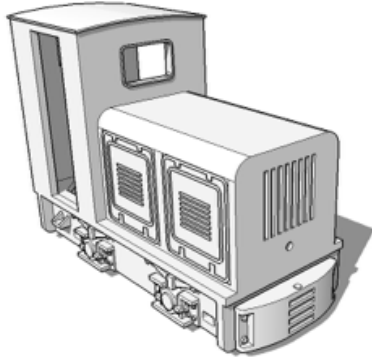


ENG-003 LKM NS2 Diesel



Thank you for purchasing this EuroNarrowGauge kit, we hope you enjoy building and operating it. Please read through the instructions thoroughly before beginning assembly.

Parts required:

0.4mm and 0.7mm brass rod.
Glazing material.

Tools required:

Sharp craft knife or scalpel.
Tweezers.
Needle file.
Emery paper or boards.
Superglue.
0.45mm drill bits.
Twist drill or minidrill.

Prototype Info

After the Second World War, many cities lay in ruins and industry was devastated. There was a great demand for narrow gauge industrial locomotives. In 1950 LKM (Lokomotiv Karl Marx) introduced the NS2. The first examples were provided with a 30hp diesel engine driving the two axles through a two speed gearbox with chain transmission. Due to wear in the clutch system a revised design was introduced in 1951, where the chain transmission was replaced with jackshaft drive through external coupling rods. Over 500 examples were produced between 1950 and 1959, making it one of the most prolific narrow gauge diesel locomotives in Germany.

About the kit

The kit is comprised of a 3D printed plastic body shell and a fret of etched nickel silver detail parts. No folding of these parts is required and they can all be glued in place. We recommend sparing use of liquid superglue for assembly, ideally using a bottle with a thin applicator nozzle.

Due to the nature of the 3D printing process, some support material may still be present on the body. This waxy residue has been cleaned during our checking process, but it can be a good idea to submerge the model in white spirit, agitated gently with an old tooth brush and leave to dry. The plastic used may be easily cleaned up with a sharp knife and fine wet and dry paper or emery boards to remove any roughness left from the support material used during production.

Please note this is a scale model for adult collectors and not intended for children under 14 years of age.

Chassis fixing

The kit is designed to fit a Minitrains Gmeinder diesel chassis. The mechanism is well known for its good running qualities. Please read assembly notes for details of how to fit the chassis.

Assembly Notes

1 • Clean up the 3D printed body • Use a fine wet and dry paper (320 then 640 grade if possible) in water to achieve a smooth finish to the frame sides, buffer beams and bonnet. Rinse the model in a white spirit to remove any traces of printing residue or grease from handling. Remove the parts from inside the cab roof and clean these up in the same way – these should be put to one side.

2 • Check the donor chassis • Before removing the body from your donor locomotive we suggest you run the model in following the manufacturer's instructions. The body can be removed by pushing the motor down from the cab openings either side. The unit is secured by a clip so once it pops out the chassis can be carefully removed. It is a tight fit through the foot plate so be careful not to damage the motor wires.

3 • Test fit the body • Offer up the kit body to the chassis to check for alignment and fitting. No adjustment should be necessary, but if required remove a small amount of material with a sharp craft knife.

4 • Priming • Remove the body from the chassis. It is suggested that a coat of primer is applied to the body at this stage. The model is printed in a material that should be safe to use with most model primers, however we recommend the use of the Halfords 'plastic' primer. Once dry any imperfections in surface finish can be addressed with more 640 grade wet and dry paper and a further coat of primer.

5 • Detailing • The etched components can now be removed carefully from the fret using a sharp knife against a piece of glass, or using sharp snips. Once removed from the fret the edges can be smoothed down using a needle file to remove traces tabs.

The bonnet should be detailed first, starting with the side grilles. These are located on each side, with the slats horizontal, the small hinges on the bottom edge should be longer at the bottom, with the short ones at the top, so that the raised rectangular edge is at the top of the part. These can be fixed with superglue. The bonnet front etch can be simply glued in place. The small rectangular part on the etch is used on the top of the bonnet, placed towards the front in the centre.

The kit contains a number of alternate parts for the cab. There are two sets of front and rear etches, one pair with the single window of the NS2, and one pair with the double windows of the later NS2f. Select which version you prefer and these can be carefully applied with superglue. There are three alternate cab sides, a totally open side (original NS2 design, the 'bench' should go at the back), a semi open side (modified NS2) and an enclosed cab side (NS2f, the door way is towards the front). Make your choice and apply to the cab with a sparing amount of superglue.

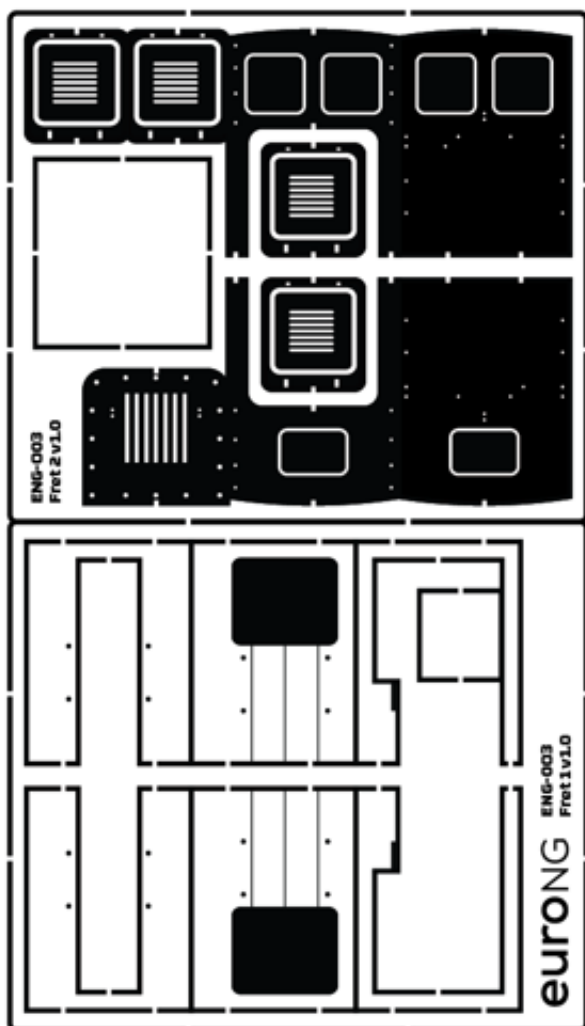
Using a 0.45mm drill bit open out the grab handle holes in the bonnet, and form these from 0.4mm wire, fixed with superglue. The cab handrails can be fitted in the same way through the etch material. Note the totally open cab has a small handrail above the bench. The half etch for locating this should be on the inside of the model.

6 • Weight • To improve the performance of the model two 5g self adhesive weights are provided. These can be fitted within the bonnet and provide a surface for the chassis to rest against when assembled. Carefully cut the material between the two weights, peel of the backing from one and stick on top of one another. Then the pair of weights can be fitted to the underside of the top of the bonnet. Test fit them before removing the backing material and pressing firmly into place.

Finally, re-insert the chassis, which can be secured with a small amount of blu-tak. The buffer blocks have a small 0.7mm hole in the top – a short length of rod should be superglued into this hole, angled slightly back, to provide a 'hook' to couple up rolling stock. The height of these should then be checked and they can be superglued to the front and back of the model.

Detail Parts ENG-003 v1.0

Carefully remove each part from the fret using a sharp knife on a cutting mat or similar hard surface to minimise the risk of damaging thin parts. Clean up the tags.



Painting and finishing

The standard works colour for the NS2 seems to have been a maroon colour, but since many were supplied to industrial concerns, or acquired second hand, you can probably justify any colour, within reason. When new the frames would have been red, with axle boxes and springs picked out in black paint.

Acknowledgements

We would like to thank members of the 009 Society and NGRM-Online for their feedback and support in the production of this kit.

About EuroNarrowGauge

EuroNarrowGauge was founded in 2014 with support from Narrow Planet. This kit is part of an expanding range of European prototypes and was designed by James Hilton. If you have any queries about the model or instructions please get in touch.

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