

**JCB 3C Mk2****PARTS LIST**

| <b>PART</b>                | <b>QTY</b> | <b>MATERIAL</b> | <b>REMARKS</b>                       |
|----------------------------|------------|-----------------|--------------------------------------|
| Front wheels               | 2          | WM              | Not handed                           |
| Rear wheels                | 2          | Resin           | Handed – labelled Left/Right         |
| Front bucket               | 1          | Resin           |                                      |
| Driver's seat              | 1          | Resin           |                                      |
| Front control console      | 1          | Resin           |                                      |
| Rear control console       | 1          | Resin           |                                      |
| Cockpit                    | 1          | Resin           |                                      |
| Front bucket support arms  | 1          | Resin           |                                      |
| Rear backhoe frame         | 1          | Resin           |                                      |
| Hydraulic filter           | 2          | Resin           | One is a spare and not required      |
| Battery                    | 1          | Resin           |                                      |
| Oil filter                 | 1          | Resin           |                                      |
| Cab roof                   | 1          | Resin           |                                      |
| Engine/bonnet              | 1          | Resin           |                                      |
| Silencer                   | 1          | Resin           |                                      |
| Steering wheel             | 1          | )               | )                                    |
| Gear stick                 | 1          | )LW Brass       | )All on same sprue                   |
| Control levers             | 7          | )               | )                                    |
| Front axle support         | 1          | LW Brass        |                                      |
| Front suspension arm       | 2          | LW Brass        | Handed – on one sprue                |
| Rear lights                | 2          | LW Brass        |                                      |
| Front lights               | 2          | LW Brass        |                                      |
| Front indicators           | 2          | LW Brass        |                                      |
| Front bucket mounting      | 2          | LW Brass        |                                      |
| Front bucket hydraulic ram | 2          | LW Brass        |                                      |
| Engine exhaust             | 1          | LW Brass        |                                      |
| Engine air intake          | 1          | LW Brass        |                                      |
| 1.5mm brass rod            | 110mm      | Brass           | Axles                                |
| 0.9mm copper wire          | 340mm      | Copper          | For hydraulic hoses                  |
| 1.5mm brass rod            | 50mm       | Brass           | For front axle suspension            |
| 0.9mm brass wire           | 100mm      | Brass           | Steering col; pinning, pistons etc., |
| 2mm brass rod              | 2.5cm      | Brass           | Seat post                            |
| Sheet styrene              |            | Styrene         | For glazing – 2cm x 20cm             |

**INSTRUCTIONS**

Firstly, I think it makes especial sense to read this entire set of instructions all the way through before touching any parts of the kit. This is one of the reasons why our newer kits have their instructions available as free downloads in \*.pdf format from [www.radleymodels.com](http://www.radleymodels.com)

This is probably not a kit for those unfamiliar with the properties of resin as a material and it requires some experience of when it might be appropriate to reinforce a butt joint using

drilling/pinning/gluing techniques. Similarly, previous experience with vertically drilling slowly and carefully through brass and thick/thin sections of resin will be found helpful.

**Resin and lost wax brass castings are very useful elements in any kit but a significant limitation of the mould release and casting processes ensures that holes and channels through surfaces are blind rather than moulded all the way through. Thus the use of a vertical/Pillar drill will likely be found useful in this kit.**

Having read the instructions:

Wash all resin parts with a "Cif" type mildly abrasive kitchen cleaner. **Do not** use "Fairy Liquid" type cleaners as their lanolin will leach into the resin and forever prevent paint and glue from adhering.

Using a very fine [800/1200] grade wet & dry paper, scalpel and/or needle file, remove any moulding pips and/or casting flash present. The pips tend to occur on those surfaces that will form the edges/surfaces to be glued together. The cab roof has a small linear ridge of flash on the interior ceiling that should be removed. This can usually be easily removed with a fine wet & dry.

As a result of the white metal casting process, there may well be a small thin ridge of white metal flash occurring around the wheel circumference that is also readily removable with a coarser grade of wet & dry.

Personally, I also run a fine grade of wet & dry over any pieces of wire as clean brass sticks better than tarnished brass.

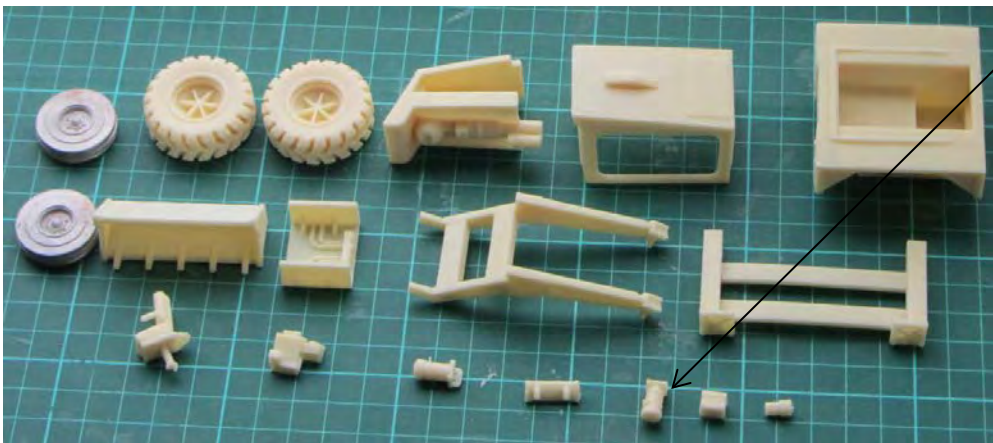
Open up the rear axle hole and slots so that the axle wire can pass cleanly through both holes. I have found that [www.hobbyholidays.co.uk](http://www.hobbyholidays.co.uk) sell a very useful 1.6mm drill that is 10cms long and which makes opening up axle holes on both sides of a vehicle chassis almost simultaneously very straightforward. See photographs in the instructions.

I used 5minute Devcon epoxy for most of the vehicle's resin and white metal parts. Deluxe "Roket Cyano Glue Gel" is good for attaching small brass pieces to resin and also has some gap filling qualities. Use this sparingly as any excess falling on the glazing material will cause it to "bloom". The styrene glazing was fitted in place using Deluxe "Glue 'N Glaze" as this dries clear and works just as well on painted surfaces. Some small parts [especially those with curved surfaces such as the silencer] may best be secured using the technique of drilling, pinning and gluing using small scrap pieces of 0.5-0.9 wire.

Carry out dry run assemblies and identify which are the mating surfaces for each resin and lost wax part. Lightly abrade these using a piece of wet & dry to give a good key.

References:

3C MkIII Backhoe Loader, Haynes Owners' Workshop Manual [2016] ISBN 978 1 78521 072 3 – a highly readable and profusely illustrated account of the whole family of JCB vehicles.

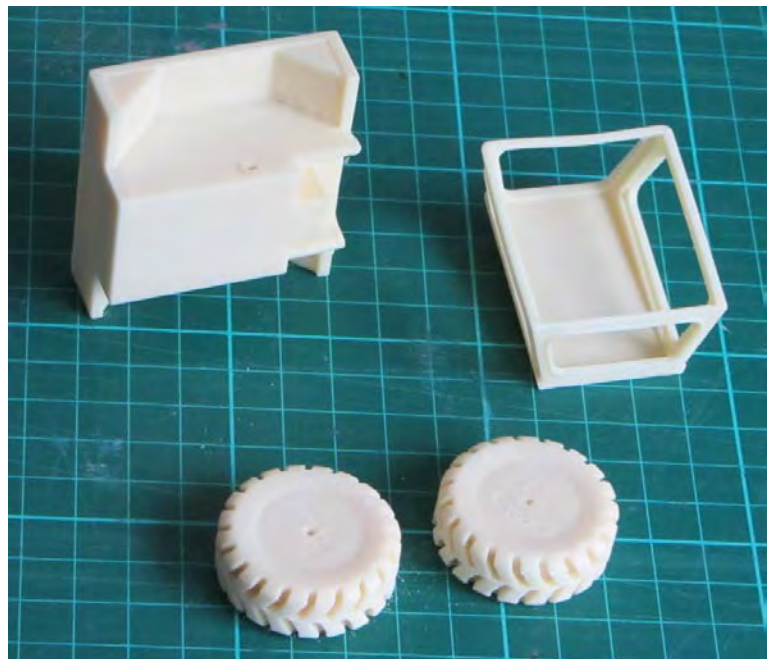


spare hydraulic filter

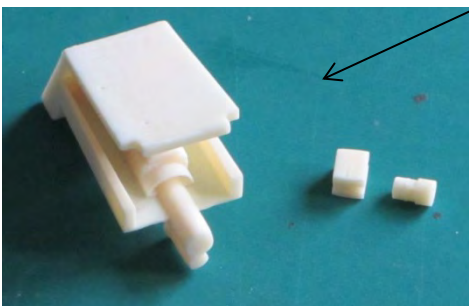
Resin/WM Parts



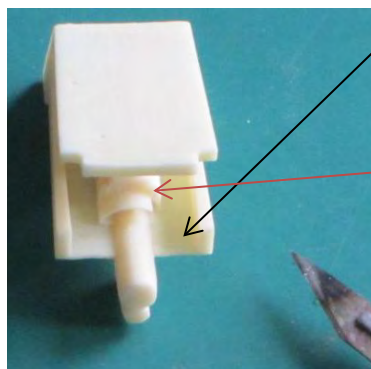
Using a long 1.6mm drill bit, drill vertically through the two dimples in the cockpit to produce the hole for the rear axle.



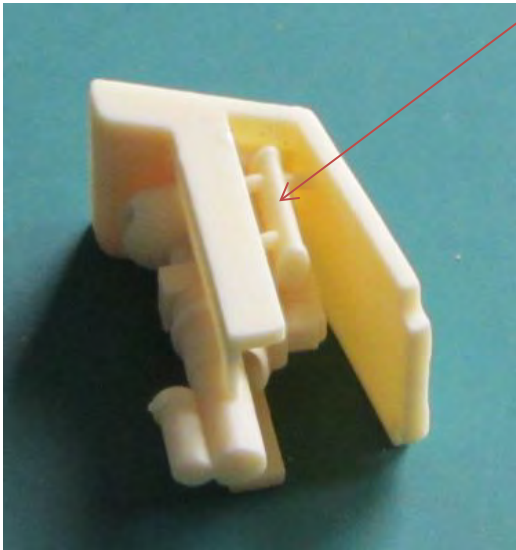
Remove any moulding pips and flash from the resin and WM castings.



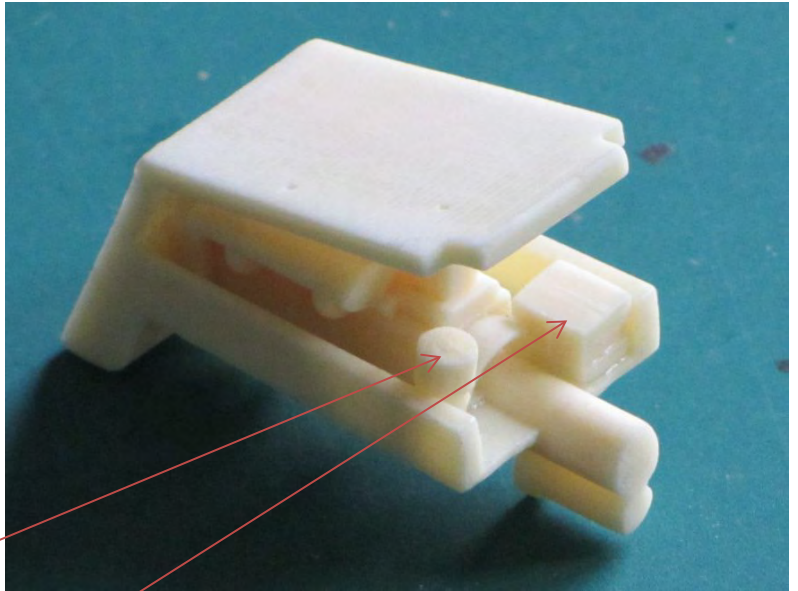
The engine, oil filter and battery as supplied.



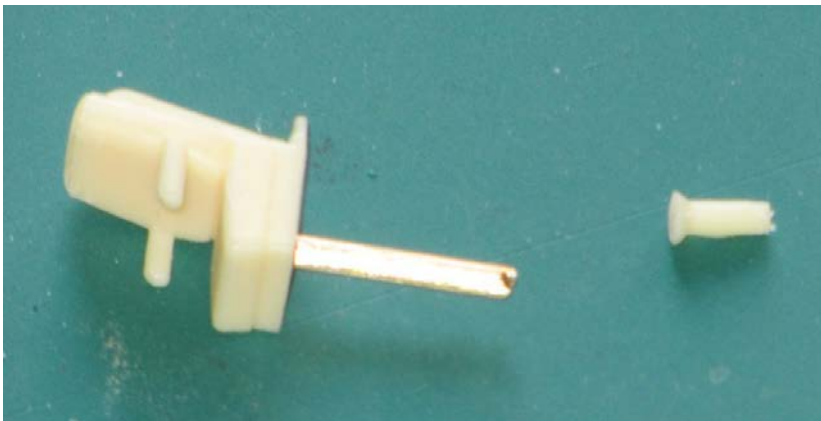
Test fit the battery here. You will need to remove a small part of the curved arch so that the battery fits.



Glue in place the silencer box

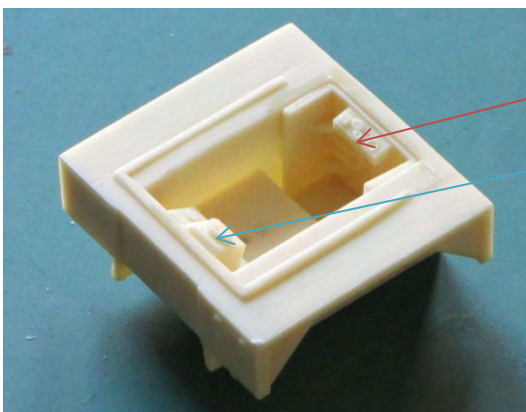


Glue in place the oil filter and then the battery. The battery should not overlap the rear edge of the bonnet/engine. Set aside to dry.



The seat post may not be robust enough to stand up to frequent handling. Remove the plastic seat stalk and replace with a piece of 2mm brass rod. The actual length of the rod will depend on whether you have a driver figure to stick in the seat [and the length of his legs]. The top of the seat squab should

be about 9.5mm above the cockpit floor. **Do not glue seat in place yet.**



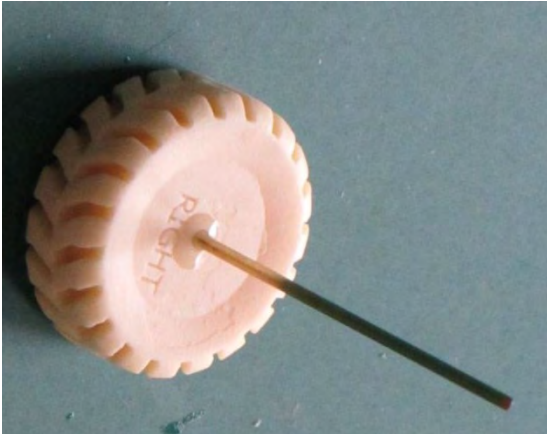
Glue in place both

Rear, and

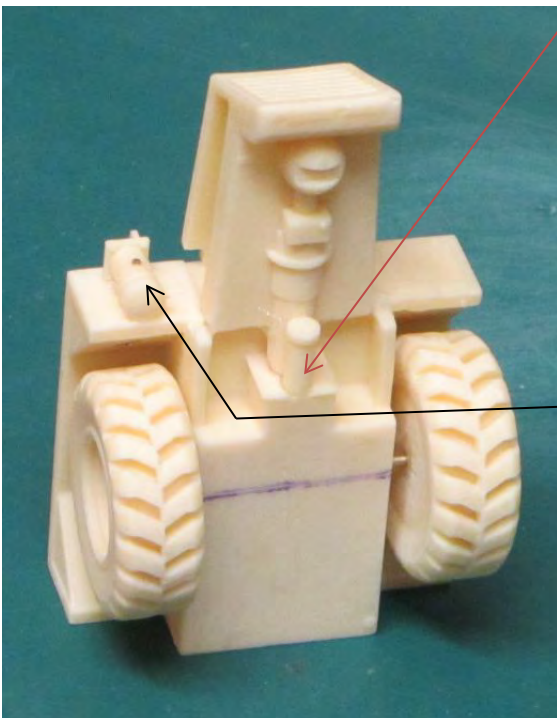
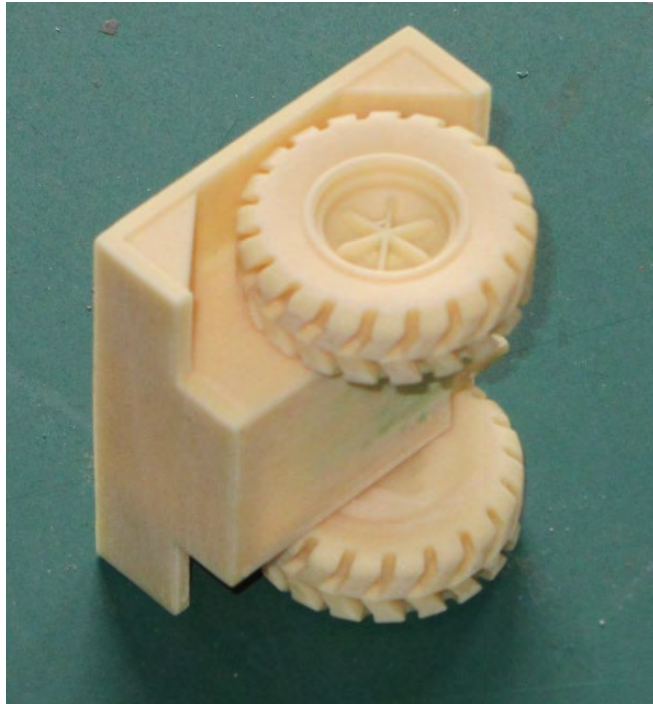
Front control consoles

Take a 55 mm length of the brass axle 1.5mm rod and glue into **one** of the two rear wheels. You may

need to use a set square or engineer's square to ensure the axle is perpendicular to the wheel plane.



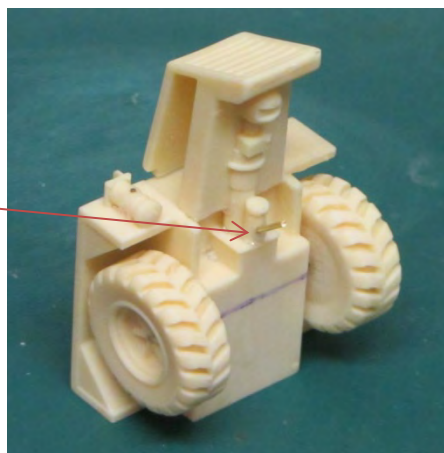
Using a wheel back to back of 30mm glue the opposite side rear wheel in place. Set the unit aside to dry.



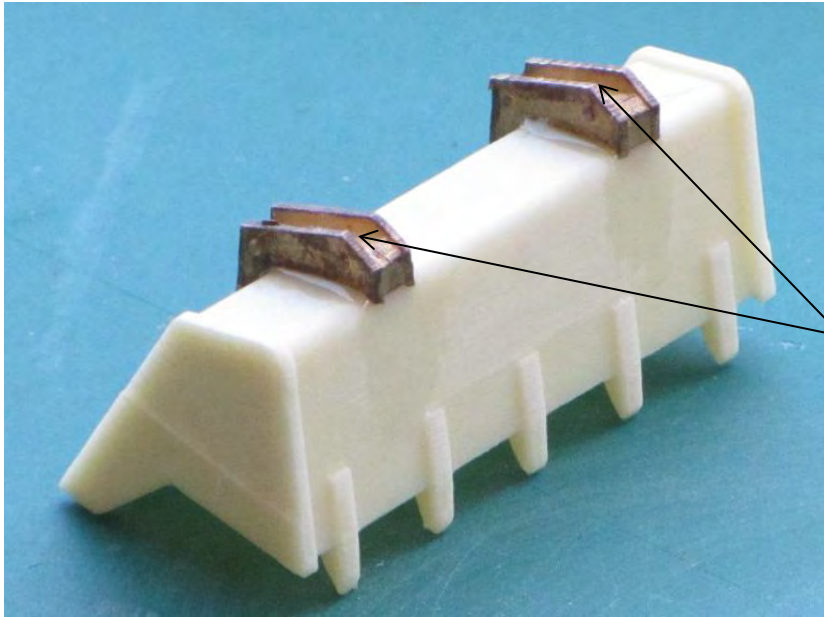
Align the two cylindrical projections on the engine/bonnet unit with the matching keyholes on the front of the cockpit and glue in place. You may need to press down slightly on the top of the bonnet so that it remains aligned with the top of the front part of the cockpit. Ensure that the top and bottom of the bonnet is securely attached to the cockpit.

Align the hydraulic filter unit midline with the wheel CL and glue in place as shown. Note that I have used a scrap of 0.5mm wire as a glued pin to supply some additional security.

pinned through the two cylindrical the cockpit front wall with a piece of wire. When set, any protruding wire flush.



For additional security, I have drilled and projections into 0.9mm brass may be filed



Remove the two front bucket mounting angles from their sprue and glue in place in the recessed areas on the back of the bucket.

Carefully drill a 1mm hole through the brass and the resin bucket in the position arrowed on both sides. These holes will eventually have glued pins inserted through them into the front bucket

support arms. Set aside.



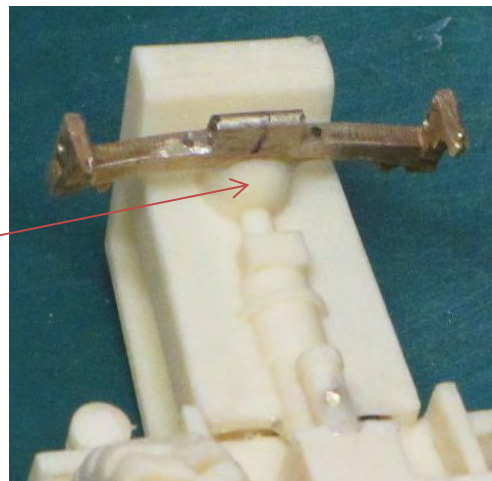
Take a long 1.5mm drill and drill through the axle bearings in the front axle support as shown. Go slowly, use plenty of lubricant and take care.



Next drill two full thickness 1mm holes as shown in the underside of the front axle support.

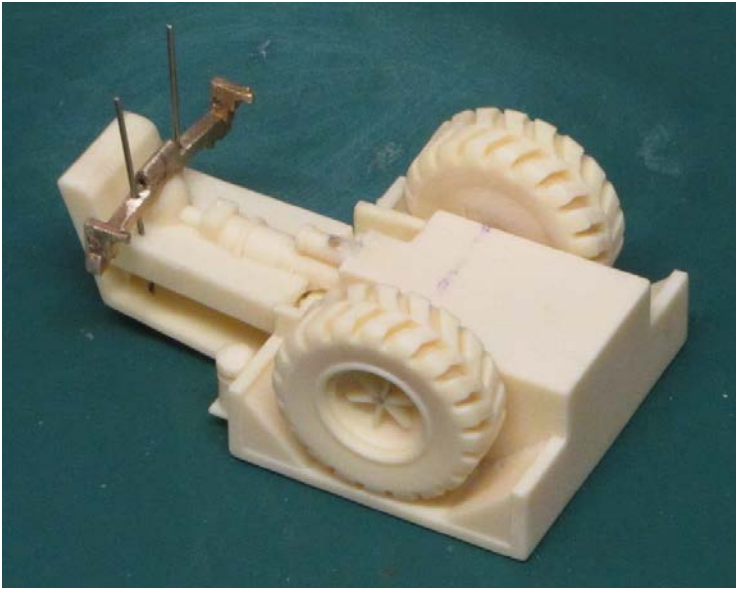
FRONT DIFFERENTIAL

Carefully push - **do not glue** - the axle support the slot in the front differential. Try and ensure the centres of the support and the diff. are



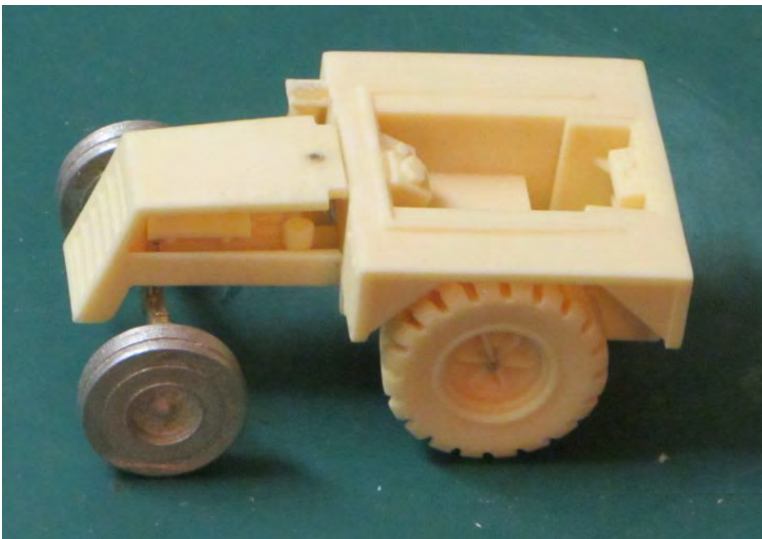
into that

aligned. Take a 1mm drill and drill through the two holes in the axle support into the underside of the engine area.



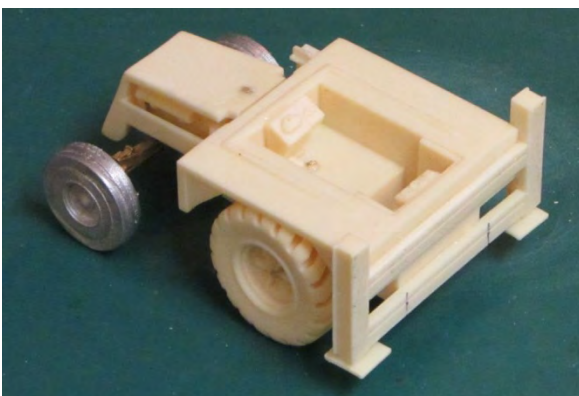
Insert two 0.9mm dia pieces of wire through these holes and into the resin as far as they will go without appearing alongside the engine block. Solder the pins in place on the exposed side of the axle support and then trim them flush.

*You will note that if they weren't trimmed flush, the axle would not be able to be inserted through its mounting holes.*

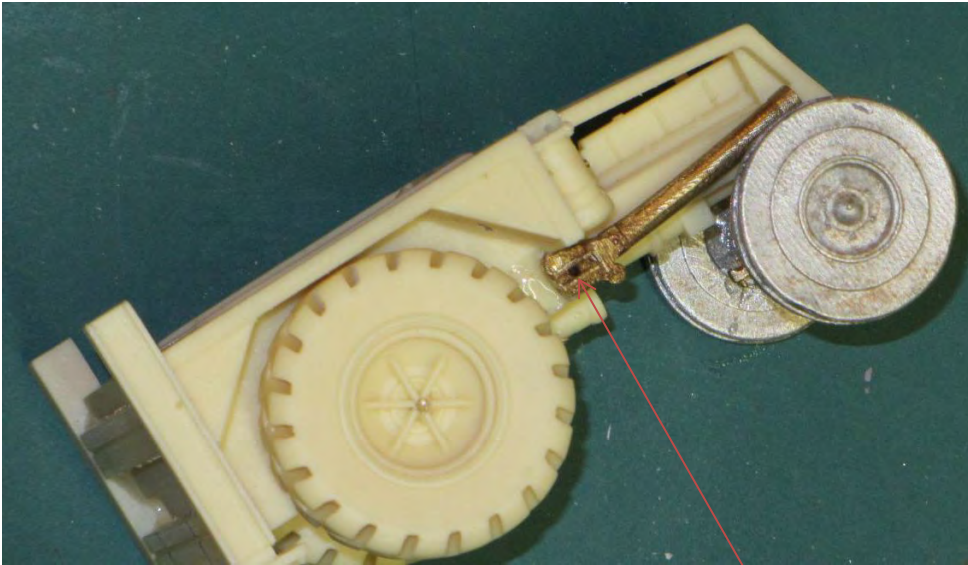


Insert the remaining 55mm piece of 1.5mm axle through the holes in the axle support and glue a white metal front wheel to one end. Because this is a three wheeled structure, it has no choice but to sit with all three wheels touching the ground. Using a wheel back to back measurement of approx. 44.5mm glue the second wheel on to the other end of the axle. Hopefully all four wheels remain in contact with the worktop.

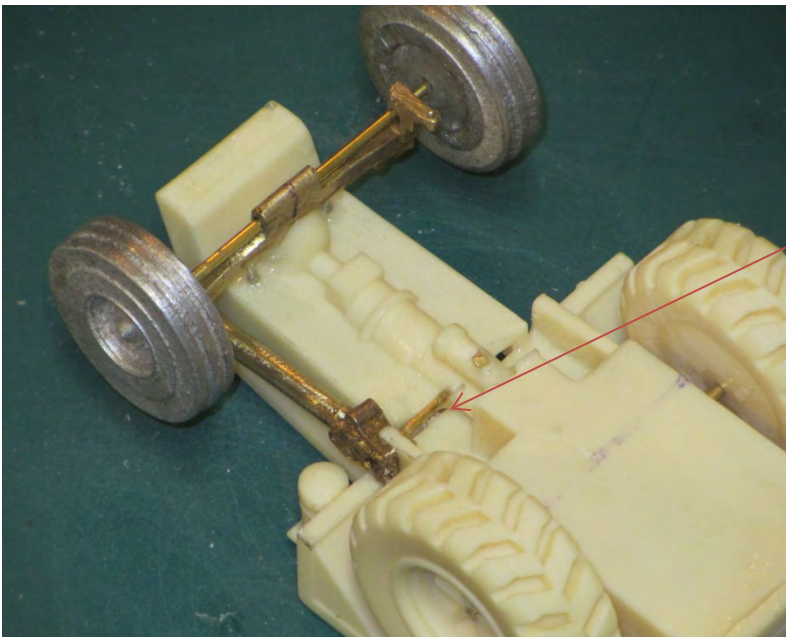
If they don't, the axle support will probably just need to be rotated in the differential slot a very small amount [which is why it has not been glued in place yet]. Once happy with the position, cyano the two pins in place where they pass into the resin underside of the engine/bonnet and apply epoxy to the axle support slot in the front differential.



Once the wheelset is dry, glue the rear mounting frame to the back of the cockpit; the two horizontal grooves being visible on the rear-facing back of the frame. The bottom face of the square footplates should be approx. 10mm above the worktop.



Glue, using the roket cyano gel, the RH jib ram to the forward part of the cab unit as shown. Note that the two rams are handed. The final position of the ram is as shown in the two pictures below:



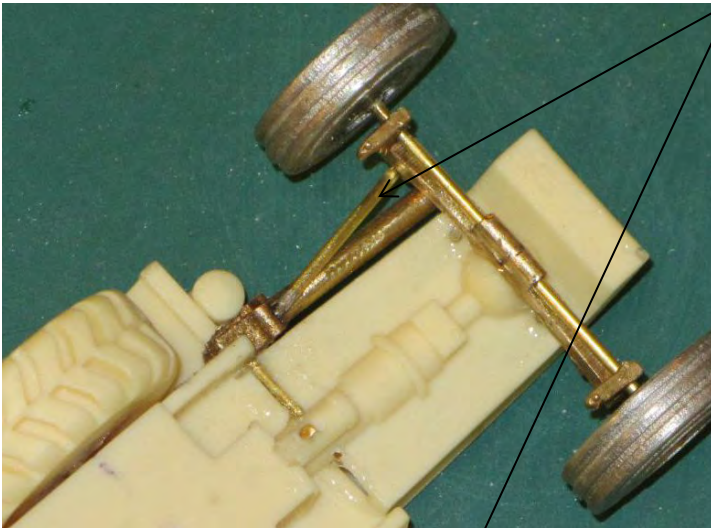
Open up a 1mm hole through the hole in the side of the ram and through the underlying resin.

Glue a scrap 1cm piece of 0.9mm wire through this hole to secure the ram.

Repeat for the other side ram.

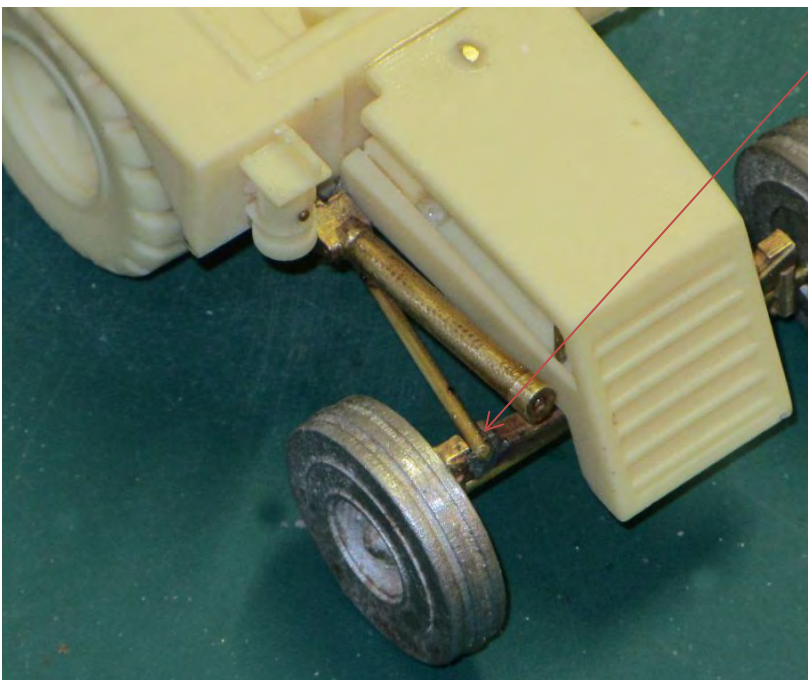
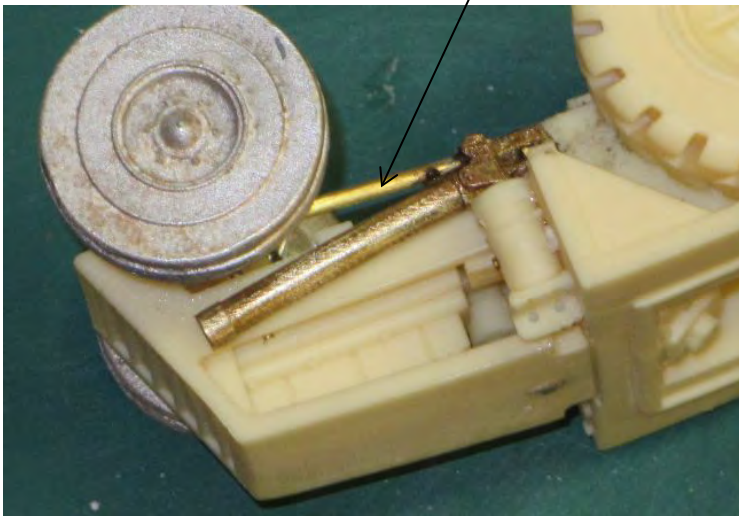


The reason for the ram position being critical is that it has to clear the jib when the jib is placed at its lowest position – so trial the relationships before drilling holes or applying glue to the ram.



Solder an approx 26mm length of 1.5mm rod from the undersurface of the ram to the "U" shaped cutout steering mount on the axle. Repeat for the opposite side.

The next two pics show the same action from different views which makes it clearer:



"U-SHAPED CUTOUT"



The mounting stubs on these lamps are 1.2mm. Drill suitable holes and glue the three different types of lamp in position as shown on each side.

Note that any protruding stub should be clipped flush so as not to interfere with later glazing. Once set, this cockpit hood is complete and may be primed and top-coated. The upper surface was normally

painted white to minimise radiant heat effects on the driver. Once paint is dry, the hood can be glazed. Note that recesses are provided for the styrene sheets.

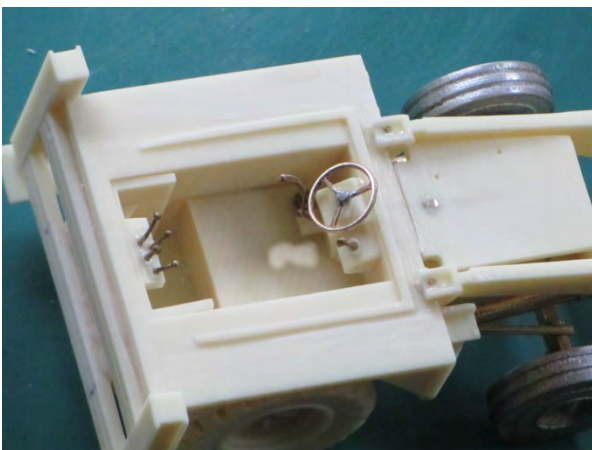


Glue front bucket supports to the front of the cockpit moulding either side of the engine/bonnet. Using a short piece of 0.7mm wire, drill, pin and glue wire through the horizontal part of the fitting sitting on the front of the cockpit for added strength.

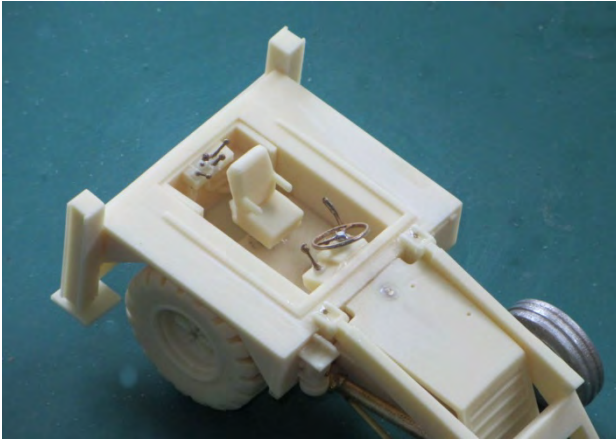
Clean up  
cab fitting  
LW sprue  
as  
required



and solder a short piece of 0.9mm wire through the centre of the steering wheel to act as a steering column.



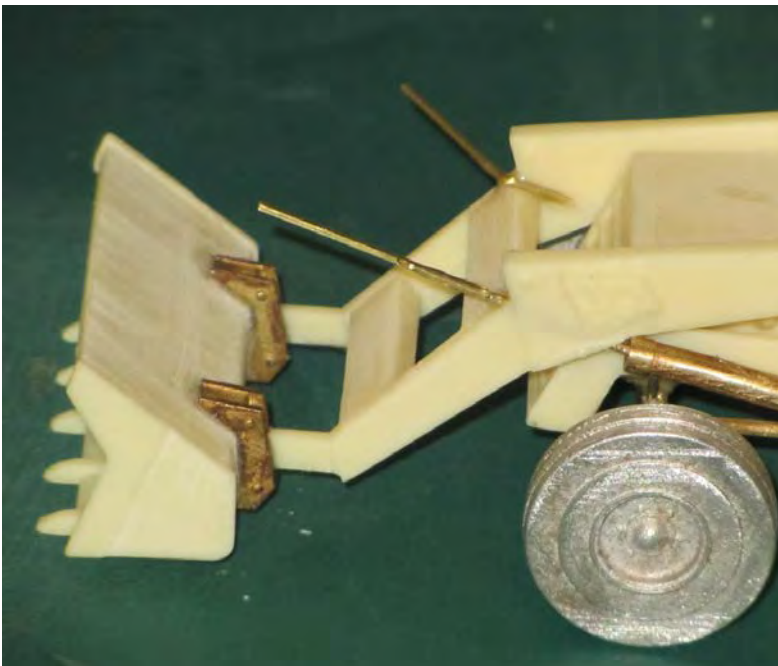
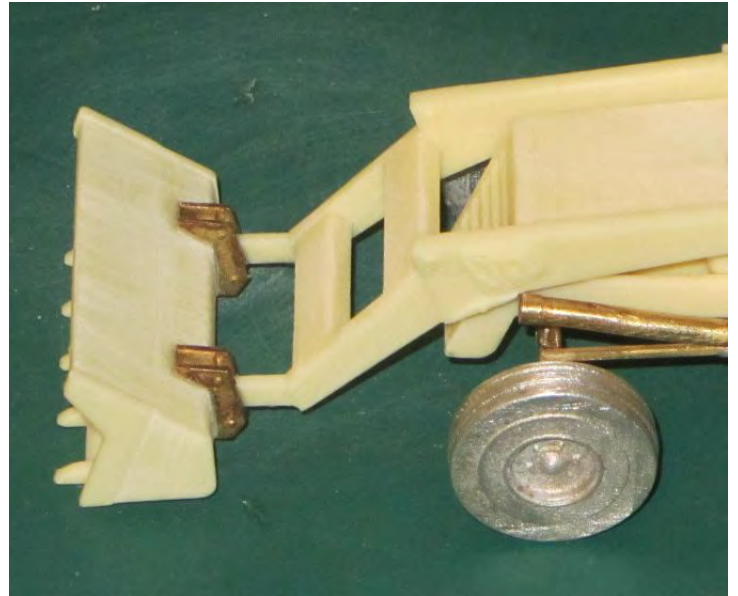
Glue in the steering wheel, gear lever and control levers as shown – there should be a couple of spare levers left over.



Depending on whether or not you decided to place a figure into the seat, the seat post hole should now be decided and the seat glued in position.

Bear in mind that you do not want to drill down to the axle and glue that instead!

Glue the front bucket support arms to the brass castings on the bucket as shown. When the glue has dried, using a 1mm drill. Drill through the two holes in the bucket rear which go through the brass castings and enter the ends of the front bucket support arms. Glue in place a suitable length of 0.9mm wire for additional support.

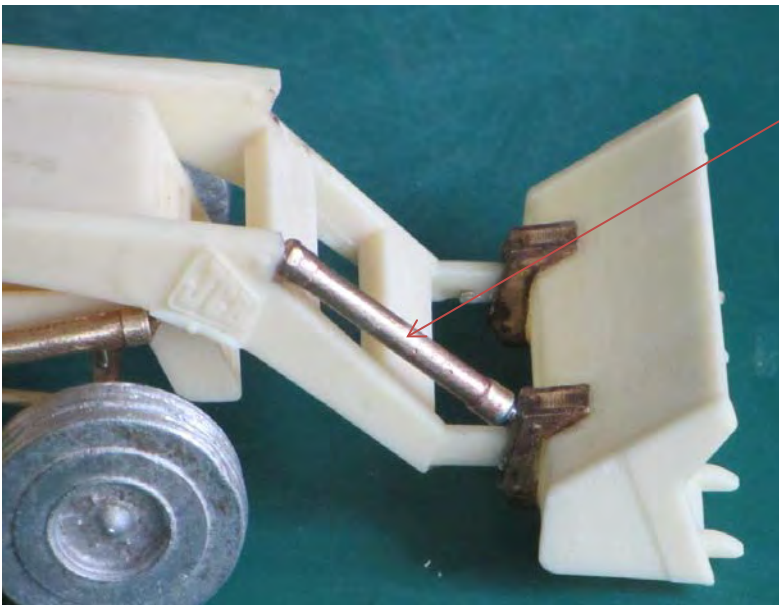


When the above is set, using a 1mm drill, drill through the angle on the bracket support arms and into the dimple in the end of the hydraulic ram as shown. Remove the drill and glue a piece of 0.9mm rod in position and allow to set firm.

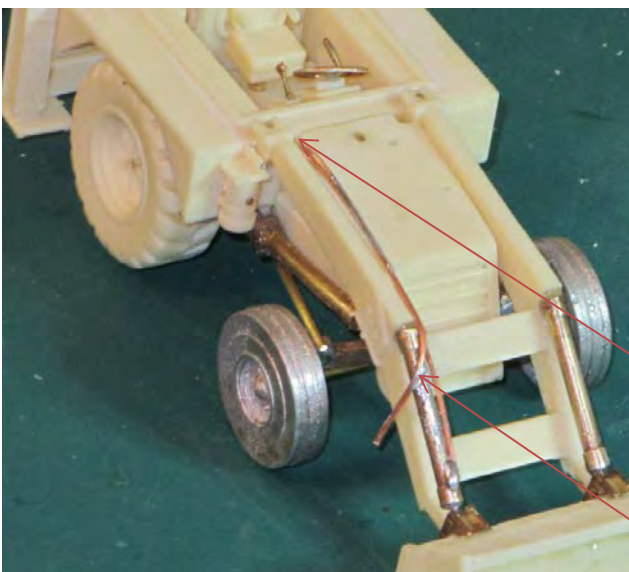
Repeat for the other side.

When dry, trim the exposed rod and file flush.

Take the two hydraulic rams and separate from their sprues. Solder a 10mm piece of 1.2mm rod into the hole at the end.



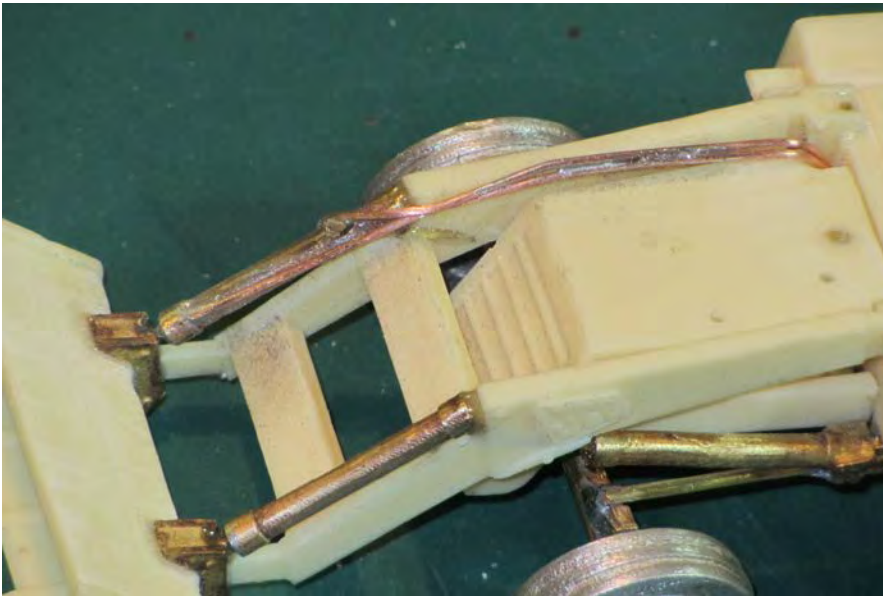
Carefully trim this soldered wire such that the completed ram just fits in place like so. Glue both ends of the assembly in place and repeat for the other side.



Hydraulic hoses – Take two of the four strands of copper wire and straighten them – Hold one end in pliers and just pull the wire through your fingers.

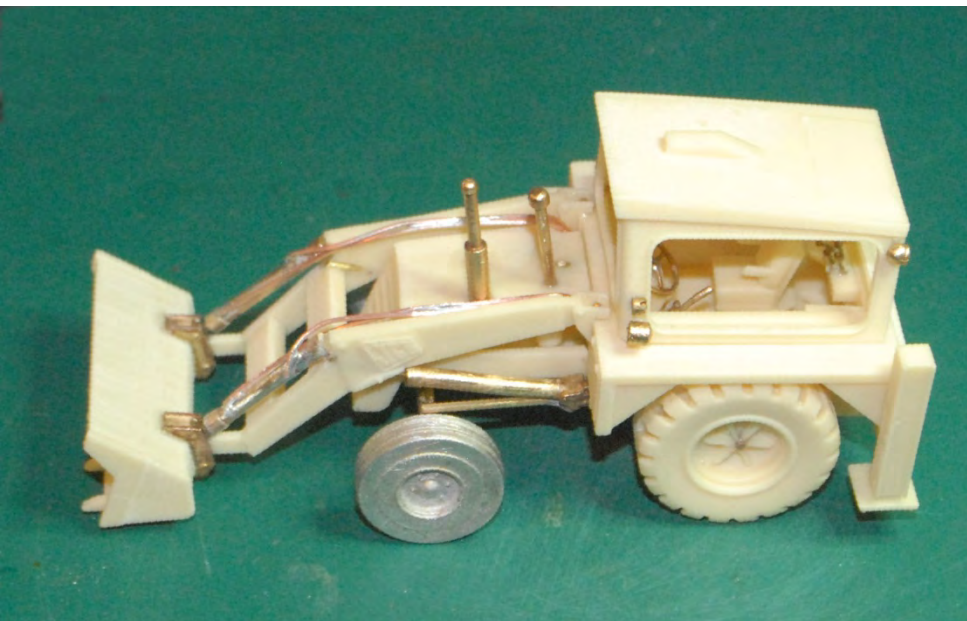
Bend one end of each wire though 90 degrees so that there is about 6-7mm in the short end of the "L" and glue those two "L"s into the rectangular hole between the cockpit and the engine/bonnet.

When the glue is dry solder the two free ends to the ram as shown in the photo. Trim the wire close to the solder connection.



SHOWING TRIMMED  
COPPER WIRES.

Repeat the process for  
the other side.



Last of all, glue the air intake  
and the exhaust pipework in  
place on the bonnet.

Two indentations mark the  
holes to be drilled.

Other than painting, the  
model is now complete.

We hope you have enjoyed building this  
rather unusual 1/43<sup>rd</sup> scale prototype.

We welcome comments which may be  
sent to Radley Models at 3 Ross Road,  
Poulner, Ringwood, HANTS BH24-1XG or  
to:

[www.radleymodels.com](http://www.radleymodels.com)

