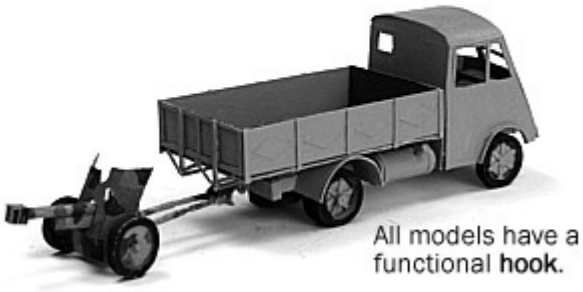
Constellation Miniatures

by Alexandre Karadimas

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

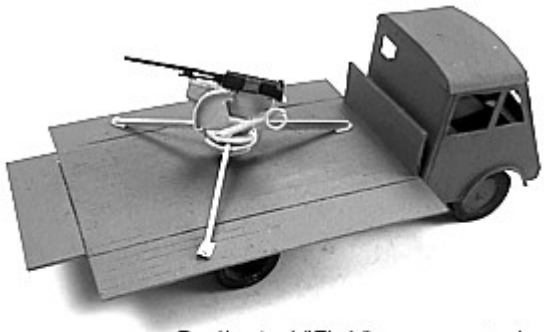
Renault AHS, AHN and AHR trucks

AHS 2-ton truck
All models in this booklet are historically accurate.

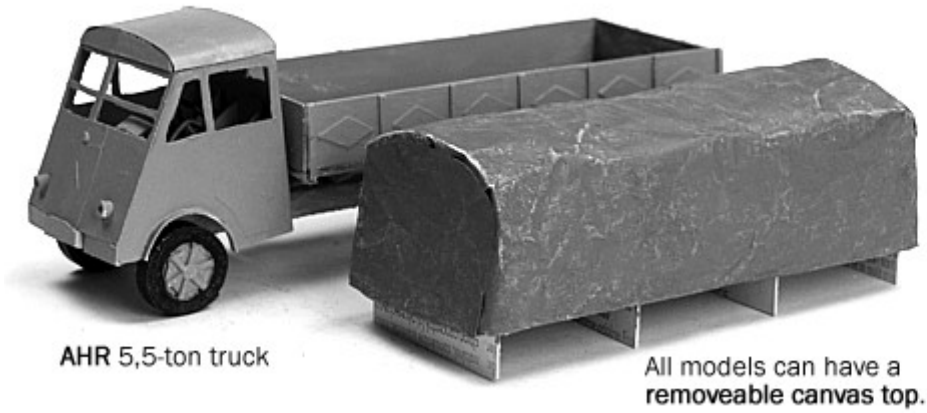


All models have a functional **hook**.

AHN 3,5-ton truck
Notice the simplified wheel rim option.

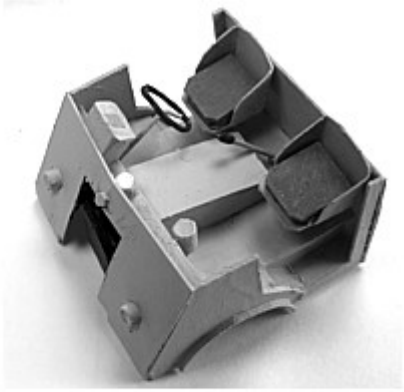


Dedicated "Flak" open cargo bed
(Breda 20/65 is detailed in Booklet n°9).



AHR 5,5-ton truck

All models can have a **removeable canvas top**.



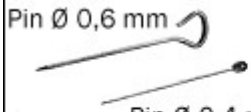
Detailed cabin interior, optional "open door" details.
See Booklet n°12 "AHN_II" for more options and variants.

Download this booklet and others for free from **http://www.constellation-miniatures.com**
Visit the Youtube channel: https://www.youtube.com/@ToothpickMiniatures-wl7gf

Booklet 11 – AHN_I Version 1.1 – April 2026

Tooling, Materials and Production aspects

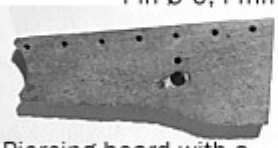
T01 Tools required for all Constellation Miniatures designs



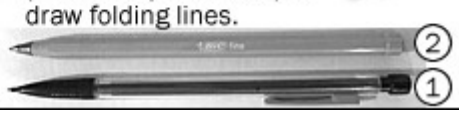

Pair of nail scissors


Small "snap-off blade" utility knife


Pair of thin pliers with a wire-cutting capability


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

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



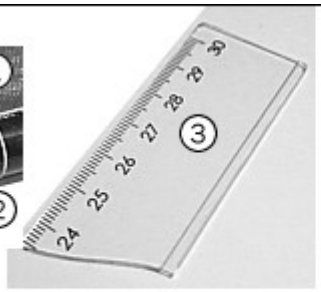
(*) Use a toothpick to apply glue to parts

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

T02 Tools required for this design

A cylindrical object **6 mm** in diameter (preferred), Ø 5 mm to Ø 7 mm is acceptable.

(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 <u>cutting board</u> 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

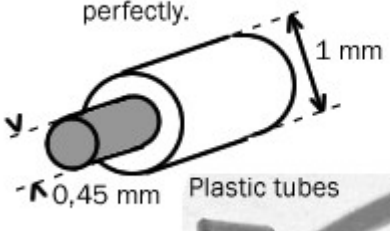
M01 **Cardboard** used in packaging is technically called "thin cardboard". We will distinguish between :

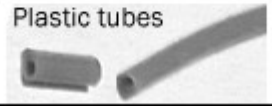
- "very thin" cardboard, as can be found for instance in biscuits packaging;
- "regular" **0,4 mm** cardboard found for instance in tissue boxes;
- "thicker" **0,5 mm** cardboard found in sturdier breakfast cereal boxes.

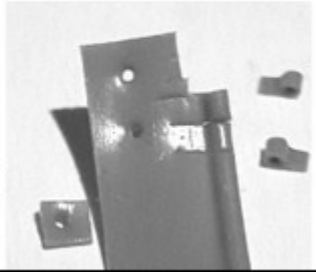
Glue works better on the **porous** side of cardboard packaging.
The smooth, printed side is better suited to be painted over.
Glueing two smooth sides together doesn't work well.

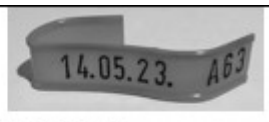
Accumulate several layers to measure the thickness. Here, the difference between regular and very thin cardboard is quite visible.

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.

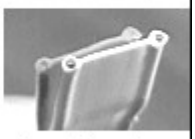



Plastic tubes



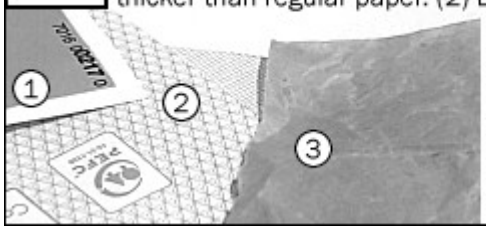


If you have double wire clips of slightly different thickness, sort them out and use only the thinner ones for this project.

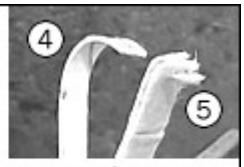


The basic car miniature will require at least three double wire clips, some special versions even more.

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.

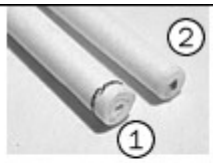


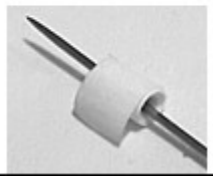
(3) **Thin Kraft paper** can be found in paper bags for fruits & vegetables.



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

M04 (3) Ø 0,3 mm **thin wire** is typically sold as "florist wire" or "jewelry wire". (4) Ø 0,25 mm thin plastic-wrapped "freezer" wire can substitute for thin wire.





This design uses paper stems of ear cleaning swabs ("**Q-tips**"). Some varieties have a **hole** in their center (1), this is required for two optional parts (see Step A09 p.5 and Step B02 p.6).

Note that different varieties have been marked differently (2) so that the workshop's materials supply remains manageable.

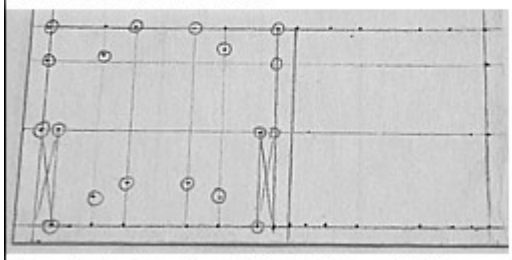
(5) Q-tips stems are a tight roll of paper. Conical shapes can be made by pushing in the center with a nail or a similar object.

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.

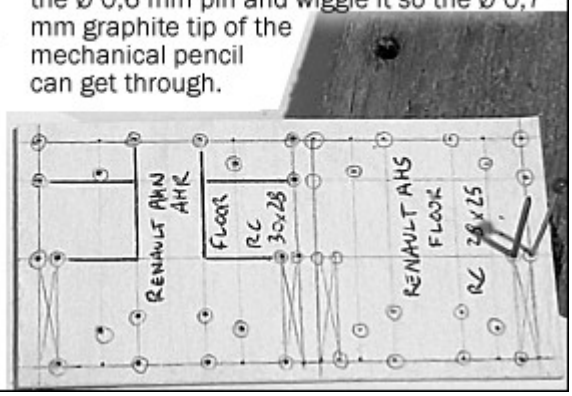
P01 **How to make templates**

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.

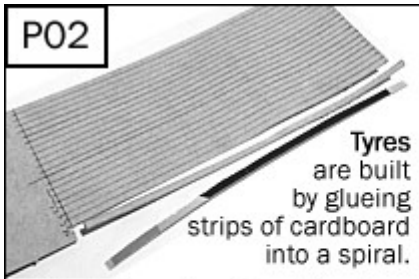
First pierce with the Ø 0,4 mm pin then use the Ø 0,6 mm pin and wiggle it so the Ø 0,7 mm graphite tip of the mechanical pencil can get through.



Templates for the AHN, AHR and AHS are nearly identical, you can save time by drawing them together like in this example.

Most templates are on the central pages (pages 6 & 7)

P02



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

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

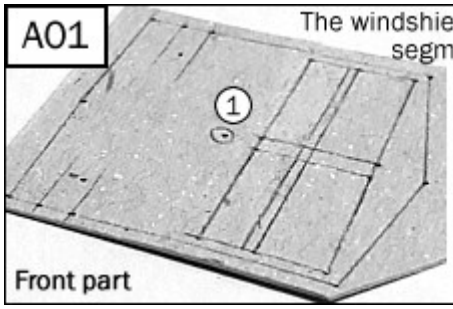
3. Start by glueing a portion of the strip to the wheel rim, so you can position it precisely at the depth you want. Let the glue harden.

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

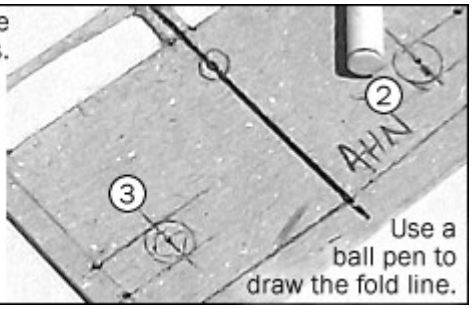
A01



The windshield grilles are delicate, use a new blade segment and start cutting from the corners.

Perforate the dot for the fuel cap (1).

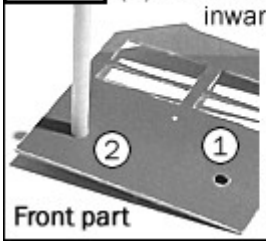
If you want "integrated" headlights, you must the following at this stage: using the lines and the positioning dots, center a Q-tip stem and draw a circle around it (2). Make cuts inside this circle (like an octogon) at some distance from its border (3).



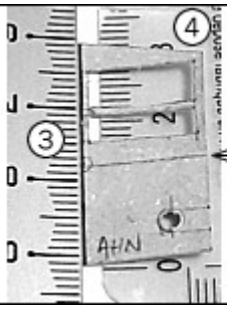
Use a ball pen to draw the fold line.

A02

Cut out the shape inside the headlight circle (1) then slowly push a Q-tip from the outside inwards (2), with a gentle rotating movement. This will enlarge the opening with a perfect fit.



The procedure to finish these headlights is explained in Step A22, along witht he procedure to make separate headlights.

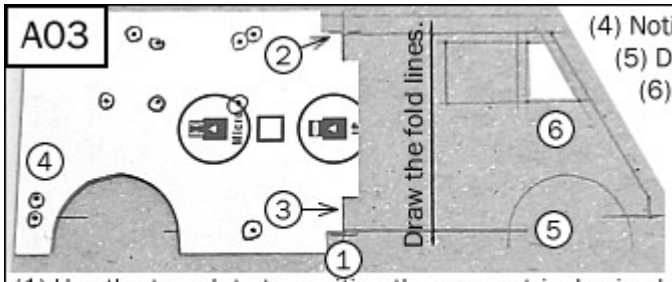


To fold these delicate parts with windows, use a rigid straight object on top (3) and a thin piece of plastic underneath (4).

A horizontal line has been drawn underneath the fuel cap hole to position the dashboard.

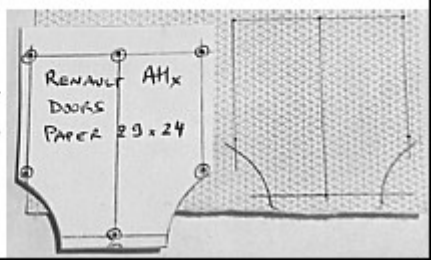
Label each part to differentiate between AHS and AHN/AHR parts.

A03



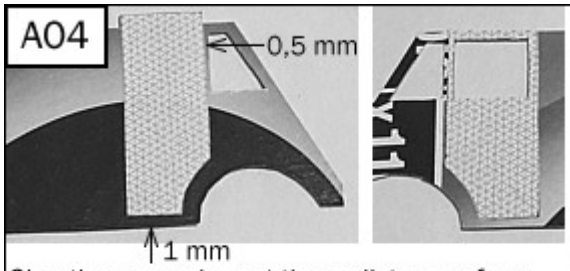
(4) Notice how the dots have been marked on the reverse side.
(5) Draw the lines using symmetrical opposite points.
(6) At first remove only the triangular window.

Make two doors parts from regular paper (here, paper from an envelope).

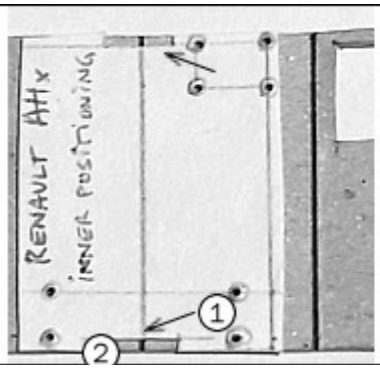


(1) Use the template to position the symmetrical axis, draw a clean line, position the template against it and draw the positioning notches (2). In the case depicted here, the template is aligned (3) to make an AHS cabin.

A04

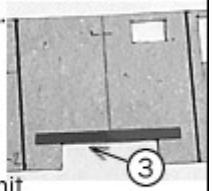


Glue the paper door at these distances from the edges. When the glue is completely dry, cut the rectangular window opening.

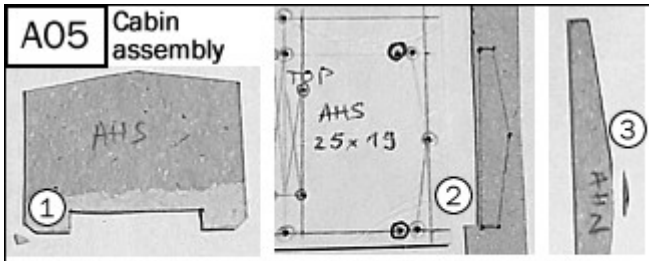


(1) Align the line of the "Inner positioning" template with the central axis, then (2) the bottom of the template with the bottom of the cabin part.

Cut out the rear window and the bottom. (3) Glue a 2 mm strip of cardboard, aligned to the limit of the lower opening, as depicted.

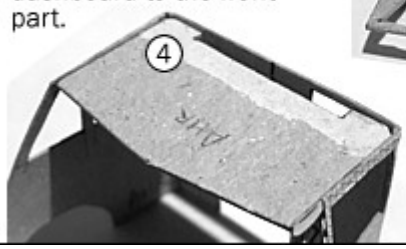


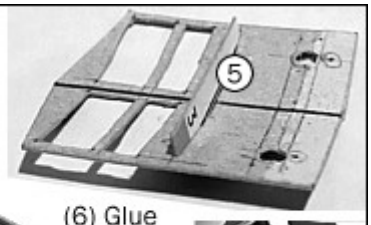
A05 Cabin assembly



Prepare a "hidden top" part, cut its rear corners as depicted (1). Use the same template to make the "dashboard" part (2) and cut off its forward corner (3).

(4) Glue the "cabin" part sides to the "hidden top" part. (5) Glue the dashboard to the front part.

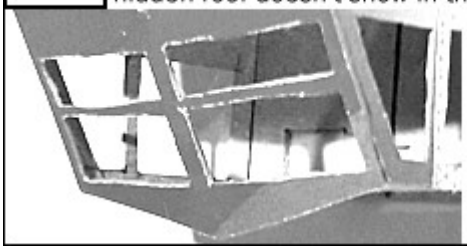




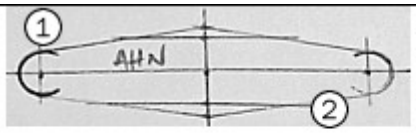
(6) Glue the "front" part to the cabin assembly.

A06

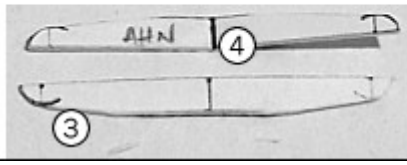
When assembling the front, make sure the hidden roof doesn't show in the upper window.



For the **roof panel**, no templates are used: it is more precise to draw the circles directly on the part (1).



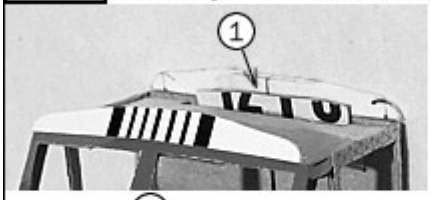
(2) Cut the part at these lines.
(3) Cut these angles as well.



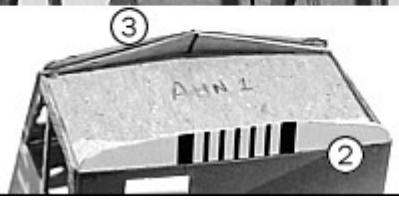
(4) Draw the fold line with a ball pen on one of the halves.

A07 Roof panel assembly

(1) Make a tab about 3 mm wide that can be inserted through the rear slit on the hidden top.



(2) Apply glue on the bottom of the rear part and glue it on top of the cabin's rear panel. Glue the "cabin" part sides' tops to the "hidden top" part.

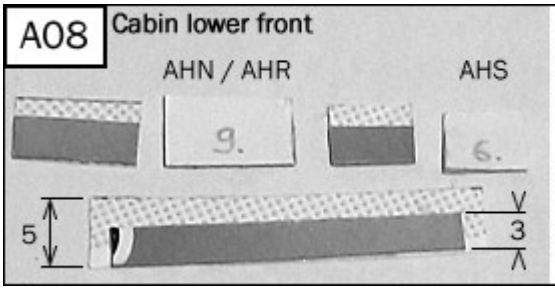


(3) Glue the front part to the cabin's front, align it to the point of the front panel.

(4) Use a toothpick to give a rounder shape to the piece of rigid paper, more pronounced on the sides. (5) Align the top part to the rear.

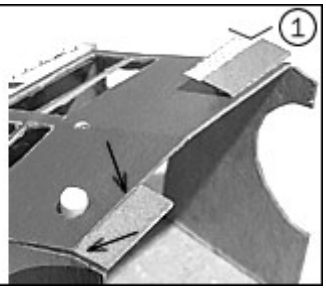
Trim the excess after the glue has dried.

A08 Cabin lower front



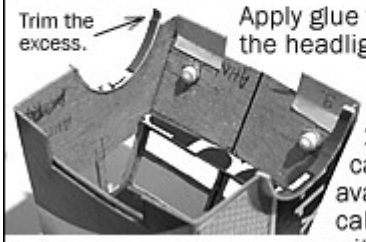
Glue 5 mm strips of paper to the porous side of 3 mm strips of cardboard. Cut in segments of 9 mm (AHN) or 6 mm (AHS).

(1) Cut off a corner of paper, then apply glue to the paper, the upper limit of the cardboard and below the side where the piece will be glued.



A09 Headlights

For the **integrated headlight**, cut 3 mm of Q-tip stem. Use a nail to push the center as depicted. The 1 mm mark is the lower limit of the headlight.

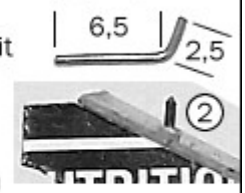


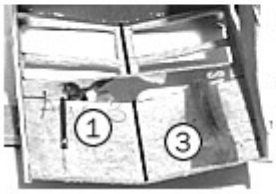
Apply glue to the holes then insert the headlights, make sure they are parallel and horizontal.

The **front fenders** are 24 x 1,5 mm strips of cardboard (as thin as available). Apply glue to the cabin. The fenders are flush with the inner wall.

For the **separated headlight**, select a Q-tip variety that has a hole in its center (see Setp M04 page 3), cut 1,5 mm and push its center.

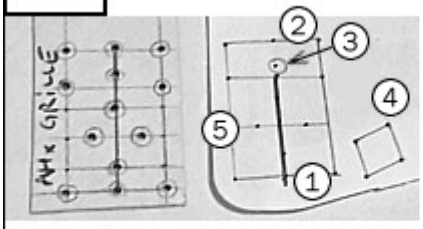
Cut a piece of DWC wire and bend it as depicted. The longer bit of wire is vertical (1), adjust until the shorter bit is horizontal (2).



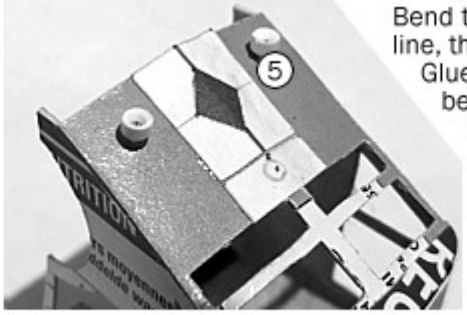


(3) Glue thin kraft paper over the longer bit. Apply glue outside and also inside the Q-tip.

A10 Radiator and logo



Use the template to draw on regular paper the radiator part (1), the upper part (2) with its cap positioning dot (3) and also the logo part (4).



Notice a line (5) has been drawn through the horizontal rhombus dots.

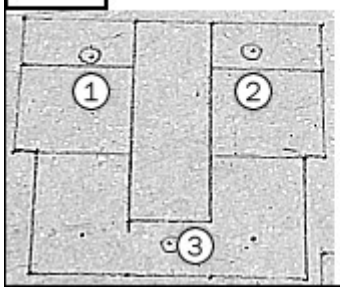
Bend the radiator part along its folding line, then glue it to the "front" part. Glue the upper part above it (the gap between the two has been exaggerated here).

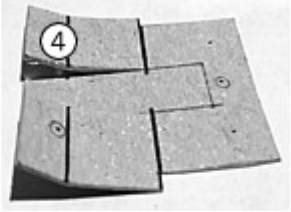
Use the folding line and the line (5) to glue the logo part in place.

Glue a 1,5 mm piece of cardboard on the dot (3) as a cap.

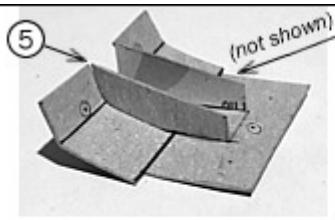
Part B - Cabin floor

B01 Floor

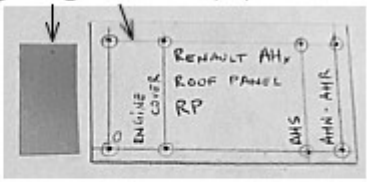




Perforate for the steering wheel shaft (1), the air filter (2) and the lever (3), then cut and fold as above.

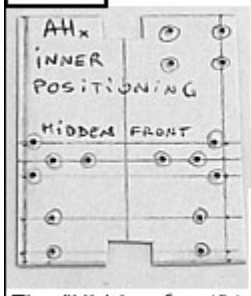


"Engine cover top" part



Apply glue to the sides of the raised floor parts (4) and below the "engine cover sides" parts. Glue so that the raised floor ends at the top of the "engine cover side" part (5). Notice that it is the porous side that is being glued.

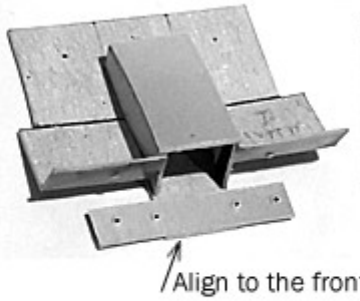
B02 Hidden front



Make a "Hidden front" part from regular cardboard.

Perforate the four central dots.

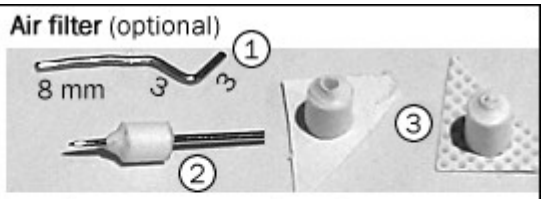
The "Hidden front" template has been placed inside the "Inner positioning" jig, in order to reduce the amount of jigs.



Align to the front.

Glue the part's porous side to the floor assembly, using the two inner positioning dots to center it.

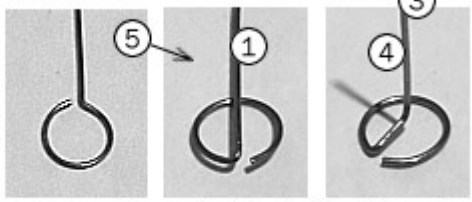
Air filter (optional)



(1) Bend a piece of DWC wire as depicted above. (2) Cut 3 mm of Q-tip stem (be sure it has a hole in its center), use a nail (see Step A09) to create a cone.
(3) Glue the side opposite to the cone to a piece of paper. Once glue has hardened, trim the excess.

B03

The **steering wheel** has an external diameter of 7 mm.



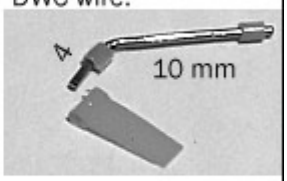
Wrap the DWC wire around the cylindrical object (see Step T02 on page 2) in small steps. Fold the straight part into a shaft as depicted below. Cut the shaft 20 mm from the steering wheel.

The **gear shift lever** is the least visible part.

DWC
- 2x 1,5 mm "tube"
- 1x 2 mm "flag"

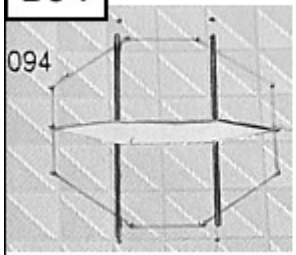
The flag holds the lever to the floor from underneath.

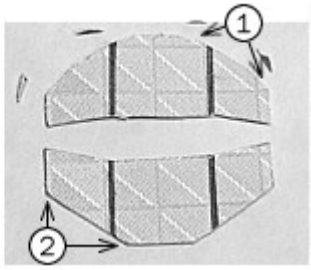
DWC wire:



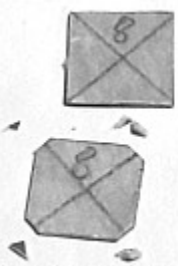
Alternate design: the part underneath is held by paper.

B04 Seats

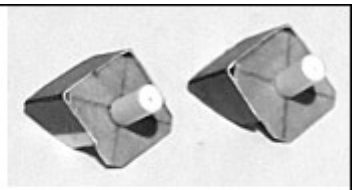




The template allows you to make two **seat backrest** parts at once. Cut the corners (1), notice the difference with uncut corners (2). Although seats are not easy to see, these details are noticeable.

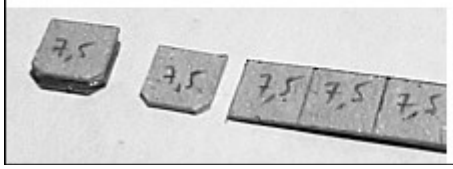


Draw diagonals on a 8 mm square piece of cardboard to locate its center.
Cut its corners and glue it to the seat backrest part, so its porous side is downwards.



Cut 5 mm segments from the stem of a Q-tip. Glue each segment to the seat's center.

Notice that the backrest is inclined.

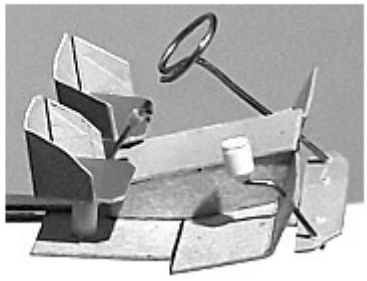


The **cushions** are 2 mm thick. Glue two layers of thicker cardboard together, make 7,5 mm strips then cut 7,5 mm squares. Cut the two front corners then glue the parts so the assembly is four layers thick.
These cushions are **painted separately** then glued **before** cabin floor assembly.

B05

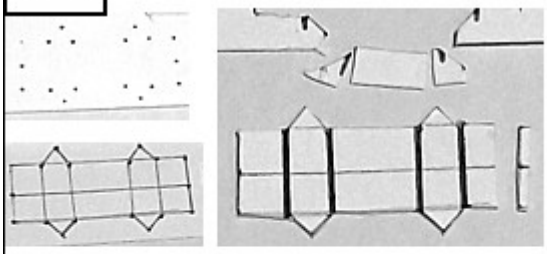
Floor assembly: start with the gear shift lever, then insert the steering wheel and the air filter. Finally, glue the seats on the positioning dots. The assembly is ready to be painted.

Cut the corners of the "hidden front" so it doesn't interfere with the headlights.



B06

Make the **control panel** from rigid paper.

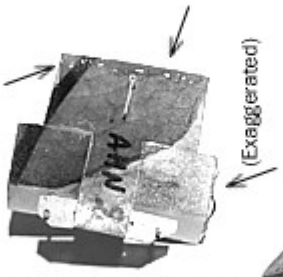


Paint all sides, you may have to clip the ends.

(1) Paint thin kraft paper in a light grey, cut a 2 mm square and glue it as a speedometer.

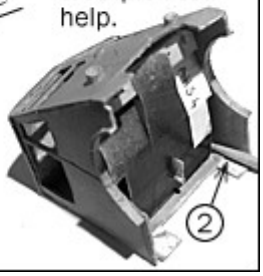
The **cabin assembly** take place after all parts have been painted, see painting order page 10.

First glue the control panel to the dashboard, it is aligned with the rear window.



Apply glue on the rear and on the rear bottom of the cabin floor part, as well as on its sides.

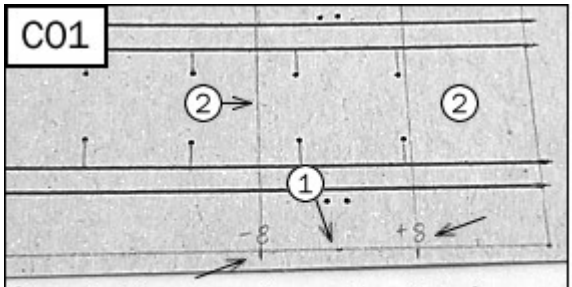
(Below) Make sure the floor is above the wheel opening. (2) A toothpick can help.



Part C - Chassis and cargo bed

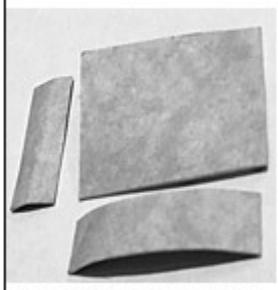
Bumpers, rear fenders, rear hook, fuel tank

C01



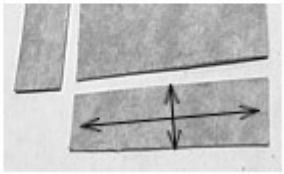
On each side, manually mark two dots 8 mm apart from the axis line (1). (2) Draw two lines from these dots, these will be used to position the rear fenders.

Method: cardboard straightening



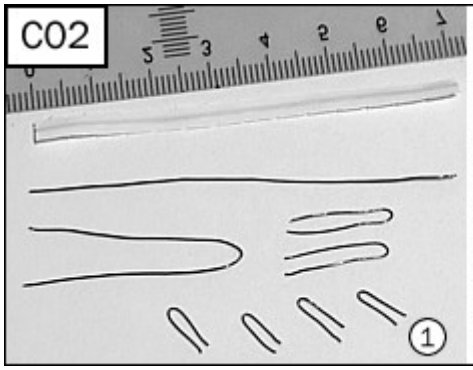
Exaggerated bends for the purpose of demonstration

The cargo bed and the sideboards are large pieces of cardboard, they have to be straight for proper assembly.
If the material is warped, bend it back parallelly and perpendicularly to the bend.

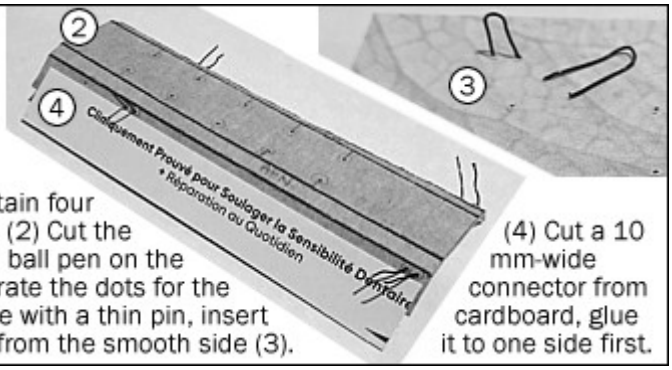


These pieces have been bent back.

C02



Take 7 mm of thin wire (the length of "freezer wire"), bend it in two and cut. Repeat the process with the cuts to obtain four axle fasterners (1). (2) Cut the chassis part, use a ball pen on the folding lines, perforate the dots for the axles and the frame with a thin pin, insert the axle fasteners from the smooth side (3).



(4) Cut a 10 mm-wide connector from cardboard, glue it to one side first.

Renault AHx
Templates
Scale 1:64
Page 1/3

Flip it along this side

+ Pierce for 0,7mm

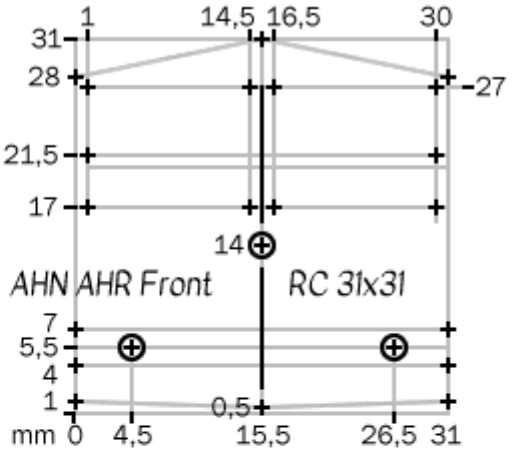
× Calculated / intersection

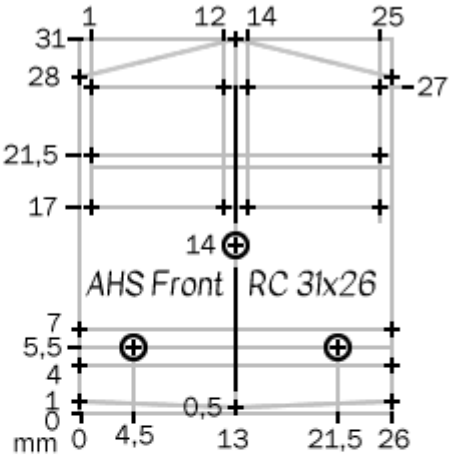
⊕ Special purpose

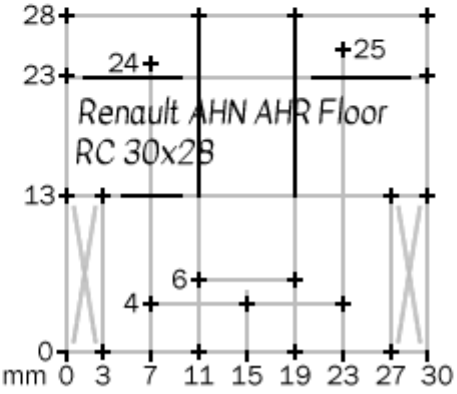
Folding line

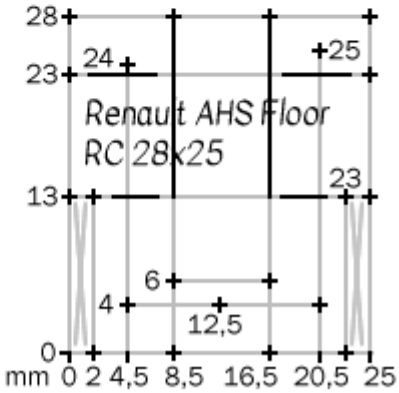
Connect to symmetrical counterpoint

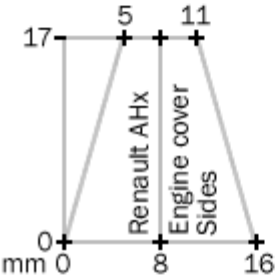
RC: Regular Cardboard
RP: Rigid Paper

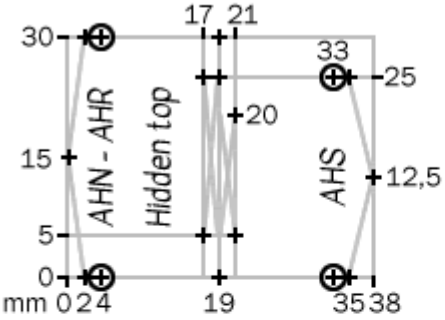


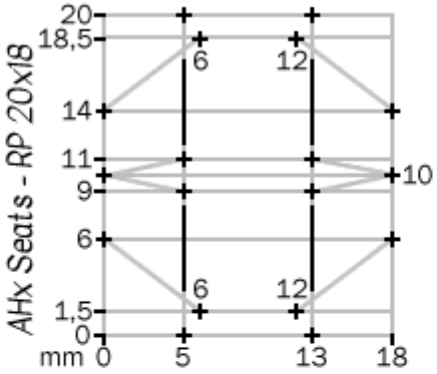


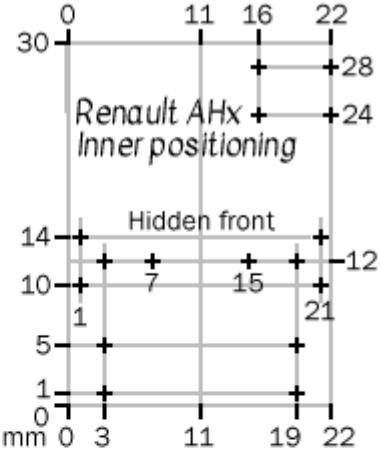


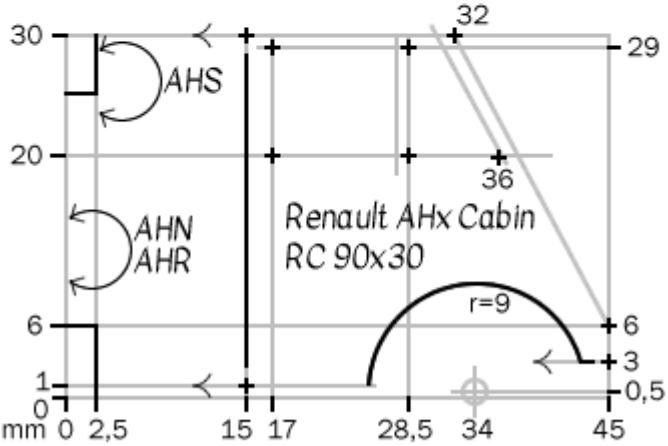


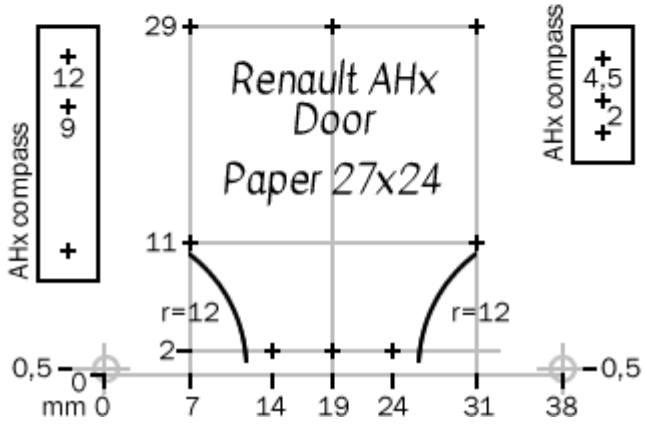












Diagrams on this page are not all at the same scale

Renault AHx
Templates
Scale 1:64
Page 2/3

Flip it along this side

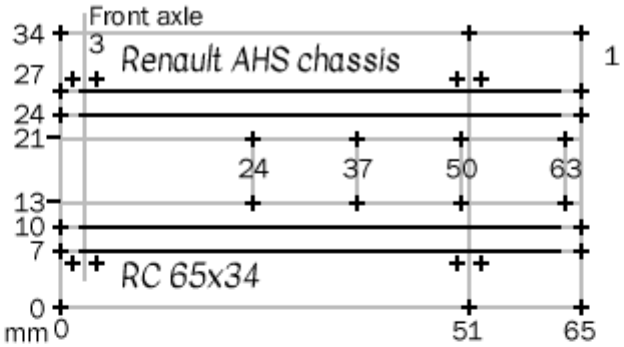
+ Pierce for 0,7mm

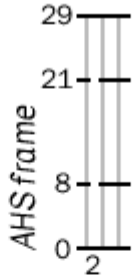
× Calculated / intersection

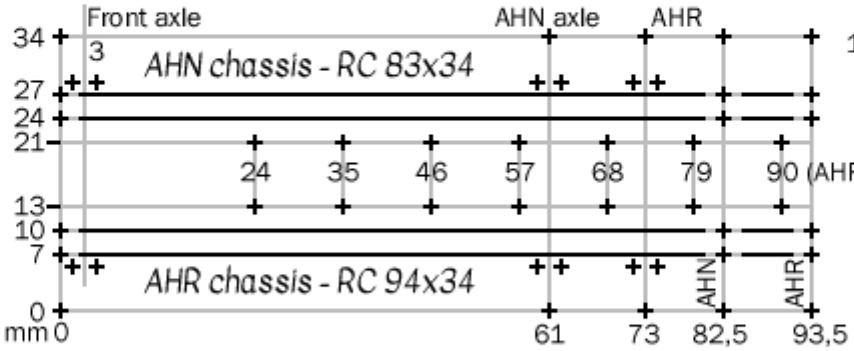
⊕ Special purpose

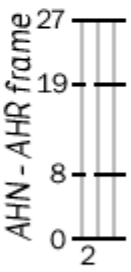
Folding line

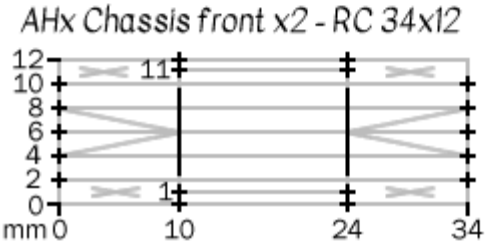
RC: Regular Cardboard
RP: Rigid Paper

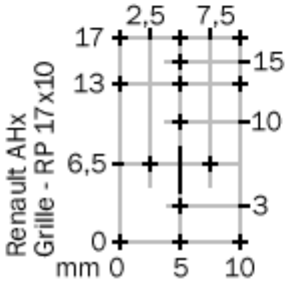


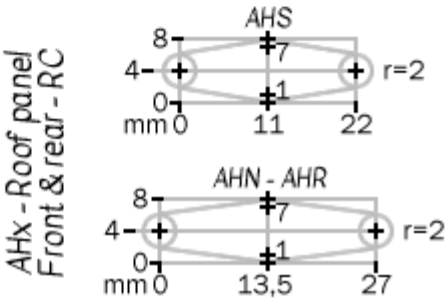


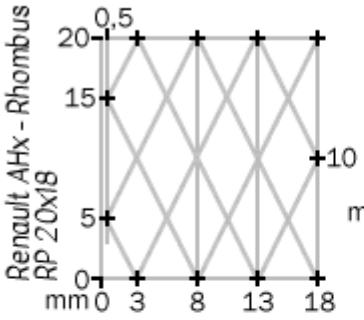


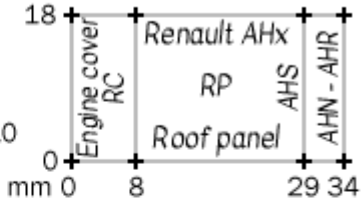


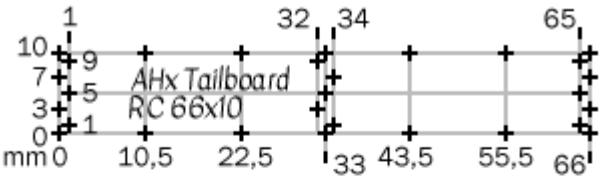


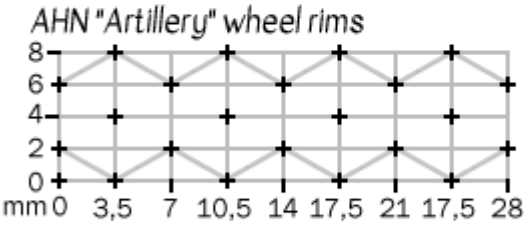


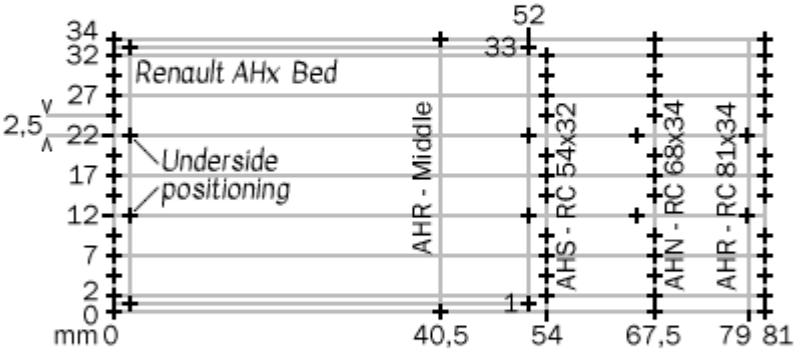


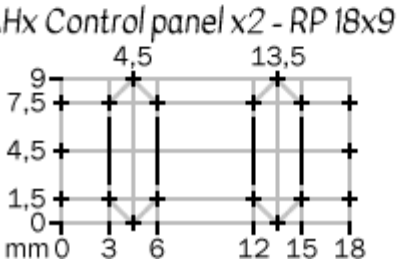


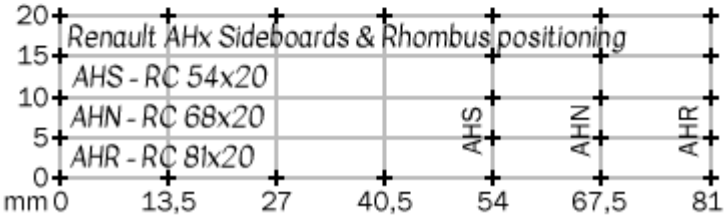












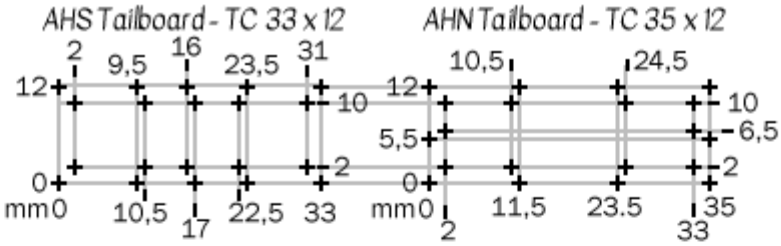
Diagrams on this page are not all at the same scale

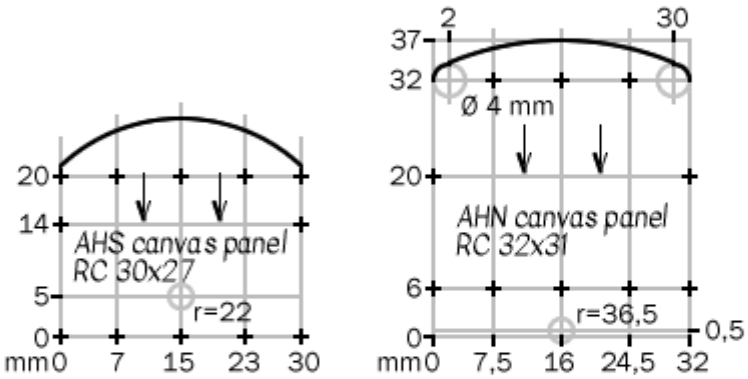
Renault AHN
Templates
Scale 1:64
Page 3/3

Flip it along this side

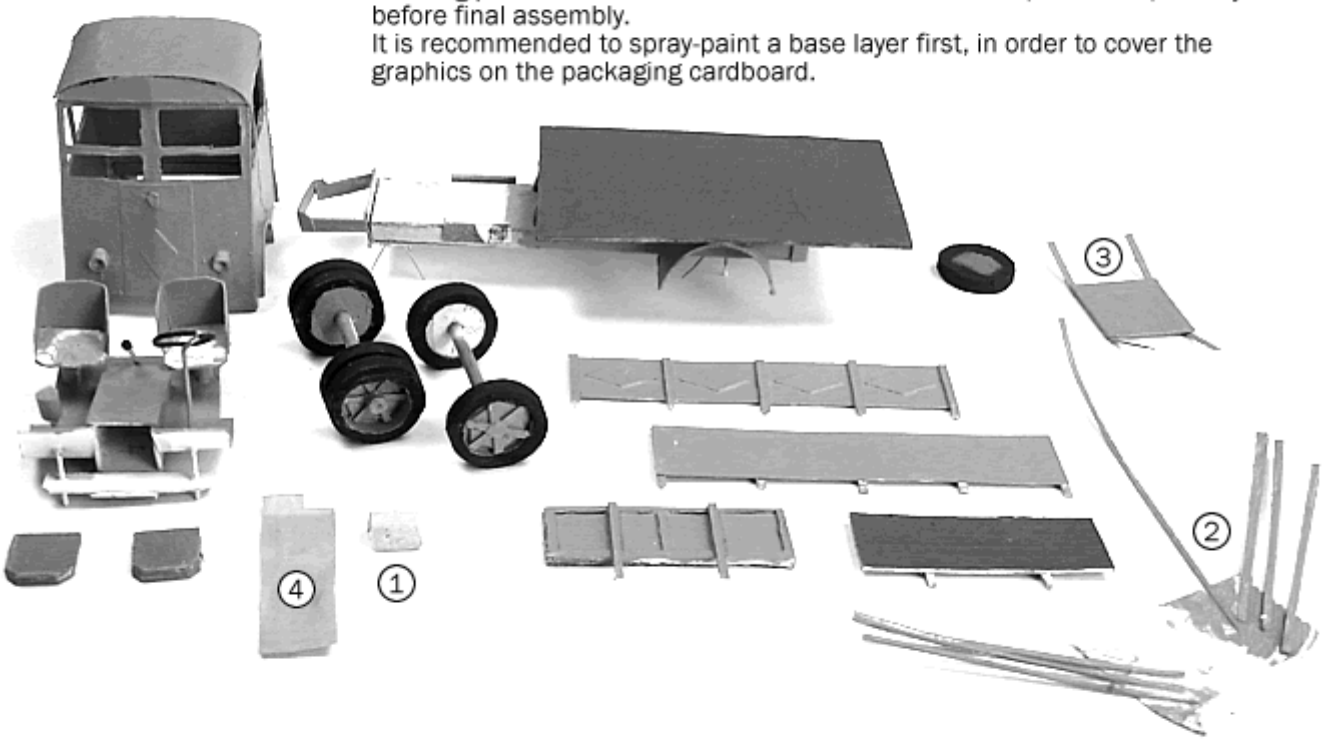
\+ Pierce for 0,7mm

RC: Regular Cardboard
RP: Rigid Paper





Painting parts: the assemblies shown below have to be painted separately before final assembly.
It is recommended to spray-paint a base layer first, in order to cover the graphics on the packaging cardboard.



Base colour (dark yellow or darker medium grey):
- chassis except cargo bed, including the sides of the cargo bed;
- cabin (interior and exterior);
- control panel (1);
- both sides of the sideboards, external sides and top of the headboard and tailboard;
- wheel rims;
- (2) extra 1 mm strips (cardboard and rigid paper) for the rear diagonals;
- spare wheel tray (3).

Paint order:
- Light grey
- Base colour
- Wood colour
- Tyre colour
- Canvas colour

Wood colour (medium brown): cargo bed, inner sides of the headboard and tailboard.

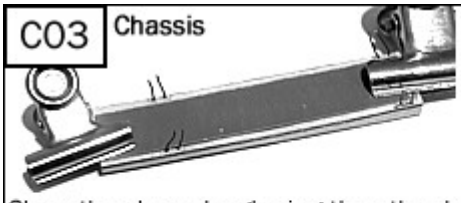
Tyre colour (dark grey): tyres, spare wheel, steering wheel, end of gear shift lever.

Canvas colour (light brown): cushions.

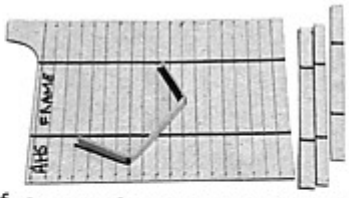
Light grey: speedometer paper (4), inside the headlights .

Diagrams on this page are not all at the same scale

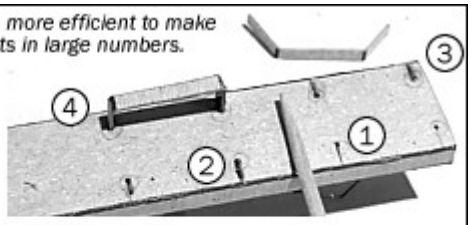
C03 Chassis



Close the shape by glueing the other half of the connector to the opposite side.

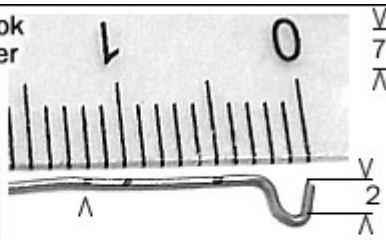


It is more efficient to make parts in large numbers.

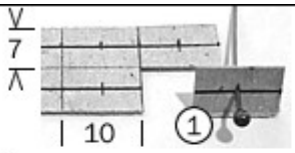


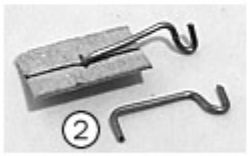
Cut the frame elements and fold them. On the chassis, cut slits from the perforated dots to the border (1) then enlarge the slit with the tip of a toothpick (2). Apply glue on the slits (3) then insert the frame elements, porous side upwards (4).
For the AHR chassis (odd number of rows), use **half** a frame element.
You can use a thin piece of wood to apply pressure from inside to the central section.

C04 Rear hook and cover



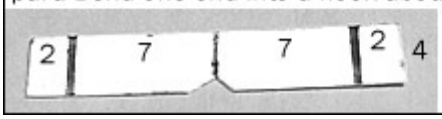
About 15 mm of DWC wire are needed for this part. Bend one end into a hook about 2 mm high.





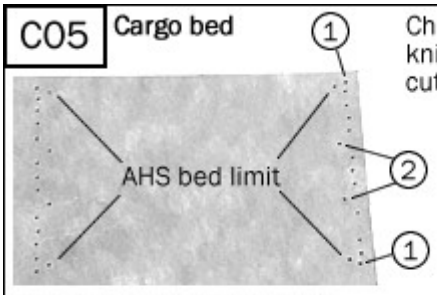
Cut a 10 x 7 mm piece of cardboard, pierce its center, draw a folding line as depicted (1). Bend the piece of wire as depicted (2) then insert it into the piece of cardboard.

Apply glue to the assembly, insert it at the chassis's rear and press it against its ceiling. See Step C08 for an illustration.



Rear cover: cut and fold a 4 mm strip of rigid paper as depicted, cut a notch. Glue the the rear of the chassis.

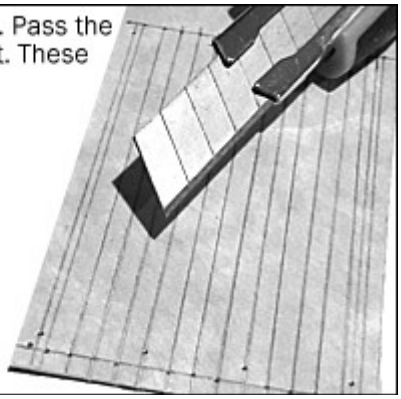
C05 Cargo bed



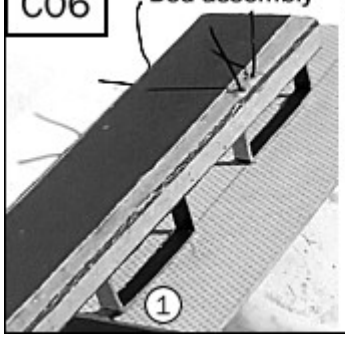
(1) Bed limit for AHN / AHR (shown for clarification)
(2) Underside positioning

Choose thicker cardboard (about 0,5 mm thick). Pass the knife once over each line, to make a shallow cut. These cuts will appear as planks.

Glue paper on the underside, then when the glue has dried, draw the two positioning lines by using the topside lines (2) as reference.

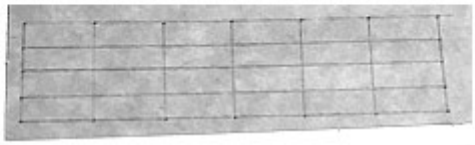


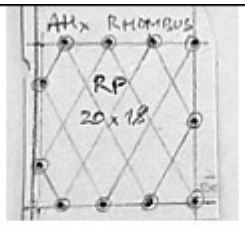
C06 Bed assembly



Glue the frame elements to the bed underside. The front part of the bed is almost flush with the front frame limit.

For the **sideboards**, draw all the lines then cut the part off before cutting it in two.

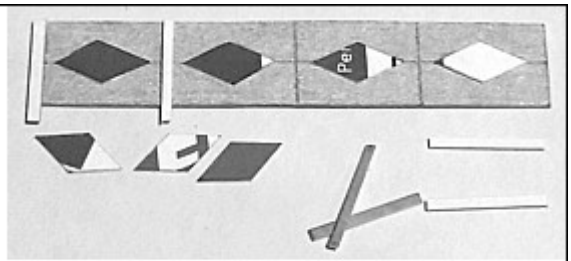




Rhombuses were pressed into the metal sideboards, a hint to the logo of the Renault company. This method allows us to replicate them.

C07 Sideboards assembly

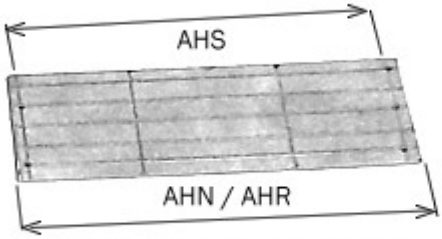
First glue the **rhombuses** along the middle line and equally between the vertical lines. Then glue the **hinges** between the rhombuses, aligned to the top of the sideboard.



Make 12 x 1 mm **sideboard hinges** parts from the longest strips possible, to have more or less the same width.

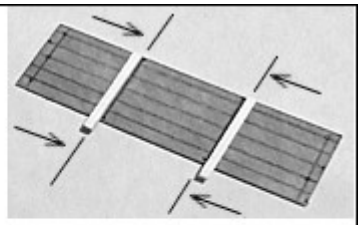
C08

The same template is used for **headboards and tailboards** in both versions.



Use the horizontal lines to make cuts on the cardboard, then cut the part to size.

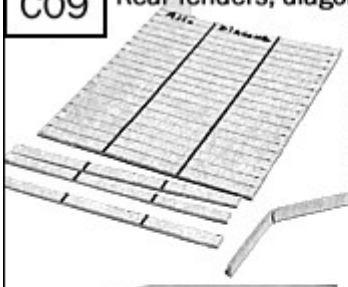
Glue paper on the backside. When the glue has hardened, trim the excess, draw horizontal lines 2 mm apart and use them to make cuts.



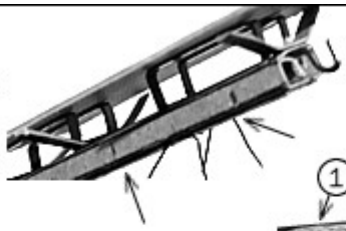
For the **headboards**, align the hinges against the central lines as depicted. This is also the **simplified** version for the tailboards. See Step C13 for the historical versions.

C09

Rear fenders, diagonals



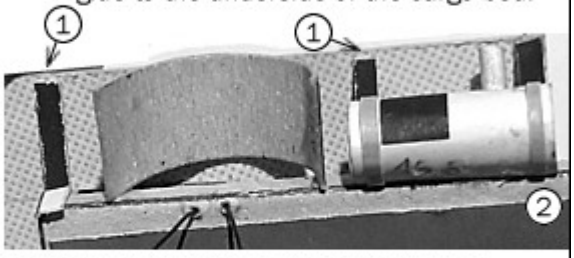
Cut "diagonal" elements then bend them so the porous side is inwards.



Notice the markers for the rear fenders, don't glue diagonals there.

When the glue has hardened, trim the diagonals so they don't protrude (1), then glue to the underside of the cargo bed.

Rear fenders
AHN / AHR 26 x 10 mm
AHS 26 x 9 mm



Glue the "diagonals" to the chassis top and behind the "frame" elements.

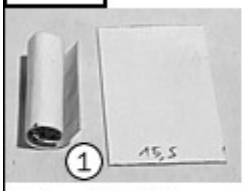
View from the chassis rear, notice the position of the diagonal and also the hook.

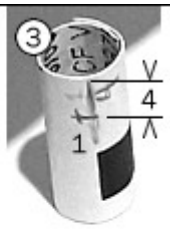
Give the cardboard rear fenders a semi-circular shape, apply glue to its top, also apply glue on the positioning markers on the chassis. Glue the fender simultaneously to the underside of the cargo bed and the chassis.

(2) The front of the fuel tank (see step C09) is positioned at the front of the cargo bed.

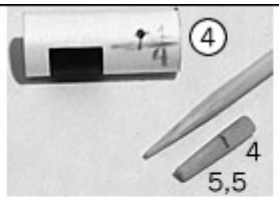
C10

Fuel tanks





Cut a 24x15,5 mm piece of rigid paper (standard capacity tank) or a 24x19 mm piece (high capacity tank). (1) Roll it into a spiral along the 24 mm side. (2) Use the Ø 6 mm tool (Step T02, page 2) to glue the piece of rigid paper into a cylinder.

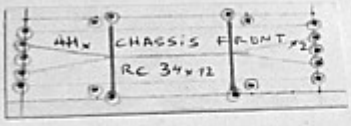


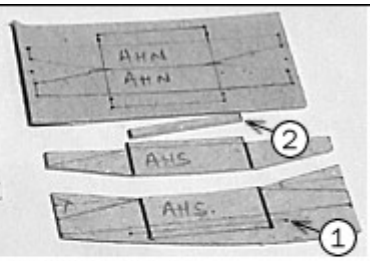
(3) Draw a line opposite to the end of the spiral. On that line, 4 mm from the front side and 1 mm above it, draw a dot. (4) Perforate it with a pin then enlarge it so a 9,5 mm long piece of toothpick can fit (4 mm have to protrude from it).

(5) Glue the cylinder to pieces of paper, trim the excess once the glue has hardened. (6) Glue 15x1mm strips of rigid paper 1 mm away from both sides. Keep the back of the gas tank clear.

C11

Chassis front





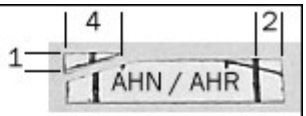
The "chassis front" part also acts as a vertical spacer for the cabin.

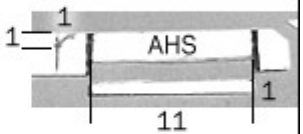
On the template, the marker (1) allows to draw a line to cut 1 mm from the top of the AHS part (2). Fold the part so the porous side is outwards (3).

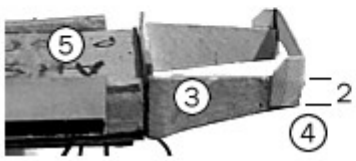
Bumpers: 15 x 3 mm strips of rigid paper.

Glue the bumper to the arms of the "chassis front", one side at a time, aligning on the lower corner (4).

Apply glue the entire rear of the assembly.



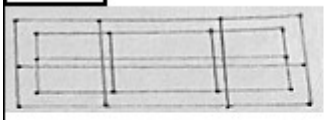




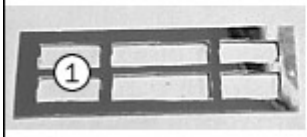
Glue so the arms' top is flush with the top of the chassis. Glue lateral spacers (5). These provide:

AHN/AHR: +2 mm
AHS: +1mm

C12 Historical tailboard versions



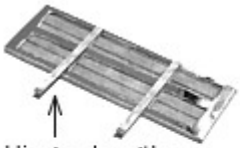
To make the "tailboard cover" parts, use thin cardboard if possible, rigid paper is too thin.



AHN tailboard cover

Cut out rectangles from the part just as with the "cabin front" part.

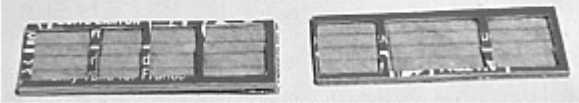
It is also correct to omit the middle part (1), see the AHS tailboards.



Hinges length: 14,5 mm

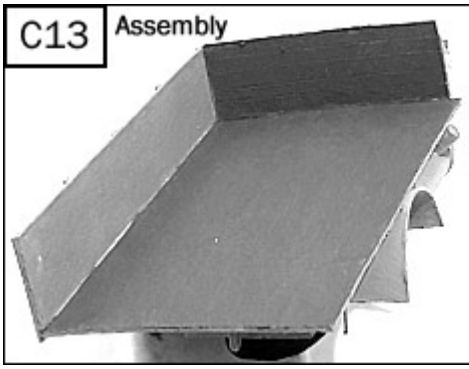
Align the part using the vertical lines and the 1 mm horizontal lines.

The borders of the part protrude from the tailboard, so you can trim the excess precisely.



Both versions of the AHS tailboard shown here are historically correct.

C13 Assembly



After painting, glue the sideboard together with a head- or tailboard, so they can support each other while drying. Preferably glue all boards in one go.

The boards (cargo bed and boards) will have to be bent to fit, the result will not look perfect.

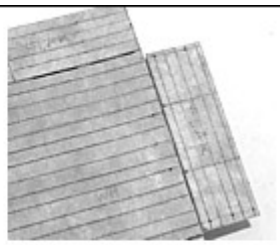
For the **detailed rear diagonals** glue a strip of thin kraft paper to the long hinge, glue a painted 1 mm strip of cardboard as depicted above, trim to fit.

For the **simplified** rear diagonals, cut a strip to size and glue its end underneath the cargo bed close to the hinge.

C14 Flak cargo bed

45 x 16 mm piece of cardboard, 8 x 8 mm squares have been removed from the outer corners.

16 x 8 mm pieces of cardboard, inserted between the diagonals.



Glue the sideboards and the tailboard with a gap less than 1 mm wide.

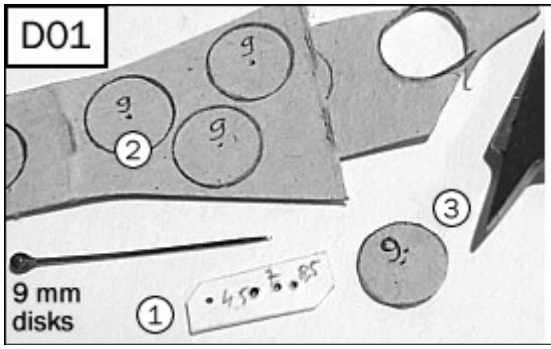
Leave the tailboard free.

The **rear strips of the detailed version** are made from painted 1 mm strips of rigid paper. Cut to length (AHS: 8 mm, AHN/AHR: 9 mm) and glue 1 mm above the bottom of the hinge symmetrically.

Part D - Wheels and axles

Twin tyre wheels, "artillery" wheels, "pressed steel" wheels, spare wheel

D01



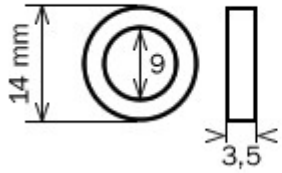
(1) Use the 4,5 mm compass to draw circles on a single layer of cardboard. (2) Mark the center with a dot. (3) Use nail scissors to cut out the disks.

(4) Cut a # (~ 1 mm) around the center with the utility knife

(5) Pierce the disk with a toothpick.

(6) Shave off the "petals".

D02 AHN wheels



Cardboard strips for one AHN / AHR single-tyre **front wheel**:

3,5 — 150 mm

Front axle 28 — 3,5 — 70 mm

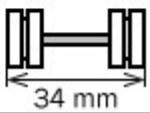
Cardboard strips for one AHN / AHR twin-tyre **rear wheel**:

3,5 — 150 mm

3,5 — 150 mm

Rear axle 27 — 8 — 70 mm

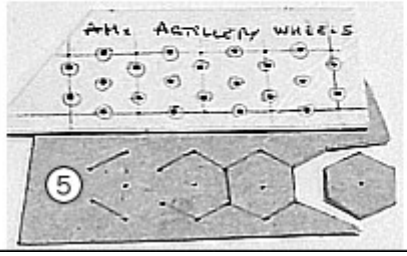
Track width:



D03 Thick wheel rim

(1) Cut 15 x 2 mm strips of cardboard, give them a rounder shape then glue one end onto the other. (2) Glue one spacer to the center of the porous side of a 9 mm disk.

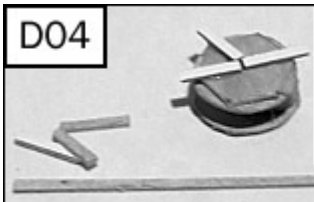
(3) Slide the disk with the spacer on a toothpick, then slide & glue another disk on top, porous side outwards. Make sure the disks form a cylinder (i.e. they are not offset,) then remove the assembly from the toothpick. For the AHN and AHR, front and rear wheels use the same thick wheel rim.



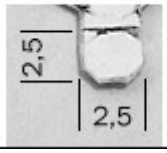
(4) Stop at this stage for the **simplified** version.

(5) To make "**artillery**" wheel rims, make four hexagonal parts from regular cardboard. See Step D04.

D04



- Glue the hexagon, porous side up, to the wide wheel rim.
- Cut six 4 mm pieces out from a single 1 mm strip of cardboard, so they all have the same width.
- Glue each of them to the hexagon, aligned to the center and to a corner.
- Chamfer the corners of a 2,5 mm square of rigid paper.



Cover the center of the rim with the rigid paper.

Trim the ends so they are slightly shorter than the wheel rim below. See D08.

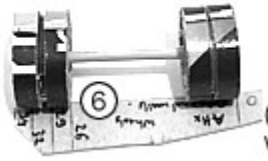
D05 AHN wheel assembly

For **each front** wheel, cut **two** cardboard strips (see Step D02), glue them one after the other (1) around a thick wheel rim. Use the spiral method depicted on Step P02 (page 3).

When the **spare wheel** is **visible**, make another front wheel. The regular spare wheel is located under the chassis and can be simpler to make, see Step D09 page 15.

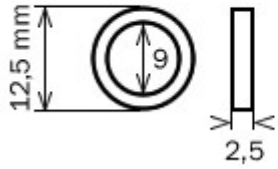
For the **twin tyres**, draw a line on the middle of the strip (2), glue the wheel rim against this line, then complete the spiral.

Glue the external tyre first (3), make the exterior level (4). Glue the inner tyre, use the tip of a toothpick to make the interval even. (5)



(6) Make a jig to check the track width before the glue hardens.

D06 AHS wheels



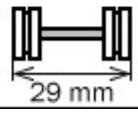
Cardboard strips for one AHS single-tyre **front wheel**:

2,5	150 mm	
Front axle	24	

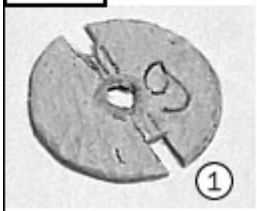
Cardboard strips for one AHS twin-tyre **rear wheel**:

"Pressed steel"	26	2,5 80 mm
		2,5 80 mm
"Artillery"	22	6 70 mm

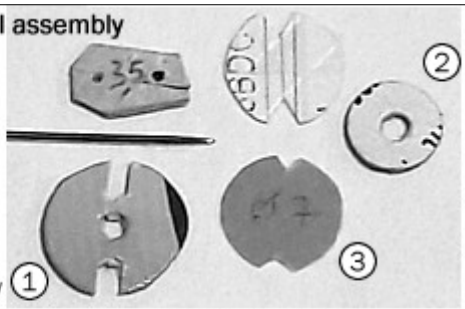
Track width:



D07 AHS front wheel assembly



Make a 9 mm disk, draw a line in the middle then two lines 1 to 1,5 mm apart from each other. Cut a part 2 mm high as depicted (1).



(3) Use a 3,5 mm compass to make a Ø 7 mm disk from **rigid paper**. Draw two lines 2 mm apart in the middle, then cut out a triangle about 1 mm high on each side.

(4) Glue two pieces of cardboard, cut a 2 mm strip from it. Cut pieces from this strip to make spacers for a thin wheel. Leave the openings of the top disk free.

(2) Make a Ø 6 mm cardboard disk (use a 3 mm compass or a clipping from a hole punch), cut a central square then enlarge with a toothpick.

The Ø 7 mm paper disk is flush with the tyre. Glue part (2) over it.

D08 AHS rear wheel assembly

Make a 9 mm disk, draw a line in the middle then two lines 1 to 1,5 mm apart from each other.

Cut out two shapes as depicted, then make a wide wheel rim with it.

The axle protrudes about 2 mm from the wheel rim.

For **"artillery" twin tyres**, replace the piece of rigid paper with a 1,5 mm piece of Q-tip stem. Use a ball pen to push a hole on the visible side, then glue to the center of the spokes.

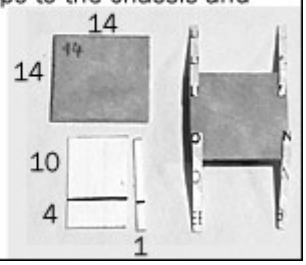
D09

The **spare wheel** is located under the chassis. It is hard to see, and therefore can be simpler to make than the other wheels.

The spare wheel is like a **thick wheel rim** (see Step D03 p. 14) with wider spacers.

Wrap paper around the wheel, then trim the excess.
Paint the wheel in the tyre colour, glue it underneath the chassis aligned with its rear.

Glue the support plate below the spare wheel, then glue the rigid paper strips to the chassis and trim the excess.



Part E - Canvas top

E01 Canvas top body

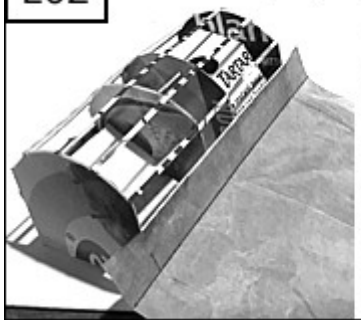
AHS ☐☐ 25 25 AHN ☐☐☐ 25 13 25 AHR ☐☐☐ 25 25 25

Trim the excess.

Use the template to make three (AHS) to four (AHN, AHR) "wall" parts, draw the positioning lines for the 1 mm top slats (1) and the 2 mm lateral slats (2). Connect these walls with V-shaped connectors, their width is about 40 mm, folded in two. Their length is detailed above. Glue these connectors one by one, align the walls against a flat object.

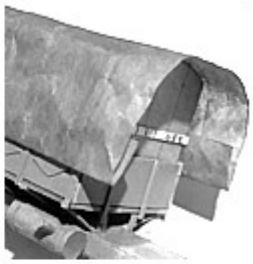
The 2 mm slats are 14 mm from the bottom. *(The front slat (3) is not really visible).*

E02 Thin Kraft Paper (TKP) tarp



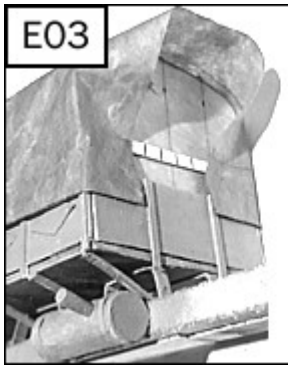
For the length of the piece of TKP, measure the canvas box body length and add 10 mm to each side.
The width is 100 mm, draw a folding line 10 mm from one side. Apply glue on a lateral slat and glue the TKP there. Afterwards, apply glue to the top slats and glue the TKP to them without slack.

On the other side, place the TKP against the lateral slat and draw markers where the top of the slat is located. Draw a folding line 10 mm away from these markers and cut the TKP 20 mm from the same markers, so another flap can be made.



For the rest of the procedure, insert the assembly inside the finished cargo bay, front slap forwards.

E03



Canvas top ends

Fold and glue the flaps on the side about the level of the lateral slats and above, leave the material below free, with some slack.
Use the template for the canvas body's wall to make the front end, glue it on the flaps, fold the remaining length inside as a flap.

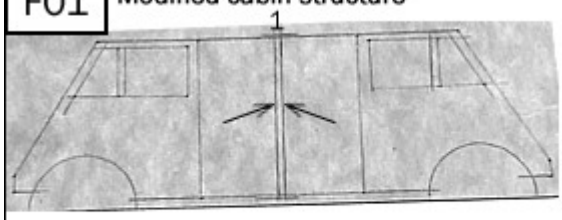
For the rear panel, fold and glue a small flap on one side, then fold that end over the middle of the piece, cut it to shape using the template.

Glue to the rear of the assembly like the front part, providing the illusion of opening flaps. Test the insertion and removeal of the assembly. Paint in a light brown.

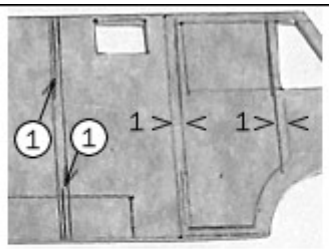
Part F - Special versions

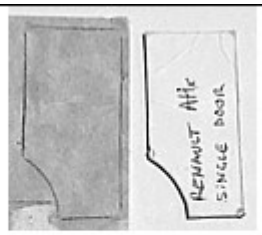
"Open door" option, positioning of Notek lights. See Booklet n°12 for the "open sideboard" option.

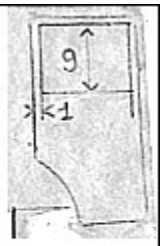
F01 Modified cabin structure



Instead of flipping the "cabin" template along the symmetric line, create a second symmetrical line 1 mm away from the first one. Align the flipped template to it.

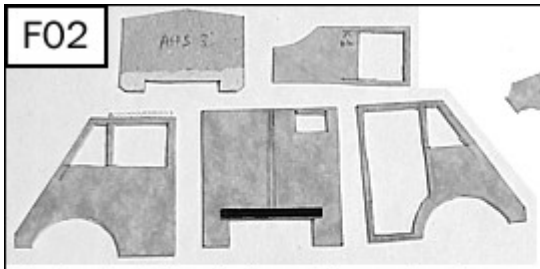




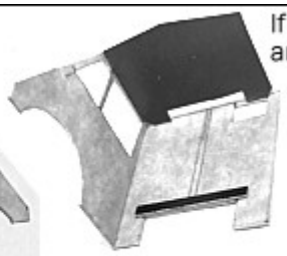


Create a single door template and outline the door, with 1 mm distance from all borders and make a separate door, the window of which is also 1 mm from the borders. (1) Notice the line between the symmetry lines, to align the "inner positioning" jig.

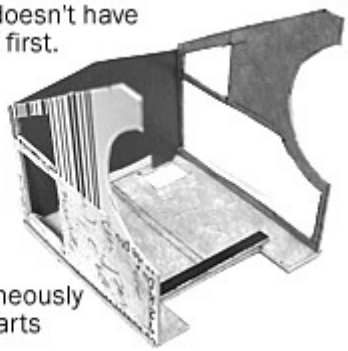
F02



First cut out the windows, then cut out the door. Finally, separate the sides from the cabin's back.

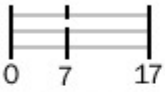


If the opposite side doesn't have an open door, glue it first.

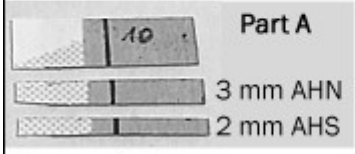


Place the "cabin" part on its back. Simultaneously glue the "side" part and the "hidden roof" parts over it, and the latter two together as well.

F03 Lower floor parts



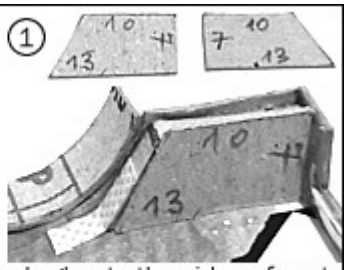
Draw a folding line on a 17 mm piece of regular cardboard as depicted.



Glue an 8 mm paper strip on half of the 7 mm part. Cut parts to the required width.

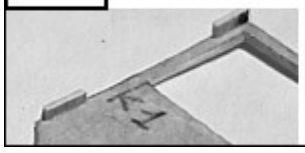
Paint parts A & B **separately**. First glue the floor to the cabin, then proceed.

Apply glue to the sides of the cabin & underneath the floor where part A will be placed. This part is flush with the bottom of the door opening.
(1) Prepare part B as depicted.



Apply glue to the sides of part B and to the rear of the cabin, glue part B with its smooth side outwards.

F04 Door hinges



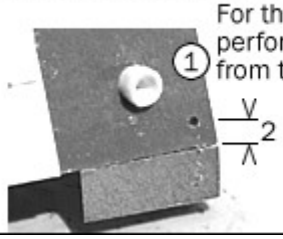
Cut 3 mm segments from the same 1 mm strip. Glue them flush with the door side. These segments are glued "on their side", with the smooth side pointing towards the window.

Glue the door to the cabin before painting, create a small offset with the door opening.

F05 Notek light position (see Booklet n°8 for the assembly of the Notek light).

The hole for the Notek light wire is located 2 mm above the lower edge of the "front" part.

Bend a piece of DWC wire 2 mm at a right angle, then bend another 2 mm as depicted.



For the AHN / AHR, perforate about 1,5 mm from the left hand side (1).

For the AHS, perforate next to the radiator (2).