Class 205 2H Diesel Electric Multiple Unit

Thank you for your choice of the Bachmann Branchline Class 205 2H diesel electric multiple unit.

General

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

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

Bachmann Branchline trains perform best on second radius (approx 18 inches) or greater.

Body removal

The body is secured by clips at 4 points on either side of the body as shown on page 3. Remove the two screws under the cab and remove the wire conduit running from body to chassis from its hole in the chassis.

Ease the sides of the body away from the solebar, if necessary slide strips of thin card or plastic each side as each clip is released to hold the clips open. Take care to avoid damage to the underfloor equipment.

DCC Decoder fitting to DC model

This model has a 21-pin connector for a decoder.

Use either a decoder with matching fitting (for example Bachmann 36-554) or the Bachmann 36-559 8/21-pin adaptor to use a decoder with an 8-pin plug.

It is recommended to run in a DC model first on a DC power supply before installing a decoder.

Carefully remove the blanking board and locate the decoder onto the pins on the PCB following the instructions included with the decoder: the decoder fits so that the contact block is uppermost.

When using a decoder with the appropriate number of function outputs, the onboard lights can be controlled as follows:

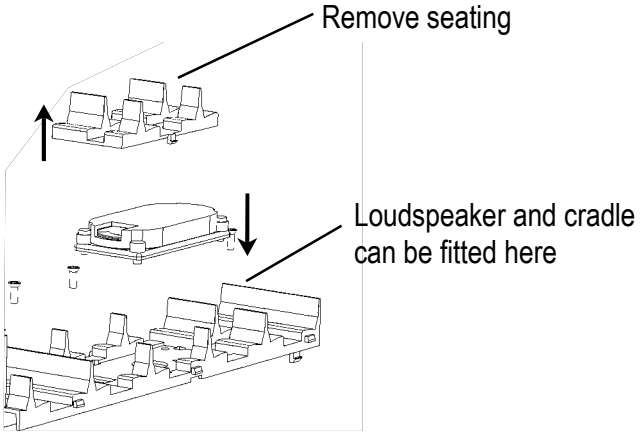
F0 - Number board lights and interior lights on / off

Hints for best results

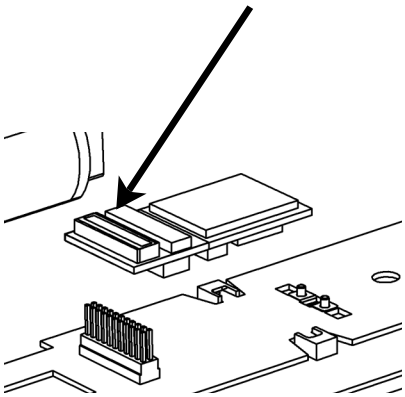
The operation of a DCC model requires that the power to the model is not interrupted. Track, wheels and pickups should be kept clean and all rail joiners must give good connections between sections of track. Improved reliability of DCC performance may be obtained by deselecting DC operation of the model on the decoder. This is usually controlled by CV29, Bit 2

Fitting aftermarket DCC Sound decoder

There is space for an aftermarket loudspeaker by removing the middle of the seating (below)



Remove blanking plug and fit the decoder to the pins with the black fitting uppermost



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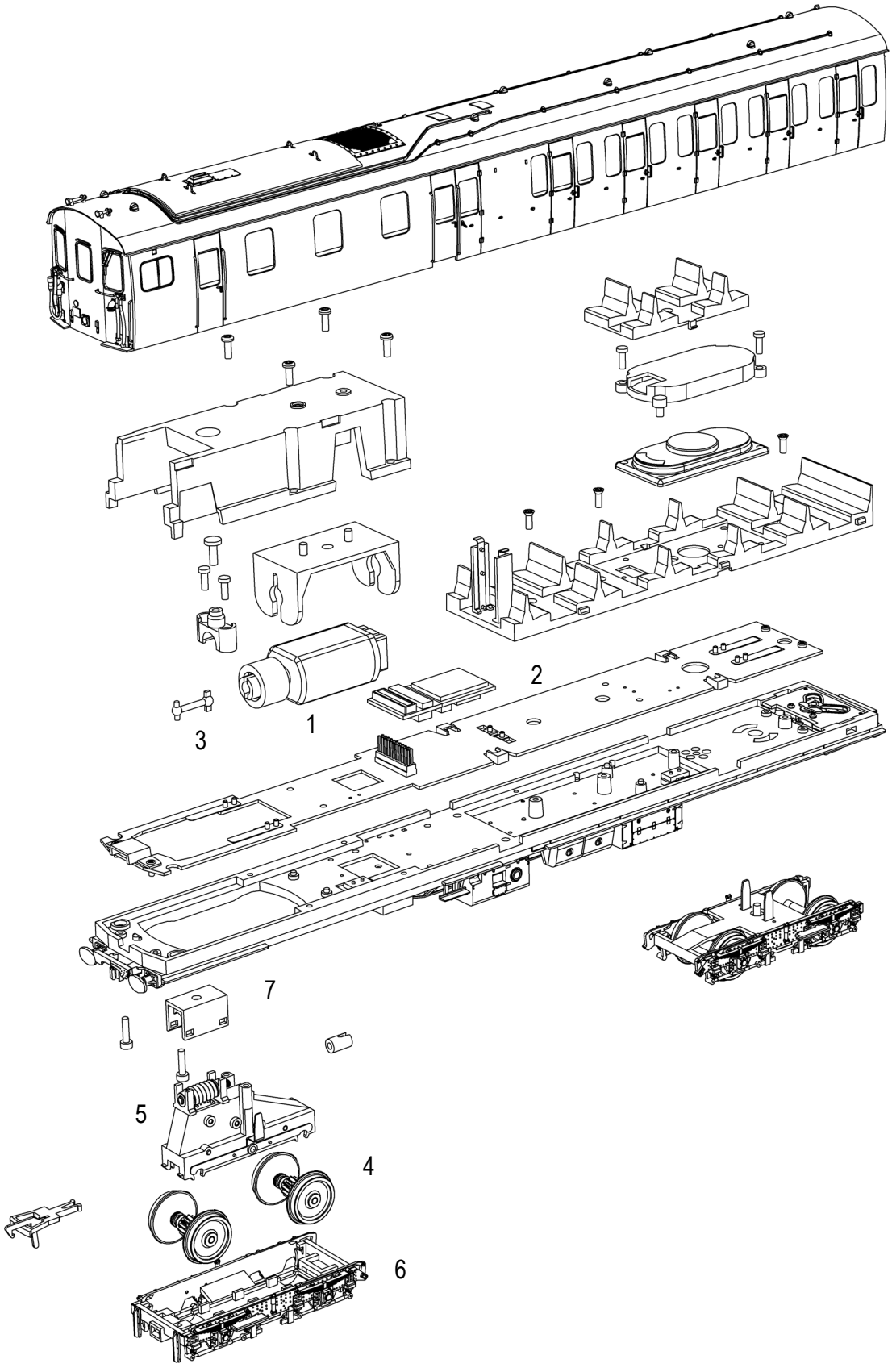
E3123-IS002
10/12 Rev 1


1
2
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Replacement Parts

1	motor	235-001
2	PCB 21pin	235-002
3	driveshaft	235-003
4	driving wheels	235-004
5	bogie tower	235-005
6	bogie frame	235-006
7	bogie tower top	235-007

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.

Parts for this model available in retail packs:

Couplings	item ref 36-030
21 pin blanking plug	item ref 36-058
Drawbar	item ref 36-062

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

Lighting switches

Switch A - Cab end
turns numberboard lights on/off

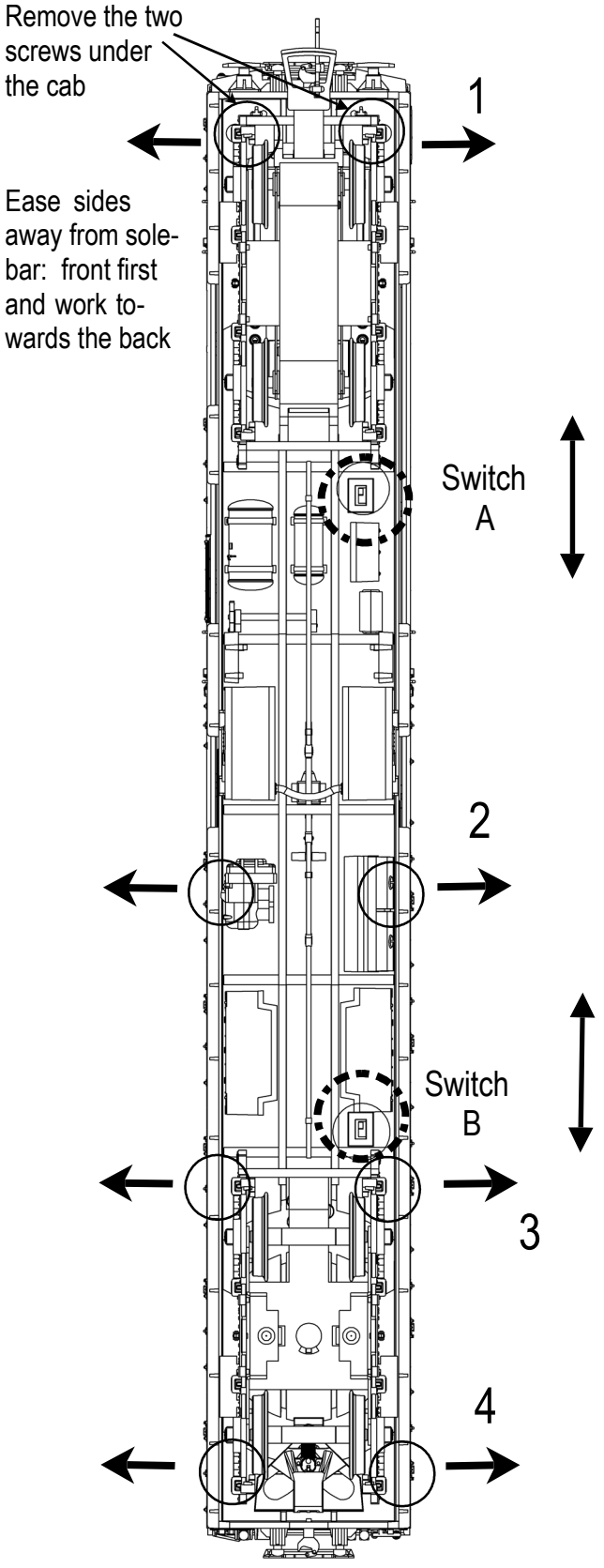
Switch B - inner end
turns internal lights on car on/off

Light control with DCC
F0 - turns numberboards and internal lights on/off

Problem checking

- Lights not working - check that either internal light or number board been turned off with the under car switch
- Unit does not work on DCC - check that the decoder has been installed the correct way round with the black fitting uppermost

Location of body clips



Class 205 2H Diesel Electric Multiple Unit

DCC Sound Onboard models

IMPORTANT - please read this sheet before running your locomotive

Features

- ► High frequency 32Khz pulse power for quiet operation
- ► User configurable Back EMF control
- ► 4 function outputs to control functions (where fitted) on the locomotive (eg lighting)
- ► Function button controlled reduced shunting speed
- ► Function button selectable inertia
- ► Complies with NMRA DCC requirements
- ► Automatic detection of speed steps (14, 28, 128 steps)
- ► 2digit and 4digit addresses
- ► Overload protection on outputs
- ► Program on main or programming track
- ► Operable on DC controlled layouts
- ► Supports Lenz® brake sections
- ► Uses 4ohm speakers **only**

Technical specification

Current carrying capacity:

Motor Output	1.1A
Function outputs total	250mA each, 500mA
Speed steps	14, 28, 128
Addresses	1-9999
Dimensions	31 x 15.5 x 6.5

CV Programming

The *Configuration Variables* - CVs - hold values within the processor of the decoder which control its performance characteristics. They can be changed as many times as required using an appropriate DCC command unit or standalone programmer. This is an extremely sophisticated decoder with a large number of programmable features. The table overleaf contains an extract of some of the most commonly required. (The full CV list is available from www.bachmann.co.uk). The table shows the purpose of and the default value for the CV and the range of values it may hold. Some CVs can contain a value from a range (eg start voltage) whilst others use the individual 'bits' of the CV to act as on/off switches for features (eg direction of operation). **Inappropriate CV values may cause the decoder to operate incorrectly: values should not be altered unless you have an understanding of DCC decoders if in doubt please take advice from your retailer or Bachmann Europe plc.**

Functions

The following features, both sound effects and decoder performance features, can be operated by the appropriate function button on the control unit. Functions can be controlled subject to the limit of functions on the DCC controller being used.

Sound functions

Function	
0	Light blinds on/off
1	Engine on / off
2	Horn 1
3	Horn 2
4	Door slam
5	Buzzer
6	Coupling
7	AUX 1 *
8	AUX 2 *
9	Flange squeal
10	Guard's whistle
11	Shunt mode
12	Volume
	* Nothing is connected to decoder AUX1 / AUX2 outputs

CV	Name	Min	Max	Default
1	Primary Address	1	127	3
2	Start voltage Sets minimum speed	1	255	
3	Acceleration rate	1	255	
4	Deceleration rate	1	255	
5	Max voltage sets maximum speed	0	64	
6	Medium speed	0	64	
7	Version number		255	
8	Manufacturer ID		151	
29	Configuration (see below)			14
	Decoder reset: write a value of 8 to CV8			

	CV 29 Summary	Default				
Bit	Feature	14	Effect when bit is set to 0	Effect when bit is set to 1		Decimal value when set
0	Direction of operation	0	**Normal**	Reversed	0	1
1	Speed steps	1	14	**28/128**	0	**2**
2	DC Operation	1	Disabled	**Enabled**	0	**4**
3	Railcom	1	Disabled	**Enabled**	0	**8**
4	Speed curve selection	0	**CVs 2,5,6**	CVs 67 – 96	0	16
5	Short / long address	0	**Short (CV1)**	Long (CVs 17/18)	0	32
6		0				
7		0				

Add the decimal values of the bits to be set and write this to CV29

The full ESU LokSound V4 User Guide is available to download from www.bachmann.co.uk