

ES 9112

London to Amsterdam

QUICK START



Welcome aboard ES 9112 from London to Amsterdam.

In this scenario, you'll take ES 9112 from *Rotterdam* (its first stop in the Netherlands), to *Amsterdam*. After the passengers have disembarked, you will need to take the train to the yard to prepare it for its return journey to London.

Traffic flow is high along the route, so it's crucial to stick to the timetable to and avoid unnecessary stops and ensure a smooth ride.

Equipment: E320

Estimated time to complete: 50-55 minutes

Route: HSL Zuid

Stops: 11:32 / 11:34 Rotterdam CS
12:08 / 12:13 Amsterdam CS
12:20 Watergraafsmeer Yard

AI: Over 40 trains, all sticking to their independent true to life schedule.

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REQUIREMENTS

Required Add-Ons

These add-ons are required for the scenario to work as intended, and influence the gameplay.

- > [HSL Zuid Route](#)
- > [ChrisTrains ICM](#)
- > [ChrisTrains SGM](#)
- > [ChrisTrains SLT](#)
- > [ChrisTrains SNG](#)
- > [ChrisTrains Traxx](#)
- > [ChrisTrains VIRM](#)
- > [DTG BR407 + Eurostar E320 repaint](#)
- > [DTG TGV Réseau + Thalys repaint](#)

Recommended Add-Ons

These add-ons are used for beautification, but have no influence on the gameplay of the scenario (used as static objects around stations and along the route, or play a minor role in the schedule). The scenario is perfectly playable without these add-ons.

- > [Chris Trains DM90](#)
- > [ChrisTrains Mat64](#)
- > [ChrisTrains NS6400](#)

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INSTALLATION

[SP] Eurostar ES 9112 Amsterdam to London

To install this scenario, simply extract the “Content” folder from the .rar file to your main Railworks directory.

e.g. c:\Steam\steamapps\common\RailWorks\.

Bonus Scenario: [SP] ICD 1023 Rotterdam to Amsterdam

Extract the content of the ‘Bonus’ folder to your Railworks main directory.

e.g. c:\Steam\steamapps\common\RailWorks\.



ROUTE INFORMATION

The HSL Zuid route for Train Simulator contains the line between Rotterdam and Amsterdam, as well as Amsterdam's Watergraafsmeer Maintenance Yard.

In this scenario, you start right outside of Rotterdam and are about to arrive there from London as the first stop in the Netherlands. The route can be divided into two parts; the HSL Section, and the Conventional section.

HSL Section North

HSL Zuid is the name of the entire southern HSL route in the Netherlands, from Amsterdam, via Rotterdam to the Belgian border towards Antwerp. The HSL route is split into two parts. The first part is HSL Zuid Section North, between Amsterdam and Rotterdam. The second part is HSL Zuid Section North, from Rotterdam to the Belgian border.

This route contains the HSL Zuid Section North.

ETCS Train Protection System

HSL Zuid is equipped with ETCS Level 2 cab signaling. ETCS Levels are backwards compatible, meaning that e.g. Level 2 equipped trains can also run in Level 1 and 0, but not in Level 3.

ETCS Level 0

Drive on sight

Speed limit 30km/h

ETCS Level 1

Cab signaling

Uses fixed track beacons

Fixed block sections

Speed limit up to 160km/h

ETCS Level 2

Cab Signaling

Uses fixed track beacons in combination with wireless radio-based connection

Fixed block sections

ETCS Level 3

Cab signaling

Fully wireless radio-based connection

No trackside equipment required

Flexible block sections, maintaining optimum spacing between trains

Real time updates



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Sign 336

When entering the HSL, the start of ETCS cab signaling is indicated by sign 336.



Sign 337

Marks the end of cab signaling. You will now resume on visual trackside signaling.



Sign 227a

ETCS Stop Marker, valid for the track in the direction of the orange pointer, marks the separation of 2 blocks and is placed at least every 1500 meters.

Every 4500 meters you find a ETCS Stop Marker equipped with a light underneath.

If this light is illuminated, it indicates that the line is operating in Level 1. If the light is extinguished, the line operates in Level 2.

Other ETCS related infrastructure:



Eurobalise

A Eurobalise is a fixed transponder located between the rails.

There are 2 types of transponders: active and passive transponders.

Passive transponders pass the same information to each passing train:

- Location
- Infrastructure information
- Calibrate train speed

Active transponders pass the same data, and in addition to that:

- Movement Authority (clearing a train to enter a specific part of the track)
- Connected to a signaling control tower.

More information about ETCS

https://en.wikipedia.org/wiki/European_Train_Control_System



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Power Source and Voltage Change

Power Source

25Kv is used on the overhead power lines, compared to 1.500v on conventional tracks.

This means that, when entering the HSL, you have to switch current. Assuming we're entering the HSL and have to switch from 1500v to 25kv, the voltage change section consists of 3 parts; a 1500v section, a neutral section without any electricity and a 25kv section.

This is not simulated in Train Simulator, but that doesn't mean you can't do anything to simulate changing voltage.

Driver Actions during a voltage change

These steps are to be followed when changing voltage.



Sign 308a

When approaching a voltage change (typically at the beginning and the end of the HSL), you will be alerted by sign 308a that you need to lower your pantographs.



Sign 309a

When passing this signal, your pantographs should have been lowered.



Sign 320

This sign marks that you have left the 1500v tension, and that when you pass sign 310a, you are under 25kv tension. Also works the other way around.



Sign 310a

Approval to raise pantographs. In case a numeric sign is added (as in this case indicating '8'), traction only allowed when the corresponding number of electric cars have passed.

E.g. an E320 trainset has 16 cars, so the number should be ≥ 16 .

In case of a consist with a single locomotive followed by passenger cars, you could say that a numeric sign with '1' is sufficient for that train to raise the pantographs, since the passenger cars don't have pantographs. However, if there is a trailing electric locomotive at the rear of the train, you will need to include all cars *and* the locomotives.



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Other Signals These signals also apply to specific traction related operations, but are no part of a voltage change



306a

Switch off traction power.

Found at phase separations, where one part of the line is powered by a different electricity sub-station than the other part.



307a

Allowed to resume traction power.

Works the same as sign *310a*



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Infrastructure Works

Along the route you'll pass several engineering works, such as tunnels, pass-overs and aqueducts. Arranged from Rotterdam towards Amsterdam, you'll pass these works:

Tunnel "Rotterdam Noord"

Length: 3580m

Consists of 3 parts

- 1) Two tubes with one track each
- 2) Open part with both tracks
- 3) One tube for both tracks

Remarks: Despite it being partially uncovered, it's still considered a tunnel entirely.



Deepened "Berschenhoek"

A lowered stretch of tracks for noise reduction for the high-density urban neighborhood it passes.



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Viaduct “Bleiswijk”

Passing a sea of greenhouses, this 6.000 meter long viaduct is the largest viaduct in Europe, but is only 6 meters high on average.

Length: 6.000 meter

Height: 6 meter on average



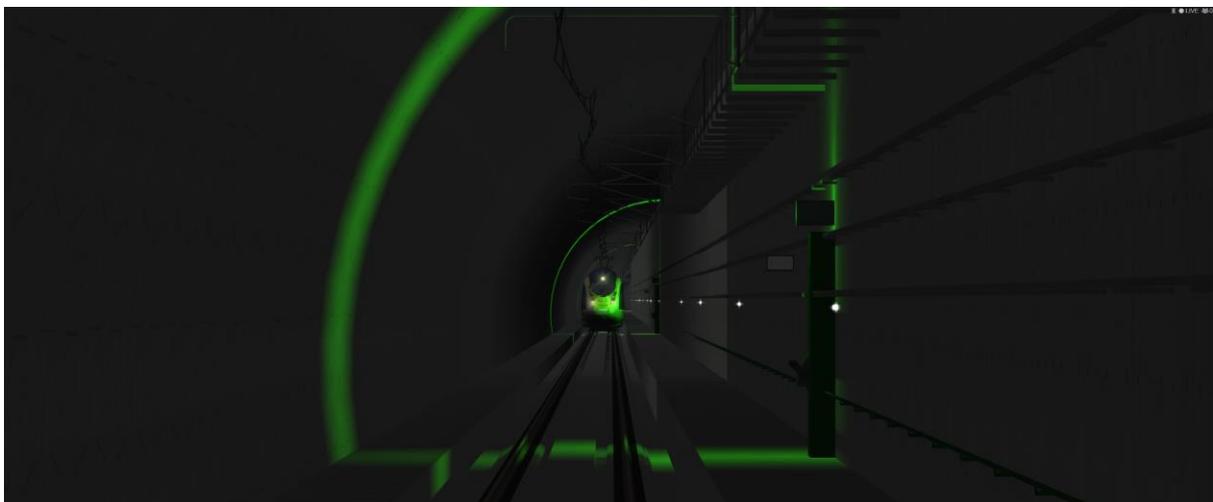
Tunnel “Groene Hart”

Built to cross a nature reserve, Tunnel “Groene Hart” (translated; Green Heart) is the longest tunnel on the HSL line.

Length: 8670m

Depth: 38m

Remarks: Largest diameter bored tunnel in weak soil in the world.



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Viaduct "A4"

Viaduct crossing the A4 motorway between Amsterdam and The Hague / Rotterdam.



Aqueduct "Ringvaart"

Viaduct crossing the A4 motorway between Amsterdam and The Hague / Rotterdam.



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TIMETABLE

The schedule below may help you to stay on time during the trip.

HSL Through Times

Time	Waypoint	Recommended Speed in Km/h
11:35	Rotterdam CS Track 13	= 60
11:40	HSL Tunnel Rotterdam Noord	< 120
11:43	HSL Viaduct Bleiswijk	< 300
11:45	HSL Tunnel Groene Hart	300
11:47	HSL Viaduct A4	300*
11:47	HSL Aqueduct Ringvaart	< 270**
11:50	HSL Hoofddorp Maintenance Yard	< 170
11:52	Hoofddorp	100
11:56	Schiphol Airport	=< 40
12:00	Riekepolder Aansluiting	80
12:05	Amsterdam Sloterdijk	80
12:07	Singelgracht Aansluiting	< 80
12:11	Amsterdam Centraal Track 13B	< 40

* *Advised to cut the throttle here and start coasting*

** *In case you do not use the LZB system, this is where you might choose to use brake setting A1 or higher to further reduce speed in time for the conventional tracks with initial speed limit 140 km/h.*

TIPS

- The maximum allowed track speed is not necessary the scheduled speed.
- At HSL waypoints, try to cross before the scheduled time.
- All other waypoints; try not to cross before
- Bear in mind that there is a lot of movement in the train; from attendants serving the passengers, to passengers grabbing a drink at Café Metropole. Ease on the bends, and at switches try to maintain below Vmax -20%. E.g. switches with 80km/h limits, actual speed 65-70. Those things can be nasty for those moving through the train, which happens especially when approaching a station.
- After Amsterdam, the train is empty and there is plenty of time to reach the yard.



KNOWN LIMITATIONS

Despite the route is very detailed and close to the real thing, it comes with some limitations caused by Train Simulator.

E 3 2 0

The E320, or BR 407 / Siemens Velaro D, has some limitations on this route. The real E320 is equipped with multiple safety systems for all different countries it operates, which are absent in the DTG model. On the HSL Zuid route, 2 safety systems are operational.

ATB

ATB is the Dutch protection system used on conventional tracks and stands for *Automatische Trein Beïnvloedingsysteem*, or *Automatic Train Intervention System*.

Important: *ATB is not simulated in the BR 407. While driving under ATB, you need to use the visual trackside signals.*



You can find more information about this system here:

https://en.wikipedia.org/wiki/Automatische_treinbe%C3%AFnvloeding

ETCS

ETCS, as part of ERTMS, is a European protection system and stands for *European Train Control System*. This system is used on the *high speed line* and features cab signaling, meaning that under normal circumstances, you do not have visual signals outside of the train. All information is displayed in the cab, such as route limits, allowed speed, etc.

Important #1: *ETCS is not simulated in the BR 407. While driving under ETCS, you will not receive any signals and are driving 'blind'. However, the scenario is designed in such a way that you will be able to go full speed on the HSL without any conflicts. Despite you will not be advised when to slow down. As an aid, you can use marker 'Viaduct A4' as a reference when to start coasting. You will lose speed in time to react to speed limits displayed in the route guide of the Train Simulator UI. At the end of the HSL, you will convert to ATB signaling.*

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Important #2: The creator of the HSL Zuid route has equipped the HSL with the German LZB-system. You can use the LZB system (which *is* simulated in the BR 407) in combination with the AFB system to help you stay ahead of your brake curve and slow down in time.

How to activate and use LZB

- 1) Activate the German PZB-system with SHIFT+8. Your train will run some tests and you will hear aural warnings. After the test is completed, you will receive a message "PZB mode: O". You can now continue to step 2.
- 2) Activate LZB by pressing SHIFT+6
- 3) Activate AFB by pressing SHIFT+A

VOLTAGE

To supply the train with the required amount of electricity, different voltages are used to along the route. Where conventional tracks use 1500v, the HSL uses 25kv. In real life, you have to select the correct voltage in the train's board computer. However, different voltages are not simulated in Train Simulator.

If you'd like to know which procedures to follow when transitioning from one current to another, please refer to the chapter Route Information -> HSL Section North -> [Power Source](#).

ROUTING AND TRAFFIC

In the scenario, ES 9112 follows the real world route and schedule, as is 99% of the AI traffic.

However, due to limitations and bugs in Train Simulator, some AI traffic need to divert slightly from this route in order to prevent bugs from happening, e.g. stuck red signals, invalid pathfinding, etc. This does however do not influence the operations and presentation of the scenario. All diversions happen outside the scope of view of the player.



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THANK YOU

Big thanks for using my scenario. I've put a lot of time and effort in making it as accurate as possible, given all limitations. I hope you've enjoyed it.

^SP



BONUS

For those of you who don't own the BR 407 add-on, starting from version 1.1, a bonus scenario is included where you can drive the ICD 1023 service running a few minutes in front of ES 9112. And, of course you can enjoy it if you do own the BR 407 as well ;)

You're welcome ^^



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Changelog

Version 1.1

- [NEW] Bonus scenario "[SP] ICD 1023 Rotterdam to Amsterdam" without BR 407
- [ADDED] ICD 1032 to Rotterdam CS
- [ADDED] SPR 4631 to Almere Oostvaarders
- [UPDATED] AI Traffic flow
- [UPDATED] Static AI north of Rotterdam CS

