NS Series 1700
Electric locomotive

MANUAL

Table of Contents

Disclaimer DoveTail Games Ltd.

Background

NS Series 1700

The NS locomotive series 1700 is a series of electric locomotives, which were used by the Dutch State Railways (*NS, Nederlandse Spoorwegen*) for passenger train services from the beginning of 1992. The locomotives with a B'B' wheel arrangement are based on the locomotive type BB 7200 of the French railways (SNCF) and are a modified version of the NS series 1600. The locomotives are used in intercity trains with ICRm coaches, for international trains and for pull/push DD-AR train rakes.

NS 1732 met DBi-rijtuigen voor de trein naar Berlijn Hbf, Amsterdam Centraal, 14 oktober 2014.

Technical data

Wheel arrangement:	B'B'
Power:	4540 kW
V max:	180 km/u
L.o.a.:	17640 mm
Wheelbase:	12.494 mm
Bogie wheelbase:	2.800 mm
Bogie pivots distance:	9.694 mm
Wheel radius:	625 mm
Mass:	86 t

Installation tips

General

Wilbur Graphics *NS 1700* comes as a .zip file and includes the following items in addition to a `Readme_EN.txt`:

- Map Manuals\Wilbur Graphics with English and Dutch user manuals:

`WG_NS_1700_Handbuch_V2_0.pdf`
`WG_NS_1700_Manual_V2_0.pdf`
`WG_NS_1700_Handleiding_V2_0.pdf`

- installer `WG_NS_1700_V20_build_20230630.exe`

After launching the installer, you will be prompted to
- Select a language for the installer (Dutch/English/French/German)
- Accept the License Terms (EULA)

See the `release notes.txt` for the latest changes and improvements.

Other tips
- The .zip file must be fully unpacked before you can begin the installation.
- If the installation software cannot find the Railworks folder on your system, the reference to this folder in the Windows registry may no longer be valid. This situation occurs if you have moved the Steam environment to another computer or disk drive. You solve this by repeating the installation of Steam.

Retro Canvas Route

After installing this release, the following window may appear at the start of a scenario ('Broken Consist'):

You can solve this simply by clicking on the EDIT box. TS Classic now starts the Scenario Editor. The following screen will then be displayed:
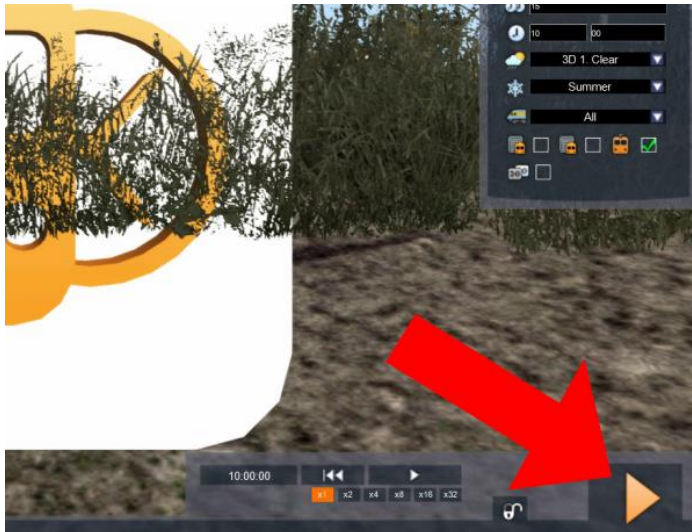
All you have to do is click the DRIVE button, at the bottom right corner of the screen. The SE will request a confirmation:

Click YES and the scenario will just start now as well as in future.

Rolling stock

NS 1700

TS Object Browser Index

Scenario Editor	Folder	Object ID
WG NS 1615	Rollend mat	WG_NS_1615
WG NS 1722	Rollend mat	WG_NS_1722
WG NS 1734	Rollend mat	WG_NS_1734
WG NS 1734 unpowered	Rollend mat	WG_NS_1734_unpowered
WG NS 1737	Rollend mat	WG_NS_1737
WG NS 1737 unpowered	Rollend mat	WG_NS_1737_unpowered

Note: As in previous versions, the NS 1600 loco will be released as a 1700 variant.

Version 2.1

NS 1600

NS 1700

Coaches

NS ICR Apmz, Bpmz and BDpmz

DBi 119 Apmz and Bpmz

Version 2.1

Goods wagons

DB VTG Fals 167

DB Cargo Fals 167

NS Fals 254 (Kalk)

DB Eanos

NS Cargo Eanos
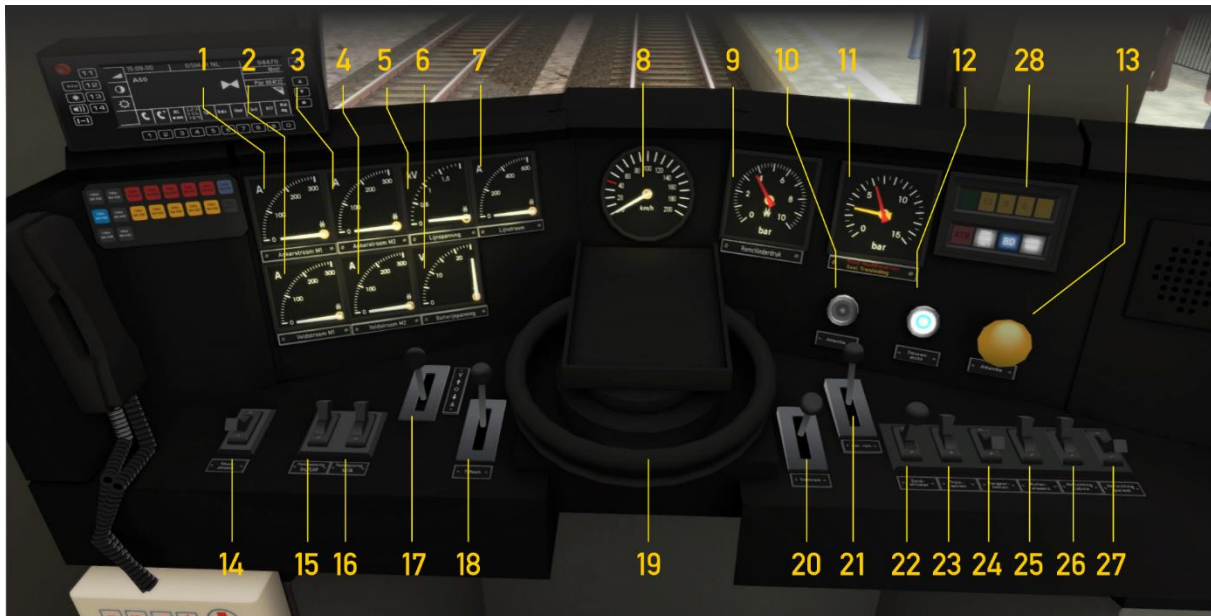

Preloads

This release includes the following preload consists:

WG DB 1615 w./met 20 Fals DB Cargo
WG NS 1615 Solo
WG NS 1722 w./met 6 NS ICR A/Bpmz/BD
WG NS 1722 w./met 20 Fals VTG
WG NS 1722 w./met 12 Eanos
WG NS 1722 Solo
WG NS 1734 w./met 8 DBi A/Bpmz
WG NS 1734 Solo
WG NS 1737 w./met 6 DBi A/Bpmz
WG NS 1737 w./met 8 NS ICR A/Bpmz/BD
WG NS 1737 w./met 20 NS Fals 254
WG NS 1737 Solo

Operation

1	Rotator current motor 1		15	Pantograph up/down	P
2	Field current motor 1		16	Panto select switch	CTRL+P
3	Rotator current motor 2		17	Reverser	W / S
4	Field current motor 2		18	Horn	SPATIEBALK of N
5	Overhead line tension		19	Regulator	A / D
6	Battery tension		20	Train brake	' / ;
7	Overhead line current		21	Engine brake	[/]
8	Speedo		22	Sander	X
9	Brake cylinder pressure		23	Headlights on/off	H SHIFT+H
10	Emergency brake	BACKSPACE	24	Shunting lights on/off	CTRL+F9
11	Brake pipe/main reservoir		25	Wipers on/off	V
12	Current top limit		26	Cab lights on/off	CTRL+F11
13	Doors closed		27	Panel lights on/off	CTRL+F12
14	Control current on/off	CTRL+ 0	28	ATB panel	
				Doors open	T

The cab layout in this TrainSimulator version follows the TS Classic standard for electric locomotives (expert mode) and therefore differs partly from reality. Operating front and rear signals is TS-compliant. These can be switched on/off in the familiar way with the H-key. When shunting signals are switched on, a white lamp is displayed at both the front and rear.

Control current is disabled by default. If the player forgets to turn it on when setting the locomotive in motion, a warning message will appear.

Lamp 12 lights up at amperages above 295 A. When the player clicks the unload/load button (hotkey T) with a passenger train along the platform, lamp 13 turns off.

Driver's Vigilance Device and ATB

In this version, our NS 1700 is equipped with two optional safety features, the deadman's button (DVD) and a near-perfect simulation of the Netherlands Railways Automatic Train Control – First Generation (ATB-EG or ATB). Both systems monitor the player's actions when acting as driver (Mc). The DVD's function is to stop the train if the Mc should lose consciousness. The ATB takes the same action if the Mc does not respond to the commands of the signals along the line. The player can decide for himself which systems will be activated in the game. Both features can be switched on simultaneously if desired.

Driver's vigilance device
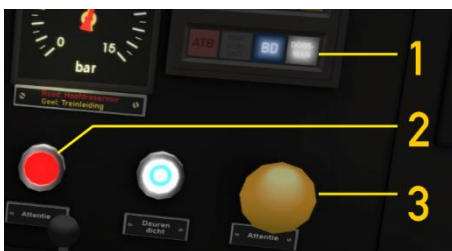
This system expects the Mc to click the vigilance button (3) or press the numeric ENTER key at least once every half minute. When 30 seconds pass without any of these actions, a buzzer will sound and a flashing red light (2) will appear on the steering table. From that moment on, the Mc has five seconds to respond. Failing this, the DVD will trigger an emergency brake action. Controls will be locked until after the train has come to a complete stop.

Switching the DVD on and off is done with the key combination CTRL + NUM ENTER. When lamp 1 is lit, the DVD is active.

ATB

This safety feature is made up of three components. The first part is tasked with detecting speed limits that will be encountered on the train path while driving, within a distance of 1000-1200 meters. The values found are converted into one of five limits: 40, 60, 80, 130 or 140 km/h. A second system automatically monitors the Mc's reactions to a detected speed limit. The last part is formed by the ATB panel that provides communication with the Mc by lamps and bell signals.

In this panel, apart from the DVD lamp that we have already encountered above, we find eight lamps that alone or in combination can display the different states that the ATB can assume. When the ATB is not active, lamp 8 (BD = out of service) lights up. Lamp 7 (brake contact) is shown when the Mc applies the train brakes – even when the ATB is switched off.

We apply the U key to turn the ATB on or off. When the ATB is switched on, lamp 8 extinguishes and the speed limit that is currently in force is shown by one of the lights 1 to 5. At the same tine, a bell sound is rung. When the ATB is switched off, this bell sounds five times in quick succession.

Version 2.1

We will now explain the operation of the activated ATB by means of an example. In the left image we are driving at a speed of 125 km/h. Then, in the right picture, a 40 km/h speed limit has been detected. A bell sound ('ting') can be heard and lamp 5 lights up.
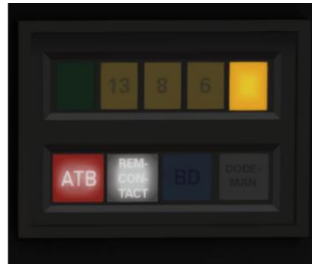
The Mc applies the brakes and the brake contact lamp 7 is shown (left picture). When a speed of less than the assigned 40 km/h is reached (with an upper margin of 5 km), three bell signals sound shortly after each other ('ting ting ting').

If the Mc does not respond to a speed reduction command within 5 seconds, an alarm bell will ring for 3 seconds. Within this period of time, the Mc can still prevent an ATB intervention by applying the train brake. If this condition is not met, an emergency brake will be triggered. The ATB lamp 6 lights up, as does the brake contact lamp. At the same time, the train brake is set to the highest position while the controller and the reverser are pressed into to their 'neutral' positions. Only after the train has come to a complete stop will these controls be released again.

The functions of this 'Wilbur Graphics' ATB are controlled by a script, which is fed with information that is supplied by the game while driving a train. These data come from home signals, track speed limits and/or from speed signs, depending on the tracks, signals and speed signs being used in the route. In the real world, the ATB looks at the distant signals. As a result, the simulated ATB can indicate a higher restriction than a local speed limit. When driving Timetable and Career scenarios, you should therefore also pay attention to the limits that TS shows in the HUB. Another difference with reality is the possibility to drive a scenario without DVD and/or ATB.

Version 2.1

Colophon/Credits

Development and production:
© Wilbur Graphics, Henk van Willigenburg (www.wilburgraphics.com)

Tips and advice:
ChrisTrains.com
TrainworX (Paul Mersel)
Ton van Schaik
Reinhart190953

Testing:
Ton van Schaik

Facebook:
Wilbur Graphics
https://www.facebook.com/wilburgraphicspage/

Versie 2.1 build 20230831