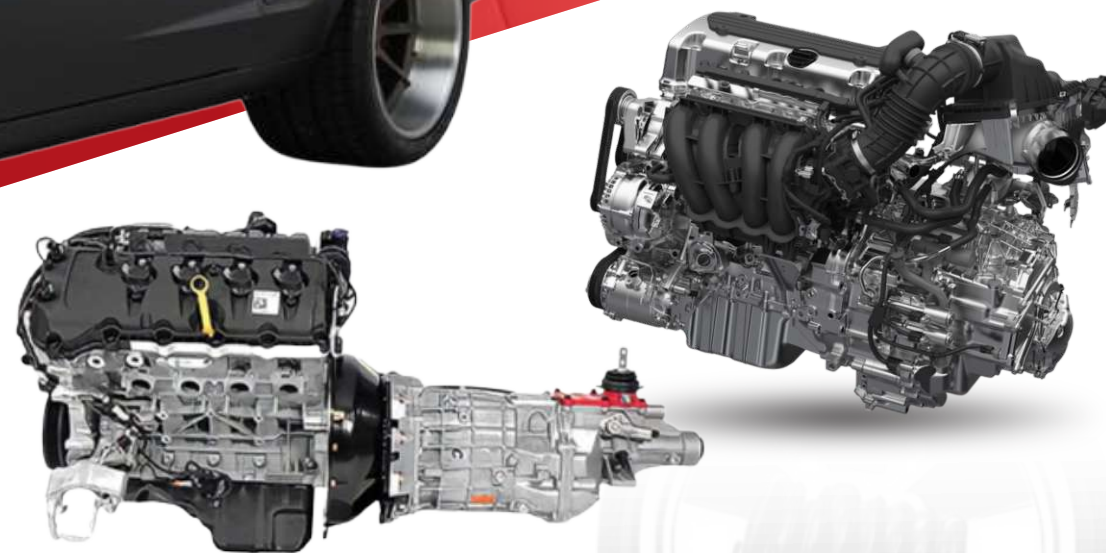




USED ENGINE PART
Quality At Best Price

1967 Shelby GT500 with a Modern Coyote 5.0L Swap

Client Success Story – Used Engine Parts



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Client Overview

Client: Jake Reynolds

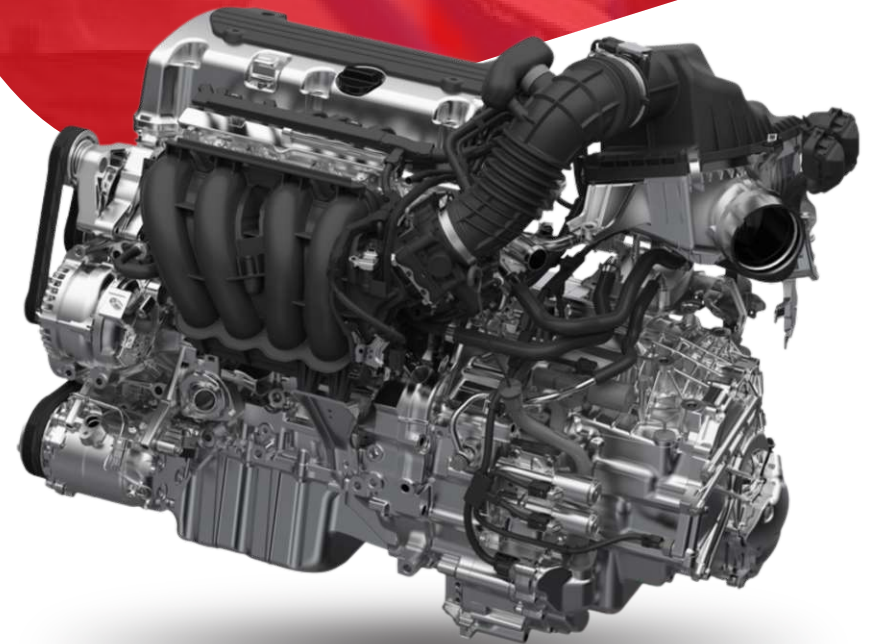
Location: Fort Worth, Texas

Client came to us with a clean 1967 Shelby GT500. It wasn't just about restoring a piece of history. Jake had something more of an enhancement in mind. He wanted the classic Mustang body, but he needed modern power.

The car had its original 428 FE block, which had aged. It was in running condition but not well. Rough idle, weak throttle response and overheating had become common. The transmission was mismatched for daily driving.

Jake's goal was simple: retain the identity of the GT500 but turn it into a reliable, streetworthy, and track-ready machine. The engine swap wasn't just to replace a tired motor. It was to give it a second life—with real power and modern control.

The plan: pull out the original big block and drop in a Gen III Coyote 5.0L from a 2019 Mustang GT.



2. Planning & Preparation

1. Engine Selection

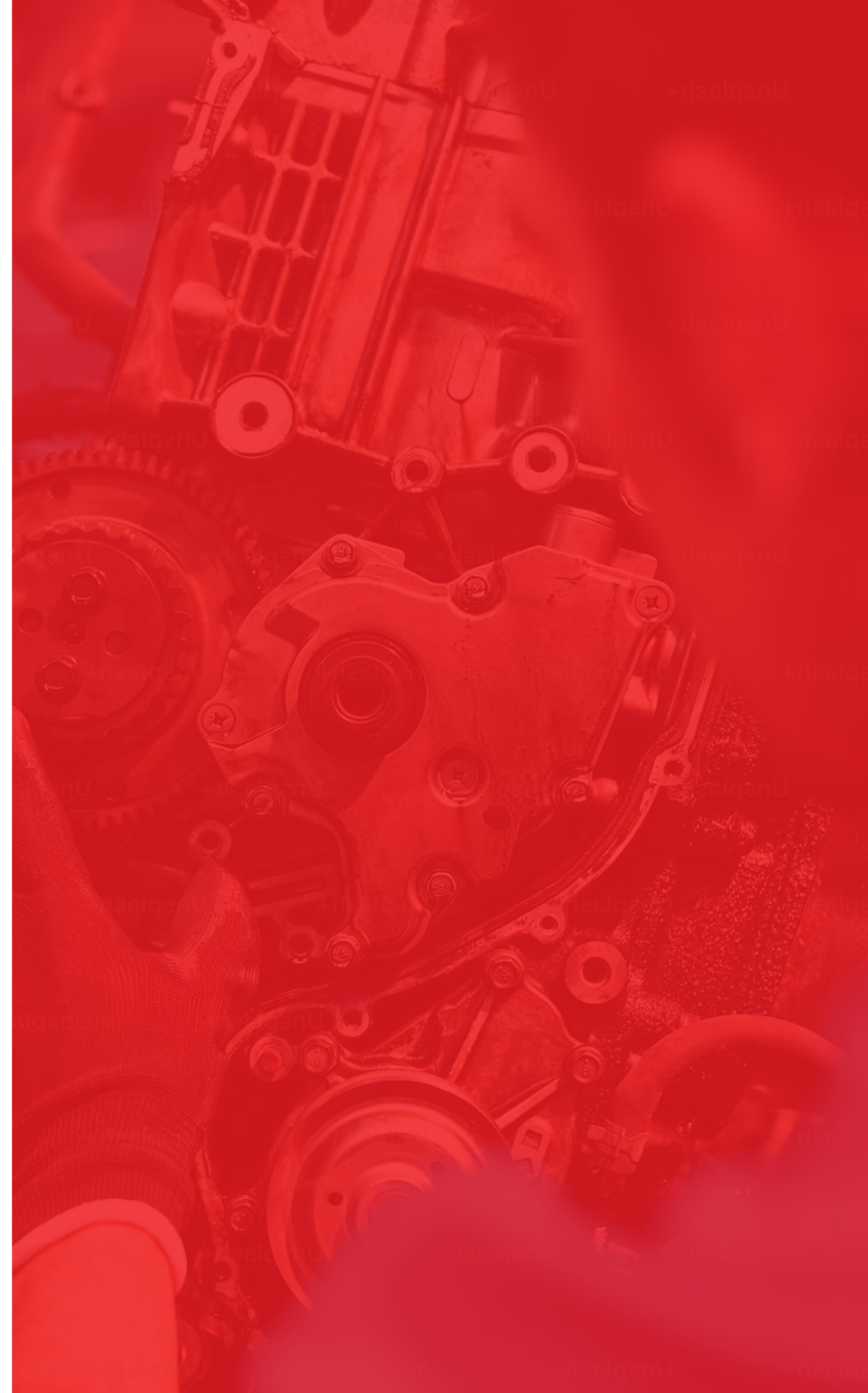
The Gen III Coyote 5.0L was chosen for good reason. It offered 460+ horsepower, high-revving performance, and solid aftermarket support. Plus, its parts are widely available. It was a huge upgrade than the stock engine.

2. Compatibility Analysis

Physically, the engine would fit, but not without work. The Coyote's DOHC heads are wider than the original V8. Custom engine mounts were needed. We also reinforced the shock towers with fabricated support plates. Classic Mustangs don't need full frame swaps, but we braced the front end.

The driveshaft was shortened and rebalanced. We paired it with a Tremec TKO600 5-speed to handle the torque. The rear end was rebuilt with a 3.73 gear and new axles.

The electrical side was its own battle. We used a Ford Performance Control Pack to run the Coyote. This included its own ECU, fuse box, and wiring harness. It bypassed the need to rewire the whole car.



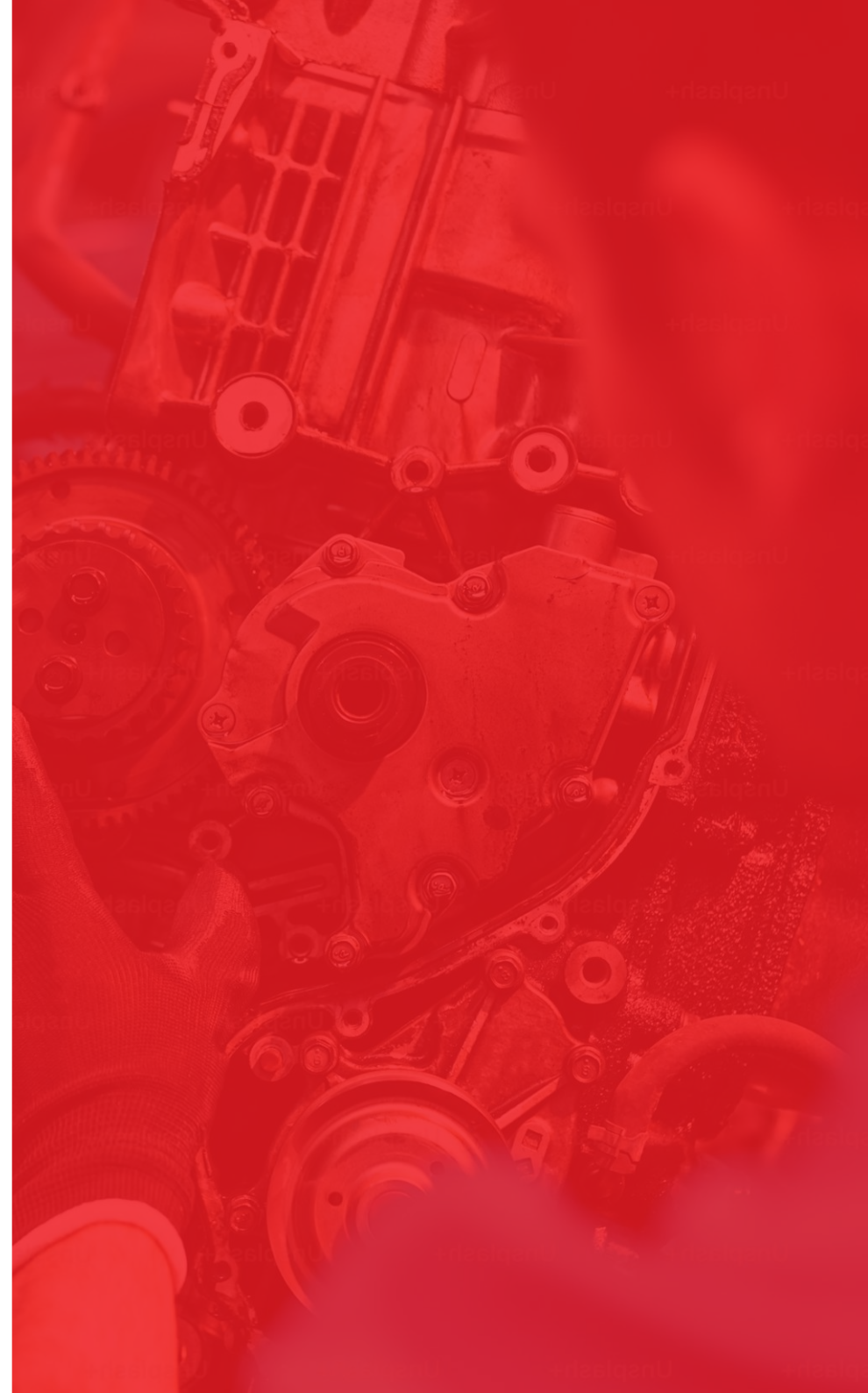
3. Cost Estimation

- ◆ Engine (used, 2019 Mustang GT): \$6,500
- ◆ Transmission (Tremec kit): \$3,200
- ◆ Custom fabrication & labor: \$4,000
- ◆ Suspension upgrades: \$1,200
- ◆ ECU & Control Pack: \$1,800
- ◆ Fuel system, radiator, mounts, and extras: \$2,300

Total:\$19,000 approx.

4. Required Tools & Equipment

This build required MIG and TIG welders, engine hoist, plasma cutter, grinders, and custom fabrication tables. On the tuning side, we used HP Tuners software for post-install adjustments.



3. Execution of the Swap

Engine Removal

We began by pulling the 428 FE, transmission, radiator, and stock fuel system. Once the bay was cleaned and prepped, we reinforced the frame rails and towers.

Custom Engine Mounts

The Coyote was mounted using aftermarket swap mounts. But we still needed to trim and notch the towers slightly for clearance.

Driveshaft & Engine Adaptation

A new aluminum driveshaft was cut and balanced. We used a QuickTime bell housing to mate the Tremec to the engine.

Cooling System

We installed a custom aluminum radiator with dual electric fans. An external oil cooler was added to manage heat during aggressive driving.

Fuel System Upgrades

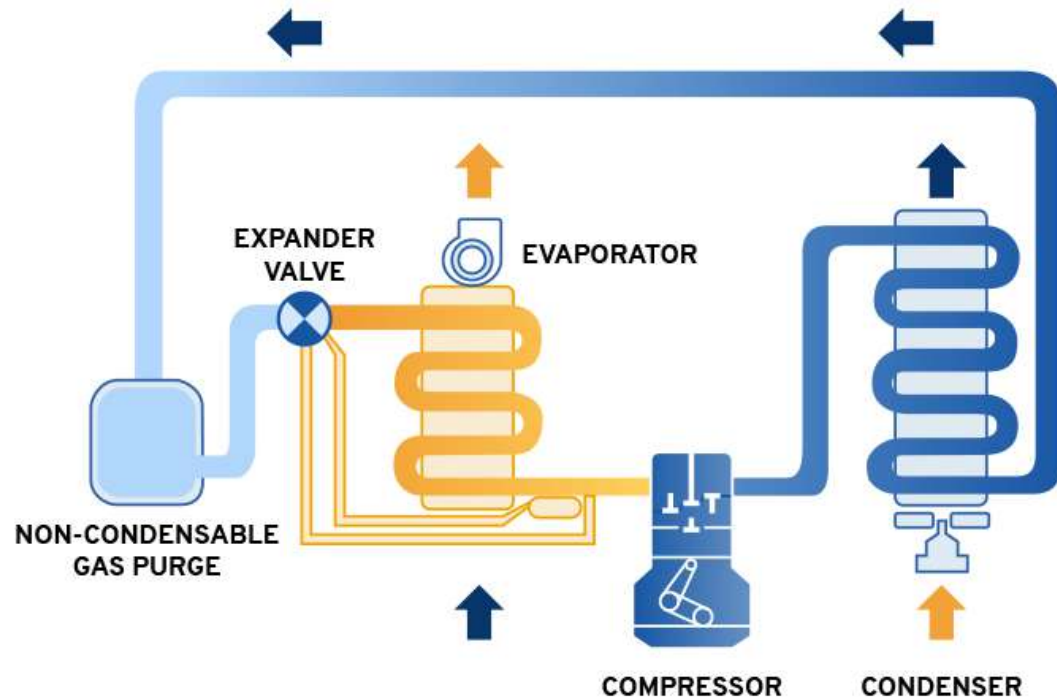
The original tank was swapped for a new EFI-ready tank with in-tank fuel pump. We ran new lines rated for EFI pressure. Bosch 47-lb injectors were installed.

Wiring & ECU

The Ford Performance Control Pack handled most of the engine wiring. It came pre-mapped for the Gen III Coyote. We still had to route the wiring carefully and hide components where possible to retain the clean look of the bay.

Engine Installation

With clearances confirmed, we dropped the Coyote in, mated it to the Tremec, and began routing the fuel and cooling lines. The headers cleared without frame mods but needed custom routing to the dual exhaust. The ECU was mounted inside the cabin behind the glove box.



4. Testing & Performance Evaluation

Initial Startup & Tuning

We completed the first startup with no major issues. AFRs were slightly off, so we made minor changes using HP Tuners. Idle was stable at 750 RPM, and throttle response was instant.

Performance Metrics

- ◆ Stock 428 FE (before): ~335 hp at crank
- ◆ Gen III Coyote (after): 460+ hp at crank
- ◆ Weight balance improved slightly due to aluminum block
- ◆ Torque delivery was much flatter and more usable

On the street, the car drove like a different machine. Power was immediate. On track, it pulled strong through each gear with no drop in oil pressure or heat soak.

Reliability Check

After 500 break-in miles, we had zero signs of overheating. Oil pressure stayed steady. No drivetrain vibration. Engine mounts held solid under load.

5. Results & Conclusion

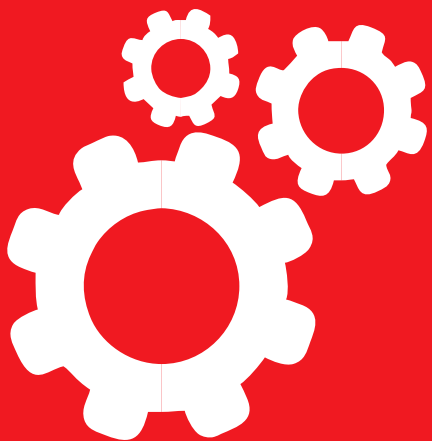
This swap hit every mark Jake was aiming for. The 1967 Shelby GT500 kept its soul, but the heart now belonged to the modern era. The engine swap didn't just bring it back—it made it better. The car is now driven weekly, sees the occasional autocross, and runs without hesitation.

Cost vs. Benefit

For \$19,000, Jake got modern V8 performance in a car that turns heads every time it hits the street. No major tuning problems, no electronics headaches, and no regret.

Final Thoughts

Not every classic needs to stay original. Some need to move forward. Jake's GT500 found that balance. And with the right planning, the Coyote swap delivered real performance—without killing the character that made the car iconic to begin with.



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