DB rebuild coaches '3yg'

Version 1.0 / 15.12.2022

Manual

**Background - Pack Contents -
How to install - Dynamic Numbering -
Features - Policies - Credits**

POLYGONZUG
Feine Modelle für Eisenbahnsimulatoren

Background

Like the Deutsche Reichsbahn (DR), the Deutsche Bundesbahn (DB) also had to contend with a considerable aging of its rolling stock after the Second World War and into the 1960s, in addition to a significant shortage of railway cars. In the 1950s, 22,345 two-, three- and four-axle compartment and high-capacity coaches of earlier Prussian and Bavarian designs from the period before and after the First World War still made up the majority of the fleet of passenger and express trains. The few city coaches from the early 1950s that had been purchased for express train services were by no means sufficient to renew and rejuvenate the rather old-fashioned equipment for passenger transport, especially since maintenance had also meant increased expenditure. The levels of steel production and other raw materials in the newly formed Federal Republic of Germany did not yet permit comprehensive renewal at that time. Like the DR in the 1960s, the DB was forced to modernise the pre-war cars as early as 1953 - simply called an "Umbau" or rebuild.

Only the underframes were taken over from the two- and three-axle donor wagons, which were brought to a uniform length of 13 metres. Two-axle bogies were fitted with an unbraked third axle in the middle, the axle base of the individual wagons varied between 7,500 and 7,900 millimetres depending on the type of origin. The centre axle could be shifted sideways in order to achieve good handling characteristics in curves. As early as 1954, more than a thousand wagons were handed over to the railwy operation. By 1958, the number had grown to 6,500 units, 25 percent of the total passenger car stock of the Deutsche Bundesbahn. Three types of construction (AB3yg, B3yg and BD3yg) were realised. The three-axle rebuild carriages were used in local traffic in all Bundesbahn directorates on main and branch lines. Numerous wagons were fitted with control cables for use in push-pull trains. Since, with the exception of a single experimental car, no rebuild driving trailers were ever procured, they were usually used in push-pull trains in combination with control cars from the Silberlinge class (e.g. BDnf), but predominantly with centre entry coaches (BDymf).
In order to achieve better running characteristics, from 1955/1956 onwards two wagons were short-coupled in each case, whereby the screw coupling was pre-tensioned with three tons of pre-tension. This made it impossible to separate the pairs during operation, but the close coupling allowed a higher speed of 100 km/h to be realised instead of the 85 km/h usual with the single wagons. The cross-connected electrical equipment of the 3yg coaches only allowed to form one short-coupled pair each, whereby one was free in the choice of coaches, so that all possible combinations except BD3yg + BD3yg were possible:
AB+AB, AB+B, B+B, AB+BD, B+BD.

The retirement of the wagons was planned for the mid-1970s, but could not be realised due to the lack of new wagons. In 1967, over 6000 three-axle conversion wagons were still in use. It was not until the mid-1980s that the last wagons, which served the commuter traffic of the BASF works in Ludwigshafen am Rhein, were withdrawn from service.

Even before the last 3yg coaches were taken out of passenger service, approx. 2000 three-axle rebuild coaches were converted for use in construction trains at the Offenburg, Kassel and Weiden (Oberpf.) repair works between 1969 and 1984.

Pack Contents

This pack contains the following models of the six-wheeled rebuild coaches operated by the former "Deutsche Bundesbahn" (German Federal Railway), era 1970 - 1991

> AB3yg 756
> B3yg 761
> BD3yg 766

There are six variants of each of these types. They are presented in more detail on the following pages.

Features and functions:

- opening passenger doors (and loading doors on the BD3yg)
- dynamic numbering: wagon number, home location and train destination sign
- detailed compartment model (B3yg)
- animated wagon transition connections (1)
- highly detailed coupler model with dynamic brake hoses and steam heating connection (1)
- prepared for steam heating (leaking) effect (2)
- custom sound set
- individual textures with traces of weathering and ageing

(1) only operating if vehicles contained in this pack are coupled; also working with all other rolling stock products made by *Polygonzug*.

(2) requires a locomotive with a specific and compatible control to turn the train heating on and off, e.g. the class 50 DB, available from *The Forge Simulation*.

Pack Contents

AB3yg - variant 1
- lettering epoch IV a, inside of doors grey
- without signs of ageing

AB3yg - variants 2/3
- lettering epoch IV a, inside of doors grey
- light patina in two variations

AB3yg - variant 4
- lettering epoch IV b, inside of doors orange
- without signs of ageing

AB3yg - variants 5/6
- lettering epoch IV b, inside of doors orange
- light patina in two variations

B3yg - variant 1
- lettering epoch IV a, inside of doors grey
- without signs of ageing

B3yg - variants 2/3
- lettering epoch IV a, inside of doors grey
- light patina in two variations

Pack Contents

B3yg - variant 4
- lettering epoch IV b, inside of doors orange
- without signs of ageing

B3yg - variants 5/6
- lettering epoch IV b, inside of doors orange
- light patina in two variations

BD3yg - variant 1
- lettering epoch IV a, inside of doors grey
- without signs of ageing

BD3yg - variants 2/3
- lettering epoch IV a, inside of doors grey
- light patina in two variations

BD3yg - variant 4
- lettering epoch IV b, inside of doors orange
- without signs of ageing

BD3yg - variants 5/6
- lettering epoch IV b, inside of doors orange
- light patina in two variations

How to install

To install the models, simply run the downloaded installation file.

Note for scenario creators:
In order to use the coaches of this pack in your own scenarios, you must first activate them in the scenario editor:

1. Click on the little blue cube with the orange triangle in the left middle flyout of the Scenario Editor (activate object set filter)

2. A flyout should appear on the right side of the screen; scroll down to the list entry 'Polygonzug' and click on the text line

3. Tick the second and third option box in the line "DB_Umbaudreiachser" das mittlere Optionskästchen anklicken. When the green tick is set, the wagons can again be selected in the middle left flyout (the names start with PZ_) and placed on the tracks.

4. When placing the wagons, please note:
   - prototypically, pairs of AB+AB, AB+B, B+B, AB+BD, B+BD are always coupled together.
   - The open crossovers should be opposite each other. For this purpose, some of the wagons have to be turned during placement!

1.

2.

3.

DB rebuild coaches '3yg'
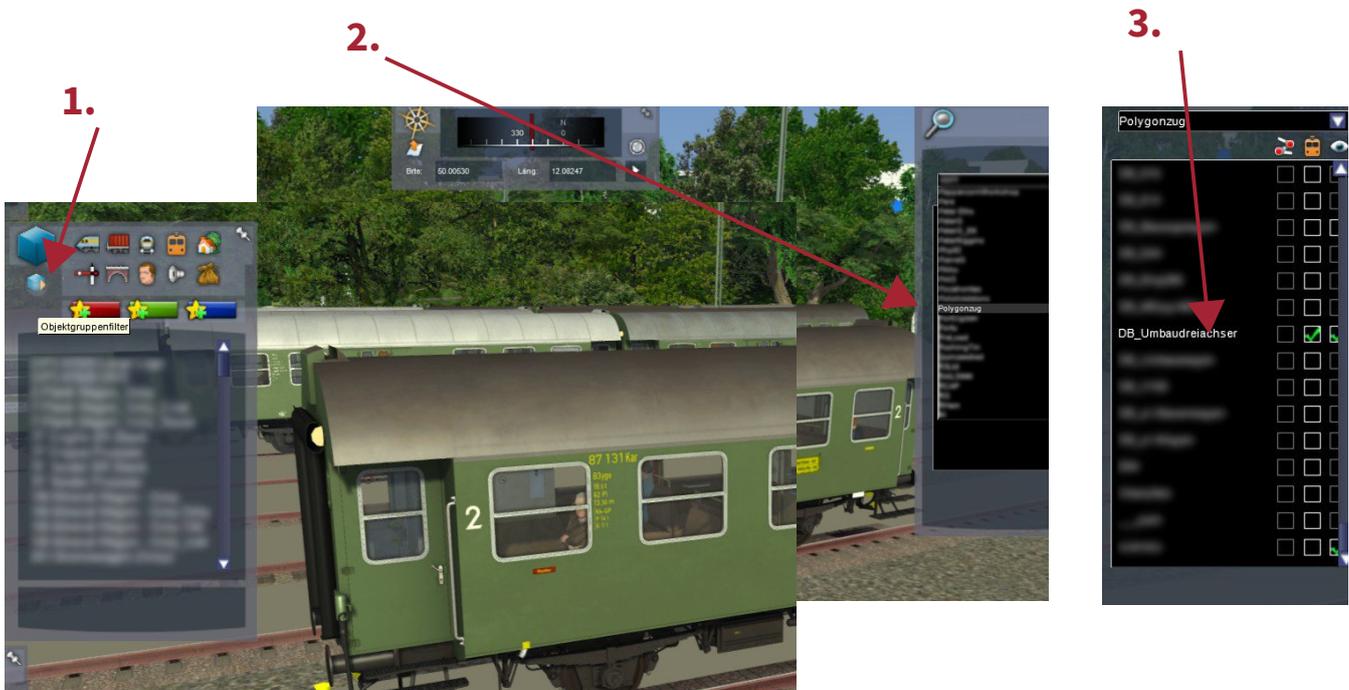
Dynamic Numbering

Setting options:

Wagons set in the scenario editor are already preconfigured with a prototypical wagon number, a home station (source: www.revisionsdaten.de) and a train destination sign.

If you want to change one or more of these variables, please proceed as follows.
1. place the desired wagons on the tracks as described on page 6.
2. double-click on the respective wagon to open a flyout at the top right edge of the Railworks window in which an seven-digit combination of letters and numbers in this format appears: :

<div align="center">

xX11111

</div>

Here you can now make individual changes.

The first character represents the **train destination sign** and must be entered as a lower case letter.
The second character represents the **home station** and must be entered as an upper case letter (list of setting options on page 8).

The third to seventh digit represent the **wagon number**. Please be sure to enter numbers here!
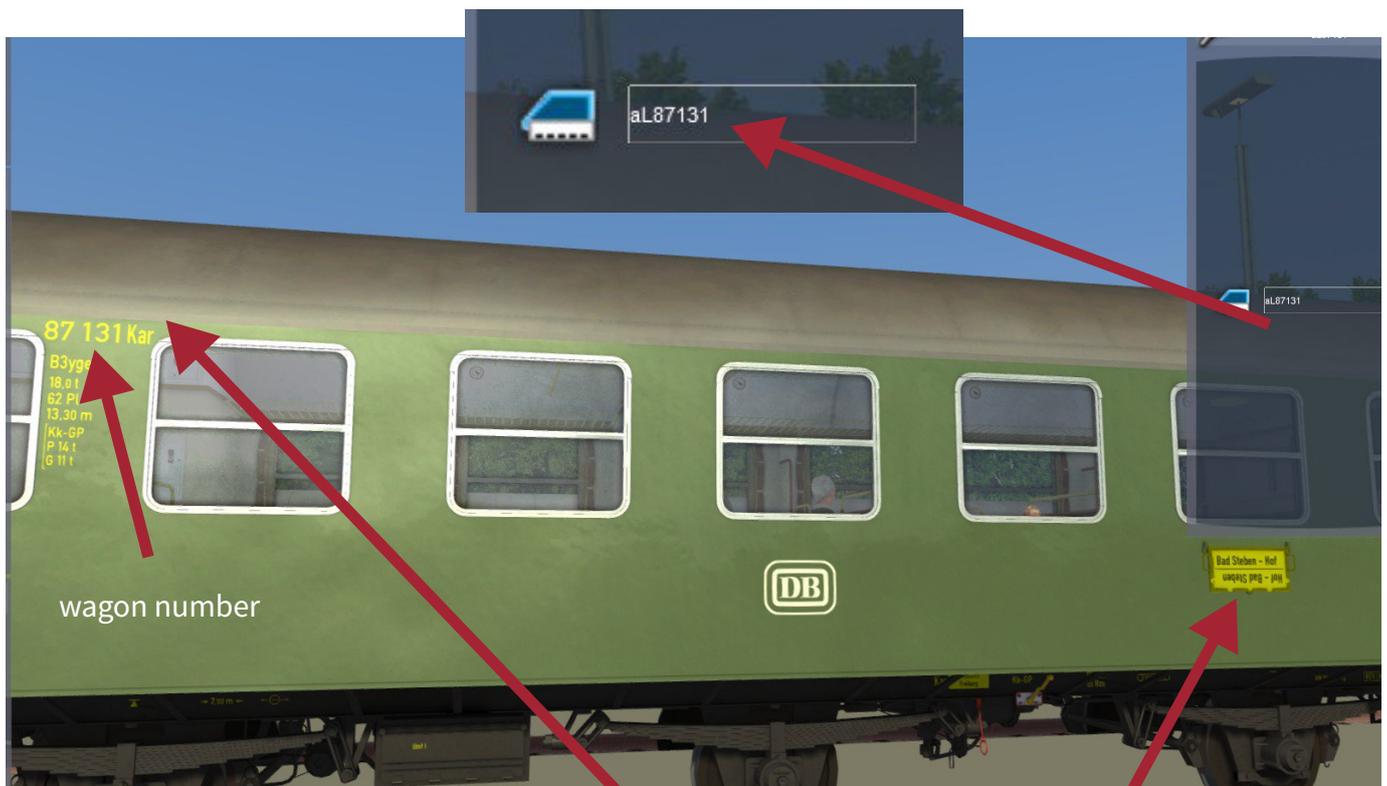
wagon number

home station and directorate
(For a list of all setting options, see page 8)

train destination sign
(For a list of all setting options, see page 8)

Dynamic Numbering

Home stations and train destination signs - list of all available settings:

	Home station	railway directorate		train destination sign
			a	Bad Steben - Hof
A	Augsburg	Augsburg		
B	Kempten		b	Hof - Bad Steben
C	Duisburg	Essen	c	Kronach - Nordhalben
D	Hamm			
			d	Nordhalben - Kronach
E	Frankfurt	Frankfurt a.M.	e	Forchheim - Ebermannstadt
F	Limburg			
			f	Ebermannstadt – Forchheim
G	Lübeck	Hamburg		
H	Flensburg		g	Nidda – Friedberg
I	Hannover Hbf	Hannover	h	Friedberg - Nidda
J	Oldenburg Hbf			
			i	Hungen – Laubach
K	Ludwigshafen	Karlsruhe	j	Laubach - Hungen
L	Freiburg			
			k	Gelnhausen - Gießen
M	Köln Deutzerfeld	Köln		
N	Koblenz		l	Gießen - Gelnhausen
O	Kassel	Kassel	m	Bullay - Traben-Trarbach
P	Paderborn			
			n	Traben-Trarbach - Bullay
Q	Osnabrück	Münster	o	Wildau - Hosvenn (und zurück)
R	Oldenburg			
S	München Hbf	München	p	Köbler Wald - Rinckenstadt (und zurück)
T	Mühldorf			
U	Worms	Mainz		
V	Mainz		q - x	freely configurable
W	Nürnberg	Nürnberg		
X	Würzburg			
Y	Weiden	Regensburg	y	Sonderfahrt (special tour)
Z	Hof		z	no train destination sign is displayed
!	Kaiserslautern	Saarbrücken		
#	Saarbrücken			
%	Heilbronn	Stuttgart		
&	Tübingen			
§	Wuppertal	Wuppertal		
~	Siegen			

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Features

Detailed separate interior model:

- large-capacity compartment of a type B3yg coach
- windows with rain effect

animations of entrance and transition doors:

If coaches of this package are coupled together or with other coaches of Polygonzug coaches, the transition doors between the coaches are shown opened - the wide open passage is typical for the rebuild coaches. Prototypically, one end of the car has no roller transition door and no tail lights.

Couplers and vehicle connections:

Brake hoses and steam heating couplings are automatically connected between models contained in this pack and also between them and other Polygonzug products.

Policies

Important notes about use:

These models have been tested on several computers and are at least compatible with Train Simulator versions 2014 to 2022 or with "Train Simulator Classic"; ; general operation or operation without strange effects can not be guaranteed in older versions of the program.
I assume no liability for the correct function on user's computers as well as for damage to hardware and software that may arise from the use of the contents of this addon.

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Credits

Persons involved:

Modelling/ Textures/ Blueprints/ Sound/ Scripting: Heiko Müller

Sound sources: Heiko Müller, Ganderkeseeer, Gainmaster

Installer: Ulf Freudenreich, virtualRailroads

Versionen:

1.0   first release (15.12.2022)

Polygonzug, December 2022
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