

OPERATIONAL AND SCIENTIFIC NOTES

NEW, IMPROVED ONE-MAN OPERATED JEEP MIST BLOWER

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In 1955 the Marin County Mosquito Abatement District constructed a one-man operated mist blower and the construction details were reported in *Mosquito News* for June 1955. Compared to the present model that mist blower was very crude.

The newly designed mist blower (Fig. 1), which was constructed at the District shop, is mounted on a seventy-five (75) gallon tank which has a 6" x 6" circular sump built in. A hole was cut in the floor of the jeep pick-up body so that the sump rests below the floor. With the sump it is possible to pump the tank completely dry. This prevents rusting of the tank and makes for longer life.

The dimensions of the seventy-five (75) gallon tank are 36" x 31" x 16", the blower is mounted on a double "U" metal strap frame with proper bracing. The blower, the gasoline

engine and the insecticide pump are mounted on top of the tank. The blower is at the right, the gasoline engine is in the center and the insecticide pump is on the left. The tank is mounted on the jeep so that the blower discharges to the right. The front side of the blower housing has a babbitted flange type bearing attached to it by bolts. A piece of tubing is welded to a metal plate which in turn is welded to the front "U" bracket. This tubing supports the blower housing by supporting the flange type bearing. The end of the tubing is locked just inside the blower housing so that the blower housing cannot move sideways. A 1-3/16" shaft runs through the inside of the tubing which supports the blower housing through the flange bearing. Pillow block bearings mounted on the top of the strap frames support the drive shaft. The Westinghouse wheel is secured to the shafting inside the blower by key and lock screw.

The blower uses a size 507 standard side plate Westinghouse wheel which turns at 3800 RPM; the blower housing is 6" wide, 21" in diameter and has a 7" diameter discharge pipe surrounded

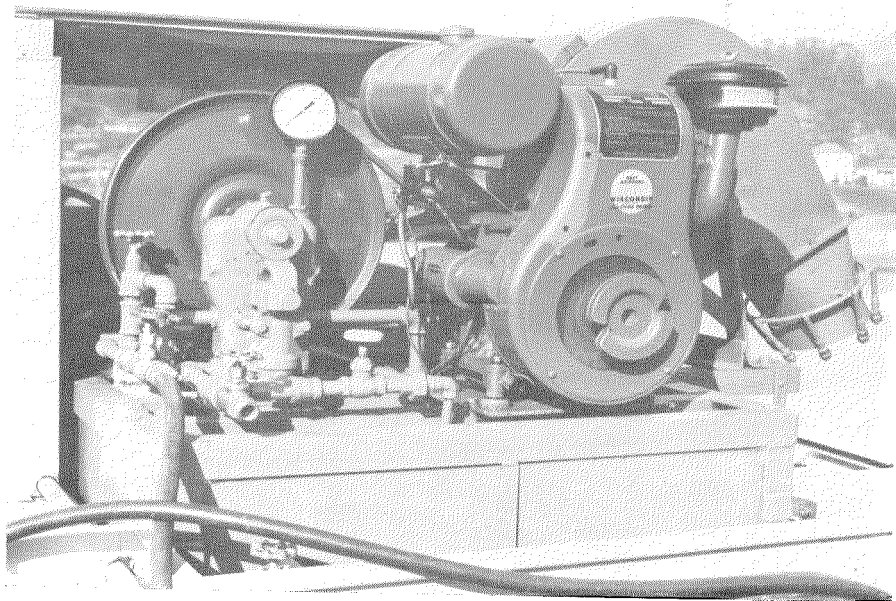


FIG. 1.—New improved one-man operated Jeep mist blower.

by eight Spraying Systems Company nozzles, using flat atomizing 15°, #150067 tips.

The nozzles are supplied with insecticide spray by a Meyers Model 5302 high pressure pump which operates at pressures between 150 to 200 pounds. Approximately two (2) gallons of spray material are discharged into the air stream per minute.

The blower housing is moved by a 6-volt 1954 Pontiac electric window motor, fastened to the bottom bracing of the blower mounting frame. A 2-inch sprocket on the electric window motor is connected by #40 chain to a 10-inch sprocket mounted on the side of the blower housing. Two push button switches located inside the jeep on the dashboard move the blower up and down. Credit is given to the Sonoma County Mosquito Abatement District for the idea of using a car window motor for changing blower directions.

Flow of insecticide to the blower nozzles is controlled from inside the cab of the jeep by attaching a small cable to a Food Machinery Corporation 3/4" ratchet valve #118-2527. One pull of the cable turns the valve on and the following pull shuts it off. The blower and the insecticide pump are driven by a Model AENL 0.2 HP Wisconsin air-cooled motor. A 2-inch pulley on the engine driveshaft drives a 16-inch pulley on the insecticide pump shaft. An 8.2-inch pulley on the engine drives a 6.2-inch pulley on the blower shaft. Type "B" belts are used. The

engine is started and stopped from inside the cab by push button switches. Choking of the engine and regulation of the engine speed is done from within the cab of the jeep. Once the operator fills his spray tank he need not leave the jeep cab until it is empty. A 15-gallon insecticide concentrate tank, with visible gauge, is mounted above the left fender of the jeep. Turning a valve lets the desired amount of insecticide concentrate flow into the spray tank where it is mixed with water. Valves, hose and pipe arrangements permit filling the spray tank with water from field sources.

For larviciding purposes 4 nozzles may be capped off and larger tips used in the remaining nozzles. Valves and piping make it possible to use a hand spray gun instead of the mist blower when desired. By removing a few bolts the blower and tank can be removed from the jeep as a unit. Agitation is supplied on one model by use of a six (6) volt electric window motor attached to a vertical drive shaft, which turns a propeller inside the insecticide tank. The motor does not have sufficient power for constant use; however, our stable solutions need little agitation.

There is practically no spray drop-out near the jeep because of the high pump pressure and high velocity of the airstream. Spray particle sizes are very small. This makes the blower a good adulticiding tool for *Aedes sierrensis*, which is our big problem.

THE OCCURRENCE OF *Orthopodomyia alba* BAKER
IN OKLAHOMA (DIPTERA: CULICIDAE) *

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According to Jenkins and Carpenter (1946) *Orthopodomyia alba* Baker is considered to be a rare, restricted, local tree hole mosquito which has aroused interest each time that it has been collected. *O. alba* is considered to be closely related to *Orthopodomyia signifera* which selects the same larval habitat. The adults of the two species are difficult to distinguish.

Larval collections of *O. alba* have previously been reported from the states of Alabama (Shields and Miles, 1937); Ken-

tucky (Kitzmilller, 1945); Louisiana (Harden, 1945); Mississippi (Middlekauff and Carpenter, 1944); Missouri (Gurney, 1943); New Jersey (Lake, 1953); New York (Baker, 1936); North Carolina (Schoof and Ashton, 1944); Texas (Breland, 1947) and Virginia (Dorsey, 1944). Jenkins and Carpenter (1946) cite an unpublished report of the occurrence of *O. alba* in Illinois by Ross.

Seventy-nine third instar larvae and sixty-two fourth instar larvae of *O. alba* were collected from a tree hole in an American Elm tree (*Ulmus americana*), in association with twenty, fourth instar larvae of *O. signifera*. This single collection was made in the Mount Scott Camp-

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