English Electric Class 40 1Co-Co1 Diesel Locomotive

Thank you for your choice of the Bachmann Branchline Class 40 diesel locomotive.

General
The mechanism of this model requires running in (without a load) for approximately 1 hour, in each direction, at moderate speed to allow the gear train to bed in.

Bachmann Branchline locomotives are not suitable for use on track tighter than second radius (approx. 18 inches).

Body removal
Remove the screws indicated the bogies and at each end of the locomotive

DCC Decoder fitting to non DCC fitted loco
This model has a 21-pin interface for a decoder with an appropriate fitting. Fit the decoder as indicated with the black socket fitting uppermost. It is recommended that the running in as above be carried out using a DC power supply before moving on to fit a DCC decoder
If this is a 'DCC Onboard' or 'DCC Sound' model please also refer the accompanying DCC instruction sheet.

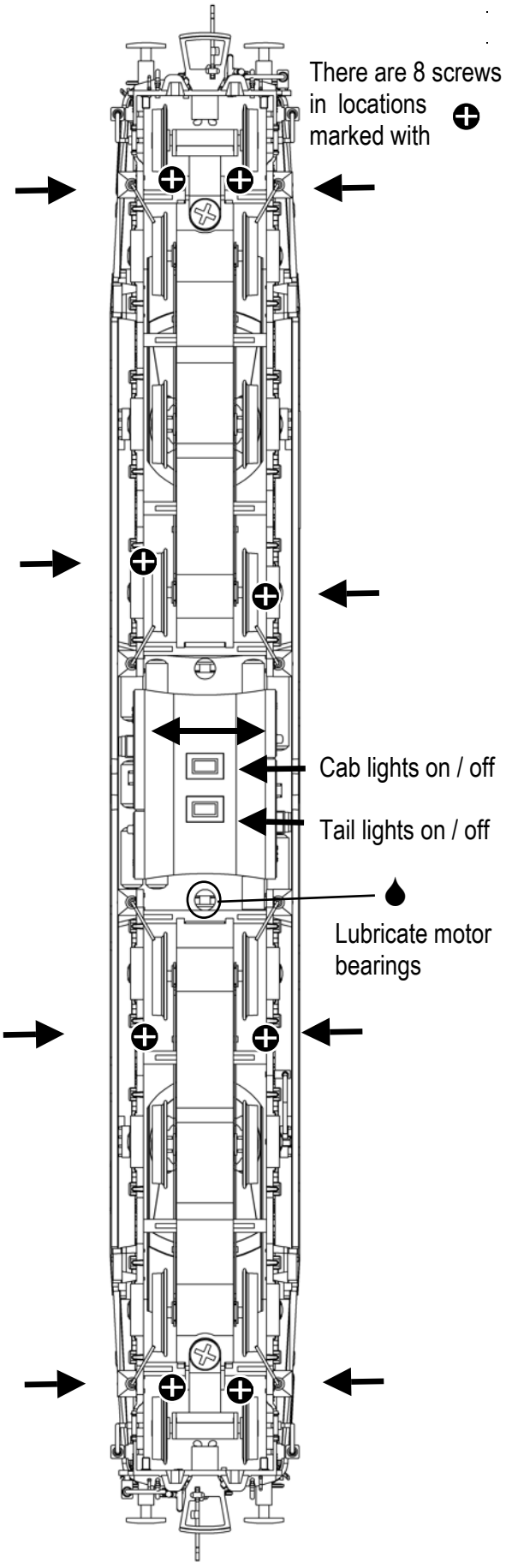
Lights
When the locomotive is fitted with a DCC decoder the lights can be turned on/off with these handset keys:
F0 Directional head and tail lights
F1 Cablights
The tail lights and / or cablights can be separately turned off using the switches beneath the fuel/water tank

Lubrication
When required, sparingly lubricate the motor bearings using plastic compatible light oil and the gear train with model grease as indicated on the diagram.

Bufferbeam parts
The brake pipes fit as shown on the diagram. The pipes are not suitable for use with the functional coupler on tight curves.

The model should be handled carefully as it has many finely detailed parts. It is not suitable for persons under 14 years.

Location of body fixing screws



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Replacement Parts

1	475-006 motor
2	475-008 PCB
3	475-010 motor bracket
4	475-009 driveshaft
5	475-013 underframe
6	475-013 bogie tower top
7	475-032 driving wheels
8	475-022 bogie
9	BL2007 drive cup
10	475-030 bogie frame

A spare blanking board is included with DCC decoder fitted models

When ordering parts please quote the catalogue number together with the livery of the model (if appropriate) and number of the part required.
Parts are subject to availability.
Packets of couplers (item 36-030) suitable for this model are available from retailers

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Barwell
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LE9 8EY
01455 841756
www.bachmann.co.uk

E3247-IS003
04/13 Rev 1
Printed in China

12V ⎓

Headcode discs

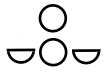
A selection of disc headcode arrangements applicable to the Class 40s with discs

○ open disc ⌓ closed disc


Express passenger


Ordinary / branch passenger


Fully brake fitted parcels / perishables


Express freight

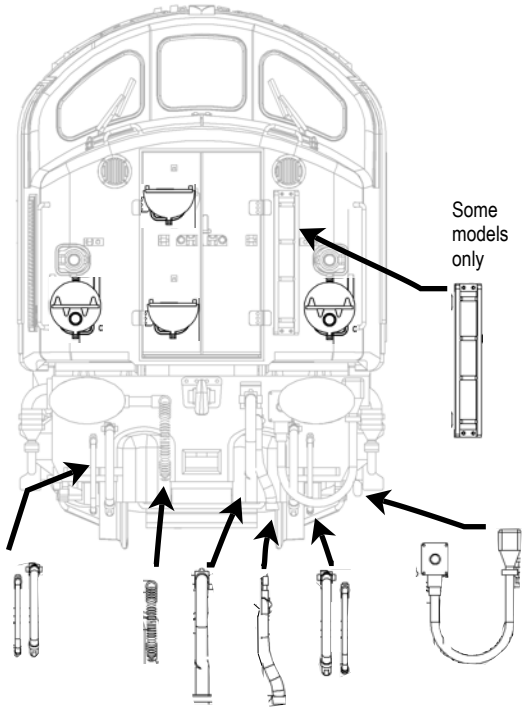

Freight, mineral, or ballast.


Light engine(s)


Freight, mineral or ballast stopping at intermediate stations


Ballast or freight stopping in section Branch freight.

Location for add on parts



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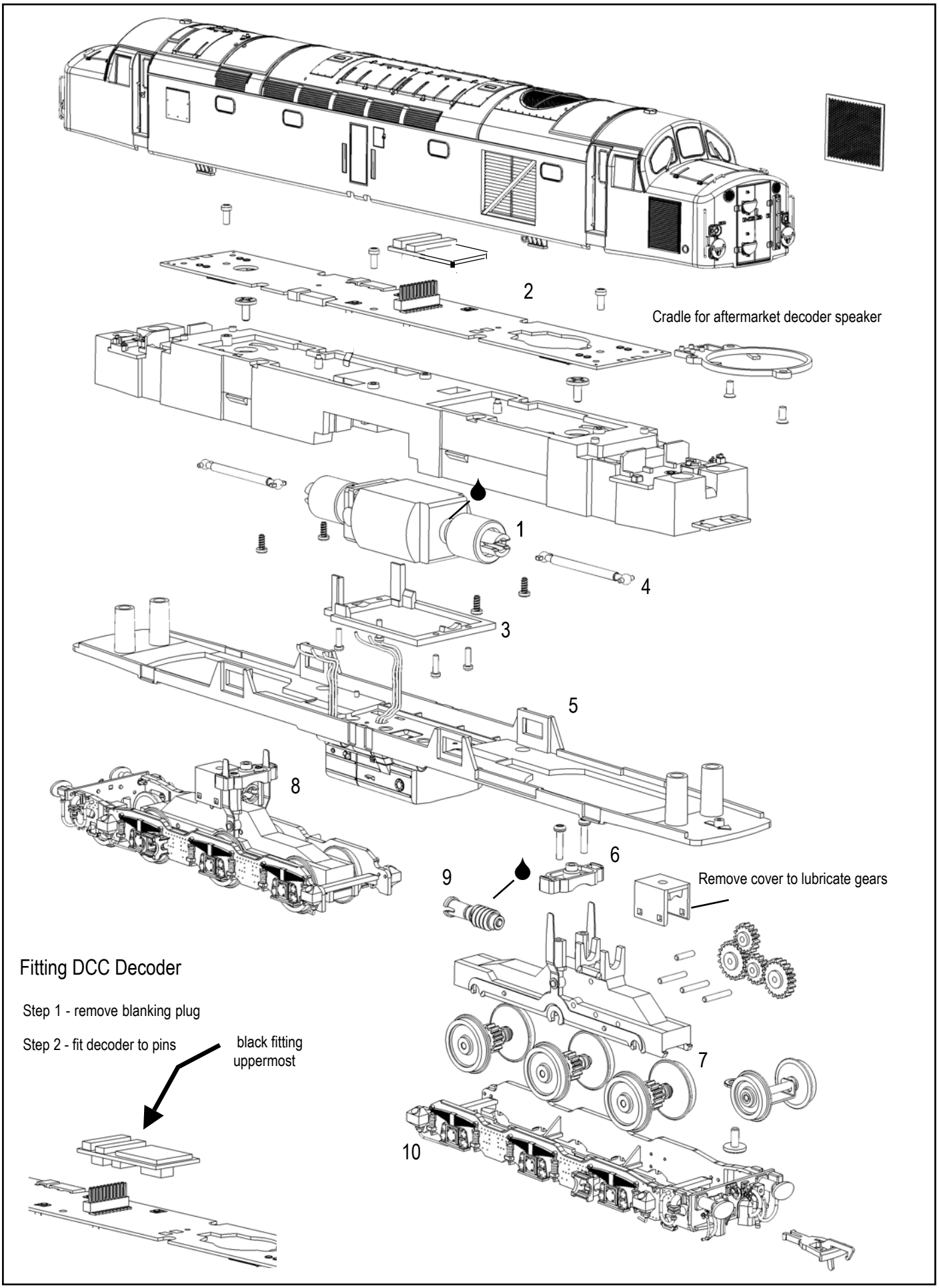

Fitting DCC Decoder

Step 1 - remove blanking plug

Step 2 - fit decoder to pins

black fitting uppermost

EZ COMMAND 3 Function Decoder with 21-pin interface

Features

- ► High frequency 31.25Khz pulse power for quiet operation
- ► User configurable Back EMF control
- ► 3 function outputs to control functions on the locomotive (eg lighting)
- ► Function button controlled reduced shunting speed
- ► Function button selectable inertia
- ► NMRA DCC with 14, 28, 128 speed steps
- ► 2-digit or 4-digit addresses
- ► Overload protection on outputs
- ► Operable on DC controlled layouts
- ► Supports Lenz® brake sections

Functions

F0	Locomotive directional lighting
F1	180mA auxiliary output
F3	Shunting speed reduction selection
F4	Inertia on/off

Motor Output	700mA
Function outputs	180mA each – total 350mA
Speed steps	14,28,128
Addresses	1-9999
Dimensions	25.5 x 15.5 x 4.5 mm

Important default values
Address 03, 28 speed steps
Important:
•The decoder is designed for use in model railways only
•Avoid mechanical force and impact on the decoder
•Do not expose to wet and humid conditions
•Do not remove the heat shrink sleeve around the decoder
•Never solder on the circuit board, extend cables if necessary
•Never wrap the decoder in insulation tape, since this may cause overheating
•Always remove the locomotive from the track when installing the Decoder

Table of CV Values

CV	Description		Range	Default		
1	Primary Address		1-127	3		
2	Start voltage		1-63	3		
3	Acceleration rate		0-63	8		
4	Deceleration rate		0-63	6		
5	Maximum speed of locomotive		0-63	42		
7	Version number		0	0		
8	Manufacturer ID	ESU		151		
17 18	Extended address address using CV29 bit 5)	(Select CV 1 or CV 17/18 as	128 - 9999	192		
					Effect when Bit value 0	Effect when Bit value 1
29	Decoder configuration data			6		
	Bit 0	Direction of operation		0	Normal	Reversed
	Bit 1	Speed steps		1	14	28/128
	Bit 2	Operation on DC		1	Disabled	Enabled
	Bits 3 and 4	Not used				
	Bit 5	Selection of short or long address		0	Short Uses CV 1	Long Uses CV17/18
	Bits 6 and 7	Not used				
49	Back EMF Selector			1		
	Bit 0			1	Disabled	Enabled
	Bits 1 to 7					
51	DC Brake Control			1		
	Bit 0	Lenz DC brake mode		1	Disabled	Enabled
	Bits 1 to 7	Not used				
54	Feedback Parameter K	Determines the load control effect. The higher the value, the stronger the impact on the motor.	0-63	32		
55	Feedback parameter I	Determines the momentum of the motor. Motors with large flywheels of large diameter require a smaller value.	0-63	24		
63	Function brightness	Applies to both F0 and F1	0-7	7		