

The biggest problems confronting the Pontiac Trans Am owner who wants to turbocharge his car involve matching the turbo to the engine, fabricating the necessary intake and exhaust plumbing, and last but certainly not least, making it all fit within the crowded Trans Am engine compartment and still stay beneath the stock hood. At least those used to be the big problems, but no more. Now the folks at H-O Racing Specialties (P.O. Box 429, Hawthorne, California 90250) have solved all the problems and assembled a complete prefabricated "TurboFORCE" kit.

Basically a "blow-through" system that pressurizes the carburetor, the kit utilizes a Rajay 301E turbocharger. The A/R ratio of the turbo is dependent upon the displacement of the engine to which it will be matched. The stock Quadrajet carburetor is retained, but special carb parts are included to modify it for the proper fuel curve, as described in the complete, illustrated instructions. Virtually everything needed to properly hook up the turbocharger is in-

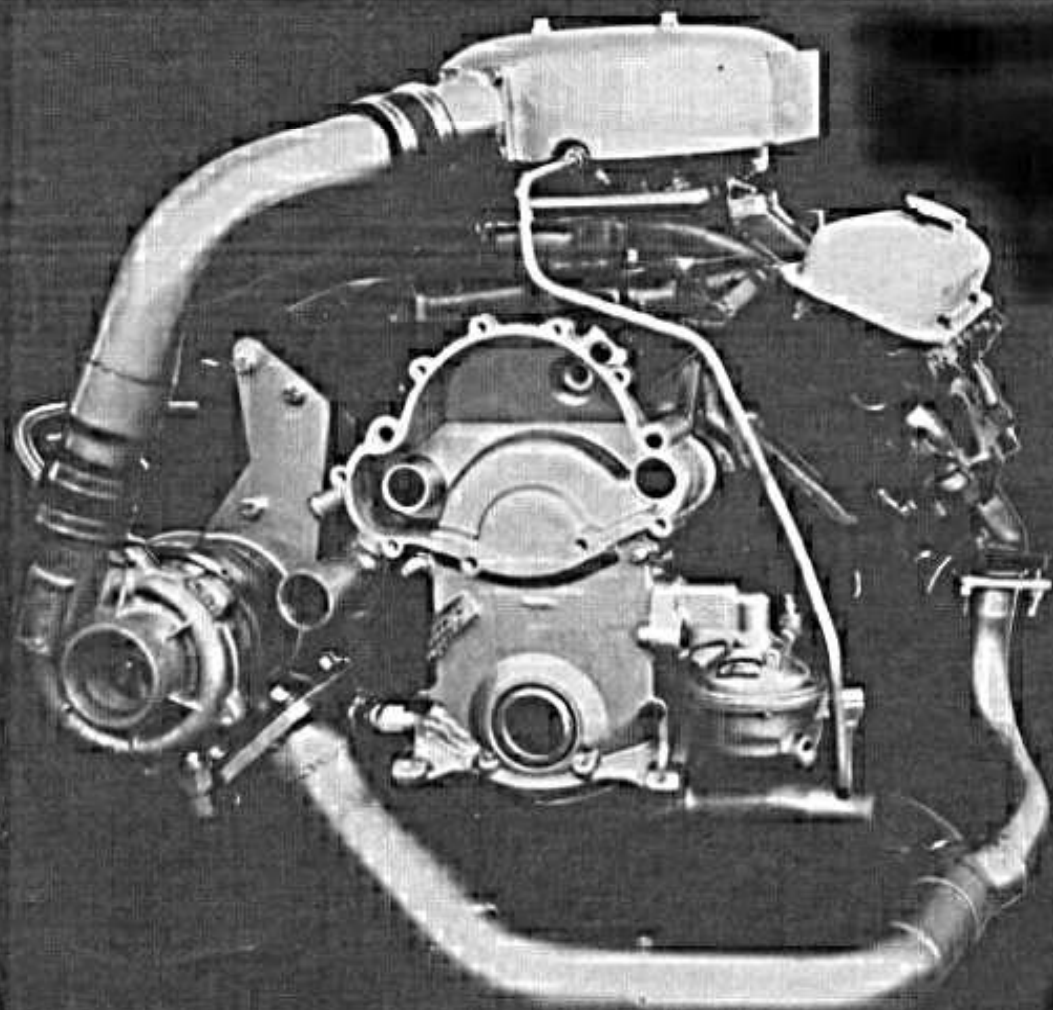
cluded in the installation kit; i.e., all of the exhaust plumbing, special cast-aluminum carburetor pressure bonnet, raised right-side engine mount for exhaust pipe clearance, sectioned left valve cover to clear power brake units, turbo oil supply and drain lines, specially modified engine front cover, a high-output pressure-balanced mechanical fuel pump to maintain seven psi fuel pressure above carburetor bowl pressure, a preformed steel fuel line to the carburetor, a supplemental Carter electric fuel pump and Holley in-line filter, distributor advance curve parts, a vacuum advance/pressure retard can and all of the necessary brackets and hardware. The installation package sells for \$595, and the Rajay turbocharger, which is sold separately, goes for \$379, thus making the entire system less than \$1000. Installation takes the best part of a weekend for the novice, and of course, the entire system can be removed from the car prior to sale or trade, if so desired.

Maximum boost pressure is self-restricting to approximately seven

pounds with the stock catalytic converter and muffler in place. Performance tests on a '78 Trans Am with a 400 engine, 4-speed transmission and a 3.42:1 rear axle ratio showed 1/4-mile times of 13.90 seconds at 105 mph, as compared to 15.40 seconds at 93 mph for the same car prior to the turbo installation. H-O feels that the TurboFORCE system on a Trans Am with an automatic transmission,



With the exception of the turbo boost pressure tube and the pressure bonnet beneath the bogu shaker hood scoop, the engine compartment appears nearly stock at first glance.



By C.J. Baker

TOTALLY
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THIS TURBO-
CHARGER KIT
PUTS REAL
MUSCLE IN A
TRANS AM

TRANSFORMATION

and a 2500-rpm stall speed converter would be even quicker, since the engine could be held against the brake, preloading the converter, to build usable boost pressure before leaving the starting line.

Other possibilities include running with open exhausts, bypassing the catalytic converter and muffler for

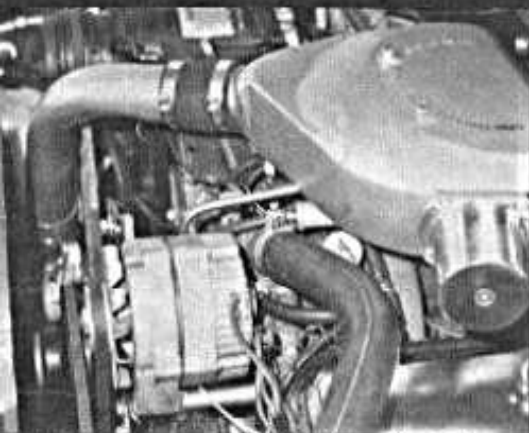
off-road use, and substituting premium fuel. In this mode of operation, the system will produce 9-11 pounds boost. And if that isn't enough, H-O also has a twin turbo kit that will similarly fit under the stock hood! Other options, such as a waste gate and a compressor-mounted water injection system are also available for all-out

applications. Additionally, for the do-it-yourselfer, the pressure bonnet and Q-jet modification pieces, the waste gate, the water injection system, the Rajay turbos and most other kit components can be purchased separately, thus simplifying "blow-through" installations on any vehicle.

Study the accompanying photos and application list. You may find just what you need to "transform" your machine into a force-fed muscle car.

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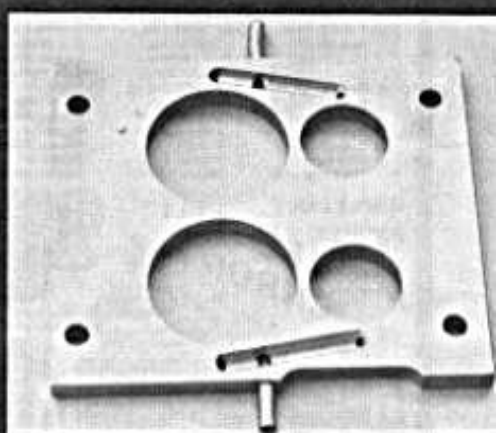
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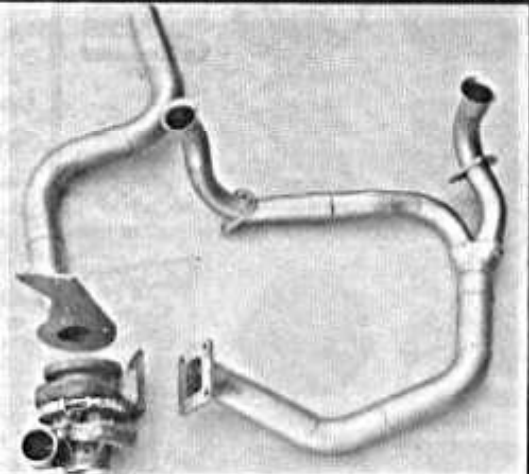
All lines have been routed to clear all existing belts and accessories, including air conditioning.



To provide clearance for the turbo exhaust, the right side of the engine is raised slightly with a special motor mount. Raising the engine creates an access problem with the left valve cover, so a modified valve cover is provided to clear the power brake.



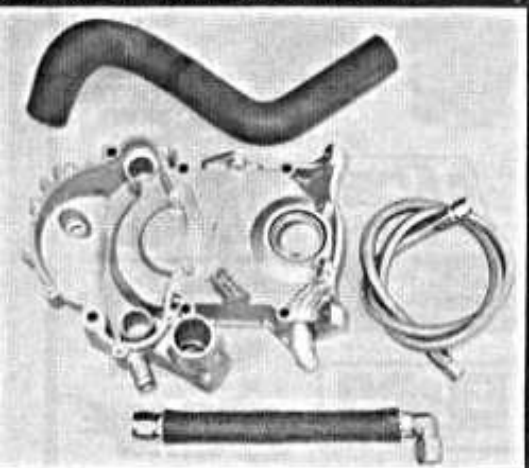
This plate is installed beneath the carb to pressurize the modified throttle shaft bosses with dry air, thus preventing a possible leak of fuel-contaminated air into the engine compartment.



The heart of the system is the exhaust plumbing and the compact Rajay 301E turbocharger. Note the small hole atop the compressor inlet for attachment of optional water injection.



On "blow-through" installations, fuel pressure must remain higher than boost pressure. This modified fuel pump is connected via a pressure line to the carb float bowl to reference pump pressure above boost pressure. The preformed steel fuel line is also supplied.



Greatly simplifying the installation is this modified front engine cover. It includes the turbo oil drain provision and a relocated lower radiator hose outlet. Also included is a special lower radiator hose and the turbo oil supply and return lines.

Here are the various single and dual TurboFORCE kits currently available from H-O Racing Specialties.

TRANSFORMATION

SINGLES FOR FIREBIRDS

- TK-11 1970-'74 std exhaust & distr
- TK-12 1970-'74 std exhaust & HEI
- TK-13 1970-'74 hi-po exhaust, std distr
- TK-14 1975-'78 std exhaust
- TK-15 1975-'78 early hi-po exhaust & HEI

SINGLES FOR 1973-'77 LE MANS, 1973-'75 GA

- TK-16 1973-'74 std
- TK-17 1975-'77 std (HEI)

SINGLES FOR 1973-'77 GRAND PRIX

- TK-18 1973-'74 std
- TK-19 1975-'77 std (HEI)

DUALS FOR FIREBIRDS

- TK-21 1970-'74 std
- TK-22 1970-'74 hi-po manifolds
- TK-23 1970-'74 std manifolds, HEI
- TK-24 1975-'78 std (HEI)
- TK-25 1970-'78 hi-po manifolds, HEI
- TK-31 1977-'78 Trans Am (HEI) with Olds 403
- TK-32 1977-'78 Esprit/Formula with Chevrolet 350/305 Also fits 1970-'78 Camaro with small-block

