

D'GARAGE *Project G35*

Tobin's Fault!

But Now It's Tobin-Proofed!

Text and Photos by Arnold Eugenio

A LEAD FOOT, A DEAF EAR AND A RAGGED TUNE ARE A DEADLY combination. Tobin's lead foot, inability to hear detonation and an unsafe tune resulted in a connecting rod shooting through the side of the VQ engine block. While we give Tobin a hard time, he's not alone. Many enthusiasts aren't able to hear detonation or identify other issues with the engine's state of tune. In some cases, engines are simply pushed beyond their limits. Having the engine professionally dyno tuned by a capable tuner is the best insurance for extended engine life and peak performance.





**POST TUNING, OUR NEWLY-REFRESHED G35 SETUP
TURNED 362 WHP AND GENERATED 337 LB-FT TORQUE**

D'GARAGE: VQ35 VINDICATION



THE OBITUARY

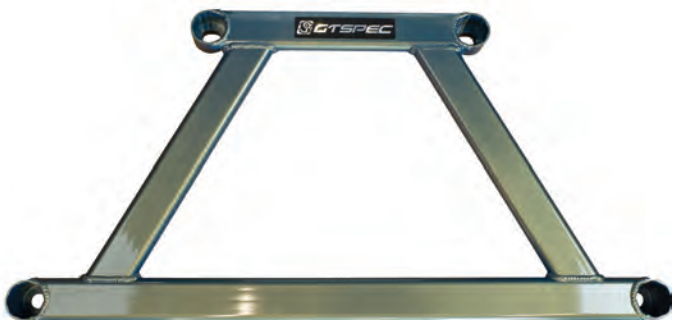
Born in 2006, this VQ35DE RevUp engine lived a fast-paced and exciting life. In 2010, the engine married an HKS GT Supercharger kit. An HKS F-Con iS piggyback engine management system and a set of DeatschWerks 440cc/min injectors attended the couple's first dyno. The boosted engine delivered 352whp and 312 lb-ft of torque at 6psi of peak boost pressure. Addicted to power, the couple looked to a higher-boost pulley (7.25 psi). Adopting the pulley increased power to 375whp. Unfortunately, the expanded family did not last long. In August of 2010, an improper tune led to detonation which resulted in a connecting rod failure. While the original VQ35DE could not be resuscitated, it was survived by the HKS GT Supercharger kit.

THE ROAD TO RECOVERY

During the search for a replacement VQ RevUp engine to build, we sent the chassis to Energy Suspension to replace the aging factory-rubber bushings with new polyurethane pieces. We also installed a set of STILLEN front and rear swaybars to reduce body roll during spirited driving. To optimize alignment with the lowered stance, we installed SPC adjustable A-arms and rear control arms on the CPV35 chassis.

With the suspension ready for the track, Tobin selected Enkei PF01 wheels. Lightweight and providing superior brake caliper clearance, the PF01s were the clear choice to prepare the G for the circuit. We chose a set of ARP extended wheels studs and NRG lug nuts to secure the Enkeis. For stopping duties, we upgraded the G's brake system with DBA 4000 brake rotors, EBC Blue brake pads and STILLEN/Goodridge stainless-steel brake lines. Once we get the G35 on the track, we will see if a big-brake upgrade is necessary for extended run sessions.

We incorporated a host of GTSPEC chassis braces to minimize unwanted chassis deflection.



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WE SENT THE CHASSIS TO ENERGY SUSPENSION TO REPLACE THE AGING FACTORY-BUSHINGS



TRANSFORMATION

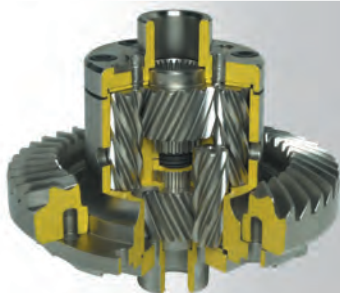
While the VQ35 block gave up rather quickly after hosting the newfound power increase, we know that a few more tweaks and dialing-back of the power curve will increase the next engine's longevity. Still, the large increase in power potential warranted upgrading of the power delivery mechanics as well. To that end, we installed a Quaife ATB LSD for appropriate power distribution between the rear wheels. This LSD operates under both acceleration and deceleration to provide proper slip control between the drive wheels. Inside the 6-speed transmission, we replaced the factory clutch with a Carbonetic Pro-Blade clutch and flywheel kit. The Carbonetic unit consists of a small-diameter pressure plate and clutch disc combination that quickens shifts while still providing adequate torque capacity. The included flywheel maintains the factory diameter to ensure proper starter gear connection but is also lightened to reduce rotating mass in the clutch system. A STILLEN short shifter rounds out the transmission modifications.



SUPPORTING CAST



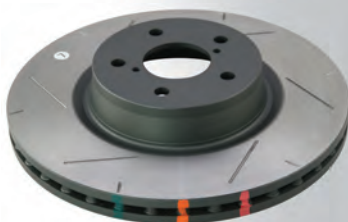
FIC Fuel Injector Clinic 540cc/min injectors spray 91-octane pump gas into the pressurized combustion chambers.



The Quaife QDF11L installed in the rear-end is a gear-type LSD that operates automatically and progressively without ever inducing full lockup, offering smoother power transmission.



The small-diameter Carbonetic clutch reduces clutch mass for improved engine response and quicker transients while still offering the torque-holding capacity of a large diameter unit.



We complemented all the extra "go-power" with upgraded "slow-power" components including slotted brake rotors, street/race compound brake pads and stainless-steel lines.



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D'GARAGE: VQ35 VINDICATION

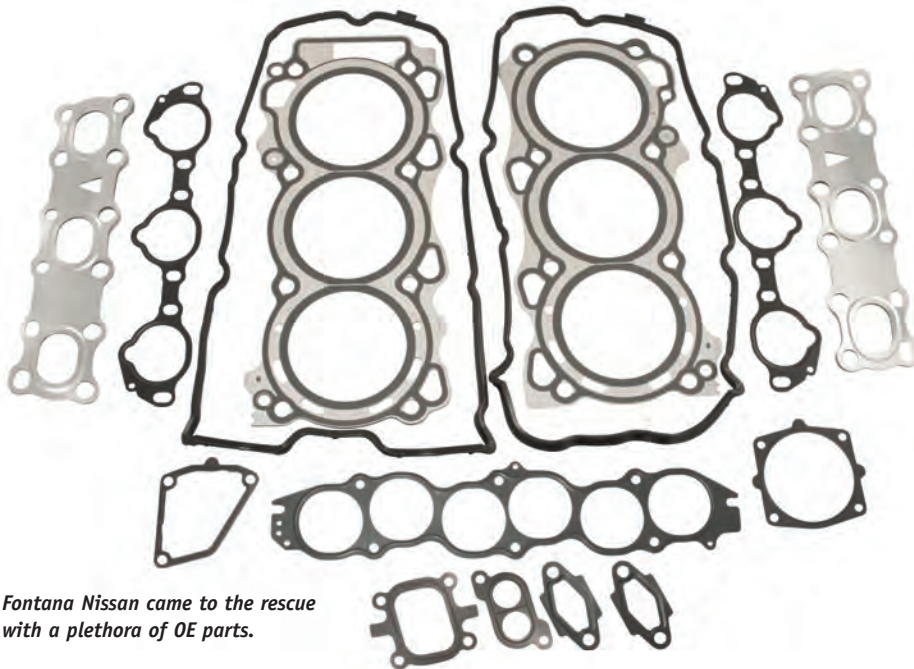
**IN NO MORE THAN 48 HOURS, POWER PROS...
HAD THE G35 UP AND RUNNING AGAIN**



NEW, NOT REBUILT

After several months and a few near-misses, we concluded that finding a rebuildable VQ35 RevUp engine was impossible to find. Instead, we went straight to the source (Nissan North America). They came to our rescue with a new crate engine. We picked up the engine and necessary supporting factory components through aftermarket-friendly Fontana Nissan and

delivered the parts to Power Pros in Santa Ana, California. In no more than 48 hours, Power Pros removed the blown engine, installed the new crate motor, put the HKS supercharger back in place and had the G35 up and running again. While we reused most of the supercharger supporting components, Power Pros switched back to the original 6 psi HKS pulley. During the revival, Power Pros also installed a Mishimoto radiator fed by Samco silicone radiator hoses.



Fontana Nissan came to the rescue with a plethora of OE parts.



The HKS Twin Power Ignition provides the spark while the standard 6psi pulley (below) regulates boost levels.



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D'GARAGE: VQ VINDICATION

WITH A PROPER TUNE IN PLACE, WE ARE CONFIDENT THE VQ WILL SURVIVE TOBIN'S LEAD FOOT AND DEAF EAR



TUNED IN

With the car back on the streets, we broke in the new motor with a featherweight foot, ensuring that we kept the supercharger out of boost. After the requisite break-in mileage, we removed the piggyback unit and replaced it with Haltech's Platinum Pro Plug and Play system. As a complete standalone unit, the Haltech Platinum Pro controls all engine functions. To get real-time feedback, we coupled the Platinum Pro with Haltech's dual-channel wideband tuning kit. This twin-oxygen sensor control unit replaces the VQ35's factory narrow-band O2 sensors with 5-volt gamut oxygen sensors that occupy stock locations in each header bank. We ensured more-than-adequate fuel supply by upgrading the factory injectors to a sextuplet of Fuel Injector Clinic 540cc injectors. The previously-installed HKS ignition

system now fires a fresh set of NGK spark plugs. Haltech tuner Matt Wright fine-tuned the included base maps to handle the HKS supercharger kit. Additionally, Wright spent a few extra tuning hours ensuring near-perfect cold-start and low-load drivability on the mostly-street-driven G35. Post tuning, our newly-refreshed G35 setup turned 362 whp and generated 337 lb-ft torque at 6 psi of positive pressure from the HKS supercharger.

BACK IN BOOST

We are glad to get Project G35 back on the road. We've already installed a few functional aero accessories from Chargespeed, Blacktop and STILLEN to freshen the look. With a proper tune now in place, we are confident that the VQ will survive Tobin's lead foot and deaf ear. Stay tuned. 🏎️



The Haltech Platinum Pro unit and dual-wideband oxygen sensor kit pair together for a more precise and reliable engine tuning solution.

HOOK UPS

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