

## Operating & Maintenance

These instructions cover the installation and maintenance of Federal centrifugal pumping units. By following the outline and suggestions, the life of the pumping unit can be extended and repairs kept to a minimum.

### INSPECTION

Immediately upon receipt of the shipment, inspect and check with the packing list and report to the transportation company's local agent any damage or shortage. Inspect carton and wrappings before discarding. Parts or accessories may sometimes be wrapped individually and packed in the carton.

### STORAGE

If the unit is received sometime in advance of when it can be put to use, it should be inspected, rewrapped in moisture-proof paper, re-boxed and stored in a dry location. If the unit is to be stored for a long period of time, rotate the shaft periodically to protect the bearings.

### LOCATION

The unit should be installed in a dry location where it is accessible for inspection and maintenance. Provide clearance around the unit for free air circulation. The motor must meet the requirements of local conditions and electric current available. Excessive moisture, heat, hazardous fumes or dust may adversely effect the operation of the motor.

### INSTALLATION

It is important that a union be installed immediately after the pump discharge connection, and that a check valve and a gate valve be installed, in that order, after the union. Piping from the discharge of the pump should be independently supported to avoid putting a strain on the pump unit. Units should not be installed in locations where the required pump discharge head is in excess of 20 feet. Units have a single voltage motor (either 115V. or 230V., 1/3 H.P., single phase, 1750 R.P.M.). Be sure that the correct voltage is supplied to the motor.

### OPERATING PROBLEMS

#### If the pump fails to start, check the following:

1. Is current being supplied to the motor?
2. Is the pump shaft bound in any way?
3. Have the coupling set screws come loose?
4. Is the float switch making contact?
5. Has foreign material attached itself to the floats?

#### If the pump produces excessive noise when operating, check the following:

1. Is there the proper clearance between the suction plate and the impeller? To check the clearance, remove the screws and take the pump and motor out of the receiver. Loosen the adjusting screws (46) and tap the impeller (2) upward until there is some clearance from the suction plate (38). Then retighten the adjusting screws.
2. Are the screws (67) equally drawn down on the support plate (53)? If the strains on these screws are unequal, the pump may be cocked in the tank (139), causing vibration.
3. Are the motor set screws (67) properly adjusted? Loosening and tightening these set screws in the neck of the motor (110) may correct misalignment.

#### If the pump does not shut off, check the following:

1. Is the float switch (74) stuck in the open position?
2. Is the float (80) resting on top of pump casing (1)?
3. Is the float rod (148) bent or broken?
4. Is the discharge check valve installed backwards?

**Note:** Please refer to this item's Parts List found in the corresponding Supplemental document, found on our website.

