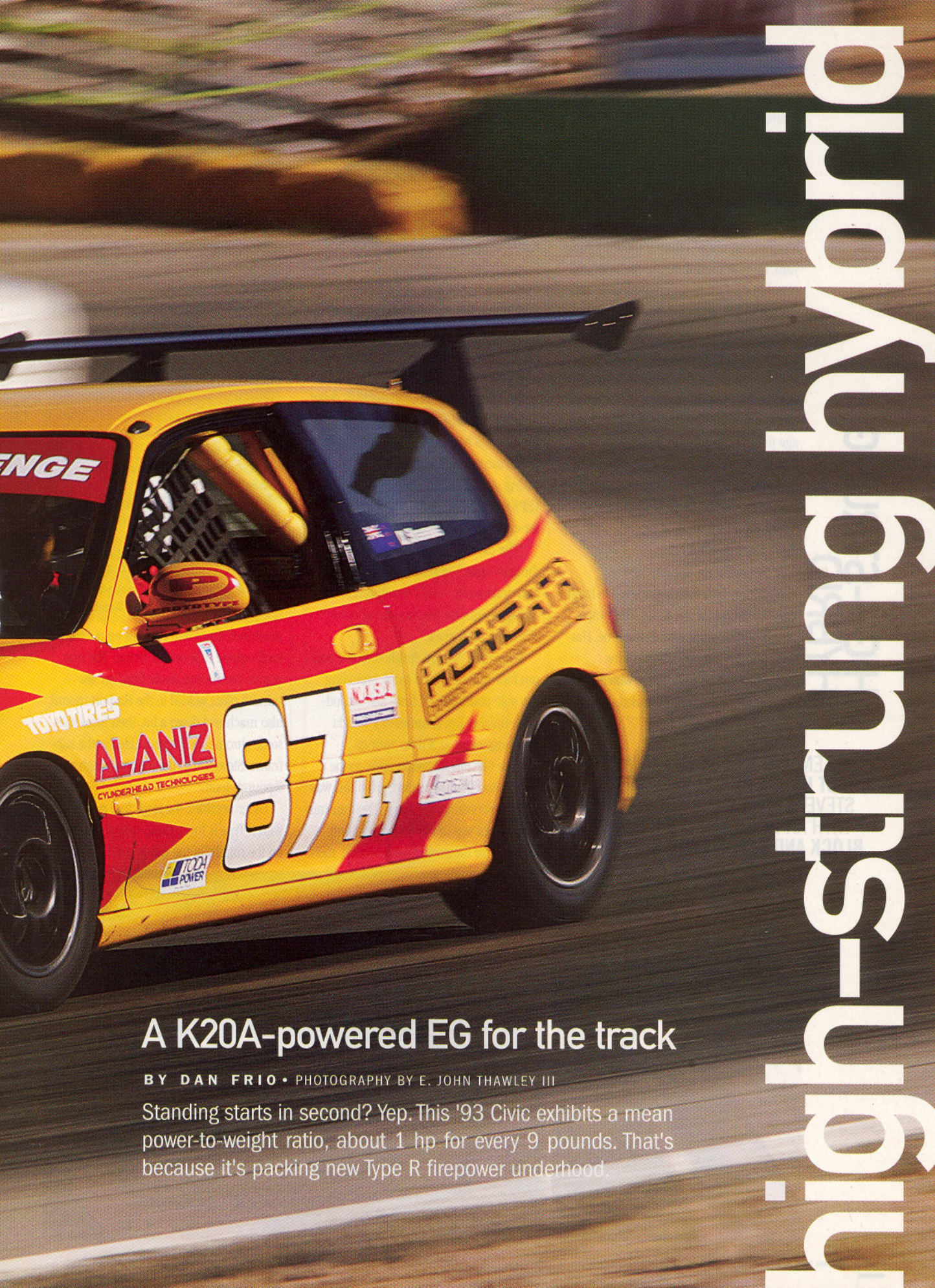

HONDA CHALL
87 H1
HONDATA
N.A.S.A.

high-strung hybrid



A K20A-powered EG for the track

BY DAN FRIO • PHOTOGRAPHY BY E. JOHN THAWLEY III

Standing starts in second? Yep. This '93 Civic exhibits a mean power-to-weight ratio, about 1 hp for every 9 pounds. That's because it's packing new Type R firepower underhood.

HIGH-STRUNG HYBRID

Those thinking about getting into road racing could do worse than to follow the example of Derek Stevens. A native New Zealander and cofounder of ECU tweakers Hondata, Stevens plunked down $650 for this '93 Civic for one purpose only: track time. He already had a good start, buying the car as a stripped shell—no engine, no windows, no nada—from someone's backyard. He only needed to take hammer and chisel to the factory sound deadening and dispose of the eight nests housing a dozen black widows.

Intending to run in the West Coast Honda Challenge series, Stevens filled the engine bay with an Integra Type R short block and stock Civic Si head. The package proved competitive, as Stevens raced it to sixth- and fifth-place finishes in its first outing at Infineon Raceway. A few weeks later at the Buttonwillow season closer, Stevens managed second- and third-place finishes.

At the end of the season, Stevens removed the Type R/Si hybrid for the latest Type R powerplant, the K20A. The swap proved anything but easy. At the time, Hasport only had preproduction engine mounts for the EK Civic swap, which it sent to Stevens. "In the end, we ended up combining a number of different Hasport kits, used some Honda pieces and made some parts ourselves," Stevens recalls.

As luck would have it, just down the road from Hondata's Southern California office is a man with much experience in odd swaps. Joe McCarthy at Prototype Racing had recently been working on K20A swaps involving Lotus Elise and Exige chassis.

Stevens says "There was a lot of work in the little details, like the fuel system, where Joe's experience and help was invaluable. Joe also custom-made the header, intake tube and baffled the oil pan."

The newly powered Civic made its debut in the spring of 2004 with only one hiccup. Stevens says he miscalculated axle lengths, which turned out to be too long under cornering. A quick change to 2002 Civic Si (EP3) axles solved the gaffe and soon had the car blistering the circuit.

"The car ran very fast, passing everything in sight," Stevens says. "But it was also underweight and I was disqualified. Adding weight for the race the next day, I managed third place."

Since then, Stevens finished on the podium four times in seven races, including two pole positions and first- and second-place finishes last summer at a Honda Challenge event at Willow Springs.

A car like this all comes down to the details. And there are many, given this was a fairly pioneering K20 swap. The transmission mount was made from the mount intended for the timing cover mount, then machined down and now sits on a chrome-moly square tube on the frame. The rear engine mount was made from an aluminum piece welded to the Hasport mount, also machined down a bit, then fitted with some chrome-moly ears welded to the subframe. Stevens says the mounts weigh only 8 pounds total.

Other notables: the stock fuel rail is used with a Type R fuel pressure regulator fitted on the middle of the rail to suit the EG's

1993 HONDA CIVIC

ENGINE

Engine Code: K20A
Type: Inline four, aluminum block and head, 1998cc
External Modifications: TODA Spec N2 cams, TODA springs, Prototype Racing header and intake
Engine Management Modifications: Hondata ECU, Walbro 255-lph fuel pump

DRIVETRAIN

Differentials: Stock limited-slip diff
Layout: Transverse front engine, front-wheel drive
Drivetrain Modifications: JDM K20A six-speed, TODA clutch, EP3 axles, GS-R outer CV joints

SUSPENSION

Front: Progress Group coil-overs, 850-lb. springs, stock anti-roll bar
Rear: Progress Group coil-overs, 550-lb. springs, Progress anti-roll bar

BRAKES

Front: 11.75-in. Wilwood rotors, Wilwood six-piston calipers, Type R master cylinder, NEO 610 fluids, Cobalt Spec B pads
Rear: 10.2-in. Type R rotors, Type R calipers, Cobalt Spec C pads

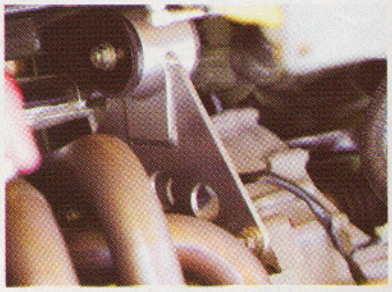
EXTERIOR

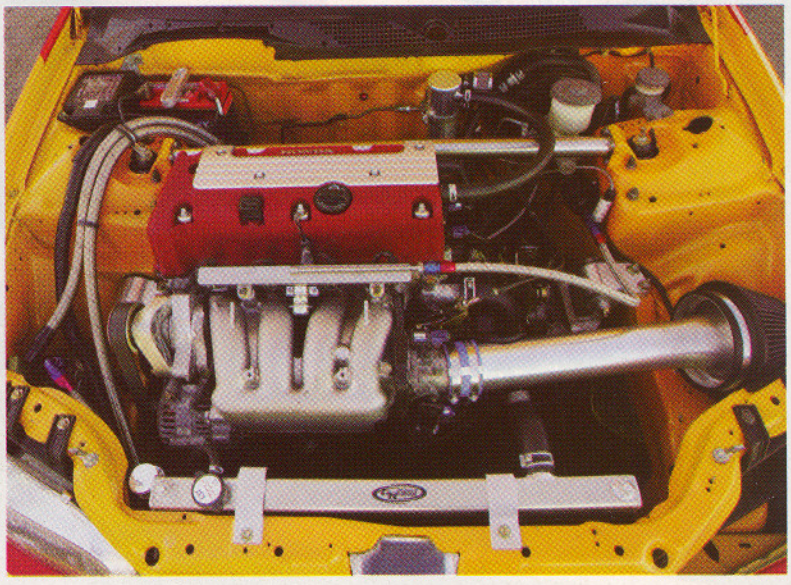
Wheels: 15x7-in. Team Dynamics (12 lbs. each)
Tires: 225/50-15 Toyo RA-1
Body: School bus yellow, stickers by Sports Graphics

INTERIOR

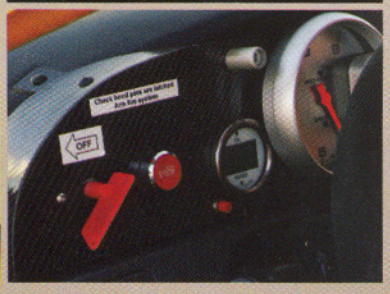
Technosquare roll cage, Sparco steering wheel, SPA gauges, Auto Meter tach, Momo seat, Simpson harness

INTENDING TO RUN IN THE WEST COAST HONDA CHALLENGE SERIES, STEVENS FILLED THE ENGINE BAY WITH AN INTEGRA TYPE R SHORT BLOCK AND STOCK CIVIC SI HEAD.






TOYO
N.A.S.A.
PRO-RACING
Team Dynamics
RACING
Team Dynamics
RACING
TOYO



HIGH-STRUNG HYBRID

return fuel system. A EP3 Civic idler pulley replaces the power steering pump, while the K20A sits 3 inches further back in the chassis and weighs 25 pounds less.

Check out the front strut tower bar. That's titanium love and weighs less than a pound. The battery clamp is magnesium and weighs a 10th of that. The front splitter is a foam/Kevlar/carbon-fiber piece that Stevens says gains 2 pounds every time he repairs it—in other words, every time he races.

And finally, the wing is an off-the-shelf item modified to fit two aluminum mounts of Stevens' own fabrication. Even he admits it's ugly. But it's also very effective, he says, noting that even a degree change of one hole makes a big difference in grip.

The results tell the rest. Stevens has registered 140 mph in sixth gear on the long straights at California Speedway. First gear is used only for getting the car on the trailer. Standing starts begin in second gear. Minus the 149 pounds of ballast, suspension braces and bumper supports, he's brought the car down to 2,100 pounds. The minimum weight for his Honda Challenge class is 2,350, however, and Stevens says the car typically weighs in at 2,370.

You might expect Stevens to run an exotic race fuel, but he's done all his numbers on 91 octane, of which the car drinks about one gallon to every 10 miles on the track. It's not your ideal daily driver. But with a weekend ride like this, it might make us consider taking the bus to work—if we didn't already. ■

STEVENS HAS REGISTERED 140 MPH IN SIXTH GEAR ON THE LONG STRAIGHTS AT **CALIFORNIA SPEEDWAY.**

More@» sportcompactcarweb.com