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# The Evil Truck Revisited, Part I

## JP'S M-715 GETS A REAL ENGINE

text and photos by Christian Hazel

**B**ack in the Nov. '06 issue, we introduced you to Hazel's '68 M-715 in the story "28 Days to Failure." In a nutshell, the plan was to take a derelict army pickup that hadn't run in over 10 years and build it to drive roughly 1,000 miles to the Full Size Invasion in Ouray, Colorado, in only 28 days. The truck was finished in time, but the free '73 Camaro engine turned out to be a wheezer, dooming the plan and earning the moniker, The Evil Truck. When it came time to prep this M-715 for yet another event, namely *Jp's* officially unofficial OD Road Trip, the gloves came off.

Since the truck was technically driveable, the only thing holding it back was the neglected Chevy 350 that burned one quart of oil every seven miles, thanks to virtually nonexistent ring seal and horrendously worn valve guides. After agonizing over options ranging from a driveway bottle brush rebuild of "Wheezy the Wonder Mill" to building a 600hp stroker thumper, we finally settled on what we considered the best option for this truck.



To complete our GMPP engine package, we visited Holley's Web site and ordered a 670-cfm Truck Avenger carb, a 14-inch Holley air filter, and a Weiland Action +Plus dual-plane manifold. The Truck Avenger carb has proven itself to us off-road, and the newly redesigned Weiland manifold is one of the best there is for performance and driveability at less than 5,500 rpm. In reality, the manifold and carb probably bump our GMPP engine close to 300 hp.

# The Evil Truck Revisited, Part I

## REALISTIC OPTIONS

We look at it this way: If you want your Rolex serviced properly and with the correct parts, you ship it to Geneva. If you want a reliable, properly built Chevy V-8, you go to the folks who designed the engine in the first place. GM has the knowledge and facilities to build great performance engines that are assembled correctly and give years of reliable service when properly broken-in. From V-6s all the way to rip-snortin' big-blocks, GMPP has a huge variety of parts available to enthusiasts.

The GMPP 350/290 HP engine (PN 12499529) made the most sense to us for a lot of reasons. For starters, we'd be able to reuse all of the components from our '73 engine. Unlike other GMPP small-block crate engines, the 350/290 HP uses a two-piece rear main seal just like every other '55-'85 Chevy V-8, so we'd be able to reuse our Centerforce flywheel. The block is drilled for a manual fuel pump, there are provisions for either a mini starter or a factory splayed-bolt starter, and the block can accommodate either right- or lefthand dipsticks. Furthermore, the 350/290 HP runs on 87-octane fuel, so we won't need to fill our 28-gallon tank with insanely expensive California premium to get our performance fix. With our truck's 5.87 gears and 38-inch tires, the engine's 290 hp at 5,100 rpm and 326 lb-ft of torque at 3,750 rpm will deliver more than enough gumption. And finally, the price just can't be beat for the kind of quality you get. Shopping around will get you slightly different prices, but most places we've found list the long-block for just \$1,700. In most cases, that's less than performing a stock rebuild on a worn-out engine.

Because we were starting with an existing engine, we pulled the trigger on the Base version, which comes with an assembled long-block, but GMPP actually offers four different levels of engine assemblies from Partial (block and rotating assembly) to Base (assembled long-block with cam, cylinder heads, oil pan, valve covers) to Deluxe (carb to oil pan, ignition, water pump) to Turnkey (ready to run with front accessory package).

In this installment, we'll show you exactly how we got The Evil Truck up and running. Next month, we'll fill you in on some of the other things we'll be doing to this M-715 to make it perform better off-road and be more comfortable and presentable on-road.

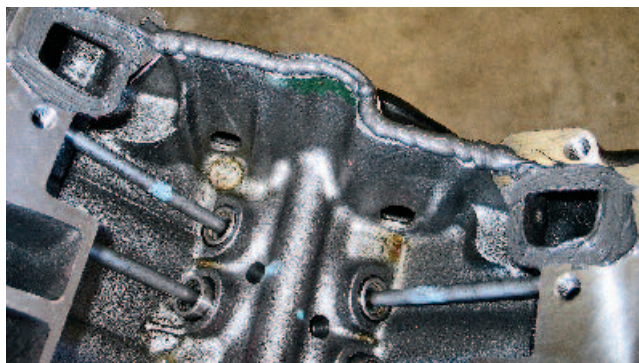


There's nothing to adjust or set up with GM's Base engine assembly. If you can lay silicone and run a torque wrench, you can assemble the long-block. We popped off the valve covers to install the Weiand manifold. We also inspected the intake valley and passages and found no foreign objects or debris, indicating a hospital-like assembly environment.

## GMPP-350/290 HP TECH SPECS

For the money, this engine represents unbelievable performance value. You get a whole lot of motor for not a lot of money.

Horsepower	290 hp at 5,100 rpm
Torque	326 lb-ft at 3,750 rpm
Displacement	350 cid
Bore x stroke	4.00 x 3.48
Maximum recommended rpm	5,100
Compression ratio	8.50:1
Heads	Cast iron, 76 cc
Valves	1.940" I, 1.500" E
Camshaft	Hydraulic flat tappet
Camshaft lift	.450" I, .460" E
Duration at 0.050"	222° I, 222° E
Lifters	Flat tappet
Connecting rod	Powdered metal
Block	Four-bolt M, iron, two-piece S
Pistons and pins	Aluminum
Crankshaft	Cast iron nodular, 3.480" stroke
Piston ring	12507985
Rocker arm	1.5 ratio stamped steel
Head gasket	10105117
Oil pump	12555284
Oil pan	10066039
Ignition timing	34° BTDC total at 3,000 rpm
Fuel	87 octane

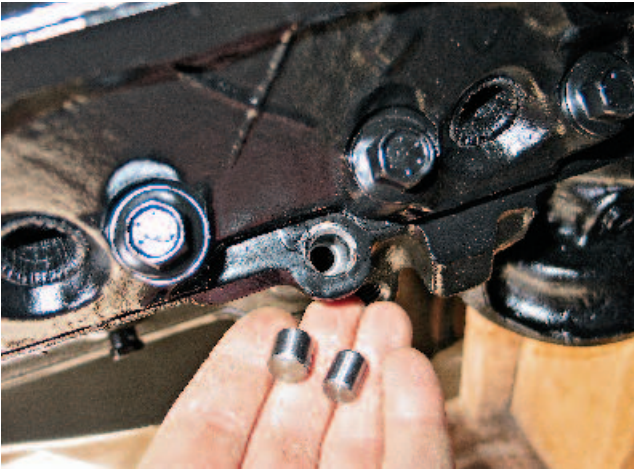


We used a pair of Fel-Pro intake gaskets (PN 1205) to block off the heater port in the heads to keep any extra heat out of the intake manifold. We've had lousy results with intake end gaskets, so we always run a fat bead of silicone on the block ends, wrapping it around the water passages.

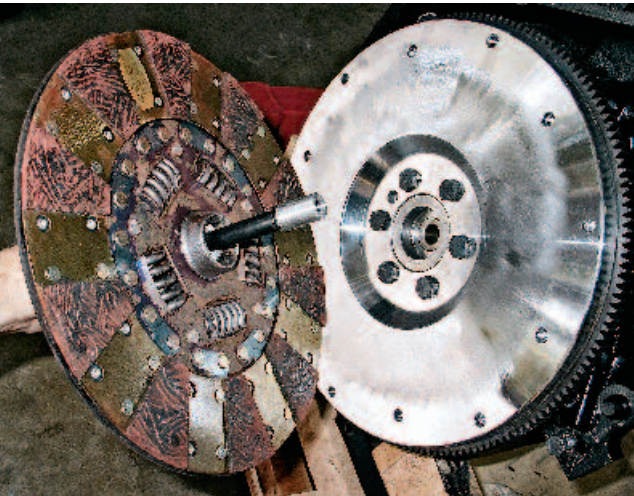
With the intake gaskets in place, coat any intake bolts that enter water or oil passages with nonhardening Teflon sealant and lay the manifold on. Torque the intake bolts from center to the ends in a circular pattern first to 15 lb-ft then to 35 lb-ft. If you can't get a torque wrench on every bolt, use a box-ended wrench and guesstimate to torque.



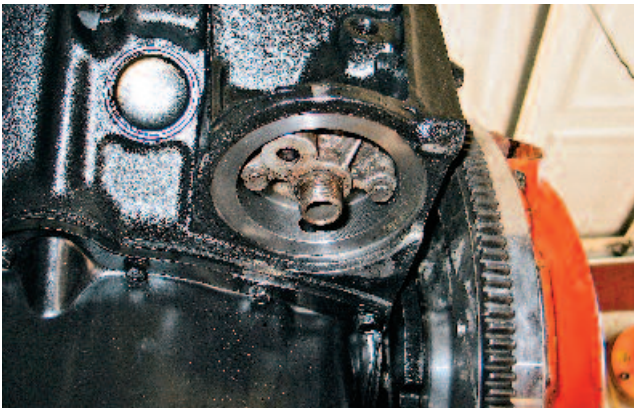
## The Evil Truck Revisited, Part I



The Weiland manifold comes with plugs for all the water and vacuum passages; a nice touch. Another nice touch are these dipstick plugs that come with the GMPP engine. We reused the driver-side dipstick tube from our '73 engine and installed the larger steel dowel with some silicone to plug the passenger-side dipstick provision.



The 350/290 HP came with a 0.590-inch pilot bushing already installed in the crank. Although it's a nice addition, it wouldn't work with our Jeep's T-98 tranny, so we knocked out the GM pilot bushing and installed the correct 0.625-inch bushing from Novak. We cleaned up our used Centerforce neutral-balanced Chevy flywheel and Dual Friction disc and pressure plate and installed them.



The Base engine doesn't come with an oil-filter adapter, so we cleaned and reused the one off our skunk engine. It's available from your local Chevy dealer under PN 03952301; you'll also need the mounting bolts (PN 03951644). All of the components you may need when setting up the Base engine, including the engine assembly itself, can be ordered at your local GM dealership.

### BREAK-IN CHECKLIST

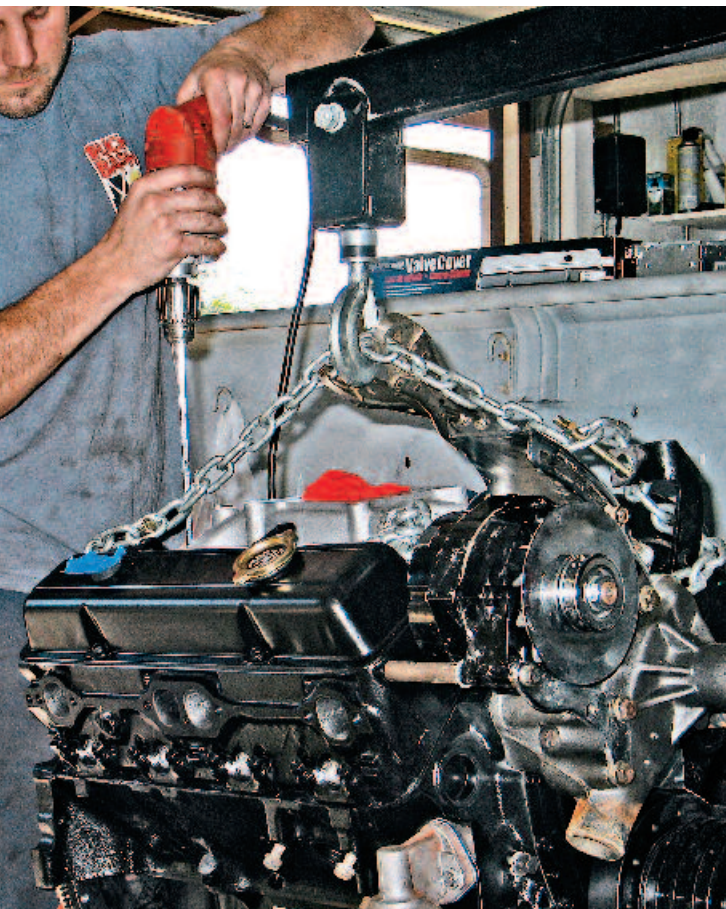
Before you just fire up your engine for the first time or cruise it down the street, make sure you follow this checklist to the letter.

- 1 Fill crankcase with oil, install new filter, add break-in oil additive.
- 2 Prelube the engine.
- 3 Fill radiator, check hoses, double check wiring.
- 4 Bring #1 cylinder to Top Dead Center and set timing by hand.
- 5 Hook up timing light and bring fire extinguisher close.
- 6 Prime fuel system and start engine, verifying timing near or around 30 degrees before TDC at about 2,500 rpm.
- 7 Run engine between 1,500–2,500 rpm, varying speed up and down with no engine load for first 30 minutes of operation.
- 8 After 30 minutes, set ignition timing, shut down, and check for leaks.
- 9 Adjust carb settings, if necessary.
- 10 Drive vehicle for 30 miles with varying speeds and loads. Don't use a lot of throttle or high rpm.
- 11 Do about six medium-throttle accelerations to about 3,800 rpm, letting off gas and coasting down to about 20 mph.
- 12 Do a few full-throttle accelerations to about 3,800 rpm, letting off gas and coasting down to about 20 mph.
- 13 Change oil and filter.
- 14 Drive for 500 miles normally with little high-rpm use of more than 3,800 rpm or lots of high engine loading.
- 15 Change oil and filter again.
- 16 Enjoy normal use.



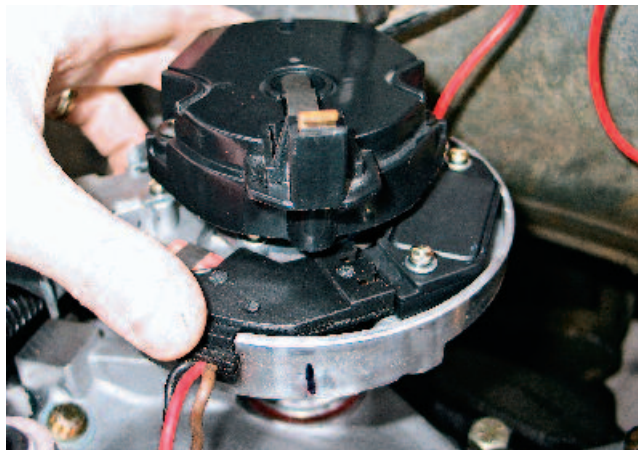
With the harmonic balancer, water pump, and other components from our old engine installed, we filled the crankcase with Valvoline 30W and added a container of Comp Cams Engine Break-In Oil Additive. The sad fact is modern engine oils no longer have the required additives to protect your engine during initial startup and break-in. The Comp Cams additive puts back the essential zinc and other additives that will prevent the cam lobes from going flat and the rings from getting hammered as they break-in.

## The Evil Truck Revisited, Part I

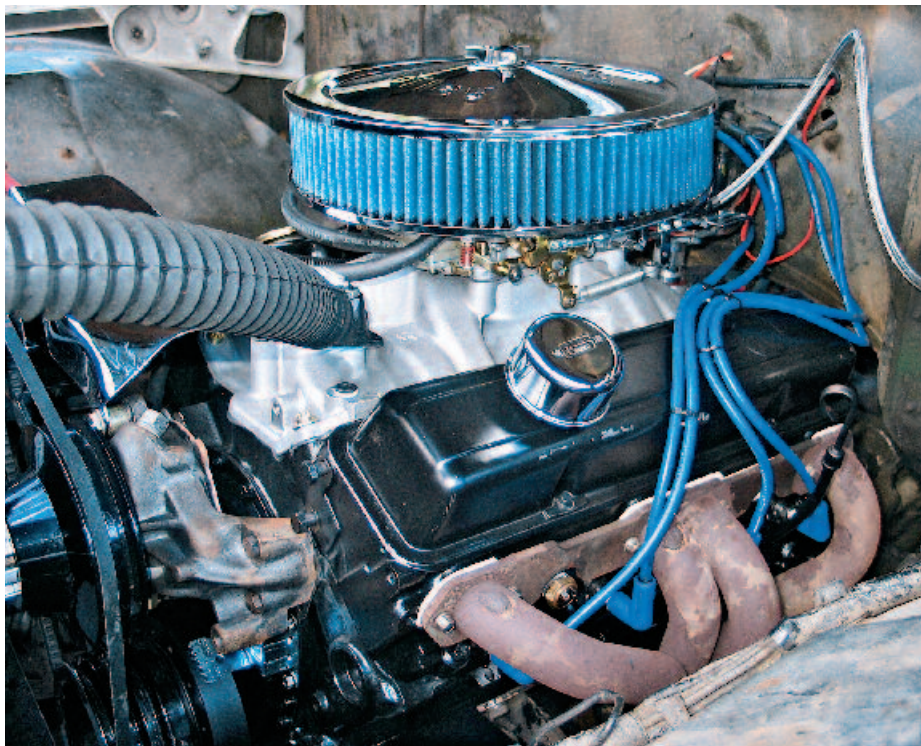


With the crankcase full, we used a homemade priming tool (long, flat-head screwdriver with the handle hacked off) to spin the oil pump drive and prelube the engine. Just like not adding the Comp Cam oil additive, not prelubing your engine is a surefire way to ruin your engine on initial startup. We usually run the drill for a while after oil starts coming through the distributor gear galley port.

One of the most critical and misunderstood parts of starting an engine for the first time is manually setting the timing. First, remove all the spark plugs and spin the engine by hand with your finger over the No. 1 plug hole. When air escapes, you're at or near TDC. Once we found TDC, we put the timing mark at 10 degrees Before Top Dead Center.



The distributor on a small-block Chevy indexes the cam gear and then the oil pump shaft. Install the cap and mark on the distributor body where the No. 1 plug wire will be. Use a long-handled screwdriver to index the slot in the oil pump shaft to point at the No. 1 cylinder. Remove the distributor cap and drop the distributor home, taking into consideration the cam gear will cause the rotor to spin roughly quarter-turn. If the distributor doesn't engage the oil pump, pull it back up a bit and rotate one tooth until it engages. Once the distributor is in, spin the distributor body to line the rotor up with the mark you made, and your timing is set.



### SOURCES:

#### Comp Cams

800/999-0853

[www.compcams.com](http://www.compcams.com)

#### Holley

800/HOLLEY-1, ext. 6237 for nearest dealer

[www.holley.com](http://www.holley.com)

#### GM Performance Parts

800/577-6888

[www.gmperformanceparts.com](http://www.gmperformanceparts.com)

#### Novak

877/602-1500

[www.novak-adapt.com](http://www.novak-adapt.com)

With everything buttoned up, we followed the procedure outlined in the "Break-In Checklist" sidebar on page 56. We don't run a tach on this truck, so we hooked up our timing light and used the tach in it to vary the engine speed for the initial camshaft break-in. Check our Web site at [www.jpomagazine.com](http://www.jpomagazine.com) for more installation photos and for video showing how well this engine moves our heavy M-715. 🚛