

General

First read the instruction. If all is clear then cut out all pieces for the step, then fold them and hold them together. If this is correct and works out, then glue.

If you encounter a problem or some mistake in this model, so please feel free to send me a mail (chriess@vr-web.de), referencing to this model. I will answer as soon as possible.

Also if my misspelling is so big, as you get nightmares.

Tools

Knife

Glue

Scissor

Patience

Music & a good Drink ;-) I prefer uhm – are you old enough?

A few words about the model

All measures and numbers are in metric units (SI). Remember this !

There are often parts drawn bigger as needed, that require trimming. This is not to harass you. These parts are meant to cover some possible gaps, due to differences or problems with the thickness in your choice of paper and cardboard.

Some sheets are to be printed out more than once. (e.g. Tires-sheet). Read the instruction before starting each subassembly. Look at the assembly steps for the parts. Print out some spare-sheets if you think they are difficult to build or cut, or even if you think the instruction is badly written ;-). (And write a mail ...)

All parts for the step should be inside an outlined box on the sheets.

If you see a red **X** inside a part, then this area is to be cut out.

If you see one or more parts outlined with red lines, so this means these are parts which aren't seen from the outside. (e.g. internal structure of the model)

Grey lines are construction-lines, they could help to cut, bend and fold.

If you see a big colored area beside some parts, with a small red line between, the colored area is the back side. Cut out the parts area with the colored area as one piece. Fold and glue the sides together. Cut these parts out AFTER the glue is dry. (You may need to weight down the piece to keep the parts flat while drying.) These are parts that are seen from both sides. They need a colored back side.

Beside the corrugated board (cardboard from boxes) templates are the thickness desired and the required direction the channels or corrugations should run. The standard thickness is about 3 mm. For the 6 mm and 9 mm parts, double and triple the cards to reach the required thickness. Crossing the corrugations/channels as you layer adds strength in multiple directions. Be careful not to press the corrugated card too hard. The corrugations/channels will collapse. Print out a second clear set of templates if you have to cover the back side of the corrugated cards. Also, cut some strips of

normal building paper as needed to cover the visible ends and sides of the corrugated pieces. The corrugated board (cardboard) parts will be indicated by CB from this point on.

Additional material

Some wire diameter as your thick paper (0.7mm in my design)

Very strong wire, like a paperclip for the hook (also 0.7mm or as your thick paper)

Drinkingstraw from McDonalds or other (6.5 to 7 mm in diameter).

Rope for the job :-) all in all at full ca 20 m, but at minimum 8 mm for good measures.

Model-Pages

| | | |
|-----------|---|--|
| Mainbody | : | 27 Pages, print page 1 4 times, pages 2&3 twice, page 22 6 times, page 26 12 times |
| Crane | : | 18 Pages, print pages 14&15 twice |
| Weight | : | 11 Pages |
| Templates | : | 5 Pages |

Warm up

Cut out the corrugated cardboards, using the templates.

You will need some rods in the diameters of 6 mm, 6.5mm and 8mm. You can make rods out of wood covered in paper. Whatever you use must be compatible with the glue used. I took some wooden sticks and rolled paper around till i reached the right diameter.



| | | |
|-------|---|--|
| 6mm | : | 2 pieces at length 20mm for each counterweight-assembly 4 pieces at length 13mm for the cylinders |
| 6.5mm | : | 3 piece at length 70mm for the telescopicboom end. (axle, drum-axle, holdingstick) They have to be fit into a strawtube from McDonalds as loadbearing rods, they should fit tight, but move easily |
| 6.5mm | : | 2 pieces of 15mm length for the pulleyhead of the boom. 2 pieces of 10 mm length for the hook. They have to fit very tight into the strawtube and need a wire as core for better assembling of these |
| 8mm | : | 4 pieces at length 15mm, 4 pieces at length 70mm for the telescopiclegs |

Support-leg

Cut out the parts [13 parts each, the strips are not shown]

Glue the three CB's. Cover it with 4 parts, cutting too much paper.

Fold and glue the other parts as shown here. Attach the cylinder part at the end of the CB-arm. Fold the rectangular part inside so that this will form a box with a thicker border, this will serve as anchor for the sticks.

Fold the footplate to formed a 9x9mm square opening, fill this with something strong and rigid, because it will support the load placed on the foot.

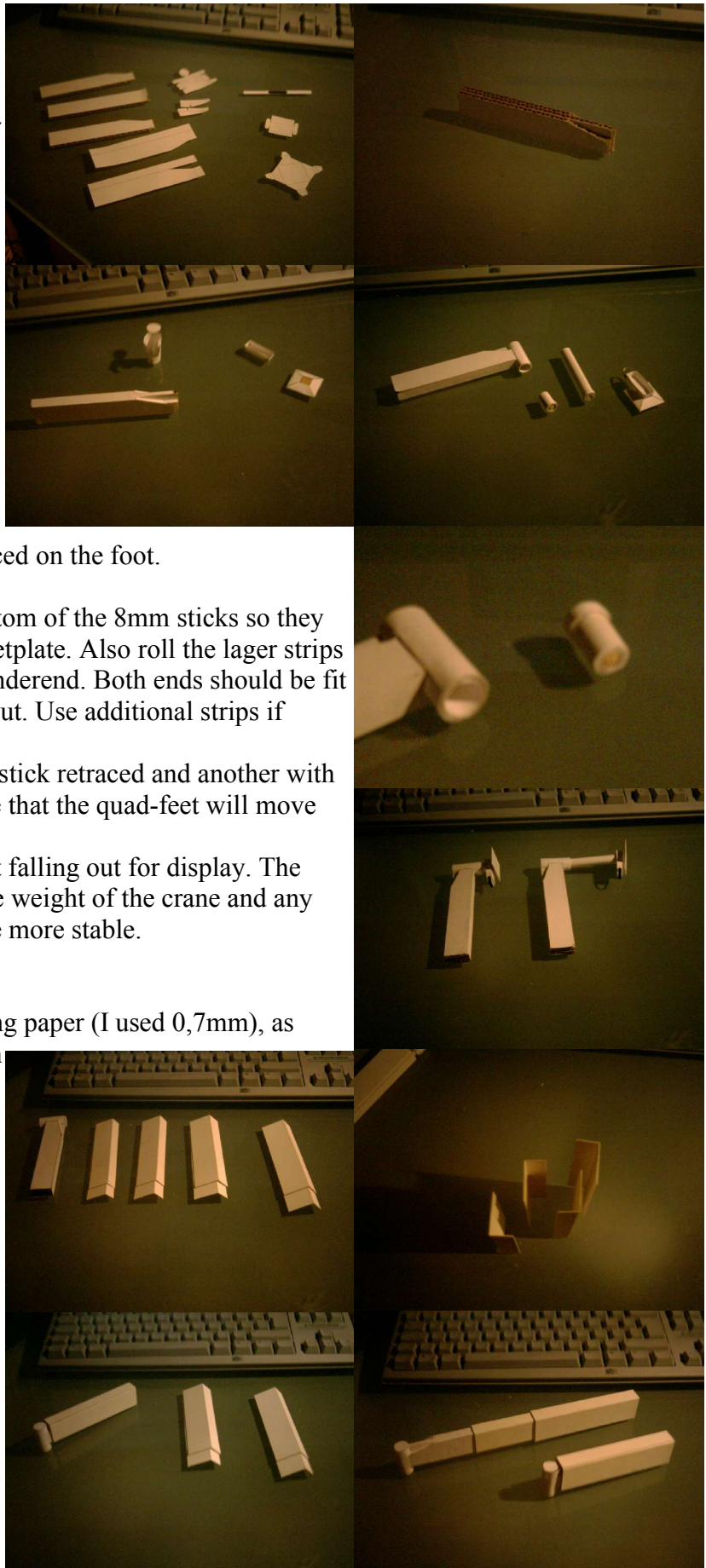
Roll the small strips around the bottom of the 8mm sticks so they will be sticking in the box of the feetplate. Also roll the larger strips into the bottom hole of the CB cylinderend. Both ends should be fit tightly, so that the sticks don't fall out. Use additional strips if needed.

You see here a foot with the small stick retracted and another with the larger stick when extended. Note that the quad-feet will move too!

The short stick should stick without falling out for display. The long rod will be held in place by the weight of the crane and any load. A tight fit also makes the base more stable.

Cut out 100mm long pieces of strong paper (I used 0,7mm), as shown here right. They should form 'L' angles. Form them to fit a vertical and horizontal side of the extension arm. Cut the next two fit over the additional parts. Four pieces form a tube, overlapping each other as shown here far right.

Glue the sections around the CB-part, as shown here, then the second stage, but be careful not to glue the sections to the CB-parts or to the other stage. Make sure the fit is very tight, but they must slide over each other to extend and retract the arm. Wax can be used as lubricant.



Right pic shows a extended and a retracted feet.

You can use additional angles for strength or appearance, but the maximum height is 24 mm and the maximum width is 20mm to fit into the main structure.

Repeat this for all four feet. Then glue two of the feet together as shown here in the picture. The width should be 120mm with the overlapped area in the middle 80mm long. The width must be 40mm and the height 24mm, so it will fit correctly into the main structure. Shim as necessary to achieve the required dimensions.



Since each leg is hand fit, it may be a good idea to number each foot, rods and telescoping section. :-)

You need 2 subassemblies as shown here in the last picture.

Main structure

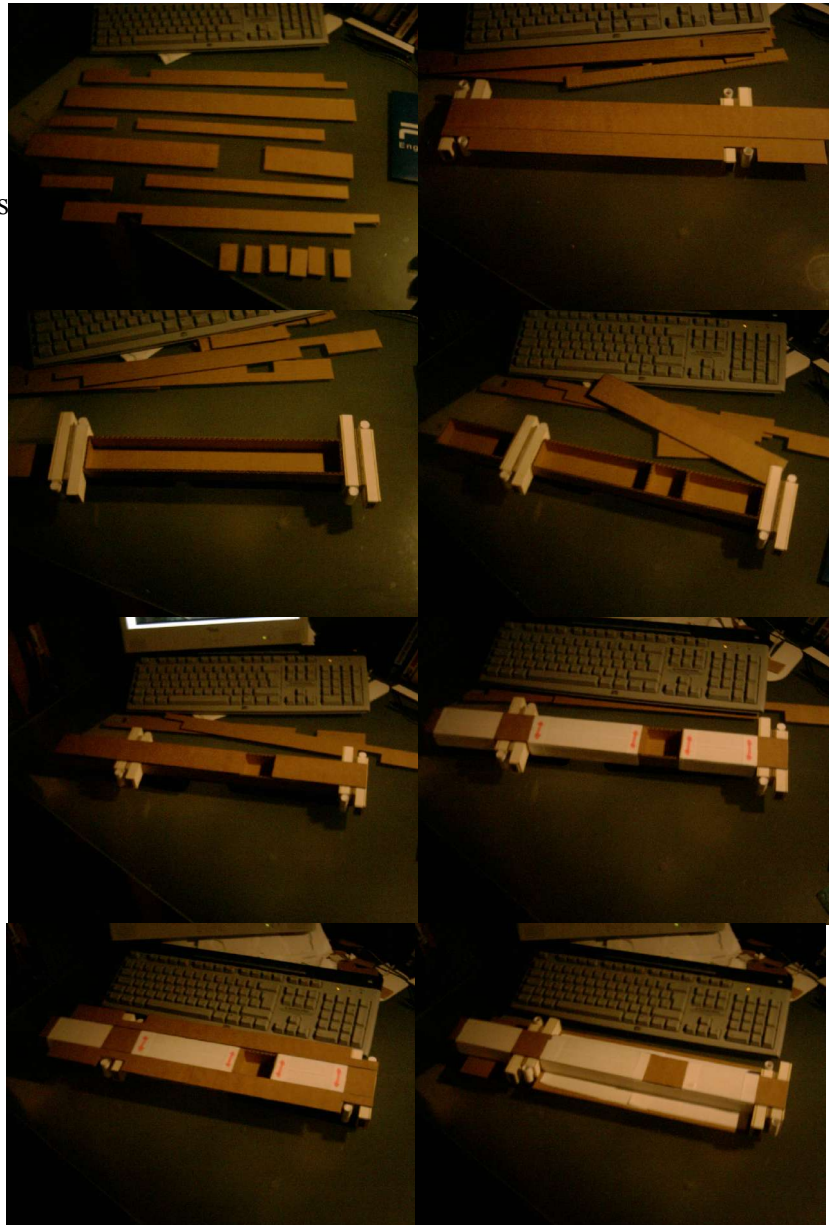
Take the CB-parts [15 parts] and the two telescopicleg-packages.

Using the two side parts with the cut outs as reference, glue the two telescoped assemblies to the largest part as shown in the picture. Don't glue the sideparts yet. This is the bottom of the main structure

Glue the small long CG-parts between the telescopiclegs along each edge of the large center part as shown. Do the same with the parts for the front of the structure. Add the bulkheads to the ends of the now formed boxes. Glue the last two bulkheads in place, using the two top CB-parts as reference.

Then glue the two top parts in place. Glue strips of paper to the edges, then fold around another strip as marked here in red strips at the far right picture. This will hold together the assembly, providing a larger gluing surface.

Its possible to add some additional bulkheads and/or plates into it to strengthen the structure. But it will be heavier. This means you will have to strengthen all other parts to

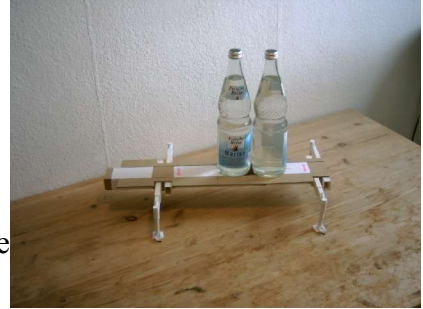


take advantage of this additional strength.

Last glue the sideparts to the structure, applying some strips to the bottom.

Let dry and then you can loadtest it.

Shake the model. If all the parts fit properly, nothing will shake lose :-)
Test it :-)



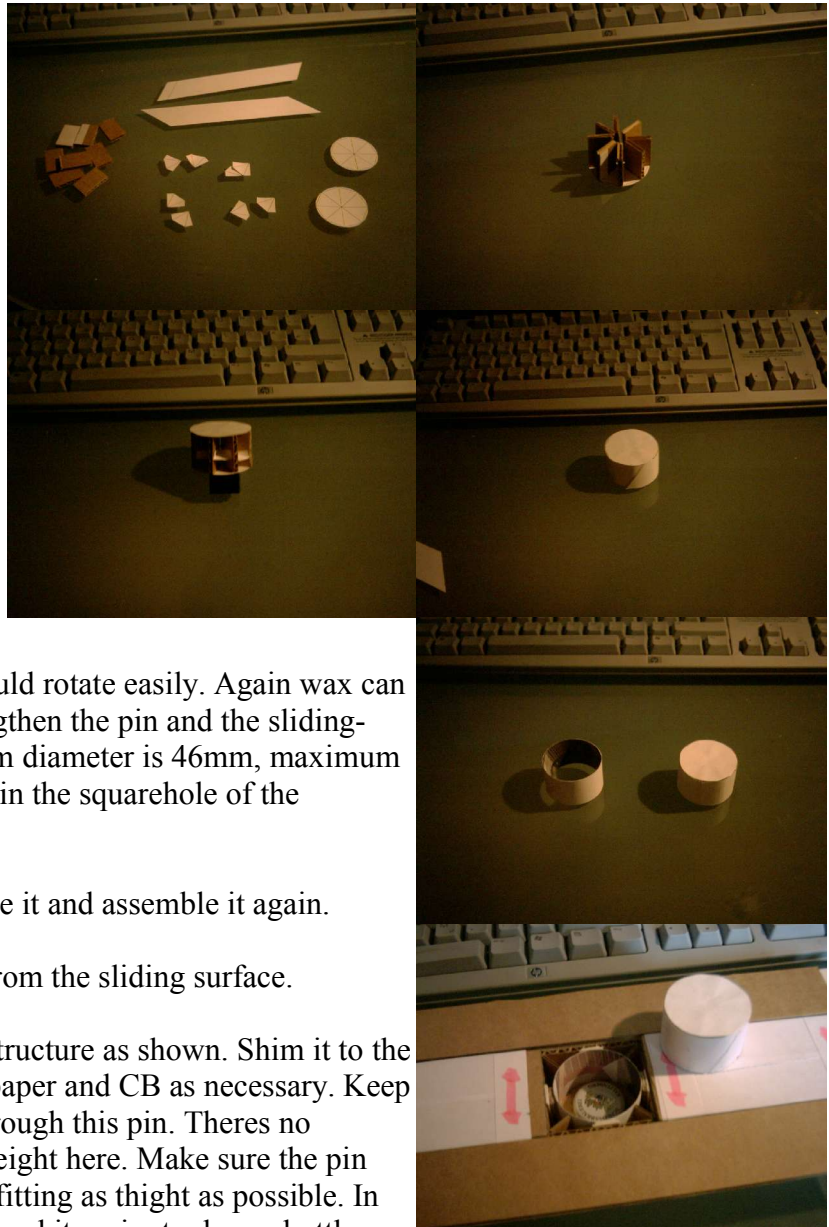
Swivel-pin

Cut out the parts of the swivel-pin.
[20 parts]

Glue the CB-parts to the bottom, evenly spaced, then the top, as shown here. Use the triangular pieces as stiffeners placed horizontally half way between to and bottom.

Then glue and roll the white strip around the CB-parts.

At least roll and glue the surface-labeled part around, glue the ends together, but not to the pin.



It should be a very tight fit, but should rotate easily. Again wax can be used as lubricant. You can strengthen the pin and the sliding-surface, but the whole pin maximum diameter is 46mm, maximum height 25mm high, so that it will fit in the squarehole of the mainstructure.

Make also sure, that you can remove it and assemble it again.

Right pic is with the pin removed from the sliding surface.

Install the sliding-surface into the structure as shown. Shim it to the center of the square opening. Add paper and CB as necessary. Keep in mind that the entire load goes through this pin. There's no advantage of save some paper or weight here. Make sure the pin continues to rotate smoothly while fitting as tight as possible. In inserting and removing the pin, I found it easier to drop a bottle cap inside the bearing surface/collar to keep the pin sticking out so I could grasp it.

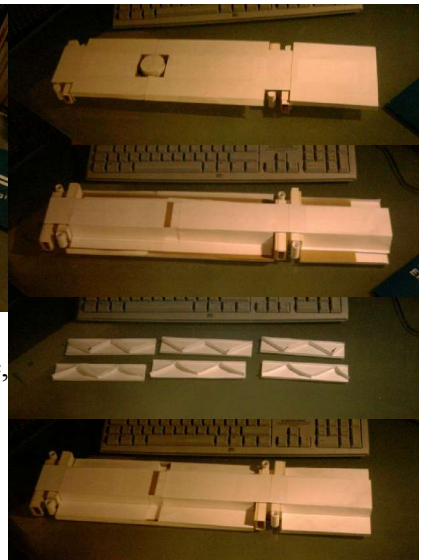
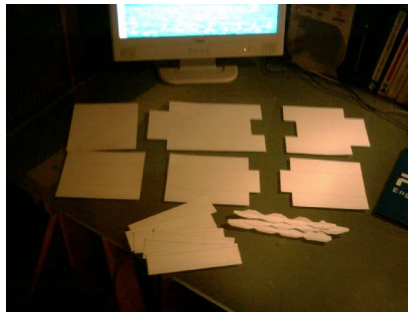
Skin

Cut out the parts [18 parts]

First glue the top parts to the main structure. Second glue the bottom parts to the structure. The sides of the bottom parts are a little oblique.

Cut and fold the strengthener to the correct height, glue them into the sideparts. Glue them in the middle, as sketched on the parts.

Glue the sideparts to the mainstructure and the other skins.



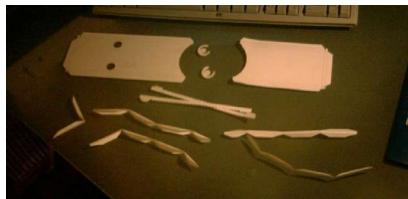
Top

Cut out all parts [11 parts]

Fold and glue the parts as shown here. The cone reaches into it.

Glue the two longstrips around the square opening as shown here far right, the endings directing along the axis of the mainstructure.

Also shown far right is the aft part upside down, the front page will be the same. Then glue the two subassemblies to the main structure.



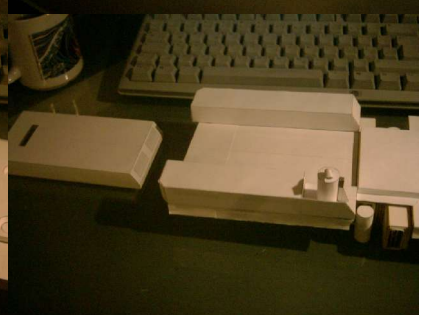
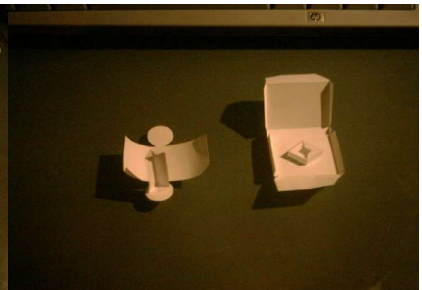
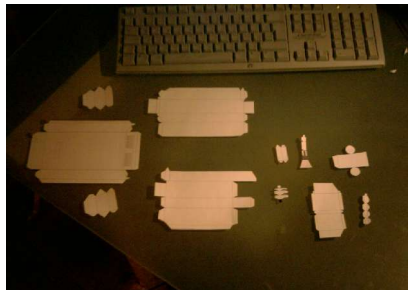
Engine-housing

Cut out all parts [11 parts]

First glue the exhaust and its base, inserting the stiffeners. Fold and glue the other parts.

Assemble the left subassembly. (It's a good idea not to glue the exhaust yet, I had some troubles ;-). Lay it aside and glue it later.

Glue the two subassemblies to the main structure, with referencing the middle larger part. Don't glue this and the two triangular parts yet, but make sure they will fit there later. The three parts should hang over 5mm at front of the mainstructure.

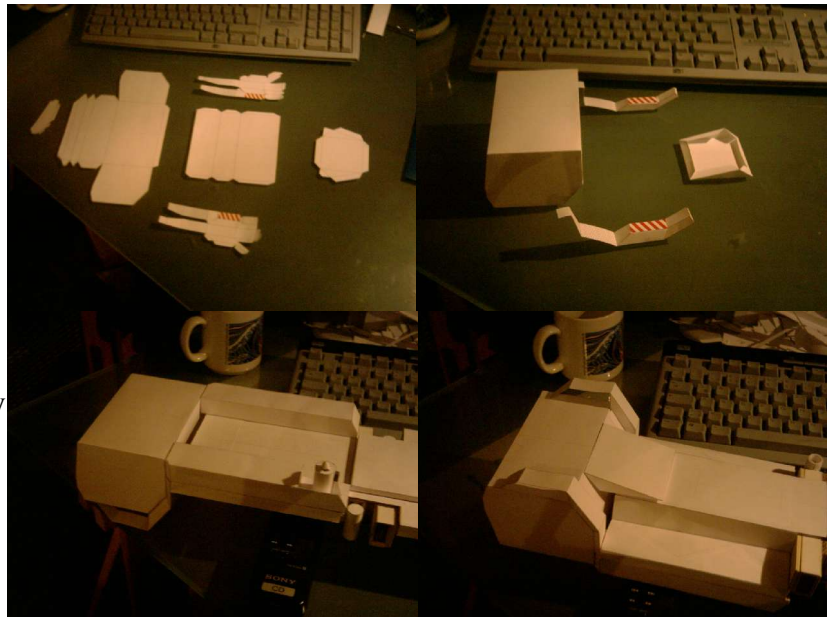


Cabine

Cut out the parts [6 parts]

Fold and glue. Nothing special. Glue the little stiffener into the cabine, this will prevent the front from buckling.

Glue it to the mainstructure as shown here. You may close the hole at the bottom, but it will barely be visible if the model will stand upright.



Wheelarches

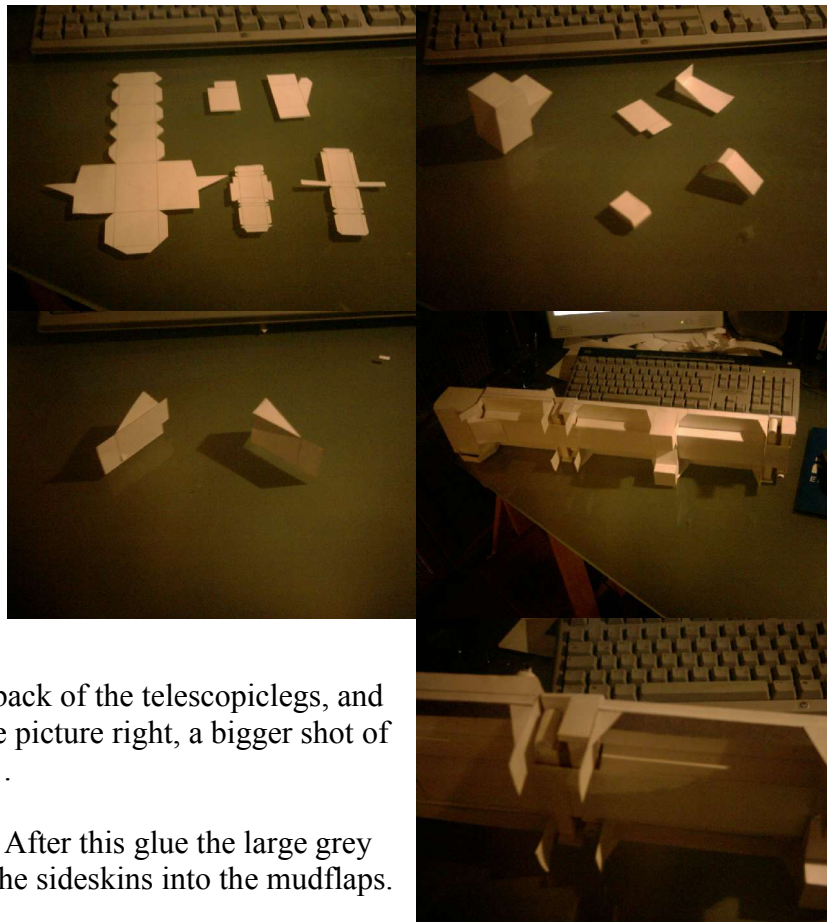
Cut out the parts [19 parts]

Fold the parts as shown. You see only one of a type here.

The mudflaps exist of two types. One with a back and one without back. You have to use the back if there is something of the CB-parts visible. This occurs where the telescopic-legs are. Then you have to trim and fit the back side and glue to the mudflap. Right you see one with the back one without.

The L-formed parts belong to the back of the telescopiclegs, and the other at the front. See also in the picture right, a bigger shot of the first leg-position of the left side .

Glue the parts to the mainstructure. After this glue the large grey rectangulars, which are located by the sideskins into the mudflaps.



Back

Cut out all parts [14 parts]

Fold and glue the parts.

Glue all to the back-surface and then to the back of the mainstructure



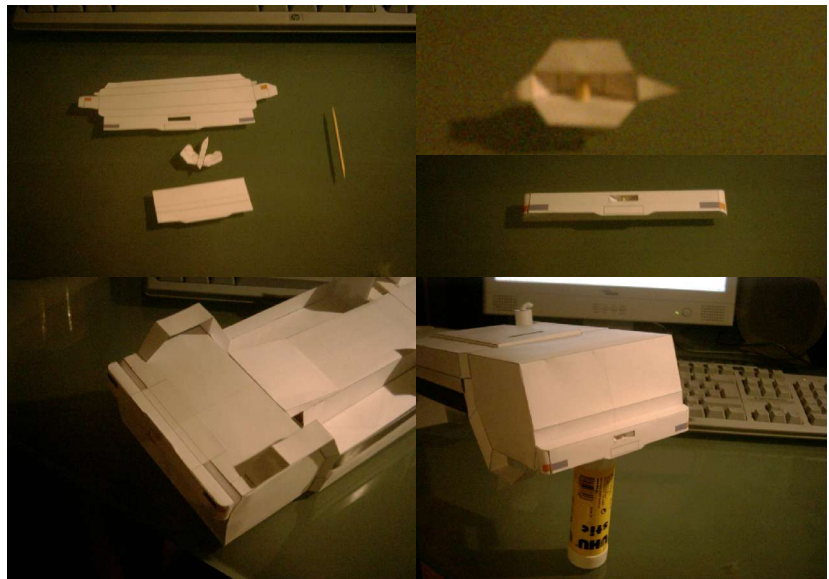
Bumper

Cut out the parts [3 parts]

Glue the mouth, add a little toothpick or a rolled rod which is similar as shown here far right.

Glue the mouth into the bumper and close the bumper.

Glue this subassembly to the front of the cabine, using the thirt part as as reference.



Driveline

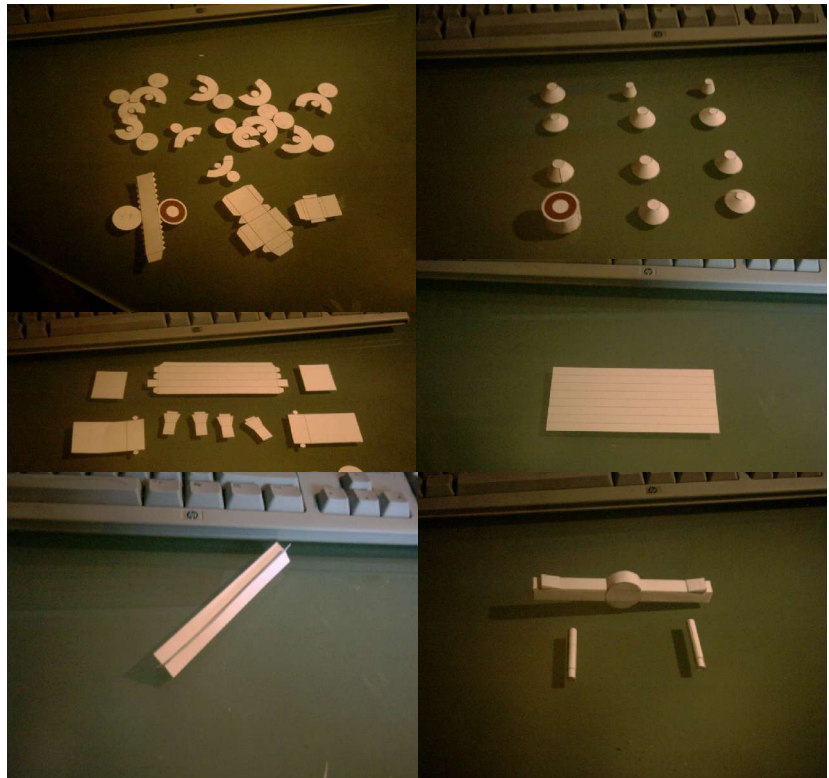
Cut out the parts [14 parts]

Roll and fold the parts. At the back the mark tells on which axle which part is to be glued. (eg. 1B – first axle, back, 3F - third axle front)

Cut out the axel parts [13 parts each] You will need 6 axes.

Cut out the 8-box part and fold it to a X-shaped beam, glueing into the mainpart of the axle.

I added this part at last, because my model shows a real stress at the axes



Roll fold and glue together, make sure the springs are stiff enough that they can carry a significant load.

Cut out the supporters [3 parts each] fold and glue as shown.

The slightly larger supporter belongs to the front set of axes.

Shown right is the complete driveline.

Glue together the three sets of axes. The remaining triangular parts at top of the springs.

Glue the gearbox at its location between the second and the third axle.

Apply the subassemblies to the mainstructure as shown here, each located in the middle of its wheelarch. Let dry, then add some rods as beams between the gearbox and the axes.



Wheels

Cut out all parts [13 parts each]
You will need 12 wheels.

Roll fold glue the parts as shown.
The stiffener can be used in the wheelcap to prevent it from collapsing (Not shown here, added later after having some problems ;-)

Glue the 4 strips starwise at the back of the wheelcap, fold them and then glue the wheelcap into the wheel. Make sure it will be very well glued to take the load of the model. Glue them to the axles.

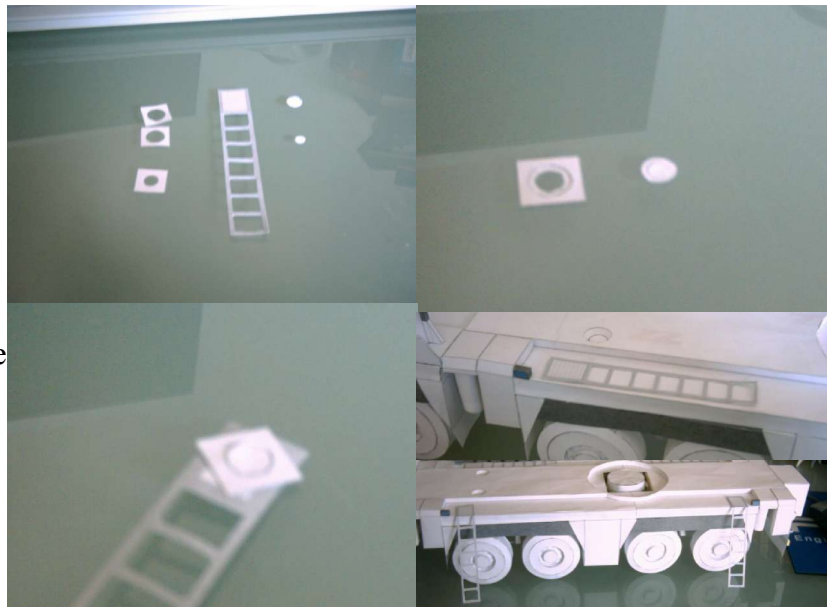


Ladders

Cut out all parts [6 parts each, 4 ladders]

Glue the three quads together. Glue the two circles together. Fold the ladder at the top.

Glue the circles to the ladder-bottom, including the quads. Be careful not to glue to the quads. The ladder should now be pivoting in the quads. Glue the quads to the mainstructure. Again be careful not to glue the circle parts. Far right you see the ladder atop and in use.



Boom, first section

Cut out all parts [29 parts, 2 parts you have to cut later] Use a strong paper. I used a paper with a thickness of 0.7mm, the same as for the telescopiclegs. The longer part should have a length of 400 mm excluding the pulley-head.

Roll two paperstrips, 15mm wide, fitting solidly into the strawtube, 15mm long also, with a wire as core.

Glue the three of the heads to the two rods, fitting the wire in the cutouts/holes. Glue the boxy spacer between.

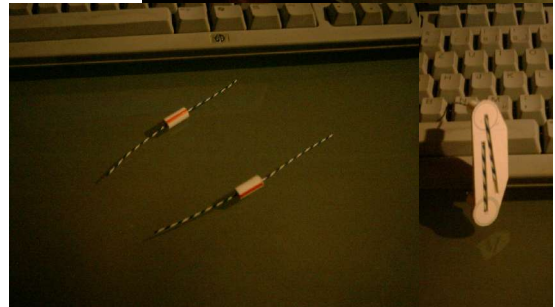
Form the partial circles into cones. Add the cones, ever as pairs opposite, they form the ropepulleys. Put two pairs each side at the top straw. So much as you can add at the bottom straw. Originally this is designed to fit 8 pulleys here. But when you get only 5 or 6 pulleys there, no problem.

Hold them in place with some strips of paper rolled around the rods, especially at the top. Dont' glue the strips and the cones to the rods, let them rotate freely.

Add the other side, building similar. Then add the two outermost long part of this subassembly. Let dry.

Cut two L-shaped parts (mentioned above), 400mm long, in reference to this subassembly. Glue very good and hold together till dry. (Same as with the telescopiclegs) add an interior bulkhead into the end of the section.

Don't grease the boom-sections, because the boom will hold with friction !



Lengths of boom section

First : 400mm, excluding the pulleyhead

Secound 405mm (400 + 5), thirth 410mm (405 + 5), fourth 415mm (410 + 5), last one 500mm (415 + 5 + 80), all excluding the glueingflaps !

Boom sections

Each of the extension sections is build the same as the first, with flanges replacing the pulleyheads. All parts of this subassembly are again of the thicker paper 0,7mm.

Cut out all parts [9 parts each], the four L's in respect to the underlying boom-section.

Glue the flanges 1 and 2 together. The cutout have to be as large that the underlying section will slide through. You can take the paperlineguide as at the parts, or can substitud it by a wire as i. You can also cut it off, if you want to leave out this detail.

Glue the flanges 3 and 4 together as shown.

The coutout of the flanges 3 and 4 have to be so large that its section fill fit through.

Cut out 4 L-shaped parts fitting thight over the underlying section, using the same method as with the telescopiclegs. The length should be the length from the underlying section plus additional length of 5mm to have space for the bulkhead, the inner two L's need glueingtabs to glue the flanges.(See right) **The last section should have a additonal length of 80 mm, but at minimum should have 500mm length total. (also see before, just a reminder)**

Glue the boomsectionbox to flanges 3 and 4, attaching by glueing the glueingtabs into the flange, as you see right. Then add the other flange-subassembly. At least add a bulkhead at the end of the section, not deeper as 5mm!.

I designed it with 5 sections, but you can build it with a minimun of 3 sections and a maximum of 7 section, but I do not guarantee the performance.

You see here all 5 section retraced and slightly extended modes. When retraced the boom, the sections should at stack evenly.

You can add some additonal flanges if you are not satisfied with the width of the flanges.

Cut out some CB-parts of the boom-end to fit tightly into the last section. You will have to stack CBs till it will fill out the last section. (I had to use 3 parts of 9mm CB)

Glue into the boom-end.



Let dry and be sure it will fit very well, slide well, but not to well, the friction!

Floor

Cut out all parts [8 parts], including 3 CB-parts

Glue the CB-parts together, then covering them with the other parts. Trim the parts where to big.

Add the swivel-pin, which you made in the main-body to the center of the round. This subassembly have to fit into the hole of the mainbody. The large cricle area should lay flat at the mainbody.



Boomsupport

Cut out the CB-parts [6 parts] The brown parts are cut out to fit.

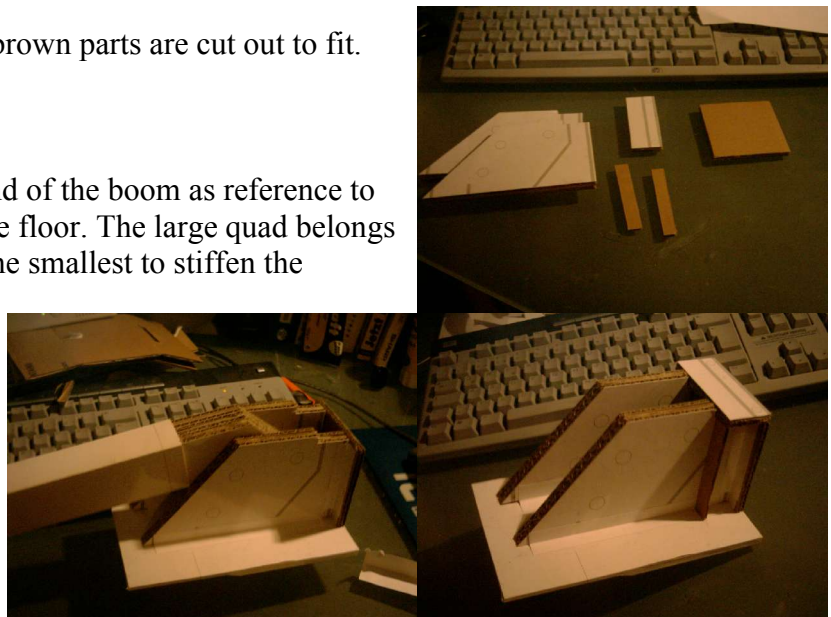
As shown in the pictures, use the end of the boom as reference to space the sidewalls, glue them to the floor. The large quad belongs to the back, the smaller at top and the smallest to stiffen the smaller :-). Use scrape L-shaped glueingflaps to reinforce gluing the walls to the floor

I placed my walls based on my construction of the boom and the endpiece. You may have to adjust fit your assembly.

You can add some bulkheads between the walls for additonal strength, marked with the thick lines.

Drill the axle of the boom, with a diameter of the strawtube, which you are using. Add the filled strawtube, and then drill the other holes.

Drill slow and carefully to allow the paper to be smeared into the cannels of the CB., thouse allowing a better distribution of loads.



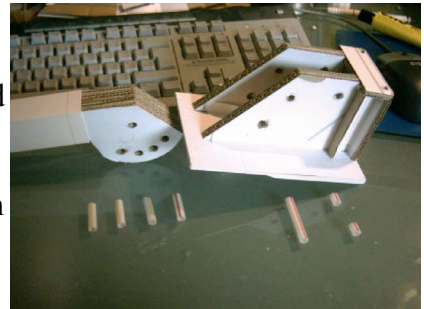
Don't forget to drill the holes at top.

Smooth the surfaces off, removing the raised edges caused by drilling.



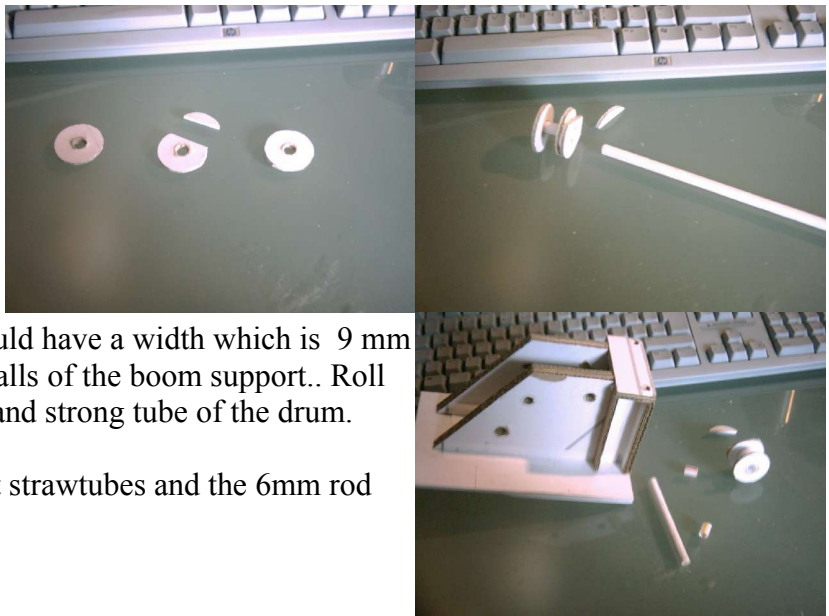
Cut pieces of the strawtube in respect to your design as shown here right filling the holes. This will lead to a better load distributing and turning.

Glue the four into the end of the boom. Fill the longest piece, which will be the axle of the boom with paper or something strong. Place all the strawtubes into their location



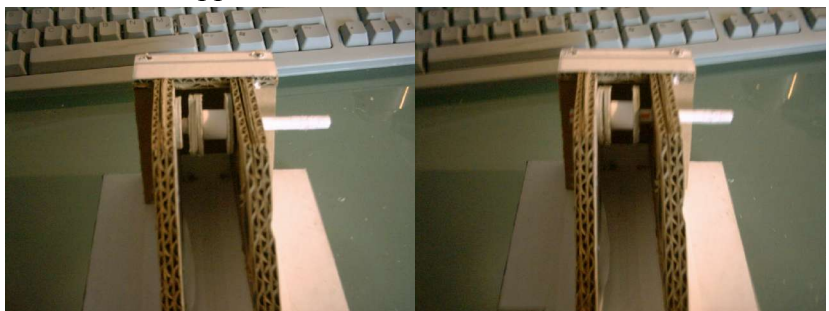
Cut out the ropedrum. They have to be **solid** paper with a thickness of 3mm. Cut off one segment as shown here. It forms the lock. Glue them together as shown far right. Tightly fitting around one of the 6mm rods. The disc with the missing segment is glued to one side of the drum. The assembly should have a width which is 9 mm less as the width between the sidewalls of the boomsupport.. Roll into some strips of paper to a good and strong tube of the drum.

Get the boom support, the two short strawtubes and the 6mm rod used for the drum.



Glue the hollow strawtubes into the boomsupport. This are the bearing surfaces. Center the drum on the rod, between the sidewalls of the boomsupport. Glue the drum to the Rod. Glue the small part to the boomsupport this is the lock of the drum.

You see the drum in the left picture in open position. You can wind the ropes in and out. To the far right is the drum in locked position, where the rope is locked. Make sure that the drum will be properly located at the 6mm rod and will rotate and shift easily.



Glue the solid boom-axle to the sidewalls of the boomsupport. Make sure the boom will tilt smoothly. The other 6mm rod will serve as holder of the boom. Try out all four position formed by the sleeveholes in the end of the boomsection. To tilt the boom, just remove the rod, tilt and stick the rod into again.



Cut out the CB of the front boomsupport. With respect of the boom in height and with of the cutout . The boom should be in level to the ground. Glue the middle of the enginehousing to the mainstructure, while glueing the CB-part.

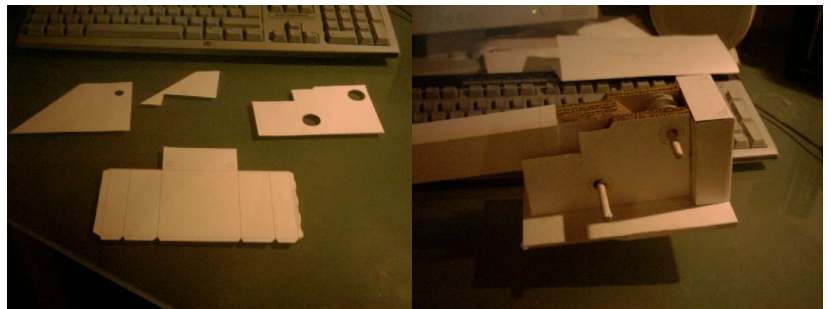


Let everything dry thoroughly.

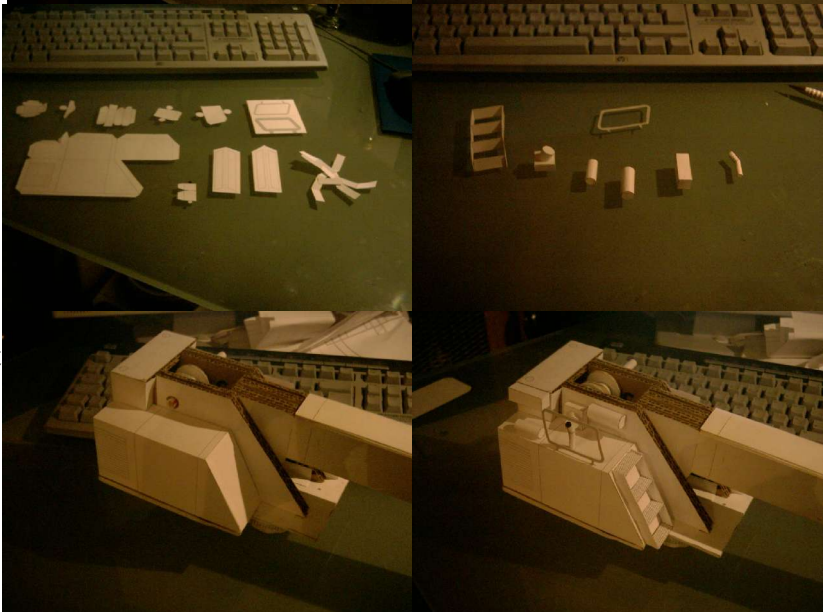
Crane housing

Cut out the first parts [4 parts]

Glue the biggest around the back, add the other to the side as shown here. The small part belongs to the steps at the right side to cover the back.



Cut out the parts for the left side [14 parts]
Roll fold glue, assemble as far right.



First glue the biggest part to the crane in respect to the CB-parts. (fit it to the right size) Then the assembled parts as far right.

Cut out the main right parts [12 parts]

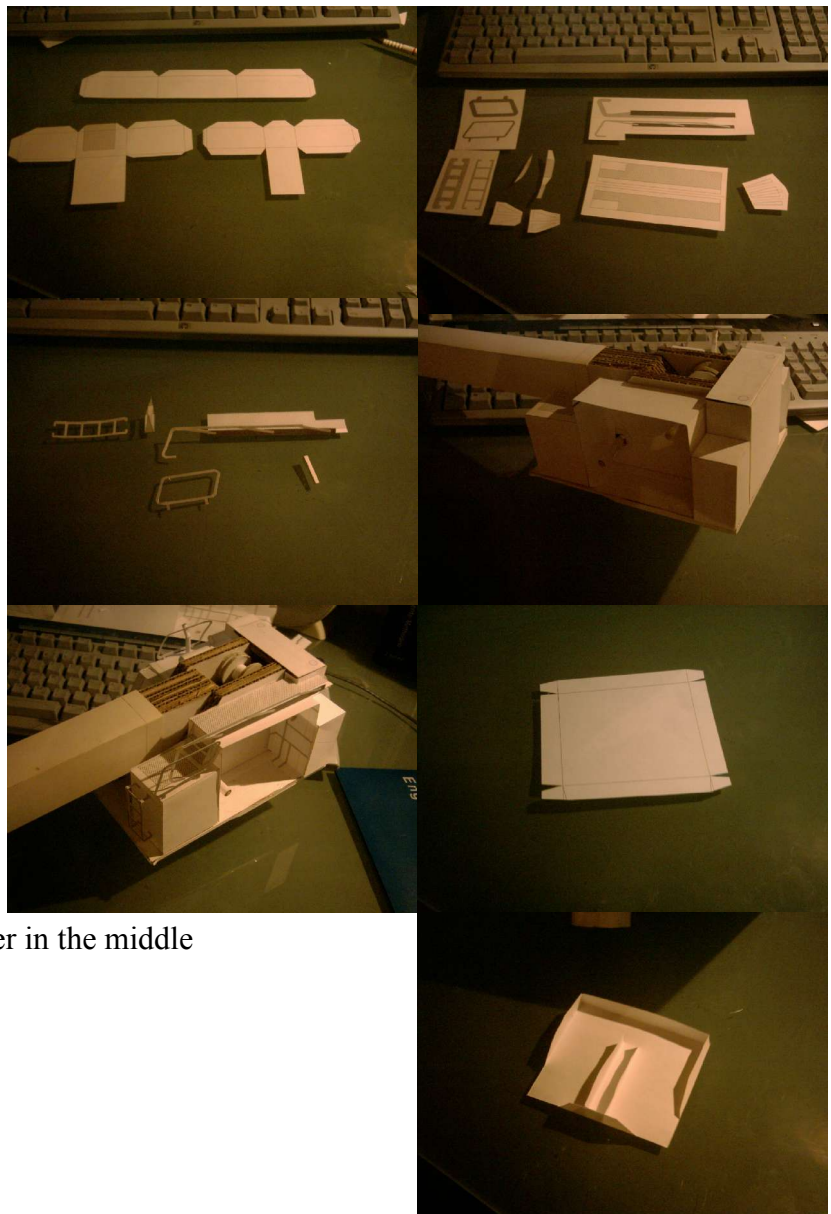
Fold and glue the smaller parts.

Glue the biggest parts also in respect to the CB-parts (Fit to the right size)

Attach the parts as shown far right.

Get the hood, cut out and fit it into the opening, making it removable, so that you can work the stick and the ropedrum.

Right is my solution, with a stiffener in the middle

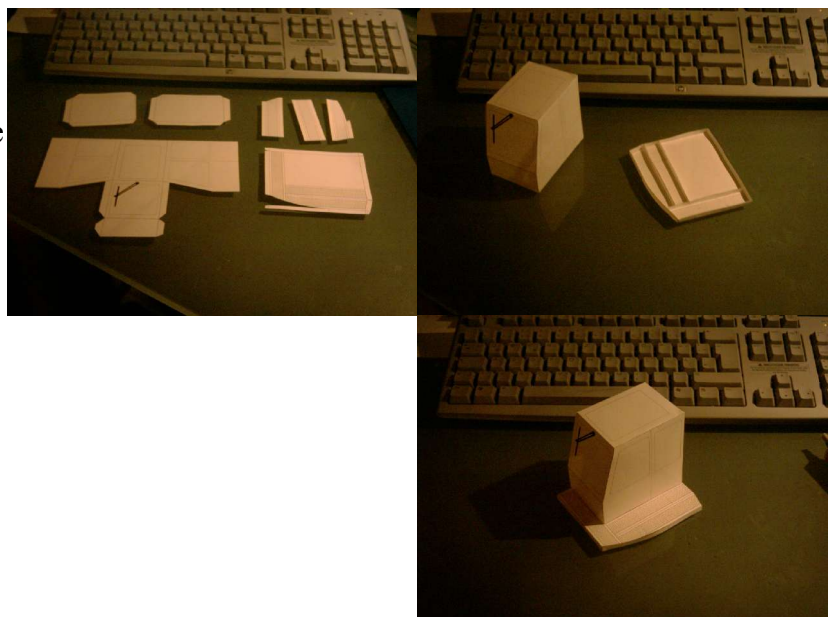


Cran-Cabine

Cut out the parts [7 parts]

Fold and glue the floor and the cabine. The three long strips are the underside according the upperside.

Glue together.



Cut out the small parts of the cabine-arm [8 parts]

Take a 15mm long piece of the 6.5mm rod. Glue around the small strip. Roll around the larger strip thight, but don't glue this strip. See far right.

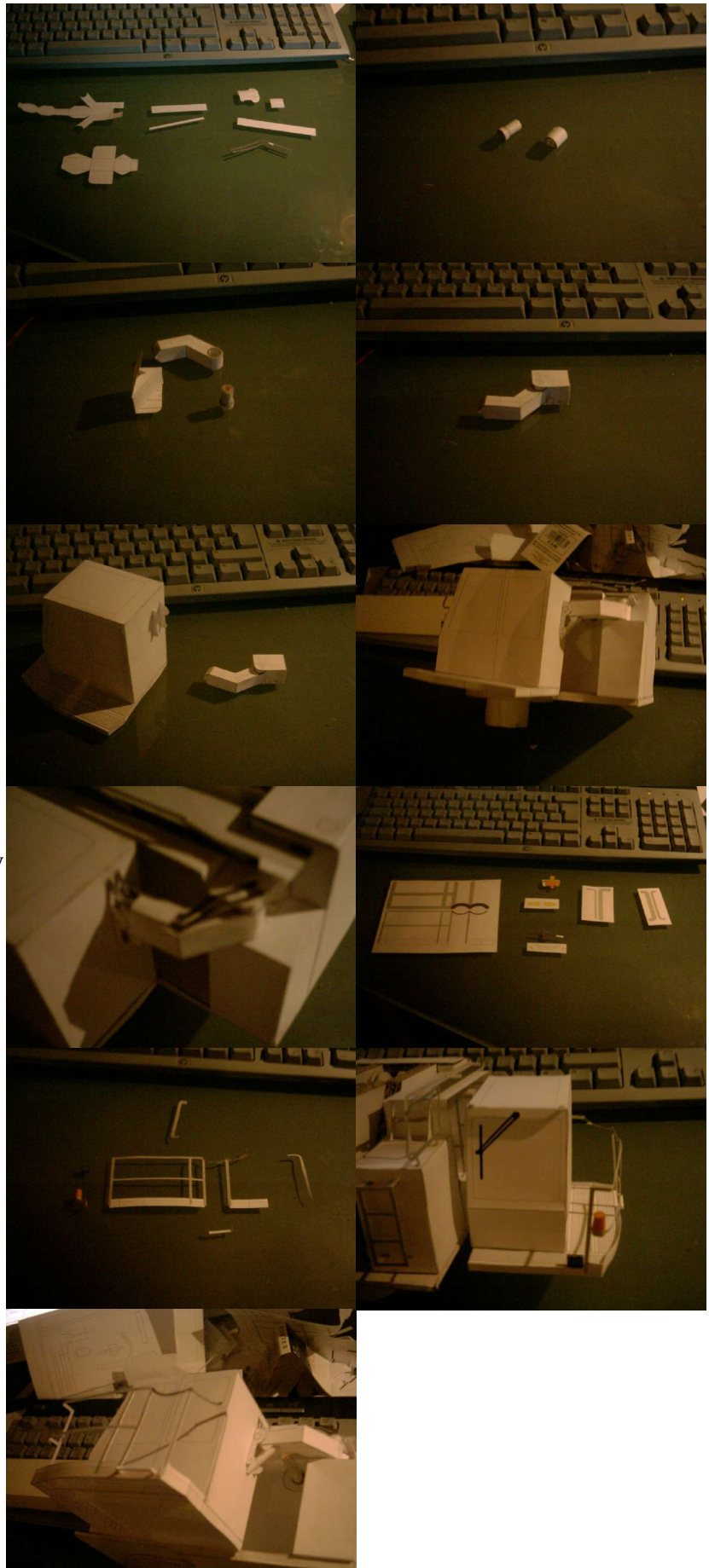
Glue the supporter and the arm. Glue the rolled larger strip into the arm as shown right. Glue the 6.5mm rod into the supporter, including the arm. Make sure the arm will pivoting.

Glue the other supporter to the cabine. Attach this all to the crane. Glueing a stiff beam between the cabine and the arm to support the cabine. See far right.

At last glue the cables and it shield to the arm. Make sure the fit is very tight, but will pivot 90 °.

Cut out the small parts [7 parts]

Roll fold, glue together, then assemble it to the cabine. The little step belongs to the side.



Cylinders

Cut out the main parts [9 parts each, of the two]

Glue the stiffeners to the heads of each large part. Roll and glue the smaller of the larger part.

Let dry.

Roll the larger of the two around it but don't glue together. Cut the head to the right diameter and glue it.

Take 4 13mm long pieces of the 6.5mm rod. Glue the hinges around as shown here far right. Be sure the rods will pivoting.

Glue the hinges to the cylinder.

Cut out the parts of the cylinder-fittings [8 parts]

Fold, glue assemble as shown.

Assemble the cylinders with the fittings, use the rods and the last disc.

Glue the subassemblies to the crane floor as you see right, then the top as far right. The cylinders should be 5mm extended (marked at the parts) while glueing it to the 0°-position.

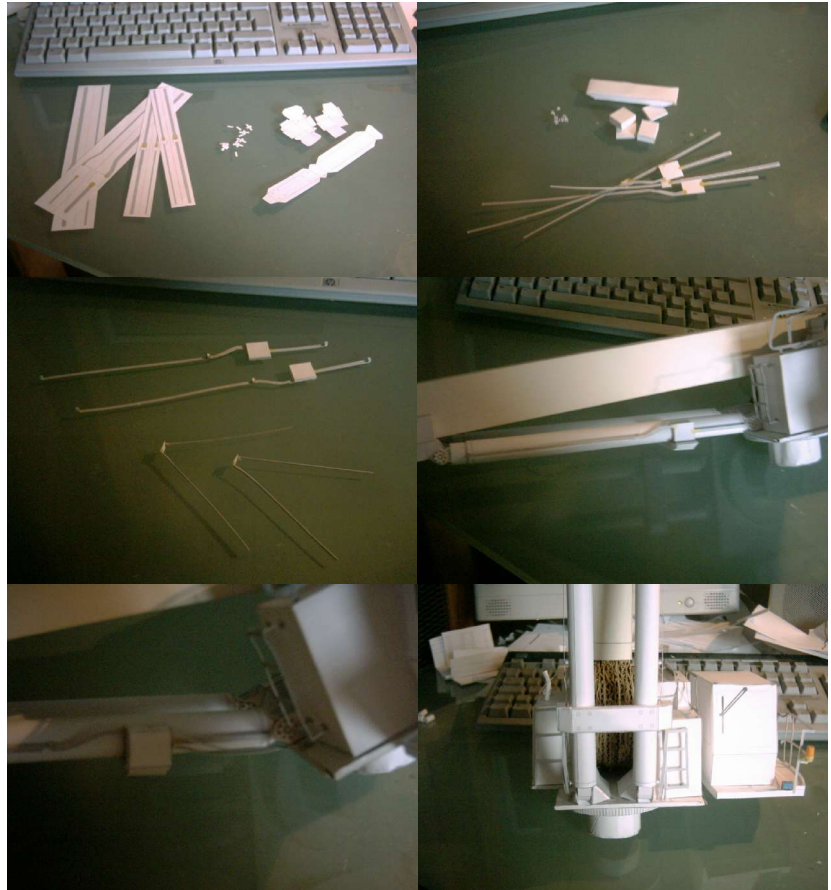


Hydraulik-lines

Cut out [21 parts]

Fold and glue.

Glue the smaller parts to the lines.
The zig-zag-glued to the top, see
here right. Then glue it to the
cylinders.

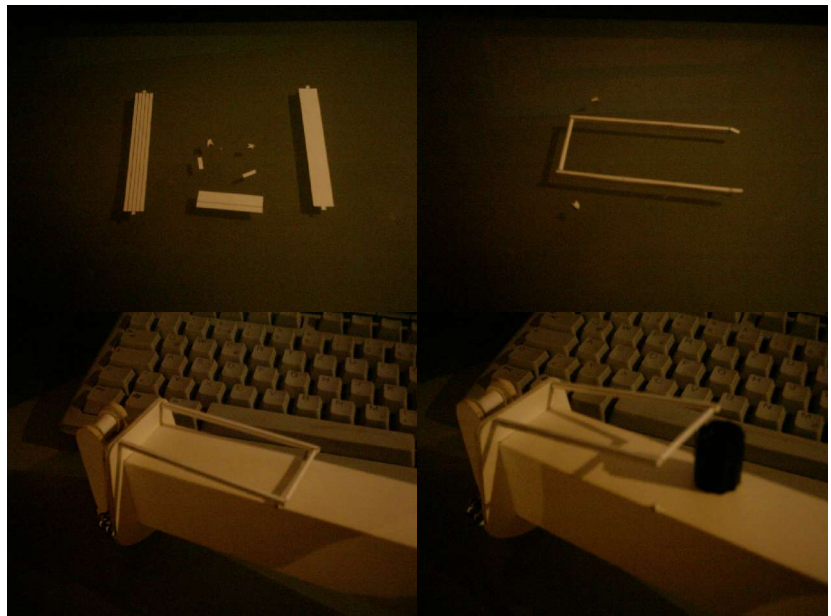


Rope-damper

Cut out all parts [7 parts] Cut the
tube to the right length.

(you may use the alternative parts)

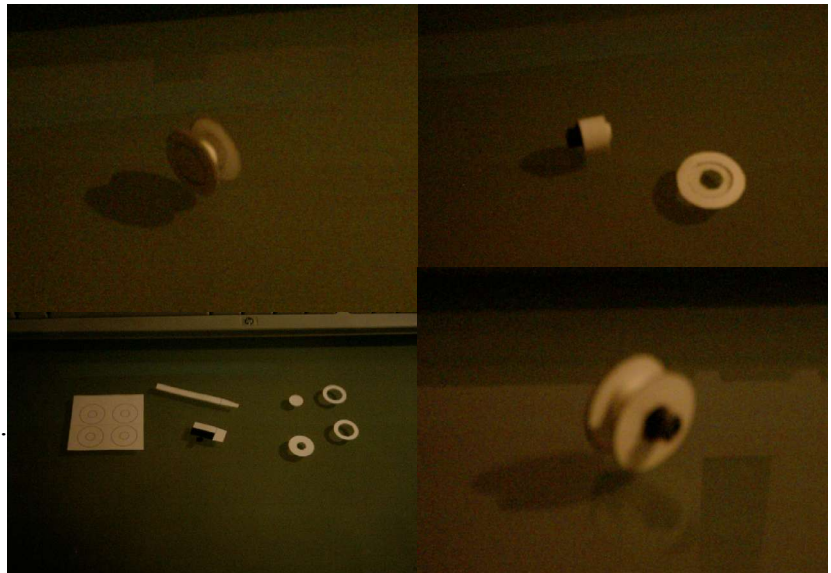
Fold and glue. Then glue it to the
boom.use the small strip as hinge
so that the damper will tilt. Use the
smalles part as seatings at the end.



Cable-drum

Cut out the parts [8 parts] Roll the axle, glueing the strip around to a good diameter. Stack togheter the three larges discs, here right.

Glue the double sided discs to the axle. Then glue the axle to the smallest disc, including the stacket parts. Make sure the axle and the drum will pivot in the stacked parts. (The assemle is similar to this of the laddres)

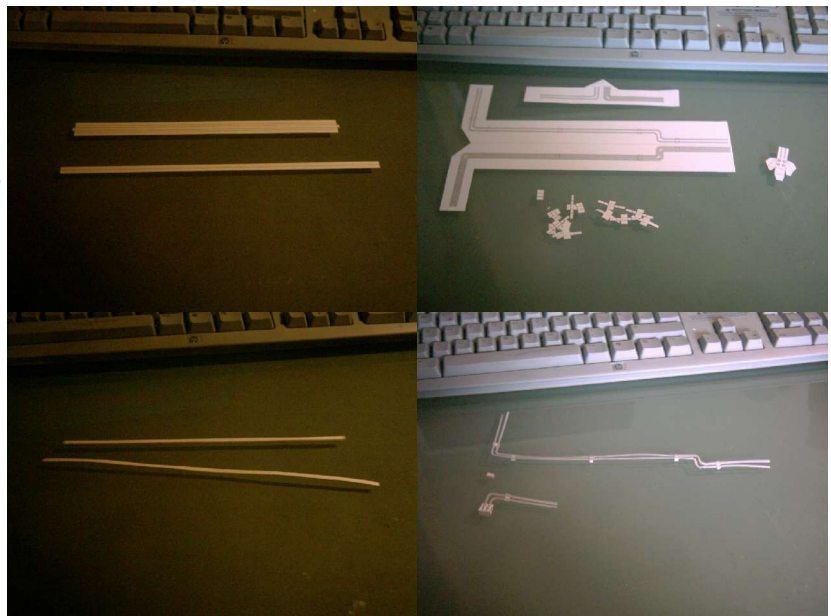


Boom-lines

Cut out [20 parts]

Fold, glue assemble as shown here.

The small parts assembles againt to the line-supporters in the far right pictures.



Boom-cover

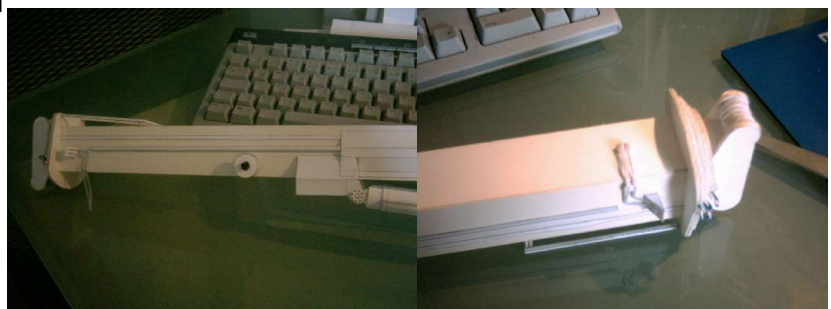
Cut out [3 parts each side]

glue together as shown far right.



Assembling to the boom

First glue the cable drum, the two folded boom lines and the small line to the left side as shown here. Then glue the cover to the boom.



Then glue the large lines and the cover to the right side. Connect the two double lines at the underside of the boom, using the last linesupporter part. Cut to right length.



Hook

The building-method is very similar as like the first section of the boom. All parts here have to be again out of the thicker paper 0.7mm.

Take a 10mm rod of 6.5mm with an wire-core. Take a stiff wire, which can hold your load to form the hook. I used two paperclips as you see far right.

Cut out the parts of the hook [21 parts]

Fold and glue the box part. Install the hook, with a piece of wire pointing upward at each open side.

Glue one side three plates together and glue the hook and the rod to the inner side. The wire have to be in the cutouts. See right.

Stack the cones at the rod, again in pairs opposite to form the pulleys. Stack as much as you like. Dont glue them to the rod, let them rotate freely. Glue the other side, insert the wires again in the cutouts. At last glue the outer sides of the plates.



Installing the ropes

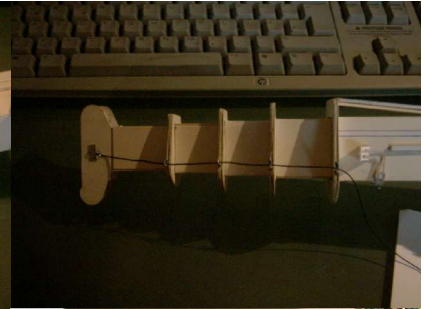
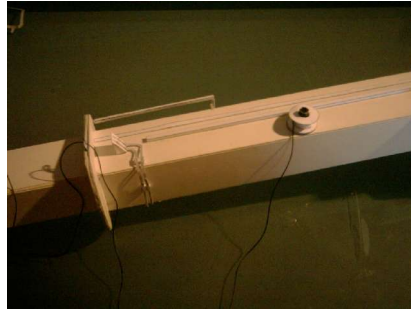
Cut out the parts for this [2 parts]
measure up the length of the first rope (appr. 2 m, depend on how far your boom will extend)

Use the larger strip to glue the rope to the cabledrum.



Stick the rope through the eyes at the flanges of the boomsections, at last glue the end of the rope to the first section as you see here far right.

Be careful with this drum, because it's not a very perfect rotating device.



Get some long long rope for the this rope. With the boom fully extended as i planed it (appr. 2 m heigh, 8 pulleys, you will need 18 m of rope to reach the floor) You can make the rope shorter, this is no problem, but maybe then you cant use the whole size of the crane :-)

Glue one end to the ropedrum at the cranebottom, then wound it around the pulleys up and down to form a liftingblock . At last knot the end of the rope to the rod of the fist boomsection.



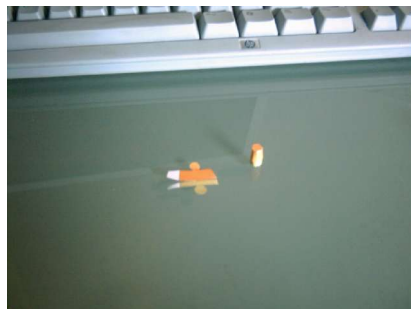
Now take some rope and make a little holder of the hook in the driving-condition. Using the hole in the bumper, as you see right.

Boogie-lights :-)

[2 parts]

Cut out and glue, then assemble to the cabine.

Almost forgotten ;-)



Baseweight

Cut out the parts [19 parts]

Get two rods of 6mm, length of 20 mm. Wrap around the strips, but don't glue. They will later rest in the baseweight-valley.

Assemble the support and glueing the tube at the top as shown here. The rod should slide freely.

Assemble the other parts as shown far right.

Glue the weightbody with the stiffeners and the boxypart. Stick into the support. Glue the hooks at its place on the sides.

Glue the cones.

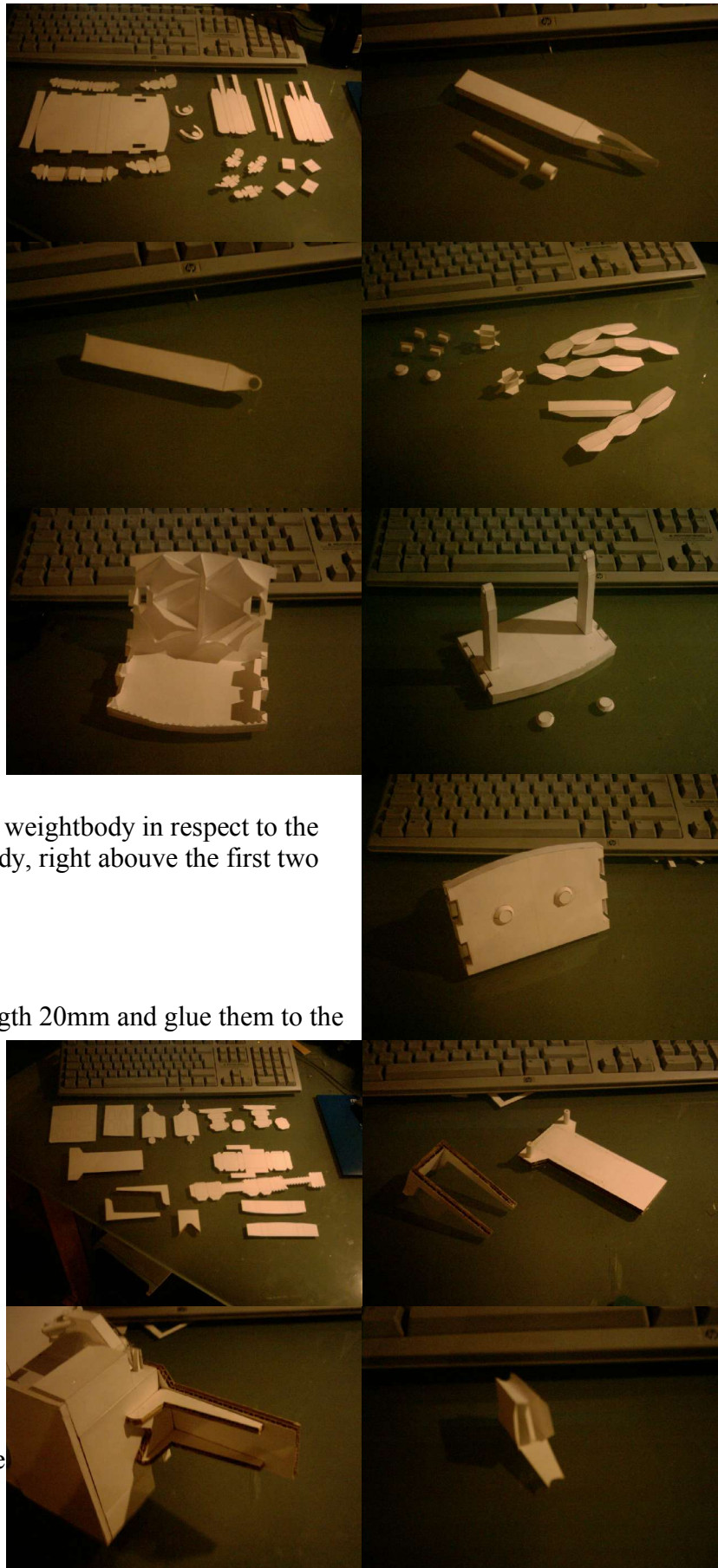
Glue the cones to the bottom of the weightbody in respect to the cone-holes at the top of the mainbody, right above the first two telescopiclegs.

Cut out the parts [16 parts]

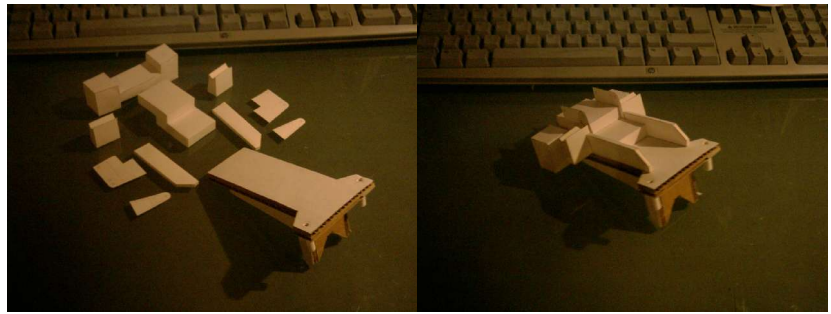
Take another two 6.5mm rods. Length 20mm and glue them to the CB-parts. Glue the other three CB-parts, as shown here far right.

Glue the CB-parts together with respect of the crane. The rods have to be fitting into the according holes at the crane. See here right.

Assemble all other parts. Don't forget the stiffeners, as you see here far right.



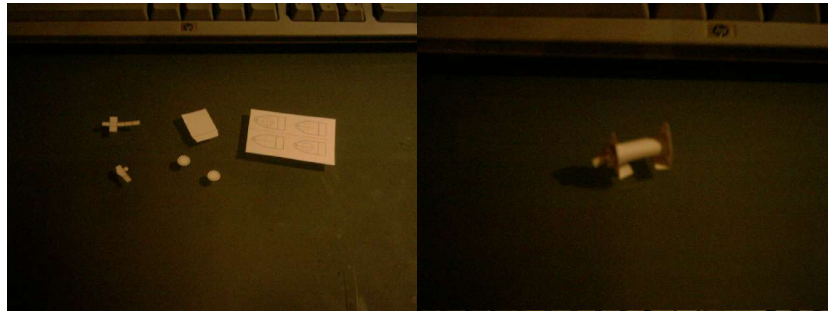
After the CB-parts are set and the glue is dry, take it off and assemble with the other parts as you see here right.



Ropedrum

Cut out the parts [6 parts]

Roll fold glue together, nothing special here.



Then glue to the baseweight.

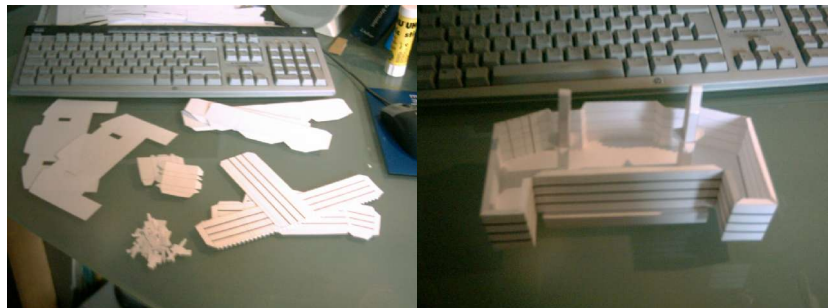


Weight

Cut out all parts [41 parts]
This will form a bulk of four weights. You can build also single weights. The building-prozess is the same.

Glue the walls of the weight, then glue the boxy parts with respect to the baseweight, but don't glue, as you see far right.

Then add the stiffeners. At last glue the top surface.



Glue and assemble the hooks.
Glue them to their locations at front and back of the weight.
This are the hooks for lifting the weight.



Attach all to the crane. Cut out and glue some cards to the weight to get it leveled.



Baseweight-post

Cut out the parts [27 parts]

Fold, glue and build up.



The support resembles all out of I-beams

Loadmat

Cut out some matres. This are for loaddistributing in case the ground, on which the crane is placed is to weak.

I cut some out of the CBs, 70x100 mm



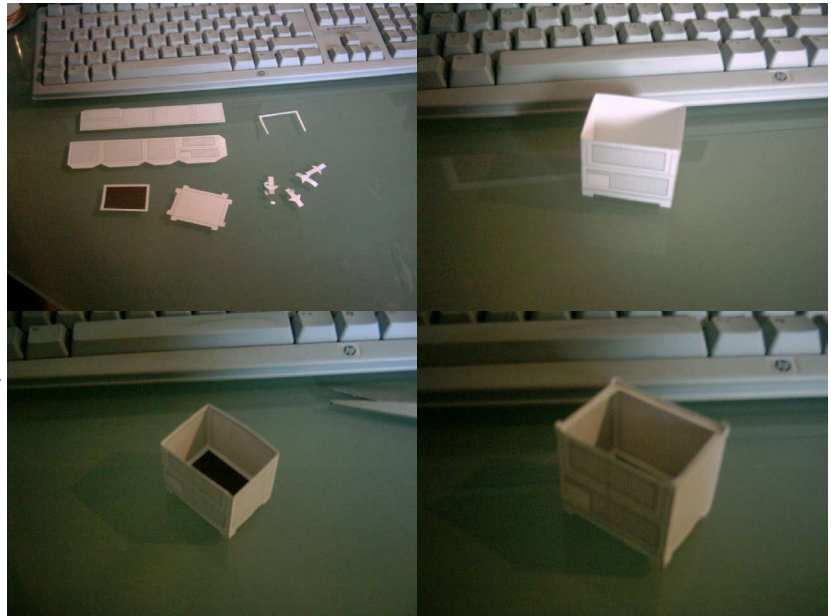
Box

Cut out the parts [13 parts]

Glue the triangular legs and assemble the floor with the outer surface of the box.

Then glue the inner surface into it, while cutting to much material, add the wooden floor at last.

At last add the rim. It should be a little inside the box, setting it right at the edge of the inner surfaces, then glue the last four small part to the edges. They will make the box stackable.



Traffic-sign

Cut out the parts of the stand [5 parts]

Fold and glue together, add the stiffener into it as shown far righth.



Then roll the smallest two parts to handbars, then glue them to the stand



Cut out and glue the signs.

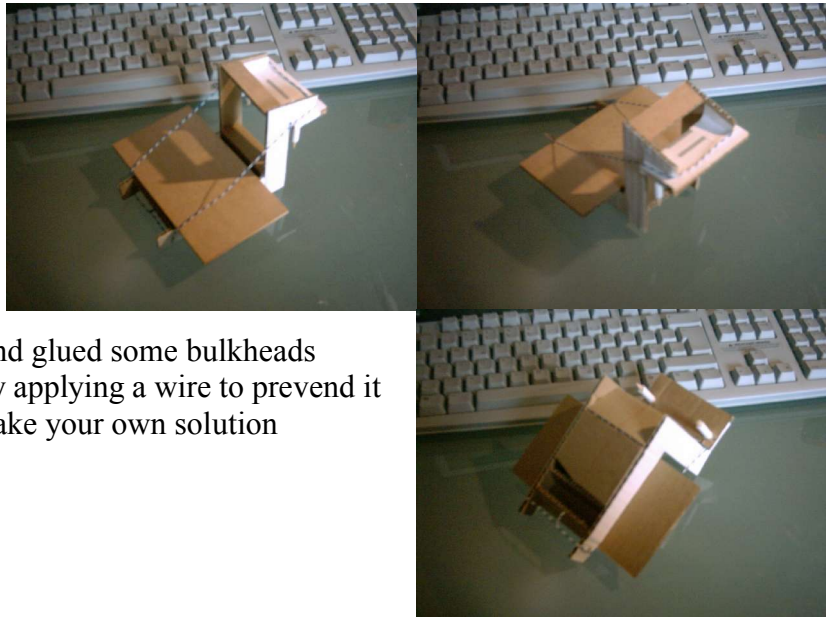
Nothing hard here, then glue them to the stands.



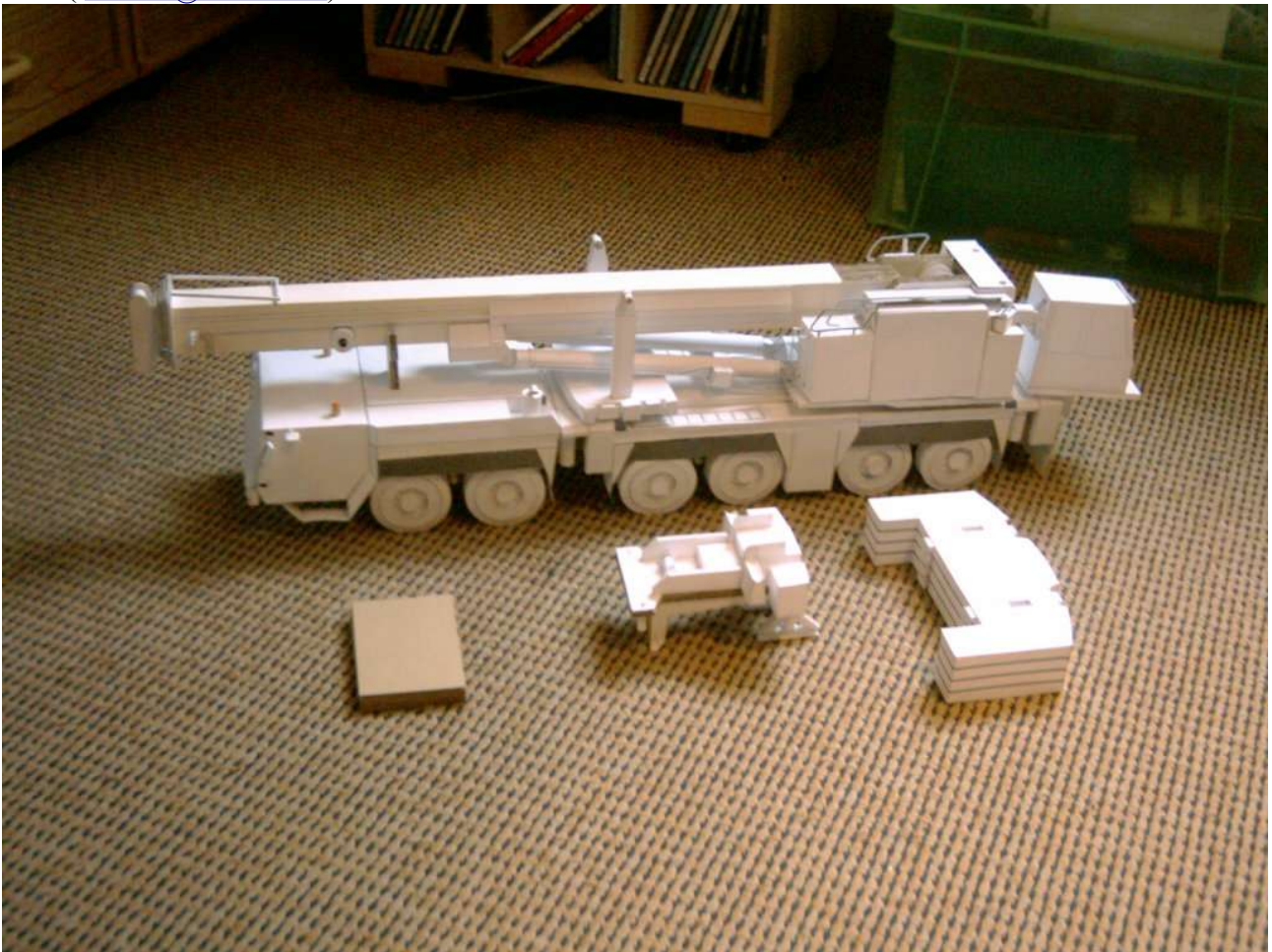
Real counterweight-support

I drew the main three parts (side and connecting plat. Just build it as similar as the counterweight, including two 6 mm rod to connect it to the crane. There's no instruction, because it depends on what counterweight you will use.

You see here mine. I applied a big surface as the stand for the bottle and glued some bulkheads underneath. At last I supported it by applying a wire to prevent it from collapsing. Just try out and make your own solution



Ok now you are finished. I hope you are happy with this model. For any comments send me an e-mail (chriess@vr-web.de)



Going to work

The crane comes along with the basweight.

All other must be transported by an other truck. (not included)

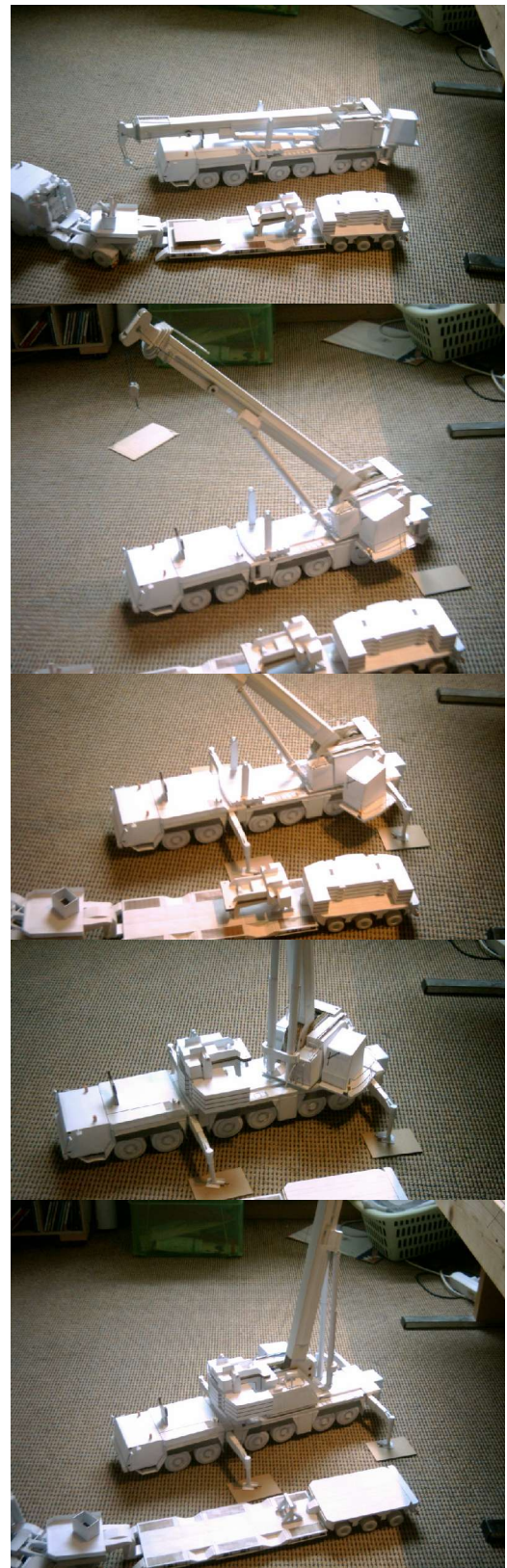
Then the crane will lift the mats to get a better stand if needed.

Next will be the telescopic-legs extended and support the crane. All tyres of the crane are now in the air, so that the whole crane is supportet by the legs

Next will be the assembly of the counterweight

Now the crane will turn and take the counterweight.

Its now ready to lift something, according to the counterweight.



And here action, lifting a full bottle of beer with a full bottle of water as counterweight.

