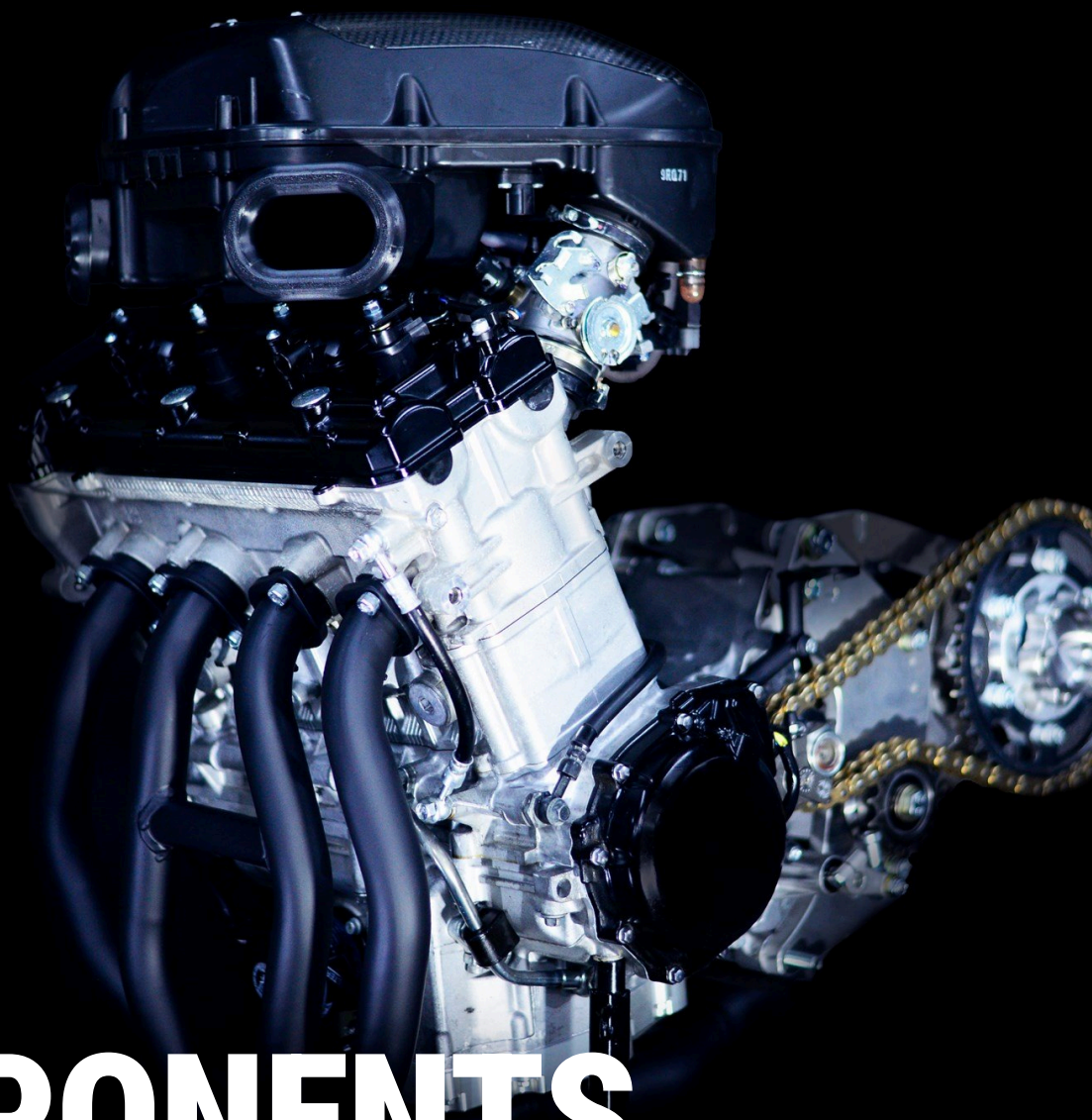
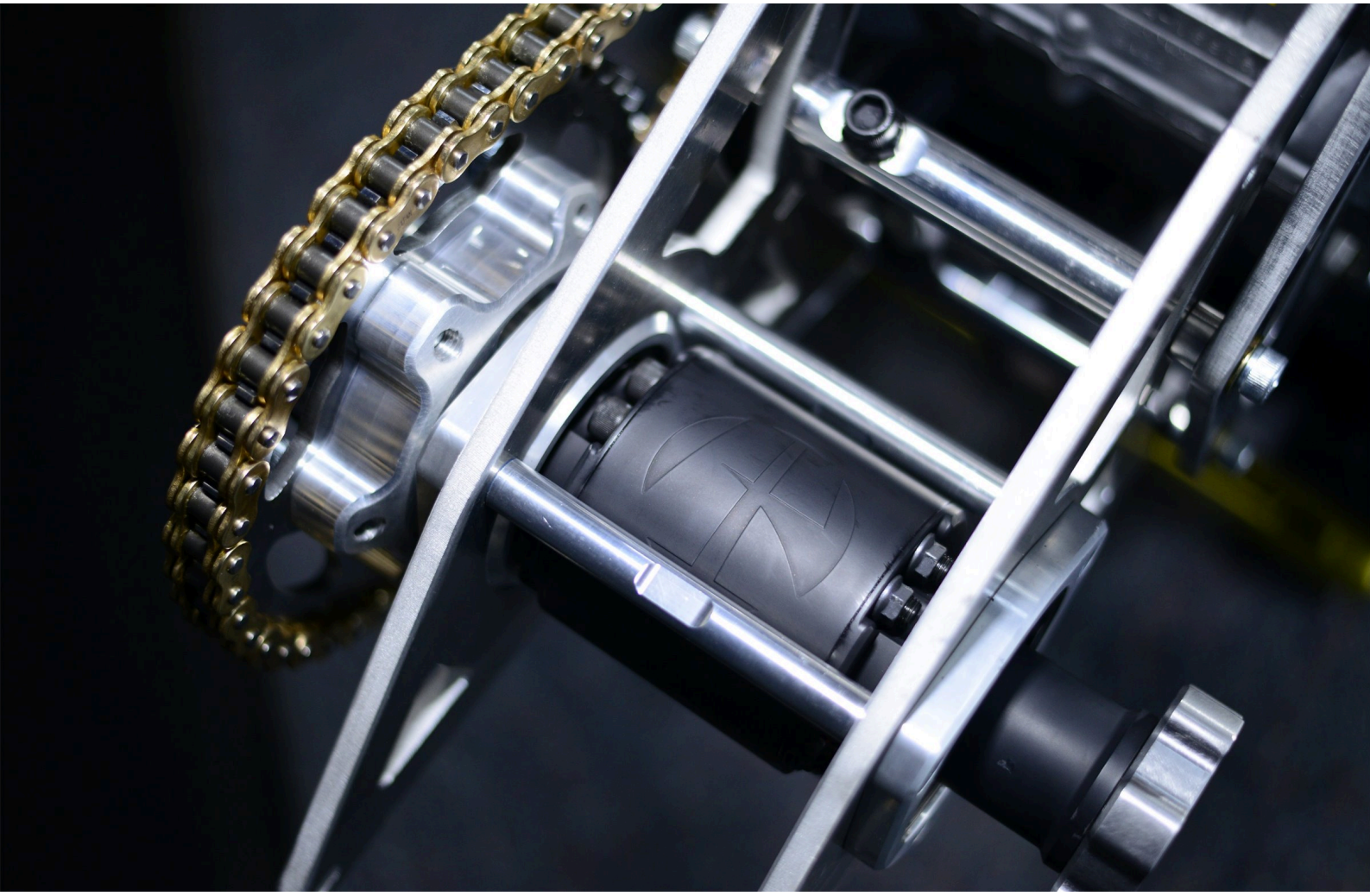


COMPONENTS

Designed in house for the Hyper Racer X1. Available on their own for your build.

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01 DRIVELINE

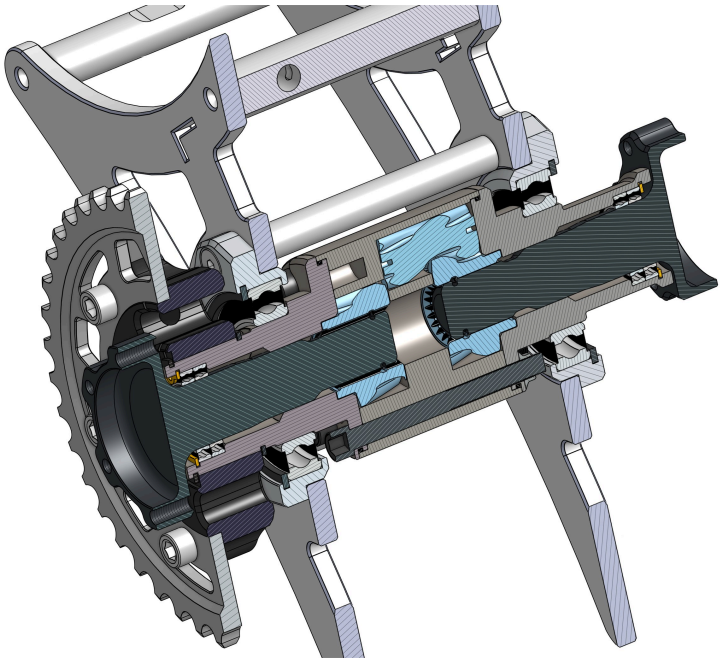
CHAIN DRIVEN ATB LIMITED SLIP DIFFERENTIAL

A one of a kind chain driven, auto torque biasing limited slip differential. We designed it for the Hyper Racer X1, and it's now available for your own build.

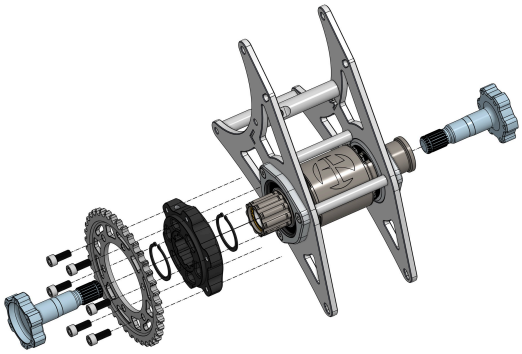
When both rear wheels have similar grip, the drive is split evenly between them. When one starts to slip, on a wet patch or as the inside wheel goes light, an open differential sends most of the torque to the wheel that's spinning. Ours sends it to the wheel that can use it. Under load, the helical gears thrust against the housing, and that adds resistance on the faster turning side, biasing torque toward the wheel with more grip.

We developed our own gear set for it, tuning how strongly it biases so the car turns in cleanly on corner entry and puts its power down on exit.

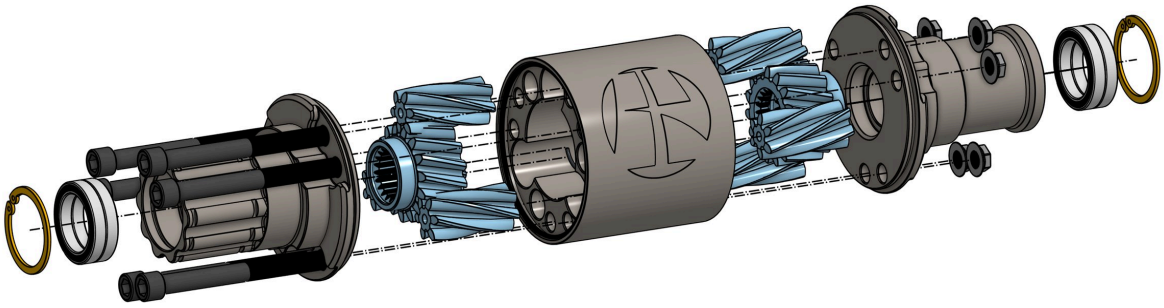
It comes with its bearings, bearing carriers and sprocket carrier, ready to mount to plates of your own design, or add the Hyper Racer mounting plates and build around them. Drive leaves through a 6 bolt drive flange, so you can design axles to suit your build.



— Section view through the differential and bearing carriers, in the Hyper Racer mounting plates



— Drive flanges and sprocket, with the optional mounting plates



— The differential, exploded

IN THE KIT

- Chain driven ATB limited slip differential
- Sprocket carrier
- Bearings and bearing carriers
- 6 bolt drive flange
- Mounting hardware

OPTION

- Hyper Racer mounting plates

WHY FIT IT

- Drives the wheel with grip, not the one spinning
- Gears tuned for corner entry and exit
- Mounts to plates of your own design
- Design your axles around the flange

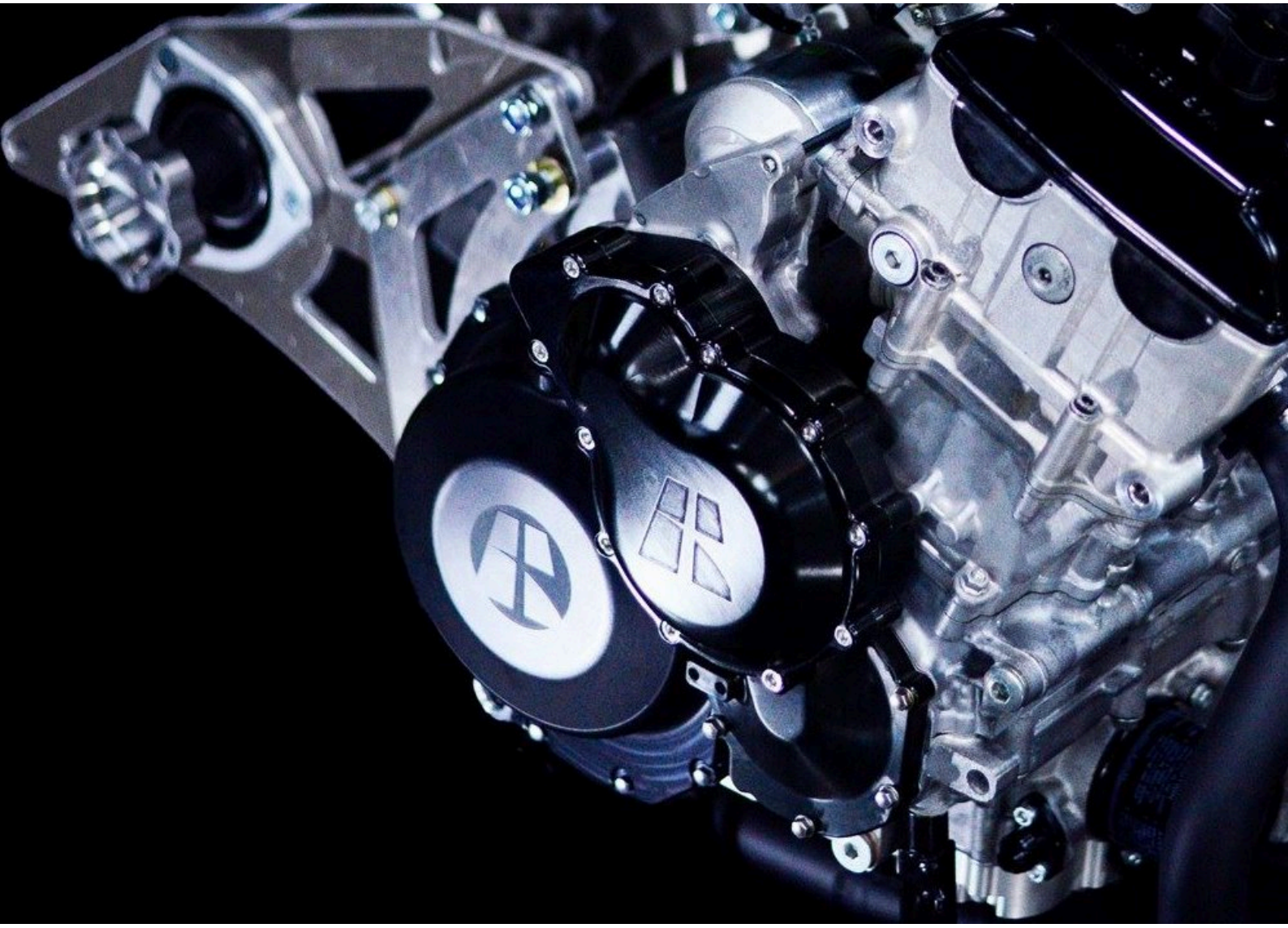
ENQUIRE ABOUT THIS PART

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SCAN FOR THIS PART



02 ENGINE

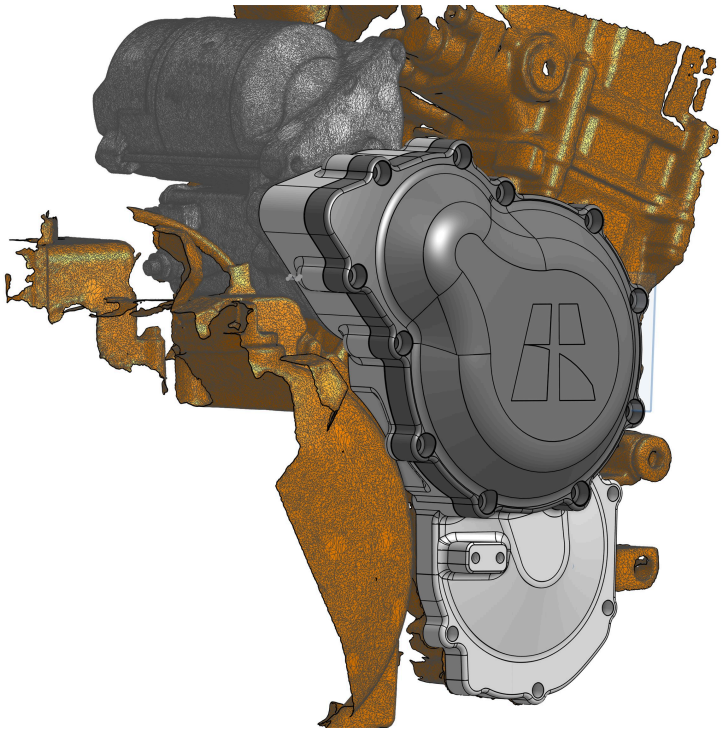
STARTER MOTOR ADAPTER HOUSING FOR HAYABUSA

Replaces the stock Hayabusa starter with one that is suited to formula car racing.

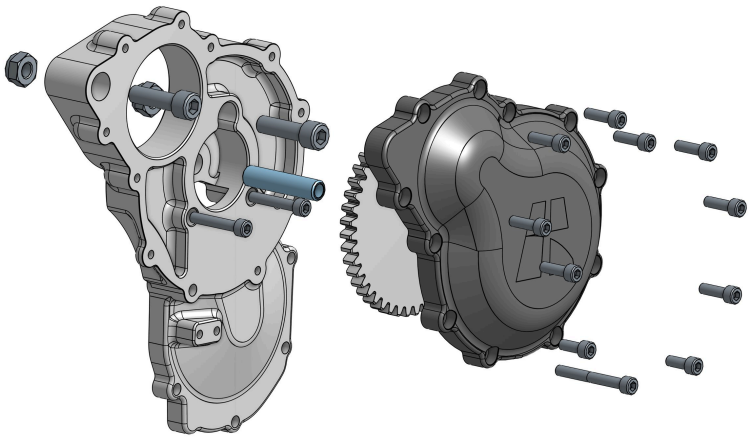
Spin the car backwards and the stock starter motor and its gears can be damaged, which can lead to internal engine failure. Our housing lets you bolt a 1.4 kW, 12 V Denso-style pre-engaged starter motor, the type used on Subaru engines, onto the Hayabusa. Its pinion only meshes while it's cranking, so the starter can't be damaged if the car spins backwards. The starter is included in the kit.

You also get more cranking power and better starting when the engine is hot, without having to move to 16 V or 24 V starting.

The housing was designed directly against a 3D scan of the engine, so it bolts on with no modification to the engine.



— The housing, designed directly against a 3D scan of the Hayabusa engine



— Housing, reduction gear and cover

IN THE KIT

- Starter motor adapter housing
- Reduction gear and Hyper Racer cover
- 1.4 kW 12 V Denso-style starter motor (Subaru pattern)
- Bolt and hardware kit

WHY FIT IT

- Protects the starter and engine if the car spins backwards
- More cranking power
- Better starting when the engine is hot
- Stays on standard 12 V starting
- Bolts on with no engine modification

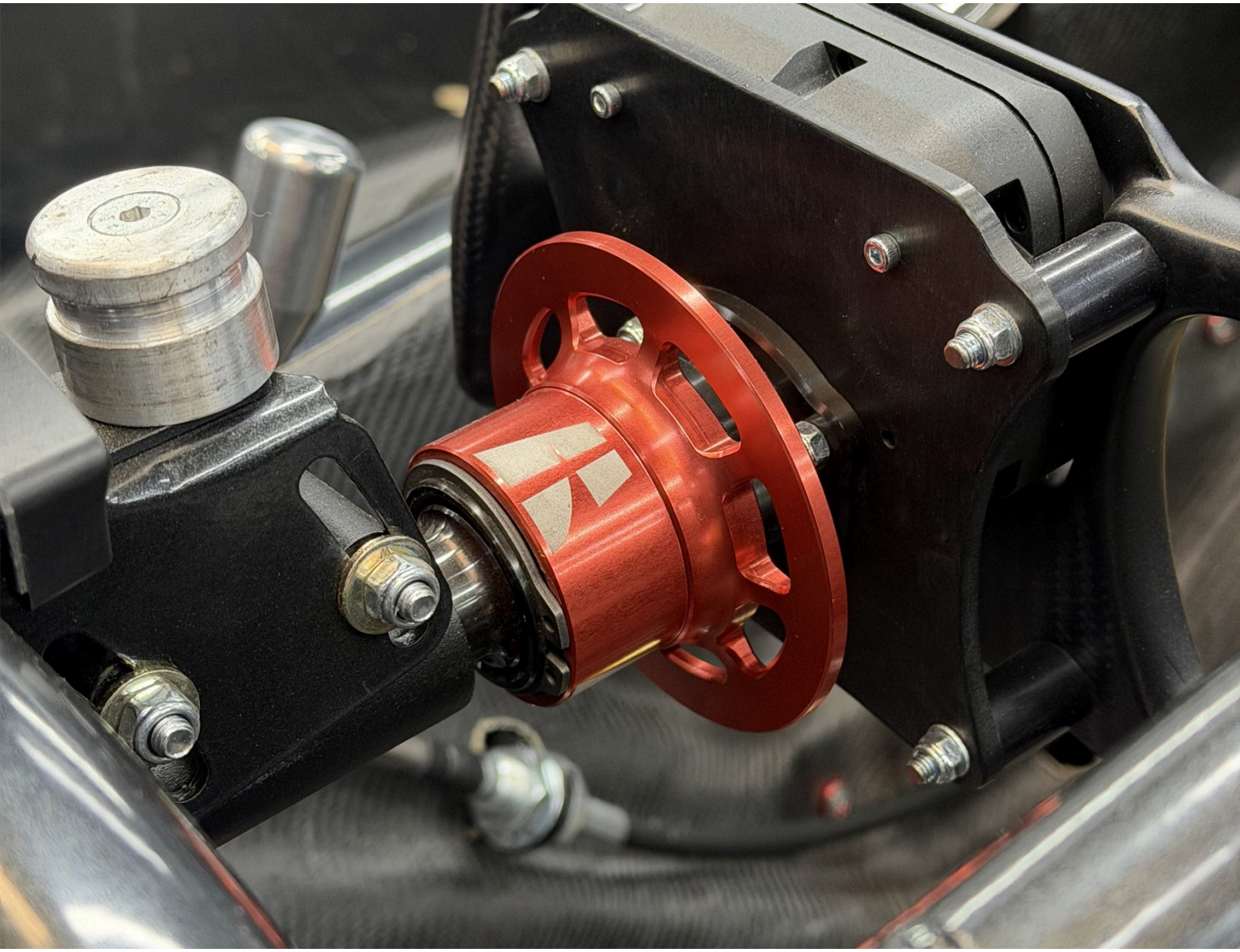
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SCAN FOR THIS PART



03 STEERING

HYPER RACER QUICK RELEASE BOSS

We tried every quick release boss on the market and weren't satisfied with any of them, so we designed our own.

It bolts on, where most formula car bosses are welded on. The boss runs on a shaft that takes a 3/4" smooth bore universal joint on its end. The shaft slots into a bearing housing with two mounting slots, and we include the weld-on bracket that goes on your chassis and accepts the bearing mount.

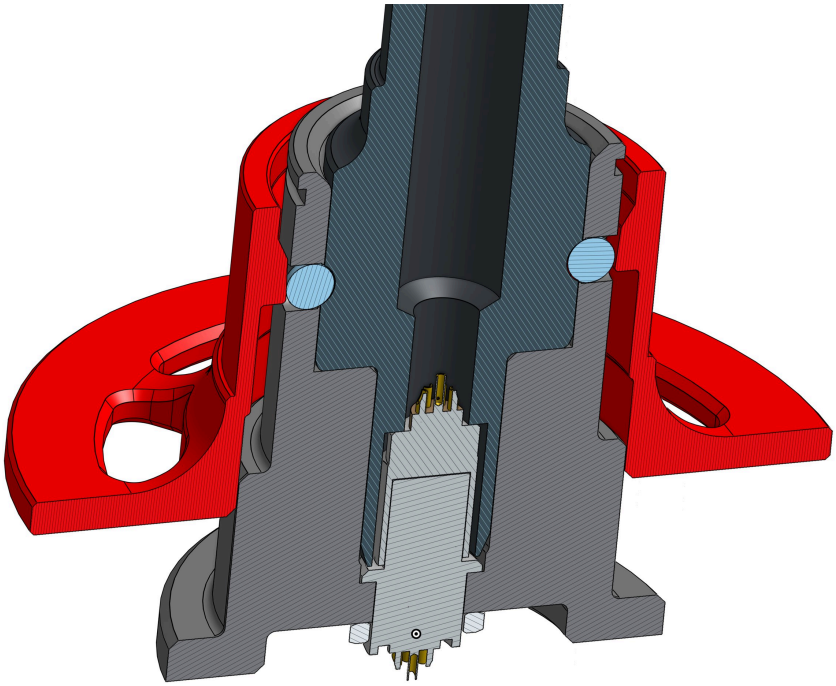
Wiring passes through to the wheel on a push-pull Lemo style connector, in 4 or 8 pin depending on your needs. The boss aligns before the connector engages, so the connector can't be damaged as the wheel goes on, and the controls on your wheel connect as it locks.



The quick release boss



The shaft end and its connector



Section view: locking balls, release collar and the central connector

IN THE KIT

- Quick release boss and shaft for a 3/4" smooth bore uni joint
- Bearing housing with two mounting slots
- Weld-on chassis bracket for the bearing mount
- Push-pull Lemo style connector

Steering wheel not included.

CHOOSE

- 4 pin connector
- 8 pin connector

WHY FIT IT

- Aligns before the connector engages, so the connector can't be damaged
- Bolts on, where most bosses weld on
- Wheel and wiring connect in one action

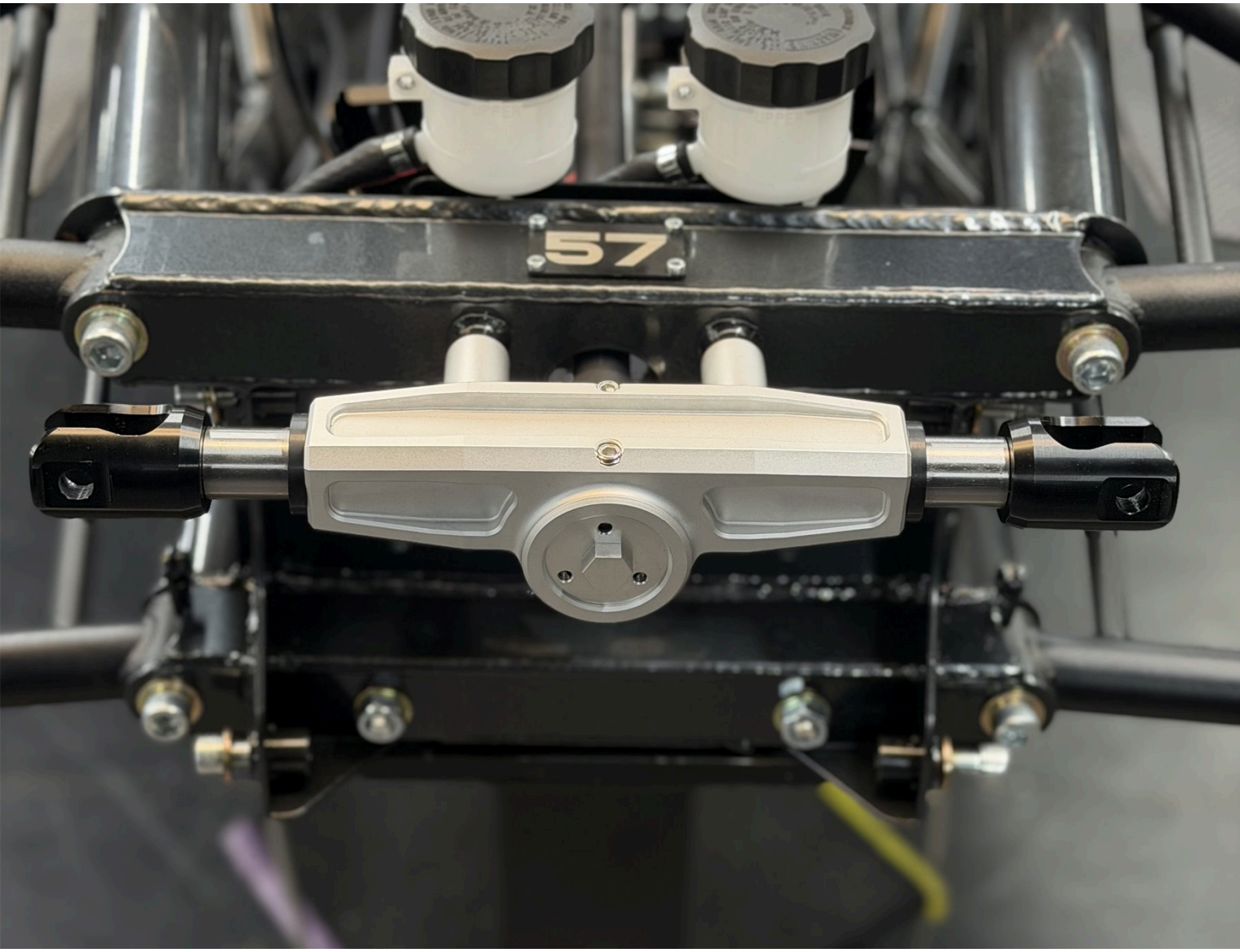
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SCAN FOR THIS PART



04 STEERING

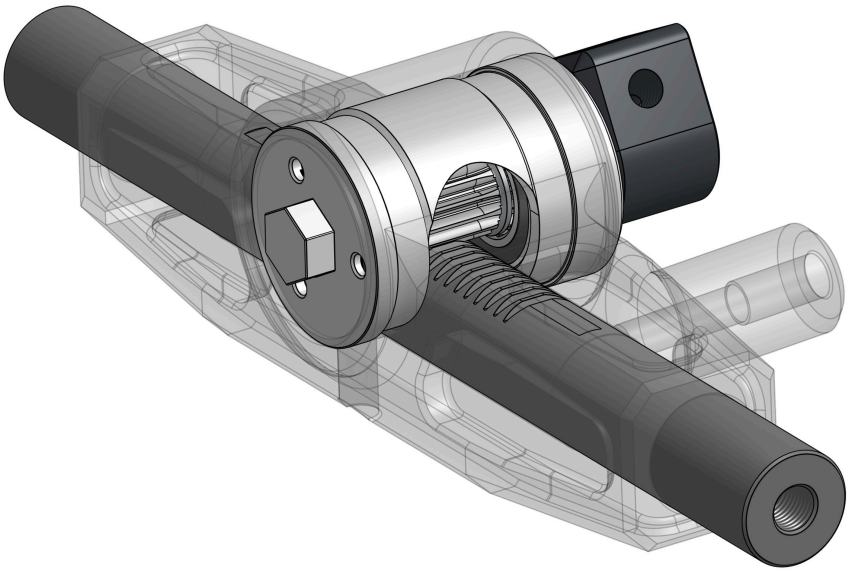
HYPER RACER STEERING RACK

A compact, lightweight steering rack designed for formula cars.

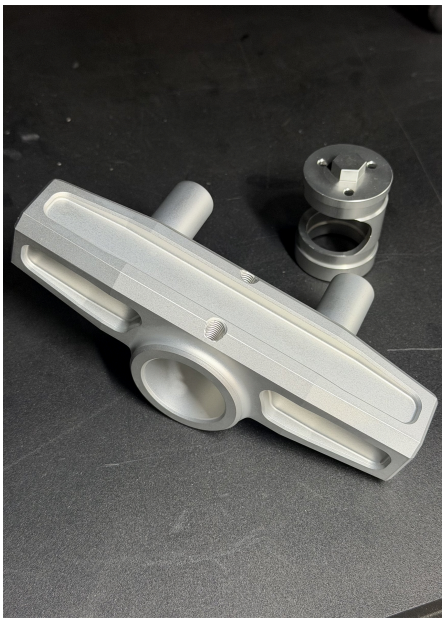
It mounts to the chassis with two M8 bolts. The pinion is eccentric, so you can set how it meshes with the rack bar. The result is smooth steering with extremely low backlash.

The eccentric pinion lets you set the perfect initial mesh when the rack goes in. As new components bed in, take up any slack with the eccentric pinion adjustment.

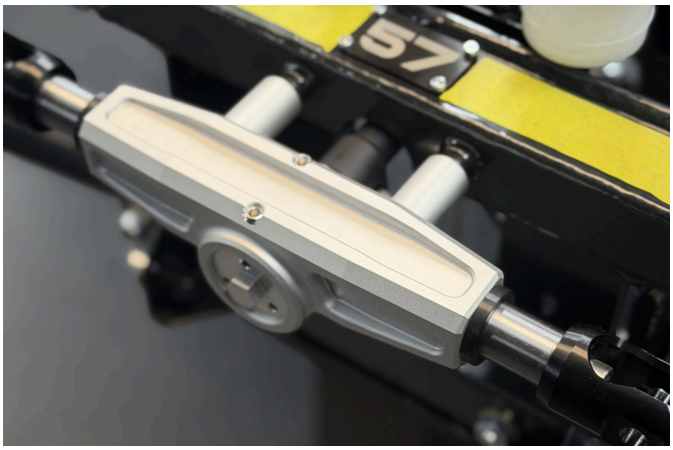
The housing is machined from solid aluminium and kept slim, so it packages across the front of a narrow chassis.



— Housing shown transparent to reveal the rack and the eccentric pinion



— The housing and the eccentric pinion housing



— Fitted to a Hyper Racer X1



— Housing detail

FEATURES

- Compact, lightweight design for formula cars
- Two M8 bolt chassis mounting
- Eccentric pinion to set the mesh to the rack bar

WHY FIT IT

- Smooth steering with extremely low backlash
- Take up any slack as new parts bed in
- Machined from solid aluminium

Building an off-road car with power steering? Ask about the D1 steering rack, with a faster ratio and a 4 bolt M8 mount.

ENQUIRE ABOUT THIS PART

Tell us about your build and we will come back to you with pricing, availability and fitment.

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SCAN FOR THIS PART

BUILDING YOUR OWN CAR?

Tell us what you are building and which components you need. We will help you work out fitment and come back to you with pricing and availability.

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EMAIL	**service@hyperracer.com**

SCAN FOR THE COMPONENTS PAGE

Every component in this catalogue is fitted to the Hyper Racer X1, and each one is designed to suit a car that isn't ours.

Looking for spares for an X1 or components for the D1? Both are on hyperracer.com/parts, along with the X1 spare parts catalogue.