

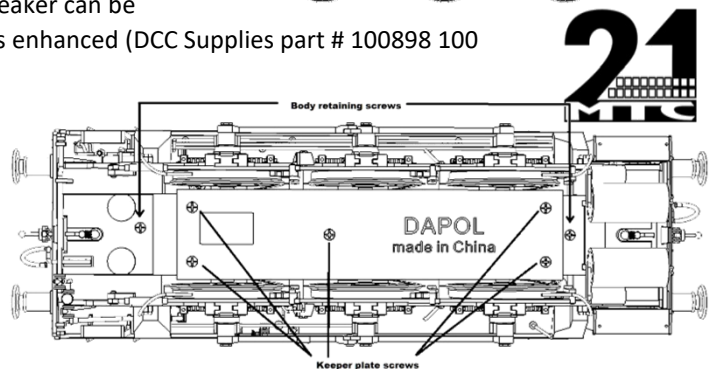
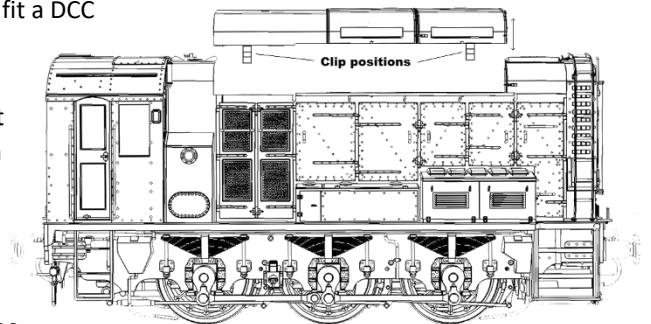
- 1. First use:** We'd like to thank you for purchasing this Dapol product. This owners guide is applicable to all 4 lamp versions of this locomotive. No special running in or lubrication is required, as our 'new generation' locomotives have been designed with care to offer many years of service with minimal maintenance. However we suggest that before you operate your model for an extended time, you first operate it in both directions at a low speed whilst checking for correct operation. This operation can be performed in either DC or DCC (after fitting a decoder – see paragraph 4) Also, please check that you have the following additional items in within the packing.
 - a. Dapol 'No Quibble' warranty sheet

- 2. Fitting detail parts:** All detail parts have been factory fitted to your locomotive.

- 3. Lighting operation:** Directional lighting is fitted to your model which can be overridden using switches under DCC or controlled via your DCC decoder (if fitted). An authentic shunt mode is included (showing both red and white lamps at each end)

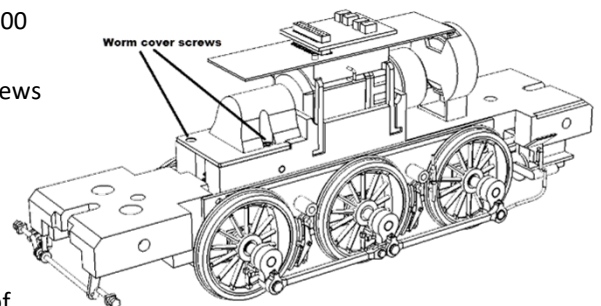
- 4. Decoder installation:** There is no need to remove the body to fit a DCC as the hood of the model unclips to access the decoder socket.

- a. Squeeze the top cover gently and pull upwards to remove.
- b. Remove DC blanking plate from the circuit board; we suggest easing it evenly on alternate sides, pulling is likely to result in bent pins!
- c. Insert decoder aligning the decoder keying pin with the 'missing' pin of the locos plug.
- d. Fitting for a 31mm circular speaker is included in the removable hood section. Alternatively, a larger speaker can be clipped into position within the loco such as a Bass enhanced (DCC Supplies part # 100898 100 ohm/100790 8 ohm/103541 4 ohm selected to suit your sound decoder) This is fitted within the model and wires soldered to the PCB where indicated. (SPKR+ and SPKR-)



- 5. Maintenance:** The model is designed using components and materials which require little maintenance, however we suggest that after every 100 hours running, a lubrication service is performed using a light *synthetic* lubricating oil such as Dapoil or Locolube™ Mineral oil types or thicker oils may damage your locomotive and/or invalidate your warranty. When applying lubrication only 1 or 2 drops are required on the connecting rods, gear-train and axle bearings, take care not to over oil. sufficient oil will be carried from the gear train to lubricate the worm gear so body removal is not normally required for maintenance. All screws are all Phillips headed, we recommend a size 00 Philips driver to fully engage the screw heads.

- a. **Keeper plate** (access to axles and final drive gearing) Remove 5 screws indicated above.
- b. **Body removal** (Access to worm gear):
 - i. Remove 2 body indicated above.
 - ii. The body will lift clear of the chassis. *Please take care to avoid damage to the wiring, which can be unplugged as required.*
 - iii. Remove the worm gear cover located under the PCB at the end of the motor (2 screws indicated right)



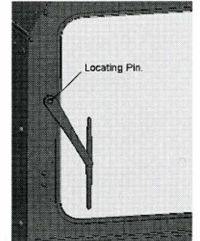
- 6. Spare parts and servicing:** A range of spare parts, repairs and servicing for your model is available from DCC Supplies (01905 621999 www.dccsupplies.com).

Dapol O gauge class 08 locomotive

4 lamp version

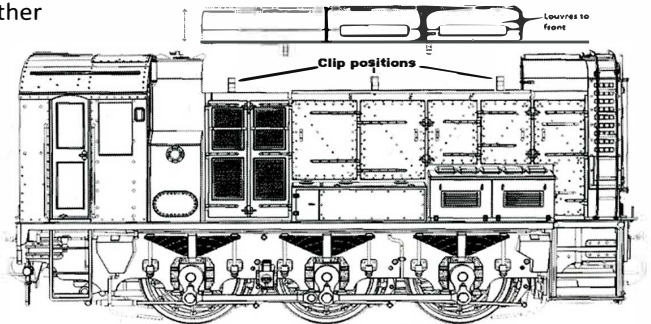
Owners guide

- 1. First use:** We'd like to thank you for purchasing this Dapol product. This owners guide is applicable to all 4 lamp versions of this locomotive. No special running in or lubrication is required, as our 'new generation' locomotives have been designed with care to offer many years of service with minimal maintenance. However we suggest that before you operate your model for an extended time, you first operate it in both directions at a low speed whilst checking for correct operation. This operation can be performed in either DC or DCC (after fitting a decoder – see paragraph 4) Also, please check that you have the following additional items in within the packing.
 - a. Dapol 'No Quibble' warranty sheet
 - b. Pair of etched rear cab wipers.



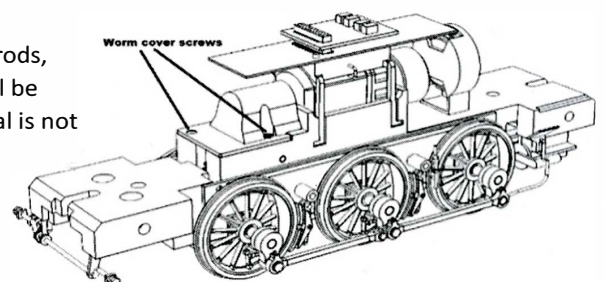
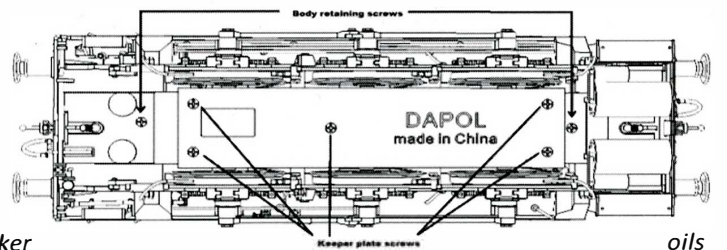
- 2. Fitting detail parts:** Buffer beam detail parts are pre-fitted to your model. A pair of etched rear cab wipers are included in an accessory pack for fitting to your model if required. A small locating peg is moulded to the window frame on each rear window with a corresponding hole is provided in the wiper arm. Wipers were not self-parking and so can be attached in any desired position.
- 3. Lighting operation:** Directional lighting is fitted to your model which can be overridden using switches under DCC or controlled via your DCC decoder (if fitted). An authentic shunt mode is included (showing both red and white lamps at each end). This can be used under either DC or DCC control (see reverse of page for further details)

Unlike previous Dapol models, this model requires a 6-function DCC decoder to fully operate all modes of lighting. A 4-function decoder will operate front & rear red/white lamps only. A non-logic level decoder type (i.e. full voltage output on all aux pins) such as a Dapol Imperium-D, must be used in all cases. Fitting a logic output decoder will cause all lights to simultaneously illuminate dimly or create a fault indication.



- 4. Decoder installation:** There is no need to remove the body to fit a DCC as the hood of the model unclips to access the decoder socket.
 - a. Gently squeeze the body of the model whilst pulling upwards on the top cover to remove
 - b. Remove DC blanking plate from the circuit board; we suggest easing it evenly on alternate sides, pulling is likely to result in bent pins!
 - c. Insert decoder aligning the decoder keying pin with the 'missing' pin of the locos plug.
 - d. Fitting for a 31mm circular speaker is included in the removable hood section. Alternatively, a larger speaker can be clipped into position within the loco such as a Bass enhanced (DCC Supplies part # 100898 100 ohm/100790 8 ohm/103541 4 ohm selected to suit your sound decoder) This is fitted within the model and wires soldered to the PCB where indicated. (SPKR+ and SPKR-)

- 5. Maintenance:** The model is designed using components and materials which require little maintenance, however we suggest that after every 100 hours running, a lubrication service is performed using a light synthetic lubricating oil such as Dapoil or Locolube™ Mineral oil types or thicker may damage your locomotive and/or invalidate your warranty. When applying lubrication only 1 or 2 drops are required on the connecting rods, gear-train and axle bearings, take care not to over oil. sufficient oil will be carried from the gear train to lubricate the worm gear so body removal is not normally required for maintenance. All screws are all Phillips headed, we recommend a size 00 Philips driver to fully engage the screw heads.

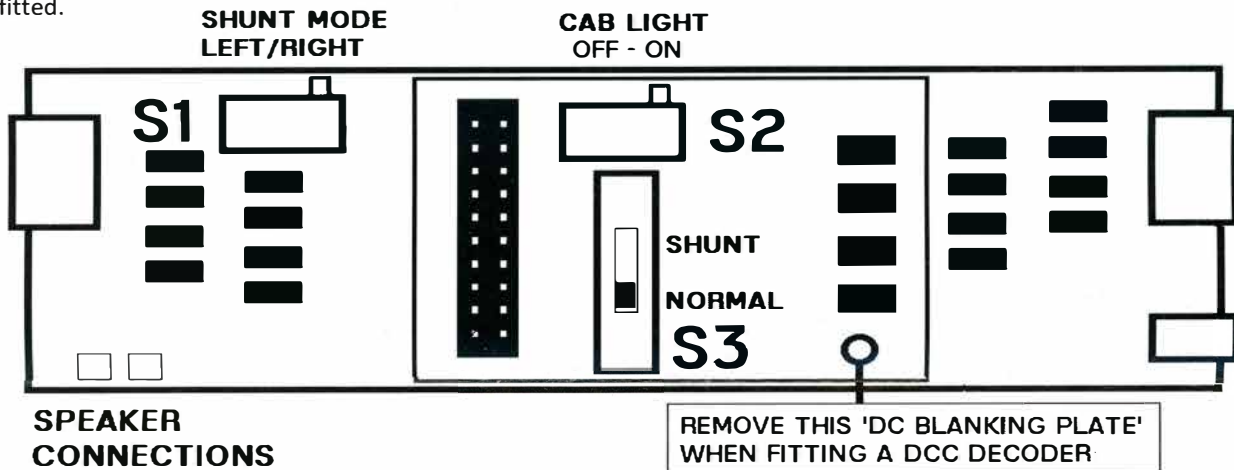


Dapol O gauge class 08 locomotive

4 lamp version

Owners guide

- a. **Keeper plate** (access to axles and final drive gearing) Remove 5 screws indicated above.
 - b. **Body removal** (Access to worm gear):
 - i. Remove 2 body screws as indicated in the drawing on the front side of this sheet.
 - ii. The body will lift clear of the chassis. *Please take care to avoid damage to the wiring, which can be unplugged as required.*
 - iii. Remove the worm gear cover located under the PCB at the end of the motor (2 screws indicated right)
6. **Spare parts and servicing:** A range of spare parts as well as repairs and servicing for your model are available from DCC Supplies (01905 621999 www.dccsupplies.com or dapolspares.dccsupplies.com).
7. **Shunting mode:** In this mode a red lamp and a white lamp are both lit at each end of the locomotive. The red lamps are prototypically lit on the active line side and white on the inactive side, whilst shunting is in progress. S1 selects the side to be lit (red left or right side). This switch operates in both DC & DCC use. The lights remain constant when the locomotive changes direction. S3 Selects either shunt mode or 'Normal (directional) mode in DC operation. This is controlled by DCC when a decoder is fitted.



8. **Cab light:** S2 switches the cab light on or off in DC operation, this is controlled by DCC when a decoder is fitted.
9. **DCC Control of your model:** The model is fitted with a 21 pin decoder, factory 'DCC Fitted' and 'DCC Sound Fitted' models have decoders pre-installed. Shunt mode and cab lighting are controlled by DC as well as 'normal' directional lighting.

Function outputs: Lighting functions are connected to the following decoder outputs:

OUTPUT	LOCO OPERATION	DEFAULT function key for un programmed decoder
FLf	Front White lamps	F0 (Forwards)
FLr	Front Red Lamps	F0 (Reverse)
AUX1	Rear Red lamps	F1
AUX2	Rear White Lamps	F2
AUX3	Cab light	F3
AUX4	Shunt mode	F4 (Left/right illumination is controlled by S1)

N.B. If shunting mode is selected at the same time as front or rear lamps lighting will not operate correctly.

Suggested programming: We suggest your decoder is function mapped as follows (refer to your decoder manual):
 Front lamps = F0 (Directional) Rear lamps = F1 (Directional) F3 = Cab light F4 = Shunt mode
 The cab light and shunt mode can be left as F3 & F4 or moved to your preferred function key. Factory fitted locomotives are pre-programmed to operate in this way. (See separate information sheets included with factory fit models).

Example CV settings for Imperium decoders: CV36 = 4 CV34 = 6 CV51 = 0 CV52 = 16
 All other CVs are default values (if in doubt perform a decoder reset (CV8 = 8) on the programming track.

O Gauge Class 08

DCC sound functions

The detail's in the sound!

Thank you for purchasing the Class 08 locomotive with sound.

The sound project has been meticulously crafted from recordings of class 08 "Charlie", which is resident on the Dean Forest Railway.

The sound project contains some unique features designed to enhance the driving experience and increase the authenticity.

There are a number of sounds that occur when a function button is pressed, and a number of sounds that are played automatically. These are detailed below and overleaf.

We hope you enjoy the added realism and enhanced driving experience that this will bring to your layout operations. To get the best realism and satisfaction out of your sound decoder, you will need to practice a little bit of driving!

Class08 manual functions		Comments
F0	Top white marker lights (directional)	Pressing F0 turns on the top white marker light in the direction of travel. The sound of the switch being thrown is also heard. A second press of F0 will turn off the lights, again accompanied by the sound of the switch being thrown.
F1	Startup/shutdown	Pressing F1 starts up the engine sounds. The startup sequence takes about 30 seconds, but can be shortened simply by opening the throttle. A further press shuts down the engine sounds.
F2	Toot whistle	On pressing F2, a 'toot' whistle will be heard.
F3	Medium whistle	On pressing F3, a medium whistle will be heard.
F4	Short + medium whistle	On pressing F4, a short whistle followed by a medium whistle will be heard.
F5	Cab door slam	On pressing F5, the sound of the cab door being slammed shut will be heard.
F6	Buffer clash	On pressing F6, the sound of buffering up will be heard.
F7	Brake application/release	When F7 is pressed, the sound of the brakes being applied will be heard. When F7 is pressed again (F7 turned off), the sound of the brakes being released will be heard.
F8	Flange squeal	On pressing F8, the sound of the wheel flanges squealing will be heard.
F9	Light engine mode	With F9 ON, less engine revs will be heard and at the same time, the inertia will be reduced to simulate a lightly loaded engine or train. CV390 can be used to determine to what extent the inertia is reduced. As supplied this has a value of 25.
F10	Shunting lights	On pressing F10, the red and white lower lights will be illuminated. This indicates that the locomotive is carrying out shunting duties. A second press of F10 (F10 turned off) will extinguish the lights. Each press of F10 will be accompanied by the sound of the switch being thrown.
F11	Cab light	On pressing F11, the cab light will be illuminated. A second press of F11 (F11 turned off) will extinguish the cab light. Each press of F11 will be accompanied by the sound of the switch being thrown.
F12	Fade out/fade in	Useful when the locomotive is going "off-scene" or into a tunnel, to simulate the effect of going into the distance. Conversely, on entering the scenic section, or when exiting a tunnel, this can be used to fade the sound back in.

continued overleaf

O Gauge Class 08

DCC sound functions

F13	Coupling/uncoupling	On pressing F13, the sound of the coupling being placed on the hook will be heard. On pressing F13 again (F13 turned off), the sound of the coupling being unhooked will be heard.
F14	Spirax valves	On pressing F14, the sound of the Spriax, or 'pop' valves will be heard. The sound will play for as long as the function is 'on'. In reality, these will be heard continuously once brake air pressure has been built up so the function should be left 'on' whilst running.
F15	Fuel hand prime	On pressing F15, the sound of fuel being hand-primed will be heard. In reality this would be used at the preparation stage if the previous crew has not left enough fuel. It would also be used sometimes when stood at signals on those 08s that do not have an electric fuel lift pump.
F16	Handbrake chain	On pressing F16, the sound of the handbrake retaining chain being placed on the handbrake wheel will be heard.
F17	Cab window open/close	On pressing F17, the sound of the cab window being slid open will be heard. On pressing F17 again (F17 turned off), the sound of the cab window being slid closed will be heard.
F18	Cab door closing	On pressing F18, the sound of the cab door being gently closed shut will be heard.
F19	Slow freight train flange squeal	On pressing F19, the sound of the squealing wheel flanges of a slow-moving freight train will be heard.
F20	BIS cabinets open/close	On pressing F20, the sound of the right hand BIS cabinet being opened and closed will be heard. On pressing F19 again (F20 turned off) the sound of the left hand BIS cabinet being opened and closed will be heard. In reality, this is part of the preparation sequence at the start of operations.

Class 08 automatic functions		Comments
	Brake squeal	The brake squeal will be played when the speed of the locomotive drops below the threshold AND the locomotive is decelerating. The threshold can be set via CV287 in order to reduce or increase the amount of brake squeal. As supplied, the value of CV287 is 20.
Other useful CVs		
CV	Purpose	Comment
3	Acceleration rate	As supplied this is set to a value of 40. A higher value gives a slower acceleration. A lower value gives more rapid acceleration.
4	Deceleration rate	As supplied this is set to a value of 50. A higher value gives a slower deceleration. A lower value gives more rapid deceleration.
266	Overall volume	As supplied, this is set to a value of 120. A higher value will increase the volume whilst a lower value will decrease the volume. The recommended maximum is around 130.
390	Inertia reduction for 'light engine' mode	As supplied this is set to a value of 25. A greater value will decrease the effect that the 'light engine' button (F9) has on the 'normal' acceleration and deceleration rates.

DAPOL Class 08

Fine-tuning the sound

With this sound project, It is possible to alter the volume of the various individual sounds if you wish, in order to fine-tune the sound project to your personal preferences.

This is possible because each sound has a 'volume CV' associated with it. By modifying the value in the relevant 'volume CV', the volume can be altered.

Each 'volume CV' can have a value of 0 to 255 inclusive. Note that a value of 0 means the same as a value of 255! Therefore, the minimum volume is when a value of 1 is placed in the 'volume CV'. The maximum volume is when a value of 255 or a value of 0 is placed in the 'volume CV'.

The individual sounds are listed below, with their associated 'volume CV' number. Also shown is the value in each 'volume CV' as delivered.

	Sound functions	Volume CV	As delivered value
F0	Directional top marker lights	571	0
F2	Toot whistle	517	0
F3	Long whistle	520	0
F4	Short + long whistle	523	0
F5	Cab door slam	526	0
F6	Buffer up	529	0
F7	Brake application/release	532	46
F8	Flange squeal	535	128
F10	Shunting lights	541	0
F11	Cab light	544	0
F13	Coupling/uncoupling	550	91
F14	Spirax valves	553	32
F15	Fuel hand prime	556	32
F16	Handbrake chain	559	128
F17	Cab window open/close	562	0
F18	Cab door closing	565	0
F19	Slow freight train flange squeal	568	128
F20	BIS cabinet open/close	674	128

Please see over for automatic sounds

Automatic sounds	Volume CV	As delivered value
Brake squeal	578	0