

# TRUSTY WARNS

Est. 1948

The First, The Best, Built to Last...

## INSTALLATION MANUAL

**STABLE**

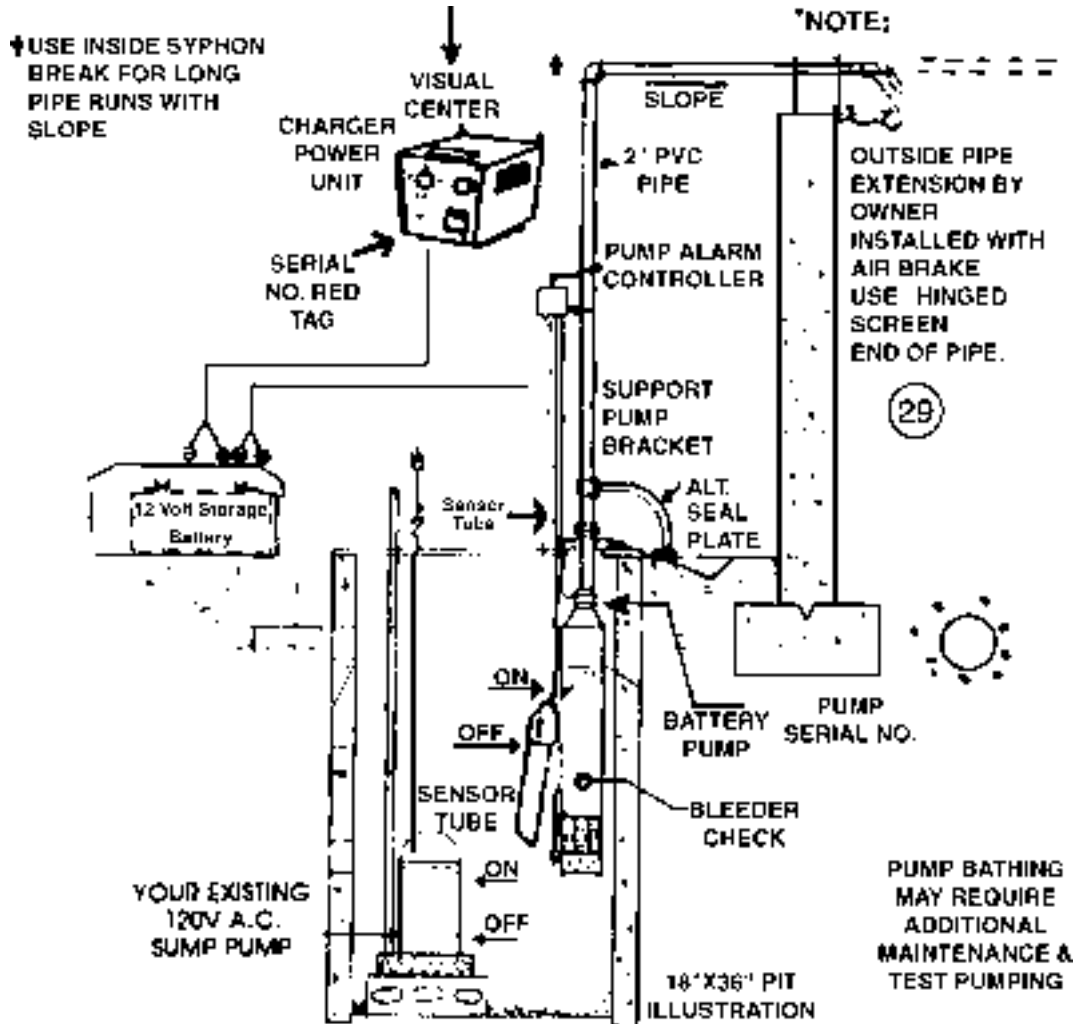
**RELIABLE**

**QUALITY**



**2007**

# STANDARD INSTALLATION DIAGRAM





TRUSTY WARN'S, INC  
320 E. IRVING PARK RD.  
WOOD DALE, IL 60191  
PH: 630-766-9015

## INTRODUCTION

# THE QUALITY OF THE INSTALLATION IS AS EQUALLY IMPORTANT AS THE QUALITY OF THE PUMP SYSTEM ITSELF!!!

As you probably already know Trusty Warns takes great pride in the quality of our battery operated sump pump systems and accessories. To ensure proper performance and a long life, a proper installation must be achieved.

A proper installation can be achieved by knowing the working pieces of the system you are about to install. Most of it is routine and not rocket science, however there are situations that will get tricky. So you will need to be prepared. In addition there are “best practices” that prove for a better installation.

This manual will help you throughout the installation process. Make sure you read through the entire manual before starting the estimate. You will also need to read through the owners manual that came with the system.

Trusty Warns also takes great pride in meeting and exceeding customer expectations. Much of our positive customer feedback is based on our service technicians. Feedback ranges from simply a good clean up, to helping with complex situations or questions and just old fashion common courtesy.

In the event that you are experiencing significant trouble with the install or have doubts, **DO NOT HESITATE TO CALL TRUSTY WARN'S**. We will be glad to help you through a proper solution.



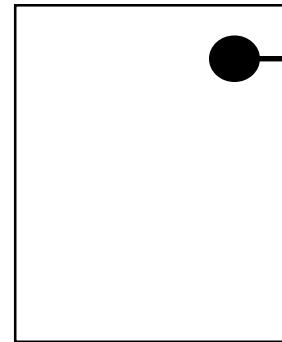
**Always installed to provide the maximum pumping capacity with the least resistance thus the longest running time is gained from the battery (this is very important when heavy rainfall and long power outages are experienced.)**

## ESTIMATION

Most installations will be standard, however you will find certain installations that require significant extra effort. Remember to use good judgement in providing the proper installation estimate

### STANDARD INSTALL:

A standard install consists of no more than 15ft of PVC piping. Calculate from the top of the pump to the exterior grade. Minor deviations of this should still be calculated as a standard install.

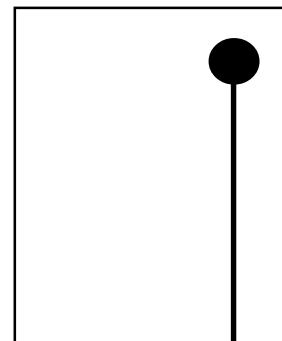


STANDARD  
PLOT SURVEY

### CUSTOM ENGINEERED INSTALL:

Custom installs come in all shapes and sizes. Each basement will be different, here are some basic obstacles to be aware of that could prevent a standard installation.

- |                             |                     |
|-----------------------------|---------------------|
| ✓ Home editions             | ✓ Duct work         |
| ✓ Crawl spaces              | ✓ Window wells      |
| ✓ Exterior decks and patios | ✓ Land slope        |
| ✓ Home entrances            | ✓ Down spouts       |
| ✓ Stair wells               | ✓ Drive & Walk ways |



CUSTOM  
PLOT SURVEY

### OTHER EQUIPMENT TO CONSIDER:

You may need additional materials depending on the installation or customers preference. Refer to the *Things To Consider* page in this manual.

- |                  |                     |
|------------------|---------------------|
| ✓ Check valve    | ✓ Pit cover         |
| ✓ Vent line      | ✓ Radon seal plate  |
| ✓ Syphon break   | ✓ Rubber break away |
| ✓ Aeration Guard | ✓ Primary Pump      |

A strategy is very important in any kind of installation. This will give you a better grasp on what materials and time will be involved in your installation. From here you can give an accurate estimate. Review your strategy with your customer, make sure he or she approves of the work being done.

- ✓ Check the draintile pit. Find a suitable position for the Trusty Warns pump. This should be as far away from the draintile entrance as possible.
- ✓ Locate where the 2" PVC discharge pipe will be exiting the house. Make a mark to remember your position.
- ✓ Account for all obstacles.
- ✓ Measure the pipe lengths and fittings to ensure proper fit, materials needed and type of installation.
- ✓ Make sure you have all the necessary tools and equipment.
- ✓ Be aware and compliant of city, county, and state codes.
- ✓ Take photos of the pit environment prior to the installation.
- ✓ Make notes and log the installation time.

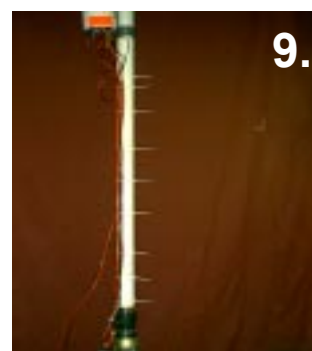
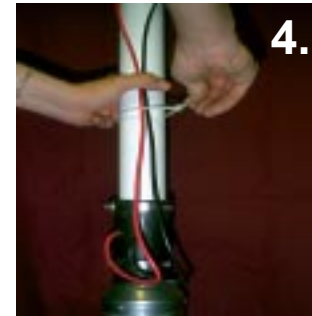
### STANDARD TOOLS NEEDED:

- |                          |                   |                        |
|--------------------------|-------------------|------------------------|
| ✓ Standard screw drivers | ✓ Level           | ✓ Hammer Drill         |
| ✓ Hammer                 | ✓ Crimp tool      | 2 1/2" core drill bit  |
| ✓ Hand saw               | ✓ Side cutters    | 1/4" Masonry bit x 6"  |
| ✓ Metal shears           | ✓ 5/16 nut driver | 1/4" Masonry bit x 12" |
|                          |                   | 3/8" Feeler Bit        |

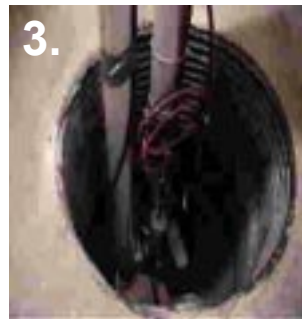
## SYSTEM PREPARATION

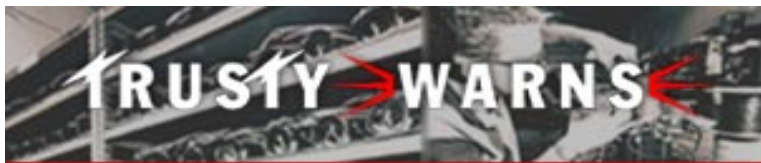
Remember to keep the wires together to protect airline. When securing with tie straps, align controller and pump wires. Be sure to align clamps to face the same direction for future service or removal. If you are installing a DCMR II or DCML controller, the high water alarm bottle requires proper positioning refer to page

- 1.** Remove pump papers in the rubber collar. Test the pump by connecting the pump wires directly to the battery terminals. Pump should turn on.
- 2.** Insert a 5ft length of 2" PVC piping into the pump collar and tighten the clamp.
- 3.** Place controller approximately 4ft above floor on a standard install.
- 4.** Prepare to lace the pump wires up the PVC pipe by placing a single tie strap. Be sure to leave slack by the pump collar.
- 5.** You will have excess slack from pump wires leading to the controller. Cut excess wiring. Remove wire insulation to approximately 3/8" inch from wire ends.
- 6.** Insert the pump wire ends into the controller terminals. Be sure to crimp the terminals tight then tape them. (make sure to connect red to red and black to black).
- 7.** Align the airline between the red and black pump wires. Create a slack loop at the top of the airline for adjustment secure with a tie strap. Cut to fit the airline for sensor tube at bottom end.
- 8.** Insert sensor tube to the bottom of the airline. Position should be approximately 4" inches from the rubber collar.
- 9.** Secure wiring to the 2" PVC with tie straps every 6 inches. Battery cables will break away about 12 inches above floor level.



1. Place the (optional aeration guard) and pump in the assigned position.
2. Locate a position for the floor mount bracket. Mark your anchor holes. Locate and mark charging unit position on the wall. Drill holes, hammer plastic anchors next and mount secure in place.
3. Place pump 4 inches above pit bottom. Clamp and secure the bracket to hold in place. **Do not clamp the airline or wires.**
4. Make sure the pump is in plumb position. Dry fit the PVC discharge pipe out to the exterior grade to ensure proper fit and performance.
5. Glue all fittings and PVC pipe in there assigned position. Make sure that the piping is secure and maintains a proper pitch.
6. Hook the wall mounted charging units terminals up to the battery. Then place the controller terminal over the charging units terminals and tighten wing nuts plier tight.
7. Plug in the charging unit. Using a digital meter check for proper charge output. See owners manual for the proper settings and procedures.
8. Complete and secure exterior 2" PVC piping to grade. Place hinge screen at the end of the discharge. Make sure that the screen flaps outward.
9. Raise sensor tube from pit. Prepare to test the system, refer to the owners manual for proper testing procedures.





## THINGS TO CONSIDER

### DUAL BATTERIES

When adding a second battery, best results can be achieved by using the same manufacturer and same age. Connect the batteries by using jumper cables. Connect the positive to positive and negative to negative. Secure the wing nuts, plier tight. **NEVER USE AN OLD BATTERY WITH A NEW BATTERY.**



### RADON AND COMBO SANITARY PIT

This will require a seal plate installation to support the pump. The seal plate will replace the floor mount bracket. Place seal plate over 2" PVC and slide to designated level. Place a 1 inch rubber prevention ring above the seal plate. Secure the rubber preventer ring with a 2" inch gear clamp. Notch and place wires through the seal plate. Place sensor tube and high water bottle under the seal plate. Cut a 5 inch hole in the cover where the pump is to be positioned. Install the aeration guard and place the pump with seal plate so it rests secure on the pit cover and centered in the guard. Install a rubber break away 6 inches above the controller for future access.



### HIGH WATER BOTTLE

**DC 4.5" MPS** High water bottle should be located approximately 7 inches above sensor tube connection. Secure wire with tie strap leaving 2 inches slack for bottle.

**TTS 4.0"** High water bottle should be located approximately 3-4 inches above sensor tube connection. Secure wire with tie strap leaving 2 inches slack for bottle.



### CHECK VALVES AND IN-LINE VENT

Check valves are required when interconnecting the backup system into the primary discharge line. Check valves will also be required when exit point for discharge is at a higher level than the back up pump starting point or when your lifting in stages. An in-line vent will be needed any time a check valve is involved.

### SYPHON BREAK

For extended discharge lengths, install a syphon break in the 2 inch PVC discharge line to allow a airpocket during pump cycles. This enables the discharge pipe to drain completely. **Proper pitch must be maintained.**

Now since the pump tested properly, the system is installed and working and the work area has been cleaned, You will need to walk your customer through the functionality of they're new system and the paper work involved. It is very important that the customer understands how they're system works. Below are some of the key areas to explain, **make sure that all alarms and potential hazards such as battery acid are explained.** If you are unclear on the explanation or unable to answer any customer questions call Trusty Warns.

- ✓ **SENSOR TUBE**
- ✓ **MUTING THE ALARM**
- ✓ **WHAT THE STATUS READY LIGHT MEANS**
- ✓ **HIGH BOTTLE ALARM**
- ✓ **BATTERY AND MAINTENANCE**
- ✓ **CHARGING UNIT METERS**
- ✓ **DEDICATED CIRCUIT**
- ✓ **AIR LOCKING**
- ✓ **PUMP BATHING**
- ✓ **PUMP FLOW BACK**  
**WASHING PUMP SCREEN**