LATE-MODEL WATCH

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CROSS-FIRE GENERATION

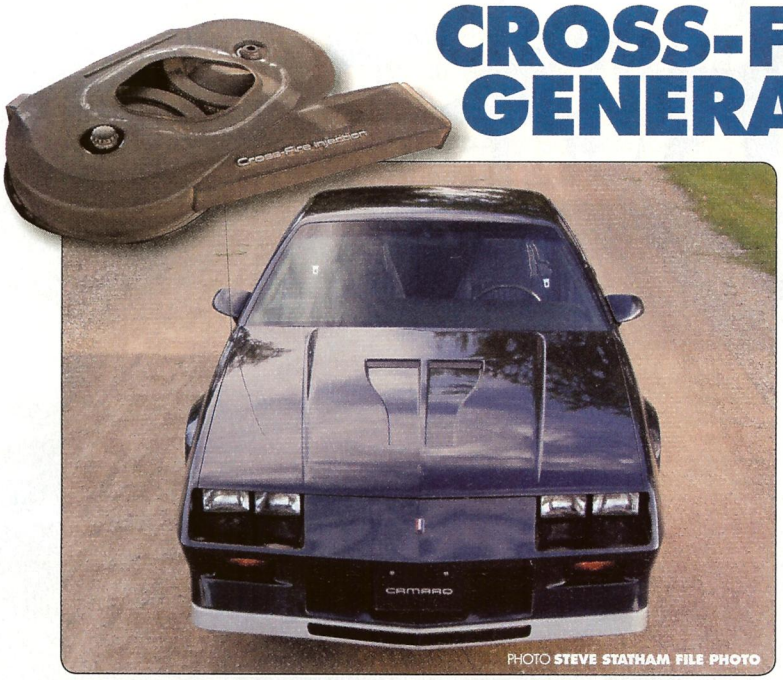

PHOTO **STEVE STATHAM FILE PHOTO**

THE FIFTH-GENERATION CAMARO WILL BE IN SHOWROOMS SHORTLY, AND THE CAR WILL NO DOUBT COME WITH A FRESH ROUND OF TECHNICAL INNOVATIONS AND DESIGN QUIRKS THAT HANDS-ON OWNERS WILL ENJOY DECIPHERING.

These new Camaro owners won't be the first to unlock the mysteries of an all-new F-body. An earlier generation of Camaro and Firebird lovers had to deal with the technological leap from carburetion to fuel injection. That began in 1982, with the introduction of Cross-Fire Injection, a transitional system that bridged the gap between carburetion and later EFI. The Cross-Fire's architecture included twin throttle bodies mounted on a cross-ram manifold. It was visually impressive, although no great boon to performance. When mounted on the 305ci V-8 in 1982 Camaro Z28s and Firebird Trans Ams, it was rated at 165 hp, and bumped up to 175 hp in 1983. When used on the 1982 Corvette's 350 V-8 it was rated at 200 hp, and 205 hp in 1984.

These days, having been eclipsed by more modern and precise fuel injection, the Cross-Fire system is nearly forgotten, and owners are often at a loss when it comes to keeping them in tune. One place to go for parts and information is Dynamic Crossfire Solutions, owned by Jim Beedle and business partner Tom Koepplinger. Beedle owns a 1984 Corvette capable of high 12-second quarter-mile times, and Koepplinger owns a 1982 Corvette, so the two have long had a personal interest in keeping the systems in tune. The duo started their company two years ago after a mutual friend suggested that the custom Cross-Fire parts they had been making to keep their own cars running might be something they could actually sell to a wider audience.

"In general, as far as Cross-Fires go, I think that people just don't understand the system. It's a real oddball," Beedle said. Their website has a lot of good information for the Cross-Fire owner. Briefly, the key impediments to keeping those dual throttle bodies humming are:

■ **WORN OUT THROTTLE PLATES:** Beedle says the factory throttle plates were only designed for 50,000 miles or so, and worn throttle plates is a very common hiccup with older Cross-Fire cars. New plates and bushings will solve a lot of rough idle problems, and Dynamic Crossfire Solutions offers a bushing replacement service using Ollite bushings. Dynamics' most popular product is their Throttle Body Boring service that bores the TBs out to 2.0 inches and replaces the bushings and plates. After the service, the throttle bodies will flow 670 cfm, Beedle says.

■ **FUEL PRESSURE:** The GM specs called for 9-13 psi of fuel pressure for the Cross-Fire, but Beedle says the engine just doesn't run properly at that pressure. He says the system likes 14 psi or sometimes even 15 psi of fuel pressure better. One quick way to get there is to install a TPI fuel pump.

■ **ROUGH AND RICH:** Another possible culprit for a poorly running Cross-Fire is a bad Coolant Temperature Sensor (CTS), Beedle says. This sensor is located on the front of the Cross-Fire manifold.

The Cross-Fire injection system has a reputation as a finicky beast, but there is nothing inherently wrong with it. It just takes a little homework to understand its workings. Once you get your throttle body set, "It runs like a Timex watch," Beedle said. "They are very reliable once they are dialed in." ■

ON DISPLAY

Dan Blundy of Portland, Michigan, owns the 1982 Z28 with Cross-Fire Injection shown here. The car is a 19,000-mile original that Blundy purchased from the original owner.

NEW MANIFOLD

Performance upgrades for the Cross-Fire cars have been few and far between. "The one detriment has been the induction system itself, the manifold," Beedle said. Until now, performance buyers had two choices — port the original manifold, or purchase the "X-Ram" manifold, a Weiand design with a custom top plate. But the X-Ram recently went out of production, leaving an opening for Dynamic Crossfire Solutions that they intend to exploit. They are in the final stages of developing a high-performance OEM-style replacement manifold. Named "The Renegade," this manifold is scheduled to go into production in the first quarter of '09. Beedle says it is a true cross ram with improved runner design, almost 30 percent more cross-sectional area, with a 20 percent increase in plenum volume.

SOURCE

Check out Dynamic Crossfire Solutions at: www.crossfireinjection.net