

# AUTOPULSE

**DESCRIPTION:**—The new type Autopulse has been considerably modified in construction and can be completely disassembled for inspection and service although the principle of operation remains the same as in the earlier types. The two valves are assembled in the pump base casting and are accessible after removing the filter and filter base casting and taking out the two brass screws under the filter screen. The driving motor is accessible by taking out the two screws on the side of the base cover.

**OPERATION:**—The operation of the pump is entirely automatic and is controlled by the back-pressure of the gasoline in the float chamber of the carburetor. The Autopulse feed wire should be connected to the coil side of the ignition switch or to the switch side of the ignition coil. In special cases where neither of these terminals is available the Autopulse can be connected to the ammeter through a special switch. This switch must be turned on when the engine is started.

**INSTALLATION:**—The Autopulse should be mounted near the carburetor and preferably at a slightly lower level than the carburetor bowl. If possible it should be mounted on the chassis frame under the front floor boards so that the filter may be easily reached for cleaning. The suction line should be shielded from the engine exhaust pipe if it is necessary to run them together, to prevent vaporizing of the gasoline in the line. Likewise the pump should not be mounted above the carburetor as this will allow air to be trapped in the delivery line which will cause the pump to flutter. The Autopulse should not be mounted on the dash.

**CAPACITY:**—The Autopulse will pump approximately 12 gallons per hour. The standard unit is fitted with  $\frac{1}{8}$  inch openings which will take either  $\frac{1}{4}$  or  $\frac{5}{16}$  inch tubing. The  $\frac{1}{4}$  inch tubing will be sufficient for engines requiring up to ten gallons per hour. The pump is also furnished with  $\frac{1}{4}$  inch pipe thread couplings which will accommodate  $\frac{3}{8}$  inch tubing. On multiple units inlet and suction manifolds are used. One end of the manifold can be closed with a pipe plug or if greater capacity is desired, two suction and delivery lines can be used connected to each end of the manifold. Additional pressure can be secured by reversing the small brass stamping on the lower end of the driving spring in the coil core which provides two pounds pressure instead of the standard one pound pressure. To make this change, first remove the motor cover. Then insert a small screwdriver in the slot in the spring support on the base of the motor, compress the spring and slip the support to one side. This will allow the spring and stamping to be removed. Reverse the stamping so that the small knob is against the spring and replace. Make certain that the support is snapped in place (see illustration).

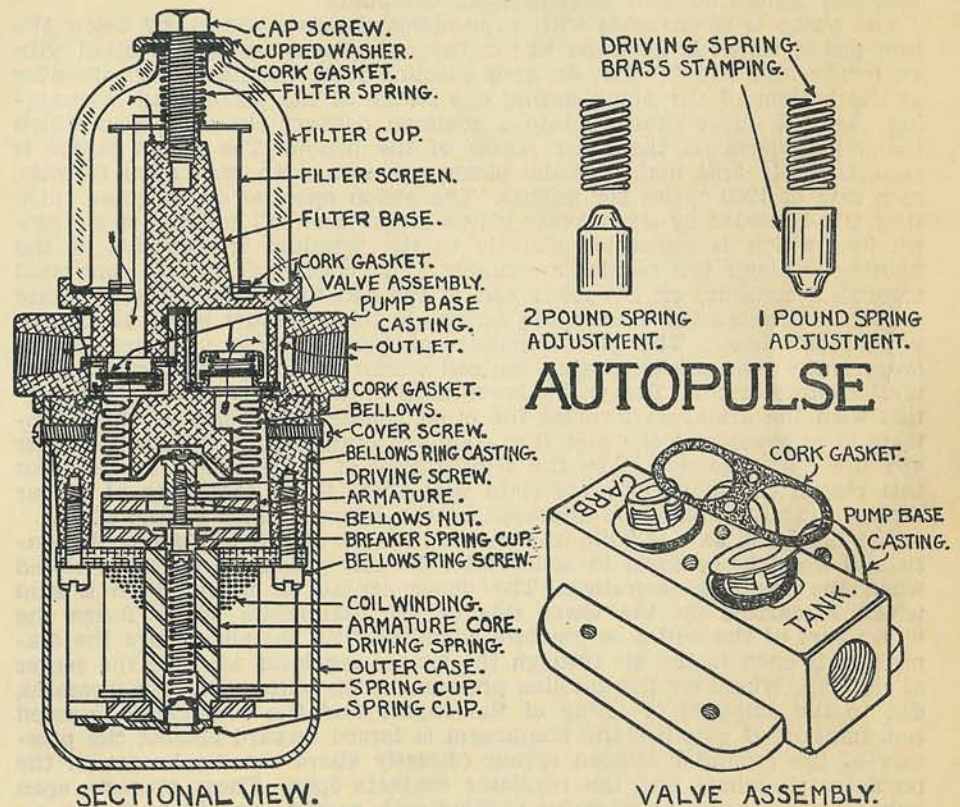
**SERVICING:**—**Check for Correct Installation:**—After installing pump, turn on ignition but do not start engine. The pump should start at once and pump rapidly until the carburetor bowl is full. The pump should then stop. If the pump strokes rapidly and air bubbles are noticeable in the filter chamber, there is a leak in the suction line. If the pump does not stop and continues to pump slowly, there is a leak in the delivery line or the carburetor float valve is not properly seated.

**Cleaning Filter:**—The filter is designed to trap all foreign matter and water in the filter chamber. To clean filter, take out the cap screw at the top, lift off the filter bowl and remove screen. In replacing the filter, carefully check the gaskets and replace if they are worn or damaged.

**Valves:**—To check valves, remove the filter and screen and take out the two screws in the filter base casting. Remove the filter base. The valves can then be taken out. Carefully examine the gaskets and replace if necessary. The valve on the 'Tank' side of the base should be inserted with

the flange at the top and the valve on the 'Carb' side should be inserted with the flange at the bottom.

**Pump Bellows:**—To replace bellows, remove motor cover, take out driving spring by slipping spring clip at lower end to one side. Then loosen the nut on the driving screw directly below the bellows stud and loosen the driving screw by inserting a thin screwdriver in the spring hole. Then take out two screws in bellows ring casting and remove coil and armature. Take out the four screws in the bellows ring. The bellows ring and bellows can then be removed. After replacing the bellows, be careful to leave a clearance of .040 inch between the armature and the top of the magnet. The lock nut on the driving screw should be tightened to hold this adjustment.



**Armature and Magnet:**—When the lower contacts become worn it will be necessary to replace the armature. This operation requires the use of a special tool, a plain sleeve .341 inch outside diameter and .316 inch inside diameter, to align the breaker spring cup on which the lower contacts are mounted to insure proper clearance. To replace armature, disassemble as directed in above paragraph. Then remove armature by taking out two bolts. In reassembling, insert the special tool in the hole in the magnet to hold cup in alignment while the bolts are being tightened. Be careful to leave .040 inch clearance between the armature and the magnet. The magnet is installed in the same manner. If the upper contacts are worn they may be replaced by riveting a new upper contact bridge in place.