



Class 121 / Class 122

IMPORTANT INSTRUCTIONS

Please read BEFORE using this model

THIS MODEL NEEDS OILING BEFORE USE:

Whilst this model has been pre-lubricated at manufacture, the factory applied lubrication may have dried out during transit or storage. Therefore please lubricate the visible gears on the underside and test run before use using a proprietary lubrication. Your local model shop will be able to advise you in this, however Dapol also sell recommended locomotive oil.

If under test your locomotive is sluggish, or excessively noisy (remembering with proper lubrication and running in it will quieten down considerably), then you may wish to lubricate the worms and their associated bearings. This can easily be done by unclipping the bogie from the chassis as shown in the accompanying diagram.

Please remember to run your locomotive in for 30 minutes in each direction after lubrication, and the failure to lubricate your locomotive will result in a voided warranty.

POWER TYPES (DCC) and OPERATION

IMPORTANT NOTES:

Failure to oil may affect any warranty claim. Please use caution when applying oil as some types can cause damage to plastic. If oil touches the body then immediately wipe off using a non-fluffy cloth. No part of the motor requires lubrication. **DO NOT OIL THE MOTOR OR POLES / ARMATURE.** Do not operate the model on track laid onto carpet as the dust and fibres will impare the mechanism.

POWER TYPES (DC) and OPERATION:

If you wish to run the model on standard DC - then do nothing. Our PCB will automatically recognise you have a DC controller and will allow operation at normal DC requirements. * **PLEASE NOTE:** When using standard 12v DC power, it is important that you use an appropriate 'N' gauge controller as '00' controllers (both new and old) may not allow the measure of control required for our super-fine 'N' motors.

POWER TYPES (DCC) and OPERATION:

Our model is fully DCC Ready. The unit is fitted with a DCC board which features a 6-pin NEM socket pre-fitted with a DC "Blanking Plug". To expose the PCB, simply remove the roof using finger pressure and noting which way the roof should re-fit.

Carefully pull out the "Blanking Pug" and fit the decoder of your choice.

LIGHT BARS:

This model is "Light Bar Ready". The Dapol Light Bars operate on both DC and DCC power without any external modification. Instructions for fitting Dapol Light Bars are contained within the packaging of the Light Bar packs.

WARRANTY: Dapol Ltd will remedy any defect or malfunction occurring with the locomotive during a period of six months from the date of purchase. This guarantee does not extend to defects or malfunctions caused by damage or unreasonable use, including failure to provide correct lubrication. If for any reason the model develops any fault within the warranty period, please return to the **Place of Purchase** with your **Proof of Purchase** (till receipt / credit card slip etc). Do **NOT** return it to Dapol Ltd. The seller will then return it to Dapol Ltd under their agreed returns policy.

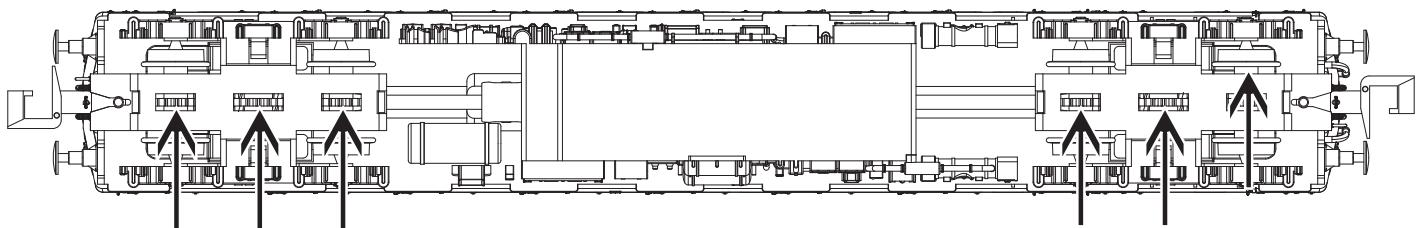
Without a suitable proof of purchase Dapol Ltd cannot guarantee to offer any warranty service.

The Dapol warranty is given in addition to all legal rights of the purchaser under the 'Sale of Goods Act' and shall expire six months from the date of purchase. Dapol Ltd shall not be responsible for any consequential loss or damages arising in regard to any Dapol Ltd product.

EUROPEAN REGULATIONS: Dapol products conform to WEEE and RoHS requirements.
If you have a need to dispose of any electrical part, please do so correctly.



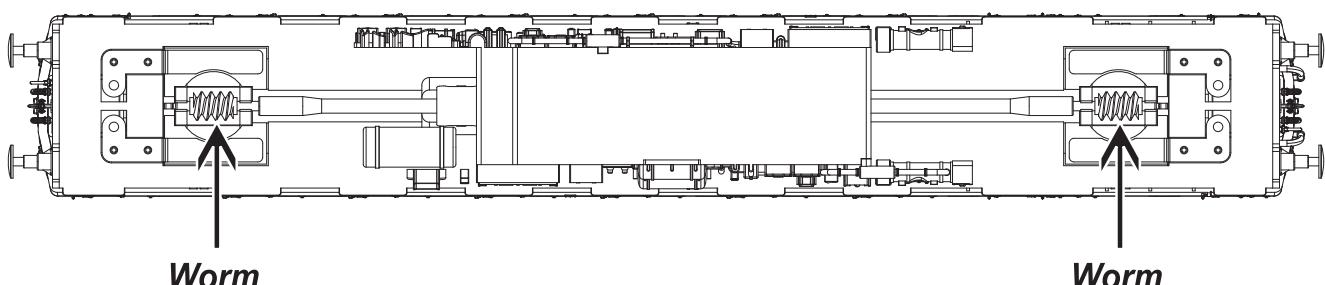
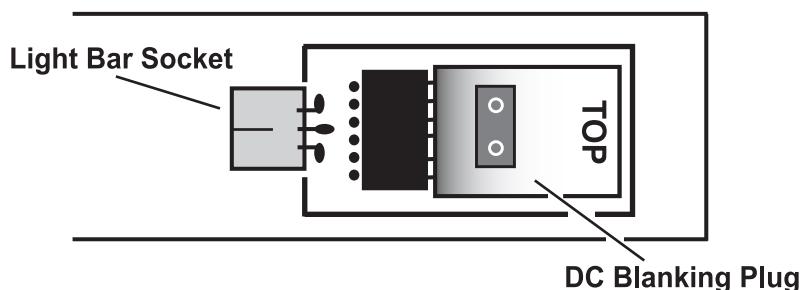
Oiling points for gears before test running, and removal of roof for DCC installation



Normal oiling points into exposed gears without removing body

To remove roof, simply pull the roof away from the body using finger pressure.

Please refer to the sketch and note the position of the Light Bar Socket.



To expose drive worms and chassis for routine maintenance, simply pull the complete bogie assembly away from the chassis. The bogies are a 'pull-out' & 'push-in' fitting method. When refitting, ensure that the gear on top of the bogie tower meshes with the worm.



Class 121/122

IMPORTANT INSTRUCTIONS

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UNPACKING & HANDLING YOUR LOCOMOTIVE:

Your model contains delicate precision parts. Please handle accordingly.

Removing your model from its case: Remove the model from the plastic case along with its foam packing. The model can then be removed from the foam above a soft surface to prevent damage if dropped.

- Take care to ensure that detail parts do not catch on the foam as the model is removed.
- Do not use the Buffers or other parts as handles or levers when removing the model from its packaging.

YOUR MODEL NEEDS LIGHT LUBRICATION AFTER EVERY 50 HOURS RUNNING:

An extremely light application of plastic safe * oil, such as Dapol or Locolube before running in your model is required, followed by maintenance oiling after every 50 hours of running time. (Storage in hot environments may require more frequent applications). Please be aware that over-oiling the wheel bearings will interfere with the electrical pickup of your model. Therefore, we recommend you use a very fine artist's paintbrush to apply only the tiniest amount of lubricating oil precisely between the bearing surfaces, as follows:

- Place a droplet of plastic safe oil onto a hard, non-absorbent, surface;
- Use a very fine pointed paintbrush to transfer a very small amount of oil, precisely, onto the bearings at the points indicated in the diagram overleaf. (The oil should not be painted on but, rather, capillary action should be used to draw the tiniest amount of oil out of the tip of the brush into the bearing.)
- Dry the paintbrush by blotting with absorbent paper, such as kitchen towel;
- Re-apply the dry paintbrush onto the oiled bearing, to 'wick away' any excess oil. Repeat steps 3 and 4 until the only remaining oil is an extremely fine (almost invisible) coating at the precise point where the two components rub together.

Please keep oils and lubricants away from the Motor and electronic circuitry located inside the body. The motor is of advanced self-lubrication design, 'sealed-for-life', and lubricants may damage the delicate circuitry. Also, be aware that N gauge track should never be laid directly onto carpet, as dust and fibres will become entangled in your locomotive's finely detailed mechanisms.

*Your model supplier can advise on the best 'plastic safe' oils and lubricants available in your country.

RUNNING IN' YOUR LOCOMOTIVE:

You will obtain quieter and smoother performance from your Dapol locomotive if you invest a little time 'running in' the motor and the motion parts. We recommend that you begin the 'running in' period by operating the locomotive on its own, at a moderate speed, for a period of at least half an hour in each direction. (The complete 'settling in' process often continues beyond the initial 'running in' period, and you will notice that the locomotive gradually runs quieter and smoother over several weeks of normal coach/wagon hauling operation.)

WARRANTY:

Please refer to separately provided warranty paperwork for details.

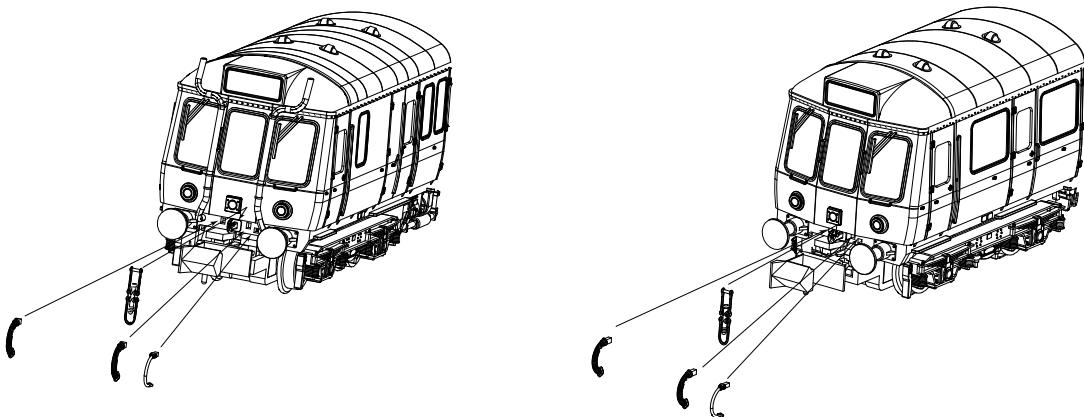
ACCESSORY PARTS:

Additional detail parts are supplied in plastic bags within the outer case & fitted as follows:

- Couplings can be removed or supplied alternatives fitted by simply pulling the existing Rapido type away from the locomotive. Alternatives simply push fit.

Please note that the following parts may interfere if a coupling is fitted.

- **Pipes:** Are fitted in the order shown and push into matching openings in the buffer beam. If desired a small spot of adhesive can be used to secure.
- **Dummy Screw Coupling:** This is clipped into the hook already placed on the buffer beam.



DC OPERATION:

If you wish to run the model on standard DC – then do nothing. Our PCB will automatically recognise that you have DC controller and will allow operation at normal DC parameters. **Important Note:** This model should only be used with a DC controller designed for model railways rated at 12V DC nominal voltage. When (optionally) fitted with an appropriate DCC decoder it may also be used with a compatible DCC control system. You can turn the rear light off by pulling the DIP switch to the 'OFF' position.

DCC OPERATION:

Our model is fully DCC ready. The model is fitted with a DCC board which features a Next 18 plug pre-fitted with a 'blanking plug'. Carefully remove the blanking plug and insert the decoder of your choice. Before converting to DCC please ensure that your decoder will fit the model, as some decoders are large and could have a thick protective outer shroud. To expose the PCB, simply pull the body away from the chassis using finger pressure. Fit your decoder and programme as normal. Reclip the body.

We have designed this model to have independent control of front and rear lamps. For best operation, we recommend a 4 function (or greater) decoder is fitted (for example a 6 function Dapol Imperium Next-18) to your model. If you have purchased the Dapol factory fitted decoder it has been fitted with a pre-programmed Imperium decoder (Please refer to separate DCC operation instructions supplied). If fitting a decoder (including a non-factory fitted Imperium) you will need to consult the decoder manual to correctly configure the decoder for operation of the locomotive lighting.

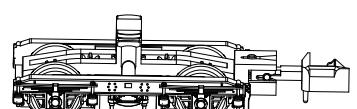
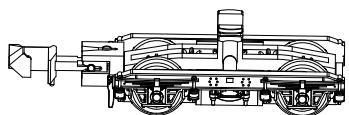
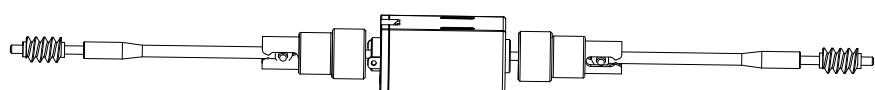
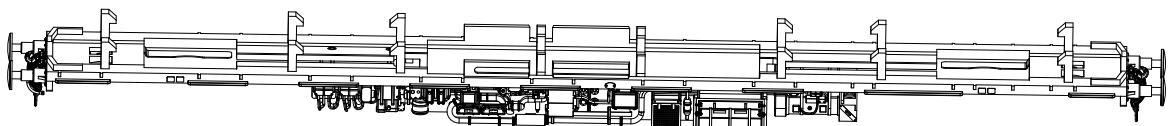
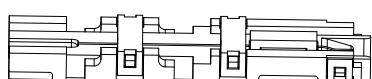
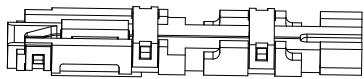
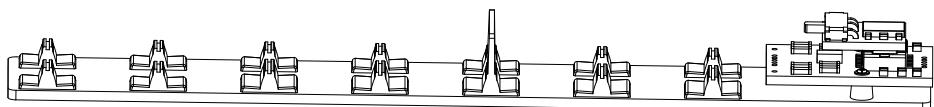
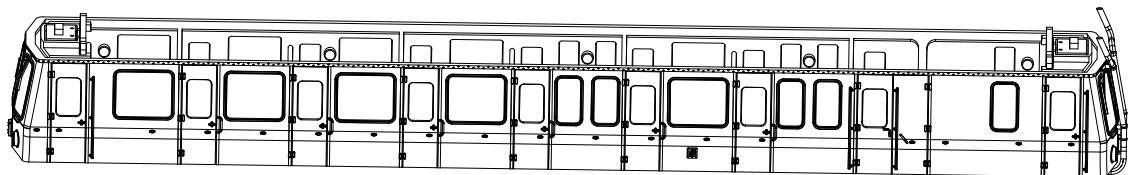
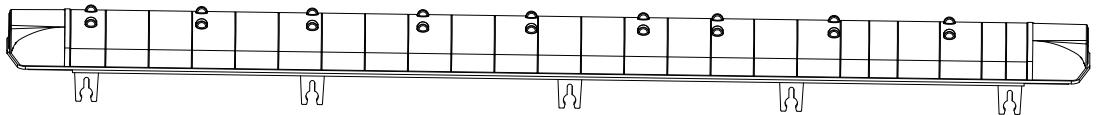
For reference, the model's lighting assignments are below:

Decoder output	Front light (FLf)	Rear Light (FLr)	AUX 1	AUX 2	AUX 3	AUX 4
Lighting	Front white lamps	Front red lamps	Rear white lamps	Rear red lamps	No connection	Light bar (optional)

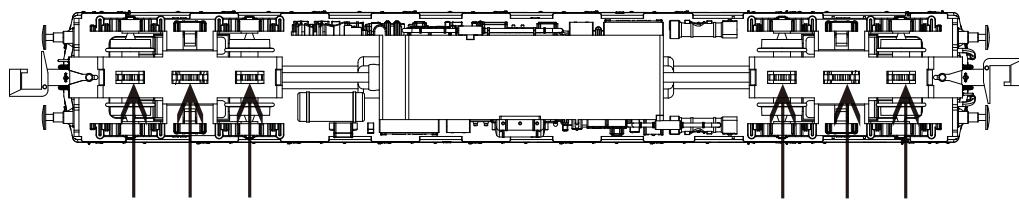
Decoder CV programming information:

To enable two button control of lighting (F0 = #1 end, F1 = #2 end), the NMRA standard CV programming is: CV33 = 5, CV34 = 6, CV35 = 10, CV36 = 9, CV51 = 24, CV52 = 0. This is the default setting for factory fitted decoders and will require to be re-programmed in this way if a full decoder factory reset is performed.

Class 121

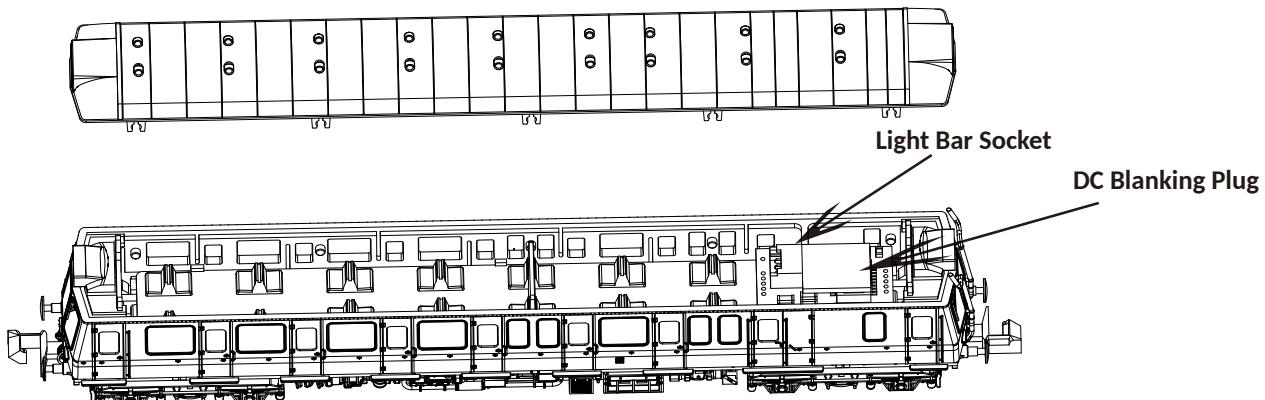


Oiling points for gears before test running, and removal of body for DCC installation



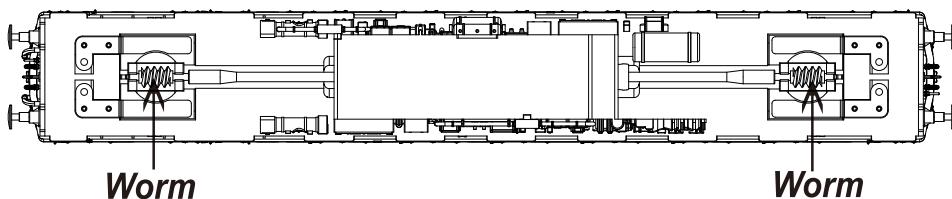
Normal oiling points into exposed gears without removing body

To remove roof, simply pull roof away from body to leave exposed body as image.



LIGHT BARS:

This model is "Light Bar Ready". The Dapol Light Bars operate on both DC and DCC power without any external modification. Instructions for fitting Dapol Light Bars are contained within the packaging of the Light Bar packs.



To expose drive worms and chassis for routine maintenance, simply pull the complete bogie assembly away from the chassis. The bogies are a 'pull out' & 'push in' fitting method. When refitting, ensure that the gear on top of the bogie tower meshes with the worm.

EUROPEAN REGULATIONS:

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If you have a need to dispose of any electrical part, please do so correctly.



Made in China

N Gauge Class 121 and 122

Lighting functions and DCC installation (Revised lighting control boards, 2018 onwards)

Your new model features improved DCC lighting function allowing separate control of front lamps, rear lamps and light bar (if fitted). DC lighting function is unaffected by this change.

This information sheet describes the operation for DC & DCC operation.

No 1. End is the non-luggage end (i.e. without exhausts).

DC operation:

The model operates in a traditional way: Front and rear lights which operate directionally. i.e. White and red lamps change colour when the loco reverses direction. The interior lights are ON. Please note that the brightness of the lights will vary depending on the speed setting of your controller. Lights will not operate when the model is stationary.

DCC Operation:

If you are installing your own decoder please note the information in the 'Installing your own decoder' section below.

Factory fitted DCC:

The loco address is 3. Lighting is arranged so that either 'Light engine' or Push/pull mode can be chosen. Factory fitted DCC versions are pre-programmed to operate the lighting prototypically.

If you perform a factory reset, please reset the CVs listed in the 'Decoder setup' section below.

DCC Functions (Factory fitted DCC):

F0 – Light engine mode, Front and rear lights illuminate appropriately in the direction of travel

F1 – Hauling mode (No. 2 end facing train) No. 1 end lamps only illuminate (White forwards, red reverse) No. 2 end lamps are off.

F3 – Hauling mode (No. 1 end facing train) No. 2 end lamps only illuminate (White forwards, red reverse) No. 1 end lamps are off.

F4 – Passenger lighting control (If light bars are fitted).

Installing your own decoder:

Firstly, remove the DC blanking plate (the small PCB with switches fitted) and install the DCC decoder of your choice. For full operation, we recommend a 6-function decoder (i.e. Dapol Imperium 21 pin, imperium.dccsupplies.com part number 113187) Please refer to the table below for function operation with other types of decoder.

Decoder Setup:

No changes are required for the factory fitted version, but if you perform a decoder reset or install your own decoder, then you will need to configure the CVs (please refer to your controller handbook to regain correct operation. If you are installing an NMRA compatible 6 function decoder of your choice, then these CVs can be used as a guide for programming, please check with your decoder manual that the CVs are relevant for your decoder. Lighting allocation to decoder output is also shown below for assistance in self-installing your decoder.

N Gauge Class 121 and 122

Lighting functions and DCC installation (Revised lighting control boards, 2018 onwards)

Decoder Factory reset: CV8 = 4 N.B. *This will remove the factory setup from your decoder and it will need to be reprogrammed as described in 'CV Settings' below.*

Functions available by decoder type:

- 2 function decoders: No. 1 end lamps Headcode box, White and Red operation only
- 4 function decoders: No. 1 and No. 2 end lamps Red/White operation.
- 6 Function decoders: As 4 function decoders plus interior lighting operation.

Decoder output functions:

- FOF – No.1 end white lamps
- FOR – No. 2 end red lamps
- Aux 1 – No. 2 end white lamps
- Aux 2 – No. 2 end red lamps
- Aux 4 – interior light control

CV settings (Dapol Imperium 21 pin 6 function decoder. NMRA standard):

CV33 = 5 CV34 = 6 CV35 = 10 CV36 = 9 CV51 = 24 CV52 = 0

If your controller only allows F2 to operate momentarily:

The default settings of your DCC fitted class 52 model operate best with F2 set as 'Latching'. Your control system manual will describe how to change from 'momentary' to 'latching' mode.

If you prefer to change the operation of the decoder to assign lighting functions to different keys on your control system please follow the instructions below.

Change the two CVs for the lamps you wish to alter to the values shown under the function key you require to control those lamps. Please note that if moving functions within the range of F1-F3 additional changes are required. Select along the top, the desired function key and the function to change down the left side. Program the value reached in to the CV indicated. The decoder fitted to this model is a Dapol Imperium. Full programming information can be found on our website:

www.dapol.com.

To be controlled by Fx (F1-6)							
Lamps	CV	F1	F2	F3	F4	F5	F6
#1 end lit	33	5	9	17	33	65	129
	34	6	10	18	34	66	130
#2 end lit	35	6	10	18	34	66	130
	36	5	9	17	33	65	129