





- Introduction: A brief history of Simon Kohler
- The development of a new Hornby locomotive
- Which Choosing a model
- When The year of introduction
- How Research, Design, Production
- Marketing Some of the difficulties
- Question Time













#### The "Northampton Years" 4B





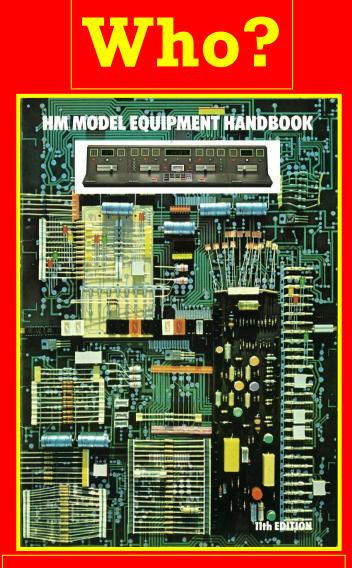




#### The "Northampton Years" 4B



#### 











#### Hammant & Morgan





#### Hammant & Morgan





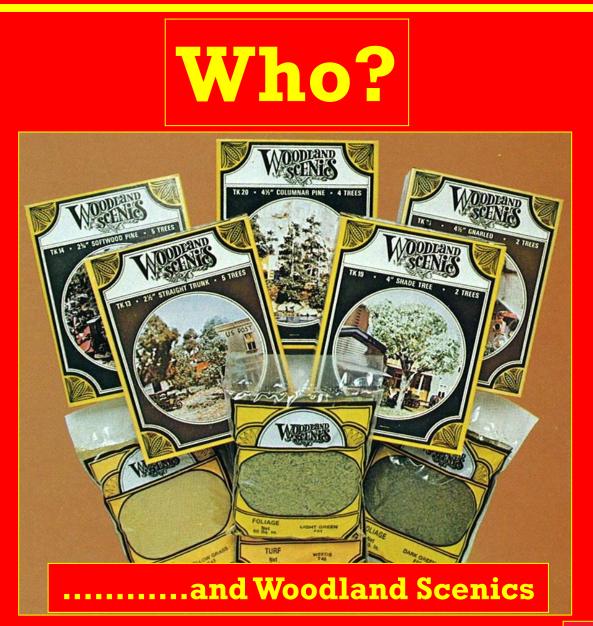


#### **H&M Loco Tester**















Arrival at Hornby 1981 - 2014 2017 - 20??







## The development of a new Hornby Locomotive



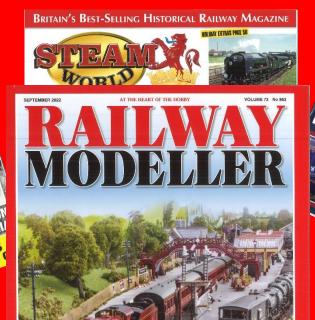






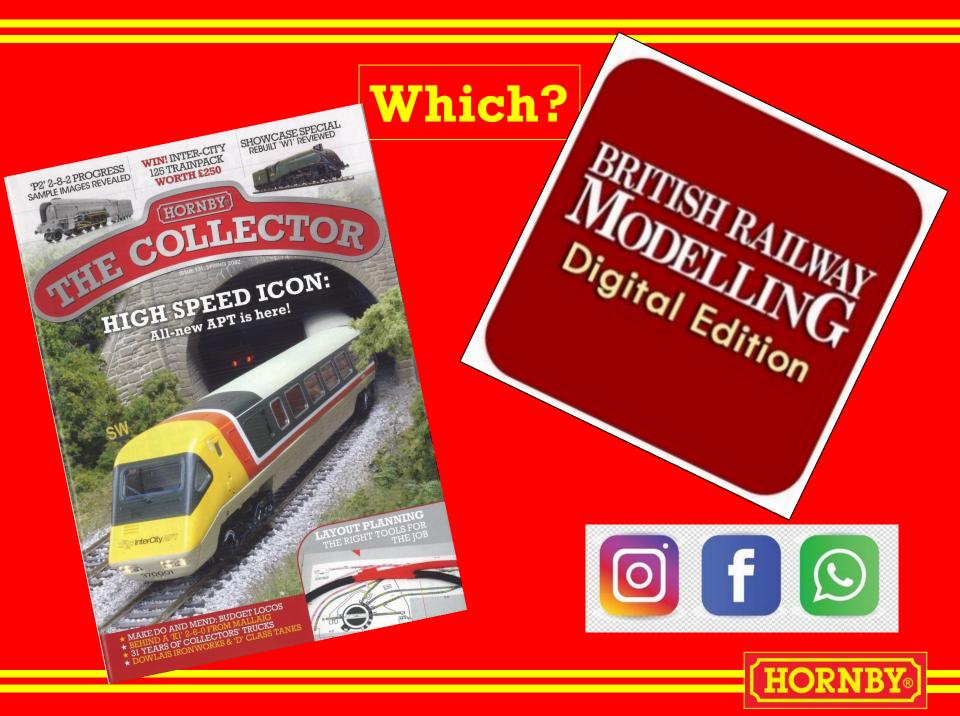






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# Which?



#### QUESTIONNAIRE

The New locomotives I would like	e to see are in order of importance:	
1:	2:	3:
The New Coaches I would like to	see are in order of importance:	
1:	2:	3:
The New wagons I would like to s	ee in order of importance:	
1:	2:	3:
Do you read any of the maga title(s)	zines listed below? If so please tick	the box next to the appropriate
Railway Modeller	British Railway Modelling	Model Rail
Steam World	Rail Express	Model Trains International
Hornby Magazine	Others: (Please specify):	
What type of Control System	do you use? (Please tick)	C Conventional 12v D.C
& manufactures Name: (Pleas	se specify)	
How many locomotives do yo	ou have in your collection :	
What do you Model Mod	ern Image	D Both
& in which period?	948 D <sub>1949-1964</sub> D <sub>1965-1975</sub>	D <sub>1976-1995</sub> D <sub>1996-Present Day</sub>
		□ <sub>13-19</sub> □ <sub>20-29</sub>
Please Tick your Relevant ag	e group : 4-6 7-12	13-19 20-29
Please Tick your Relevant ag	- 0 P	$\square_{50-59}$ $\square_{60-64}$ $\square_{65+}$



#### QUESTIONNAIRE

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Hornby Magazine	Others: (Please specify):	
	do you use? (Please tick)	.C Conventional 12v D.C
		.C Conventional 12v D.C
What type of Control System o & manufactures Name: (Please How many locomotives do you	e specify)	.C Conventional 12v D.C
& manufactures Name: (Please How many locomotives do you	e specify)	C Conventional 12v D.C
& manufactures Name: (Please How many locomotives do you What do you Model  Mode	e specify)	Both
& manufactures Name: (Please How many locomotives do you What do you Model Dode	e specify) u have in your collection : orn Image Steam 48 1949-1964 1965-1975	Both
& manufactures Name: (Please How many locomotives do you What do you Model Mode & In which period? 1900-19	e specify) u have in your collection : im Image Steam 48 1949-1984 1985-1975 	Both



#### QUESTIONNAIRE

	2:	3:
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	lo you use? (Please tick)	C.C. Conventional 12v D.C.
what type of Control System of	D. I D.I	0.0 00114611801181 124 0.0
& manufactures Name: (Please	e specify)	
What type of Control System of & manufactures Name: (Please How many locomotives do you What do you Model Hode	e specify)	Both
& manufactures Name: (Please How many locomotives do you What do you Model  Mode	e specify) u have in your collection : rm Image	
& manufactures Name: (Please How many locomotives do you What do you Model  Mode	a specify) u have in your collection : m image Steam Hat 1949-1964	Both
& manufactures Name: (Please How many locomotives do you What do you Model Mode & in which period? 1900-19-	a specify)	Both

Peterborough / 2009



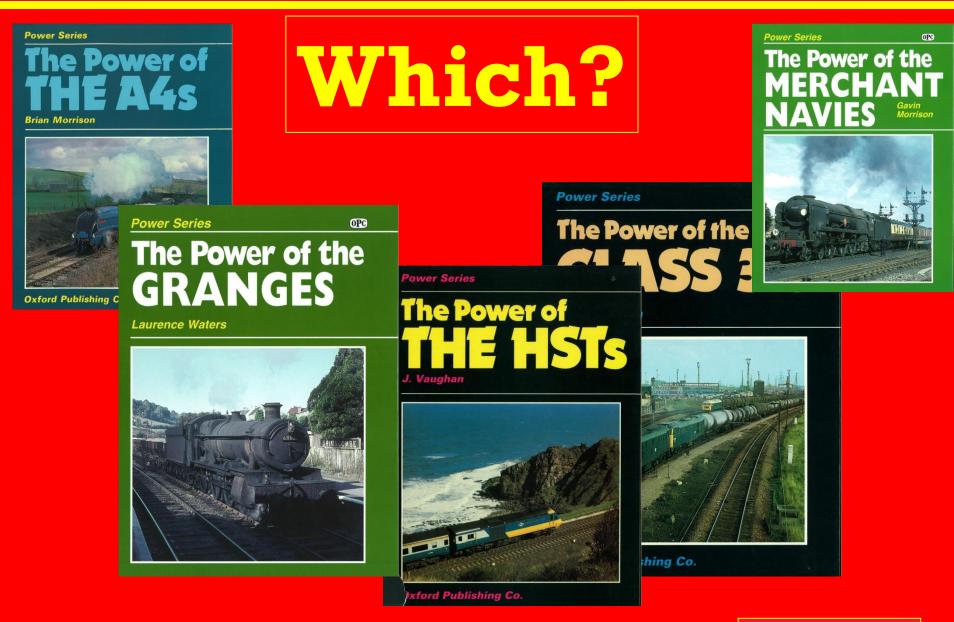
Peterborough / 2009

# Which?

### **Questions:**

- Number in Class
  - Variations
  - **Periods:** Pre Grouping
    - Pre Nationalisation
    - **Post Nationalisation** 
      - **Private Ownership**









#### **Steam Locomotives**



GWR / BR Castle Class. Introduced: 1923 Purpose: Mainly Passenger No. in Class: 165

**Operated on all areas of the Great Western Railway** 





#### **GWR "Tintagel Castle"**

#### **BR "Beverston Castle"**



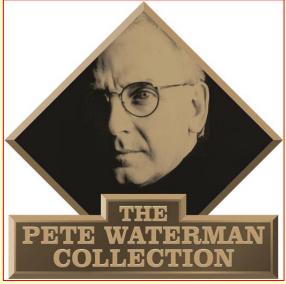
#### **BR "Ince Castle"**

A CON



## **The Pete Waterman Connection**





**Special Edition** 

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#### **GWR Castle Class "Earl Cairns"**



HORNBY®







# 









Planning 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> Year:

Models Periods Liveries

Quantities

**Presentations:** 

**Main Board and Development Manager** 







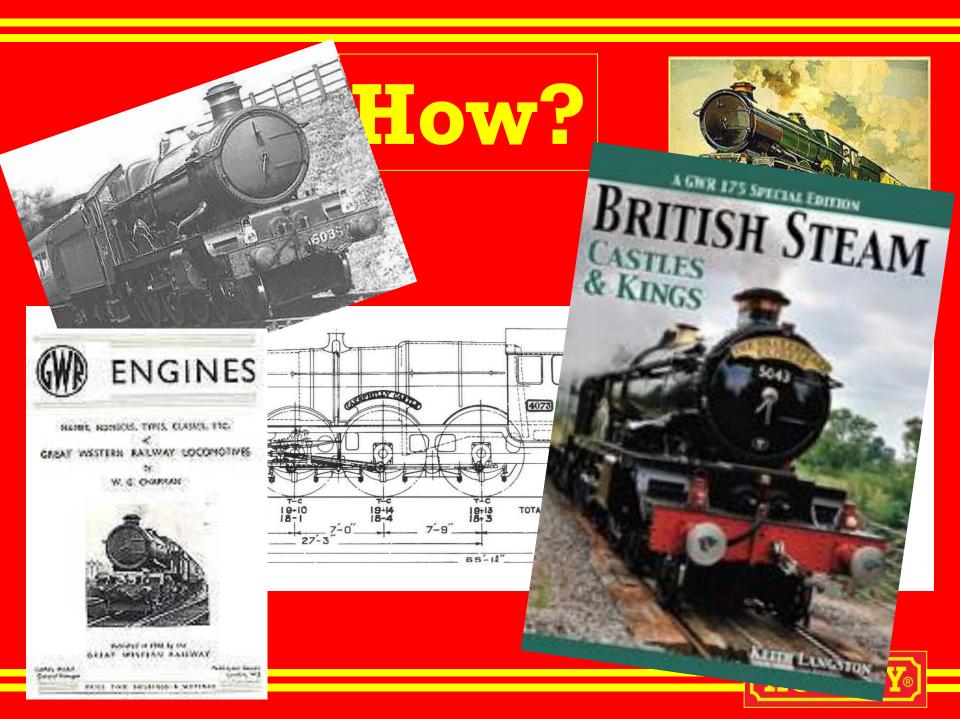


### **Product Development:**

Passed to Product Development Manager

 Designer / Researcher: Drawings, research documentation, books, magazines etc. experts, societies.





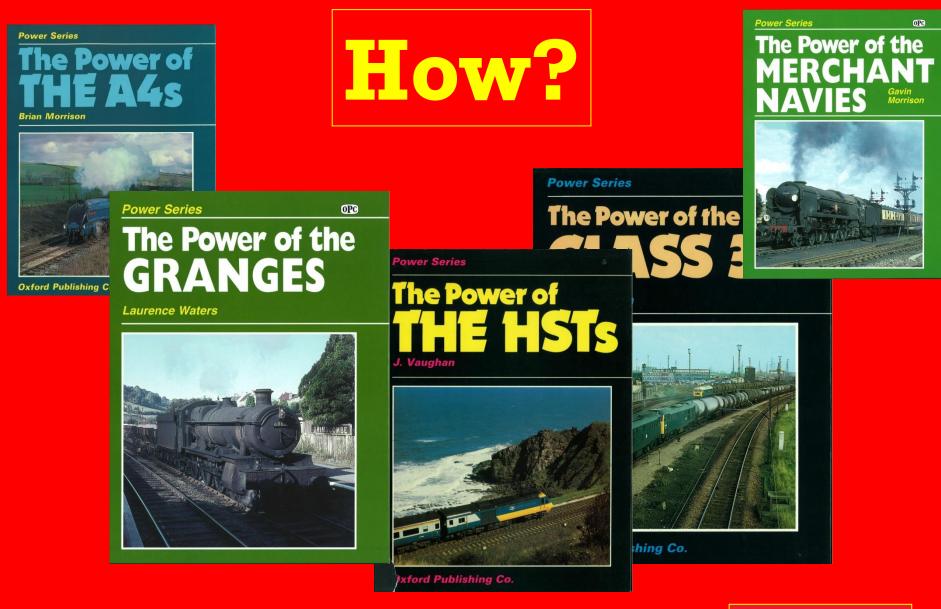


#### **Product Development:**

 Variations: Steam domes, chimneys, rivet patterns, tenders, grills, exhaust ports, wheel weights etc.

•Designer will plan to incorporate as many variations into the design as possible.

















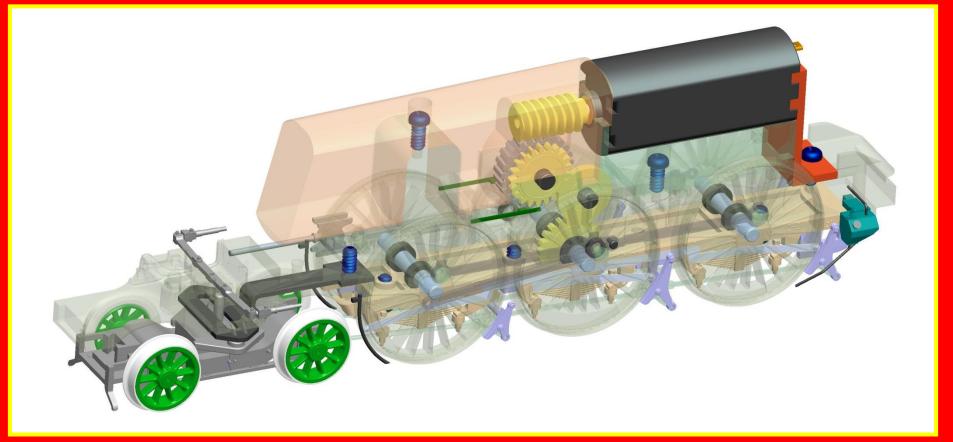
**Product Development:** 

#### **First things first!**

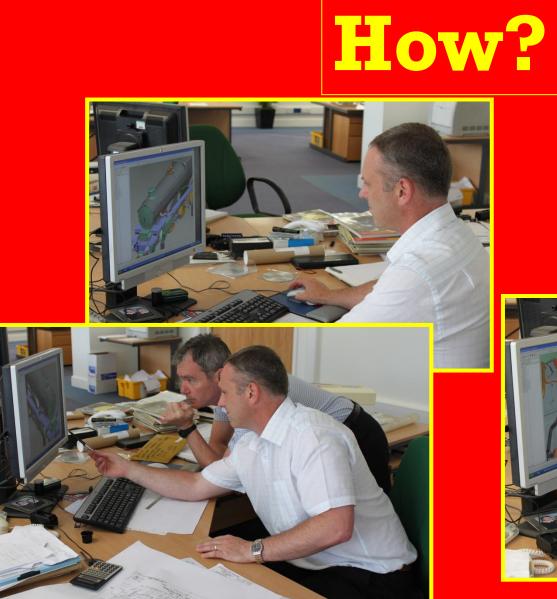
- Scale drawings to 1:76
- Measure boiler to determine what motor can be used.
- Commence creation of chassis drawings: Wheels centres, gearing, motor etc.









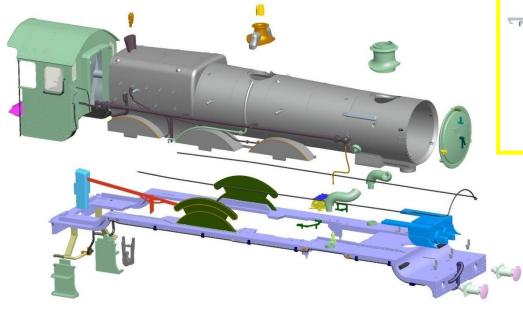


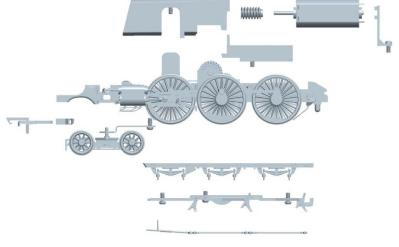






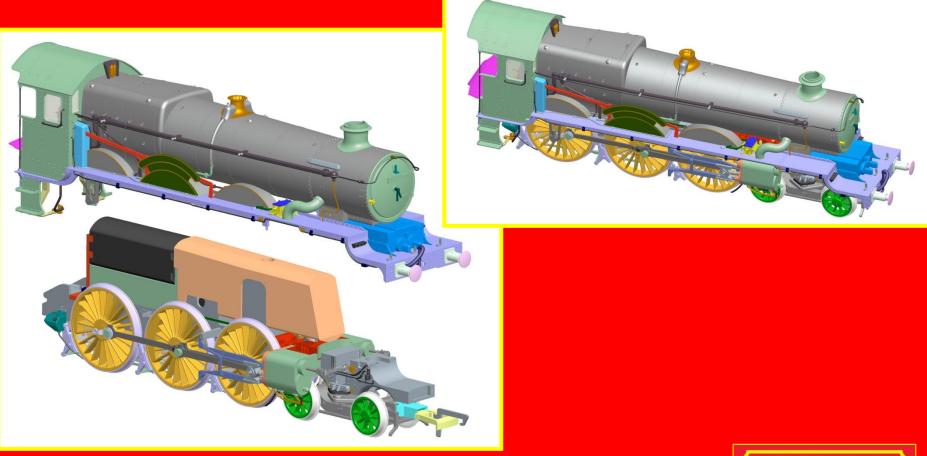






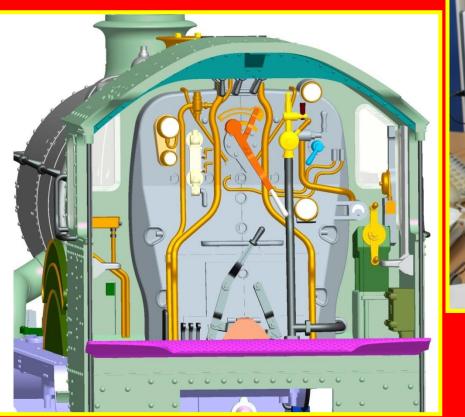


















# **Detail stage:**

- Add detail: rivets, washout plugs, cab detail
- Incorporate wiring loom: Pick ups on each wheel of locomotive and tender.
- **Ready for the next stage.**





## Model stage:

- Creation of 3D model of locomotive and variations.
- Stereo lithographic model created using lasers and liquid polymer. 3D Printing
  - All plastic parts created in stereo.









# Model stage:

- Stereo model then assembled by model maker.
- All electrics and motor incorporated into the model.
  - **Completed model then operated.**



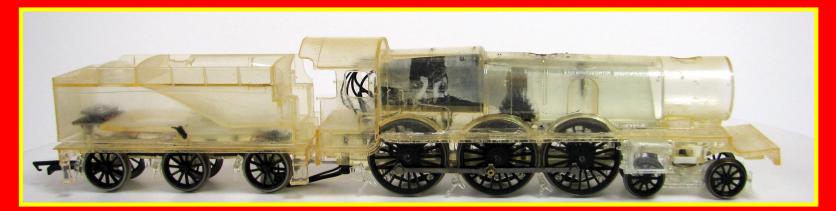
























### **Tooling stage:**

- When satisfied all is OK model and drawings sent to manufacturer for tooling and production quotes.
  - When tooling quotes received final Board approval obtained.
- Tooling commences





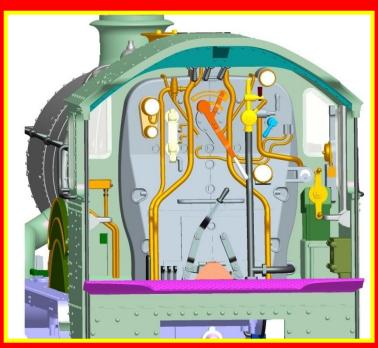
### **Tooling stage:**

- First shots received.
- Parts assembled to check tolerances, running characteristics etc.
- If necessary drawing / tooling modifications are actioned.

















# **Tooling stage:**

- **Continual flow of sample shots**
- Decorated parts received for approval
- When all samples approved production can commence!









### **Time Lines:**

- Drawing time: 4 8 months
- Stereo model: 1 2
- Assembly:

- 1 2 days
- 1 2 days
- Start Finish: 12 18 months





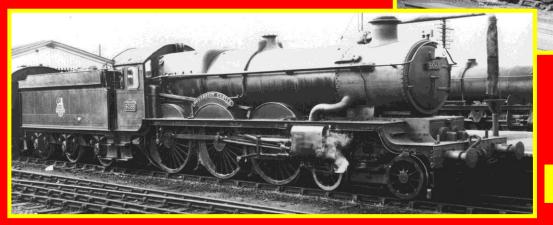






#### **GWR "Tintagel Castle"**

#### **BR "Beverston Castle"**



#### **BR "Ince Castle"**

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### **Image manipulation**









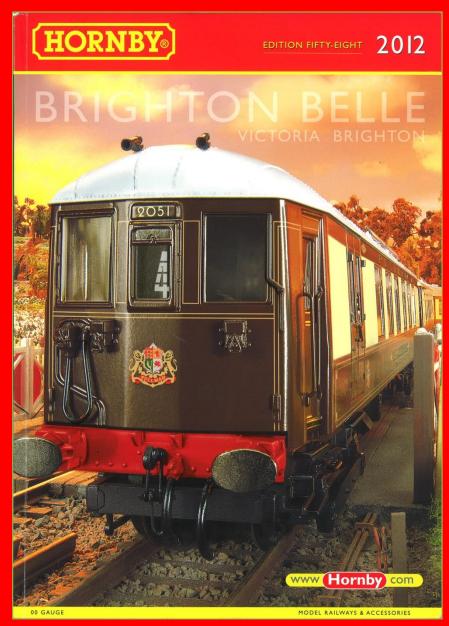






#### **BR "Beverston Castle"**







#### **Image manipulation**







#### **Spot the difference!**

#### **Image manipulation**

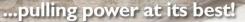






### **Spot the difference!**

#### ...and finally



#### • Cab detail

1

- Motor compartment detail
- Switchable night and day lighting
- Sprung buffers
- Diecast chassis
- Superb traction weighs 650 gms
- Etched roof detail

- Separately fitted windscreen wipers
- 5 pole skew wound motor
- Cab lighting

- Pickups on all wheels
- Detailed bogies
- Twin bogie drive

R 3040/X EWS Bo-Bo Diesel Electric Class 67 -**DB** SCHENKER R 3039/X DB Schenker Bo-Bo Diesel Electric 'Keith Heller' Class 67

R 3038/X Wrexham & Shropshire Bo-Bo Diesel Electric 'A Shropshire Lad' Class 67

**EWS** 

67001

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00 Gauge Locomotives, Rolling Stock & Accessories



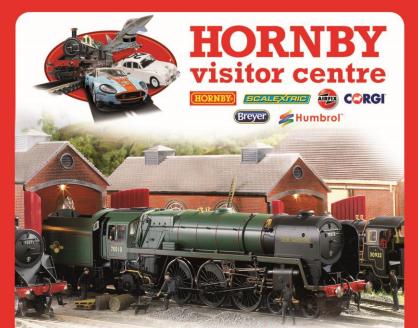


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#### ...and finally

Η



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