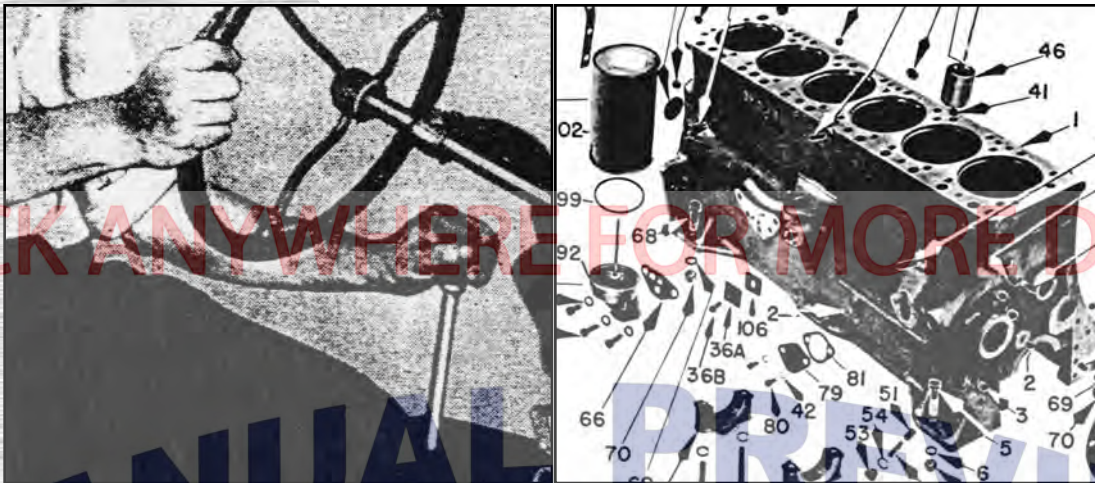




Rock Island
Operator's and Parts Manual
Type A
Gasoline Engines

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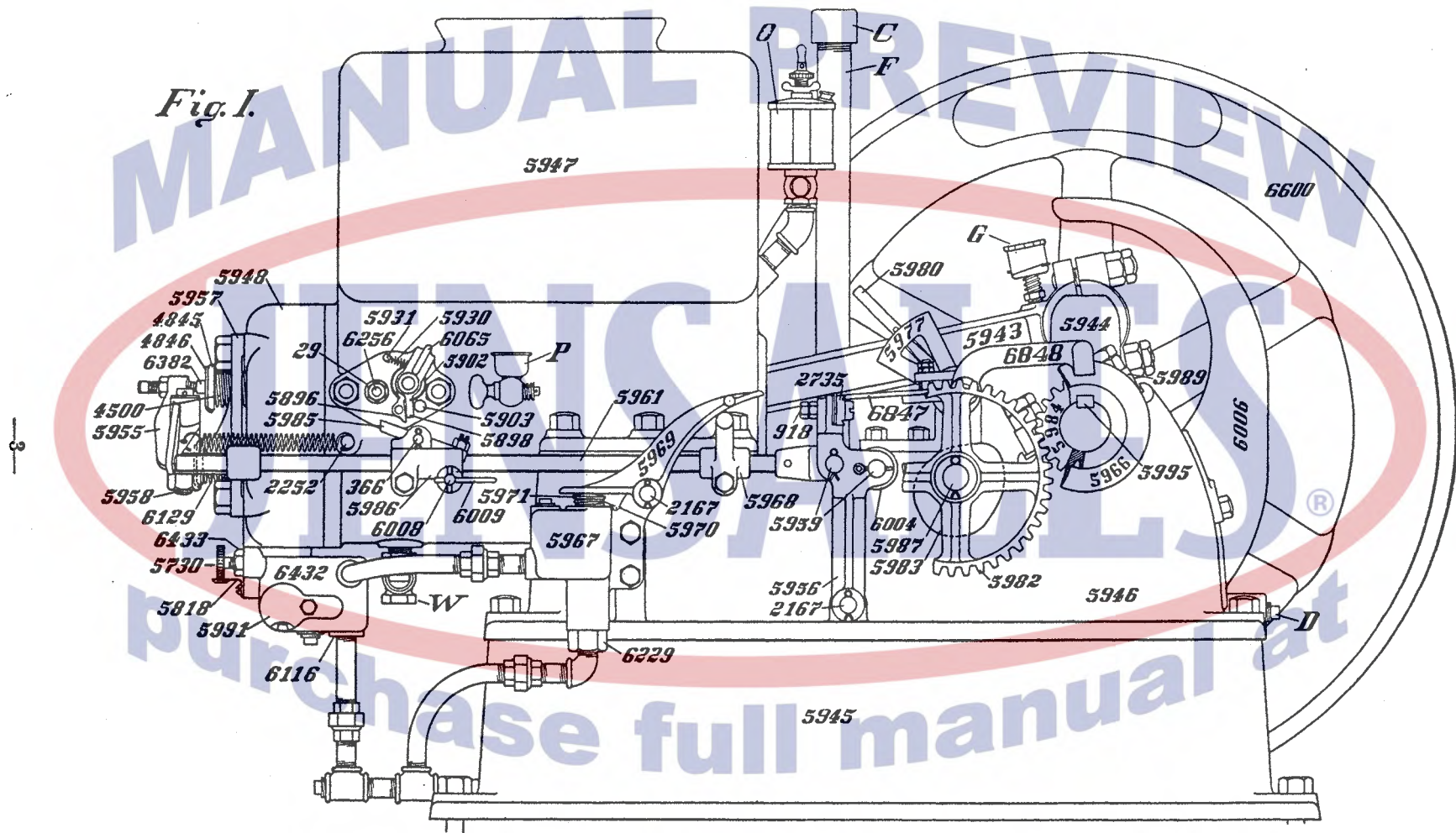


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Operator's & Parts Manual

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Showing Part Numbers for 3-Horse Power Engine

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The time of ignition and the time of opening the exhaust is very important in the successful operation of the engine.

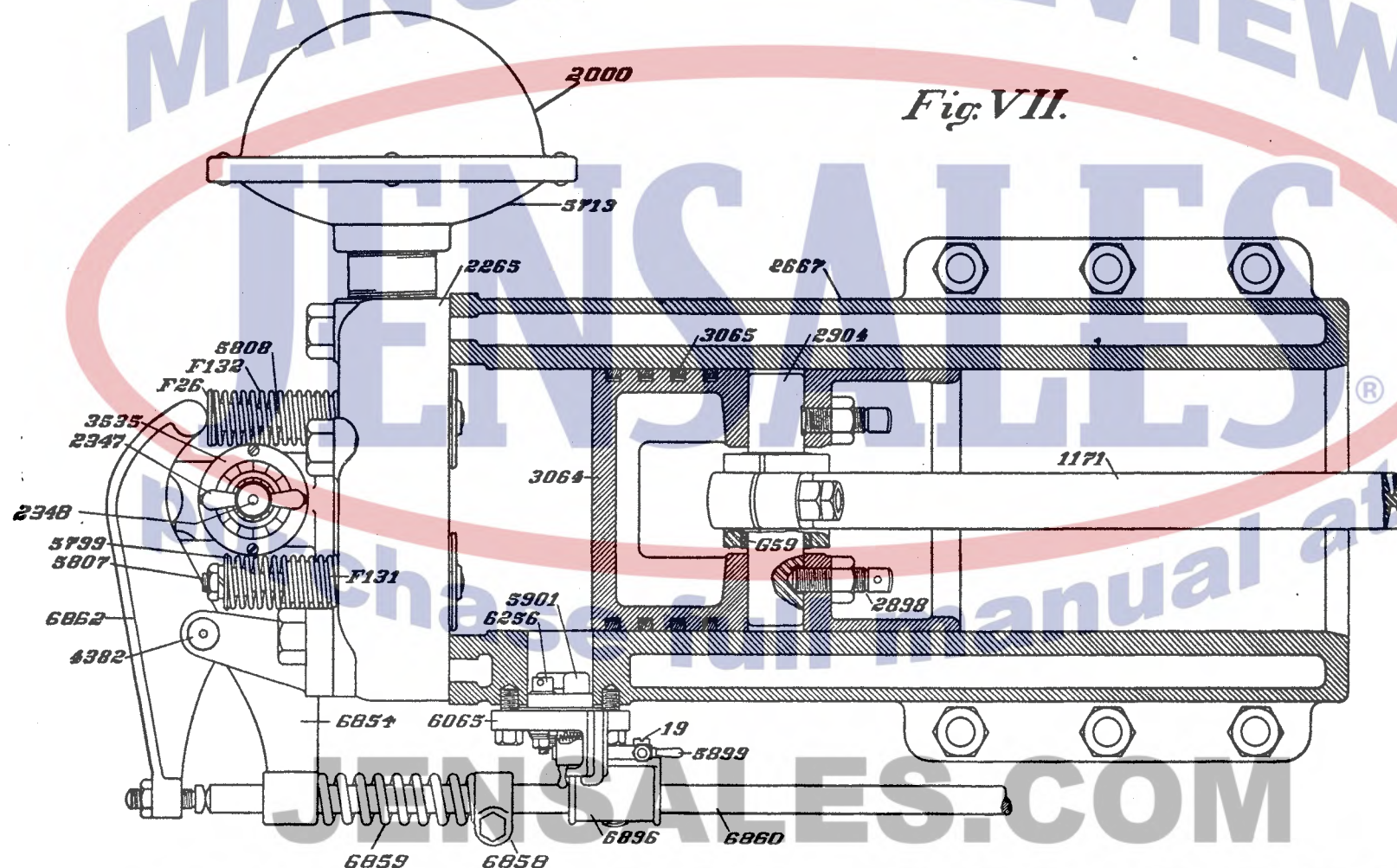
Fig. IV

-7-

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MANUAL PREVIEW

Fig. VII.



Showing Part Numbers of 10-Horse Power Engine

The letter "A" has been omitted in this illustration.

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TO TIME THE EXHAUST

2 H. P. to 7 H. P.: The time of the opening of the exhaust valve is adjusted by the screw passing through the exhaust lever, No. 5955, Fig. I., and coming in contact with the exhaust valve stem.

The 1 H. P. is adjusted the same only that the adjustment screw is in the end of the coupling rod, No. 5961, Fig. VI.

10 H. P. and Larger Engines: The time of opening the exhaust valve is adjusted by a screw passing through the exhaust lever No. 6862, and comes in contact with the end of the coupling rod, No. 6860, Fig. VII.

The exhaust valve should be adjusted so that it will open at the time shown in Fig. IV. The exhaust valve should close at the position shown in Fig V. If the gears are in proper position, the closing of the exhaust will take care of itself, as a little earlier or later in closing the exhaust does not materially effect the running of the engine, but the proper time of opening the exhaust is very important.

Setting Cam Gear: On the cam gear, No. 5982, Fig I., will be found two marked teeth and on the pinion gear, No. 5984, will be found one marked tooth. The marked tooth on the pinion gear must engage the cam gear between the two marked teeth.

PISTON AND RINGS

The piston and rings are carefully fitted at the factory and thoroughly worked in. After the engine has been standing idle for a long time, there may be a small leak by the piston when it is first started. With ample lubrication, any leak of this kind will readily disappear. If the engine has been running without oil, or without water in the jacket, the piston rings may stick fast in their grooves so that it may be necessary to remove the piston and loosen the rings. Before resorting to this, however, oil the piston rings thoroughly with kerosene and run for a few minutes, and if possible, loosen the rings without removing the piston. Oiling with kerosene must be immediately followed by a thorough oiling with Gas Engine oil.

VALVE GRINDING

In course of time the valves will need regrinding. This can be discovered by turning the engine against the compression and observe if there is any leak by the inlet or exhaust valve. In grinding valves, remove the cylinder head and with a little fine emery and oil on the valve seat, rotate the disc in both directions. Grind until the valve seats all around. Carefully clean off all emery, making sure none gets into the cylinder.

BEARINGS

All bearings should be kept in proper adjustment. Care should be taken that the bearings are tight and the engine should never be allowed to run with the bearings loose enough to pound or knock. After tightening the bearing caps, the bearings must be watched closely for a little while to see that they do not heat.

GOVERNOR

For 10 H. P. and Larger Engines: The speed of the engine is regulated by the governor adjustment screw No. 2154, Fig. VIII. Screwing in makes the engine run slower, and screwing out makes the engine run faster. This screw is locked into position by the screw No. 830. The catch blocks Nos. 2735 and 2275 may need adjustment when they become worn. The proper amount of clearance between the edges of these blocks is about 1-16 of an inch. If the clearance is too great, or the edges have become worn too much, the engine will not govern properly.

For 2 H. P. to 7 H. P. Engines: The speed of the engine is adjusted by the adjustment lever, No. 5980. Pushing this lever upward and forward makes the engine run slower and pushing it downward and toward the cylinder makes it run faster.

If it is necessary to run the engine at greater or less speed than this will produce, it may be done by tightening or loosening the governor tension screws, No. 1190, Fig. VI.

The speed of the 1 H. P. engine is adjusted by a thumb nut just above the governor finger.

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WIRING AND BATTERIES

Fig. VI., Page 8, shows the plan of connecting batteries and magneto. If the engine has only batteries and no magneto, the wire "CD" may be disregarded. The wire "AB" is connected from the center terminal of the switch on the spark coil to the insulated electrode on the igniter. Terminal "F" on the spark coil is connected to the nearest battery terminal. The batteries are connected in series, i. e., the connections are made from the center terminal of one cell to the outside terminal of the next, the remaining terminal of battery "H" should be connected to point "G" on the engine or any other point on the engine having a good metal contact. When the engine is supplied with magneto and batteries, wire "CD" is connected to the remaining terminal on the spark coil and to one of the terminals on the magneto. The other terminal on the magneto is connected to one of the bolts fastening the magneto to the bracket or any other metal part of the engine having a good contact. In starting the engine, throw the switch on battery circuit terminal "F" and as soon as the engine is started turn the switch over to magneto circuit, thereby saving the current from the batteries. The engine, however, may be started from the magneto without batteries by turning it over briskly, producing sufficient current for ignition. All wire terminals must be kept tight and the insulation on the wires in good condition.

TO EXAMINE THE SPARK

Disengage the wire "AB" from the igniter, throw in the switch on the battery circuit, see that the insulation on all wires is in good condition, see that the connections are tight. With the switch thrown in, if the insulation is good and the wire connection tight, there should be a good spark produced by wiping the end "A" of the wire "AB" on any part of the igniter except the insulated electrode. If no spark is produced it indicates that there is a break in the wire, poor connections, or that the batteries are completely exhausted. If a satisfactory spark is produced, next push the igniter hammer No. 5896 back so that the igniter points come in contact. A spark should then be produced by wiping the insulated electrode with wire "AB". If no spark is produced, it indicates that the igniter points do not have proper contact. When the igniter points are not in contact, there should be no spark produced by wiping the insulated electrode with wire "AB", and if a spark is produced it indicates a short circuit in the igniter. The igniter should then be cleaned and, if necessary, the insulation renewed.

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