WARNING! Assembled platform will have exposed motors moving parts. Never operate it with the small children around or use optional protection cover.

During initial assembly, don’t tighten bolts completely, rather do it at the end of the assembly. Please first assemble the entire frame and tighten screws and bolts afterwards.

The following arrow highlights a location on the diagram or details where you need to pay extra attention:

Please check the motor’s power and sensors to ensure the plug colors match. This is very important. **Never change wiring.** Mismatched connector colors can damage the motors and platform controllers.

Our platform is very lightweight and simple due to its perfect weight balance. This allows us to use affordable motors and gearboxes. If you plan to put something besides standard wheel, pedals, yoke, gear shifter, throttle and HOTAS you need to plan and implement it properly. Each additional, even light element on the moving platform should be well positioned and counterbalanced (same weight \times same arm length). You can’t put even a lightweight screen/monitor on our simulator. It is always better to consult us first, before installing any extra equipment on the platform.

Don’t put ANY accessories (joystick, pedals etc) on the platform before it is completely tested and proven to be working as desired. After assembly, attach the seat only. Nothing extra. When you ensure proper behavior start adding controllers one by one, doing movement tests with a person seating in the pilot seat after each new addition to the platform weight.

<table>
<thead>
<tr>
<th>Bolts &amp; Material</th>
<th>Type</th>
<th>Pcs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seat</td>
<td>M8x35</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>M8x60</td>
<td>4</td>
</tr>
<tr>
<td>Wheel support</td>
<td>M8x45</td>
<td>4</td>
</tr>
<tr>
<td>(Wheel Holder)</td>
<td>M8x35</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>M6x30</td>
<td>4</td>
</tr>
<tr>
<td>Main Rail</td>
<td>M8x70</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M8x65</td>
<td>2</td>
</tr>
<tr>
<td>Frame</td>
<td>M8x35</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>M10x16</td>
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</tr>
<tr>
<td>Base</td>
<td>M6x60</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>M6x45</td>
<td>1</td>
</tr>
<tr>
<td>Wheel and Pedals</td>
<td>M8x80</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M6x20</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>M6x16</td>
<td>2</td>
</tr>
<tr>
<td>HOTAS mounts</td>
<td>M8x45</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>M6x15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M6x40</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M8x20</td>
<td>1</td>
</tr>
<tr>
<td>VR</td>
<td>M6x15</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>M4x16</td>
<td>1</td>
</tr>
</tbody>
</table>

If your control box don’t have colored motors plugs: left motor brown plug is Motor 1, right 2 black plug, rear Motor 3 white plug.
Here are few videos of P3 assembly [https://www.youtube.com/watch?v=4DVa2-J_feY](https://www.youtube.com/watch?v=4DVa2-J_feY) [https://youtu.be/gz8i9IYWZcY?t=113](https://youtu.be/gz8i9IYWZcY?t=113) and [https://youtu.be/QbTnt5a_C6w](https://youtu.be/QbTnt5a_C6w) for your reference.

H/P2 assembly [https://www.youtube.com/watch?v=9RxO4pllg88&t=234s](https://www.youtube.com/watch?v=9RxO4pllg88&t=234s)

+ H/P3 upgrade [https://www.youtube.com/watch?v=pDzoXs4LoJE](https://www.youtube.com/watch?v=pDzoXs4LoJE)

1. Lower frame assembly P3

Parts needed:


1.1. Assembly Traction Loss Base

Assemble the base as per illustration below. Ensure the bar with attachment hole facing is as per illustration. This is the mounting point for Traction Loss / Yaw arm.
You can put motor arm mounting bolt in as shown below
1.2. Assemble the lower frame as per illustration below

1.3. Attach main motors and U-joint mount bracket.
1.4. Attach frame to the base with the bearing.

Also connect Traction loss motor arm in place. Fix the platform with the Traction Loss / Yaw arm rod and rear motor gear box assembly so the platform is not moving. Use the M6x45mm bolt that you affixed before.
2. Upper frame DOF Reality

These steps are the same for all platforms. There can be some small deviations for left or righthand driving, DirectDrive wheels as well as optional HOTAS side mounts.

Parts needed:

1. – wheel plate, 2. – main rail, 3. – wheel support(2 pcs.), 4. – wheels support mount(left), 5. – wheel support mount(right), 6. – main motors arms mount, 7. – shifter support, 8. – Seat mounts bars(2pcs.), 9. – pedals stand.
2.1. With U-joint attach the main rail to the lower frame.

2.2. Attach front lateral bracket.

Make sure the front one is placed mounting holes down. Attach motor pulls arms rods.
2.3. Attach the pedals stand and front motors.

2.4. Attach two seat mount brackets.

You can also mount the seat. Attach the wheel plate wheel support mounts.
2.5. Attach wheel and shifter stand to the main rail.

For more rigidity (with heavy Direct Drive wheels) bolt it to front lateral bracket.

2.6. Attach the wheel plate. Attach the shifter holder bracket.

If your control box don’t have colored motors plugs: left motor brown plug is Motor 1, right 2 black plug, rear Motor 3 white plug.
3. Options mounting

Please follow this video for the dampers kit installation https://youtu.be/nwBFJHwyfJM
https://www.youtube.com/watch?v=c3RV8nVeYIQ https://www.youtube.com/watch?v=3mt4mT2cNXc https://www.youtube.com/watch?v=09ArKeDJupww

Your order might include Oculus camera mount and some spare parts. For flight HOTAS sim configuration attach throttle mount support same way as main wheel stand. You can rotate the support and move it closer or farther away. If you want to mount joystick on the side you need to use F mount.

For the butkicker mount you can use bottom of the main rail or bottom mounts same as wheel stand brackets
4. Software installation

1. If your control box don’t have colored motors plugs: left motor brown plug is Motor 1, right 2 black plug, rear Motor 3 white plug

3. Go to LICENSE tab and ACTIVATE your license by entering the license number you received in an email from either SRS or DOF Reality (Check your spam folder). If you can’t find your license, please contact us by clicking here [https://www.simracingstudio.com/change-log](https://www.simracingstudio.com/change-log)

4. Go to MOTION Tab and check if your DOF Reality is connected and the correct model appears on the MODEL: box.
5. Set Mode to Off, if you want to stop motion. AUTO reads game telemetry and will move your DOF Reality platform

5) Go to MOTION TEST tab, click on start and move the sliders on the right to see if the platform is moving. Click the button again to leave TEST MODE.
6) Click on **AUTO INSTALL** button on the HELP tab to install plugins and make necessary changes on your PC to run our supported games. Some games might require additional settings on the game folder or manual installation of DLL files. Check [https://www.simracingstudio.com/download](https://www.simracingstudio.com/download) page to find instructions for each supported game. If you need additional help to make a supported game to work with DOF platform, please contact us by clicking here [https://www.simracingstudio.com/change-log](https://www.simracingstudio.com/change-log) or going to the HELP tab in SRS app.

7) SRS will automatically connect to the game once you start it. Note that some games require you to start a race to connect. Some games connect from the main menu.

8) SRS App has been tuned by our team to provide the best experience out of the box. If you want to fine-tune the motion, you can do it simply by changing the sliders on the **MOTION TAB**. This can be done live while the game is running. If the game is running, SRS app will automatically select this game on the **GAME** dropdown. Once you like the results, click **SAVE** and next time you open our App and game, these settings will be the default one.

9) You can also find additional help in our FAQ. [https://www.simracingstudio.com/copy-of-download-faq-1](https://www.simracingstudio.com/copy-of-download-faq-1)

10) When all is moving and working, and you mounted all your game controllers on the platform it is perfect time to **Balance it**. This is a very important and crucial steep to get the best performance and lifespan from your platform.

   To check the balance, disconnect both front motors arms. get one or two strong friends to help you. Ask them to hold your seat from the back left and right while you are getting in seat.

   When you are seated in your usual driver/pilot posture, platform should be almost perfectly balanced (not diving to the front and not to the left) so it is easy for your friends to hold can be leveled with minimal effort. The goal is for you to move seat and other parts to the COG balance point described above. The better you balance it the better and longer it will perform. You might find advice online to balance it with counterweights. This is strongly inadvisable as this adds unnecessary weight for the motors to lift and momentum to fight with while changing directions. The best counter balance is your own weight. When you are finished you can put motor arms back and check the performance.

11) For SRS tips tuning read:


   [https://www.simracingstudio.com/post/test-works-game-doesn-t](https://www.simracingstudio.com/post/test-works-game-doesn-t)
You can use any VR headset. We have different ways to provide motion Compensation cancellation. In some articles you may find two terms - motion Compensation and motion Cancellation used to describe the same goal. However, motion Compensation is the proper term to define the actions to compensate the head movements caused by motion simulator so it doesn’t affect the players view. You can use any VR set with or without the external reference tracking camera like (Rift or Vive). We have many users reporting better results when camera(s) mounted in front of the platform making sure it is always visible from any helmet location.

We include mounts for Oculus as Vive is easy to mount on the top of the seat

For all WMR VR with inbuild tracking (Rift S, PiMax, Odyssey, Vive) just cover the sensors with tape:

Oculus VR Motion Cancellation  https://dofreality.com/OpenVR.pdf

HTC Vive - Vive Pro VR Motion Cancellation Setup Guide  https://dofreality.com/HTCMotionCancellation.pdf

Another Vive option:  https://www.youtube.com/watch?v=BPmo5kmk5CY

VR Motion Cancellation on motion platforms details:  
https://www.xsimulator.net/community/threads/vr-motion-cancellation-time-to-test.10241/page-22#post-160590  
https://www.xsimulator.net/community/faq/htc-vive-vive-pro-vr-motion-cancellation-setup-guide.311/

Depending on where your camera is placed (On or off rig) you may encounter the image inside the HMD (Head Mounted Display) "Jumping around". This is due to the camera and the headset working against each other as the hardware is not designed for use in motion platforms. There are a few ways to resolve the problem, however none are ideal nor official.

Method 1: Attach the camera on the rig and blinding the camera (cover it with something). This disables the 3D tracking preventing the camera at jumping around in game. This method also disables the rotation tracking meaning, if the simulator turns 90degrees IRL, you will have to turn your head 90degrees to look forward in game. That is why we suggest limit Yaw/Extra1 to 5 - 10% making the rotation just enough for you to feel but you will not notice having to turn your head to look forward in game.

Method 2: Placing the camera off rig. this will yield the same results as above, however you are able to get off the rig and move around (also in game). You might move slightly around ingame depending on the settings of the simulator.

Method 3: Placing the camera on rig. If you wish to place the camera on rig and you do not wish to blind it to get the full experience, you might need to turn down movement on the simulator to a rather low setting. This will minimize the "hopping" and will give you a smooth experience with the HMD.

Some customers prefer it on the platform, some off. You need to try and choose the one that suits you best.
5. Troubleshooting & Maintenance

The simulator does not need much maintenance, but it is wise to check for loose bolts or other abnormalities occasionally.

- Checking bolts and nuts every few weeks to ensure nothing is getting loose.
- Clear the dust filters on the three fans on top of the cover.
- Listen for any abnormal noises, if encountered please follow the instructions below on how to grease the ball joints inside the simulator.

5.1 Platform doesn’t move and is not shown as “Connected” in SRS.

A) If you plugged your control box USB cable to the computer but in the model box you still see “Not Connected”. Check the Windows Device Manager if you have a corresponding COM port in the devices list. If not you need to reinstall drivers http://dofreality.com/drivers.zip.

If even after reboot you still don’t see the COM port please contact sales@dofreality.com

B) If in the Model box you still see “Connected”. But it is not moving in Tests contact sales@dofreality.com
C) If your platform is moving fine in Tests, but not in the games you need to click Auto Install button and for some games change in game settings following this guide [https://www.simracingstudio.com/download](https://www.simracingstudio.com/download). If you did all that and your platform still don’t move you need to Open a Ticket.

5.2 If one or more of your motors are stuck in an improper position and doesn’t seem to respond

It happens if motor somehow got into protection zone. It should not happen. It got locked in software. To unlock it:

1) close all SRS applications


3) unpack all archive contents into any local folder on your PC

4) Open with notepad file SMC3Utils.ini and set COMM_PORT= to proper COM port number from your Windows Device Manager or SRS

5) start/run SMC3Utils.exe. If you are getting error messages about COM port communication, you haven’t set port number properly in the previous step

6) select the problematic motor (left motor brown plug is Motor 1, right 2 black plug, rear Motor 3 white plug) most probably it is shown as OFF.

7) write down current Max Limits and Clip Input values (on the right of the SMC3Utils window) and reduce them to 0

8) in SMC3Utils click small OFF button to the right of the motors selection, so it becomes ON.

9) power ON the platform

10) motor should move back to normal position, you can try ‘Sine’ for it to see that it moves fine and measured motor position = green line goes along with desired motor position = blue line.

11) if all is good restore original Max Limits and Clip Input values (you need to increase Clip first and then Max as max can’t be bigger than Clip) and close SMC3Utils
5.3 Motor arm is not horizontal in neutral position

Over time motor-sensor coupler bolts may get loose and neutral motor position can get off from normal (just a bit higher that horizontal). Proceed with this motor calibration https://www.youtube.com/watch?v=Wa6hRdMB4vA

5.4 Something is wrong with my platform !

0) check all cables and motor connections, and any loose wires inside the control box.

1) close and exit SimRacingStudio

2) Download http://dofreality.com/SMC3Utils.zip

3) unpack all archive contents into any local folder on your PC

4) Open with notepad file SMC3Utils.ini and set COMM_PORT= to proper COM port number from your Windows Device Manager or SRS

5) start/run SMC3Utils.exe. If you are getting error messages about COM port communication, you haven’t set port number properly in the previous steps

6) power ON the platform

7) Set it to ‘sine’ click Motor 1 and Motor 2 and 3 send us (sales@dofreality.com) screen shots of SMC Util charts for each motor separately and SMC under chart settings you have and a short video clearly showing the problem

5.5 I have troubles installing SRS (Antivirus detects it as a thread)

SRS uses a variety of methods to read the telemetry from the game and some of those methods will trigger the antivirus. SRS is completely safe and making an exception for SRS will solve the problem.

5.6 Simulator does not move in-game

You need to click Auto Install button and for some games change in game settings following this guide https://www.simracingstudio.com/download . If you did all that and your platform still don't move you need to Open a Ticket.
5.7 Simulator used to work in the game, but stopped

This can happen if the connection is lost to the computer or Windows Defender (If not using other antivirus software) have deemed the software a threat. Unfortunately, this may occur as Defender is quite aggressive. Please investigate with your antivirus software. Usually a SRS reinstall helps or you can add an exception for SRS.

5.8 The motors make small adjustments all the time

This is due to the motors always have power to be able to move the rig quickly without delay. The small movements of the motors should not be present when there is weigh on the rig or it is being used.

5.9 The simulator behaves strange in games

A lot can cause this behavior, but the most common things are:
- The simulator is not in balance.
- Wrong settings for you. (We make general settings, you might not like them)
- The rig might be too heavy.

6 Reparation

The simulator should under no circumstances be repaired by unauthorized personnel without consulting us first. Failing to comply may cause damage to equipment and/or injury to the personnel.

7 Technical Specifications

Motion Simulator for computer gaming
Brand: DOF Reality
Model: DOF REALITY H3/P3

Power input: 100-120/210-240VAC, 50/60Hz
Power consumption: 1400Watt
Peak current: 11.7/6.4A
Short-circuit rating: 30A
IP number: 1P190305.DR0W93

Total Weight: 58.550 kg

Made in Ukraine by: “DOF REALITY” LLC
Zaporizhzhya, Harchova, 17/94, Ukraine, 69014


http://dofreality.com/CE.pdf