EQUIP TIPS

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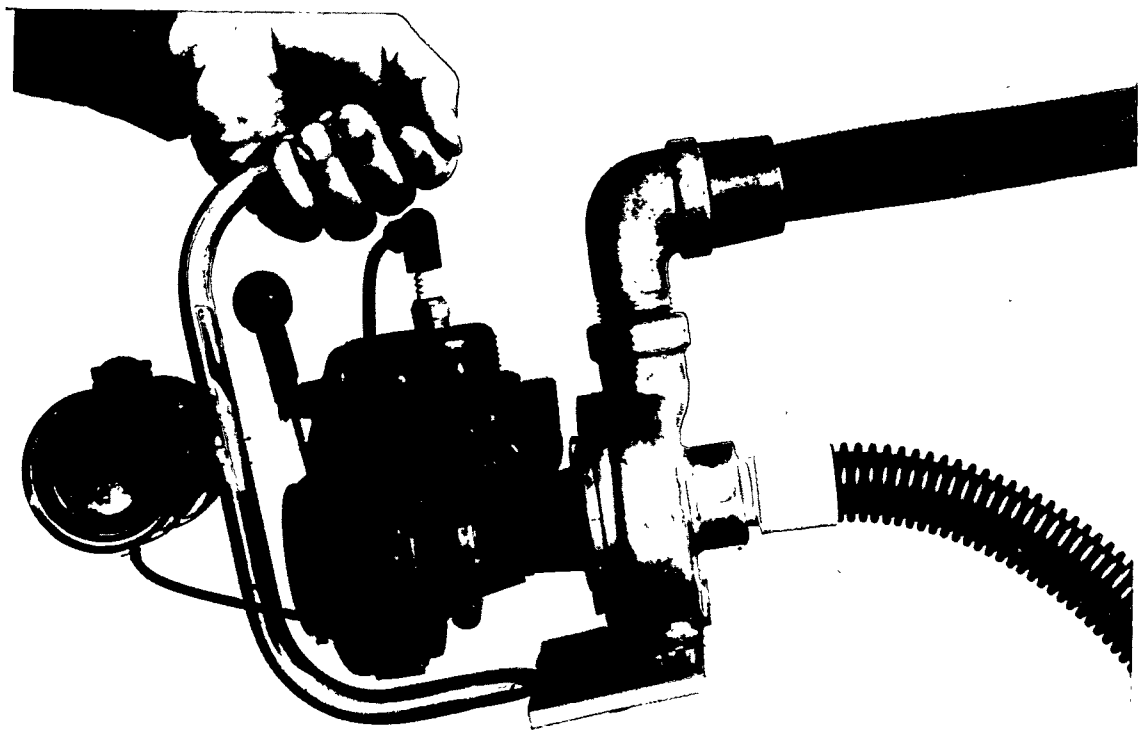
EQUIPMENT DEVELOPMENT AND TEST CENTER
701 N. Santa Anita, Arcadia, California 91006



LIGHTWEIGHT ONE-MAN PUMPER FOR FIRE FIGHTERS

This unit combines a gasoline powered two cycle Ohlsson-Rice Engine and a Paradox Centrifugal Pump into an extremely compact pumper. Its light weight--only 8 pounds--and low pressure flow of over 25 gpm should make it an ideal accessory for helicopter use. It measures 15" x 11" x 8" making it suitable for hand carrying and consequently a quick tool for mopping up hot spots, especially when used in conjunction with a helitank. It will lift water 26 feet after priming. The 40 pounds pressure at low flows would permit pumping to 80 feet above the pump location, or approximately 70 feet with 10 psi and 3 gpm at the nozzle. Not a great deal of water but a lot more effective than a backpack pump. When used in conjunction with 1-inch rubber lined fire hose, friction loss would be negligible.

The unit may also be used for supplying water to fire camps, applying fuel oil to burn out firelines, for hosing out latrines and shelters, and as a sump pump.

Pump threads are 1" NPT (1"--11-1/2 NPSH) and a number of lightweight components are available. These include a combination foot valve and strainer, oversize suction hose strainer, (slips over combination foot valve and strainer) nylon 1" to 1-1/4" adapter, aluminum street ells and nipples, plastic suction hose, and 1" adjustable nozzle.

PRESSURE AND FLOW TEST RATINGS

psi :	10 :	20 :	30 :	40
gpm:	25 :	18 :	12 :	3

Two pumper units operated in series doubled the pressure with no reduction in flow.

The test unit was run 99 hours at 33 psi during which the flow varied from 8 to 12 gpm. No maintenance was required on the pump during the test run. The engine required replacement of two spark plugs, one faulty ignition coil and one set of piston rings during the 99-hour test. The exhaust ports required cleaning of carbon after approximately 25 to 35 hours of continuous operation. Related maintenance would normally include replacing the spark plug and gaskets. The entire job can be accomplished in the field in about 30 minutes. The frequency of maintenance will be greatly reduced where use is intermittent as contrasted to the continuous operation during the test period.

The extent of carbon build-up also varies with the type of fuel and lubrication used. Performance tests were run using Steen-C, two-cycle, chemical lubricant (available from most Go-Kart shops) and "regular" gasoline.

Previous tests using Forest Service Navy Contract oils resulted in 19 to 25 hours before fouling. Subsequent test by the manufacturer, using Royal Triton MS Oil SAE #30, and aviation gasoline (80-86 octane) have been most successful. Consequently, the manufacturer is recommending a similar type of fuel for extremely heavy use. Oils designed for chain saws and outboard motors are generally less suitable.

List price is $98.50. A substantial discount is offered to government agencies. The test models were furnished by East Side Manufacturing, Inc., 1801 Bluff Road, Montebello, California.