

Kits LANCIA DELTA 16V / EVO ENGINE 1/24 scale for Hasegawa Kits



Lancia Delta. Synonymous with 5 World Rally Championships won. The single word "Delta" evokes a thrill and the mind inevitably flies to the memory of the legend of the S4. Born to replace the monster of group B who in 1986 had forcibly ended his career (taking away Henry Toivonen and Sergio Cresto in the cursed May '86), the Lancia Delta (first 4wd, then Integrale and finally EVO) proved to be the Queen of Rally from the very beginning. And five world titles won (from 1988 to 1992) are the clear proof of this. Without forgetting the two World Drivers' Titles of the legendary Miki Biasion who was the undisputed standard-bearer of the Lancia Delta.

This double transkit is specific to the Hasegawa 1/24 kits of Delta Integrale 16 valves and Delta EVO (also known as Superdelta and Deltona). I had to make two different tanks because, as in reality, the EVO version is decidedly wider than the 16V and the curvature of the hood also changes, which also has additional air intakes. The engine of the two kits, on the other hand, is the same (in reality, on a visual level, the two engines are almost identical except for the size of the turbine, which I thought I could neglect on this scale. Surely the electronics of the two engines were different, but in this context it is of little importance.

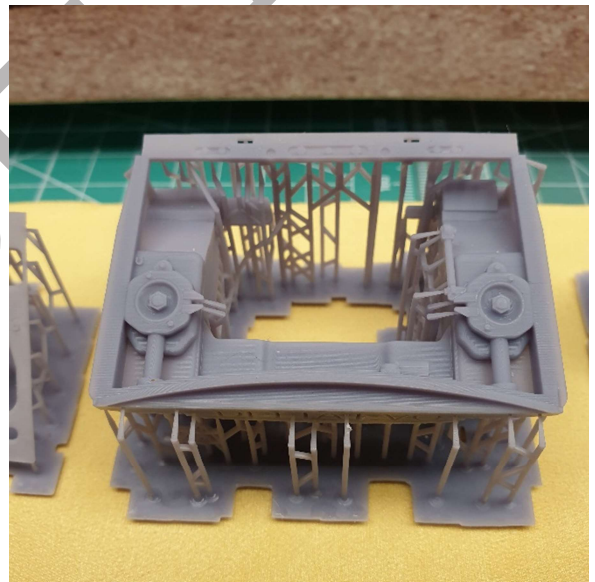
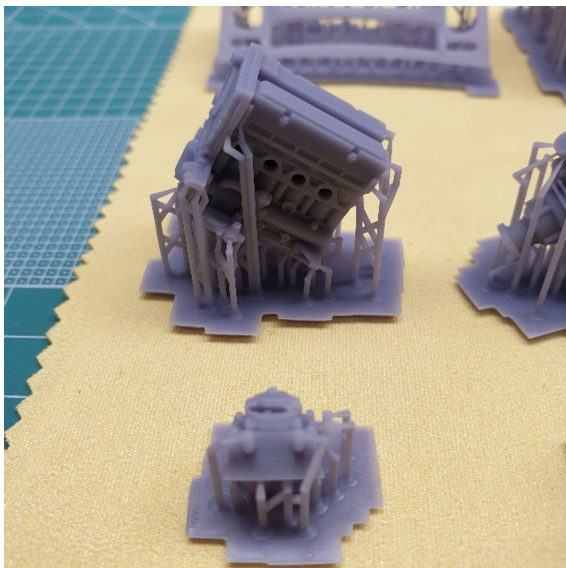
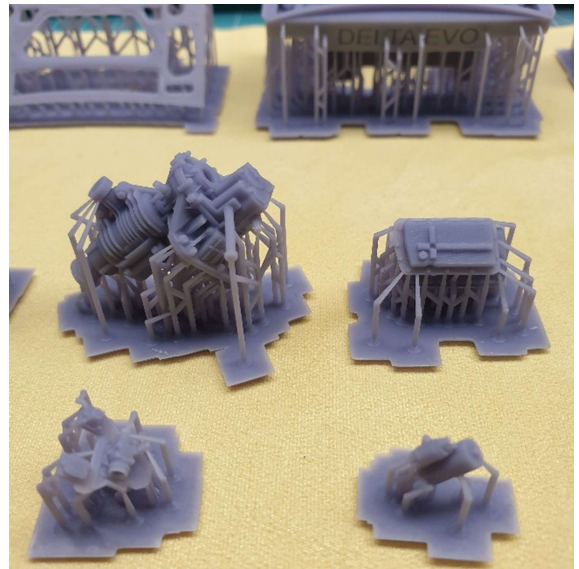




The transkit is made in 19 parts (10 for the tank and 9 for the motor) printed separately to try to preserve the detail in the printing phase and facilitate the detachment of the parts from the supports as well as the subsequent cleaning of the pieces. Furthermore, coloring and handling of the components will be much easier



THE COMPLETE TRANSKIT



THE ENGINE



THE ENGINE BAY



To easily separate the pieces from the print supports, it is necessary to use flat modeling cutters and proceed without haste, cutting one support at a time. When separating the finer parts from the supports (such as the inside of the hood for example) it is necessary to use great caution and press the surface on the opposite side with a finger to avoid breakage:



The parts, once removed from the print supports, can be finished with abrasive paper and possibly filled with any type of modeling putty. One piece of advice I can give is to often clean the areas we are working on with a flat brush and plain water. This will help a lot to eliminate the dust produced by the sandpaper and to clearly see the level of cleanliness achieved. This transkit is made with water-washable light-curing resin. So no chemicals were used (such as isopropyl alcohol or acetone for the post-printing phase) but just plain water. If you notice small areas on the pieces or on the supports that appear as "wet" there is no need to be alarmed. They are particles of water left on the piece at the time of polymerization in the UV oven (post-printing phase) which are only superficial and will disappear with a light pass of sandpaper. However, remember that the product is still a resin and therefore all necessary precautions must be used while using the abrasive paper (mask / glasses etc.). The components are assembled with CYANOACRYLIC glue. Do not use modeling or vinyl glue (except where expressly advised below). Once the pieces, or some parts together, have been assembled, before coloring it is a good idea to wash the piece with water and dish soap and dry it. **IT IS NECESSARY TO USE A PRIMER** for modeling for two reasons. The first is that with the primer the details otherwise not very visible to the naked eye will be highlighted due to the composition of the resin and the second because otherwise the subsequent painting could have adhesion problems.

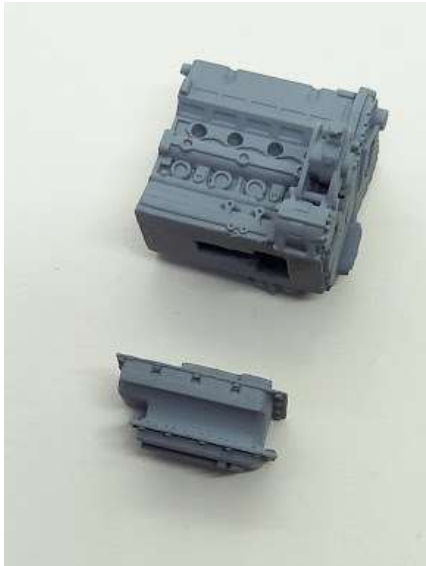
The 3d printers used (Mars3 4k for the motor and Saturn 4k for the tank), although performing, are in any case non-professional printers so it is inevitable that they are created in the micro printing lines in certain points (due to the angle of the piece, its position in the printer and other variables) that must be removed with sandpaper. Unfortunately it is a tedious and long job but it must be done with patience for an optimal final result. A good cleaning and a few passes of primer (perhaps with micro-fillers) can reduce or eliminate the problem completely. Here's what the cleaned and primed parts look like:



ENGINE ASSEMBLY

Before finally gluing the components, proceed with dry tests without glue to check the cleanliness of the pieces and the joints.

The first step is to join the engine block to the oil pan. The engine (obviously also the real one) is rotated about 18° towards the front in order to lower the center of gravity of the car. I made a T-shaped joint to find the right position. Since I have left some dimensional margin in the joints, before gluing, check the alignment with the engine block

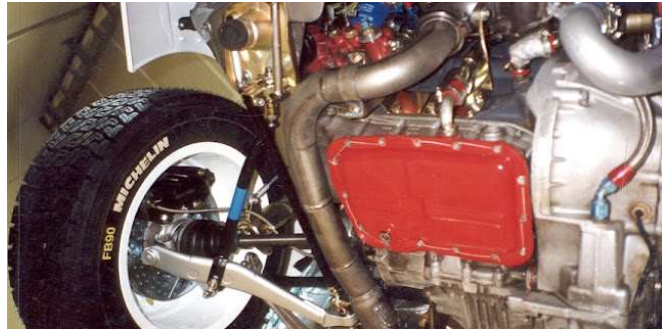
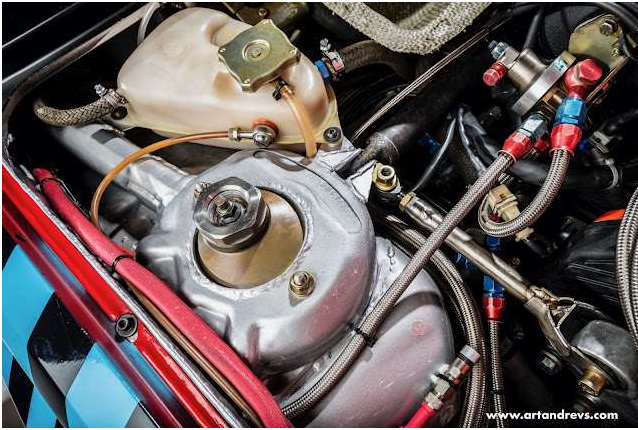


We then proceed with the rear cover plate to be inserted on the back of the engine block. Also in this case there is a joint for correct positioning:



At this point, once the assembly has been checked (and possibly filled with a new light coat of primer if necessary), it is advisable to color the engine block. On the net there is a lot of documentation to choose the right color. The photos inserted below have been downloaded from the web as a generic reference for coloring and for indicative purposes only, and for strictly modeling use.



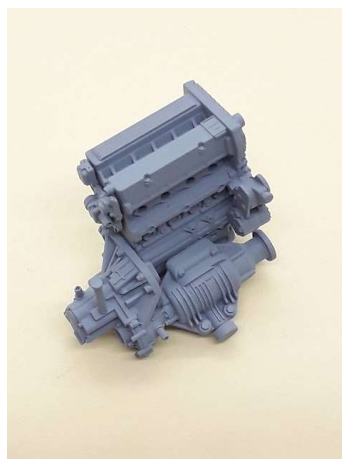


The next step is to install the gearbox with its differential. The starter motor must be fixed AFTER installing the gearbox itself. First of all, it is advisable to go over the housing of the drive shafts with a drill bit as a little liquid resin could remain inside it, which then solidifying could create an obstacle. The drive shafts are recovered from the kit by eliminating the central part (just leave 1/2 mm as in the photo).

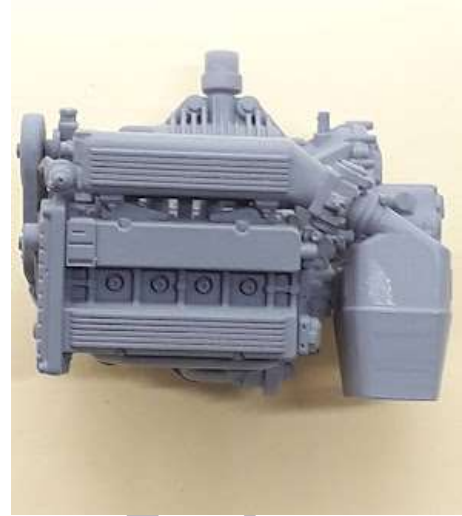


At this time the drive shafts must be left free and **MUST NOT BE FIXED**. in a subsequent phase they will be placed.

Also for the gearbox there is a specific pin that determines the right location. It is important to remember that in any case I left some tolerance in the coupling so that as soon as the glue is positioned, the correct alignment of the piece must be checked (the transmission shaft output must be perpendicular to the engine block).



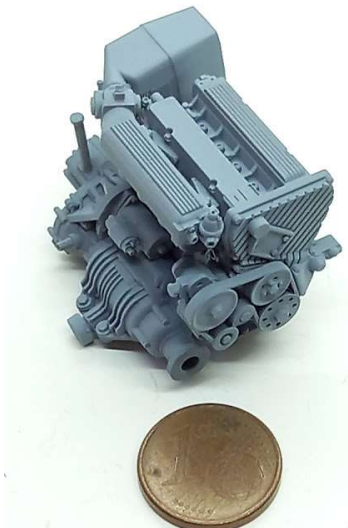
Then you can then install the intake / intercooler block after having colored it (and perhaps applied a Kevlar-type decal on the radiator conveyor). The piece has an obligatory position. It is important to make the two trapezoid-shaped supports adhere to the engine block. This will give the correct inclination of the assembly (remember that the motor is tilted forward by approximately 18° so it cannot be symmetrical with the rest of the motor).



After having colored it, you can also mount the exhaust / turbo manifold. This part also has 4 guide holes. The exhaust manifold must be placed on the engine (under the cylinder head) so that the flue gas outlet flange has the right inclination (again due to the rotation of the engine forward).



Finally, the starter motor, the oil filter and the pulley / belt unit can be positioned in the front part of the engine as shown in the photo.



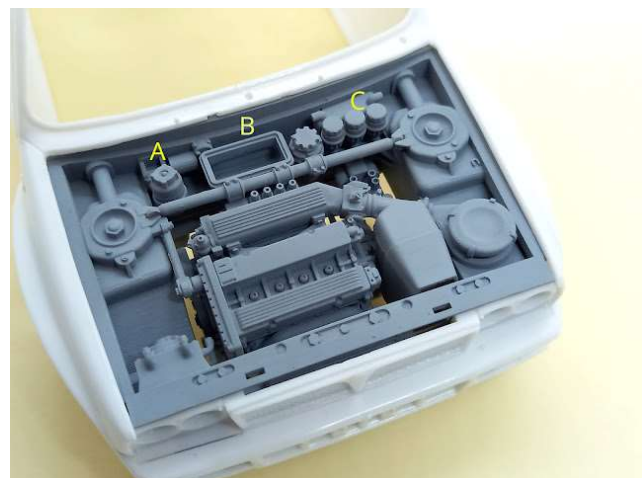
THE ENGINE BAY

When the motor is ready (colored, aged, etc.) it is advisable to fix the hydraulic pipes and electrical wiring according to the references available, as, once the motor is locked to the tank, it will be difficult to reach certain areas. I left some fittings scattered on the engine / gearbox which, however, despite being correct in terms of dimensions relative to the 1/24 scale, could be too small. The model maker can decide to replace or integrate them with other fittings at will or use the existing ones. Keep in mind, however, a large part of the engine and gearbox will be hidden.

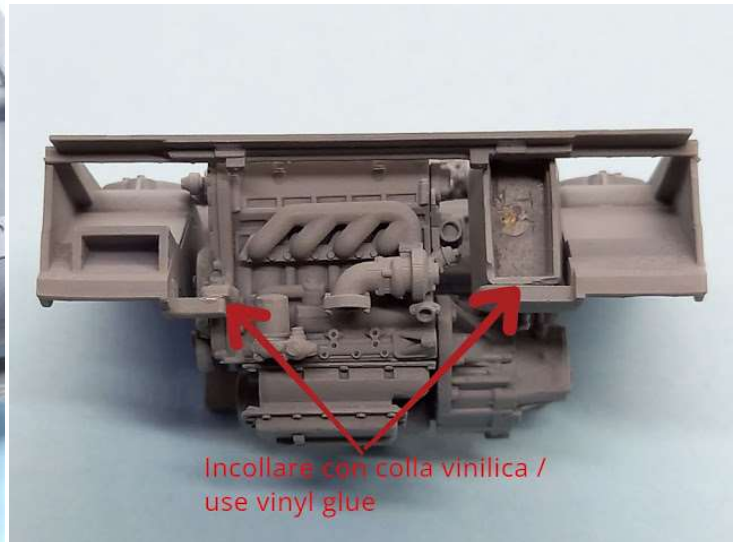
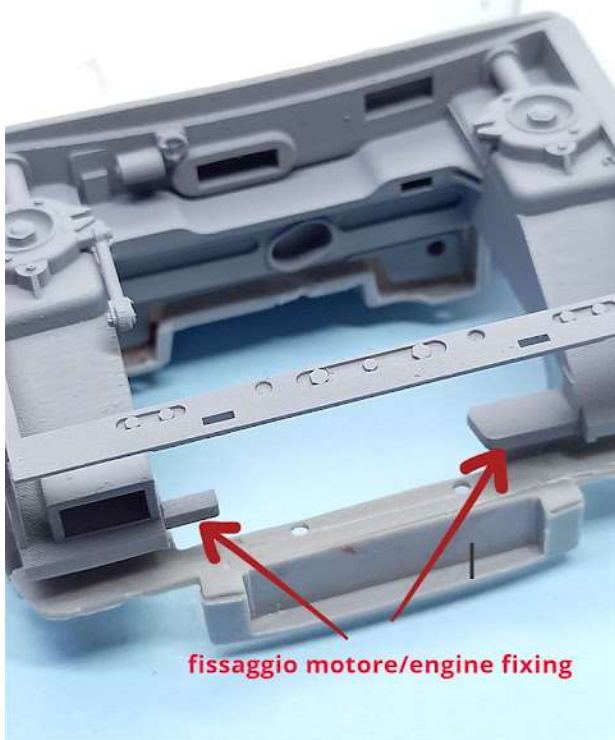
The various parts that make up the tank, once colored and prepared, must be installed in a precise sequence otherwise it will be difficult to install the motor. In the photo below I have given a name to the various pieces:



Parts A-B-C must be installed first. They all have joints that identify their precise positioning.



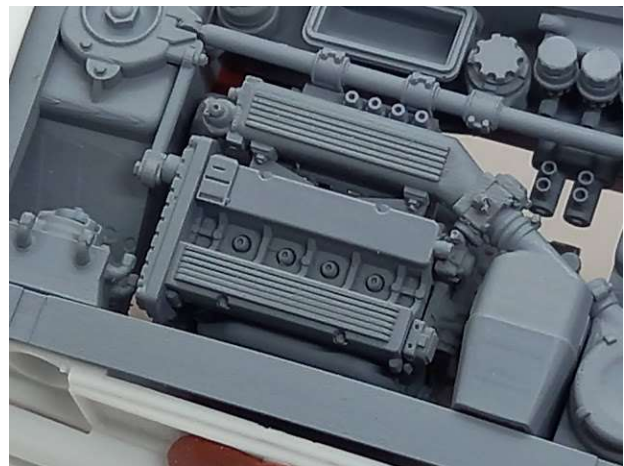
Now is the time to install the previously prepared engine block. In the tank there are two special fixing supports on which the motor must be placed. In this case I recommend using vinyl glue which allows a minimum of flexibility in case micro displacements are necessary to later align the motor with the transmission shaft. **The engine must be inserted into the tank from the bottom upwards.**



On the upper part of the tank there is the third support which provides, in addition to further anchoring, also the correct final position of the motor. at this moment it can be left free and used only to position the motor correctly. Only at the last can it be blocked with cyanoacrylate glue.



The photos below show the correct final position of the motor

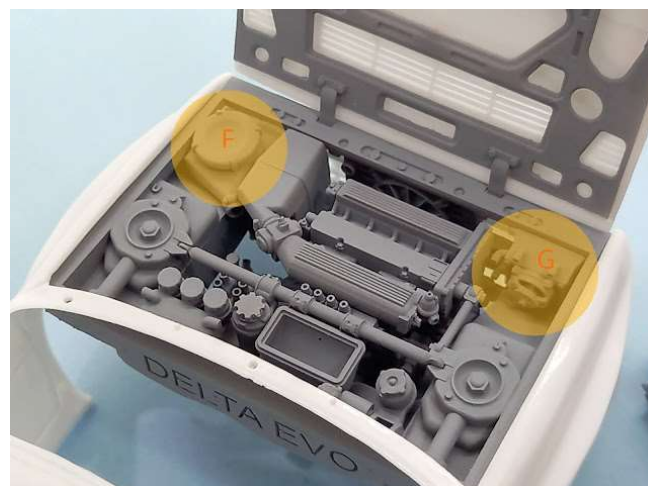


Once the motor has been fixed, it is necessary to insert (perhaps using tweezers) component "D" using the appropriate joint as a reference.



At this point the reinforcement bar of the domes "E" can be inserted (the joints in the two end areas of the bar must be thinned with sandpaper as they are slightly thicker for printing purposes). Also in this case it is advisable first to fix the cables on the control unit which will then be fixed to the spark plugs on the engine head.

The remaining "F" and "G" pieces can be installed as desired by the modeller at any time.

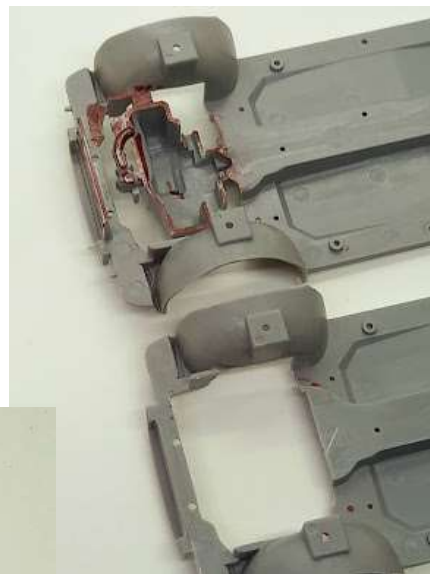
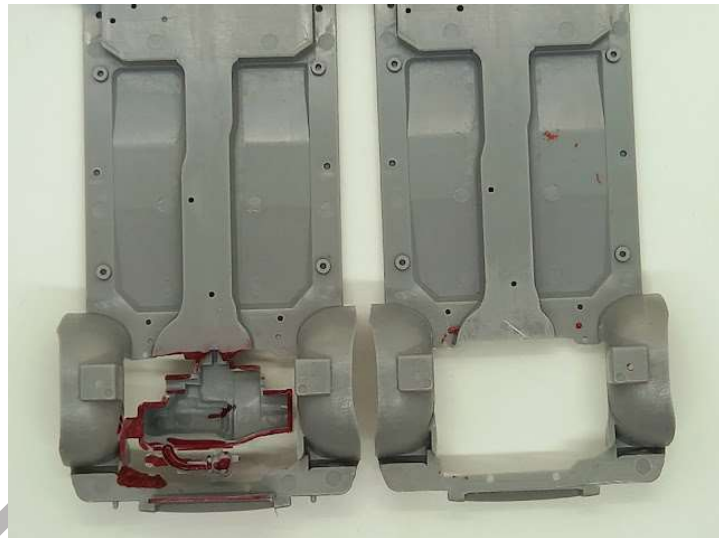
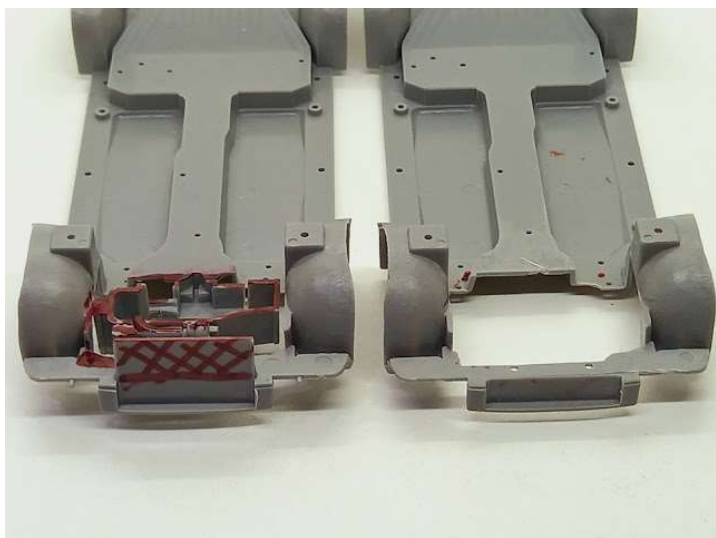


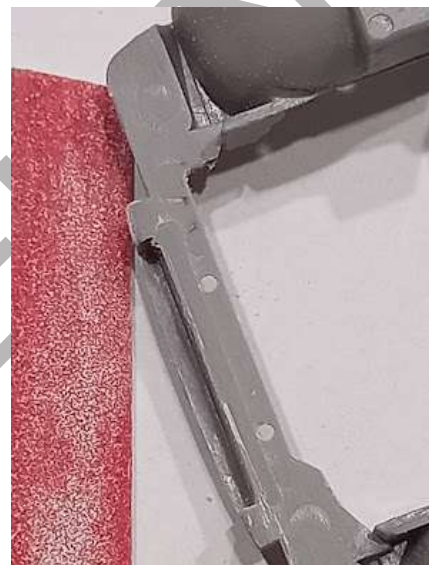
The radiator "H" must be inserted inside the two reference pins and rested on the rear tab.



Installation in the HASEGAVA kit

For both versions (EVO and 16V) it is necessary to make changes to the Hasegawa kit. Most of these changes are identical with the exception, as we shall see, of the headlight mask on the EVO version. In both cases, the kit's gearbox / differential and the fake radiator must be removed. The photos below show the parts to be removed in red (on the left) and the final result after processing on the right.





For the EVO kits only it is necessary to make another small modification to the headlight mask that Hasegawa (unlike the 16v model) supplies separately. It is therefore necessary to remove the locking pin of the engine hood as shown in the photos below:



The mask of the headlights must therefore be glued to the bodywork before installing the tank (procedure which in any case is also indicated in the original kit in any case)

INSTALLATION OF THE COMPLETE ENGINE BAY IN THE BODYWORK

The completed tub must only be inserted into the car body from the inside. This allows you to work on the engine tub, the interior and the bodywork independently and remember:

- DO NOT GLUE THE TANK TO THE CAR BODY (gray frame of the kit)
- DO NOT USE GLUE to lock the tub to the car body

The joints will hold the tank in position and since it is not glued it will be possible to make some small adjustments of position if necessary to match the transmission axis and drive shafts. Obviously, the correct coupling with the gray frame of the kit that will be installed in the bodywork after having positioned the tank must also be checked in advance as an inaccurate removal of the print supports of the tank could cause some friction between the tank and the frame.



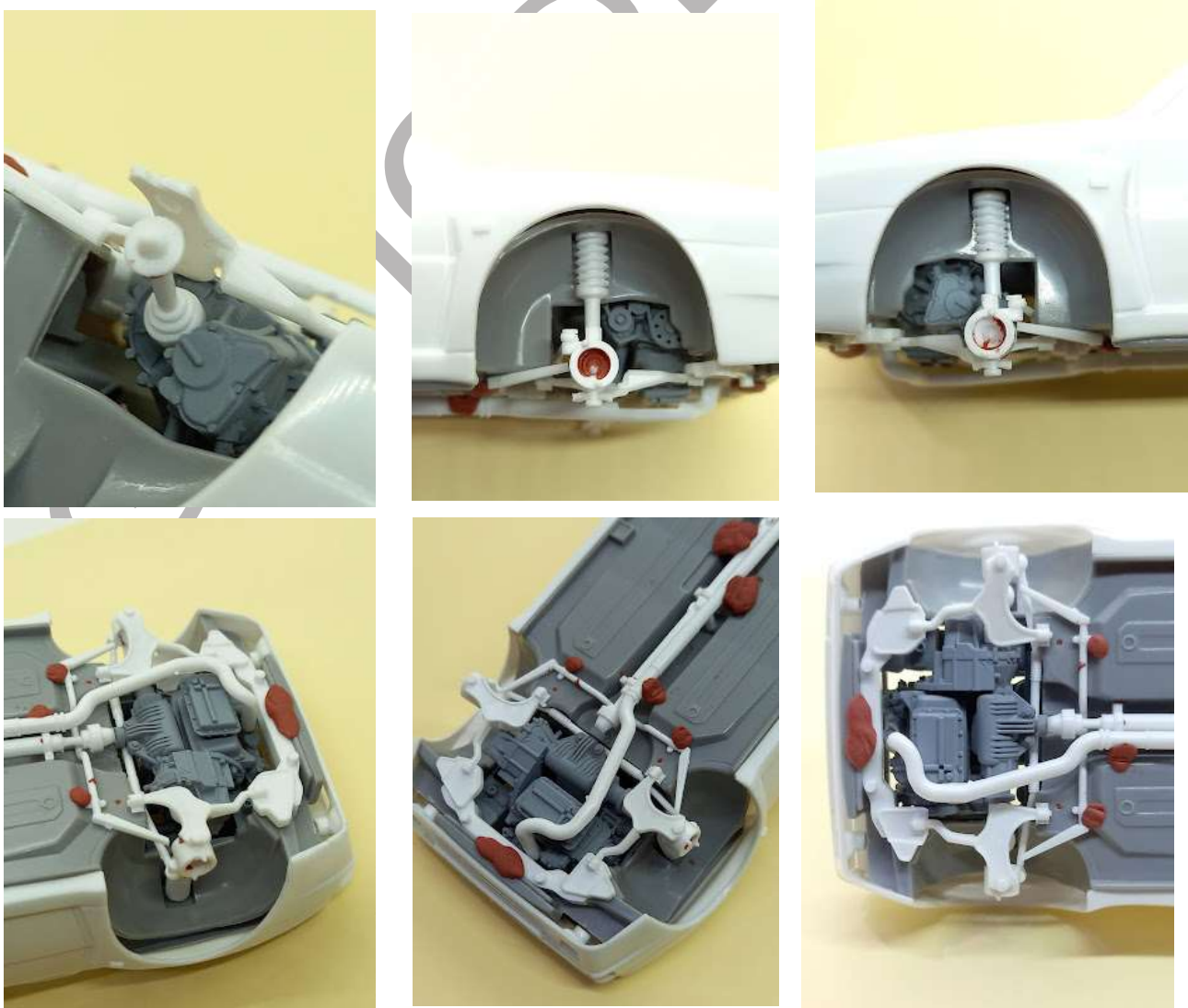
Now is the time to insert the chassis into the bodywork. The tub is already positioned in the body without being glued as described above.



At this stage it is now possible to resume the instructions of the Hasegawa kit and install the mechanical part. As far as the drive shaft is concerned, there may be a need to shorten it slightly (it depends on the position of the motor in the tank). Since the tub is not fixed to the bodywork, it is possible to make small adjustments before shortening it. Also to match the crankshaft of the kit with the differential of the engine, do not glue the shaft in the point indicated in the photo but must be fixed directly to the resin engine once the precise point has been found.



Before fixing the shock absorbers we insert the drive shafts, Also in this case I recommend vinyl glue to be able to find the right angle.

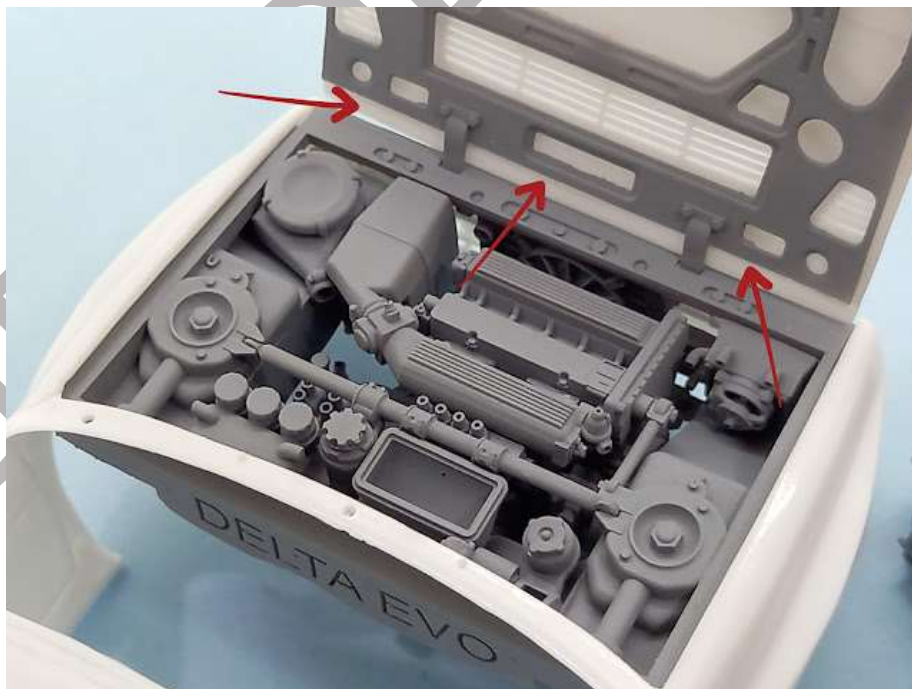


Let's not forget to finally fix this support that we had left free to precisely position the engine



And the protective sled? It will hide the whole lower part of the engine! Each model maker will decide what to do.

Finally, all that remains is to clean the frame of the bonnet (very gently) and fix it to the bonnet itself. Before locking it, it is advisable to thin the part indicated in the photo with the red arrows up to the height of the resin frame (also for the bonnet of the 16v). to find the right curvature. With a little patience, the resin part is flexed and using cyan gel glue (slow drying) the resin frame is fixed to the plastic hood.



Finally I leave some photos of the real engine which I hope will be useful as a reference (all photos are downloaded from the web and used exclusively for reference purposes for model making)

