

# **Dapol D63xx (Class 22) Diesel Locomotive**

## **Background**

Unfortunately none of the 58 built D63xx (class 22) locomotives that were built from 1959 to 1962 survived into preservation with the last one being withdrawn in 1971. Not being totally successful, they spent all their life around the south and south west of England, where they were gainfully employed on passenger, freight and branch line duties throughout their career.

They could, at times, be seen piloting a failed steam locomotive, but such was their reliability they could easily be seen piloted by a steam locomotive as it had, instead, failed.

Built as 2 batches (the initial batch were 1000hp and numbered D6300-D6305, whereas the second batch were of 1100hp and numbered D6306-D6357), they saw various modifications over their life time, resulting in changes to roof grilles and boiler ports, nose ends and body sides. So much so that Dapol's first release of this class of locomotive is one of the larger groups of identical engines.



## **Class 22 Instructions**

### **Locomotive Specifications:**

- Twin Brass flywheels**
- 5 pole skew wound motor**
- See through spoked driving wheels**
- NEM coupler pockets**
- Custom fitted removable valances**
- Directional lighting**
- 21 pin decoder socket**
- Provision for large sound speaker**
- Internal cab lighting**
- Accessory bag**
- Etched roof fan grille**
- Sprung buffers**
- Self adhesive headcode markings**
- Factory fitted etched depot plaque (where applicable)**
- Separately fitted wire handrails, windscreen wipers and lamp brackets**

This scale model of a North British class 22 locomotive has been 3 years in the designing and manufacture and we hope it will bring you many years of pleasure.

# Maintenance

Please remember that your locomotive will need occasional servicing, such as lubrication or wheel cleaning, and a healthy track cleaning regimen will also pay dividends.

Please pay particular attention to the backs of the wheels and ensure any dust or fluff there is removed as it will build up and eventually impede running performance.

## Lubrication

If you feel that your locomotive needs lubrication, please note the following diagram of oiling points on the loco, that upon removing the body (unplugging the body electrically) from the chassis you can easily access.

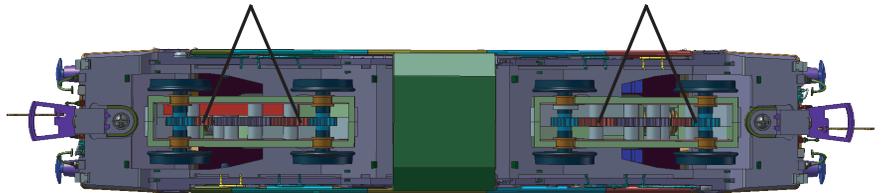
For lubrication we recommend Dapoil, although a propriety oil such as Mager etc will be fine. Please oil sparingly, and resist the temptation to oil more than is necessary.

If your locomotive does not perform as well as expected after oiling, then please do not try to dismantle the mechanism of the locomotive as damage may occur, instead return your locomotive (if under warranty) to the original place of purchase with a copy of your receipt.

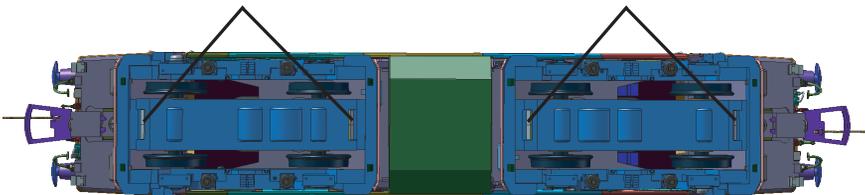
Although your model comes pre-lubricated, it may be necessary from time to time to oil various points to keep the mechanism quiet and smooth running. These main points are the bogie gears and the bogie worm bearing.

The bogie gears are accessed by unclipping the bogie frame from the bogie and removing. This will expose the gears for lubrication. Do not remove the wheel sets or gears as damage may result. Simply oil the gears and replace the bogie frame.

### BOGIE GEAR LUBRICATION POINTS

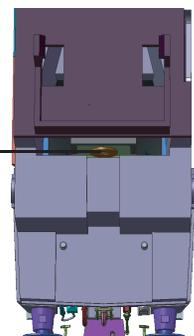


### UNCLIP BOGIES AT THIS POINT



To oil the motor worm bearing just remove the body (unplug this from the chassis) and add 1 or 2 small drops of oil to the circular metal piece at the end of the bogie.

### WORM BEARING LUBRICATION POINT



# DCC

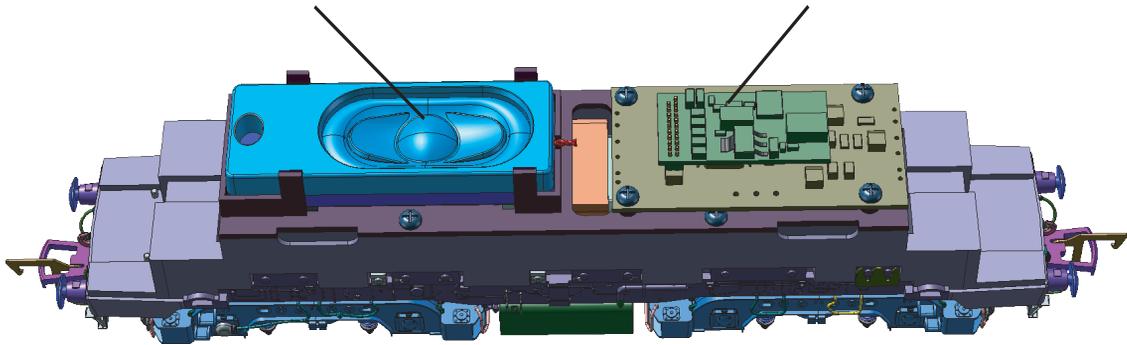
Please note that if you intend to run this locomotive on DCC control equipment we recommend (as we do for DCC operation) that the engine is run for approximately 30 minutes in each direction on DC operated track and not on DCC power using the 'OO' setting some controllers have as this setting will damage the motor and electronics invalidating the warranty.

Any 21 pin decoder should fit, but please check with your stockist to confirm this. An 8 pin decoder will also fit providing you purchase a 21-8 pin wiring loom.

If you wish to fit sound to your model then this has been specifically designed to use the 4 ohm sound decoder (such as the locsound4) and speaker with fixed/sealed enclosure that is available from DCC supplies [www.dccsupplies.com](http://www.dccsupplies.com) (product code 995200038). Please remember to use a sound decoder with matching impedance to the speaker or damage to the decoder might ensue.

**OPTIONAL DCC SOUND DECODER  
SHOWN FITTED FOR CLARITY**

**PCB BOARD 21 PIN  
BLANKING PLUG**



To fit a DCC decoder (please remember that your model will work normally on DC straight from the box upon purchase), please refer to the simple picture graphic within the pages of these instructions showing the DC (normal operation) blanking plug that needs to be exchanged for the DCC 21 pin decoder of your choice. The location of the simple clip in speaker is also shown for clarity.

To gain access to the inside of the locomotive for DCC installation please remove the body by unclipping it from the chassis. This is accomplished by firstly removing the side clip in valances. (Don't worry about mixing these up as they are numbered and can be re-fitted later in the correct order).

Once these are removed the body can be carefully removed by inserting a small flat object just as a flat headed screwdriver between the chassis and the body. This will loosen the body enough to gently pull the body up and off the chassis. Care must be taken not to damage the body paint work through rough handling during this process.

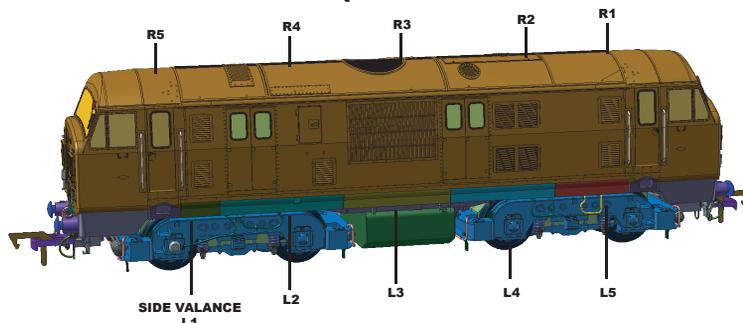
**WARNING!** Be careful as the body is wired to the chassis with only a little slack to allow access to the decoder board and speaker area. If on the rare off chance you need to remove the body completely you can do so by unplugging the 2 sockets. Please remember that the correct way round for the body upon re-fitting is with the 2 small round exhaust grilles on the roof above the speaker chassis area.

Once fitted please refit the body after plugging in the light sockets and programme the decoder as normal.

# Accessories and valances

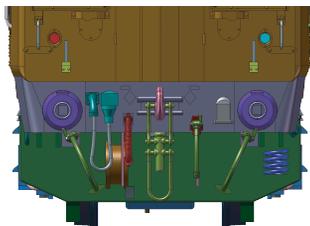
The locomotive comes with customer fitted valances for the lower body side. They are numbered L1-5 and R1-R5 for fitting in order on each side. (Please note which way round the locomotive is facing for accurate fitting of these).

## SIDE VALANCE FITTING (NOTE DIRECTION OF LOCO)



Upon removal of the body these may fall out, but please do not worry as that is a design feature not a fault, and they will simply clip back in between the body and chassis. It is suggested that if you wish not to use all the valances or have some missing, which is very prototypical, that you keep them stored within the locomotive box. Dapol will stock spare valances, but this may be some time after the initial models' release.

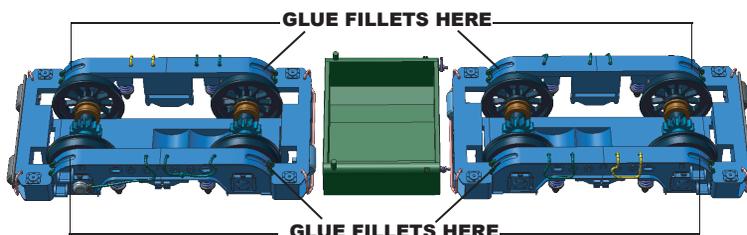
As you can see from the picture below the fitting of the front air pipes from the accessory bag is straightforward (wheels removed from picture for clarity). If required, you can easily remove the standard coupling by unplugging it from its NEM coupling mount, and either changing it for another coupler type or fit the air pipes etc to the front beam buffer.



Another set of parts that proved impossible to mould in situ on the bogie but have been included in the accessory bag for your choice to fit, are the bogie lift ring 'fillets'. These are small plastic triangular pieces (12 parts (including 4 spare)) on a sprue that can be glued into the grooves moulded into the top surface ends of each bogie (4 per bogie).

The following picture shows the location of these 'fillets' for clarity of fitting.

## BOGIE LIFT RING 'FILLET' ATTACHMENT POINTS



Your locomotive comes with a standard Dapol 6 months warranty (this does not affect your statutory rights) and as such any defect found within this period will result in a repair or replacement.

In the unlikely event of this happening please return your model to the place of purchase complete with receipt for them to forward to Dapol. **Please do not** forward to Dapol directly as this may affect your statutory rights.

## Class 22 – DCC Guide Lighting function and DCC installation

Your new Class 22 model features improved lighting function allowing separate control of front and rear lamps and cab lights.

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

### **DC operation:**

The factory setting is for traditional front and rear lights which operate directionally. i.e. White and red lamps change colour when the loco reverses direction. The cab lights operate directionally and are on at the same end as the front white lamps. Using the two switches located on the PCB the cab light at either end can be switched off. The PCB is marked F.CAB and R.CAB with On/Off positions.

### **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.

F2 – Hauling mode (No. 1 end facing train) No. 2 end lamps only illuminate (White forwards, red reverse) No. 1 end lamps are off.

F3 – No. 1 end cab light control. ON/OFF for the cab light, this is not directional. N.B. some controllers may only allow operation of F2 as a momentary switch, in this case the decoder will need to be re-mapped to move the cab control to a different function.

F4 – No. 2 end cab light control. ON/OFF for the cab light, not directional.

### **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](http://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.

## Class 22 – DCC Guide Lighting function and DCC installation

**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 White/red only
- 4 function decoders: No. 1 and No. 2 end lamps Red/White.
- 6 Function decoders: As 4 function decoders plus No. 1 & No. 2 cab lights.

### 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 3 – No 1 end Cab light
- Aux 4 – No 2 end Cab light

### 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 22 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 a Dapol Imperium. Full programming information can be found on our website:

[www.dapol.com](http://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