fit & fiddle

EFI CONVERSION

STORY PAUL TUZSON
PHOTOS PAUL TUZSON & TWM/BORLA

Carbs for show, EFI for the go. Not any more, as this gorgeous eight-trumpet injection set-up proves

OWNING a classic muscle car is great but it can end up looking pretty much the same as all the rest. Rock up to any V8-orientated show and you're bound to see rows and rows of Holleys on Edelbrocks perched between polished alloy rocker covers.

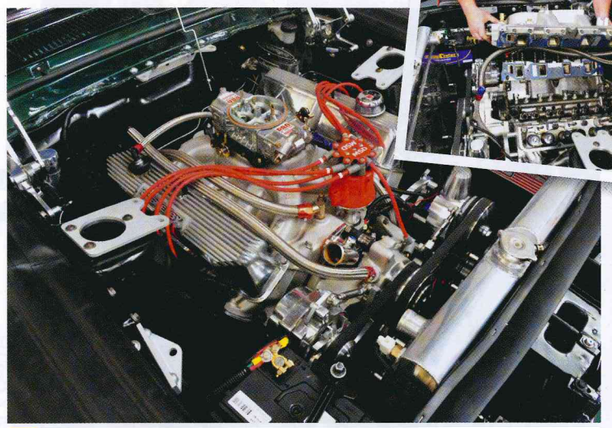
There's nothing wrong with that; classics earn the title by celebrating the technology and feeling of the time in which they were made. However, doing something that stands out as a bit different while maintaining that classic look and feel can be more interesting.

Mick, the owner of this sweet LHD '67 Mustang fastback was looking to make his 427 FE-powered ride just that little bit more special and felt that this eight throttlebody EFI conversion from TWM/Borla fitted the bill perfectly – we most certainly agree.

The TWM system includes the four twin-throat throttlebodies, manifold, fuel rails, injectors, fuel pressure regulator, some fuel line fittings and the links and hardware needed to join the plates and synchronize their movements.

Getting the plates moving together is one of the most challenging aspects of multi-throttle set-ups. Mick also chose an Autronic SM4 ECU to control the whole set-up because of its high-end reputation. While it has to be said that installing an Autronic isn't as user-friendly as some other aftermarket EFI systems, the product is aimed at serious users rather than the home hobbyist sector of the market, and there are more suitable control systems for novice installers.

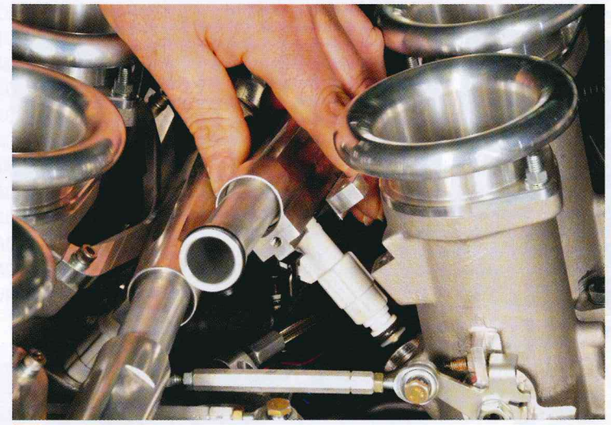
The Muscle Car Factory (MCF) invited us along to check out the installation of the TWM/Borla gear and Autronic management system on Mick's mean green '67.



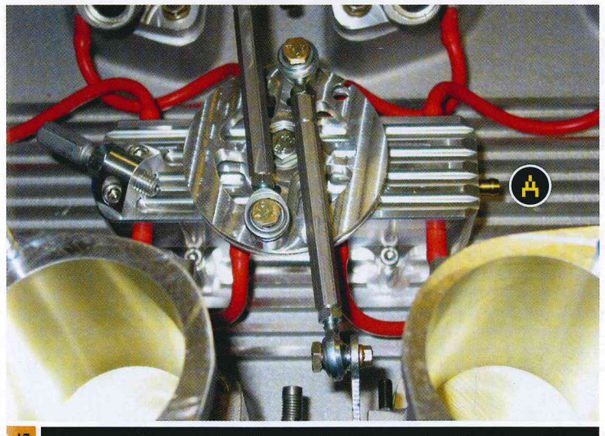
STEP 01 The Total Control Products strut brace kit had to be removed to get the old equipment off and fit all the new gear. The billet hinges don't allow for a wide bonnet opening so the bonnet also had to be removed for the job. Once all the wires, lines and hoses were disconnected everything came off pretty much as you'd expect. The original ignition system was retained even though it's less than optimal for the new set-up.

STEP 02 Although a manifold may fit straight out of the box, you'd be lucky — especially if the heads, deck or both have been machined. It's more likely that the manifold faces and ends that seal the valley will need machining for correct fit. The ports may also need a tickle to attain a good match. Port matching can be done at home but you'll need the services of an engine machinist to accurately measure and mill the manifold.

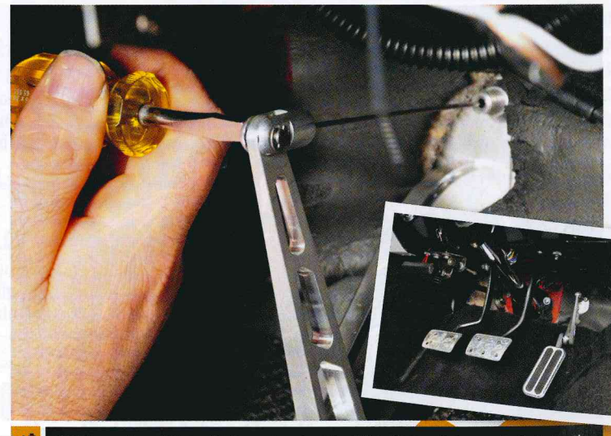
STEP 03 It is possible to assemble the throttlebodies and the fuel rails onto the manifold prior to installation. However, for this installation it was simpler to bolt them up once the manifold was in place. Here Leo (proprietor of the Muscle Car Factory) is dropping the throttlebodies in place. Be careful not to over-tighten the mounting nuts or you risk distorting the bases of the cast alloy throttlebodies.



STEP 04 Each injector rail is supplied in two halves that slip together — they seal via the visible O-ring. Installation is easiest if you attach the injectors to the rails and set them in place as you attach each pair of throttlebodies. Injectors are supplied with the kit; when ordering, give TWM your engine and cam details so they can calculate your basic fuel requirements and supply suitably rated (flow rate) injectors.



STEP 05 Throttle actuation is via this cable-operated rotating cam disc in the centre of the manifold. It sits on a hollow block that's a vacuum accumulator for the system. A vacuum line from each throttlebody (red hoses) keeps it empty, while the central connection port (A) is the MAF sensor and brake booster attachment point. Throttle position sensor mounts to the rear of the left bank's throttle shaft (not shown).



STEP 06 TWM supplies cable and linkages to adapt the EFI to factory linkages. Unfortunately the Mustang's bell-crank set-up fouled the rear throttlebodies — not uncommon — so it was replaced with Lokar's Competitor Series throttle pedal assembly, complete with vertical offset mounting, which aligns the top lever with the existing hole. It is important the cable moves freely to avoid binding, wear and possible failure.