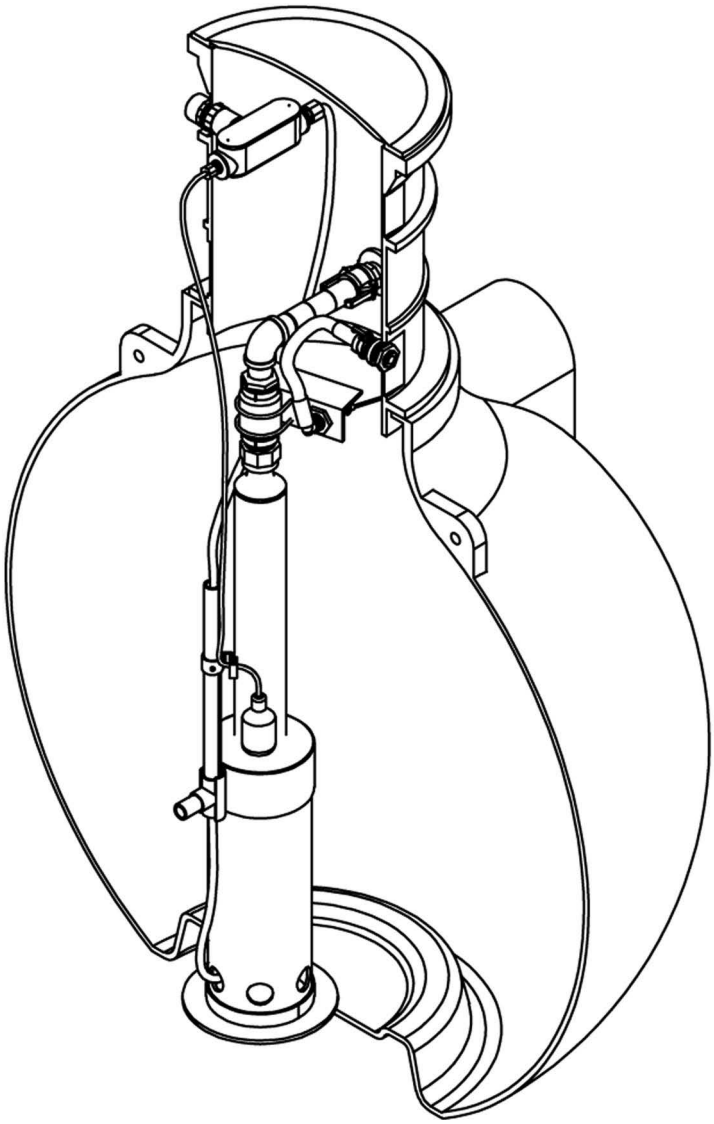
TALCO FIRE SYSTEMS

O&M INSTRUCTION MANUAL

UG SYSTEM



RESIDENTIAL FIRE PUMP SYSTEM

TALCO FIRE SYSTEMS

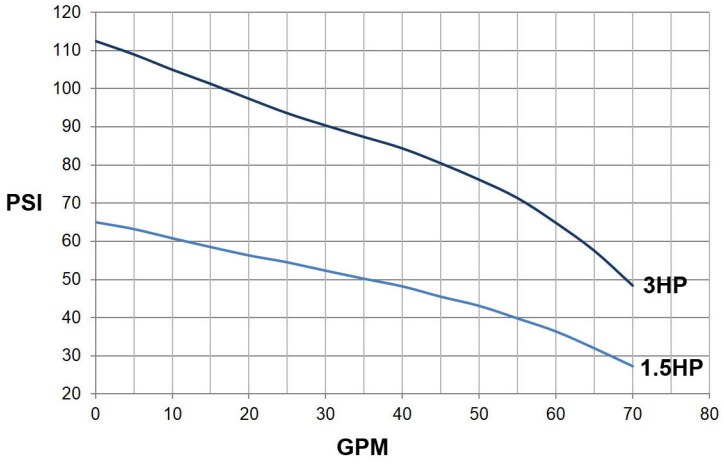
RESIDENTIAL & COMMERCIAL FIRE PUMP SPECIALISTS
6040 NE 112TH AVE. PORTLAND, OR 97220
800-878-8055 WWW.TALCOFIRE.COM

UG Systems

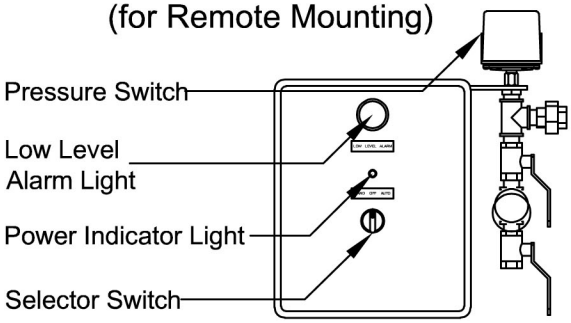
NFPA-13D Residential Underground
Packaged Fire Pump System

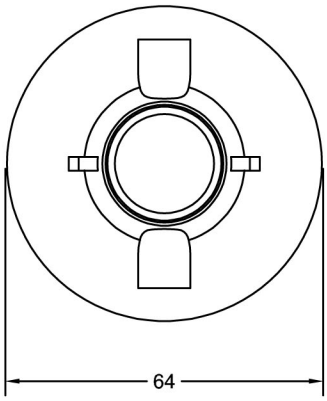
-500 Gallon Capacity
-64" Diameter

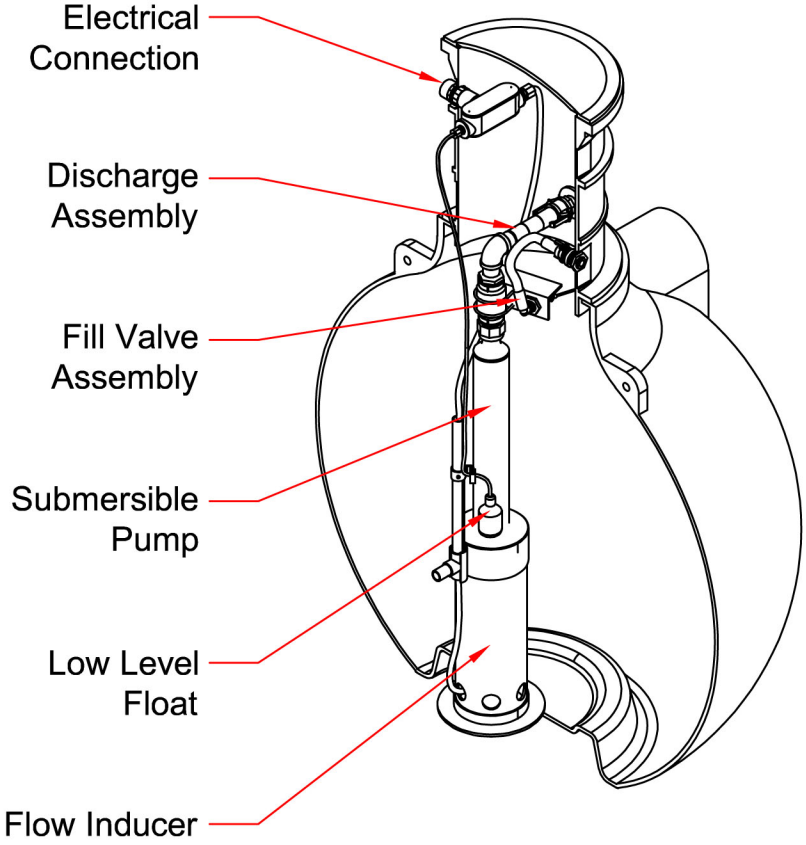
UG-15 1.5HP - 50GPM @ 40PSI
UG-50 3HP - 50GPM @ 75PSI

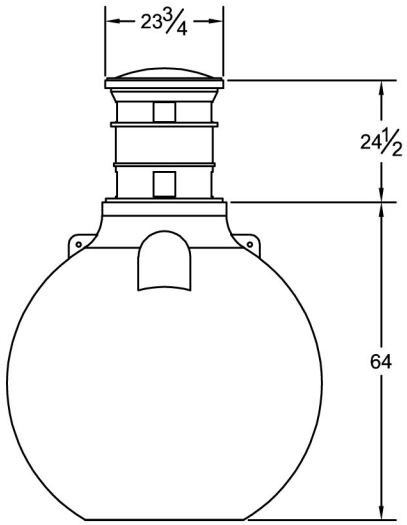


TALCO Deluxe Controller
w/ Low Level Alarm
(for Remote Mounting)









-All dimensions inches-

UG System Installation Guide

Purpose

This guide outlines the proper installation procedure for the UG pump system into a 500-gallon tank, including discharge assembly, float installation, plumbing, electrical connections, and controller setup.

1. Pre-Build Components

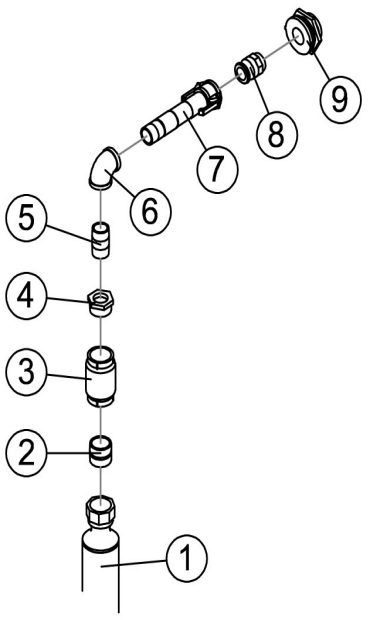
1.1 Benefits

Pre-building all components ensures smoother and faster field installation.

1.2 Pump Discharge Assembly

• Reference Fig 1.1 below for the discharge assembly. We recommend using pipe dope or true blue on all threaded connections.

Fig 1.1



1	Submersible Pump w/Flow Sleeve
2	2" Close Nipple (NPT)
3	2" Check Valve
4	2" x 1-1/2" Reducer Bushing (NPT)
5	1-1/2" x 3" Nipple (NPT)
6	1-1/2" (NPT) 90 Elbow
7	1-1/2" (NPT) x Cam Lock Discharge Hose
8	1-1/2" Cam Lock Male End
9	1-1/2" Bulkhead Fitting

• Install the flow inducer base using the two screws threaded into the base itself, mount the float switch assembly. Refer to page 6 on how to mount the float switch assembly.

• Once the discharge is fully assembled, flow inducer base installed, and the float switch assembly is mounted you can mount the discharge assembly to the pump.

1.3 Fill Float Assembly

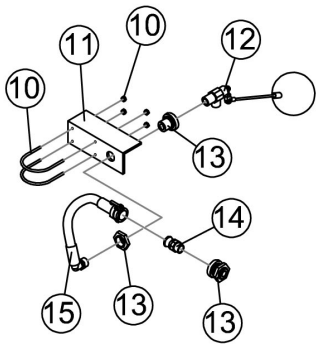
• The float should be pre-assembled, reference fig 1.2 below for mounting the Fill Float and its assembly.

• Mount the float to its bracket using the provided bulkhead attached to the pre-assembled float.

• Connect the incoming fill hose to the float.

• Attach the float assembly to the check valve on the pump discharge using the provided U-bolts.

Fig 1.2

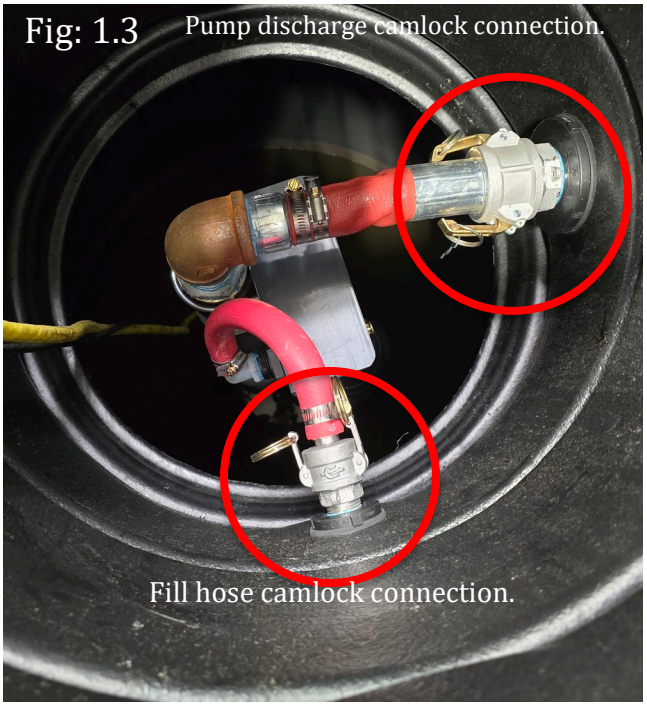


10	U-Bolts & Nuts (2)
11	PVC Angle
12	¾" Tank Fill Float Assembly
13	¾" Bulkhead Fitting
14	¾" Cam Lock Male End
15	¾" (NPT) x Cam Lock Tank Fill Hose

2. Tank Installation

• Refer to the instructions on Page 5 of the documentation for excavation of the 500-gallon underground tank installation.

• Once the tank is lowered into the excavated hole ensure the tank is properly secured and leveled per site requirements.



3. System Placement & Connections

3.1 Placing the System

• Carefully lower the fully assembled pump assembly into the installed underground tank.

• Place the pump assembly on the stand in the bottom of the tank,
it will need to be to one side of the stand for proper fitment.

3.2 Plumbing Connections (Fig 1.3)

• Connect the discharge to the 1 ½" camlock fitting on the riser.

• Connect the incoming water line to the ¾" camlock fitting on the riser.

3.3 Electrical Conduit Installation (FIG 1.4)

• Attach the electrical conduit body to the riser using the pre-cut hole.

• Run wiring for:

- Float switch assembly
- Pump motor

• Feed all wiring through liquid-tight cord grips on both sides of the conduit body.

4. Controller Installation

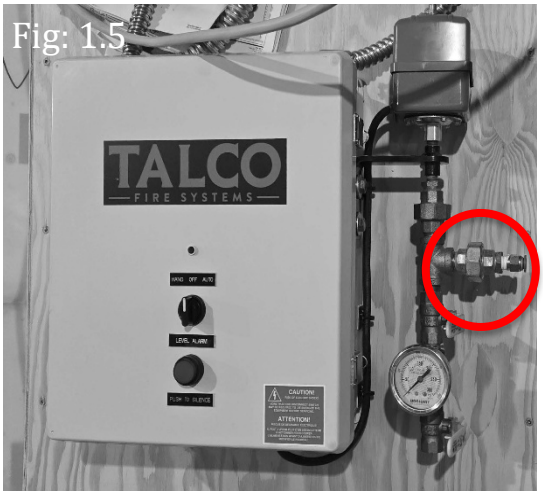
4.1 Mounting the Controller

• Install the control panel in the designated location (location determined by project engineer or contractor).

4.2 Pressure Sensing Line

• Install a ½" sensing line from the controller (Fig 1.5) to the discharge of the pump on the incoming system line in the home.

• Important: This line is critical for pressure detection and system shutoff functionality.



5. Electrical Power Supply

• Your licensed electrician will:

- Supply power to the system.
- Follow the wiring diagram on Page 7 of the documentation for control panel hookup.

6. Final Checklist

• Riser fully assembled and mounted to pump.

• Float & fill hose properly installed.

• System carefully placed in the tank.

• Discharge and incoming lines securely connected.

• Electrical conduit body and wiring installed.

• Controller mounted with sensing line connected.

• Power wiring completed per diagram.

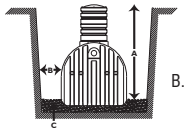
• System ready for testing and commissioning.

NORWESCO

UNDERGROUND TANK INSTALLATION INSTRUCTIONS

For septic installations, it is important to contact your local or state sanitarian regarding approved installation procedures. Refer to SITE SELECTION/PREPARATION located on the Norwesco website. Water runoff caused by sloping terrain, adjacent structures, or paved surfaces can be problematic if the site selection and installation are not managed properly. Refer to SITE SELECTION/PREPARATION located on our website on the proper managing of these issues. Failure to locate the tank site properly in areas of water runoff caused by sloping terrain adjacent structures or paved surfaces, and/or not managing the installation properly can void the warranty.

1 EXCAVATION

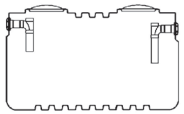


A. Excavate to a depth that will provide a minimum of 6" and a maximum of 30" of cover over the top of the tank. This will avoid collapse and over-expansion of the tank and possible leakage.

B. Allow 18" to 24" on both sides and both ends of the tank. Failure to comply with allowance ranges could cause tank collapse.

C. The preferred tank bedding material is well packed sand with minimums of 6" in soil terrain and 12" in rock terrain. Native soil can be used if it is flowable, compactable, rock free, and can provide uniform tank support in the recessed rib areas. The tank should be installed level.

2 SEPTIC AND BRUISER TANK INLET/OUTLET CONNECTIONS

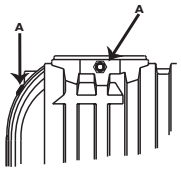


A. Septic tanks 750 gal. and larger and blue BRUISER tanks are supplied with gaskets and tees or septic adapters and tees. The PVC adapter has two sockets for use with either 4" Schedule 40 pipe, or 4" SDR 35 Pipe.

B. Inlet and outlet piping should be solvent welded to tees or adapters using standard PVC cement.

C. 200, 300 and 500 spheres and 500 septic tanks do not come with PVC tees & gaskets or PVC tees & adapters.

3 WATER TANK CONNECTIONS

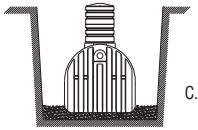


A. Install bulkhead fittings in either side of manway or end rib as shown.

B. Tank must be vented.

C. For water-tight seal, lid should be sealed with silicone caulking. Re-use stainless steel screws supplied with lid.

4 MANHOLE EXTENSIONS



A. Install manhole extension before you backfill.

B. Manhole extensions are supplied with gaskets and screws. Re-use the lid gasket and screws to attach the lid at the top of the manhole extension.

C. Note the direction of flow. The inlet is higher than the outlet.

5. BACKFILLING EXTERIOR

A. CAUTION: Fill tank with water as you backfill, keeping water level even with backfill level as you go to prevent possible collapse.

B. Backfill with 12" layers and compact each layer. ALWAYS COMPACT ENDS FIRST.

C. Tamp and compact backfill under inlet and outlet pipes.

D. Maximum backfill over the top of the tank is 30". Mound soil over the top to provide positive drainage.

6 BACKFILL MATERIALS

The preferred material for backfill surrounding and covering the tank is a sand/gravel mixture as described below. For blue BRUISER tanks and white cistern tanks, native soil may be used for backfill and those tanks may be left empty while backfilling. For yellow and green septic tanks, the sand/gravel mixture is required and the tanks must be filled with water during the back-filling process.BRUISER tanks and cistern tanks should be filled one-fourth full after installation.

A. The sand/gravel mixture should be a mixture of sand and gravel, 100% smaller than 1-1/2" and about 50% smaller than 1/4".

B. All fill should be free of any wood, masonry debris, silt or clay.

NORWESCO

NORWESCO INC.
4365 STEINER STREET
P.O. BOX 439
ST. BONIFACIUS, MN 55375-0439
TEL. (800) 328-3420
FAX (800) 874-2371
www.norwesco.com

10/17

CAUTION

FAILURE TO COMPLY WITH THE POINTS BELOW VOIDS WARRANTY

A. Do not install any tank in water saturated clay or in a high water table. The tank may collapse and its contents will escape.

B. Tanks are not fire-resistant. Do not store them near an open flame or heat in excess of 180ºF.

C. Do not install any tank under the path of vehicles or heavy equipment.

D. If any size yellow septic tank or green 500 gallon septic tank is pumped for normal maintenance, it should be refilled immediately. If a blue BRUISER tank or a white cistern tank is pumped empty, it should be re-filled to one-forth of capacity. Spherical 200, 300 and 500 gallon tanks may be left empty.

E. Norwesco yellow septic tanks, green 500 gallon septic tanks, black pump tanks, blue BRUISER tanks and white cistern tanks are designed only for use as underground tanks.

F. Norwesco yellow septic tanks cannot be used as holdng tanks or pump tanks because the tank may collapse if it is left empty underground. Blue BRUISER tanks, white cistern tanks, and 200, 300 or 500-gallon spherical tanks can be used for holding or pumping applications where permitted by local codes.

G. White cistern tanks and blue BRUISER tanks are made of resins that meet FDA specifications for the storage of drinking water and can be used for that application. Yellow septic tanks and black septic tanks must not be used for drinking water.

H. Protect the tank from sharp objects which could puncture it and cause leakage.

Norwesco advises against the use of a plastic underground tank for **any** other uses! Such uses would void any Norwesco product warranty either stated or implied. In no event shall Norwesco be held liable for any consequential damages.

WARRANTY

The Norwesco underground tanks, when installed in accordance to manufacturer's instructions, are warranted against defective materials and/or workmanship for a full three (3) years from date of manufacture. Should a defect appear within the warranty period, Norwesco will supply a new, equivalent tank in replacement thereof. Norwesco's liability is limited to the value of the tank itself and specifically excludes the cost of installation and/or removal and consequential damages.

P/N 63380

NORWESCO

NORWESCO INC.
4365 STEINER STREET
P.O. BOX 439
ST. BONIFACIUS, MN 55375-0439
TEL. (800) 328-3420
FAX (800) 874-2371
www.norwesco.com

Orenco® SYSTEMS *Instructions*

Float Switch Assembly

Installation Instructions

These instructions cover the installation of a float switch assembly. To set and adjust float switches, see NIN-MF-DA-1, *Float Switches: Settings and Adjustments,* or NIN-ATX-DA-1, *Float Switch and RSV Settings: Instructions for Residential AdvanTex Systems*. For wiring instructions, see the schematics and wiring diagrams included with the control panel for the float switch assembly.

Step 1: Prep the Float Switch Assembly

Step 1a: Check for vertical and horizontal clearance between the float switches.

- Move each float through its range of vertical and horizontal motion.
- The float switches shouldn't interfere with one another during this check.

Step 1b: If the switches interfere with one another, loosen the set screw on one switch's collar and adjust the collar horizontally until the switch is clear of the switch(es) above or below it.

- Don't back the set screw completely out of the float collar.

Step 2: Install the Float Switch Assembly

Once any adjustments are made, install the float switch assembly.

IMPORTANT:

- *Never allow the cable ends to come in contact with water.*
- *DON'T lengthen the float stem without prior approval from Orenco.*
- *DON'T change the float tether lengths. Changing the tether lengths may disrupt proper operation of the assembly.*

Step 2a: Lower the assembly into position.

- As you lower the assembly, check that the float switches don't interfere with walls or components in the tank, pump vault, or flow inducer.
- If the float switches interfere with walls or components, remove the assembly and adjust the float(s) horizontally for clearance.

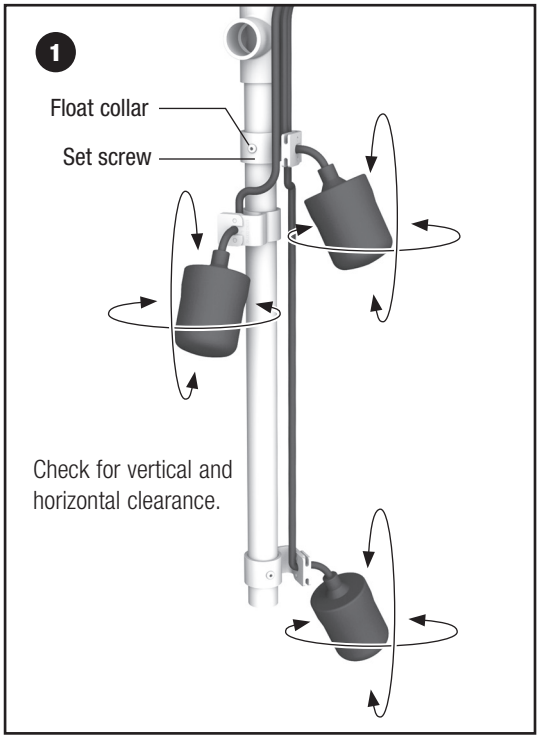
Step 2b: Attach the float switch assembly to the float bracket.

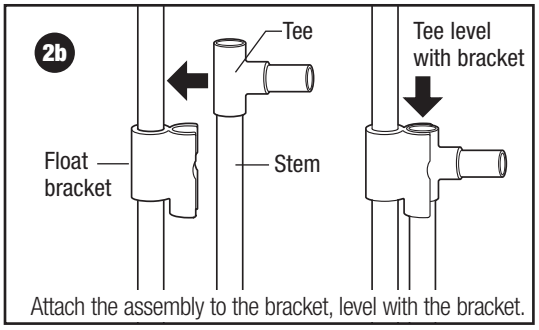
- Align the top of the assembly with the top of the float bracket.
- The float bracket is usually fixed to the Biotube® effluent filter, the flow inducer, or the side of the pump basin.

Step 2c: Secure the loose cables to the splice box by looping them over the internal splice box or secure them with the external splice box's hook-and loop strip.

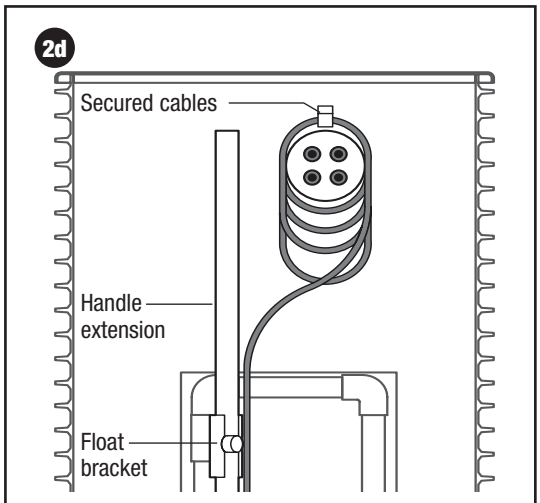
Step 2d: Install a handle extension if the float switch assembly's handle isn't within easy reach for removal and servicing.

- Measure from the top of the float bracket to 6 inches (150 mm) below the top of the riser.
- Mark and cut a section of 1-inch (25-mm) PVC pipe to the measured length.
- Remove the float switch assembly from the float bracket and glue the pipe section into the tee fitting.
- Wait for the glue to dry before reinstalling the float switch assembly.



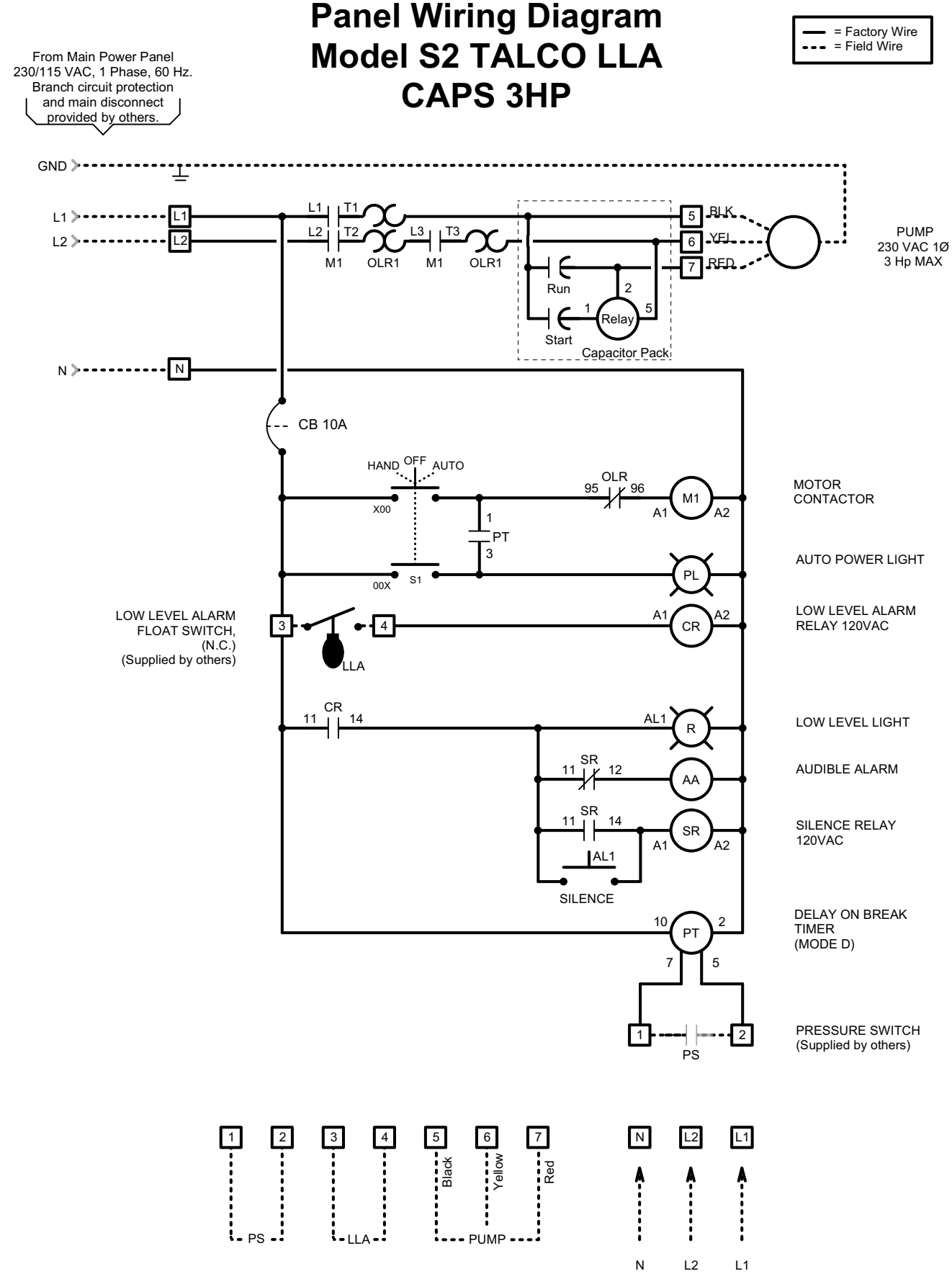


Attach the assembly to the bracket, level with the bracket.



Wait for the glue to dry before reinstalling the assembly.

Panel Wiring Diagram
Model S2 TALCO LLA
CAPS 3HP



Limited Warranty

All goods are warranted to be free of defects in material and workmanship for a period of one year from start-up or (18) months from the date of shipment, whichever comes first. Except as specifically indicated, TALCO makes no warranties, expressed or implied, oral or written, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose.

THIS WARRANTY IS SPECIFICALLY SUBJECT TO THE FOLLOWING:

1. The limited warranty is limited to replacement or repair of defective materials and workmanship at the discretion of TALCO.

2. Equipment sold, but not manufactured by TALCO, is subject to the manufacturer's warranty only. TALCO makes no warranties, either expressed or implied, for goods manufactured by others.

3. The limited warranty is conditioned on the purchaser giving TALCO notice within five days of discovery of any alleged defect. Notice should be directed to TALCO FIRE SYSTEMS, by mail: 6040 NE 112th Ave, Portland OR, 97220 or by email: support@talcofire.com.

4. The limited warranty shall be considered null and void if any product or part of the packaged system has been repaired or altered in any way by others without prior authorization from TALCO. Fitting leaks and electrical damage are considered the responsibility of the installing contractor.

5. TALCO shall not be liable for any incidental or consequential loss, damage or expense arising directly or indirectly from the use of any goods subject to this limited warranty, nor shall TALCO be liable for any damages or charges for labor or expense in making repairs or adjustments to the goods. TALCO shall not be liable for any damages or charges sustained in the adaptation or use of its engineering data or services.

6. This warranty shall not apply to any goods subject to misuse due to common negligence or accident, nor to any goods manufactured by TALCO which are not operated in accordance with TALCO printed instructions.

7. The liability of TALCO is limited to material replacements FOB Portland, Oregon.

8. All shipments are FOB TALCO dock and it will be the responsibility of the purchaser to check the goods when they are received and report to the Freight Company any damage that might have occurred.