

QUESTMASTER TQ3S

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VIEW IN BROWSER

updated 2. 11. 2026 | published 2. 11. 2026

Summary

Replace the shifter-knob of a TH8S with a Meta Quest controller to add haptic feedback and additonal input options.

Gadgets > Virtual Reality

Tags: controller racing simracing shifter sim thrustmaster quest t300 th8s

This is my entry for the Printables-Contest Thrustmaster Custom Shifter Knob

Function

The QUESTMASTER TQ3S replaces the shifter-knob of a Thrustmaster TH8S with a Meta Quest controller to add the following functionality to a sim racing rig:

Use case 1: PCVR controller input

In PCVR mode, use the Quest controller to navigate the Quest software, the PC desktop, or in-game menus.

The exact implementation depends heavily on your operating system and your choice of OpenXR runtime (assuming you actually have a choice), and is outside the scope of this entry.

Use case 2: Telemetry-based haptic feedback

Use the sophisticated hardware inside your controller to provide haptic feedback for RPM changes and other events.

As a proof of concept, an APK is included that uses the Codemasters UDP telemetry protocol (as used in DiRT Rally 2.0 and other games) as an example.

A settings file is also included, allowing you to adapt the Quest app to similar telemetry protocols. See ReadmeTelemetry.md for details.

Bonus use case: go completely wireless

(This is probably not worth the effort, but still kind of cool)

A wireless shifter for either standalone Quest or PCVR. Using the built-in accelerometer, we could derive shift inputs from controller movements.

The current RPM and gear can be used as plausibility checks (as demonstrated above), while the TH8S shift gate provides only the appropriate tactile feedback.

Alternatively, use whatever hardware-mechanism you salvaged from your dad's car – I'd go for the Spyker.

Installation

The provided files are a direct replacement for the original battery cover of the Quest Controller and mounted directly on the official adapter piece (printfile) provided by Thrustmaster. No further hardware is needed for assembly. For clarification: The pedestal shown in the pictures is not needed and a mere "serving suggestion" if you don't have a TH8S available.

Mounting options and hardware variants

Despite the silly name, the TQ3S works with both the Quest 3 **and** the Quest 3S. Older models have different battery covers and would need corresponding modifications.

The app should work with the older models as well, but expect lower haptic fidelity due to the less capable hardware inside their controllers.

The uploaded model is designed for right-hand shifting, but uses the **left Touch controller** to allow for mounting! The ergonomics work surprisingly well that way, though (see pictures).

If you want to use your left hand for shifting, make sure to mirror both the mount **and** the official adapter (resulting in a left-hand thread).

There are two options, depending on where you position the shifter in your rig: the cleaner-looking "straight" version is intended for higher mounting positions in the cockpit, while the "tilted" version has been adapted for better ergonomics in lower positions (closer to those of a regular car).

Printing

Print in the orientation shown in the model. I use supports on the build plate only, and a small brim for good measure.

Depending on your material, the "tilted" version might need additional support on the thread, but the original thread itself is quite forgiving and works just fine even with smaller irregularities in the print. My recommendation is using something like Extrudrs Greentec Pro CF that doesn't need supports.

If you block supports inside the recess for the clip in the slicer, you can avoid damaging it when removing the supports later.

I recommend using finer detail settings, both for appearance and for a better fit of the clips. However, no special settings are necessary, at least on my Qidi Q1 Pro.

If your printer is less precise, check that the clips fit into their openings before forcing them in. The front clip might break under excessive force, and there is very little room left inside the controller housing to make it any stronger.

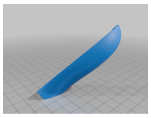
That being said, mine has survived many opening and closing cycles without any manual modifications.

This remix is based on



THRUSTMASTER : Official TH8S Gear knob files

by Thrustmaster



Quest 3 Battery Cover

by rubydog6

Model files



tq3s_straight.stl

This is the main version intended for tabletop mounting



tq3s_tilted.stl

simplified version tilted for lower mounting positions closer to a real car's shifter

Other files



quest_demo_companion_app.zip

Install the included app on your Meta Quest 3(/S) to test haptic feedback

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