



Building instructions for Scania R143 Topline 4x2 tractor

Kit no. 82214

Tekno kits are intended for advanced modelers.

Knowledge of Tekno miniatures and of the real truck is required.

Gather information from leaflets, dimensional drawings and/or google on the subject.

Tools (recommended).

Minitol with drills, grinding wheels, sanding rollers;

Cordless drill and/or pillar drill for metal drilling;

Machine clamp or vise with smooth (attachment) jaws;

Files: medium-fine and fine (instrument maker's files);

Fine sandpaper -grit 320 - 600;

Sanding board;

Pliers -also with smooth jaws;

Fine drawing pen;

Center point or fine dowel;

Tweezers.

Gluing

Use superglue, post-gluing with (quick-drying) two-component glue where necessary or desired.

Be very careful when working with the panes and gluing small parts.

Remember that superglue can turn white stains at the paint.

Tekno kits are derived from the production models. In production models, the holes for attachment of various parts are often drilled per product and to order specification.

Therefore, the chassis and cabs of the kits are not always drilled, so this has to be done by the builder himself.

In connection with factory production and assembly, some chassis are equipped with ribs.

These are intended as additional support when mounting boxes, fuel tanks, etc.

If desired, you can grind away the ribs with a grinder, then file smooth.

Preparing

When unpacking, you will notice that the bags sometimes contain metal and plastic parts that do not directly belong together. Cause is the for Tekno most logical distribution among the different moulds.

Empty all the bags and sort the parts that belong together, such as the metal tank with the plastic clamping brackets and filler cap. When sorting, some knowledge of the real truck and the Tekno miniature is desired.

Also look at the sample photos in these instructions.

Divide the kit parts into 'chassis', 'cab', 'wheels and tires' and 'other' (cargo box/body, lights, mirrors and other accessories).

Sort the parts as shown in the pictures below and make your own.

The parts for a Scania tractor or truck unit (4x2 or 6x2) will differ (also in number).

But if you put them in front of you as shown in the pictures, things will sort themselves out.

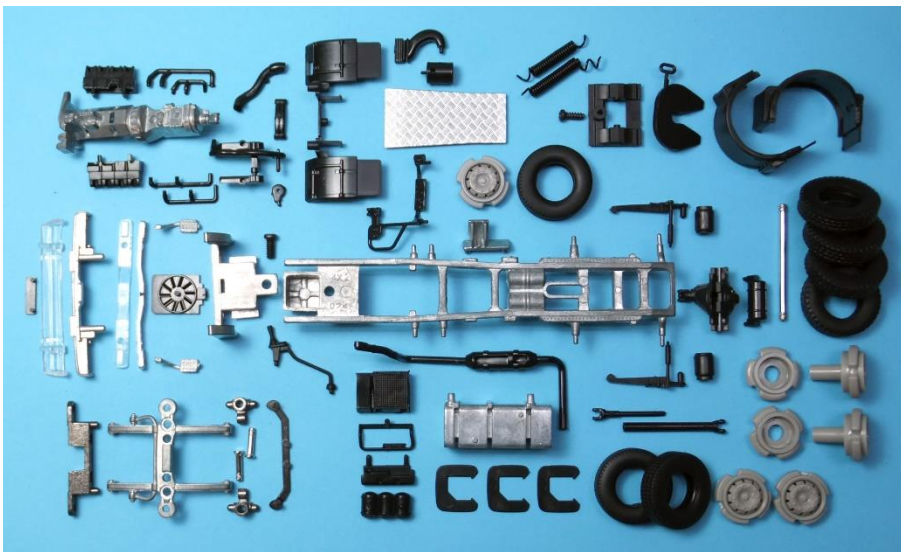
Keep the sorted parts in different trays.

Perform test-fits, so you become familiar with the fittings of the parts and the construction of the kit.

Check all parts (zamac and plastic) for casting residue or burrs. File, grind, sand everything smooth.

See also the photos of the built model and the instructional photos below.

In the photos below, the parts are next to or near their assembly positions as much as possible.



Chassis parts

Bottom left is the front axle with the stub axle blocks, track rod and the two axles for the front wheels.

Next to the front axle is the 4-piece battery box/airbox unit.

To the right of the chassis comes the spare tire.

Left in front of the chassis is the adapter plate, radiator, steps, bumper with lamps, lower bumper spoiler and the license plate holder. On the upper left is the engine, turbo and intake tube.

Cab parts

Below left are the mirrors, next to them the antennas, top and tail lights. Above that are the cab steps. In the front center is the dashboard, lower and upper bed.

Left and right next to the grille are the corner spoilers.

On the right behind the cab is the floor with the step panels/mudguards.

The interior walls should be folded 90°. Top left are the windows and roof hatch.

Above is the spoiler set, next to the air intake is the coupling light.

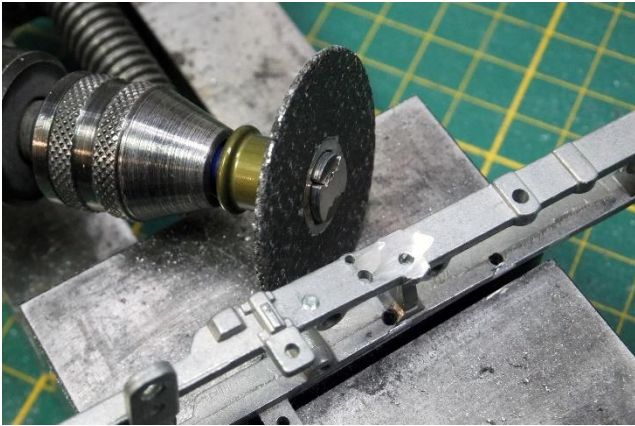


Chassis

First check all parts required for the chassis, i.e. both metal and plastic parts. Remove any casting residue (burrs) and, if necessary, drill all drill holes again.

For example, try fitting the fuel tank first. If the fit of the mounting pins is too tight, drill the holes in the chassis with a slightly larger drill bit. Then later assembly will be easier, especially if the components are painted in colour. In addition, glue also needs a very small amount of space to make the joint strong.

Preferably clamp the chassis in a machine clamp during machining and drilling. The photos below show how to remove the factory mounting ribs from the chassis with a grinding wheel if desired. Then sand with a roller in the minimot and finally file flat and fine sand.



Drilling

In general, for drilling in zamac: use a center pin or center with a small drill bit (e.g. 0.6 or 0.8 mm) in the minimot. Then drill out the hole further with a (cordless) drill on medium speed.

Use of drilling oil is recommended, e.g. WD40 drilling oil in a spray can. Spray a little bit in a container and dip the drill bit into it regularly.

Because of the relatively low speed in combination with the drilling oil, the drill bit will cut better and wear less quickly. After drilling and before gluing, degrease all parts well (benzene or similar).

Location holes in the chassis: preferably drill with the chassis perpendicular to the side in a machine clamp and under a column drill. Or drill as accurately as possible out of hand and well perpendicular with a hand drill. Most chassis parts have pins of 1.6 - 1.8 mm.

Assembly sequence

The production method and order of assembly at the Tekno factory differs from what modelers are used to at several points. You notice this, among other things, in the assembly order of the engine block, wheels and tires and the assembly of the front axle with the mounting block, knuckle blocks and track rod.

At the Tekno factory, first all chassis parts, engine block and wheels are painted in colour separately, then the engine block is mounted with the central screw and all engine attachments are glued.

After the engine block, the tires are mounted, the axle stubs are pressed through the knuckles into the wheels. Finally, the assembled front axle is mounted to the chassis by trumping up the fitting and location pins.

Temporarily on the wheels

Modelers like to put the model on wheels and tires for examination at the very beginning of assembly.

This requires a different assembly sequence than in the Tekno factory. Think now, especially in connection with painting, about what you can already permanently assemble and which parts you want to assemble after painting.

Think as far ahead as possible. In this way you become familiar with the various parts and the method of assembly and gain insight into the correct assembly sequence.

We recommend this order:

Mount the tires (temporarily) on the wheels first.

Or: primer and colour the wheels first and permanently mount the tires immediately.

Assemble and disassemble the tires: put them in boiling hot water, hold them against an old-fashioned hot light bulb or place them on another heat source such as an electric (wall) heater for a while.

Because of the injection and release from the mould, the tires have a nice side and a slightly less nice side.

Pay attention to this and keep the nicest side on the outside when assembling.

Adapter plate

Check the chassis for burrs and bumps, file or sand everything as smooth as possible so in the end your model will be as perfect as possible. Also check each part separately before assembling it.

Now glue the adapter plate to the chassis, use super glue and/or the slightly better filling gel.

Or glue with super glue first and then apply additional reinforcement with quick-drying two-component glue.

Fusion blocks

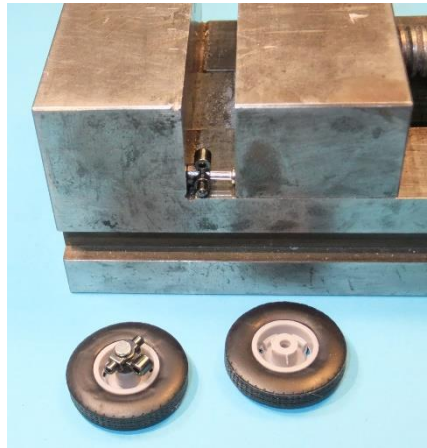
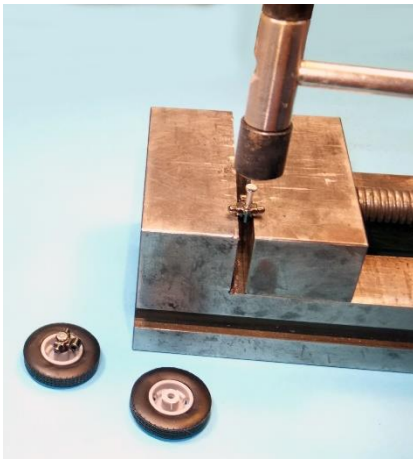
See photos below.

Press the axle pins for the front wheels through the stub axle blocks and into the front wheels. The wheel axles fit very tightly through the knuckle blocks for as little room as possible. Therefore, be careful when pressing and use a machine clamp as shown here in the photos. Pay attention to proper mounting of the axles through the stub axle blocks: push the axle through the stub axle block from the flat inside, the long axle stub will meet the wheel on the outside.

Photo left: support the stub axle block in the clamp and gently tap the axle through the stub axle block, or (center photo) press the axle through the stub axle block into the machine clamp.

Photo right: this way you press the axles into the wheel perfectly straight and without transverse forces.

The forces are evenly distributed and this also prevents damage to the wheel nuts.



Front axle

For the front axle there is a mounting block that fits at the bottom of the chassis on two mounting pins.

When the entire front axle is assembled, it is fixed at the Tekno factory by means of trumping up the location pins. If you don't have suitable tools for trumping, use glue to fix the front axle at the bottom of the chassis during final assembly.

Track rod

The track rod is also assembled by machine at the Tekno factory, with the (vertical) track ends being drummed up; pressing creates a collar at the top and then the track end can no longer return through the "track eye" on the stub axle block.

For modelers who do not have tools to trump, there is an alternative way to mount the track rod.

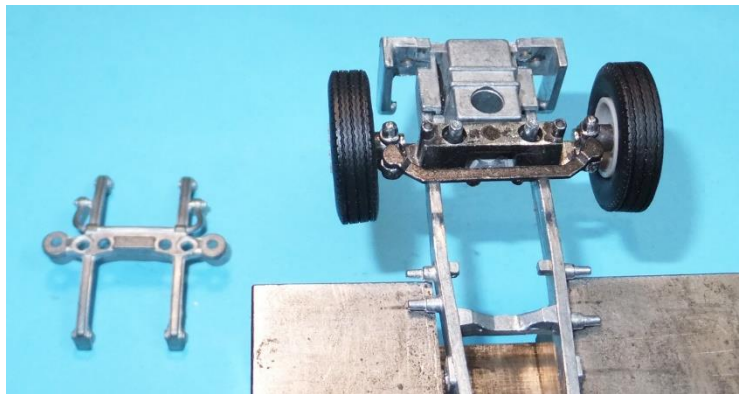
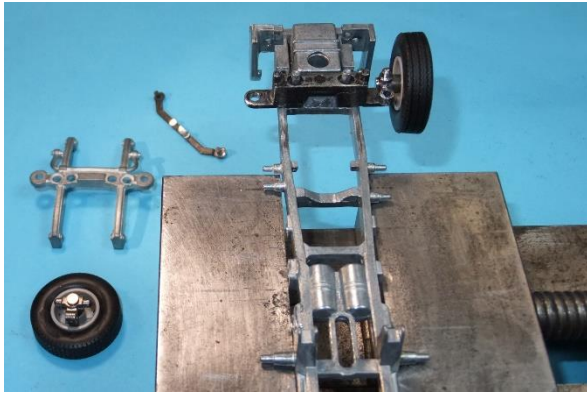
This involves mounting the track rod upside down.

First, file away the half height of the two pins on the tie rod, so they will not run into the clutch housing later.

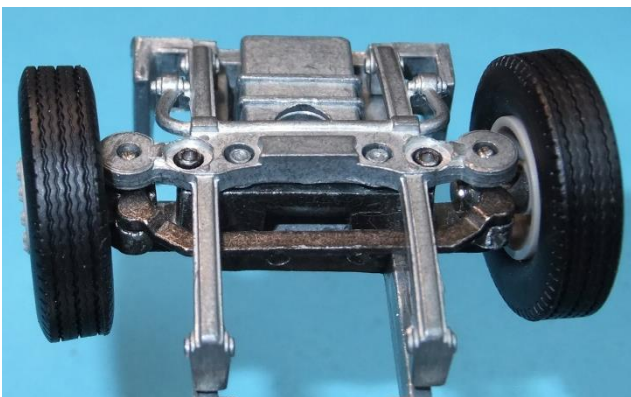
Mount the track rod together with the stub axle blocks, wheels and springs.

The (black) mounting block for the front axle can be glued to the chassis immediately. If you still want to remove the front axle and wheels to spray separately, fix the springs with pieces of thin iron wire or more flexible silver wire in order to be able to put the model temporarily on the wheels.

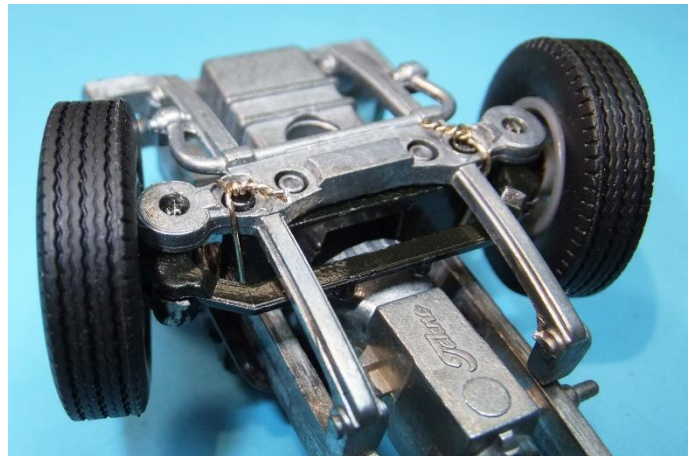
On the next page you will see the assembly of the front axle.



Glue the mounting block to the chassis. Then insert the stub axle blocks into the mounting block and the track rod into the track lugs on the stub axle blocks. Finally, install the front axle springs to the mounting block.



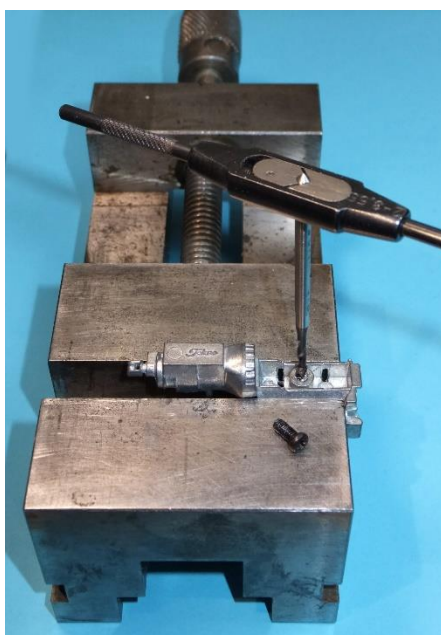
← The track rod is closed in by the front axle springs.



The front axle is temporarily secured with silver wire.

→

Here is also the engine block mounted; the pins on the track rod are partially filed down so they do not run against the clutch housing.



Engine Block

The engine block is secured to the chassis with a central M 2.5 screw.

← You must first tap the thread for this.

This is best done with a tapping set like the one shown here. But you can also tap the thread with an M 2.5 screw. Preferably use a stainless-steel screw, which is harder than zamac and will therefore tap better.

Use a little drilling oil, turn in and back out small pieces so you get rid of the swarf.

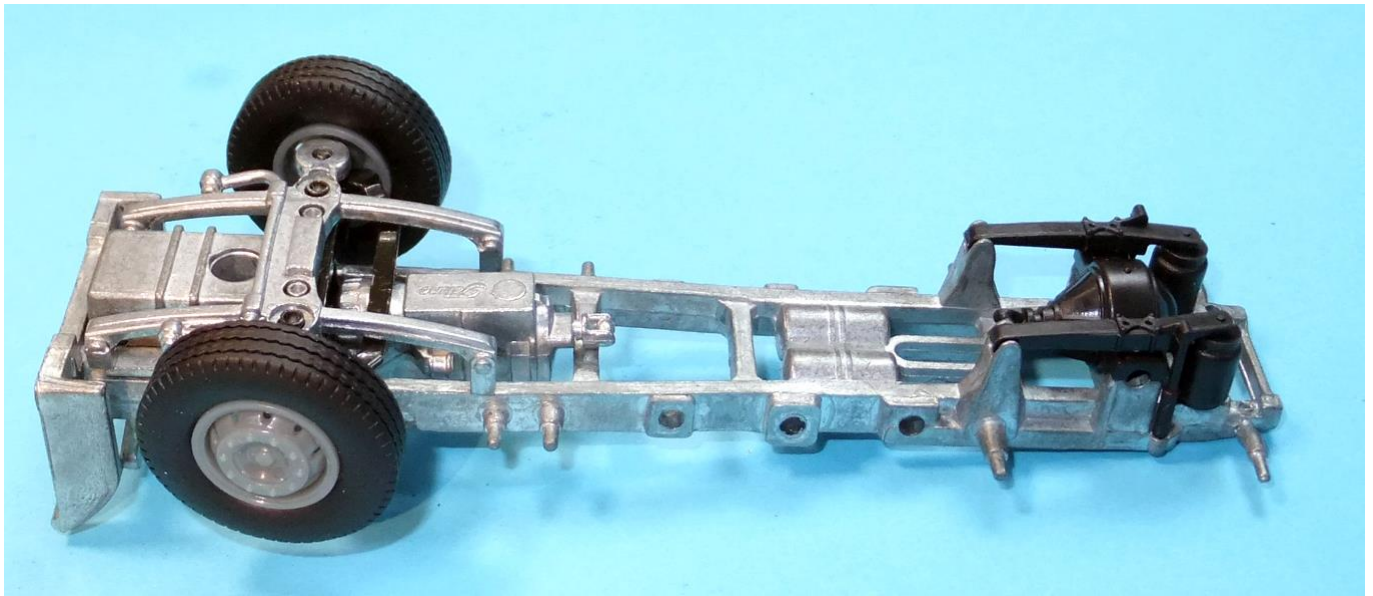
Rear axle

Snap and glue the rear axle to the chassis crossmember.

Then glue the air bellows to the dowel pins on the chassis, making sure the high foot plate is under the bellows at the bottom. Next, the left and right axle mounts with the shock absorbers follow.

Rear wheels

File the press ridges of the 2 mm rear axle smooth on one side, on this you can slide the wheel on and off during construction. On the other side, press the wheel onto the ribs.



The adapter plate with the tilt supports is glued in place. Trial fits of the engine block and front axle. The rear axle is glued to the chassis, but the suspension with the shock absorbers and air bellows are here assembled separately for a moment as an example. Both the engine block, front axle and rear suspension will be finally assembled once the parts are sprayed and/or hand painted in colour.

*In the pictures in these instructions, many parts are temporarily mounted as examples.
As indicated earlier, you can decide which parts you want to assemble before, or later after painting.*

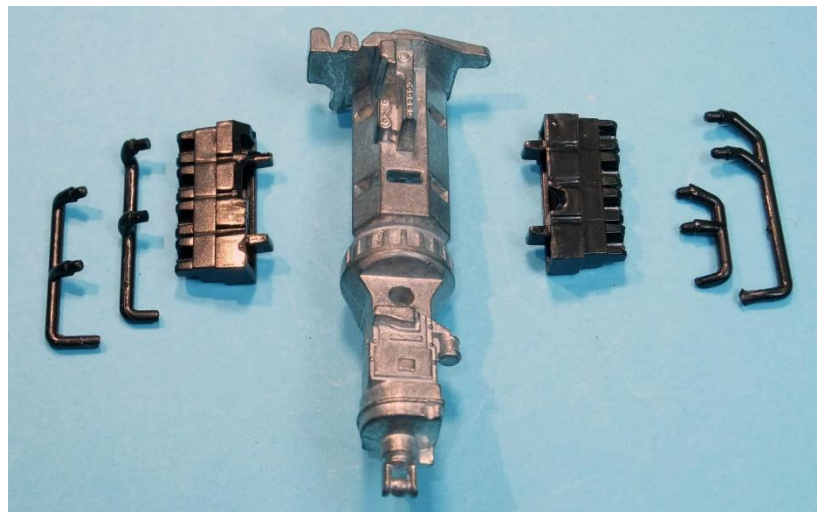
Engine assembly

At this stage, the engine block can already be largely built up with the exhaust manifolds and the turbo with the intake pipes.

The engine remains loose so you can paint it separately in colour.

Sort out all the parts in front of you on the table as shown in the picture to the right.

The left cylinder bank has a cutout for the compressor (it is on the left next to the fuel pump in the middle of the engine block).

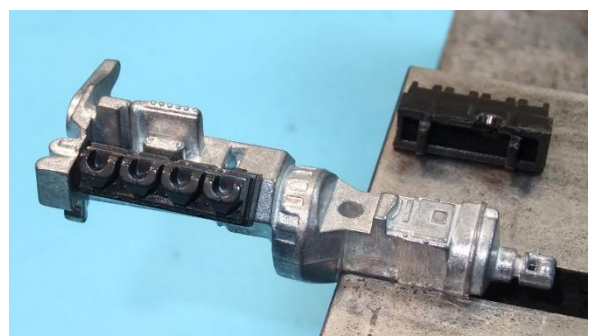


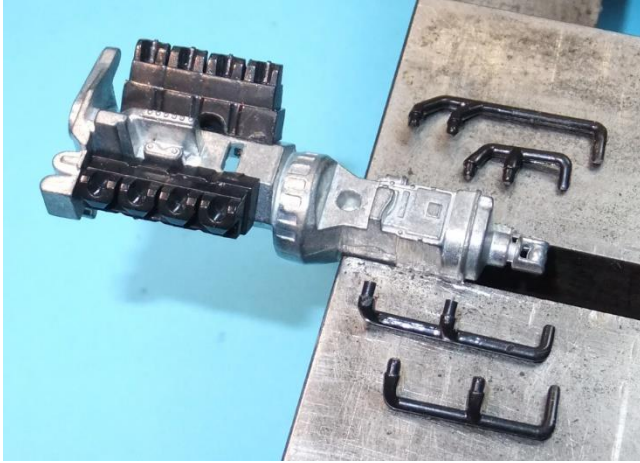
Scania's DS14 V8 engine had an exhaust system that was as beautiful as it was complicated. Therefore, pay close attention to the four different exhaust manifolds and the assembly order.

On the left is the longest pipe for cylinders 1 and 3, then comes the short pipe in cylinders 2 and 4.
On the right is the short pipe for cylinders 3 and 4, then comes the long pipe in cylinders 1 and 2.

Clamp the gearbox in the machine clamp, so you can work accurately to fit the cylinder banks and exhaust pipes tightly.

On the next page you will see the assembly of the engine using pictures.

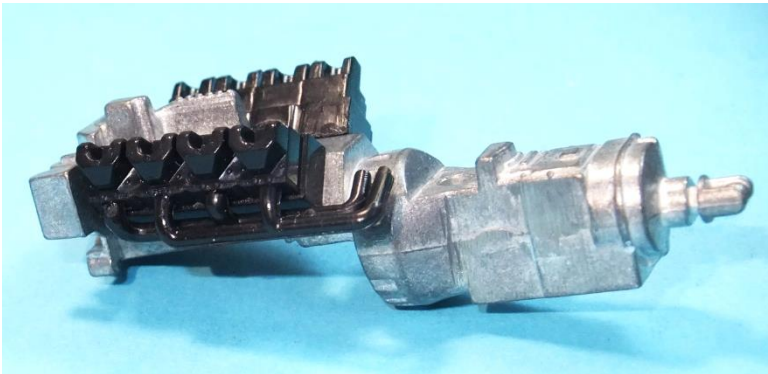




Note the recess for the compressor in the left cylinder bank.

Always check the fit of each part first, making sure everything is assembled as straight and tight as possible. File or sand any casting burrs flat.

For the exhaust manifolds/pipes there are fitting holes in the cylinders. A drop of glue in these is enough to securely mount the exhaust pipes.



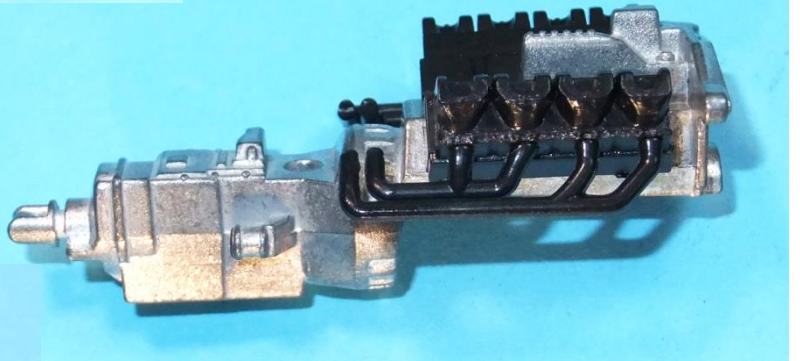
← Manifolds on the left.

First glue the manifold into cylinders 1 and 3. The manifold for cylinders 2 and 4 comes on the outside of the already assembled manifold, such that the end pipes are exactly next to each other.

Manifolds on the right.



First glue the pipe in cylinders 3 and 4, then the long pipe in cylinders 1 and 2.



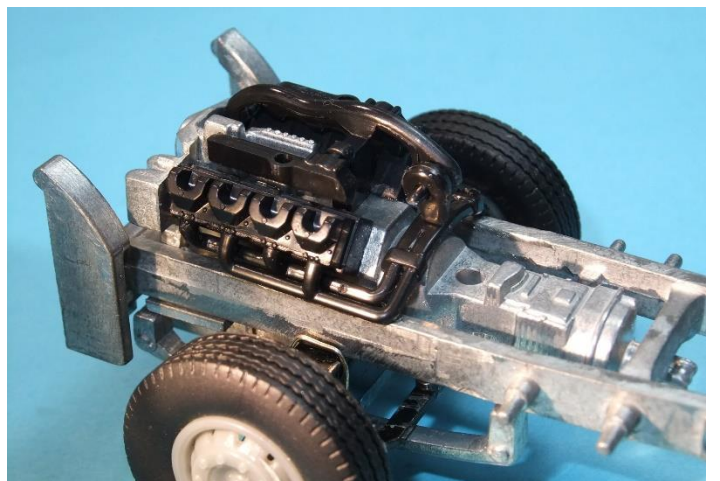
← Engine test fit into the chassis, check that the exhaust pipes line up neatly and do not (just) touch the chassis.

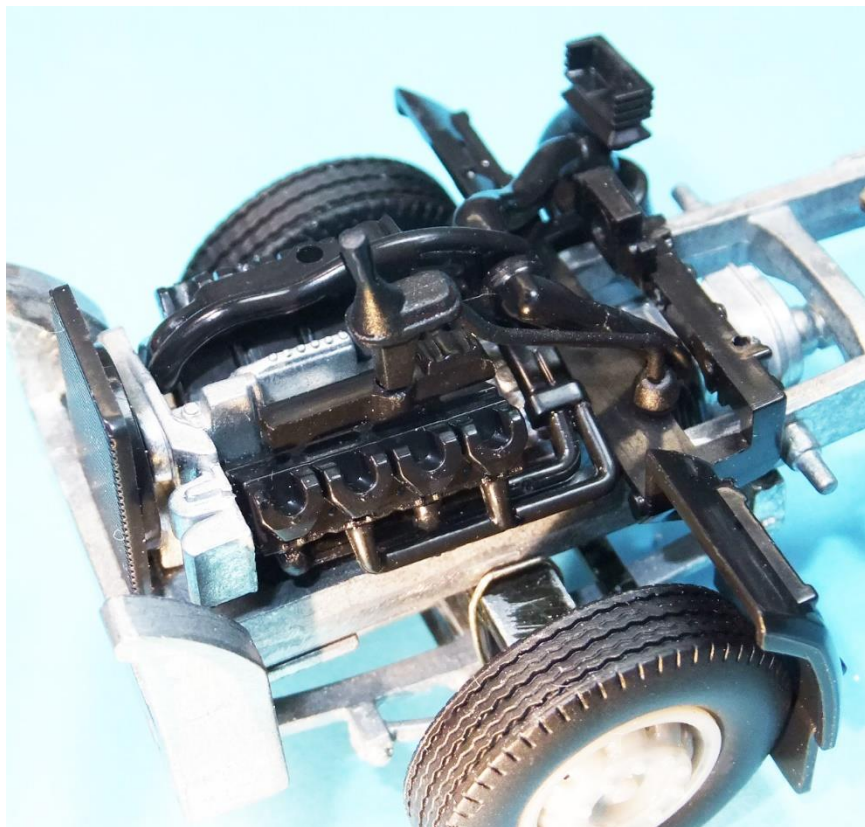
← Install the middle piece of twin pipes connecting the manifolds on the left and right. Make sure the round side of the half-moon hole at the top is to the right. This is where the pin under the exhaust half of the turbo fits inn.



Lay the exhaust side turbo loose around the shaft of the intake side turbo, hold the turbo with the intake tubes slightly backwards and make sure the fitting pin is in the half-moon hole. Now tilt everything forward and glue this into the fitting hole at the top of the engine block.

Then apply some more glue with a pin, run the glue between the parts to fix them.





The engine can only be finished after the cabin support with the mudguards is finally mounted.

However, the engine must be finally assembled first, only then can the support with the mudguards be installed, because it fits with a dowel pin in the clutch housing.

So here also think carefully which parts you want/can paint before assembly.

The shift lever comes in a hole at the top of the intake tube and the shift rod fits in a hole in the support of the mudguards.

See also the silver wire used to temporarily mount the front axle.

In the right inlet tube you also see a small hole, this is for the gear lever in right-hand drive (RHD = Right Hand Drive). If you want to do it right, plug the hole on the right.

We recommend this spray and assembly sequence:

Paint the chassis, the (parts of the) front axle, the support with the mudguards and the engine block in their recommended colours.

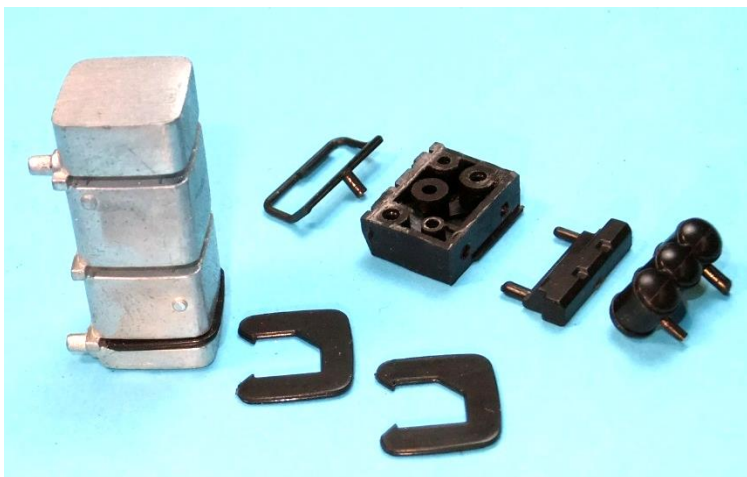
Assemble/glue successively: the front axle, engine block, support with mudguards and the radiator. Next come the air filter with the intake tube (right) and the gear lever.

The assembly of the air filter housing, the intake pipe to the cab rear wall and the intake tube to the turbo is best done with the cab on the supports and the mounted intake pipe on the cab. In this interplay you have to look for the correct slanting position of the air filter housing. See also the photos below.

Chassis fittings

Depending on different final colours, decide what you want to glue now or not until final assembly, such as the platter, battery box with air tanks, fuel tank, spare wheel carrier and rear mudguards.

Mount the fifth wheel coupling with the black self-tapper in the most forward position.



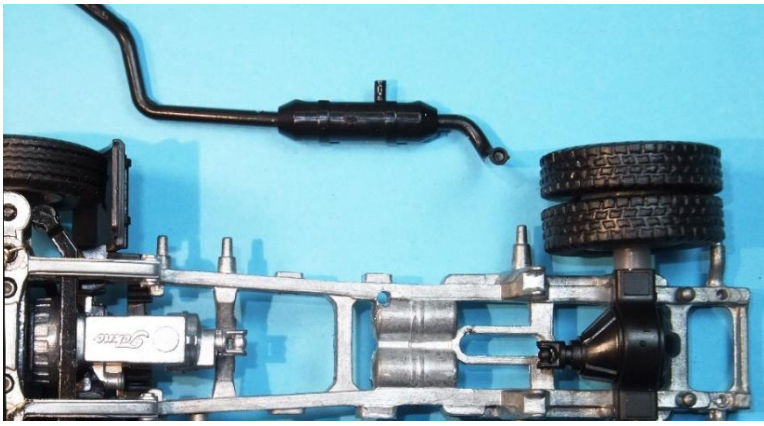
Battery tray and tank

File or sand the slots in the tank smooth to remove any casting burrs. Then install the tank straps. Note the beveled part in the tank.

Battery box assembly: glue the step bracket and cover panel to the bottom of the battery box.

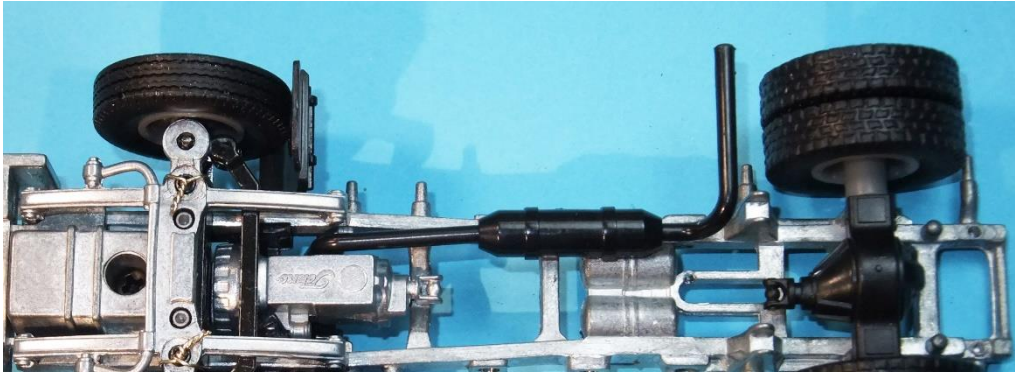
Paint the air tanks in colour first and then mount them (thick and thin fitting pin).

Glue the complete unit to the chassis in the final mounting stage.



For the exhaust, drill a 1.6 mm hole as shown here in the cavity between the chassis and the air tank.

The photo below shows the correct position of the exhaust. The exhaust and the cabin bridge with the mudguards are temporarily mounted with small pieces of thin double-sided tape. This way the fit can be determined pretty accurately.



On the chassis behind the rear axle you see the pins for the air bellows.

The holes in the rear in the chassis are for the separate air tank.

Cabin

In the cabin, drill holes for air intake pipe, top lights, blind spot mirror, and antennas if desired.

Air intake and top lights \varnothing 1.5 mm, antennas and sidewalk mirror \varnothing 1.0 mm.

Try to measure out the correct position of the holes as accurately as possible, draw them on the panelling with a thin drawing pen: Staedtler, Micron, Artline or the like with 0.2 mm line thickness.

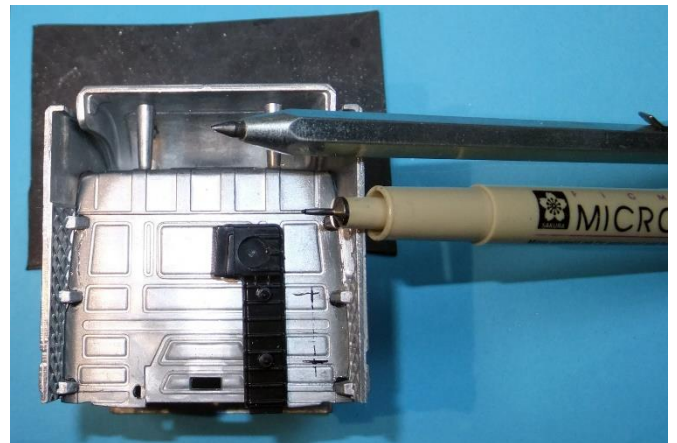
Spoiler set

Below you see how to mark the holes for the spoiler set.

Clamp the cab in the machine clamp or use a piece of rubber against sliding.

When making a center hole, use a sharp center pen. The 0.2 mm drawing pen is from Micron.

Mount (temporarily) the side spoilers first, then mark off the holes for the roof spoiler.



At the Tekno factory, a template is used to drill the holes exactly to fit.

In the absence of a template, you can only measure the holes as accurately as possible.

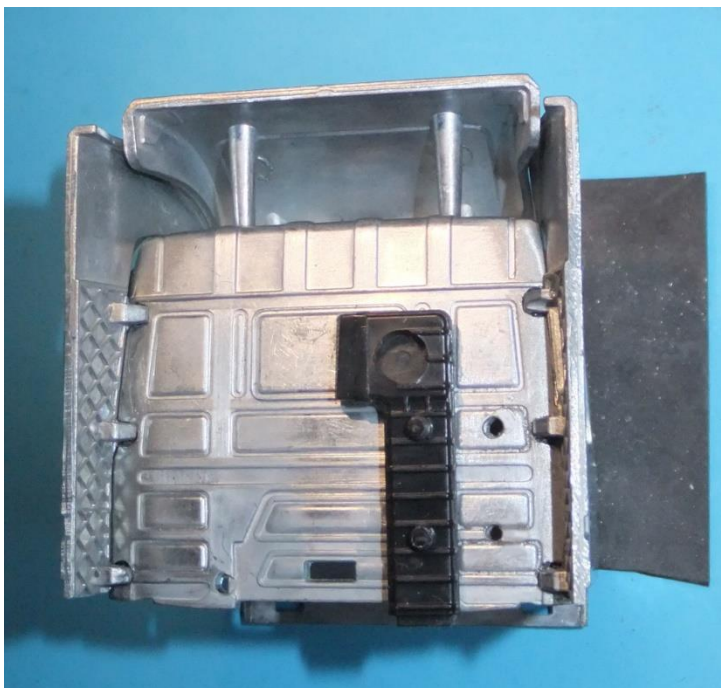
Here the holes are also made quite wide to create fitting space. Then use a filling glue, such as superglue-gel or two-component glue. In the end, the holes are covered by the supports.



← The side skirts have over-length for fitment on the Streamline cab. For the R and Toplevel cab, they need to be shortened. See the crosses on the areas to be cut.

In the photo on the right you see the position of the holes for the roof spoiler. Notice the line through the roof hatch holes and the short distance to the front holes for the spoiler, in the middle of the roof profiles. The distance between the front and rear holes is 12 mm.

After drilling all the holes with drilling oil, the cabin should be degreased, for example with a firm brush and benzene.



Holes for the air inlet pipe.

Clamp the cabin in the machine clamp, use a tissue to protect the sheet metal.

Or place the cabin on a piece of rubber so that it does not shift easily.

Draw a center line in the middle of the panels.

Draw the holes as shown here.

Make a center point, first drill with 0.8 and then in two steps to 1.5 mm.

Work accurately, use drilling oil.

If a hole is not drilled quite right, make one or both holes slightly larger to create fit-play space. Then glue the part with superglue gel or quick-drying two-component glue.

If you want to further customize the Scania to your liking with accessories, check out **Tekno Parts** website.
And: if something goes wrong, you can also order most replacement parts there.

Cab Floor

Look carefully at how all the cab parts fit in and together, try once, at most twice how to attach the floor in the cab to keep the final fit as tight as possible.



← First mount the entry panels/mudguards left and right under the floor. Make sure they sit cleanly square and straight.

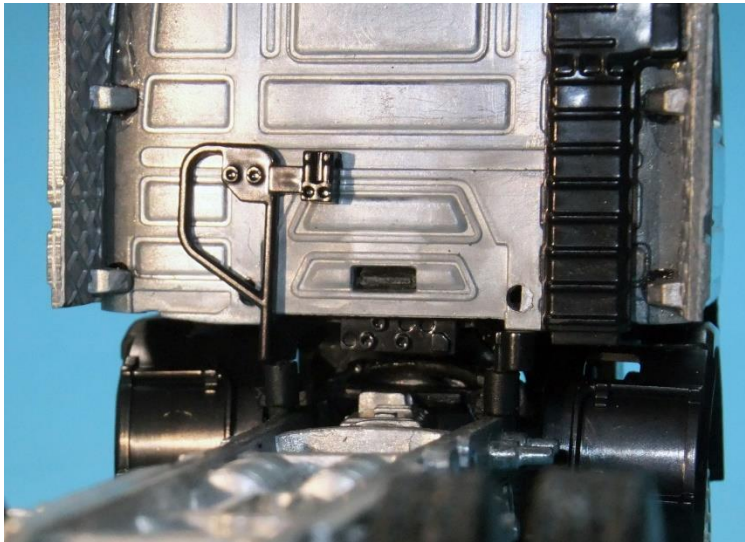
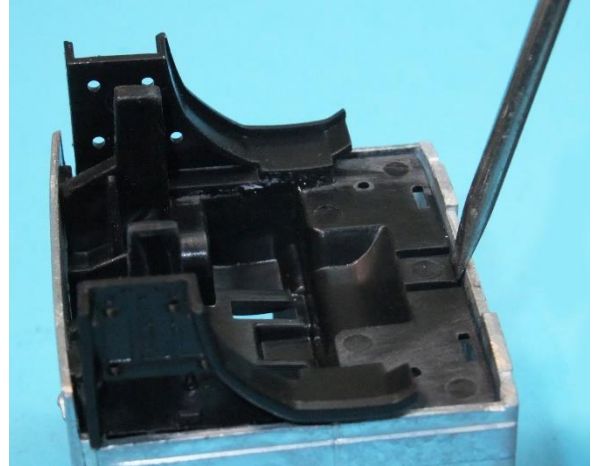
If necessary, file flat the moulding burrs on the glue surface at the top of the boarding panels. Clamp the parts in the machine clamp, you will work more squarely and straight than freehand.

Installing the cab on the floor: first press the fitting tabs in the front of the cab front, then click the tab on the back of the floor into the rear wall. Release: with a small screwdriver, press the tab in the rear wall slightly inward and tilt the screwdriver to release the floor.

Mounting the cab on the tilt supports: hold the cab forward as if tilted, at the same time also hold it at an angle to the right and place the right tilt leg on the metal tilt support. Now gently but with some force push the other plastic tilt leg in slightly and at the same time tilt the cab to the left.

Now move the cab down as if lowering it down, making sure both tilt legs slide along the circular supports. Repeat this test fit as little as possible, to minimize stress on all (bending) parts.

When spraying, make sure there is no or very little paint on the circular tilt supports on the adapter. If necessary, apply a little Vaseline during final assembly, this will make the tilting go more smoothly.

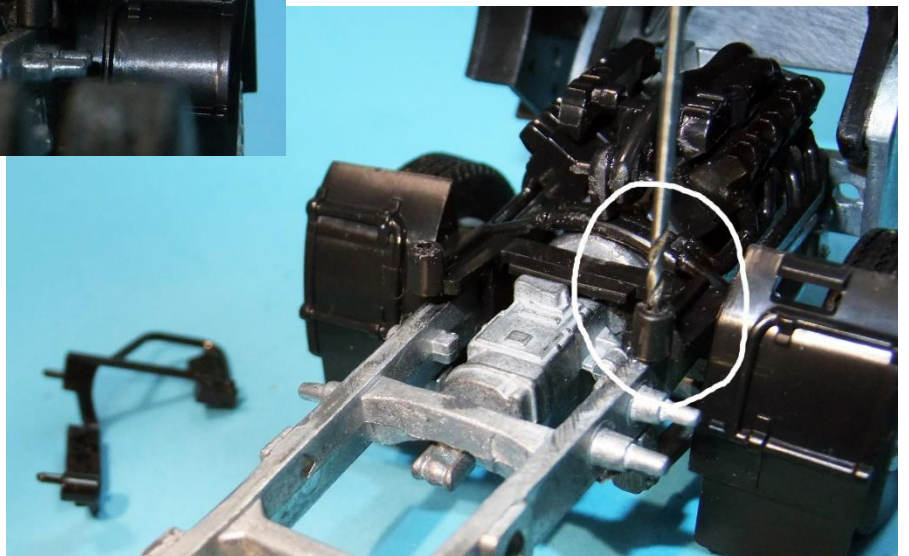


Cabin support

Test fit the cab support with the front wings and the bracket with hands rail and brake line holders.

The cabin bridge with the front wings can only be attached after the engine block has been finally mounted during final assembly, because the centre pin under the support fits in the coupling house.

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Drill 1.0 mm holes in the middle of the round air spring bellows on the cab support for mounting the bracket with hand rail and the brake line holders.

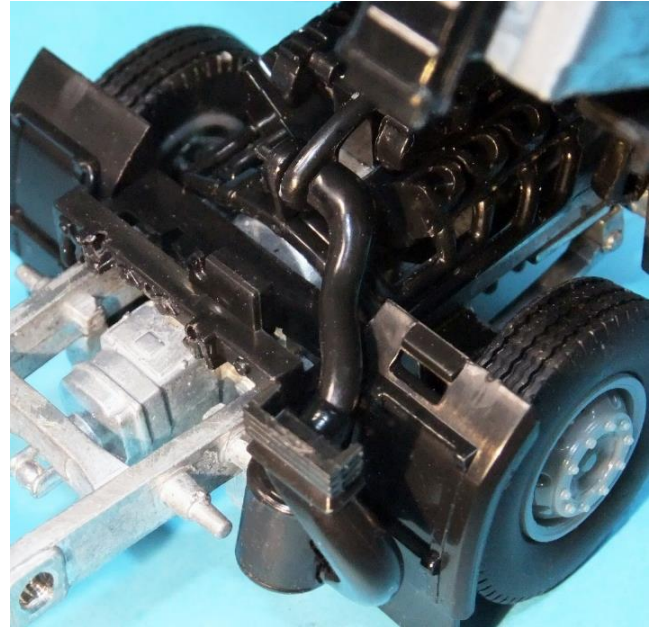




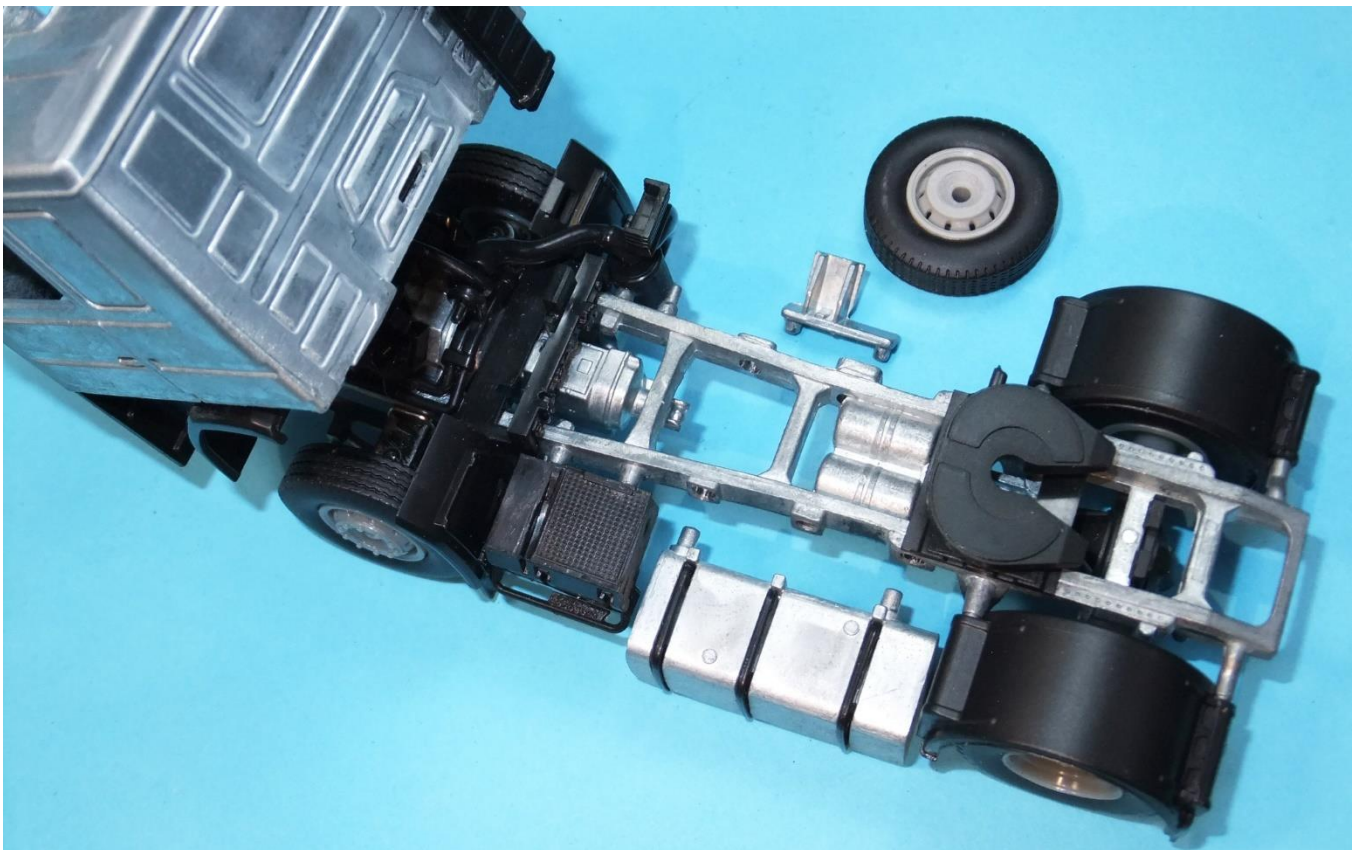
Air filter housing

The assembly of the air filter housing and its proper angle of inclination must be done by trial and error in conjunction with the inlet tube to the turbo, the air inlet pipe to the cabin and the bending housing with the rubber into which the intake pipe falls.

Here you see the cabin bridge of an R142, but the working method and the fit of the air filter housing and associated parts is exactly the same.



Suggestion: glue the filter housing to the fitting pin with very little glue, such that it can still turn a bit. Then test-try the fitting in combination with the other parts. Pay attention to the angle and glue area of the turbo inlet tube to the air filter housing. When everything fits, apply super glue with a pin so that the glue runs between the glue surfaces of the air filter housing and the chassis and the bend with the rubber. Do not glue the intake tube to the turbo until final assembly, after gluing the cab mount with the mudguards.



Final trial fit. You can see the intended locations of the battery box, tank and spare wheel carrier. The air filter housing is glued in place, the intake tube to the turbo remains loose until the rear cab support with the front wings are first glued in the final assembly. The exhaust and drive shaft will also not be glued until final assembly.

Drill small holes in the cab support for the air hoses and in the cabin for the work light.

Tip: Sand down the spare tire nuts on a sanding board and drill the spare tire from the inside with a 2 mm drill bit. Finish the hollow opening neatly with, for example, a countersink drill bit.

Or, even more real: open up the entire center of the wheel. Then the spare wheel carrier will have to be modified.

Grille and corner spoilers

Carefully check the inner and outer grille for burrs, the assembly of both must be as flat and thin as possible to be fitted exactly in the front of the cab.

File and sand away as much thickening material as possible, including on and around the pins to which the inner grille is mounted. ↓



↑ Cut off the dowel pins of the corner spoilers, smooth the inside and 'cold' glue the spoilers to the outer corners of the grille. Make sure that the rear of the corner spoiler is flush with the rear edge of the grille.

Interior

The rear and side interior walls are also meant for the slightly higher Topline cab. For the flat R cab, remove the top strip (break line). Then bend the side walls at a 90° angle to the rear wall.

After painting, assemble successively: lower bed - dashboard - side and rear walls with the upper bed in between. Note the dowel pins and strips in the floor and in the sides of the dashboard.

Finally, assemble the steering wheel and seat backs.

If desired, you can close the hole on the right side of the floor (intended for RHD gear lever).

Before building the interior, consider what colours you want to apply. This can vary from cab to cab. Sometimes it is easy to leave parts loose or glue them in place.

Do fit the entry step panels/front wings to the floor, but paint or spray them first before final assembly. Then the floor can remain black.

Mount the pre-painted steps only after the floor is mounted in the cab.

N.B. Due to licensing rights, Tekno does not provide colour numbers of factory and customer colours. So please consult your documentation, brochures, photos or the internet for this.

Spraying and painting

Take the tires off the wheels again, so you can spray those separately. (Or you already sprayed the wheels.)

Make sure all parts and assemblies are grease-free.

Preferably use an etching primer, but don't spray too thick.

Spray the chassis, cab, wheels, etc. in colour with the airbrush or a spray can.

Make sure the pivot points of the steering knuckles and track rod are not clogged with paint.

Make sure there is no paint or as little paint as possible on the inside of the grille and front bumper, where the strips with the lights should go.

Paint the interior, floor, trim, etc. before assembling anything.

After painting the engine block, paint the exhaust manifolds and the not yet assembled exhaust with a mixture of iron colour and matt brown.

Once all parts have been sprayed and/or hand painted, leave the model alone for several days to a week.

This will allow the paint to harden somewhat. Modelling paint in particular needs time to cure.

Windows

Wear thin surgeon's gloves when working on the windows.

Gloves are also recommended during final assembly, this will prevent fingerprints in the paint.

Above all, never touch the windows, try to avoid that even with the gloves.

Paint the window rubbers matt coal black (e.g. Revell 9).

Or use a thin Edding 400 'Permanent Marker' marker, as shown in the photo below. After this, using the applied ink as a guide, you can still thinly paint over the rubbers for better coverage.



Put the brush or marker crosswise and flat-angle on the rubber and move sideways, that way you won't slide on the glass.

Always turn the windows so that you can move the brush or marker toward you as accurately as possible. Move the marker slowly, drawing short pieces.

Provide extra support under your "drawing hand" if necessary.

Grasp the panes only on the sides; this will do the least harm. Wear surgeon's gloves when doing this.

Always turn the windows in the most ideal and stable position to apply the black.

You can also fix the windows in a clamp and/or with a piece of tape. Make sure they cannot move.

If this raises them a little, compensate with a raised support under your drawing hand.

Optionally, you can also paint the raised edges to the side of the window rubbers black, see photo.

This gives a nicer and more attractive finish along the window openings and in the rebates.

The windows are placed in the inside in the openings without glue.

Please note: first press the sun visor onto the location pins above the window opening. Then put in the windows.

When installing the windscreen, bend the side windows slightly towards each other and press the side edges of the windscreen around the A-pillars one by one. Then press the door windows into the rebate.

If necessary, first remove the cross connection between the door windows.

Work calmly and carefully.

Final assembly

Install the tires on the wheels and attach the rear wheels.

Be careful with the tires for the front axle, make sure there is no tension on the steering knuckles.

Install the front axle and the rear axle and place the model on the wheels.

If you waited until after painting to install the engine block, install it now. Screw the self-tapping screw from below through the chassis plate and into the engine block. You can also apply glue for extra fixation.

If you have sprayed the fifth wheel coupling separately, now mount it to the chassis with the black self-tapping screw, as far forward as possible.

Click the drive shaft onto the balls of the universal joints, the short sliding piece comes to the gearbox.

Mount the inner grille (with the windshield wipers) to the dowel pins in the outer grille.

Mount the headlights in the grille and mount the complete grille in the cab front.

Glue the fog lights and the steps to the inside of the front bumper and glue the complete bumper to the adapter plate. Or: first place the cabin on the tilt supports and then glue the bumper.

Place the cabin on the tilt supports - without mirrors and other small parts.

Always wear surgeon's gloves when doing this and when installing small parts on the cabin.

Mount the remaining parts to the chassis and cab:

Catwalk plate with the air lines;

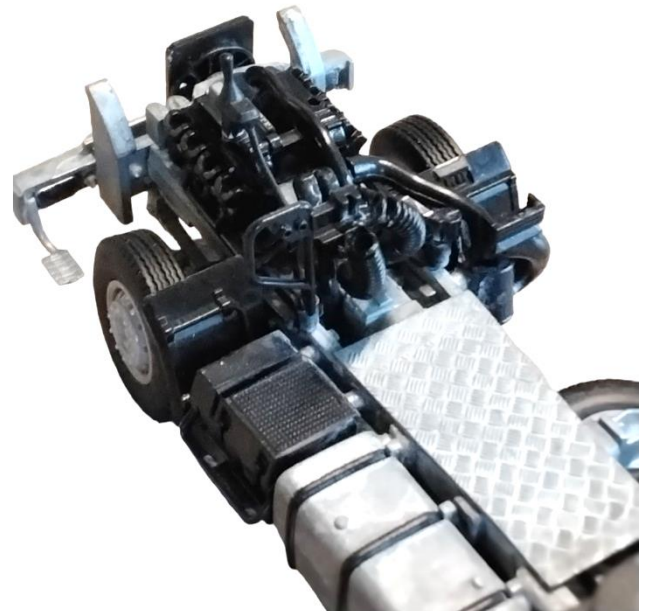
Grille, steps, spare wheel, work lamp, taillights, top lights, indicators;

Decals or stickers (if applicable);

The license plate holder under the pulling pin on the front bumper;

Finally, the mirrors and antennas are glued.

Remember that superglue can turn white stains on the paint. Therefore, preferably use fast-hardening transparent two-component glue, apply a drop in the drill hole and insert the dowel pins.



Rear suspension mounted. Pay attention to the mounting of the air bellows, the high anchor plate at the bottom is located at the rear axle. The separate air tank sits at the rear under the chassis. The fifth wheel coupling is mounted in the most forward position. The hole for the exhaust is drilled in the cavity between the chassis and the air tanks within the chassis beams.



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