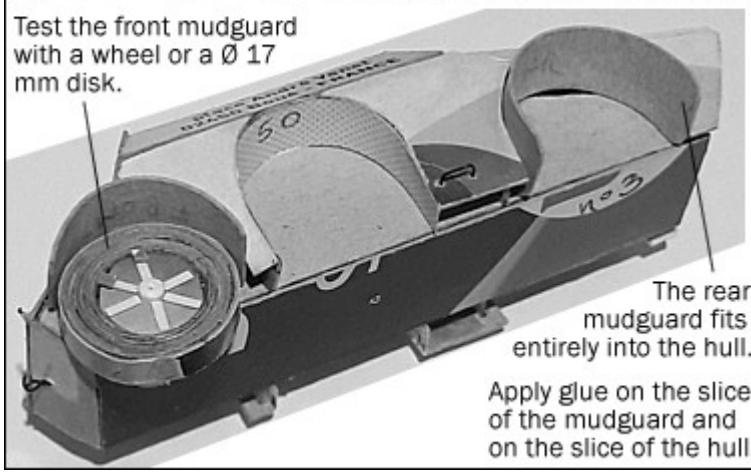
Trim the excess with nail scissors.





Cut all corners of the mudguards as suggested above, to get a shape as circular as possible.

Test the front mudguard with a wheel or a Ø 17 mm disk.



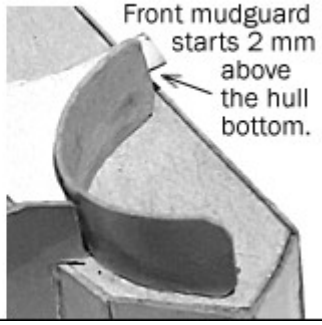
The rear mudguard fits entirely into the hull.

Apply glue on the slice of the mudguard and on the slice of the hull.



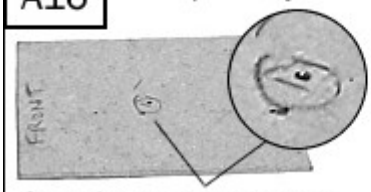
Use a cylindrical object to give the mudguards a round shape.





Front mudguard starts 2 mm above the hull bottom.

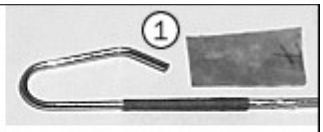
A16 Hull top & MG jacket



Cut a 1 mm square around the dot for the turret axle, write "Front" to locate the front position.



Trim the excess on the upper front panel.



Dry fit first, to determine if you have to adjust. Do so before glueing.

Perforate with the turret axle.



MG jacket: Glue a 7 mm-wide piece of thin Kraft paper (1) around paperclip wire (about Ø 0,7 mm).

Cut 4,5 mm of the tube, flatten it then glue it over the barrel and to the Q-tip base.





For the turret axle, cut 31 mm of a toothpick, including the pointy end.

Note: if possible, use a different knife for cutting toothpicks and wood.

The pointy end of the turret axle meets the hole on the "bottom" part (Step A01).

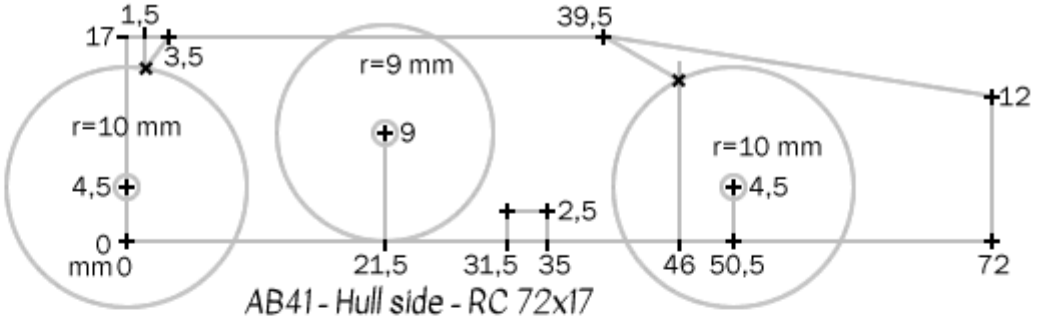
AB 41
Templates
Scale 1:64
Page 1/3

+ Pierce for 0,7mm

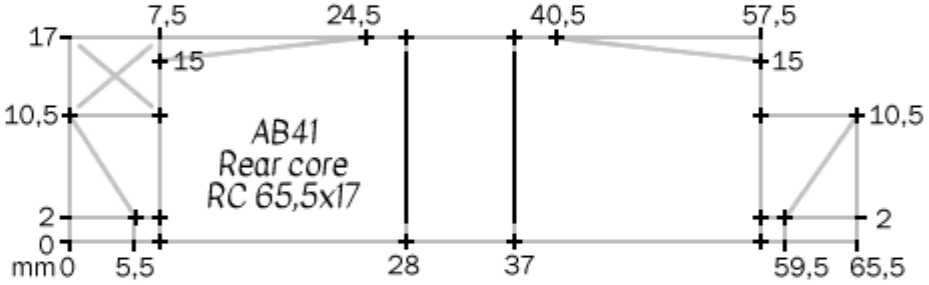
× Calculated / intersection

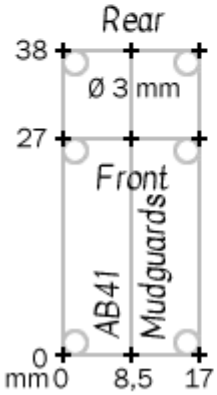
Folding line

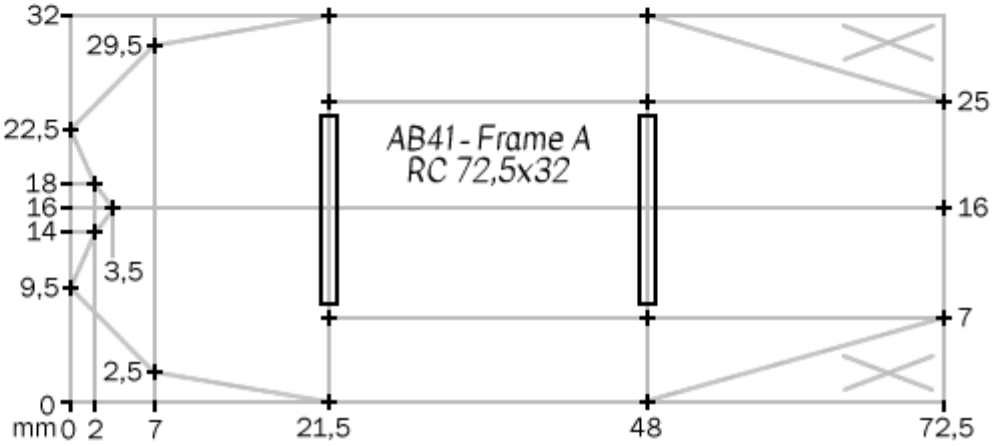
RC: Regular Cardboard
RP: Rigid Paper

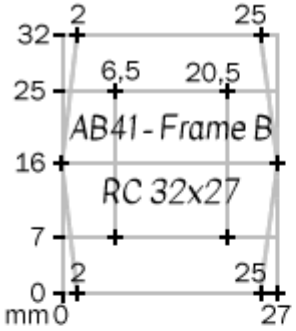


AB41 - Hull side - RC 72x17

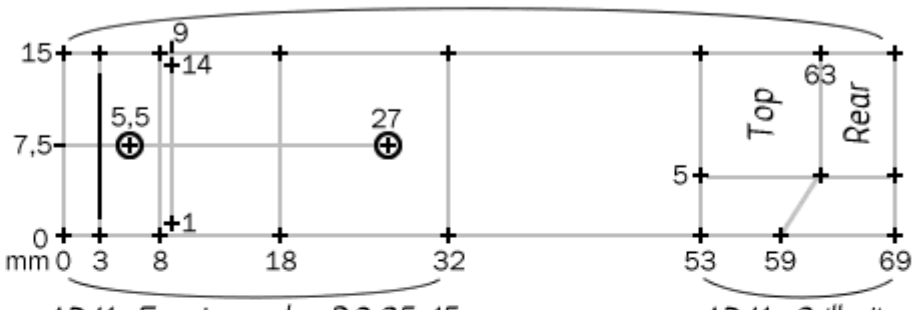






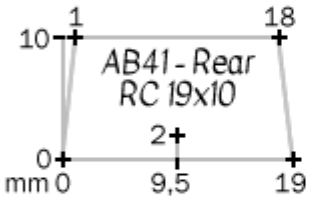


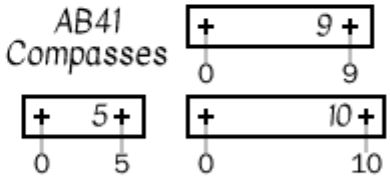
AB41 - Hull bottom - RC 69x15

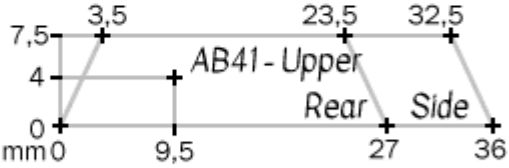


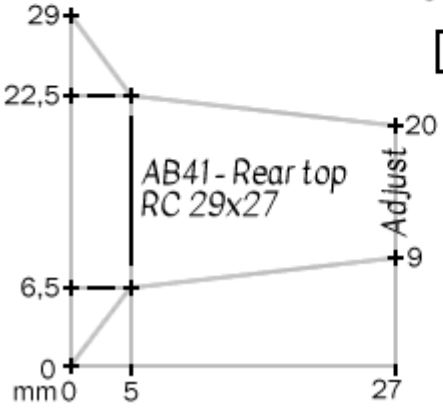
AB41 - Front panels - RC 35x15

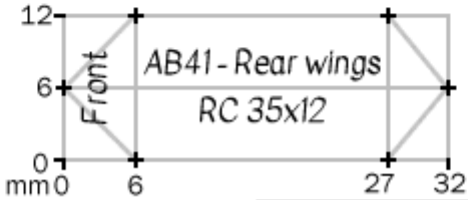
AB41 - Grille jig

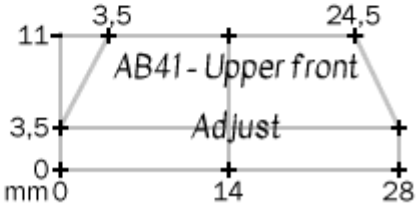












Diagrams on this page are not all at the same scale

AB 41
Templates
Scale 1:64
Page 2/3

Flip it along this side

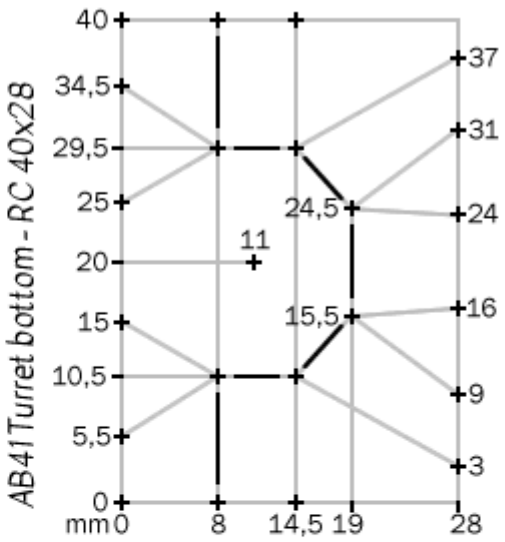
+ Pierce for 0,7mm

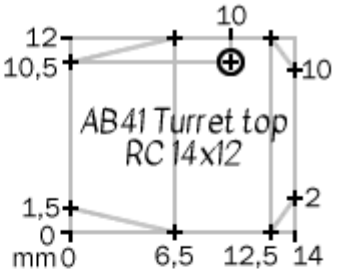
× Calculated / intersection

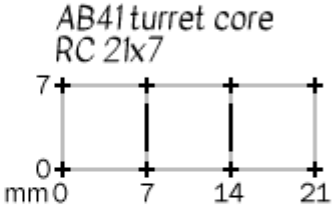
⊕ Special purpose

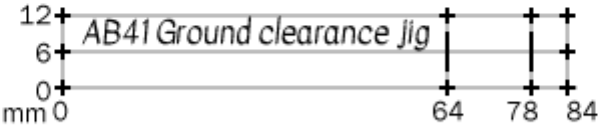
Folding line

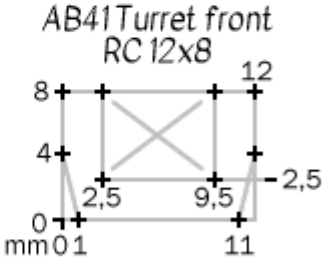
RC: Regular Cardboard
RP: Rigid Paper

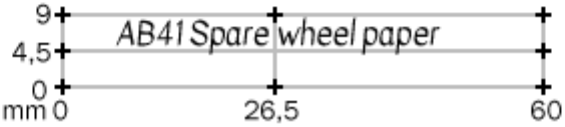




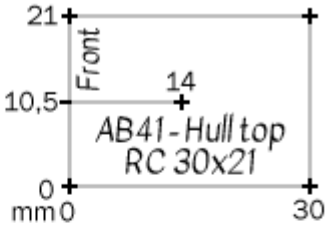


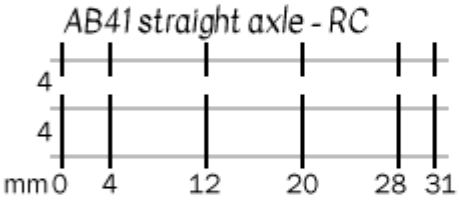


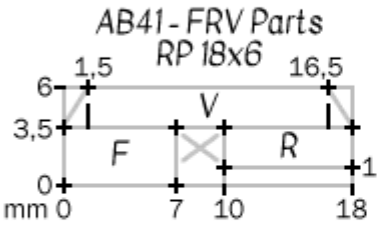




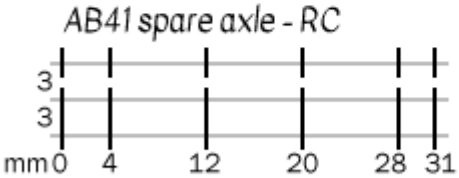


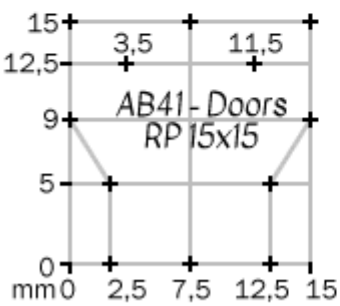


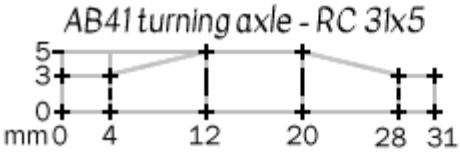


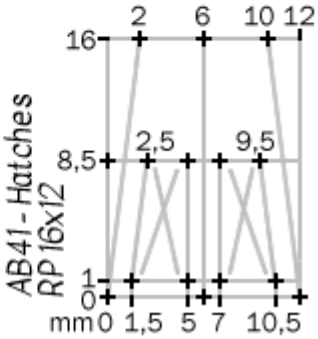












Diagrams on this page are not all at the same scale

AB 41
Templates
Scale 1:64
Page 3/3

Flip it along this side

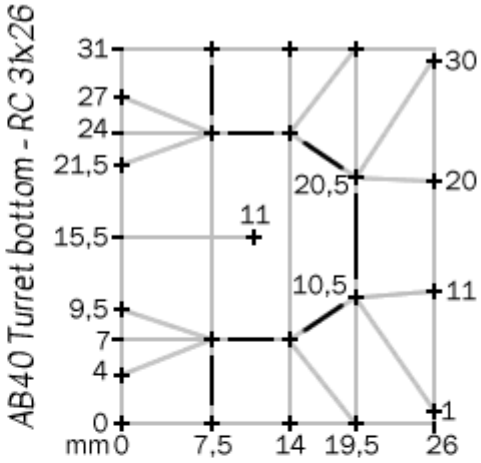
+ Pierce for 0,7mm

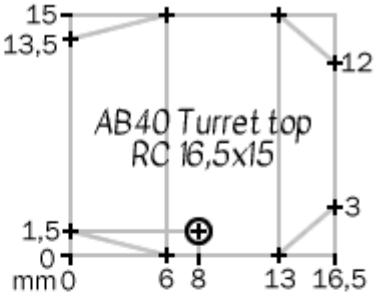
× Calculated / intersection

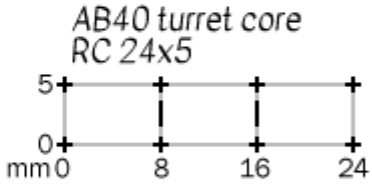
⊕ Special purpose

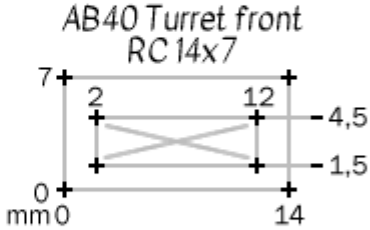
Folding line

RC: Regular Cardboard
RP: Rigid Paper











For the paint stand, perforate a plastic up with a Ø 2 mm drill bit. Perforate DWC plastic and use it on both ends of a shortened toothpick to secure it into place.

Painting: First spray a layer of paint on the parts, absolutely **avoid** water-based spray paints.

Oil paints of the inexpensive "Pebeo XL" brand were used here.
Desert yellow colour is "*Yellow Ochre*" (n° 20) mixed with white. The same "*Yellow Ochre*" with a touch of black will give a greenish ochre, to be used mixed with white for the **Italian** vehicle colour.



It is recommended to mix a matte painting medium to eliminate the oil paints' glossiness.

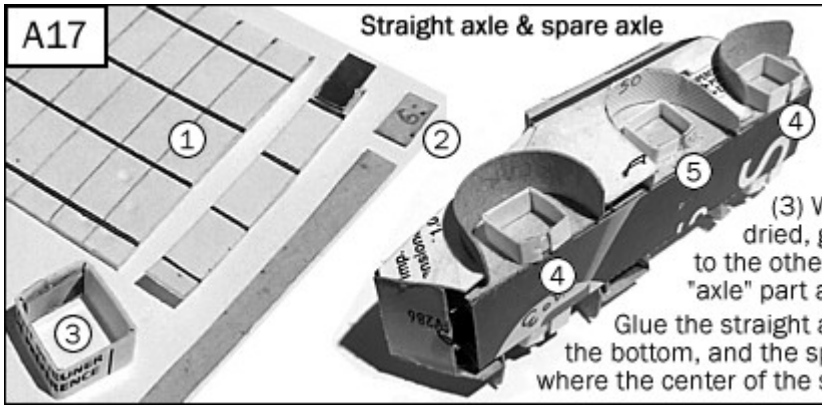
Stick the wheels and the other small parts to adhesive tape for painting, as depicted.

Tyres are painted with a **very dark grey.** The wheel rims, the spare wheel rims and (optional) the inside of the spare tyres are painted in the **base colour.**

"*Burnt Sienna*" is used for the exhaust.

Diagrams on this page are not all at the same scale

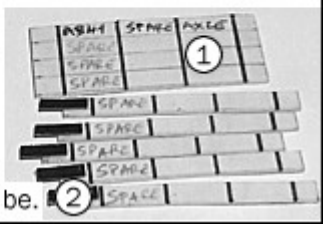
A17 Straight axle & spare axle



(1) Make a cardboard sheet as depicted, to create parts more efficiently. Label the "spare" axle parts to better identify them.

(2) From strips 1 mm narrower than the part, cut 6 mm connectors and glue them to one end.

(3) When the glue has dried, glue the connector to the other end, giving the "axle" part a square shape.



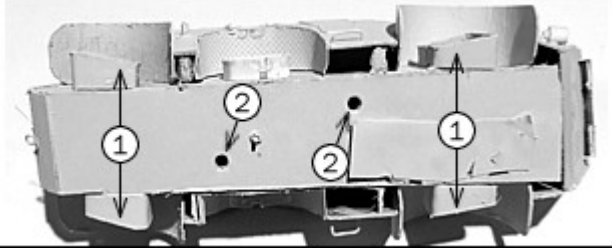
Glue the straight axle (4) aligned to the bottom, and the spare axle parts (5) where the center of the spare wheel would be.

A18

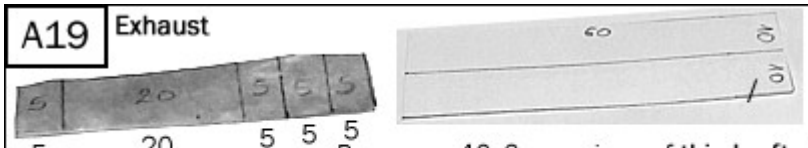


"Steering" axles (optional) are assembled in the same way as the straight axles. Glue them as depicted. (1)

(2) Notice on the bottom side two toothpick holes 20 mm apart. They are used to interface with the paint stand (see page 10).



A19 Exhaust

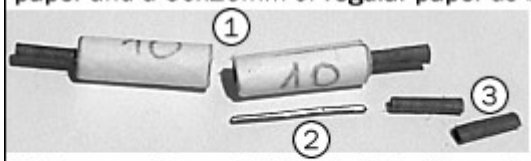


5 20 5 5 5

Prepare a 40x8 mm piece of **thin kraft paper** and a 60x20mm of **regular paper** as both shown above.



Glue the thin kraft paper around a piece of straightened DWC wire, use a toothpick to give the piece of regular paper a round shape.



(1) Glue the regular paper around the "20 mm" segment of the thin kraft paper tube. Remove the wire, cut in two.

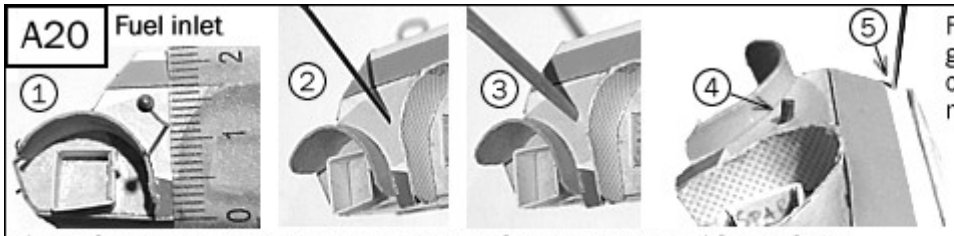


(2 Prepare piece of DWC wire 8 to 10 mm long, be sure to deburr both ends. (3) The 5 mm bits are used as fuel inlets (Step A20). (4) Glue the cylinders to a piece of regular paper, trim the excess when dry.

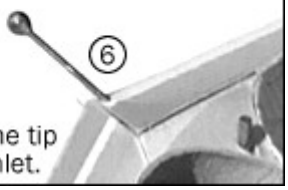


Insert the DWC wire in the tube then 1 mm deeper. (5) Use pliers to bend the tube into shape. Notice the position of the bend and the spiral's end.

A20 Fuel inlet

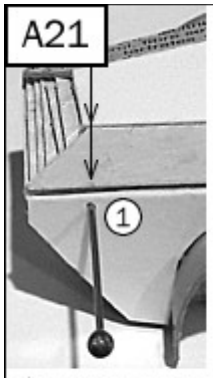


For the **radio hole,** perforate (5) by gently rotating the thin pin (the corner assembly is fragile) then move it to a vertical position (6).



(1) Perforate with the thin pin behind the front mudguard, 12 mm from the bottom. (2) Insert the larger pin then move it at an angle, deforming the hole. (3) Use the tip of a toothpick to enlarge the opening until the fuel inlet can be inserted. (4) Glue the fuel inlet.

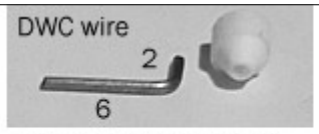
A21



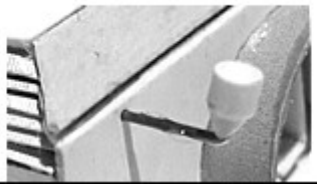
For the **tail lights** cut 2 mm slices from the stem of a Q-tip. Use the tip of a nail to push the slice into the shape of a cone (2).



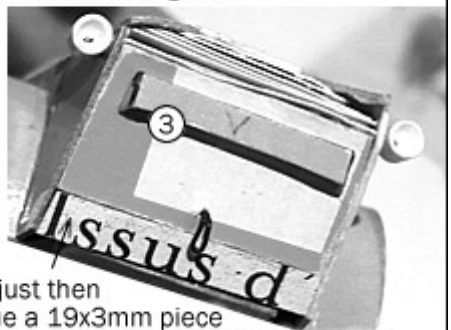
(1) With a thin pin, perforate the rear side at the level of the end of the "rear top" part, 1 mm below the juncture with the "wing" part.



Apply glue to the 6 mm part of DWC wire, insert it into the hole, apply glue on the 2 mm part and insert the headlight on it.

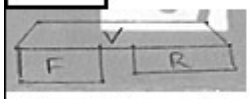


Glue the tail lights against the hull. (3) the "V" part (see Step A22) is glued 1 mm below the grille.



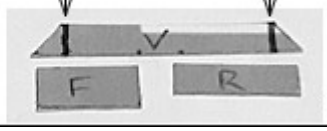
Adjust then glue a 19x3mm piece of cardboard, at an angle if possible.

A22 Rigid paper parts



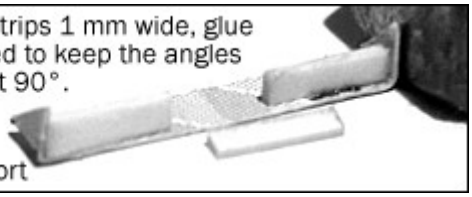
F: front driver vision port

Notice the vertical fold lines.



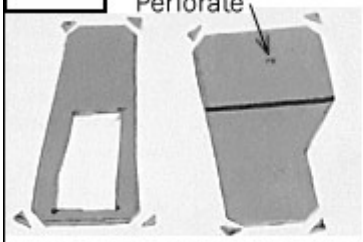
R: rear driver vision port

Cut cardboard strips 1 mm wide, glue them as depicted to keep the angles of the "V" part at 90°.

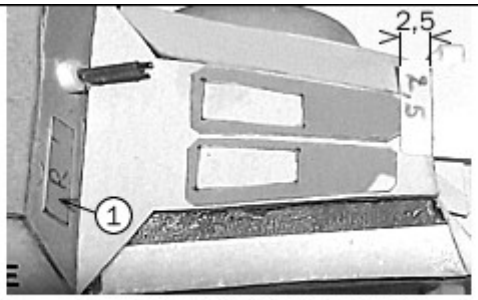


A23 Rigid paper parts, rear

Perforate



Make small cuts to the corners of the "doors" and the "hatches" parts.



(1) "R" rear driver vision port

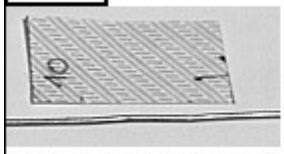
The rear of the door is aligned with the rear corner of the hull top.

(2) Note: check the spare mudguard after glueing.



A24 Front details

(1) Night light: cut a slice of Q-tip 1 mm (or 1,5 mm), glue as depicted.

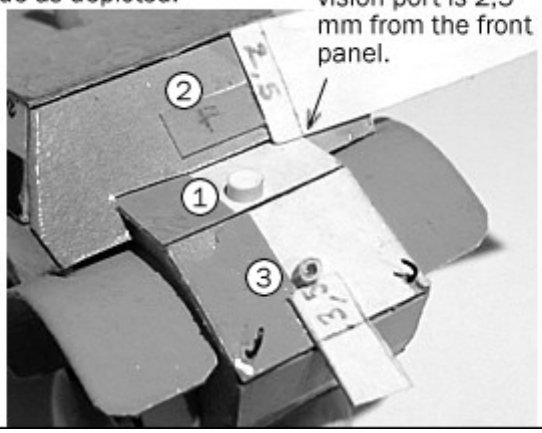


Roll a 10 mm piece of regular paper in a tight roll around straightened DWC wire. Glue only the last millimeter of the spiral.



This happens when you apply glue on the entire inner paper surface.

(2) "F" front driver vision port is 2,5 mm from the front panel.



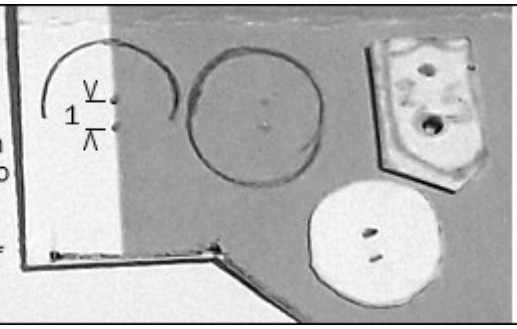
(3) Cut 1 mm from the regular paper cylinder, its diameter should be Ø 1,5 mm.

Glue it 3,5 mm from the front, use the Q-tip slice as a guide to center it.

The Ø 1,5 mm cylinder is also used for the radio antenna (see Step A26).

A25 Headlight covers

On rigid paper, draw two dots 1 mm apart. Use a 2,5 mm compass to draw two half-circles. Connect them with straight lines, cut off the shape.



Fold and glue a piece of regular paper over straightened DWC wire as depicted.

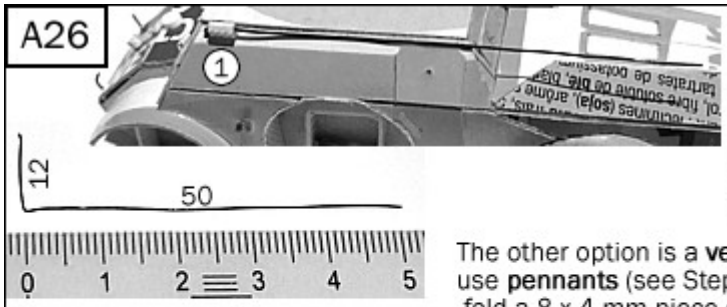


The headlight covers are aligned to the top of the F part.

Glue the hinges as depicted.



A26

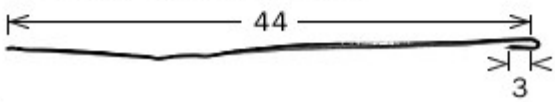


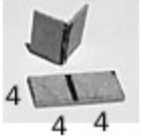
For the **radio antenna**, one option is to glue it in a fixed **horizontal** position. For this, cut 62 mm of thin wire, bend it 90° as depicted. Insert the 12 mm bit in the hole (see step A20 p. 11).

(1) Cut 2,5 mm from the Ø 1,5 mm paper cylinder described in Step A24, slide it to the corner of the wire, then glue it against the hull.

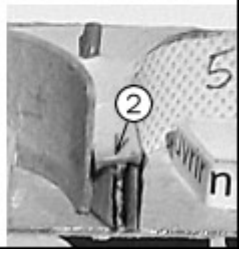
The other option is a **vertical, removeable** antenna, with the possibility to use **pennants** (see Step D05). To support the antenna, fold a 8 x 4 mm piece of cardboard in two, porous side outwards, and glue it between the front mudguard and the frame (2). It is also visible on Step A18.

Cut 48 mm of thin wire, fold to have a 3 mm loop on one end.





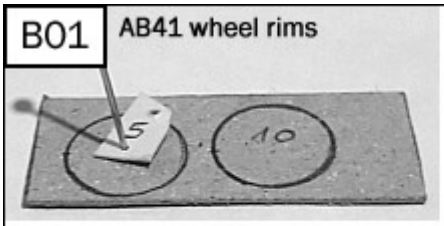
Cut a paper cylinder as above (1), insert it on the antenna then insert the antenna in the hull for painting.

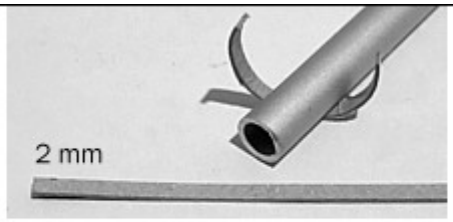


Part B - Wheels

Main wheels, spare wheels

B01 AB41 wheel rims







(1) Use a 5 mm compass to draw **Ø 10 mm** disks on cardboard. use nail scissors to cut these disks off.
For the **spacers**, make strips of cardboard 2 mm wide, cut segments about 30 mm long from it, use a cylindrical object to give them a rounder shape. Apply glue on the porous side of the disks, glue the spacers on it.

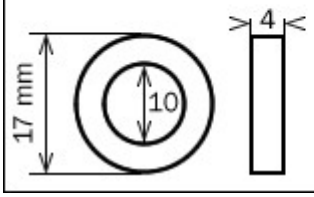
B02

Each AB41 wheel requires a **total length of 300 mm** of cardboard strips 4 mm wide. That length may vary depending on the type of cardboard, the goal is to obtain a wheel that has a **diameter of 17 mm**.

Glue the rim in the middle of the cardboard strip (1). Glue the strips one after the other (2) around the wheel rim, using the spiral method depicted in Step P02 page 3.

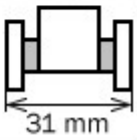




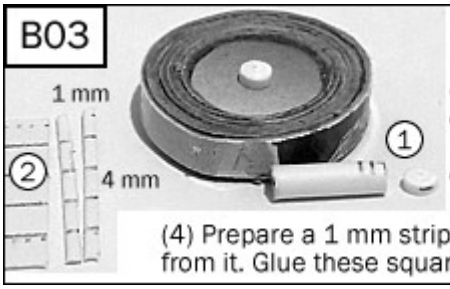


Cardboard strips for one AB41 wheel.

4 150 mm
4 150 mm



B03



(1) Cut a 1 mm slice from the stem of a Q-tip and glue it at the center of the wheel rim.

(2) Prepare 1 mm strips of cardboard as depicted, to be cut in segments 3,5 mm to 4 mm wide. (3) Glue these segments around the center so they form a six-branch star.



(4) Prepare a 1 mm strip of cardboard and cut 1 mm squares from it. Glue these squares on the end of the star branches.

B04

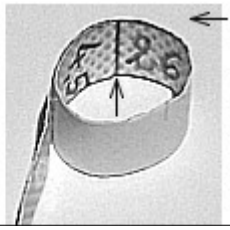
For each **spare wheel**, take the same cardboard strip as you would for a tyre. (1) Wrap it around a rim, without glue, then apply glue when the strip starts to wrap around itself. Once the glue has hardened, remove the rim (2) and finish glueing the strip around itself.





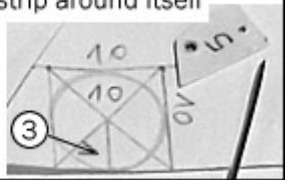
For the **inner cylinder**, prepare a piece of regular paper as depicted.



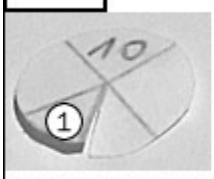


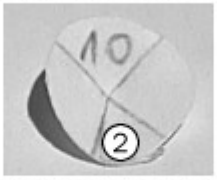
Glue the end of the strip to the 26,5 mm mark as depicted. When the glue is dry, glue the rest of the strip around itself as you would for a tyre.

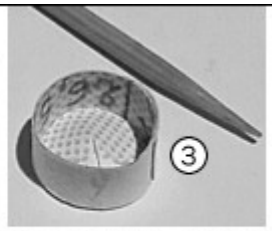
Draw a square with 10 mm sides, draw the diagonals. Use a 5 mm compass on the square center to draw a circle. Add a segment (3) as depicted.

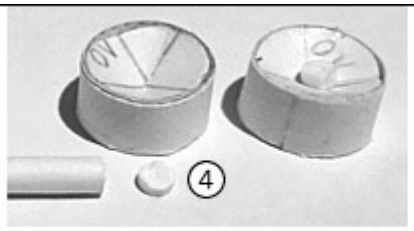


B05 Inner cylinder assembly









(4) Cut a 1,5 mm slice of Q-Tip, glue it at the center of the cone.

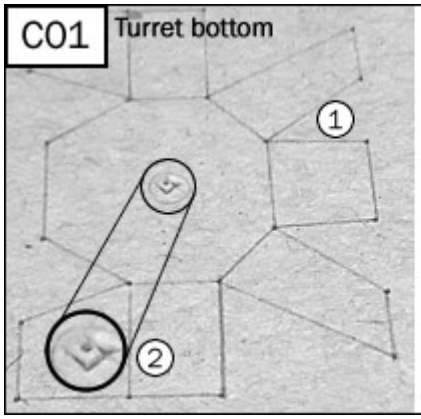
Paint separately.

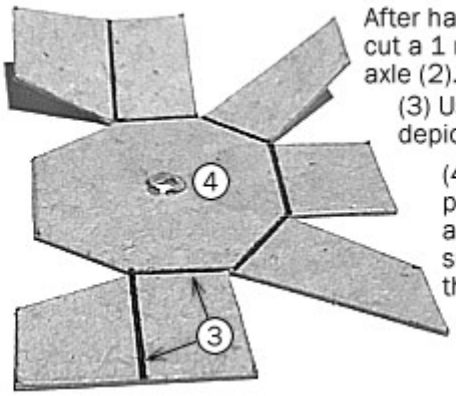
Cut the 10 mm disk out, then cut it at the segment. Apply glue on one of the "quarter halves" (1), glue the other half over it (2). When the glue has dried, apply glue inside one end of the inner cylinder, use a toothpick to push the cone inside (3) until it is flush with the cylinders's end.

Part C - Turrets

AB41 turret, AB40 turret

C01 Turret bottom

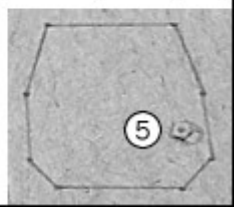




After having connected the dots as shown (1), cut a 1 mm square around the dot for the turret axle (2). (5) Do the same on the **turret top**.

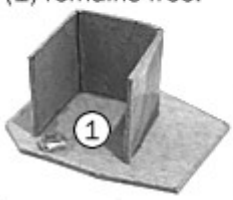
(3) Use a ball pen to draw the fold lines as depicted. Cut away the part.

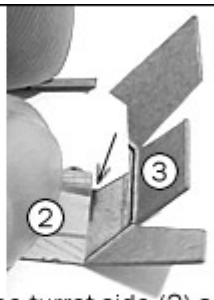
(4) Use the turret axle (see Step A16 p. 7) part to perforate the axle hole, from the smooth side towards the porous side.



C02 Turret assembly

Glue the **turret core** to the **turret top** so that the side with the periscope hole (1) remains free.

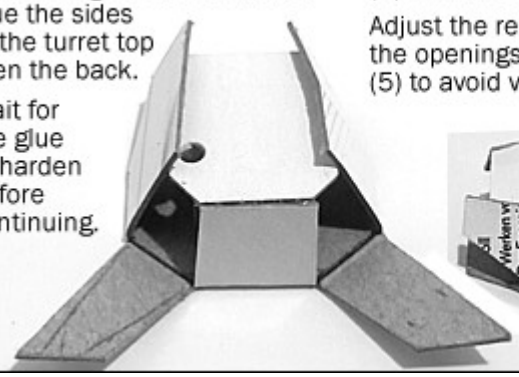




Use the turret side (2) and back (3) panels to position the assembly when glueing it to the turret bottom part.

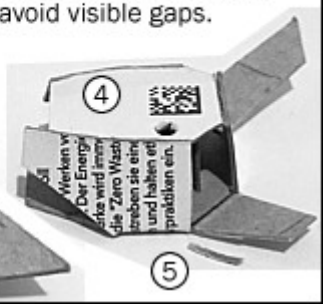
When the glue has hardened, glue the sides to the turret top then the back.

Wait for the glue to harden before continuing.



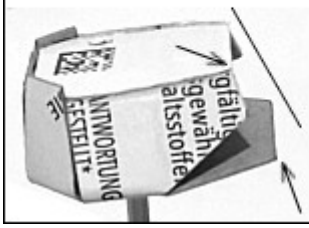
(4) Trim the excess on the top.

Adjust the rear side panels to the openings with small cuts (5) to avoid visible gaps.

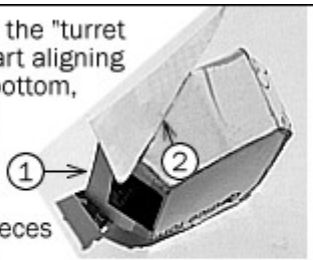


C03

Trim the front sides with nail scissors on a line between the turret top edge and the turret bottom edge.



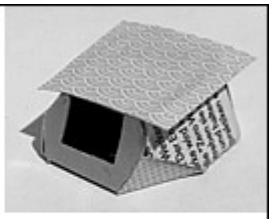
(1) Glue the "turret front" part aligning on the bottom, trim the excess.



(2) Glue small pieces of regular paper, aligning astraight part to the side. Trim the excess with nail scissors when the glue has dried.

Glue regular paper on the top, aligning to the front.

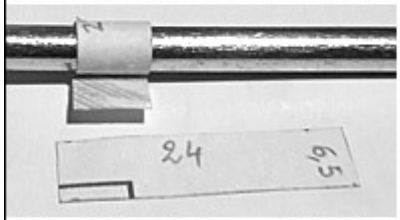
Trim the excess and perforate the hole for the periscope.



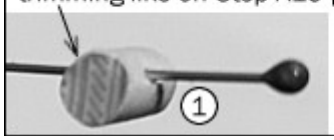
Prepare strips of regular cardboard 2 mm wide.

C04

Glue a 24 x 6,5 mm piece of regular paper around a nail (here of diameter 3,6 mm) in order to obtain a **Ø 4 mm cylinder**.

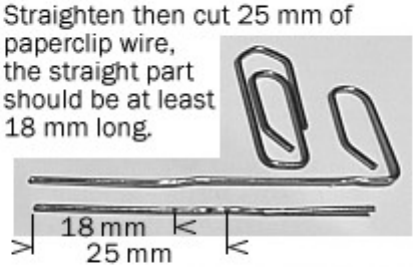


Close this cylinder on both sides by glueing it to regular paper & trimming like on Step A19 p.11.

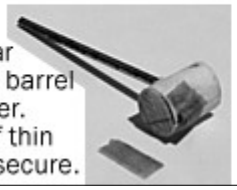


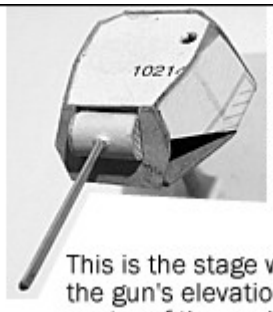
(1) Perforate the cylinder in the middle and 1 mm above the side's middle line.

Straighten then cut 25 mm of paperclip wire, the straight part should be at least 18 mm long.



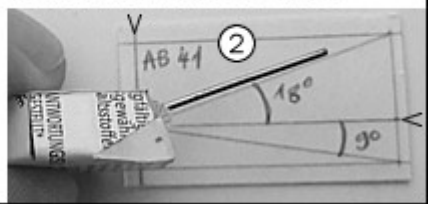
Bend a 2 mm hook at the rear then insert the barrel in to the cylinder. Glue a piece of thin kraft paper to secure.





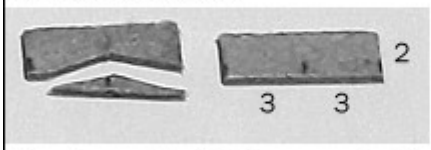
Apply glue inside the "turret front" part opening. Glue the cylinder halfway in, to the bottom and to one of the sides.

This is the stage when you can set the gun's elevation (2). Align the center of the gun's cylinder to the vertical and horizontal lines.



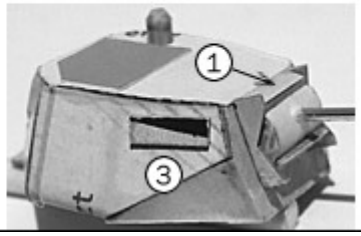
C05

For the sides of the gun mantlet, cut a "V" shape in a 6x2 mm piece of coardboard as depicted below.



The deeper the "V" the more visible it will be, as shown on the right.

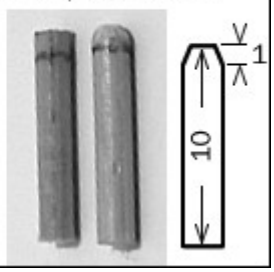
(1) Glue 6,5 x 2 mm strips of cardboard over and under the mantlet, it should cover the gap at the top.



(2) Trim the mantlet side parts. For the AB 41 **periscope**, use a nail file to chamfer a 10 mm piece of toothpick as depicted below.

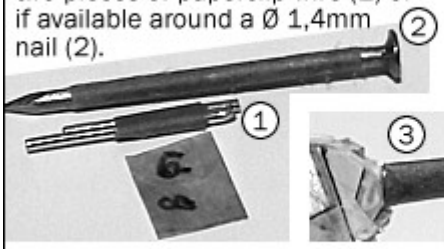


(3) Glue a 5 x 2 mm cardboard part on each side as depicted.

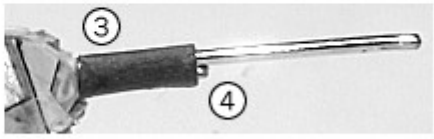


C06

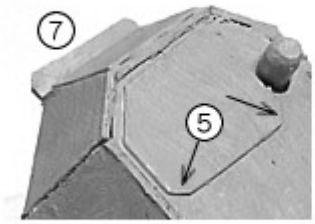
For the **gun jacket**, cut a 8 x 6 mm piece of thin kraft paper. Roll it & glue it around two pieces of paperclip wire (1) or if available around a Ø 1,4mm nail (2).

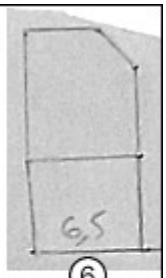


(3) Apply glue on the base of the barrel, slide the 6 mm jacket on it.
(4) Cut a 6,5 mm piece of paperclip wire, apply glue to it and insert it into the jacket.



The **turret hatches** are made from rigid paper. Cut the front edges of the top hatch (5). The rear hatch is slightly narrower at the top (6).





For the **rear platform** (7), cut the edges on one side of a 8,5 x 2 mm piece of cardboard. Glue it to a piece of thin kraft paper.

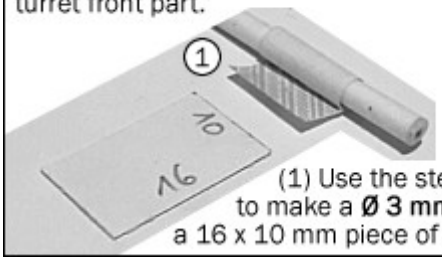


Glue the thin kraft paper under the turret.

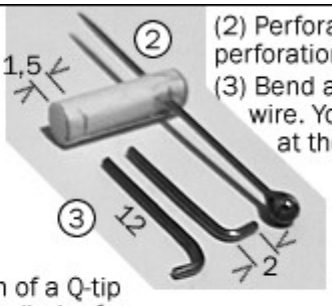


C07

The **AB40 turret** is assembled the same way as the AB41 turret except for the turret front part.

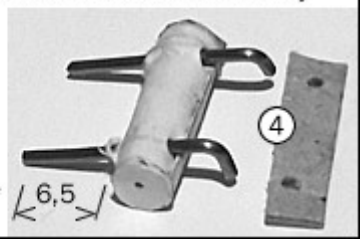


(1) Use the stem of a Q-tip to make a **Ø 3 mm** cylinder from a 16 x 10 mm piece of regular paper (see Step C04).



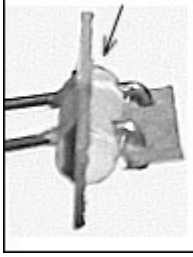
(2) Perforate 1,5 mm from each side, make sure the perforations are at the same height.
(3) Bend a 2 mm hook on two 14 mm pieces of DWC wire. You can see the hooks are not located exactly at the same length.

(4) Perforate a piece of cardboard so that both MG barrels protrude by 6,5 mm.



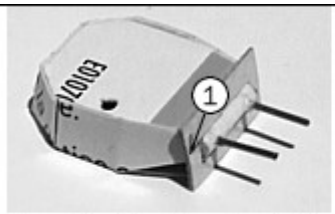
C08

Cut the **opening** on the AB40 turret front part gradually, until the cylinder fits.



Glue the cylinder at an angle, immediately check on the turret if the barrels are horizontal.

Note: elevation 18°, depression -9°, identical to the AB41 gun.





Glue the "front" part, aligning on the bottom.
(1) Cut the front part directly to meet the sides, trim the excess on the sides and top.



AB40 periscope

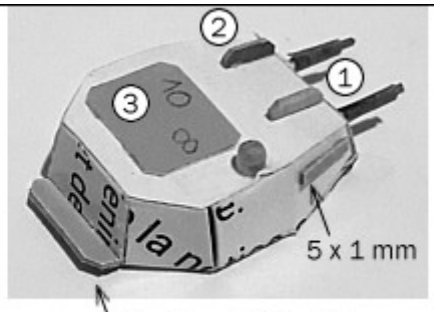
C09

AB40 final details



Glue regular paper to the top, aligned to the turret's front. Trim the excess.

(1) As in Step A16 page 7, cut a 5 mm barrel jacket for each barrel.



(2) The MG magazine covers are 4,5 x 1,5 mm pieces of cardboard, with corners cut. They have to be glued vertically aligned with the barrels and aligned with the front of the turret.

(3) The AB40 turret has only a 10 x 8 mm top hatch with corners cut, there is no rear hatch.

Part D - Assembly after paint

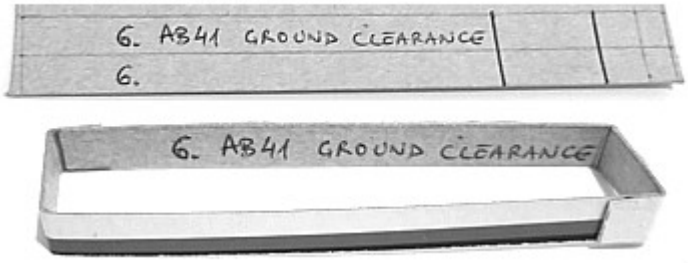
D01 Spare wheel assembly



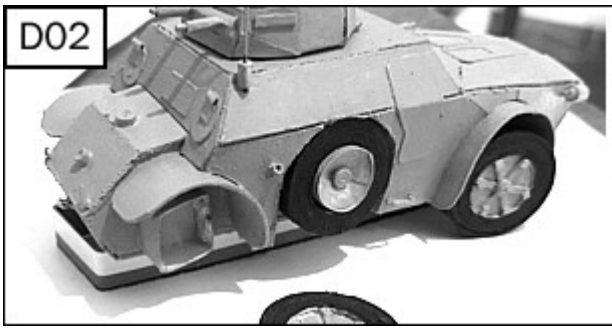


Glue a 10 x 10 mm paper square on the back side of the spare tyre. Apply glue to the base of the spare wheel rim and insert in in the spare tyre.

Road clearance jig assembly



D02

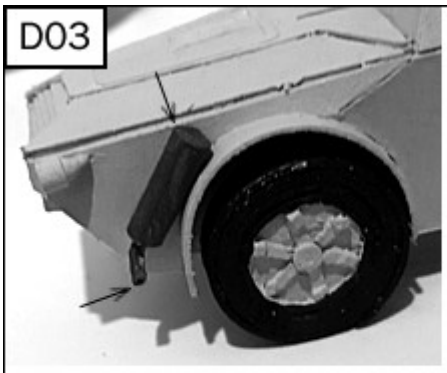


Spare wheel : apply glue to the "axle" part, position the spare wheel to fit at the center of the ciruclar opening.

Road wheels: apply glue to the "axle" parts. Position the hull on the road clearance jig. Press the road wheels against the axle so that the wheel touches the ground.

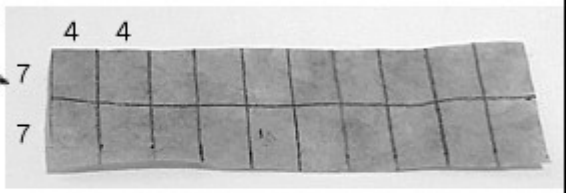
Make sure the end of the tyre "spiral" is positioned downwards, so it can't be seen.

D03



Glue the **exhaust** against the hull and against the rear right mudguard. Align it with the separation between the "rear side" part and the "Wing" part, position the exhaust tube outwards.

Pennants: draw a 40x14 mm piece of thin kraft paper as depicted.

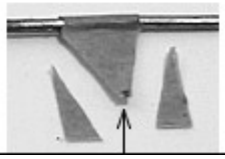


Fold dry first, then insert DWC wire in the fold and glue the sides together.



Remove the wire, place a 2 mm markers on the bottom of each rectangle and cut.

Insert wire for painting and storage.



Paint in simple colours, for instance blue for Western Allies, grey for Germany, Italy & satellite states and red for the Soviet Union.