



# Class 954 driving coach

## Authors of the model

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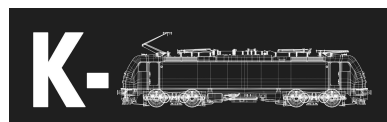
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*Jaroslav Küfner, Vojtěch Raim, Tomáš Pospíšil, George VonShark, Pavel Hořínek, Jakub Šmejkal, Jacob Novák and others...*

However the biggest Thank you belongs to my beloved girlfriend.

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## Description

Class 954 driving coach is a reconstruction of post wagons Postw made in years 2006 – 2007.

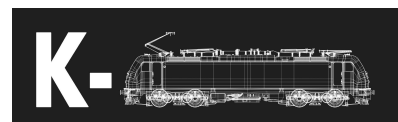
Max. speed	120 km/h
Weight	41/46 t
Track gauge	1435 mm

## Concept of the model

This model is designed for advanced to expert users. It is very detailed and has big hardware demands compared to the rest of available models. It is not expected to be 100% accurate so there may be some things that vary from the reality. Some things and procedures were simplified.

### Some of the model features:

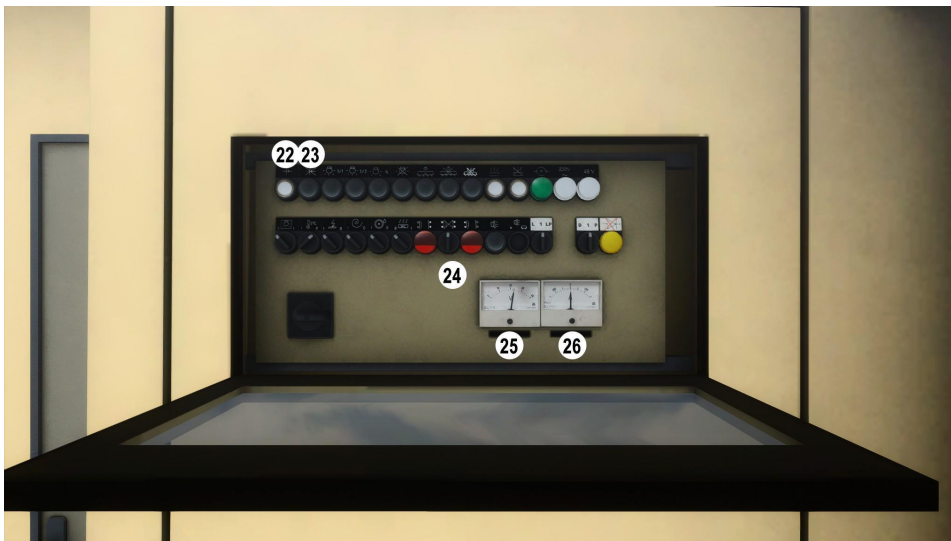
- Authentic 3D models of exterior and interior
- Authentic sounds
- Czech safety system LS90
- Working passenger information system, exterior destination signs and incab timetable
- Automatic speed regulation
- Working passenger lights
- Authentic startup/shutdown procedures
- Compatible with class 750.7
- Simulation of block brakes and their brake characteristics



## Control elements

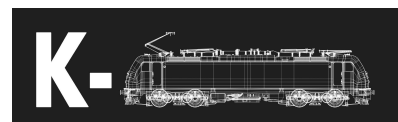


1	Throttle and brake lever	A/D/E/Backspace
2	Reverser	W/S
3	Vigilance buttons	Q
4	ARR keyboard	
5	Loco brake lever	( / )
6	Cab active switch	
7	Start/stop buttons	
8	Cab and instrument light switches	L/Shift+L, I/Shift+I
9	Signal lights switch	H/Shift+H
10	Whistle and horn buttons	B/Mezerník
11	Doors blocking buttons	
12	Gear level switch	
13	Brake cutout switch	
14	LS90	
15	Manometers	
16	Tramex speedometer	
17	Lokel display	
18	Information system display	
19	Radiostation VO79	



20	LS90 switch	
21	Přepínače stěračů	V/ Shift + V
22	Batteries turn on	U
23	Batteries turn off	
24	End lights switch	
25	Battery voltmeter	
26	Battery ampermeter	

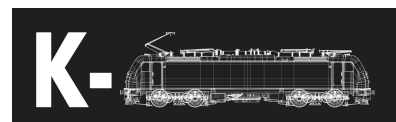
### Další klávesové zkratky



ARR speeds 0 – 90 km/h	Ctrl + 0-9
ARR speeds 100/ 120 km/h	Ctrl + Shift + 0/2
ARR speed +5 km/h	Y
ARR speed -5 km/h	C
Max ARR power	, / .
Fast start	Ctrl + Shift + O
Consist info	Shift + 5

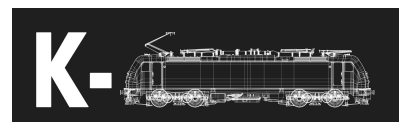
## Description of control elements

- Throttle and brake lever
  - a. This lever controls power and brakes applied. It is more described later on.
- Reverser
  - a. Engine can be started only in diesel (D) position.
- ARR keyboard
  - a. Change set speed with buttons
  - b. Buttons +/- change speed by 5km/h.
  - c. Buttons OPT+ and OPT- change maximum power by 10%.
- Loco brake lever
  - a. Direct brake lever
  - b. O2 – full release
  - c. O1 – partial release
  - d. X – maintains still pressure
  - e. B1 –partial brake application
  - f. B2 – full brake application
- Start/stop buttons
  - a. Buttons send start and stop commands to all slave locomotives.
- Signal lights switch
  - a. Positions
    - i. 1 white
    - ii. 2 white
    - iii. Off
    - iv. 3 whites



v. 3 whites + headlights

- Gear lever change switch
  - a. Currently not yet implemented as it doesn't control anything with class 750.7
- End lights switch
  - a. End lights can be controlled only by this switch located in the electric board.



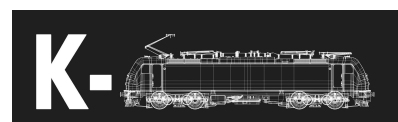
## Important procedures

### 1. Startup with class 750.7

- a. Start batteries with the white button in the electric board.
- b. Change over to class 750.7.
- c. Set driving key to position 2, set train heating lever to position "Nabíjení 60V" and set position lights. BEWARE – if the current locomotive **does not have** position 60V, it **would not charge** the driving coach and batteries can be drained.
- d. Change back to the driving coach.
- e. Activate cab with the switch and wait for displays to load. Deactivate and activate again all four red triangles on the lokel display are in 0 position.
- f. Set signal lights.
- g. Set reverser to D position and hold start button to start engine on all slave locomotives.
- h. Wait for main reservoir to fill up, deactivate brake cutout and fill brake pipe.

### 2. LS90 startup

- a. Requirements for LS90 to start
  - i. Brake cylinders pressure at least 1.8bar
  - ii. Zero speed
- b. If the conditions are met, switch the switch to START position. Green light will light up, after that is is possible to switch to PROVOZ position to start the safety system.





### 3. Drive lever

#### a. Keyboard controls

- i. A/D keys moves the lever forwards and backwards.

To get back past V position, another key combinations are used:

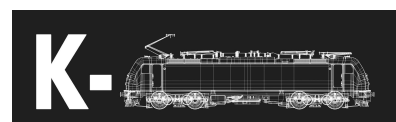
1. E – BE position (electrodynamic brake)
2. Holding D – train brake
3. Backspace – emergency brake

#### b. Manual mode

- i. In the manual mode, this lever sets power and brake values.
- ii. S positions increases power up to 100%.
- iii. J position maintains positive power and lowers negative power to 0%.
- iv. V position lowers positive power to 0% and maintains negative power.
- v. BE position lowers power to -100% and uses only electrodynamic brake. If any positive power was set before, it is immediately set to negative power by this formula:
$$PT = -PT_{last}$$
- vi. BP position lowers brake pipe pressure to 0bar.
- vii. R position radically lowers pressure to 0bar and sets -100% power.
- viii. It is possible to disable parking brake in this mode by putting lever to E position and pressing [-] key on the speed keyboard. To turn it on do the same with [+] button or turn on and off back again the automatic speed regulation.

#### c. Automatic mode

- i. S position enables the train to apply power and releases the parking brake. If player used brakes before manually and „PREFERENCE“ is displayed on



the display, this position allows the train to apply power again.

- ii. J position is basic position here. If power usage was confirmed by S, train will use power up to set maximum to maintain the set speed.
- iii. Train will use only negative power in the V position.
- iv. In the BE, BP and R positions brake preference is activated. To deactivate it push the lever to S position. Braking works the same as in manual mode.

## **Possible problems**

- Slave locomotive engine won't start
  - Make sure that slave locomotive has batteries turned on and driving key in position 2.
- Lokel display does not indicate running engine
  - Make sure that slave locomotive has driving key in position 2.
  - Try turning off and back on the cab active switch. Communication should be restored after this.

