CASE STUDY

Toro
Personal Pace
Rethinking the Mower Interface.



A human-centered, physical design interface, of Toro's Personal Pace System. Shaped through observation, prototyping, testing, and refinement.

Discover
Real-world use revealed strain at the hand interface, constrained grip positions, awkward height relationships, and body mechanics that became especially noticeable in turns, on hills, and through extended mowing.

Explore
We rethought the interaction from the user outward - exploring a more natural arc shaped handle, clearer hand placement, improved leverage, and a cleaner relationship between body, controls, and the machine.

Create & Realize
Quick prototypes, full-scale jigs, and iterative studies helped us test posture, grip comfort, visability and motion.



Outcome
A more intuitive, ergonomic concept that strengthened product identity while differentiating the mower in a crowded category.

"We set out to improve a handle.
We ended up rethinking the whole interaction



studio weber + associates www.studioweber.net +1.612.339.1972

CASE STUDY

Toro
Personal Pace
Build to Learn

A human-centered redesign of the interface between







Observing the Body

Field testing revealed their mowing is far more dynamic than simply walking forward. Users rotate their hands, shift grip positions, change reach, lift and pull while leveraging, lean into turns, and reposition their bodies continuously. A prescribed handle position fought against those behaviors. The research pointed toward a more universal interface capable of supporting many natural hand postures rather than one correct grip.

Designing for Movement

The design criteria became clear: Accommodate hand rotation. Allow many natural hand positions. Maintain neutral wrist posture. Distribute pressure using the palm. Keep controls accessible while actively using the mower.

From Linear to Arc

The breakthrough was a continuous arc-shaped handle. Instead of forcing the hands into fixed positions, the arc allows the user to move naturally across the interface while turning, reaching, pushing, pulling, or changing pace. The arc also creates a more ergonomic activation motion for Personal Pace and moves the cross tube away from the wrist.

Prototype - Feel - Adjust - Repeat

Full-scale physical rigs made it possible to explore the interaction directly. Different handle radii, positions, angles, handle paths, grip zones, and interface relationships could be changed quickly and evaluated with the body. That process turned ergonomic observations into geometry. Build. Use it. Learn. Change it.



“Build it. Use it. Learn it. Break it. Change it.

studio weber + associates www.studioweber.net +1.612.339.1972