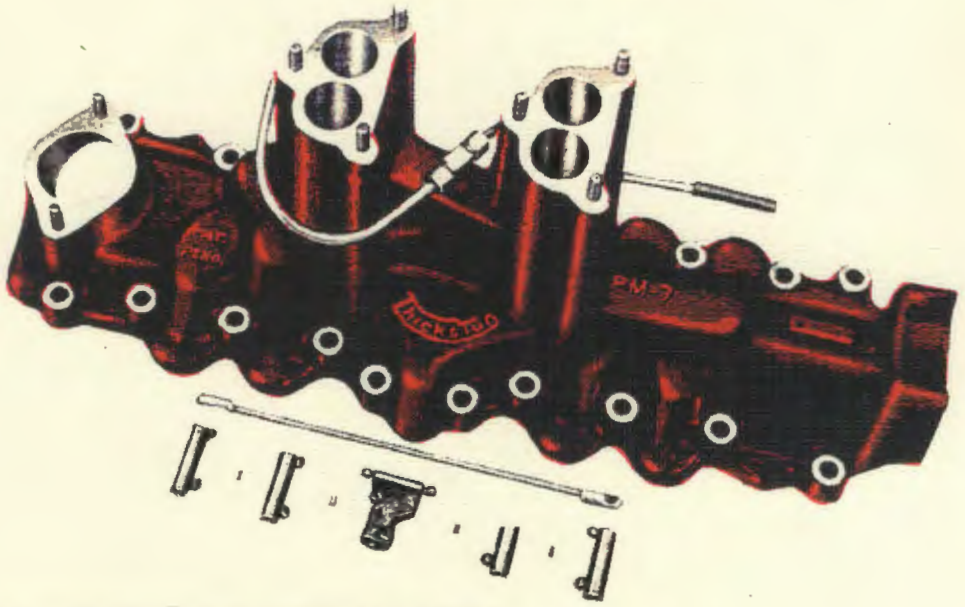
Fastest Selling Dual Carburetor Manifold in the World

THE NEW Thickstun Dual Carburetor Manifold

(Including Complete Assembly Kit and Special Carburetor Jets)

MODEL PM 7 FOR V-8 FORD AND MERCURY

1932 THROUGH 1947



Our dual carburetor manifold gives you:

1. MORE MILES PER GALLON OF GASOLINE.
2. More rapid and even acceleration at all speeds.
3. Greater top speed.
4. More horsepower.
5. A smoother engine resulting in less engine wear.

These results are due to the following engineering features of the manifold:

1. The manifold incorporates chambers of equal cubic capacity between the two carburetors and the eight engine intake ports to insure an equal volume of fuel to each cylinder.
2. Any single, standard carburetor—wide open—operates less economically and efficiently when safety on the highway demands faster-than-average acceleration and top speed: whereas two carburetors—each half open—on our manifold permit that greater acceleration and higher top speed while each carburetor is still operating within its own maximum economy and efficiency range.
3. The criss-cross interconnecting chambers between the two carburetors automatically correct carburetor maladjustments as well as preventing motor stumble resulting from the effect of centrifugal force on fuel when a car makes a turn.
4. During the intake strokes, the manifold's structure isolates each cylinder's fuel source to prevent each cylinder of being robbed of fuel by the demands of any other cylinder.
5. The aluminum casting and large capacity exhaust gas heater box insure rapid and adequate preheating of fuel to obtain maximum horsepower soon after starting the engine.

Manufactured by:

Baron

Racing Equipment

Fords and Thickstun Equipment GO Together!

DUAL GASOLINE MANIFOLDING

DUAL MANIFOLDS

TATTERSFIELD

BUTANE MANIFOLDS

MANIFOLD DIVISION
of
ELECTRIC & CARBURETOR ENGINEERING COMPANY
2321-23 EAST EIGHTH STREET
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DUAL MANIFOLDS FOR GASOLINE ENGINES

The automobile and truck engine in our modern vehicles can be materially benefitted by engineered dual manifolding. The instant response to such a statement is "why don't the manufacturers do it at the factory if it is so good?", which is a good question. There are many reasons.

FIRST it necessitates two carburetors which means more cost to the purchaser; more labor at the factory for installation.

SECOND all modern cars perform well, get fairly good mileage, and the public will buy them anyway.

THIRD some factory attempts at dual manifolding were not too successful, for several reasons that will be mentioned later, so all manufacturers have shied away from it.

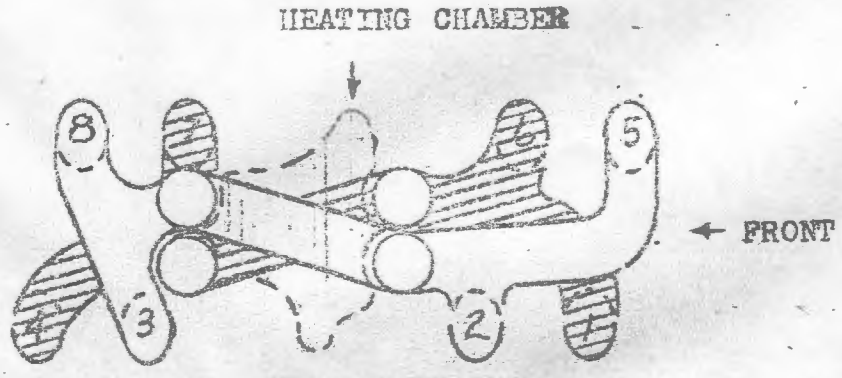
The TATTERSFIELD manifolds have overcome the many difficulties encountered in the dual field by research and engineering over a period of several years with the following results:

Equal distribution of fuel for all types of engines: V8, straight 8 and 6 cylinder.

Sufficient heat for absolute fuel vaporization.

Instructions and drawings along with complete assembly kits so that even a novice can successfully install a manifold.

The discussion so far merely shows HOW we have overcome the failure of single carburetion and stock manifolds. The WHY of dual manifolds is a vastly improved performance which includes both acceleration and power. A substantial increase in gasoline mileage.



FORD & MERCURY V8 DUAL MANIFOLD

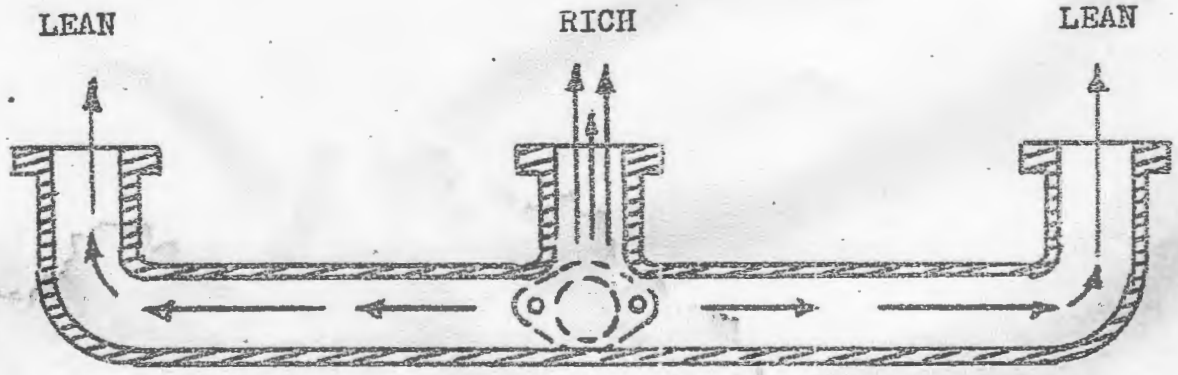
FIG. 1

It must be remembered that 25% of our mileage is governed by the driver. If a given driver is prone to push the throttle to the floor at every signal his mileage will be poor regardless of carburetion and manifolding. However, if the vehicle is operated the same on a dual installation as it was on a single the mileage will remain about the same at normal city driving speeds and increase rapidly as the miles per hour increase on the open road. At 60 miles per hour it is not unusual to get 15% more miles per gallon.

In the V8 field the usual dual manifold is for Ford and Mercury. There have been numerous styles and types of duals manufactured for these engines. Many are similar and many are built for a specific type of engine performance. Since the major portion of hopped-up cars are Ford and Mercury--since many of the owners of these cars try for new records of speed, they look to that end only and forget smooth performance throughout the operating range. Forget economy in order to achieve maximum speed at wide open throttle.

All TATTERSFIELD dual manifolds are designed and engineered so that there is a minimum displacement of stock accessories. In the V8 and Mercury dual manifold the generator, fuel pump, fan belt and etc. are stock. The manifold area goes over both balance tubes and against the inner walls of the carburetor risers. Due to this ample heat low grade as well as ethyl fuels can be used with maximum economy. All fuel tubes are built with gradual turns so there will be no fuel pockets. By tracing the firing order its pattern can be readily traced. The basic idea is a dual manifold for stock cars and trucks with maximum power and economy. (See Fig. 1).

The auto manufacturer's typical manifolds (GMC and Chrysler) for 6 cylinder engines are shown in Fig. 2. Notice the unequal fuel flow so that the center two cylinders get more fuel than either of the end two.



STOCK GMC AND CHRYSLER

FIG. 2.

Also some of the manufacturers try to overcome the ricocheting of fuel in the ends of the three port 6 cylinder manifolds by casting a helix in the tube. This tends to create a turbulence to disturt the ricochet that might rob either of the end two cylinders.

In the TATTERSFIELD manifolds (See Fig. 3) the fuel flow is balanced and metered so that all three ports get the same volume. If the exhaust flange is situated far enough from the block so that long gradual radii can be created for the fuel tubes there will be no ricocheting. (In all the drawings shown in this article, the balance tube for reasons of clarity, is shown in the same level as the fuel tubes leading to the ports in the block. However, in actual practice the balance tube is above the fuel tubes directly below the carburetor flange so as not to disturb any of the normal flow of the fuel mixture).

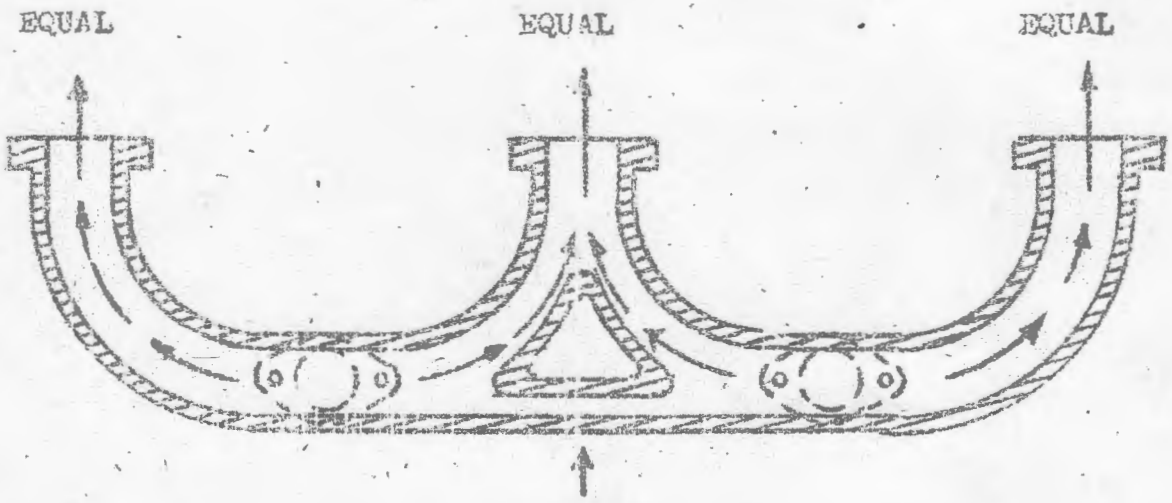


FIG. 3.

If the intake manifold must be kept close to the block the special TATTERSFIELD directional flow manifold is incorporated. (See Fig. 4). This manifold is used on the Dodge & Plymouth. The same design can be incorporated in any close type manifold.

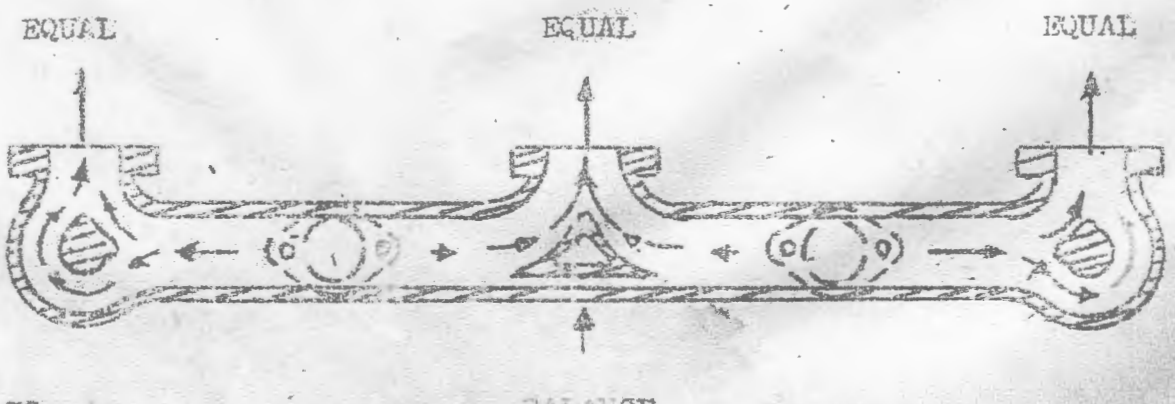


FIG. 4.

In the straight 6 field the usual type of single carburetor manifold is shown in Fig. 5. Most manufacturers use a dual throat carburetor on their straight engines, so the drawing depicts a manifold incorporating a carburetor of that type.

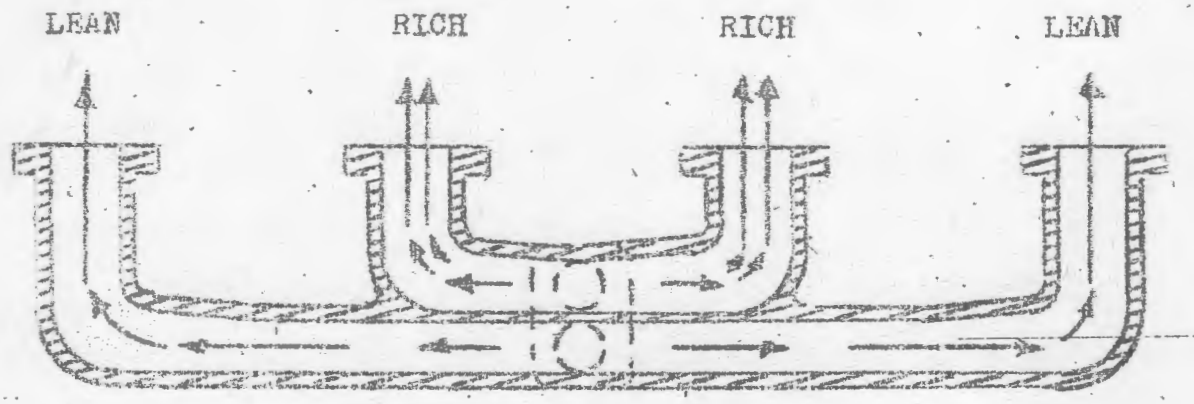


FIG. 5.

The dual manifold that was stock on one of the straight eight engines employed a two stage principle. This is feasible if applied to both carburetors simultaneously. The failure of the two stage manifold in question was in only using one carburetor up to a given speed, say 40 miles per hour, and then cutting in the other carburetor. Due to the long manifold necessary, the fuel had to travel the length of the block to some ports and only a few inches to others. Naturally a preponderance of travel in a passenger vehicle is below the speed necessary for the second stage, so one end of the engine was rich in fuel and the other lean with the natural results, burnt plugs, valves, rough motor and etc.

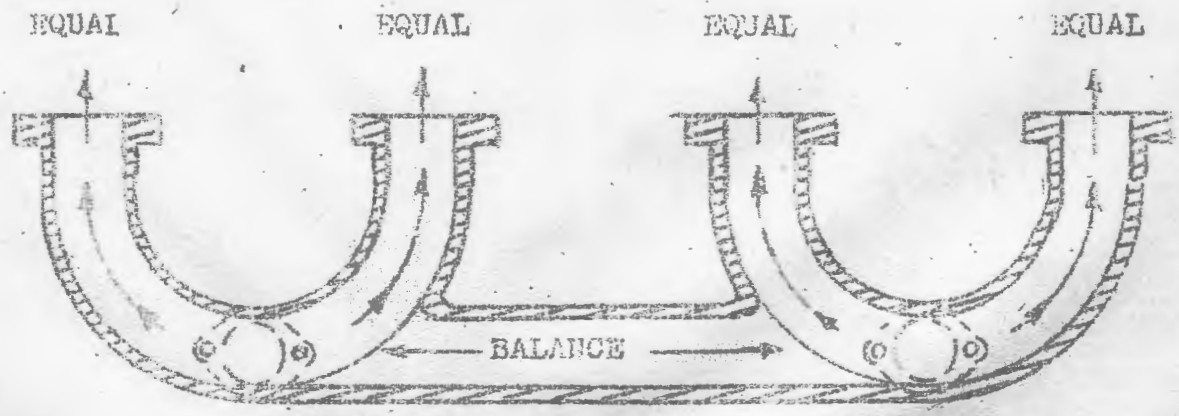


FIG. 6.

In the THIRTERSFIELD dual eight cylinders, the carburetor controls are linked together, the carburetors connected by a balance tube, which is typical of all our manifolds. Then the unavoidable difference in any two carburetors is compensated for.

This also removes the necessity of close throttle synchronization and its attendant ills.

HOW TO HEAT--All TATTERSFIELD duals have a heating chamber that is large enough for absolute vaporization of even second grade gasoline. The chamber extends either under or around both carburetors, which ever is the practical procedure, so that all fuel is heated equally. The net result is not only complete vaporization but equal vaporization of the fuel from both carburetors so a good balance is maintained. Due to the low volatility of much of our gasolines this heat is of absolute necessity for good performance and economy.

The other type manifold not defined above is the four-port 6 cylinder. Fig. 7 shows the 6 cylinder. In all 4 port 6 cylinder manifolds two of the fuel tubes must feed two cylinders each, and the other tubes only one. The manifolds may be designed for either single throat or dual throat carburetors. Notice that the two inner tubes in the illustration feed the single cylinders and the outer tubes, each feed two cylinders. The tubes are metered so that the single ports receive their correct proportion of the gases. In the stock 4 port 6 cylinder manifolds the carburetor is usually a single throat type. The manifold is essentially the same as the stock eight cylinder manifold as shown in Fig. 5, with the exception of the metering of fuel accomplished by fuel tubes of diminishing cross-section.

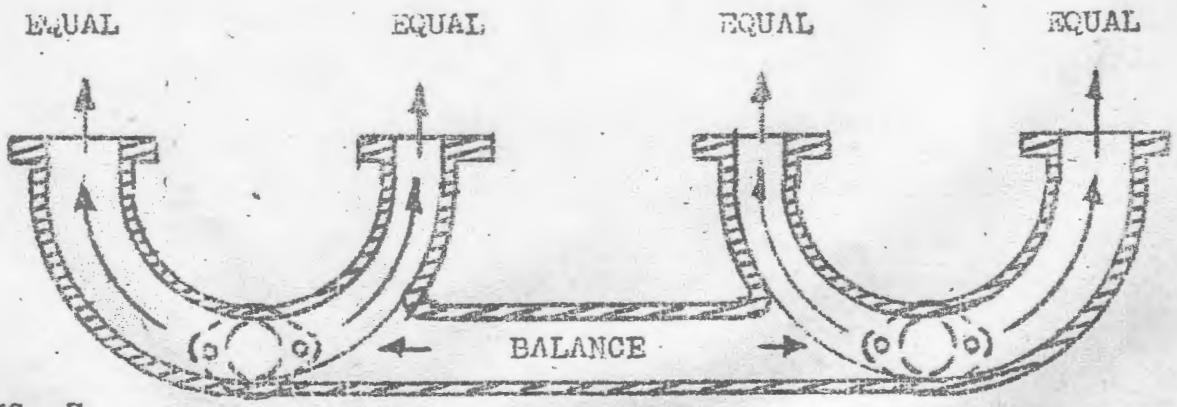


FIG. 7.

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