



**FORKLIFT-
SIMULATOR**

SDM

FORKLIFT-SIMULATOR

SEATED DESKTOP MODEL

GETTING STARTED

INDEX

Congratulations on your brand new VR Forklift-Simulator!

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Download the latest manual for you product here:
www.forklift-simulator.com/flsmanuals/



WHAT IS IN THE BOX?



UNBOXING THE SIMULATOR - FLIGHT CASE

The desktop model comes in a military grade transport case.



WHAT IS IN THE BOX

- 1 Desktop Module
- 2 Floorboard
- 3 Quest 3 headset with battery-comfort strap and charger
- 4 Tablet and charging cable
- 5 1 UTP Cable (floorboard-desktop connection)
- 6 12V power adapter for desktop module
- 7 USB to HDMI adapter
- 8 50 RFID badges

WARNING !



IMPORTANT:

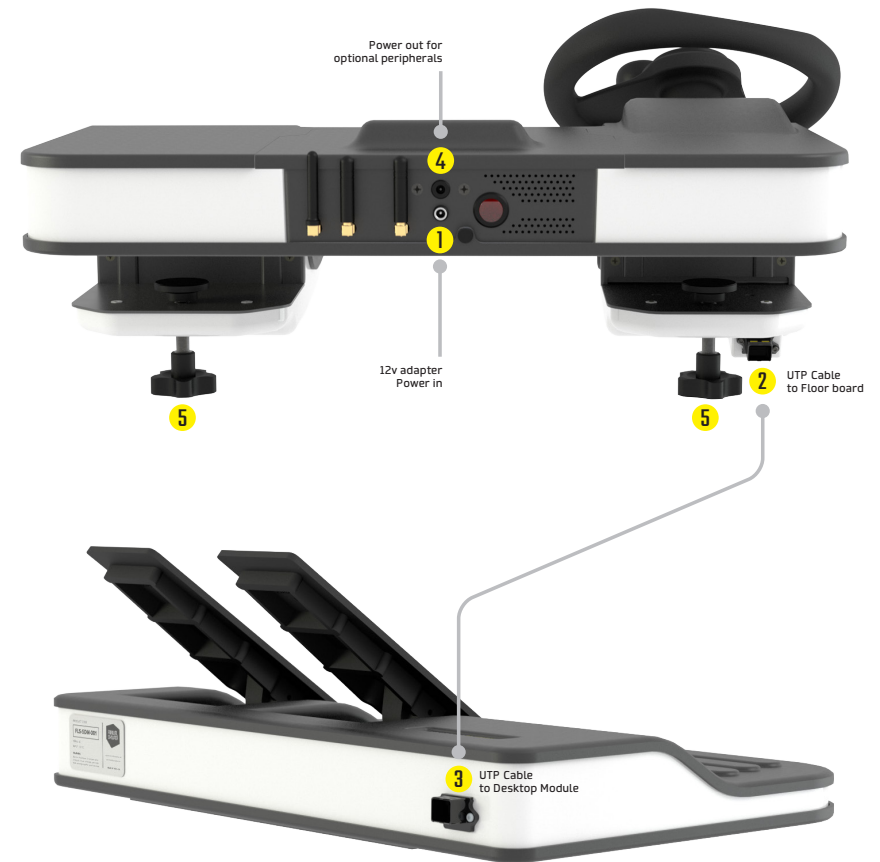
For your own safety and the safety of others:

1. Always ensure the desktop module is securely clamped to your desk or table to prevent it from sliding off during your VR session. Do not use a desk that is too thin or thick for the thumb screws to properly secure the module.
2. Use a stable, non-rolling table or desk that won't tip over. Avoid light, foldable tables and those on wheels. We recommend a heavy table with a wide base or one that is fixed to the floor.
3. Never let a first-time user operate the simulator unattended. Ensure they are fully familiar with the equipment and understand how to use it safely before their session.
4. We recommend a stationary chair that does not roll or swivel.

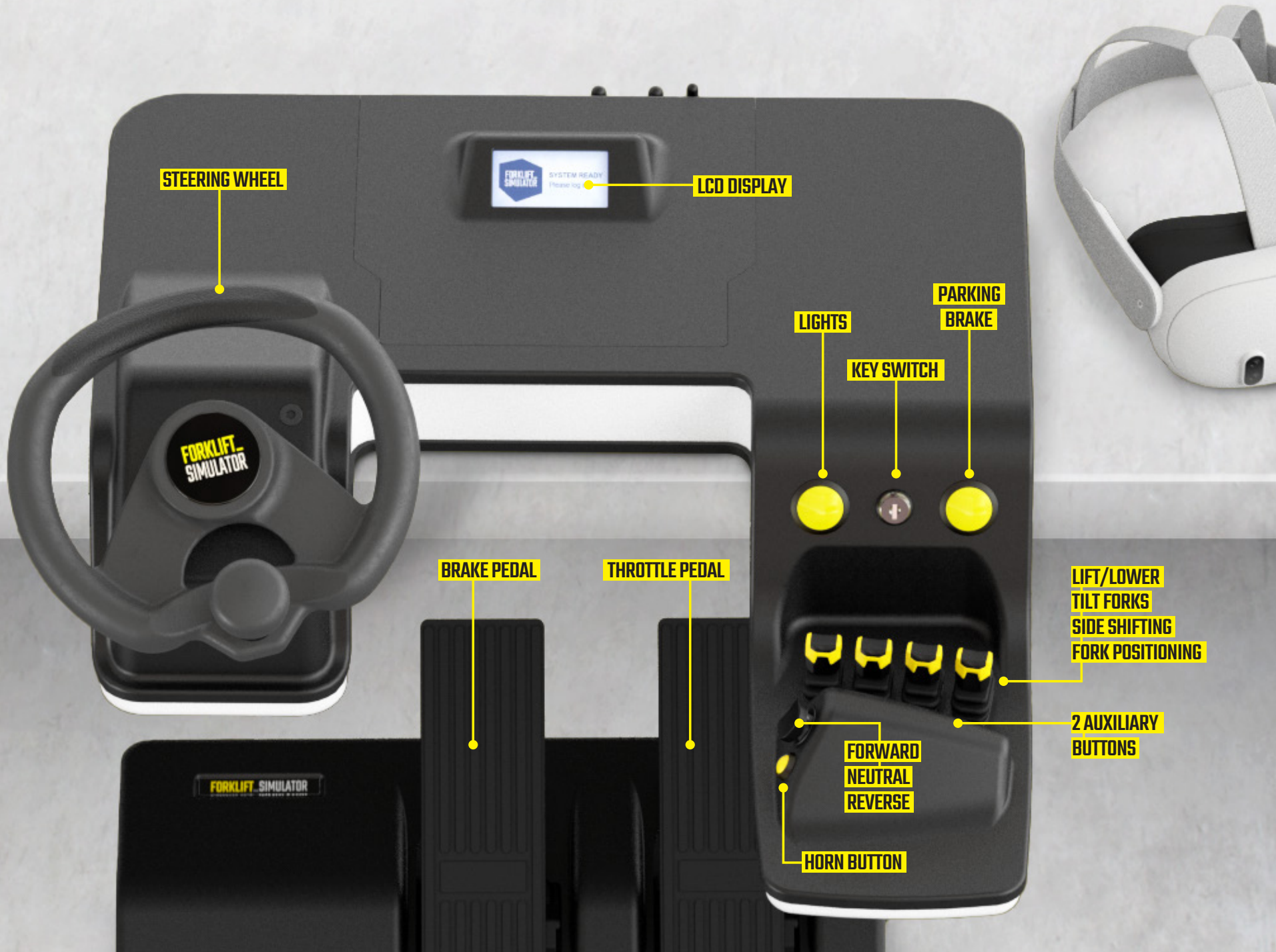
SETTING UP - HARDWARE

SETTING UP THE UNIT

To set up your unit for use, follow these simple steps.



- 1 12v Power adapter (Power in)
- 2 UTP connector (desktop module to floorboard)
- 3 UTP connector (floorboard to desktop module)
- 4 Power out (reserved for optional accessories)
- 5 Thumbscrews to secure the desktop module



SETTING UP - HEADSET

HOW TO PROPERLY USE THE VR HEADSET

A best practice guide on how to deliver a Forklift Simulator experience to new and experienced users.

MAINTENANCE

Clean the lenses free of smudges and dust particles.
Avoid scratching the lens by using high quality lens cloths.
You can use anti-septic wipes to sanitize the headset.

ASSURE COMFORT AND VISUAL CLARITY

Release the top Velcro strap.

Enter in the headset, eyes first while fitting the back of head.
(Put it on like a baseball cap, forward to back.)

You can tighten the headset by turning the adjustment wheel on the back.
Then fasten the top Velcro strap. If preferred, the top strap can be removed.

Assure that the lens is placed over the eyes where the image is most clear!
If the image is not sharp, move the headset up or down a little and reposition.
There is a sweet spot in the middle of the lenses.

On the bottom of the headset you will find a wheel to change the interpupillary distance. (distance between the lenses)

PRO-TIP If the position of the headset is falling over the eyes, tighten the top strap. Experience that is not in focus can stimulate motion sickness.

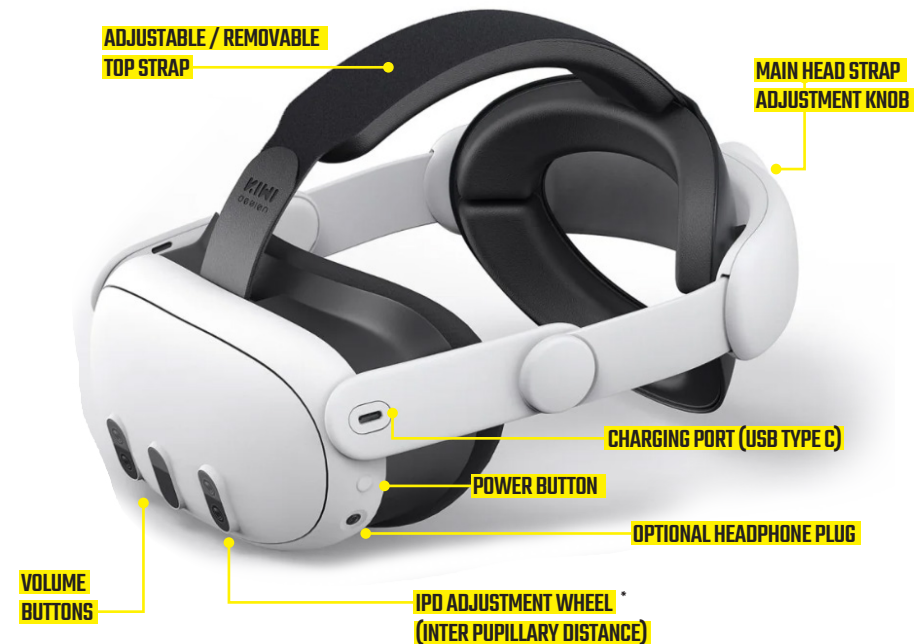
Users with glasses should be extra careful with putting on the headset.
Enter in the headset glasses first. Once their glasses have passed through the headset, fit the back of headset to the back of head.

GETTING STARTED

Important to remember that first time users should ease into their first VR experience! Making the user feel comfortable is key.

Once a lesson has been chosen, begin by having users look around the environment. Encourage the user to look behind them, above them, and carefully leaning outside the truck. When the driving portion of an exercise begins, start by driving slowly around the environment.

SETTING UP - VR HEADSET



PRO-TIP It usually takes 2-3 trials before first time users get acclimated to the VR technology. Users will build a higher tolerance overtime.

If user cannot proceed with VR simulation, help remove the headset and have them relax until they are ready to proceed.

REMOVING THE HEADSET

Release the main strap using the adjustment wheel and remove the headset.

For additional information on the use and maintenance of the headset please visit [meta.com](https://www.meta.com) and search for 'Getting Started With Meta Quest 3'.

START UP PROCEDURE

1. DOUBLE CHECK CONNECTIONS

Make sure everything is connected and plugged in properly. (Page 7)

1. The desktop module 12v power adapter is plugged in.
2. The floor board is connected to the desktop module using the provided cable.
3. The simulator is turned on.

2. THE TABLET

You can control settings, change camera views and launch exercises from the tablet application. Turn it on and make sure it is connected to the SDM network.

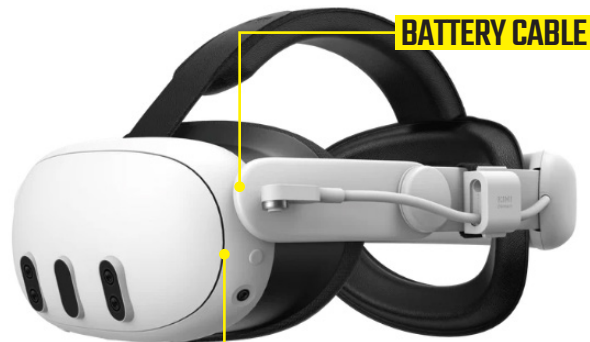
3. THE HEADSET

Before you start, make sure the headset is sufficiently charged. You can charge it using the USB type C port on the back of the head strap to charge it.



**BATTERY
CHARGING PORT**

1. Make sure the cable coming from the external battery on the back of the head strap is connected to the USB C port on the side of the headset. This will extend the battery life for up to 4 hours.
2. Turn the headset on by pressing the round button on the left side of the headset for 2 seconds. Then, put on the headset.



BATTERY CABLE

POWER BUTTON

START UP PROCEDURE

3. You might be asked if you want to continue a previous session. Unless you are continuing after a short break, we recommend ending the session and starting a new one. > The headset will restart.
4. Press the volume button located on the bottom of the headset to acknowledge the disclaimers.



5. The Forklift-Simulation application will start up automatically.
 - Calibrate your position in the virtual space if needed.
 - Sign up or log in with your personal Forklift-Simulator account.
 - If you do not wish to use a personal account, select 'Quickplay'



Hand and Body Tracking is turned on by default. The hand controllers are not needed during the Forklift Training Simulation.

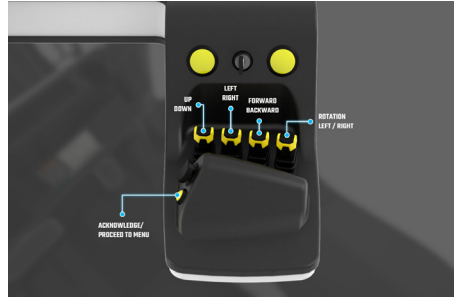
FORKLIFT-SIMULATOR SOFTWARE

CALIBRATION

On startup, you'll be asked if the simulator needs to be calibrated.

If the position of the virtual controls match the real ones, select 'Skip' and press the horn to continue.

If they don't match, select 'Calibrate'. Use the controls to move the virtual truck until its controls align with the real ones. Once set, press the horn to proceed.



Calibration using the controls.

QUICK CALIBRATION

You can use the Quick Calibrate method at any time for a quick preset position based on your hands.

To perform a Quick Calibrate:

- Touch and hold the button on your left hand until the light around it fills up.
- Place your left hand on the steering wheel at the 6 o'clock position.
- Place your right hand on the armrest and press the horn.



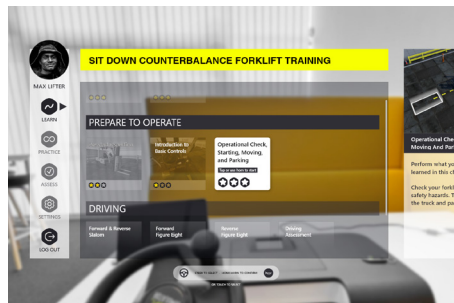
Using the Quick Calibrate button.

MENU AND NAVIGATION

You can navigate the menus using the steering wheel:

- Turn the wheel left to scroll up.
- Turn the wheel right to scroll down.
- To select an item or confirm a choice, press the horn on the armrest.

Alternatively, you can use your index finger to point and touch. To scroll, touch and hold, then drag.



FORKLIFT-SIMULATOR SOFTWARE

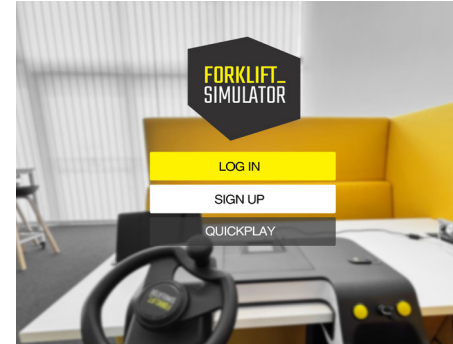
QUICKPLAY - LOGIN

QUICKPLAY MODE

This modus can be used by anyone. No individual results will be saved and progress will not be tracked in this mode.

LOGIN MODE

If your company uses the LMS, individual drivers can log in with a PIN provided by their system administrator to track their progress. This saves individual results, allowing both the driver and trainer to monitor progress over time.



Quickplay or Log in

COMPLETING AN EXERCISE / IN GAME MENU

Once an exercise is complete, a new screen will appear showing your results and any trophies you've earned. From here, you have three options:

Retry: Restart the same exercise to try and improve your score.

Next: Skip immediately to the next exercise in your current level.

Back to Menu: Return to the main exercise selection menu.

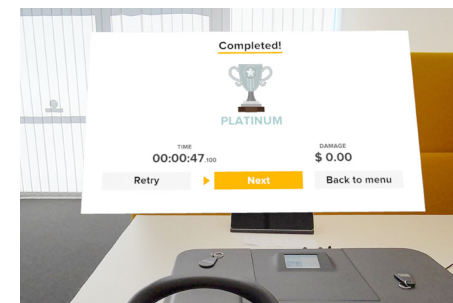
To select an option, turn the steering wheel and press the horn button to confirm.

During any exercise, you can access an expandable menu located under the head-up display. Simply touch the menu icon, and it will expand to give you the following choices:

Exit: End the current exercise.

Settings: Access the settings menu.

Reset/Restart: Reset or restart the exercise from the beginning.



Result page



Head Up Display and expandable menu

COMFORT MODE

COMFORT MODE

Some people may feel a bit of discomfort while moving in VR. This sensation, known as "vection," happens because your eyes see movement while your inner ear and body don't.

If you're experiencing vection, you can activate our Comfort Mode. This mode uses Mixed Reality to help reduce the sensation. Simply press both buttons located between the mini-levers and the palm rest at the same time.

To switch back to full VR, just press them again. This makes it easy to transition for tasks that don't involve driving but require precise movements, like picking up a pallet. For traveling from one point to another, Comfort Mode is perfect.

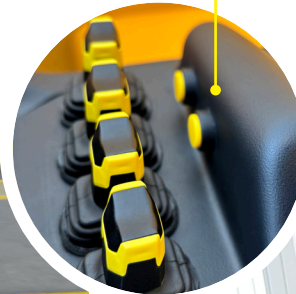


Transition to Full VR for tasks that don't involve driving but require precise movements.

COMFORT MODE

COMFORT MODE BUTTONS

While in Mixed Reality, you can glance to your left, right, or up, and a new screen will appear to help you navigate the warehouse.



Use comfort mode for traveling from one point to another.

ACCESS PASSTHROUGH

WHAT IS PASSTHROUGH ?

Pass-through is a feature that allows you to temporarily exit the virtual world and see a live view of your real surroundings. This is especially useful for communicating with others or reorienting yourself without having to take off the headset.

Passthrough can be accessed in three ways:

1. DOUBLE-TAP

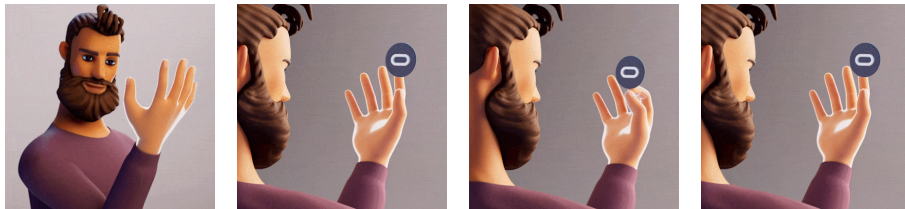
To switch between Passthrough and full VR environments while in the headset, simply double-tap either side of the device.



2. QUICK PINCH

Another way to exit the application and switch to the Passthrough environment is with a quick pinch gesture. Simply look at the palm of your right hand and briefly pinch your index finger and thumb together.

To return to the VR simulation, just repeat the same gesture.



Look at the palm of your right hand.

When you see the Meta logo appear...

... shortly pinch/tap index finger and thumb...

... and release.

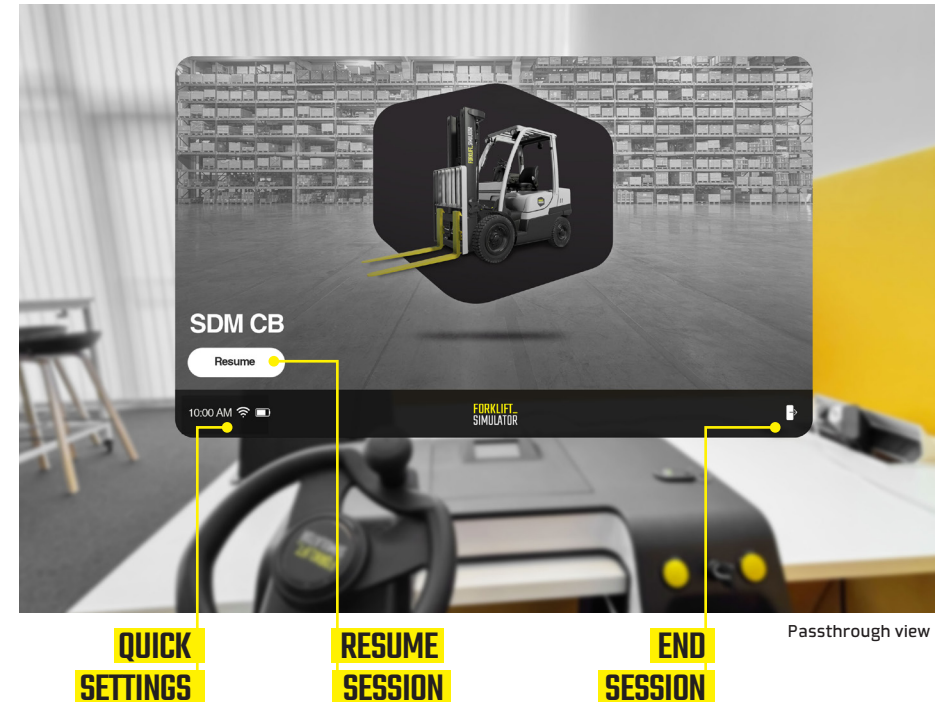
3. PASSTHROUGH BUTTON (3S MODEL ONLY)

Push the round button on the bottom right of the headset to switch between the VR and Passthrough environments.

Note that this option is only available on the Quest 3S model.



PASSTHROUGH VIEW



SETTINGS

While in the Passthrough environment, you can access the headset settings by touching the clock, Wi-Fi, and battery icons in the bottom-left corner. If the screen is out of reach, you can aim at the icons and pinch your thumb and index finger together.

RESUME SESSION

To switch back to VR, select 'Resume.' Alternatively, you can double-tap the headset or perform a quick pinch gesture as described previously.

END SESSION

This will end your current session and restart the headset.

ACCESS HEADSET SETTINGS

HEADSET SETTINGS

First, exit the simulation by double-tapping the side of your headset or by using the pinch method (see page 19).

Next, access the headset's Quick Settings Menu by touching the clock, Wi-Fi, and battery icons in the bottom-left corner of your view.



Passthrough view

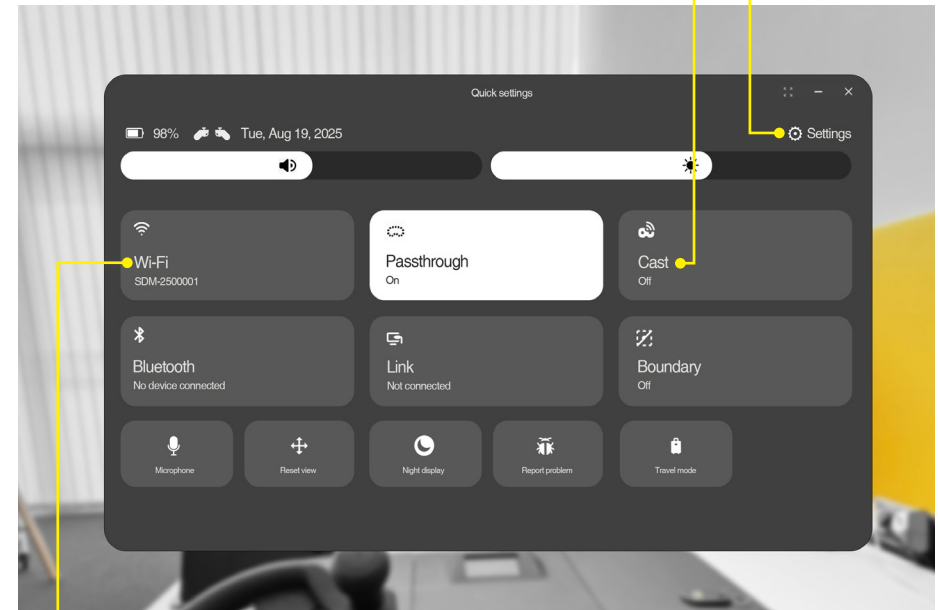
QUICK SETTINGS

HEADSET SETTINGS

CAST SESSION

You can cast your view to a web address to share your screen with the support team.

ADVANCED SETTINGS



WI-FI SETTINGS

You can access the Wi-Fi settings here. The headset must be connected to the local SDM network to receive controller signals and connect to the tablet. The network name is the serial number of the simulator.

SSID: SDM-XXXXXXX
Password: FL-connect

Please ensure the SDM network is set to auto-connect.

TABLET

TABLET

LAUNCHING THE APP

The tablet must be connected to the local SDM network to communicate with the headset. To access Wi-Fi settings, tap the 'settings' icon on the home page.

Once connected to the SDM network, you can launch the FLS companion app by tapping the first icon on the home screen.

LAUNCH

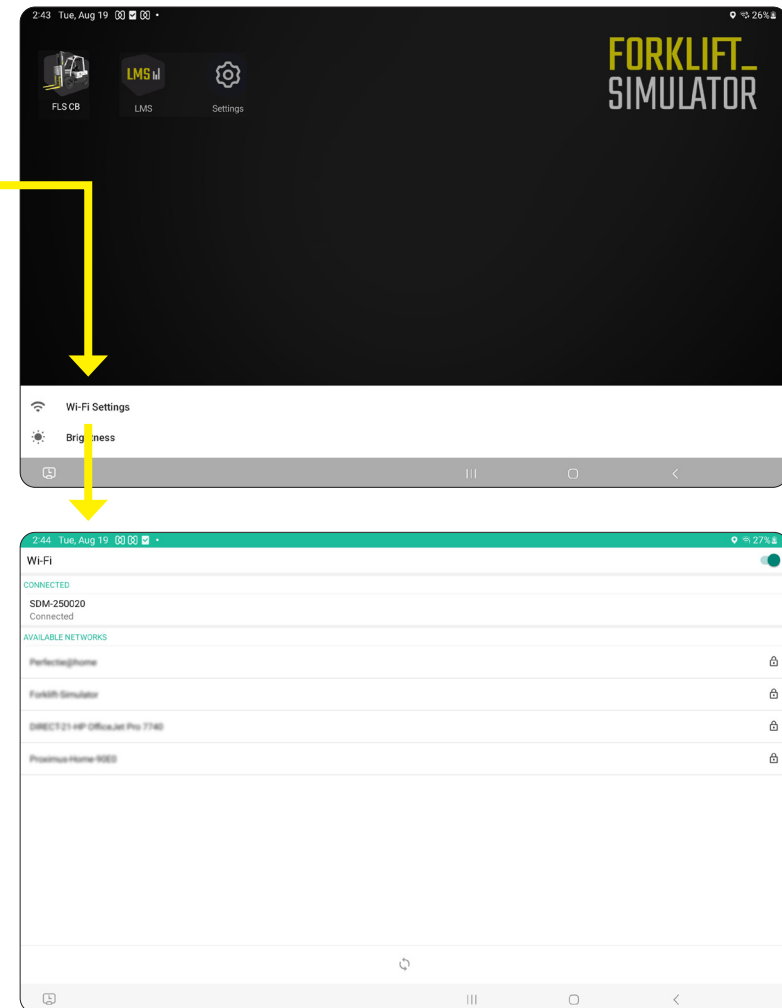
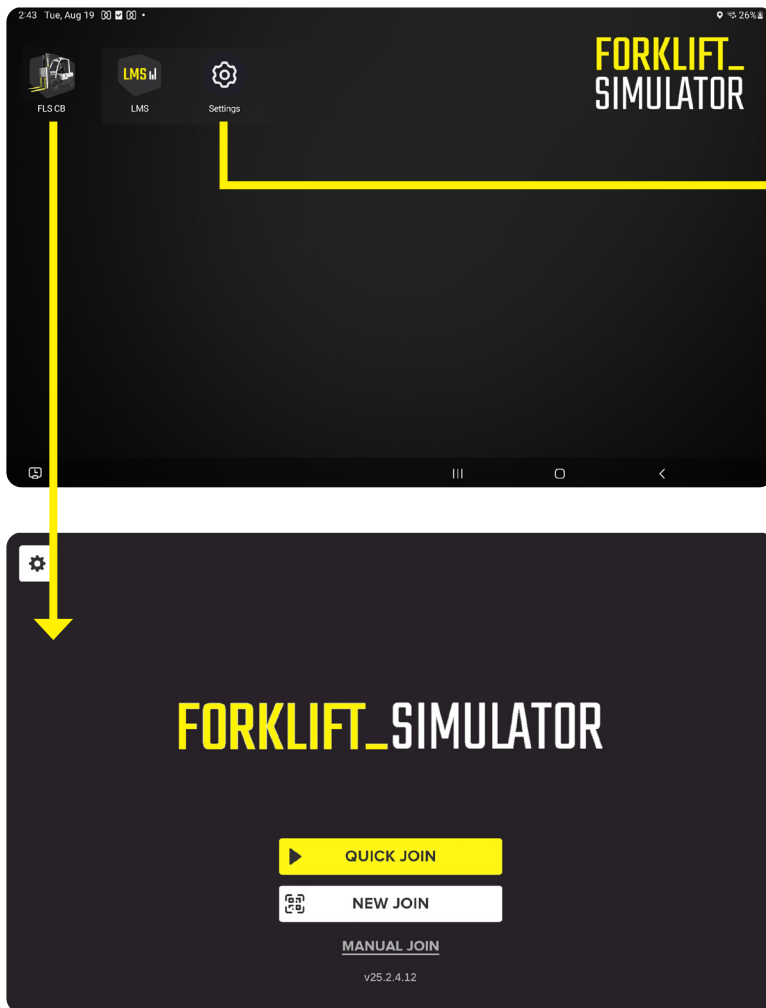
Simply launch the application by clicking the app icon.

SETTINGS

Click the settings icon to open the Wi-Fi and brightness settings.

CONNECT

Connect the tablet to the headset.
See page 24.



WI-FI

Make sure to select the SDM network. The tablet must be connected to this network to establish a connection with the headset.

The network name (SSID) is the SDM serial number, such as SDM-2500020.

The password is FL-connect.

TABLET

TABLET

CONNECTING TO THE HEADSET

1 QUICK JOIN

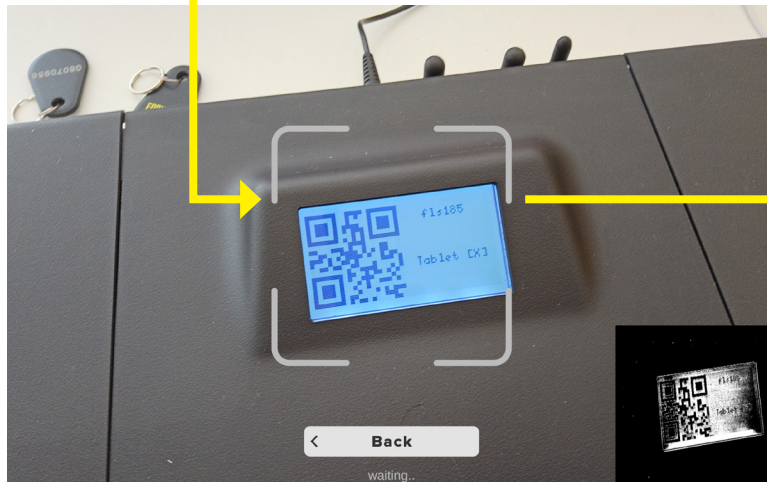
Use Quick Join to quickly connect to the most recently used headset.



2 NEW JOIN

You can use New Join to connect to the headset by scanning the QR code on the desktop module's LCD screen.

This QR code will only appear when the headset is connected to the SDM network and the simulation app is already running.



3 MANUAL JOIN

You can also connect to the headset by manually entering the FLS code (e.g., flsxxx) that is displayed on the desktop module's LCD screen.



CONNECTED

Once a connection is established, you will see the VR environment from the user's point of view.



TABLET INTERFACE

TABLET INTERFACE

USING THE TABLET

1. EXERCISES

You can browse the curriculum and launch exercises directly from the tablet.

2. MANAGE

Trainers can log in on the Manage tab to perform the following actions:

- Create and manage users
- Link RFID badges
- Unlink or release RFID badges

3. SETTINGS

You can access settings directly from the tablet to customize the experience for both the headset and the tablet.

4. DEBUG

This tab can be used to help the support team troubleshoot any issues that may arise.

5. EXIT

Log out and exit the current session.



6. DUPLICATE SCREEN

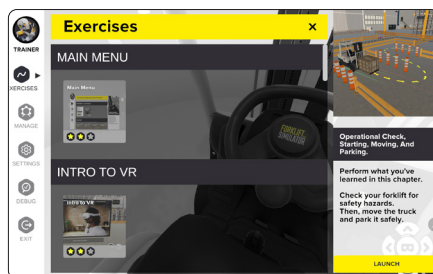
Need a bigger screen?
Use the included USB to HDMI adapter to duplicate the tablet screen to a larger screen.



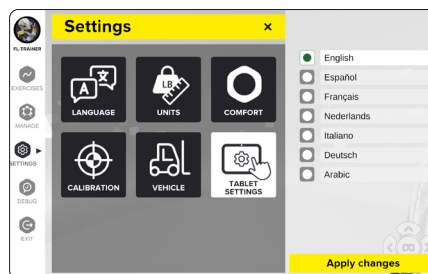
7. CAMERA VIEW

Switch between camera views on the tablet. Available views:

- POV
- Third person view
- Top view
- Left view
- Right view



Exercises



Settings



Third person view

SHUTTING DOWN

SHUTTING DOWN THE UNIT

Headset:

Press and hold the power button for a few seconds, then unplug the battery cable.

Tablet:

Simultaneously press and hold the Side (power) button and the Volume Down button until the power menu appears. Then, tap "Power off" and confirm.

Simulator:

Turn off the power using the red button located on the back of the desktop module.

Optional: If you are not using the unit for a while, you can unplug the 12V adapter for the desktop module.



TROUBLE SHOOTING

Issue		Solution
1	The virtual controls in VR do not align with the position of the physical controls.	When you start the application, you'll be asked if calibration is needed. If the virtual controls do not match the position of the physical controls, select 'Calibrate' using the steering wheel, then press the horn to confirm. Once in calibration mode, use the controllers to move the truck's position—up, down, left, or right—until the virtual controls align with the real ones. When everything is in place, press the horn to save and exit calibration mode. Quick Calibration You can also perform a quick calibration at any time to instantly reposition the virtual controls based on your hand position. Touch and hold the button on the back of your left hand until the circle around it is complete. Place your left hand on the steering knob at the 6 o'clock position. Place your right hand on the armrest and press the horn. This will immediately adjust the virtual controls to the new position.
2	Controls are not working	First, double-check that the headset is connected to the correct SDM network. The controller signals will not be detected if the headset isn't on the right network. Also, confirm that the 12V power adapter is plugged in and the desktop module is powered on. You can tell it's on by checking the red button on the back of the module.
3	The tablet won't connect	Ensure that both the tablet and the headset are connected to the same SDM network. You also need to verify that both devices are running the same app version. On the tablet, the version number is found at the bottom of the join page. On the headset, the version is shown on the loading screen when you launch the application.
4	Controls signal drops and/or is unstable	Heavy wireless traffic can cause some channels to become congested. If you're experiencing issues, please contact our support team, and we can help you select a different channel.
5	Can't log in / no signal	In locations with poor cellular coverage, it may be necessary to add a local network to the integrated router. There are two options: Wi-Fi Connection: Contact our support team to help you add your local Wi-Fi network to the router. Wired Connection: Plug an Ethernet cable directly into the back of the desktop module.

For all other questions, please contact support@forklift-simulator.com

Download the latest manual for your product here:
www.forklift-simulator.com/flsmanuals/

1. Document Identification, Traceability & Model Variants

Document Control Reference:
DOC-SDM-RED-2025-V3
Issue Date: September 10, 2026
Revision Index: Rev 3.0
Language: EN (Master)

1.1 Manufacturer & EU Authorised Representative

US Manuf.: FL-Simulators Inc., USA.
EU Manuf.: FL-Simulators Europe bv., Belgium
EU Authorised Representative & Importer: FL-Simulators Europe bv, Uitbreidingstraat 10 - 16, 2600 Berchem, Belgium.
Support: support@forklift-simulator.com
Website: www.forklift-simulator.com

1.2 Model Traceability & Identification Label

Product Type Designation:
Desktop Sit Down Counterbalanced Forklift-Simulator (SDM CB).
Product Serial & Identification Label:
The physical serial number plate and CE marking label are affixed to the rear panel of the desktop module next to the power input. The serial number format is SDM-XXXXXXX (e.g., SDM-2500020).

1.3 Hardware & Headset Compatibility Matrix

This manual applies strictly to the hardware and software combinations outlined below:

Simulator Module
SDM Forklift-Simulator Desktop Module

VR Headset
Meta Quest 3 / Meta Quest 3S

Pedal Unit
SDM Forklift-Simulator Pedal box

Companion Tablet
Samsung Galaxy Tab S9 and FLS app

Software Version
FLS Application v25.2.1 or higher

2. Intended Use & Safety Operational Boundaries

2.1 Intended Use

The Sit Down Counterbalanced Forklift-Simulator (SDM CB) is engineered exclusively as a professional virtual reality training tool for teaching industrial forklift operating procedures, hazard awareness, and driving skills in a controlled, non-hazardous digital environment.

Permitted Environment: Commercial and industrial indoor dry environments (e.g., training centers, classrooms, industrial offices).

Target Users: Adult trainees, candidate forklift operators, and certified instructors.

Supervision Requirement: First-time users must be supervised by a qualified trainer during operation.

2.2 Prohibited Use & Reasonably Foreseeable Misuse

DO NOT operate the simulator outdoors, in high-humidity areas, or in wet locations.
DO NOT mount the module onto unstable, swivel, rolling, light, or foldable tables.

DO NOT allow trainees under the influence of alcohol, drugs, or severe fatigue to use the VR headset. **DO NOT** use the simulator for entertainment or unapproved third-party software applications.

2.3 Environmental & Electrical Operating Limits

Input Voltage / Power Supply: 12V DC input via supplied 100–240V AC external power adapter (50/60 Hz).
Ambient Temperature Range: +10°C to +35°C.
Relative Humidity: 20% to 80% non-condensing.
Desk/Surface Requirements: Heavy, fixed-base desk with minimum surface load capacity of 50 kg.

2.4 Safety Warnings: Cable, Trip & Pinch Hazards

 **WARNING:** Cable & Mechanical Hazards
Trip Hazard: Route the floorboard UTP cable, mains adapter cable, and battery lead flat against floor surfaces or desk edges to prevent tripping.
Pinch Hazard: Keep hands and fingers clear of the thumb-screw clamping mechanism beneath the desktop module during installation.

3. Mandatory RED Wireless & Radio Specifications

This product contains intentionally transmitting radio devices governed by the Radio Equipment Directive (RED) 2014/53/EU.

3.1 Radio Interfaces & Frequency Specifications

Wi-Fi (Router/Module)
2400 – 2483.5 MHz / 5150 – 5850 MHz
20 dBm (100 mW) / 23 dBm (200 mW)
External dipole antennas (3x)

LTE / Cellular Router
800 / 900 / 1800 / 2100 / 2600 MHz
23 dBm to 33 dBm
Integrated / external LTE antenna

Meta Quest 3 / 3S Wi-Fi
2.4 GHz / 5 GHz / 6 GHz (Wi-Fi 6E)
< 20 dBm (2.4 GHz) / < 23 dBm (5 GHz)
Internal omnidirectional antenna

Bluetooth / Headset
2402 – 2480 MHz / < 10 dBm (10 mW)
Internal antenna

3.2 RF Exposure & Separation Distance

To comply with RED RF exposure requirements (Directive 2014/53/EU Art. 3(1)(a)), maintain a minimum separation distance of 20 cm between the desktop module's external Wi-Fi/LTE antennas and the body of the user or bystanders during operation.

3.3 Common Charger Information (RED Article 3(4) / Annex Ia)

The tablet companion and Meta Quest VR headset are charged via standard USB Type-C interfaces. Charging Specifications: USB-C charging requiring 5V–9V DC (minimum 15W–27W USB Power Delivery compliant adapter).

3.4 Member State Restrictions

The Wi-Fi interface operating in the 5150–5350 MHz band is restricted to indoor use only across all EU Member States. No other national radio authorization restrictions apply.

4. Cybersecurity & Data Security Instructions (RED Art. 3(3)(d)/(e))

4.1 Secure Configuration & Password Requirements

Wi-Fi Network Security: The simulator creates a local network with default SSID SDM-XXXXXXX and password FL-connect. System administrators must change default network keys during deployment if connected to broader corporate networks.
LMS Account Security: Administrator and trainer access pins must be kept confidential.

4.2 Software & Security Updates

Update Policy: Security and functional updates are distributed via the integrated FL-Launcher / FLS app. User Action: When prompted at application startup, select "Update" to install critical security and conformity patches.
Supported Security Update Period: Critical security maintenance is provided for a minimum of 3 years from product purchase.

4.3 Data Protection & Privacy

Stored Data: When operating in Login Mode, individual user PINs, performance metrics, and exercise completion scores are recorded locally or on the designated Learning Management System (LMS).
Privacy Controls: Operators may use Quickplay Mode to conduct anonymous training sessions without storing personal results.

4.4 System Recovery & Vulnerability Contact

Secure System Reset: To restore default secure settings without corrupting software integrity, select Settings > Reset on the companion tablet app.
Vulnerability Reporting: To report potential cybersecurity vulnerabilities, contact: security@forklift-simulator.com.

5. Maintenance, Emergency Actions & Safe Disposal

5.1 Emergency Actions & Abnormal Conditions

In the event of physical instability, liquid ingress, excessive heat, electrical burning odors, or severe VR motion sickness:
Remove VR Headset: Immediately remove the headset.
Power Off Unit: Press the red main power button on the rear of the desktop module.
Disconnect Power: Unplug the 12V power adapter from the mains outlet.

5.2 User Maintenance vs. Qualified Service Boundaries

User Routine Maintenance: Cleaning optical VR lenses with microfiber cloths, sanitizing head straps/

muffler foam with antiseptic wipes, and inspecting UTP/power cabling.

Qualified Service Personnel Only: Internal electronic repairs, power inlet servicing, radio router module replacement, and internal control calibration must be performed exclusively by authorized technical personnel.

5.3 End-of-Life Disposal & Recycling (WEEE / Battery Directives)

 **Safe Disposal Instructions**
WEEE Compliance: Do not dispose of this electronic simulator, tablet, or VR headset in standard municipal waste.
Battery Disposal: The VR headset and tablet contain integrated rechargeable lithium-ion batteries. Deliver all electronic components and batteries to designated municipal electronic recycling points or return them to FL-Simulators Europe bv.

6 Transport and storage

6.1 Transport Protection:

Always transport the desktop module, floorboard pedal assembly, VR headset, companion tablet, and accessories in the provided military-grade flight case to prevent mechanical impact or transport damage

6.2 Storage Environment:

Store the simulator equipment in a clean, dry indoor environment within an ambient operating and storage temperature range of +10°C to +35°C and a relative humidity between 20% and 80% (non-condensing)

6.3 Preparation for Transport & Storage:
Cable Disconnection: Fully disconnect all external cabling (12V DC power adapter, UTP floorboard connection cable, and USB-C charging leads) prior to packing.
Lens Protection: Ensure the optical lenses of the Meta Quest VR headset are covered and protected from direct sunlight, dust, and sharp objects to prevent permanent lens burning or scratching.
Battery Maintenance: For extended storage periods, maintain integrated lithium-ion battery devices (VR headset and tablet) at approximately 50% charge.

7 Symbol & Abbreviation Glossary

	CE Conformity Marking (Declares European Directive compliance)
	General Caution / Warning symbol
	Read manual / instructions before operating
	Wireless network connection indicator
	Shock hazard / DC Power Input
	WEEE separate collection / Battery recycling required
UTP	Unshielded Twisted Pair connection cable
IPD	Interpupillary Distance adjustment
LMS	Learning Management System

PLAY HARD
WORK SMART



The latest manuals and the
Declaration of Conformity (DoC) for your product
can be obtained here:

www.forklift-simulator.com/flsmanuals/

DOC-SDM-MAN-EN-2026-V1



Download the latest manual for you product here:
www.forklift-simulator.com/flsmanuals/



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