

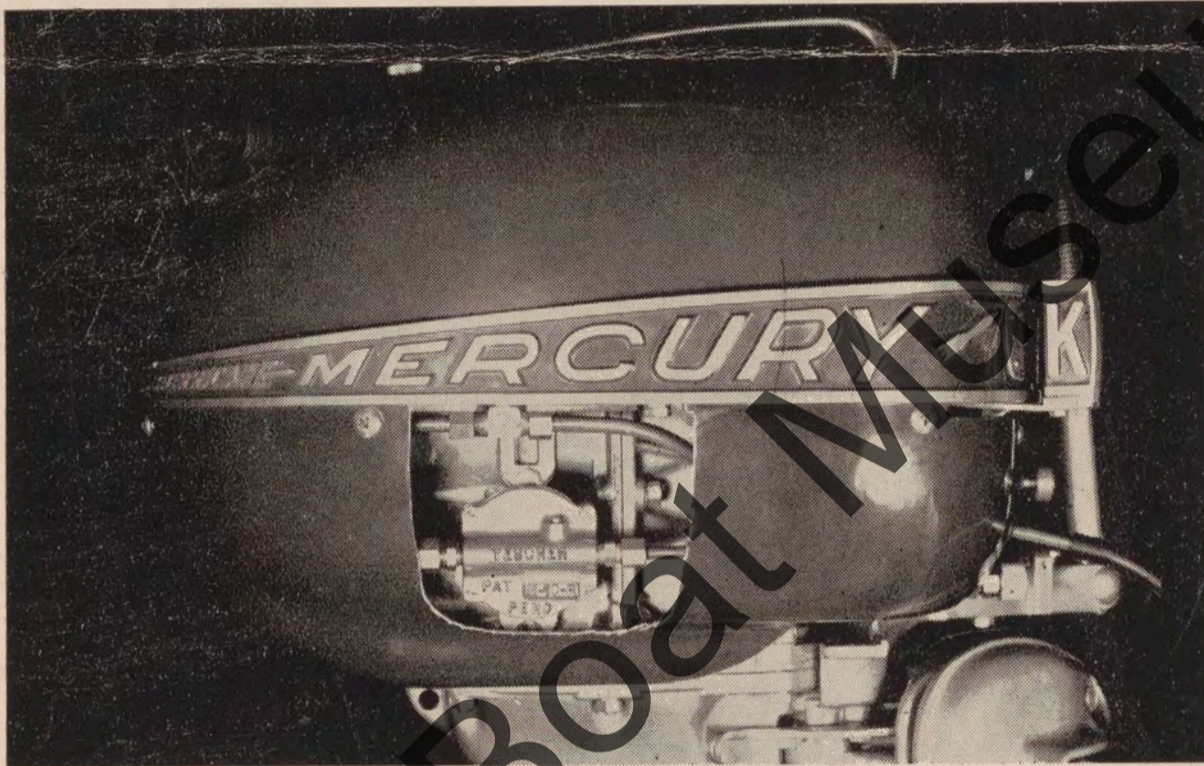
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## THE TESCHER MODEL M-10-R RACING PUMP

(Patent Pending)

The model M-10-R fuel transfer pump was developed primarily as a high speed, high out-put pump for use on Mercury KG 4, KG 7, and KF 7 racing motors. The valves and valve ports have been greatly enlarged in this model in order to permit a shorter valve stroke which in turn permits quicker closing of the valves in step with the increased revolutions per minute of racing motors.



The above cutaway view shows an M-10-R racing pump installed on a Mercury KG 4 motor.

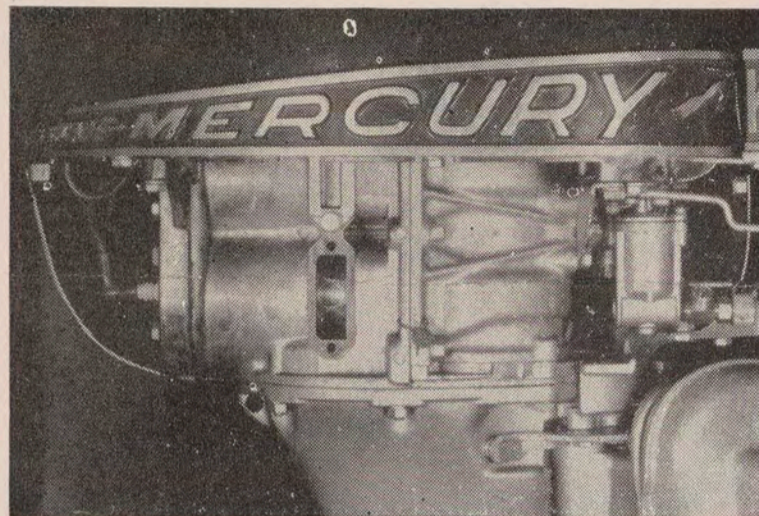
THE VALVE CLEARANCES have been adjusted at the factory to fit the requirements of motors at average high speeds. They can be further adjusted if desired, by slightly bending the brass retainer arm which limits the valve motion. As a rule, the higher motor speeds require decreased valve clearances for more rapid closing.

PROVISION has been made in the design of this pump for introducing a very small volume of air into the fuel system for internal compression in the pump chambers. The air inlet is located at the top of the intake manifold and the screw should be open  $\frac{1}{4}$  to  $\frac{1}{2}$  turn for best results. Except for the air intake and the fact that it is somewhat larger this pump is essentially the same as the TESCHER standard pump and works equally well on stock Mercury motors in the above series. Once properly installed and adjusted to the individual motor speeds it will require no further attention for the season but for winter storage the pump should be flushed with clear oil-free gasoline.

INSTALLATION is quite simple and will be made easier by a thorough study of the accompanying illustrations and instructions.

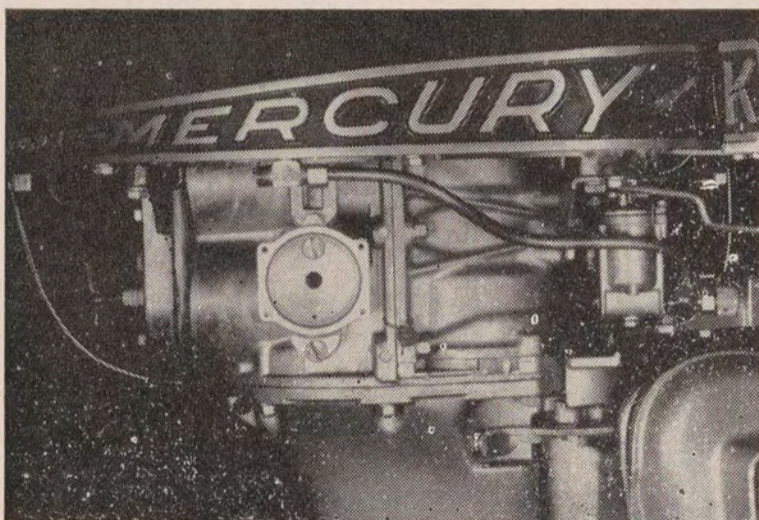
## INSTRUCTIONS FOR M-10-R RACING PUMP

### Step 1



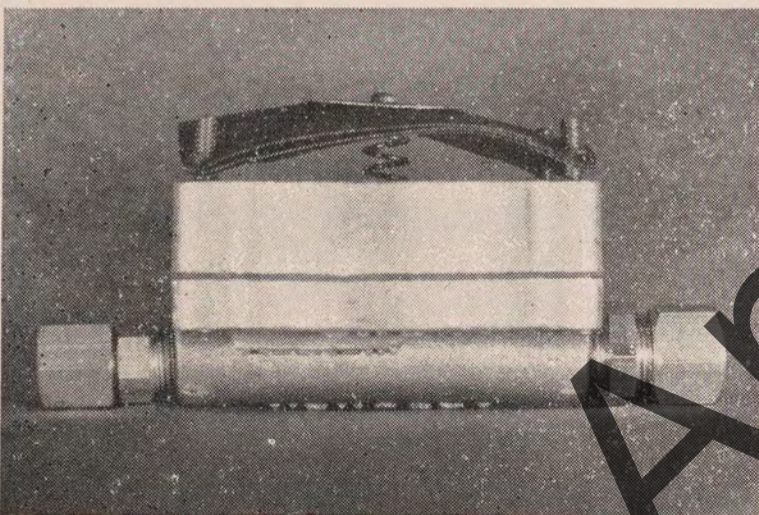
Drain all gasoline from motor. Remove fuel line and fuel line fitting from motor tank. Remove lower inlet port cover plate.

### Step 2



Remove back plate from the pump and install over the open port using the two  $\frac{1}{4}$ " flat head screws. Thread the two way compression tee into the motor tank. Connect in the tank-to-carburetor fuel line.

### Step 3



Re-assemble the pump by first placing together the front and middle sections with the gasket in position between. Insert the four fastening screws. Holding the pump level place the spring in the seat located in the center of the middle casting and over the springs other end place the diaphragm with the head of the rivet fitting inside the open end of the spring. Compress the spring slightly until the four holes in the diaphragm will fit over the screws. Releasing the tension on the spring will hold the diaphragm in position.

## HAND STARTER PUMP

For use with Tescher automatic fuel systems.



The above illustration shows a typical installation of the hand starter pump on a common type of fuel can. Almost any type of can is suitable. Outboard owners usually have their own and it is not necessary to purchase a new one. To install, drill a  $\frac{3}{8}$ " hole in the top of the can as near to a level or horizontal position as possible. Insert the rubber gromet. Measure the long tube extending from the bottom of the pump and cut to proper length so that the lower end inside the can will not be less than  $\frac{1}{2}$ " from the bottom of the can. This arrangement allows the fuel container to act as a sedimentation vessel.

A few strokes of the pump will load the carburetor and the motor can then be started in the regular way. The motor tank filler cap and vent must be completely closed at all times, but the remote fuel container must be vented to permit the automatic fuel system to function properly.

In removing screen from inside the starter pump for cleaning, care must be taken not to lose the small bakelite valve located immediately below the screen. If the valve is removed, replace with the flat surface down. The starter pump will not function unless it is connected to a TESCHER fuel pump or similarly valved device.

## THE TESCHER AUTO-PNEUMATIC FUEL TRANSFER PUMP

(Patent Pending)

THE TESCHER FUEL TRANSFER PUMP for out outboard motors was designed and perfected to fill the need for a simple, comparatively inexpensive and trouble-free device for the purpose of automatically supplying fuel in the required amount to keep an outboard motor in continuous operation.

WHEN USED with an outboard this pump eliminates the disagreeable task of re-filling the motor tank by hand at periodic intervals. It also lessens the dangerous fire hazard from spilled gasoline and greatly decreases the incidence of clogged fuel systems because the dirt and other foreign material is left in the bottom of the remote fuel can. This can then acts as a settling or sedimentation vessel allowing the clean gasoline mixture to be pumped from above the sedimentation level.



Cutaway view showing a typical installation of the Tescher fuel pump.  
Installation is essentially the same on all makes of motors.

THE PUMP is easily attached to the motor by means of a special adaptor plate which replaces the regular inlet port cover plate of the motor. Special fuel lines are provided with the kit to connect the pump into the motor fuel system.

POSITIVE and negative pressures in the motor crank case drive a spring loaded automotive type diaphragm in the pump. Directional flow of the fuel through the pump is controlled by molded bakelite poppet valves of a special design and composition which are capable of functioning efficiently at all speeds, including the extremely high speeds developed in racing motors. These pumps do not require adjustment at any time. They are completely self-regulating and maintain at all speeds a fuel pressure at the carburetor head equal to the pressure in the crankcase at maximum loading compression.

There is apparently no measurable loss in the compression factors due to the use of the pump, which would result in decreased speed of the motor. The high tension diaphragm spring in returning the diaphragm to neutral position accomplishes the further purpose of returning the charged gas mixture used to drive the pump, to the motor by-pass channel where it is delivered into the cylinder and compressed and fired in the regular way.

IN ALL CASES, the pump is completely enclosed within the motor cowl with the exception of the fuel intake line which is brought to the outside of the motor for connection with the main fuel supply line through a synthetic rubber gromet inserted in a  $\frac{3}{8}$ " hole drilled in the forward part of the motor cowl for this purpose.

THE PUMP is furnished complete with all fittings, replacement fuel lines and eight feet of oil and gasoline resistant flexible fuel hose. A simple and practical diaphragm type hand starter pump which attaches to any common kind of fuel container is included in the kit. Use of the starter pump in the fuel system completely eliminates the need for using the motor tank, which can then be by-passed by connecting the fuel pump outlet directly into the carburetor. This feature is highly desirable and we recommend by-passing the motor tank for the reason that tank

filler caps and vents after prolonged use tend to become loose and failure of the cap or vent to close properly creates a very dangerous fire hazard from overflow of the pumped fuel. With the exception of conversion kits for Mercury motors, all fuel lines and fittings furnished with the pumps provide for by-passing the tank and connecting directly to the carburetor.

BY-PASSING THE TANK on Mercury motors requires replacement of the regular carburetor head with a pressure head as used on the Mercury KG 9 Thunderbolt motor and either a  $\frac{5}{16}$ " compression union fitting to connect the fuel lines together or a  $\frac{1}{8}$ " pipe cap to close the open side of the compression tee fitting. Either of these are available at any automotive supply store. A list of the carburetor replacement parts is available at the Mercury factory or can be furnished by us on request.

PUMPS ARE BEING REGULARLY PRODUCED in our factory for the Martin "60", Martin "100", Mercury KG 4, Mercury KG 7, Mercury KF 7, and the Evinrude Fleetwin motor. Also available for Mercury racers in the above series, is a heavy duty, high capacity pump delivering 10 gallons of fuel per hour at 4200 R.P.M. at a 26 inch head.

ALL TESCHER PRODUCTS are unconditionally guaranteed for a period of two years on a refund or replacement basis only if they are used on the motor for which they are designed and if, following failure, they are returned to our factory for inspection. We will be pleased to forward without obligation to reputable dealers upon request one of our model pumps on a ten day approval basis. In ordering, please specify make and model of motor and if for Mercury motor, whether or not pump is to be used for racing purposes. Only prepaid or C.O.D. orders will be accepted and all orders will be filled and shipped in the order in which they are received at our factory.

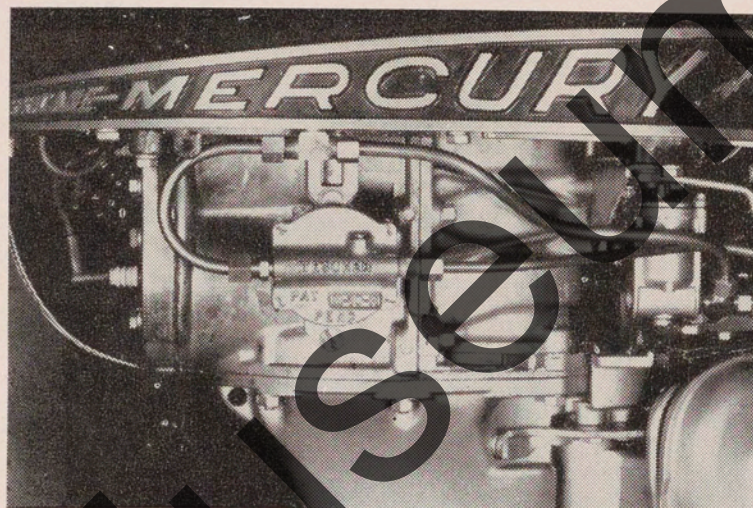
#### TESCHER CORPORATION

Sales and Shipping

1133 Main Street

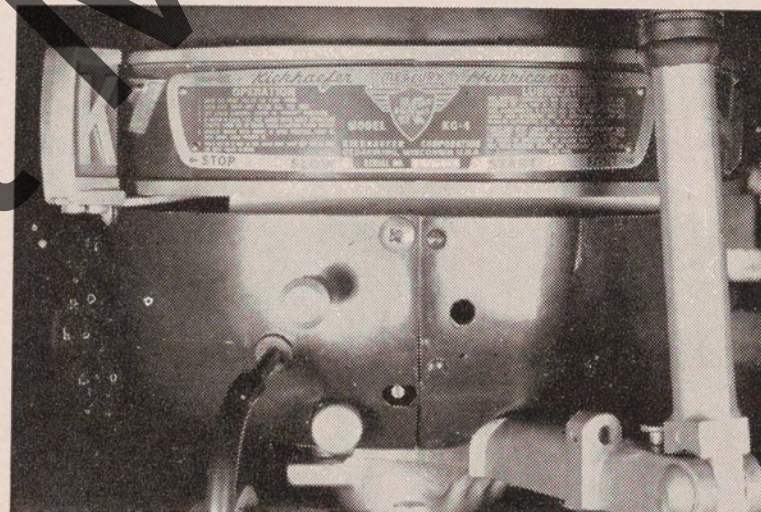
ANDERSON, INDIANA

**Step 4**



Place the assembled parts described in Step 3 in position over the back plate and tighten in the four main fastening screws. Connect in the pump-to-tank and the pump intake fuel lines. The end of the intake line must go between the carburetor and the carburetor fuel line.

**Step 5**



Locate and drill a  $\frac{3}{8}$ " hole in the forward part of the cowl. Insert the oil resistant gromet and the cowl can then be slipped over the intake line and motor control knobs and fastened in position on the motor. Before doing this be sure all screws and connections are tight.

Antique Boat Museum

# Antique Boat Museum

The Antique Boat Museum  
750 Mary Street  
Clayton, NY 13624