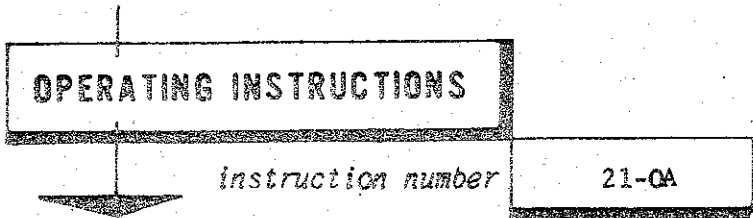


# DORR-OLIVER

INCORPORATED



## ELECTRO-MECHANICAL OVERLOAD ALARM

The purpose of the Overload Alarm is to warn the operator when the mechanism is being overloaded. The most common cause of overload is excessive depth of settled solids, but frequently the overload can be traced to some object in the tank, obstructing or wedged under the raking arms. The cause of the overload should be thoroughly investigated and eliminated, as any attempt to operate the mechanism in this condition may seriously damage the machine.

The Overload Alarm housing is mounted on the housing of the driving unit at the end of the worm shaft. The end thrust of the worm shaft is made to operate against a series of springs in the alarm housing compressing it an amount in proportion to the load that is required to operate the machine. This movement is transmitted to a dial indicator inside the housing cover. Two mercury switches are mounted on the dial indicator and are so arranged so as to sound an alarm in case of impending excessive load, and to stop the motor when such a load is reached.

When the Overload Alarm is properly assembled, adjusted, and wired, the edge of the red semicircle should appear opposite the ZERO MARK on the dial indicator. This is the no-load position. As the load is increased to where the red semicircle appears opposite the RED LINE, the mercury alarm switch closes and sounds the alarm signal. If the load increases to where the red semicircle is opposite the NO. 4 MARK, the mercury cut-out switch will open the motor pilot circuit and shut the unit down. When the overload condition has been corrected, the indicator will return to zero and the unit can be re-started.

Should it become necessary to adjust the indicator dial or the mercury switches, remove the mechanism housing cover. Without disturbing the terminal block, the indicator dial can be positioned by loosening the set screw in the pinion hub and rotating the dial counter clockwise so that the edge of the red semicircle is on zero. To adjust the mercury alarm switch, slowly pull on the extension of the gear rack, so that the dial will revolve. When the edge of the red semicircle appears opposite the RED LINE, the mercury switch should close and the alarm should go off. In this position, tighten the switch securely. Continue the pull on the gear rack until the edge of the red semicircle appears

Electro-Mechanical Overload Alarm  
Operating Instructions 21-0A

opposite the No. 4 MARK. The mercury switch should open and the motor should stop. Tighten this switch securely in place. Release the gear rack and the dial and rack will return to its normal operating position.

Once properly set, the position of the switches and the indicator dial should not be changed except on advise of a representative of Dorr-Oliver Incorporated, and to this end, a Dorr-Oliver Engineer will, at field inspection, apply a lead seal at the Overload Alarm housing and at the mechanism housing cover to prevent tampering with the device.

CHECKED

N. D., FEBRUARY, 1971