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SCAMP WITH A SECRET: INSANE TOYOTA-POWERED PLYMOUTH

Grassroots Motorsports

THE HARDCORE SPORTS CAR MAGAZINE

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GOING PRO

How's the view from behind the wheel in a World Challenge race?

plus:

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DATA SHEET

project: building and living with the first-ever Factory Five 818 kit car.

part 1: the origins of 818 (December 2013).

part 2: stripping the donor car (this issue).



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The ideal donor Impreza has a 2.5-liter turbo engine, but we couldn't find a good example when we needed it. We opted for this 2004 WRX instead.

SOME

ASSEMBLY

REQUIRED

Part 2: Before We Can Build Our Kit, We Need the Donor Subaru WRX

story and photos by tom suddard

Unlike most new vehicles, the Factory Five 818 can't be driven out of the showroom after it's purchased. In fact, you'll need a crane or a forklift just to have a chance of taking it home with you.

Like the rest of Factory Five's lineup, this one requires some assembly. It's a kit car, meaning it leaves the factory in a giant crate. While you're allowed to pick up your kit at the factory, we chose to have our 818 shipped by Factory Five's recommended shipper. We had it sent to Enterprise, Alabama, home of Very Cool Parts, one of Factory Five's top builders.

Very Cool Parts made their name building Factory Five's Roadster kits for customers who didn't have the time or skill to assemble their own, and they are one of the first companies to support the 818. Plus, company owner Wayne Presley helped extensively with the 818's development.

We like to build our projects in-house, but we figured working somewhere else would provide a few benefits. For one, it would allow Very Cool Parts to see how one of the first production kits comes together. Does it all assemble as planned? Anything need to be changed or clarified?

Also, working at their shop would give us fingertip access to parts, should we need something. See, we're doing this one on a deadline: six days for the entire build.

Donor Hunt

We had everything in place: the build location, the 818 kit, and—darn, where are all the parts?

PARTS LIST

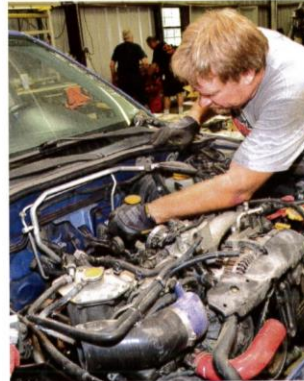
Factory Five supplies the major parts needed to build their 818 roadster, like the chassis and body. Most of the other mechanical components will come from a donor 2002-'07 Subaru Impreza:

- front spindles with full brakes and front lower control arms
- rear spindles with brakes and e-brake handle/cables
- steering rack, tie rod ends and upper steering column assembly
- pedal box and throttle pedal
- master cylinder and brake booster
- clutch master cylinder
- engine—and if it's a WRX, the associated turbo and intercooler
- exhaust manifolds, oxygen sensors and down tube
- transmission
- rear lower control arms, toe links and CV joints
- front seats, seat belts and gauge pod
- fuel pump
- radiator
- wheels and tires
- door hinges, strikers and inside door handles
- sideview mirrors
- rearview mirror
- rear seat belts
- wiring harness.

One of the factors that helps Factory Five keep the 818's price just shy of \$10,000 is the source of its major parts: a donor car. To build our 818, we'd need to buy a Subaru Impreza.

The 818 kit works with parts from any 2002-'07 Impreza except the STI variant. This accepted generation of Impreza is commonly known by the chassis code GD for the sedan or GG for the wagon. It was offered with a variety of engine choices, both naturally aspirated and turbocharged. The most powerful—and most expensive—option is the 2.5-liter turbocharged EJ25 engine, which can be found in the 2006-'07 Impreza WRX.

Naturally, we wanted our 818 to be the fastest around, but we also faced the constraints of time and money. We hopped on eBay Motors to search for a WRX, hoping we could find a 2006 or 2007 model that had been rear-ended—we



didn't need much from the back half of the car.

The verdict? Even totaled ones are expensive (though we did come across several \$2000 naturally aspirated donors). We ended up compromising and buying a 2004 Subaru Impreza WRX that had been lightly hit in the front.

That year's WRX came with a 2.0-liter EJ20 turbocharged engine. No, it's not the most powerful option, but it will be plenty for now. The price? Only \$4600 from a local auction.

We'd need to find a new radiator to replace the crumpled stock piece, but otherwise our donor had everything we needed to finish our 818. It also had lots of parts we didn't need—parts we could sell to recoup some of our \$4600. We dragged the donor back to Very Cool Parts to start working.

144 Hours

We know what you're thinking: "Wait, I thought *you* were going to put this car together. You can't just drop it off at a shop and take pictures!"

Don't worry—we aren't. In fact, the only real rule we had was that unless we asked, Very Cool Parts wouldn't touch the car without us around. We would still be doing the dirty work, even making Publisher Tim Suddard pressure wash the donor's drivetrain.

CLOCKWISE FROM TOP: We got our donor WRX solidly on jack stands and drained all the fluids. Removing the entire rear suspension is the easiest way to get to the lower control arms and spindles. Picking the carcass clean, with the seat belts and doors removed, there wasn't much left after we were done. We double-checked all the hoses and disconnected all the electrical before removing the engine. We plan on replacing the heavy and extensive stock wiring harness with a simpler solution..

SELL AND RECOUP

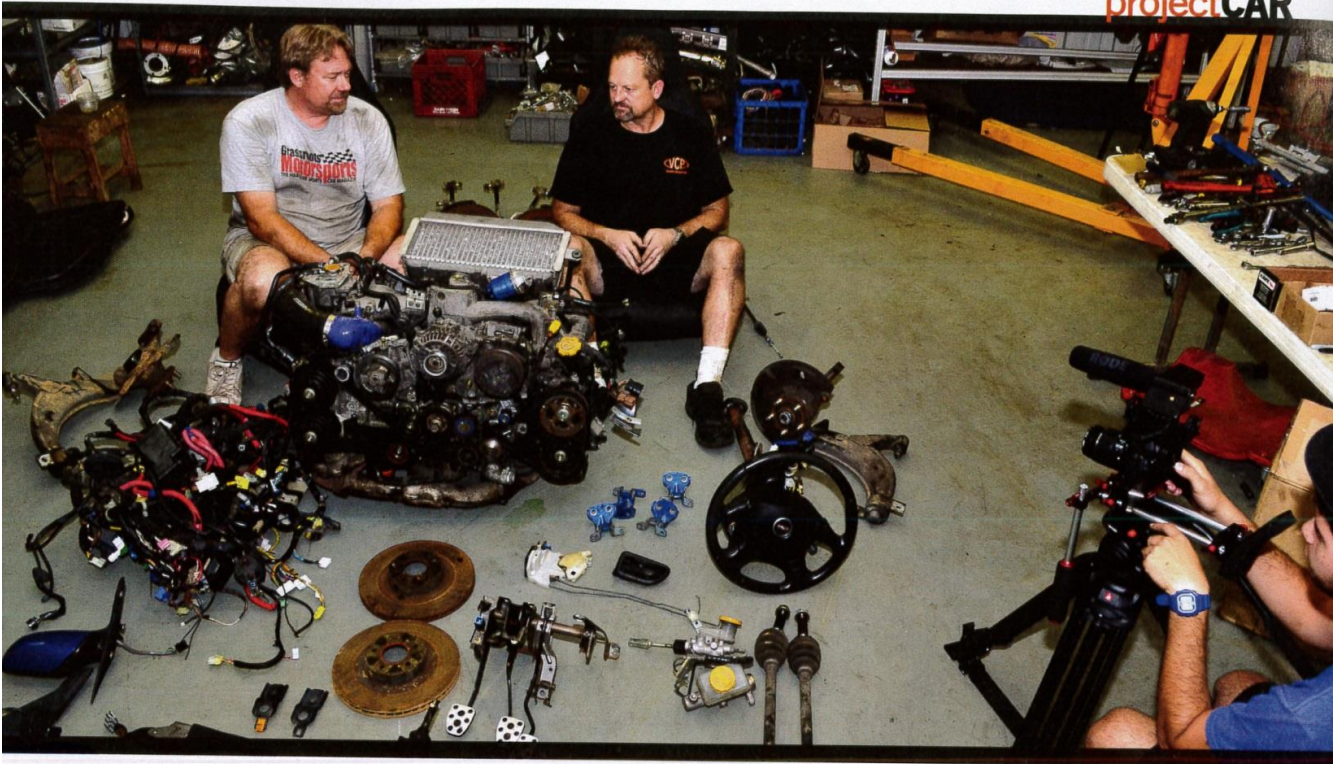
We spent \$4600 on our 2004 Subaru Impreza WRX. In theory, we can sell these unused parts to put a few bucks back in the kitty:

- main body shell
- all window glass
- headlights and taillights
- rear differential
- driveshaft
- headliner and interior pillar moldings
- carpets
- front and rear crossmembers
- front struts and springs
- rear struts and springs
- rear seat cushion and back
- spare tire
- fuel tank shell

nophone bansasi illustration



Dozens of videos detailing our 818 build can be found in the Project Cars section of our website, grassrootsmotorsports.com.




WE BASICALLY HAD TO BUILD A CAR FROM SCRATCH, AND ALL OUR MATERIALS WERE 6 HOURS AWAY FROM OUR HOME OFFICE.



Shop owner Wayne Presley's role was more supervisor than laborer, though he did get his hands dirty.

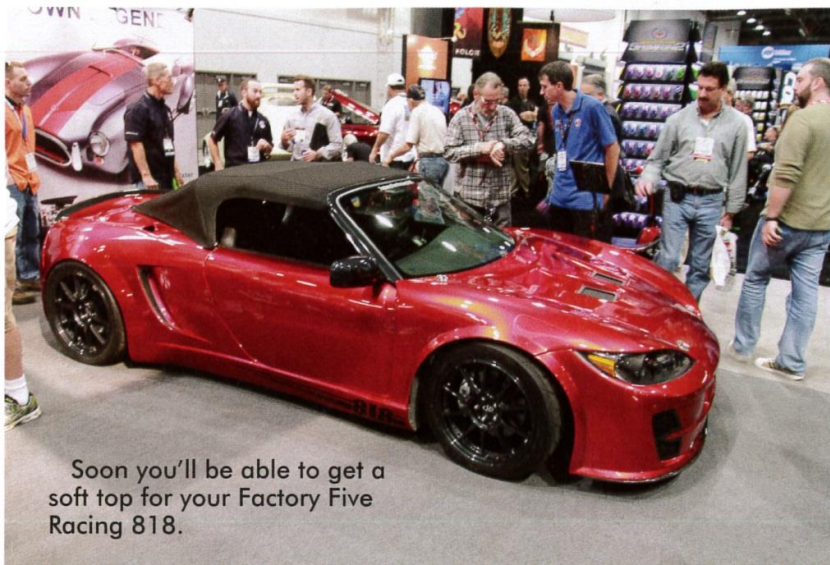
Before we could start taking off parts from the donor car and putting them on our 818, we needed a plan. We basically had to build a car from scratch, and all our materials were 6 hours away from our home office. We decided that two three-day trips to Alabama—separated by a few weeks in case we needed more parts—would be plenty to assemble our 818. Six days to build a car from a pile of parts? Challenge accepted.

We wouldn't be able to accomplish this alone, though. We assembled an "Ocean's 11"-style team for trip number one, enlisting Tim Suddard, our publisher; Jere Dotten, our resident mechanic; Chris Tropea, our videographer; and Tom Suddard, our photographer. Wayne asked a friend, Bill Robinson, to help out as well. We even readied our backups, enlisting ace bodyman Tom Prescott and GRM fixture Rennie Bryant for subsequent trips. With eight people on board, we were confident. Of course, we could do this. Or could we? 

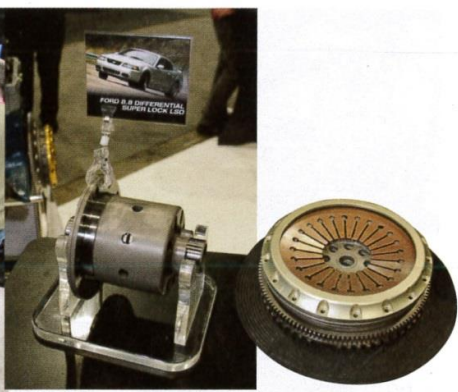
COUNTERCLOCKWISE FROM TOP: Tim and Wayne contemplated the plan of attack. Having a large tractor and smooth floor made removing the WRX shell much easier. Unloading our 818 kit at Very Cool Parts: The best is yet to come.

SOURCES

- AiM Sports, LLC:** digital dash, aimsports.com, (800) 718-9090
- Braille Battery, USA:** battery, braillebattery.com, (941) 312-5047
- eBay Motors:** donor car, ebay.com/motors
- Electromotive, Inc.:** engine management, electromotive-inc.com, (703) 331-0100
- Factory Five Racing, Inc.:** 818 kit, factoryfive.com, (508) 291-3443
- Koni North America:** shocks, koni-na.com, (859) 586-4100
- Mach V Motorsports, LLC:** wheels, machv.com, (571) 434-8333
- S.P.E.C., Inc.:** clutch and flywheel, specclutch.com, (800) 828-4379
- Very Cool Parts:** construction help, verycoolparts.com, (760) 403-6266
- Yokohama Tire Corporation:** tires, yokohamatire.com, (800) 722-9888



Soon you'll be able to get a soft top for your Factory Five Racing 818.



OS Giken had some new hardware for our market, including a limited-slip differential for 8.8-inch Ford rear ends and a twin-plate clutch for the Porsche 964.



We have been running Vredestein radials on our wire-wheeled classics for years, but don't forget that they offer a full range of tires—rubber appropriate for today's supercars as well as a few models aimed at mid-school classics like the original BMW M3 and '80s Porsches.



The latest evolution of the popular Volk TE37 forged wheel is the TE37 RT—those last two letters stand for Rigid Tune. Mackin Industries, importer for the line, says that updated manufacturing methods produce an inner rim that's 4- to 6-percent stronger. Look for 17- and 18-inch sizes for Porsches as well as popular Japanese cars.



Mackin does more than just high-end wheels. They also import the MXP line of exhaust products, including this equal-length header setup for the Scion FR-S and Subaru BRZ.

How do you instantly make a tire look even racier? Stencil its name on the side in giant block type. By the way, congratulations to Nitto for capturing more than 5 million Facebook fans.

