

PRO BATTERY DRAIN CHIEF INSTALLATION & OPERATING INSTRUCTIONS

These instructions are intended for both the Lantern and D-Cell versions of the standard Pro Battery Drain Chief. Other options (D-Cell Batteries, Plug In Adaptor Kit) are covered after the instructions for the standard unit are given.

Note – This dispenser is designed for injecting drain and grease trap products in locations where an outlet isn't available. Always refer to a product's MSDS sheet to determine if this unit is appropriate for dispensing. Wear any safety apparel (gloves, safety glasses) when recommended by the product's MSDS Sheet.

STEP #1 - MOUNTING

1. Select a dry location as this case is only water resistant.
2. Try to locate the unit as close as possible to both the chemical supply and the injection point.
3. Wall mounting: Use the screws and anchors provided. Unit mounting keyholes are 5" center to center.
4. Surface mounting (optional) - Order the Surface Mount Kit - Part Number - VOP SURFKIT 001.
5. This unit has a plastic lock which is opened by inserting a screwdriver in to the slot and turning ¼ turn counterclockwise.

STEP #2 - PERISTALTIC PUMP HOOK-UP

1. Cut a piece of 1/4" tubing long enough to reach from the output (right) side of the pump to the injection point. Connect the tubing to the right side of the pump. Secure the line on its run with electric ties.
2. At your injection point, drill an 11/32" hole and use a 1/8" National Pipe Taper tap to cut threads for the injection fitting. Use Teflon tape to wrap the pipe threads (NOT the compression threads) before installing the fitting into the tapped hole. Use the compression nut to secure the tubing to the other side of the injection fitting.
3. Using the compression nut on the supply (left) side of the pump, connect the 1/4" supply tubing. Make this line long enough to reach the bottom of the supply container and long enough that some one in the kitchen can make the supply container accessible to change it when it is empty.
4. Remove the nut from one side of the ¼" x ¼" compression union fitting and slide it on one end of the 16" piece of rigid ¼" tubing. Insert the end of the 16" piece of tubing into the side of the union fitting where you removed the nut until it seats. While holding it against the seat, slide the nut against the union fitting and tighten the nut on the fitting. Once the nut is finger tight, use a wrench to tighten it an additional ½ turn or until the 16" tube is tightly held by the fitting. OPTIONAL – with a pair of wire cutters, cut the opposite end of the 16" tube (that will rest on the bottom of the product container) at a 45 degree angle. Remove the nut from the other side of the union fitting and slide it up the end of the ¼" supply tubing. Take the end of the supply tubing and insert it into the union fitting until it seats. While holding it against the seat, slide the nut against the union fitting and tighten the nut on the fitting. Once the nut is finger tight, use a wrench to tighten it an additional ½ turn or until the supply tubing is tightly held by the fitting. This is your dip tube and it will be inserted into your product container. It will prevent the supply tubing from curling up and/or floating. Make supply tubing cuts square. See picture on last page of instructions.

STEP #3 - BATTERY INSTALLATION

Battery Requirements: Standard Pro Battery Drain Chief – 2 x ALKALINE 6 Volt DC Spring Top Lantern Batteries
D-Cell Pro Battery Drain Chief – 8 x ALKALINE 1.5 Volt DC D Cell Batteries

Lantern Battery Installation:

1. Lantern batteries with threaded post terminals cannot be used in this dispenser.
2. Remove any plastic protective covers from the battery terminals.
3. The batteries are placed into the left side of the dispenser on their sides, one battery on top of the other.
4. Take one battery and press it into the left side of the unit with its terminals facing the back of the case and its positive terminal on the lower right side. The batteries can only be installed the correct way. If you attempt to place the batteries into the base with the positive terminals on the wrong side, the terminals will foul the mounting track. Push the first battery down to the bottom and make sure that the springs are in contact with the brass strips on the back of the battery carrier.
5. Place the second battery on top of it with its terminals in the exact same position as the first battery.

D Cell Battery Installation:

1. D Cell Pro Battery Drain Chiefs are shipped with a wad of paper that prevents the battery carrier from bouncing around while in transit. Remove the wad of packing paper and discard. Because it is not mounted to anything, the D cell battery carrier can be lifted out of the case to allow for easier battery installation.
2. Install 8 D cell batteries in the battery carrier according to the indications within the carrier. Essentially, the flat or negative end of each battery will go in against the spring.

OPTION: **Plug In Adaptor Installation**

DO NOT PLUG IN THE ADAPTOR UNTIL ALL CONNECTIONS ARE MADE!! REMOVE ANY BATTERIES BEFORE INSTALLING PLUG IN ADAPTOR!!

1. Open the Pro Battery Drain Chief unit. Remove the batteries if there are any in the unit.
2. Remove the two maroon fold over T-tap connectors and the plug in adaptor from the box.
3. Locate the RED (positive) and BLACK (negative) wires that come from behind the black battery terminal insert and go to the timer.
4. With a pair of pliers, fold one T-tap connector over on the red wire and one on the black. You may want to use the pliers to close them completely. They will snap shut and the plastic clasps will catch when they are completely closed. The metal insert will pierce the wire insulation and make a connection.
5. Look at the wires on the plug in adaptor. One has a WHITE STRIPE to indicate that it is the POSITIVE wire. Plug the pink .250 male quick disconnect terminal on the positive wire into the T-tap terminal on the RED wire.
6. Plug the pink .250 male quick disconnect terminal on the negative wire into the T-tap terminal on the BLACK wire.
7. Once all connections have been made, plug the adaptor into a 115 volt outlet.

Step #4 – Priming the Pump – Pump Information

1. With the batteries (or plug in adaptor) properly installed and supply tubing hooked up, make sure that the right hand switch is in the RUN position. Slide the left hand switch to the **I** position and the pump will run for as long as you need to prime the lines. Slide the switch back to **AUTO** when you are finished priming.
2. Pump output is approximately 4 ounces per minute with new alkaline batteries. **Keep in mind that the output of the pump will decrease proportionally with the voltage loss in the batteries.** Starting the motor draws the most from the batteries so if you can run the pump for 6 minutes at night versus 3 minutes twice a day, you should see better battery life.

PROGRAMMING THE TIMER

If you are going to use a simple and consistent pumping schedule like 7 ounces at 2:00 a.m. every night, go to Example I and skip everything in between.

Step #1 – Program Worksheet

1. When programming or reprogramming, use the program worksheet at the end of these instructions to write out your program before attempting to program the timer. Seeing your program on paper will help you avoid errors and will make it easier to put the correct steps into the timer.

Step #2 – General Timer Information

1. If you ever need to reprogram the timer, it may be easier, as well as provide less opportunity for error to reset the timer.
2. To reset the timer: With the right hand side switch in the RUN position, press the small reset “R” button at the bottom center of the timer face with a pencil point.
3. Do not overlap program sequence as on times may be ignored.
4. “EEE” on the display indicates a setting error exists. The switch cycle number in error is shown. Correct error or reset timer.
5. Do not reprogram timer while the pump is running.
6. Do not reset timer while the pump is running.

Step #2 Continued - General Timer Information

7. NEVER press the Program (P) button while selector switch is in the time of day mode (clock symbol). This may cause an error by which the hours and minutes on the clock counts seconds instead. If this condition occurs, slide the programming selector switch to the time of day (clock symbol) position, press the program (P) button and the hours (H) button simultaneously. Then use the H and M buttons to reset the correct time.
8. To prevent unwanted run times, make certain that all unused programs have no days of the week selected. All program displays other than the ones being used should flash 0:00 and have no days of the week indicated. As soon as the H, M, or 1...7 buttons is pressed, an event becomes active.
9. To delete a program setting (event), use the "P" button to move to setting to be deleted. Then, push right hand button () and while holding it down, press and hold the "P" button at the same time and hold until 0:00 begins flashing.

Timer References:

Upper Left Hand Switch:

I = Prime AUTO = Run Program O = NOT USED

Upper Right Hand Switch:

Clock = Set Time of Day / Day of Week

RUN = Run Program

P = Program Timer

Lower Buttons:

P = Change Program (cycles through on and off times – 1-1 through 1-16)

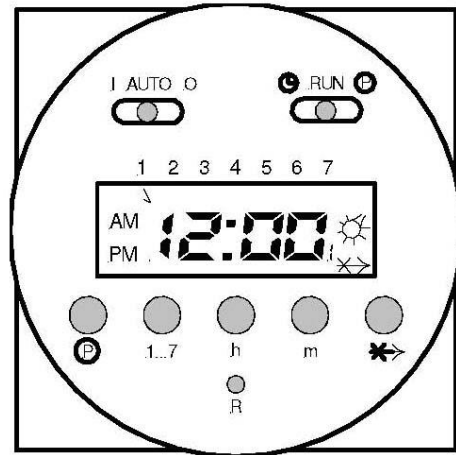
1...7 = Select Day(s) of the week

h = Advance the hour

m = Advance the minute

X→ = Skip Cycle ONLY USED TO DELETE EVENTS. IF THE SYMBOL APPEARS IN THE DISPLAY, PRESS THE BUTTON OR THE NEXT CYCLE WILL BE SKIPPED.

R = RESET – this button will reset the timer completely.



Step #3 – Setting/Correcting the Time of Day

1. The time of day is always set for Eastern Standard Time when it leaves the factory.
2. To set/correct the time of day, slide the upper right hand selector switch to the clock symbol (left). The colon (:) will stop flashing while the time is being set.
3. Use the H and M buttons to program the correct time into the clock. Remember to get the AM or PM right, both are indicated.
4. Use the 1...7 button to set the day(s) of the week. In order to use the various potential day groupings list in #5 under Step #4, use the number 1 position to indicate Monday, 2 for Tuesday etc. and the number 7 position to indicate Sunday.
5. Once the correct time (AM or PM) has been set and the arrow is pointing to (under) the correct day of the week, slide the selector switch back to the run position and the clock will begin to keep time again.
6. If the clock is keeping seconds instead of hours and minutes on the display, see #7 under Step #2.

Step #4 – General Information for Programming the Run Time(s)

1. Make sure that the clock is set to the right time.
2. Slide the switch to the P (program) position. Initially, the display flashes 0:00 until the 1..7, H or M button is depressed. Then it changes to 12:00 AM MONDAY. There will be a number (1-16) that follows which indicates which function you are programming. ODD numbers are always ON functions, and EVEN numbers are always OFF functions. THIS IS INDICATED BY THE PRESENCE OF A BULB SYMBOL FOR ODD NUMBERS AND THE LACK OF THE BULB FOR EVEN NUMBER.
3. The P button on the left will cycle through the 16 functions, so that all on/off times may be viewed.
4. The on or off time will be programmed with the H and M buttons.
5. The 1...7 button will cycle through the available day groupings that give you the following options (with #1 as Monday)
Any one day of the week the day selected by the arrow.
Weekdays only (1-5 have arrows under them) - Weekends only (6 & 7 have arrows under them).
Monday – Saturday only (1-6 have arrows under them) - All days of the week (1-7 have arrows under them).

6. The skip cycle button, represented by an arrow with an X through it, probably will not be necessary in normal operation. If someone was going to be monitoring the pump on a daily basis and wanted to skip the next programmed function, the button would be depressed once and the symbol would show up in the lower right side of the display. The one situation where it might get used is outlined in Step #2 – 9 deleting a program setting (event).

Example #1 – For a dosing program where you want to put chemical in on a regular basis at the same time every day, use this as your model. Sample dose (12 oz once per night at 2:00 AM every day of the week).

- a. Set clock to correct time.
- b. Slide right side switch to P (program position).
- c. #1 Function = AM 2:00 1-1 – the light bulb will be present because it is an on function – there will be an arrow under EVERY number (1-7). Use the H, M, and 1...7 buttons to set up this ON TIME.
- d. #2 Function = AM 2:03 1-2 – the light bulb will NOT be present because this is an off function – Your time gives you a 3 minute run, this pump has an output of about 4 ounces per minute so for a 12 oz. dose, a 3 minute run time is required. VERY IMPORTANT – THERE MUST BE ARROWS UNDER EVERY NUMBER (1-7) SO THAT EACH ON TIME FOR EVERY DAY IN FUNCTION 1 IS COUNTERED WITH THE OFF TIME FOR EVERY DAY IN FUNCTION 2.
- e. Slide the switch on the right back to the RUN position. Make sure the switch on the left is in the AUTO position.
- f. Programming is complete – see the section on priming the pump.

Example #2 – Here is an unusual dosing schedule, 4 ounces on weekdays at 3:00 PM, 12 ounces on weekends at 12:00 AM, 8 ounces on Tuesdays at 9:00 AM and 16 ounces every day at 4:00 PM.

<u>Function #</u>	<u>Clock Shows</u>	<u>Light Bulb Present?</u>	<u>Arrows under Which Days?</u>
1-1	PM 3:00 1-1	Yes – On Function	1 – 5
1-2	PM 3:01 1-2	No – Off Function	1 – 5
1-3	AM 12:00 1-3	Yes – On Function	6 & 7
1-4	AM 12:03 1-4	No – Off Function	6 & 7
1-5	AM 9:00 1-5	Yes – On Function	2
1-6	AM 9:02 1-6	No – Off Function	2
1-7	PM 4:00 1-7	Yes – On Function	1-7
1-8	PM 4:04 1-8	No – Off Function	1-7

IF YOU ARE UNSURE AS TO WHAT HAS BEEN PROGRAMMED, CYCLE THROUGH THE PROGRAMS WITH THE P (PROGRAM) BUTTON. WRITE THEM DOWN ON A PIECE OF PAPER TO KEEP THEM STRAIGHT, IF NECESSARY.

Event #:	Pump On Time	Pump Off Time	1 (MON)	2 (TUE)	3 (WED)	4 (THU)	5 (FRI)	6 (SAT)	7 (SUN)
1-1 (ON)		XXXXX							
1-2 (OFF)	XXXXX								
1-3 (ON)		XXXXX							
1-4 (OFF)	XXXXX								
1-5 (ON)		XXXXX							
1-6 (OFF)	XXXXX								
1-7 (ON)		XXXXX							
1-8 (OFF)	XXXXX								
1-9 (ON)		XXXXX							
1-10 (OFF)	XXXXX								
1-11 (ON)		XXXXX							
1-12 (OFF)	XXXXX								
1-13 (ON)		XXXXX							
1-14 (OFF)	XXXXX								
1-15 (ON)		XXXXX							
1-16 (OFF)	XXXXX								

TROUBLE SHOOTING

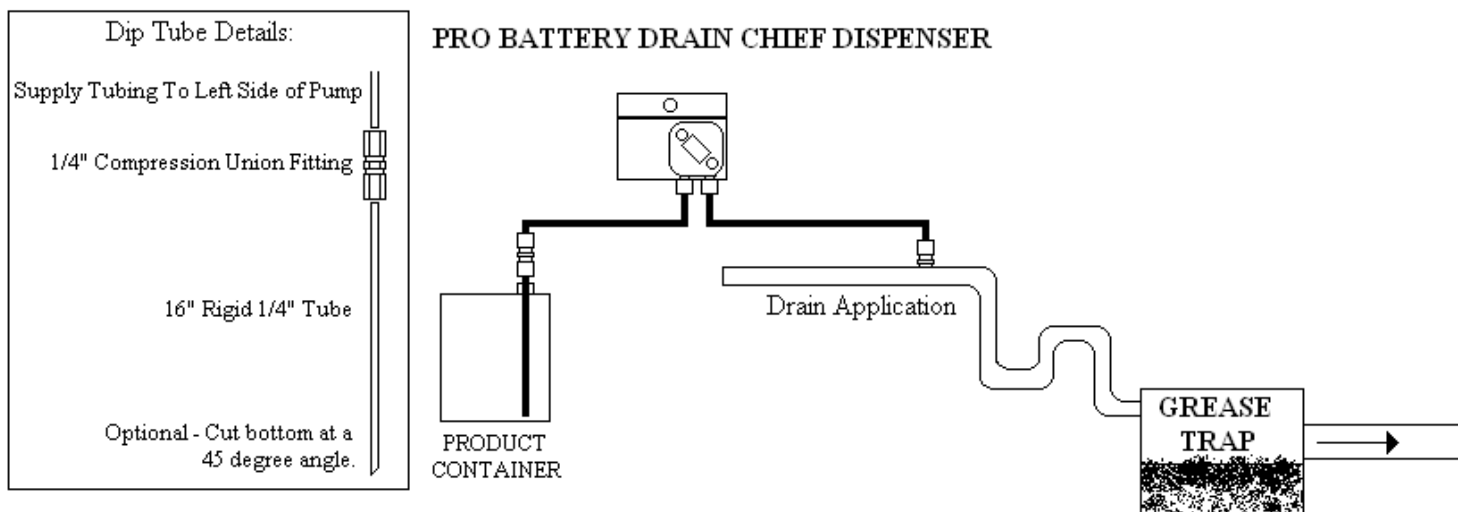
NOTE: For problems with the operation of the timer, refer to the programming section of these instructions:

NEW INSTALLATION:

1. Motor runs, but will not pull up chemical:
 - a. Check tubing run from supply container to injection point. Check for air leaks. Make sure all compression nuts are tight.
 - b. Check for kinks or blockage in supply line to the pump.
2. Motor will not run.
 - a. Check batteries for proper installation.
 - b. Move left hand slide switch to I (Prime) position – if motor runs double check your programming.

EXISTING INSTALLATION:

1. Motor runs but will not pull chemical from the bucket.
 - a. Ruptured squeeze tube – is there evidence of chemical inside of the pump housing?
 - b. Loose fitting/air leak – check all connections.
 - c. Kinks or blockage in the tubing.
 - d. Supply container empty
2. Motor will not run.
 - a. Batteries dead? Slide left switch to 1 (prime) position to see if motor will run.
 - b. Motor runs in prime, but not according to program. Check programming to see if on days match off days.
 - c. Corrosion on battery terminals or on battery holder contacts. Clean with emery paper or light sandpaper.
 - d. Pump motor failure.
 - e. Timer failure – is there anything visible in the timer window? If not replace timer battery. **3VDC Rayovac #2032.**



WARRANTY

Viking LLC, A DEMA Company products are warranted against defective material and workmanship under normal use and service for one year from the date of manufacture. This limited warranty does not apply to any products which have a normal life shorter than one year or failure and damage caused by chemicals, corrosion, improper voltage supply, physical abuse or misapplication. Rubber and synthetic rubber parts such as "O" rings, diaphragms, squeeze tubing and gaskets are considered expendable and are not covered under warranty. This warranty is extended only to the original buyer of Viking LLC products. If the products are altered or repaired without prior approval of Viking LLC, this warranty will be void.

Defective units or parts should be returned to the factory with transportation prepaid. If inspection shows them to be defective, they will be repaired or replaced without charge, F.O.B. factory. Viking LLC assumes no liability for damages. Return Merchandise Authorization (RMA) number to return units for repair or replacement must be granted in advance of return.