

# Railworks Austria – Skyhook Games

## ÖBB Wiesel Manual



# Index

<b>Introduction</b>	Page 3
<b>1144 Cab and Key Bindings</b>	Page 4
<b>Additional Notes</b>	Page 6
<b>1144 Operation</b>	Page 7
<b>Manual Start-Up Procedure</b>	Page 7
<b>Automatic Start-Up procedure</b>	Page 8
<b>Braking Modes</b>	Page 8
<b>Driving Procedures</b>	Page 9
<b>Wiesel Cab and Key Bindings</b>	Page 12
<b>Wiesel Cab Car Operation</b>	Page 14
<b>Manual Start-Up procedure</b>	Page 14
<b>Driving Procedures</b>	Page 14
<b>SIFA</b>	Page 16
<b>PZB90</b>	Page 17
<b>Door Systems</b>	Page 19
<b>Included Rolling Stock</b>	Page 20
<b>Scenarios</b>	Page 25

# Introduction



The so called “Wiesel” (weasel) trains are double decker carriages which are the backbone of short haul traffic in the East of Austria.

Because the carriages can carry a large number of people using up no more space than conventional carriages, they are also found in Western Austria where they are used to deal with rush-hour traffic.

Wiesel carriages also include a cab car version which means the trains can change direction very quickly.

Also included in this package is the 1144 series locomotive. This loco is still a very common sight all over Austria and is the successor of the iconic 1044 series. Unlike the 1044 the 1144 is certified as a push-pull locomotive and as such often found either at the front or the back of Wiesel trains.

There are six different versions of the 1144 included. Each with their own external model, sound-set and different cabs.

# 1144 Cab And Key Bindings



1 – Power Indicator	9 – Main Power Switch [ Z / Ctrl+Z ]
2 – Speed Indicator	10 – Fan Switch [ K / Shift+K ]
3 – PZB Indicators	11 – Instrument Lights [ I ]
4 – Brake Pressure Indicators	12 – Cab Lights [ L ]
5 – Speed Limiter [ C / Y ]	13 – Light Switch [ H / Shift+H ]
6 – Power Lever [ A / D ]	14 – Horn High [ N ]
7 – Pantograph Switch [ P / Ctrl+Shift+P ]	15 – Horn Low [ B ]
8 – Starter Key	16 – Auxiliary Driving Switch [ Shift+E / Shift+Q ]
	17 – Sander [ X ]

## Other Key Assignments Relevant For This Screen

Wipers [ V / Shift+V ]
Sifa Off / On [ Shift+7 ]
PZB Off / On [ Shift+8 ]
PZB Train Mode [ Ctrl+8 / Ctrl+Shift+8 ]
Battery main switch [ Shift+B / Ctrl+B ]
Change Braking Modes [ Ctrl+Shift+@ ]
Selecting Pantographs [ Shift+P / Ctrl+P ]
SIFA Reset [ Q ]
Hand Brake [ / ]
Automatic Start-Up [ Ctrl+Shift+Z ]
SIFA Pedal [ Space Key ]



1- Door Control Switch [ <b>Ctrl+Shift+T</b> ]
2 - Headlight Beam Switch [ <b>Ctrl+H / Ctrl+Shift+H</b> ]
3 - Door control Lever [ <b>R to lock doors</b> ]
4 - PZB Command [ <b>Numpad Delete</b> ]
5 - PZB Free [ <b>Numpad End</b> ]
6 - PZB Acknowledge [ <b>Numpad Page Down</b> ]

### Other Key Assignments Relevant For This Screen

PZB Train Mode [ <b>Ctrl+8 / Ctrl+Shift+8</b> ]
PZB Off / On [ <b>Shift+8 / Ctrl+Numpad Enter</b> ]
Door Control System On / Off [ <b>Ctrl+Shift+T</b> ]



1- Power (forward) Indicator
2 - Power Indicator – Electrodynamic Brake
3 - Brake Indicator
4 - Stationary Indicator (shows if loco has come to a complete stop)
5 - Train Brake [ # / ; ]
6 - Locomotive Brake [ { / } ]

## Additional Notes:

- When you open the left hand side window, you can manually fold and unfold the side mirrors by clicking on it.
- This product comes with two triggers for scenario builders. These can be placed along the lines and can either trigger an emergency brake or simulate an engine failure (switch off the main switch)
- When creating scenarios by default the loco will start in a cold and dark state. If you add the word “ready” in the flyout next to the loco name the 1144 will start fully started up ( Format: 1144XXX-Xready – whereas X are random numbers in TS )

# 1144 Operation

## Manual Start-Up Procedure:

- Move your mouse onto the silver plate of the pantograph switch and click on the top right corner.



- A key will appear. Use the left mouse button to turn the key. This will unlock the cab.



- Switch on the battery main switch [ **Shift + B** ] and wait until the power and brake indicator lights on the right come on.
- Raise the Pantograph [ **P** ].
- Wait a few seconds, then move the main switch to ON [ **Z** ].
- If you want to you can now activate the cab and instrument lights [ **I and L** ].
- Switch on the headlights [ **H / Shift + H** ]
- Move the speed selector to your target speed [ **Y and C** ].
- Release the loco brake [ **{ / }** ]
- Release the train brake [ **; / #** ]
- Release the Parking brake [ **/** ]
- Move the Power lever one notch forward and wait until the power (forward) indicator is lit up

You can now add power and drive off!

## Automatic Start-Up Procedure:

Should you want to by-pass the start-up process, you can do so by using the automatic start-up procedure.

Once the loco has loaded in Train Simulator, go into the cab ( press 1 ) and press Ctrl+Shift+Z all the same time. You will see a message confirming that the automatic start-up procedure has begun.

Once completed, you will see another message telling you so.

All you need to now is to release the locomotive brake [ { / } ] and you are ready to go.

**Important!** The start-up software will set the speed limiter to 40 kph. Should you wish to drive at any other speed, please select it [ Y / C ] before setting off.

**Note to Scenario Creators:** When creating a scenario using the 1144 as the drivers loco you can choose if the loco starts cold and dark or fully started up. By default the loco will start in cold and dark. If you add the word “ready” (without the “) into the flyout after the loco number, the loco will start fully loaded up.

## Changing Braking Modes:

Before you drive off you can set different braking modes. You achieve this by pressing Ctrl+Shift+@

Braking modes will influence how fast the air pressure will change in the brake cylinder. In other words, how fast the brakes will “bite”.

There are two brake modes available:

**Brake Mode R:** Fast application (used for passenger trains)

**Brake mode G:** Slow application (used for freight trains)

By default the loco will always have brake mode R enabled!

# Driving Procedures:

Ensure that you have completed the start-up procedure!

Whenever you want to speed up or use the electrodynamic brake to slow you down you need to wait until the isolating switch has made all the changes to the locos systems. Before you set off, the power lever will be in the neutral position. You can see this on the HUD as a blue indication called “Nullstellung” (zero position).

Move the lever one notch forward. On the HUD you will see a green indication called “Fahren” (drive). Leave the lever there until on the right hand side you see the power (forward) indicator light up. The light will say “Leistung” (power) underneath an upward pointing arrow.



You can now add power to set off.

If you want to use the electrodynamic brake to slow the train down, move the lever back to the neutral position and wait until the “Leistung” light has gone out. Now move the lever one notch backwards and wait until the light “EL Bremse” (electrodynamic brake) comes on. You can now move the lever backwards to slow the train down.

If you add the train brake an additional light will come on saying “PN Bremse” (pneumatic brake).



Every time the loco has come to a complete stop a light indicating “Lok steht” (loco stationary) will come on.



It is important to note that whilst the “PN Bremse” light is on, the loco will not be able to move forward. Also when releasing the brakes to accelerate again you need to first move the lever to the neutral position and wait for the “EL Bremse” lights to go out before moving it into the “Fahren” notch again. Once you have done that, again wait until the “Leistung” light comes on and you can add power.

### **Speed limiter:**

You can set the speed limit you want the loco to hold with the speed limiter. This is a small triangle on the speed indicator. You can move it up by pressing “Y” and down by pressing “C”. If you tab either of those keys once, the speed limiter will move by 5 kph up or down.

The loco will accelerate to the speed you have selected and hold that speed automatically.

Please note that the loco will only have the amount of power available that you set by using the power controller. If you set off on a flat area choosing 100 kN and then later drive up a mountain pass, the loco might not have enough power to achieve the target speed. In such a case you need to add more power.

**Important!** The speed limiter is an aid to help you hold a certain speed. It is not designed to completely take over the train. As the train driver it is your responsibility to ensure a safe speed at all times. Especially when driving on steep mountain passes you cannot solely rely on the speed limiter. As a general rule, manual driving is always better and more precise.

Stopping the train should never be done by using the speed limiter!

## Driving backwards:

Unlike most locos, the 1144 has a very special way of reversing.

- First, bring the loco to a full stop and make sure the power lever is in the neutral position.
- Now, move the speed limiter to 0 kph.
- Turn the auxiliary driving switch to the right until the bottom yellow light next to it comes on.
- Release all brakes.

By turning the auxiliary driving switch clockwise you will now add power and the loco will drive backwards. You can adjust the power by moving the knob clockwise (to add power) [ **Shift+E** ] or anti-clockwise (to reduce power) [ **Shift+Q** ].

Because this is a very cumbersome way of driving, most train drivers actually switch cabs when they need to reverse.

# Wiesel Cab And Key Bindings



1 – Speed Limiter [ <b>C / Y</b> ]	9 – High Beam Light Switch [ <b>Ctrl+H</b> ]
2 – Door control Lever [ <b>R to lock doors</b> ]	10 – Train Brake [ <b>;</b> / <b>#</b> ]
3 – Power Switch [ <b>A / D</b> ]	11 – Horn Low [ <b>B</b> ]
4 – Pantograph Switch [ <b>P / Ctrl+Shift+P</b> ]	12 – Horn High [ <b>N</b> ]
5 – Main Power Switch [ <b>Z / Ctrl+Z</b> ]	13 – PZB Indicator
6 – Engine Fans	14 – KV Indicator (For Pantograph)
7 – Instrument Lights [ <b>I</b> ]	15 – Power Indicator
8 – Cab Lights [ <b>L</b> ]	16 – Speed Indicator
	17 – Brake Pressure Indicator

## Other Key Assignments Relevant For This Screen

Wipers [ <b>V / Shift+V</b> ]
Sifa Off / On [ <b>Shift+7</b> ]
PZB Off / On [ <b>Shift+8</b> ]
PZB Train Mode [ <b>Ctrl+8 / Ctrl+Shift+8</b> ]
Headlights ON / OFF [ <b>H / Shift+H</b> ]
SIFA Pedal [ <b>Space Key</b> ]



1- Master Key
2 – PZB Indicators
3 - Brake Indicator
4 – PZB Command [ <b>Numpad Delete</b> ]
5 – PZB Free [ <b>Numpad End</b> ]
6 - PZB Acknowledge [ <b>Numpad Page Down</b> ]

### Other Key Assignments Relevant For This Screen

PZB Train Mode [ <b>Ctrl+8 / Ctrl+Shift+8</b> ]
PZB Off / On [ <b>Shift+8 / Ctrl+Numpad Enter</b> ]
Door Control System On / Off [ <b>Ctrl+Shift+T</b> ]

# Wiesel Cab Car Operation

## Manual Start-Up Procedure:

Unlike the 1144, the Wiesel cabcar will always start in a fully booted up configuration. You can however power down the cab and start it up again.

- Turn off the main switch [ Ctrl+Z ]
- Lower the pantograph [ Ctrl+Shift+P ]
- Turn the Master key to the left.

The cab is now in a cold and dark state.

To start it up again, go through the same steps in reverse order.

## Driving Procedures:

After the Simulation has started, make sure the speed limiter is set to your chosen target speed and all the lights (headlights and cab lights are switched on).

Also note the PZB and SIFA are always active on this loco. You can switch them off if you wish [ **Shift+8** ] and [ **Shift +7** ]. Note that if you leave both of them on you will start in restrictive mode and need to press PZB Free [ **Numpad End** ] before you set off.

- Move the power controller to position “F” [key “A”].
- Now move the power controller to “+” [key “A”] until you have achieved the desired power output (as seen in the power indicator). **Important!** *The cabcar has no engine and remotely controls the loco at the back. Because of this there will always be a few seconds of delay between moving levers and the power increasing or decreasing.*
- Once you have achieved the required power output move the power controller back into the “F” position [key “D”].
- The loco will now hold this power output and you can change the speed by moving the speed limiter target speed.
- To reduce the speed move the power controller to position “0” [key “D”] until the available power output is 0 kN.

- Now move the power controller to position “EB” [key ”D”].
- Just as you did before you can now choose the amount of electro dynamic braking by moving the power controller into the “+” position [key ”D”]. If you move the controller back into the “EB” position it will hold the selected amount of braking power.
- To brake with the train brake move the train brake lever to position “BR” [key “#”]. Leave the lever in that position until you have the desired amount of braking power. If you let go of the lever it will revert into the neutral position and hold the selected braking power.
- To reduce the amount of braking power or to stop braking move the lever to the “LO” position [key “;”]. Leave the lever there until the desired braking power is achieved.

Whilst you are driving you can slow down and accelerate using the speed limiter target speed indicator. The locomotive will automatically speed up or slow down.

Please note that the loco will only have the amount of power available that you set by using the power controller. If you set off on a flat area choosing 100 kN and then later drive up a mountain pass, the loco might not have enough power to achieve the target speed. In such a case you need to add more power.

**Important!** The speed limiter is an aid to help you hold a certain speed. It is not designed to completely take over the train. As the train driver it is your responsibility to ensure a safe speed at all times. Especially when driving on steep mountain passes you cannot solely rely on the speed limiter. As a general rule, manual driving is always better and more precise.

Stopping the train should never be done by using the speed limiter!

# SIFA

Sifa stands for Sicherheitsfahrschaltung (safety driving switch) and is a system designed to check if the driver is still alert.

There is a pedal underneath the desk on which the driver can rest his feet. Every few seconds he must press the pedal down. If he fails to do so an aural warning will start to sound. If the pedal is still not pressed the train will engage an emergency brake.

To press the pedal, use the **space** key.

You can activate and de-activate this system by pressing **Shift+7**. By default the SIFA is always active.

# PZB90

PZB stands for “Punktfoermige Zugbeeinflussung” and is a system designed to monitor the train driver's action. The actual system is very complex. This is only a brief summary that will help you to use it correctly and avoid emergency brakes.

## How does it work?

All locos and driving trailers are equipped with a sensor on the bogies. These exchange information with magnets that are placed at specific points along the line. The magnets in turn are linked to the signalling system.

Whenever a signal changes to “stop” or “pass at 60 km/h” the magnet transmits this information via the sensors into the on-board PZB system. The relevant information is displayed on the main screen in the cab. If the driver ignores the information or fails to follow the required procedures the system initiates an emergency stop.

## Changing train modes

Before you set off you will have to tell the system what kind of train you are in. In simple terms there are two different modes linked to two different maximum speeds.

**Train type O:** This is the standard setting for all high speed and fast passenger services

**Train type U:** Trains that are limited to 105 km/h

You can select the train type by pressing **Ctrl+8** and **Ctrl+Shift+8**. This will move the selection up and down.

When you select train mode O. The blue 85 light on the PZB display will light up. If you select train mode U the blue 55 light will light up.

## Restrictive mode

When you first boot up the system you may notice that the blue squares indicating the selected train type are flashing. Whenever this is the case it means that the system has gone into restrictive mode. As long as this mode is active the train is limited to 40 km/h. If you exceed this speed the system will initiate an emergency brake.

You can free yourself from this system by pressing the “free” button [ **Numpad End** ].

Please note that sometimes the system won't allow you to free yourself. You will have to drive at 40 km/h until the restrictive mode is lifted. This mode was introduced after a major train crash in Germany. It restricts the train to a low speed in certain situations.

## Driving with PZB90

When you approach a warning signal and it shows two green lights you do not have to do anything.

If the warning signal shows yellow lights or green and yellow lights, it means that the next main signal either shows “stop” (red) or “proceed at limited speed”. In both cases you must tell the system that you have seen the warning signal. Once you pass it you have 4 seconds to press “acknowledge” [ **Numpad Page Down** ]. Failure to do so will result in an emergency brake.

After that you must slow the train down. There are several rules regarding the slowing down process which differ for each train type. Passenger trains must be slowed down to 85 km/h within 23 seconds. If you don't slow down fast enough, the system will engage the emergency brakes.

**Note:** Should you slow down and then pass a combined main – warning signal where the warning signal shows anything else but two greens you will have to acknowledge the warning signal again.

If you get an emergency brake you will have to wait until the train has come to a complete stop. Move the reverser into the neutral position and press “Free” switch [ **Numpad End** ] and wait until the brakes have been released.

You will be in restricted mode and won't be allowed to free yourself from it. Proceed at 40 km/h until the system is happy for you to drive any faster (The blue squares on the display will stop flashing).

# Door systems

The doors on the Wiesel carriages are passenger operated. This means that in the real world the train driver only locks and unlocks the doors and passengers open them by pressing a button on the door itself.

This has been simulated by a script that will randomly open and close the doors of the carriages.

To activate or de-activate this feature you can either move the door control switch or press **Ctrl+Shift+T**.

Once you have arrived at a station use the **T** key to unlock the doors. The door control lever will move to the side the doors have been unlocked. You will not be able to drive the train as long as this is the case.

Whilst in the station the doors will randomly open and close.

Once the loading time is over, lock the doors by moving the door control lever in the locked position [ **R** ].

You are now ready to depart.

# Included Rolling Stock And Scenarios

1144 with "Grobgitter" (wide mesh) Fans



1144 with "Klatten" Fans



1144 with small/ low Fans (original version of this loco)



1144 with small/ low Fans (original version of this loco) – old and faded



1144 with “Schalldaempfer” (silencer) Fans



1144 with “Schalldaempfer” (silencer) Fans and LZB



Carriages and cab car in “Wiesel” design – dirty



Carriages and cab car in “Wiesel” design – clean



Carriages and cab car in “Standard” design – dirty



Carriages and cab car in “Standard” design – clean



## Scenarios:

All scenarios take place on the Three Country Corner Route which is not included in this package. The route is available on the steam store:

[https://store.steampowered.com/app/325962/Train\\_Simulator\\_Three\\_Country\\_Corner\\_Route\\_Add\\_On/](https://store.steampowered.com/app/325962/Train_Simulator_Three_Country_Corner_Route_Add_On/)

### **[Wiesel] Across The Borders**

Time: 30 min

Difficulty: Hard

### **[Wiesel] REX 5598**

Time: 45 min

Difficulty: Medium

### **[Wiesel] REX 5571**

Time: 62 min

Difficulty: Medium

### **[Wiesel] Special Snow Train**

Time: 60 min

Difficulty: Medium