

Equipment Cuts Water Costs Up to \$220 Monthly at California Course

THE Barbara Worth CC, located in Imperial Valley, just west of Holtville, Calif., has the first golf course in the valley that attempted to have an all-grass course, including greens, and was also the first club in the valley to attempt to irrigate its entire course by the use of sprinklers and a pump.

The cost of operating the electric driven pumping unit originally installed proved excessive, and this summer the club came to a point where it was forced to make a decision; either of abandoning the motor driven pump unit and going to a flooding system or finding some cheaper source of power to furnish water.

As a result of an investigation, the club now has a gasoline engine driven pump which is handling twice the number of sprinklers that the old motor driven unit handled, at a cost sufficiently reduced to prove it is entirely satisfactory and can be operated within the budget allowed for this purpose.

The unit consists of a 6-cylinder Continental gasoline engine, rated at 65 h.p. at 2,200 r.p.m. The engine is direct connected to a Fairbanks-Morse 5-in., horizontal split case pump which is operating at 1,500 r.p.m. and furnishes water to operate 45 sprinklers at 60 lb. pressure at the discharge of the pump.

Solve Carburetor Trouble with Siphon Control

When the unit was started, several difficulties arose in the operation, which have since been worked out satisfactory. For example, it was found that during the time of changing sprinklers to new stands, the load on the engine would vary, thus changing the heating, which in turn would effect the carburetion of the butane gas which is used for fuel.

This came about from the fact that the cooling water on the engine is passed through the carburetor in order to vaporize the butane liquid. If the temperature runs too low, the butane immediately freezes the carburetor and shuts off the gas supply. This was corrected by the installation of a siphon valve, which works automatically and holds a constant temperature on the cooling water. The cooling water from the engine is taken from the discharge of the pump, circulated through the engine under control of the siphon valve and returned to the pump.

Another difficulty that developed was

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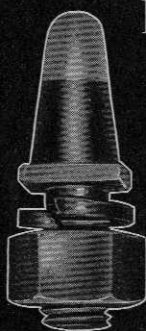
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that of cooling the lubricating oil. The only means for cooling the lubricating oil in a unit of this kind (a rebuilt truck engine) was the splash pan at the bottom of the engine. Operating in a truck, the flow of air by the pan of the engine is sufficient to keep the lubricating oil cool, but as a stationary installation there was no cooling effect other than the direct radiation from the pan, which proved insufficient.

To correct this a cooler was developed, using a coil of $\frac{1}{2}$ -in. copper tubing, installed inside of a piece of 6-in. pipe 5 ft. long, the ends closed with flanges, and water from the unit circulated through this cooler, the oil from the engine being pumped through the cooler by means of the oil pump installed on the engine.

This has proved very satisfactory and keeps the lubricating oil temperature down to a point where it gives no trouble even under the severe conditions under which the engine operates.

The unit has been operating during temperatures that range as high as 116 degrees in the shade. The butane consumption is, on the average, about $2\frac{1}{2}$ gal. per hour, at a cost of .07c per gallon and under present conditions the unit runs an average of five hours per day, which makes a monthly cost of between \$25 to \$30 as against \$200 to \$250 for electric power.

The unit, as equipped, is entirely automatic and is taken care of by one man, who does all the sprinkling.

**Club Event That Increases Play
and Pro Business**

GEOERGE JACOBUS does one of the best jobs that's done of running a first class club's pro department. This, in addition to his duties as PGA president which take up early hours of the morning and the late hours of the night.

Here's a competitive idea George introduced at Ridgewood to the great enjoyment and interest of that club's members. It's an ideal event to boost week-day play and should be widely adopted.

The members challenge one another, paying 25c into a sweepstakes pool each time one plays a match. A member coming to the club and looking for a game can get one from almost anyone in this manner. He merely enters his name in the tournament, pays the 25c and turns in his score. Each member is permitted to do this as many times in a month as he wishes, except that when he has paid a