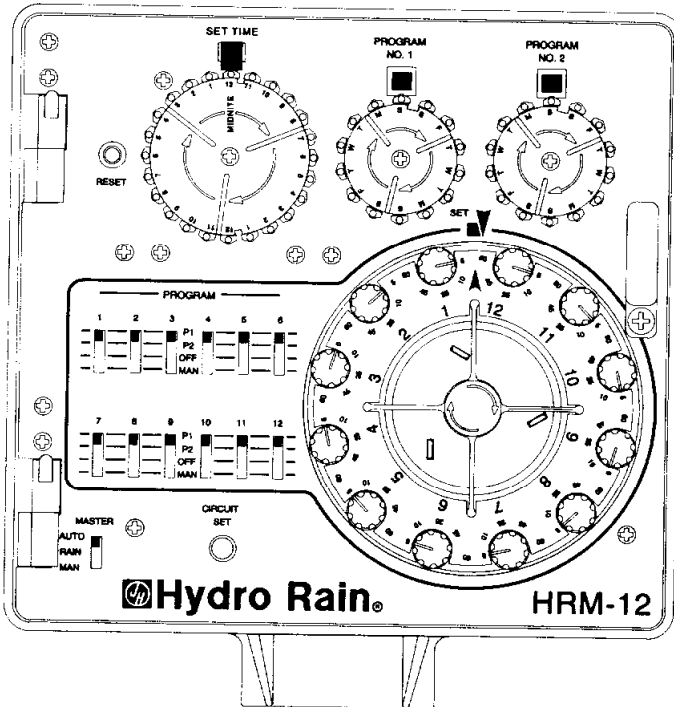




Hydro Rain.

12 STATION MANUAL CONTROLLER



INSTALLATION AND OPERATING GUIDE
MODEL HRM-12

INSTALLATION INSTRUCTIONS

The HRM-12 is a 12 station controller that can be set to water from twenty-four times a day to once every two weeks. The watering time can be adjusted from approximately 5 to 60 minutes for each circuit. The controller is in a weather resistant case that can be mounted on a two inch pipe pedestal or against a wall with wood screws. The controller has a lockable cover, with two keys, to discourage unauthorized adjustment.

STEP 1: WALL MOUNTING

Open the cover of the controller and open the panel by unscrewing the latch screw. (See Figure 3). Disconnect the wiring connector and rotate the panel until it can be lifted up off the hinges. Punch through the three mounting holes so No. 8 wood screws can pass through the back of the case. Place the empty controller box against the wall and screw three No. 8 wood screws through the back and into the wall.

NOTE: To install the timer on a plaster or masonry wall, use plastic or lead shields to secure screws.

STEP 2: CONNECT THE TRANSFORMER

This connection should be made by a licensed electrical contractor in accordance with all requirements of the National Electrical Code and applicable state and local codes.

Using the 7/8 inch conduit hole in the bottom of the cabinet, run the 120V AC power wires into the wiring cavity. Remove the Caution High Voltage plate and use wire nuts to connect the white wire as the common, the black wire as the power, and the green wire as earth ground.

CAUTION: Make sure the 120V circuit breaker is turned to the off position prior to wiring the controller.

After the electrical wires are attached, replace the caution plate before turning the circuit breaker on.

STEP 3: CONNECT THE VALVE WIRES

Run the valve wires through the 2 inch hole and connect them to the terminal strip inside the controller. Connect the wire from valve No. 1 to the terminal marked No. 1, valve No. 2 to terminal 2, etc. (See Figure 2). Connect the valve common wires to any terminal marked C. If the valve wires are to be run through conduit, a conduit junction box can be used by placing a reducer from 2 inch on one end and screw the 2 inch reducer into the hole.

STEP 1: PEDESTAL MOUNTING

The pedestal should be mounted on a level concrete base about 10x10x8 inches with the top of the concrete base at least two inches above ground level. Position a 2 inch elbow and a 1/2 inch conduit in the concrete form as shown. The elbow and conduit must be in position before the concrete is poured. Four hold down bolts must be positioned in the concrete before it sets. Feed the 120V AC power wires through the conduit. Screw the 2 inch pedestal pipe into the controller and run the ring nut up tight against the controller to lock its position on the pedestal. Do not use pipe dope as a sealing compound.

Lower the controller, with pedestal attached down upon the concrete base, at the same time feeding the conduit with power wires inside into the controller's conduit opening. Secure the conduit to the controller and tighten pedestal base nuts.

STEP 2: CONNECT THE TRANSFORMER

Open the cover of the controller and loosen the latch screw (See Figure 3) to swing out the control panel. **Remove the Caution High Voltage plate and use wire nuts to connect the white wire as the common, the black wire as the power, and the green wire as earth ground.**

CAUTION: Make sure the 120V circuit breaker is turned to the off position prior to wiring the controller.

After the electrical wires are attached, replace the caution plate before turning the circuit breaker on.

STEP 3: CONNECT THE VALVE WIRES

Run the valve wires through the 2 inch pedestal pipe and connect them to the terminal strip inside the controller. Connect the wire from valve No. 1 to the terminal marked No. 1, valve No. 2 to terminal No. 2, etc. Connect the valve common wires to any terminal marked C. (See Figure 2).

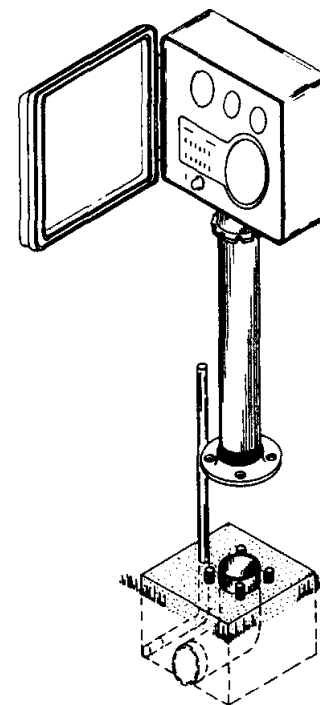


FIGURE 1

NIGHT WATERING & PUMP USE

STEP 1: VALVE WIRING

Wiring to the valve can be placed underground alongside the pipes. Use approved underground type wire and be sure all splices are soldered or jointed with wire nuts and sealed with vinyl cement or other suitable waterproofing cement. Use 18 gauge solid wire plastic jacketed thermostat control wire for runs not over 800 feet and 14 gauge over 800 feet. This wire is available from your dealer in 2, 3, 4, 5, 6, 7 and 8 color coded wires.

IMPORTANT: The power rating of the transformer is 40VA. at 24V and is protected by a circuit breaker. Do not connect more than 2 valves to each circuit or use a valve that requires more than 1 amp at 24V AC.

If a pump start relay is required, it must be connected to the terminal marked NO. P and to one of the common terminals. The relay coil should be rated for 24V AC, 60 Hertz at 9.0 VA maximum.

NOTE: Due to varying regulations check your local codes.

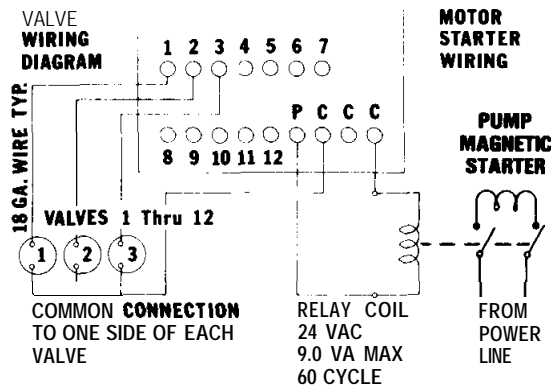


Figure 2

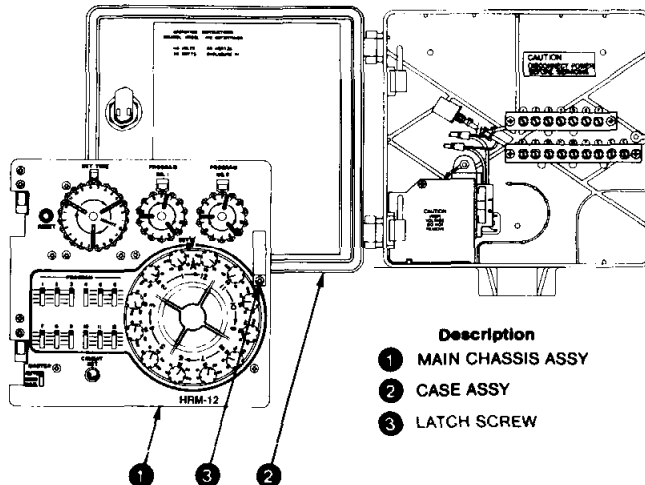


Figure 3

It is possible to change the HRM-12's day changeover time from 12:00 AM (midnight) to 12:00 PM (noon). This will alleviate any watering problems that arise if there is a need to water past midnight.

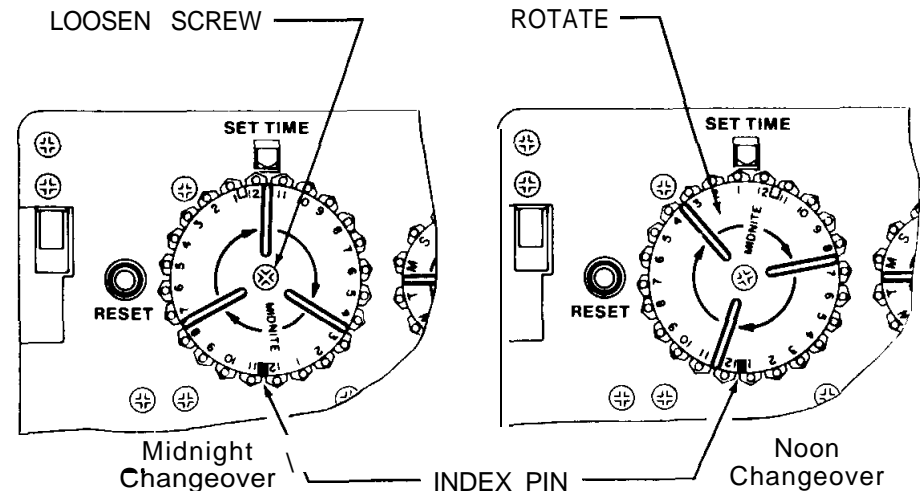
INSTRUCTIONS

To have the day changeover occur at 12:00 PM (noon):

1. Lay the controller down on a flat surface.

CAUTION: Controller must lay flat.

2. Loosen the screw that holds the "set time" wheel about two (2) turns. Do not remove the screw.
3. Pick up the numbered dial plate and gently rotate it until the notch at 12:00 PM (noon) is aligned with the black index pin.



4. Set the dial plate into position and tighten the screw. Do not overtighten. **REMINDER:** Be sure that your combined watering times end before the day changeover occurs. Any remaining cycles will be CANCELLED at that time.

CAUTION WHEN USING A PUMP

If a pump is being used and the watering cycle is cancelled, the pump will remain ON. This will deadhead the pump and result in pump damage.

OPERATING INSTRUCTIONS

STEP 1: SET TO CURRENT TIME OF DAY

Rotate the day dial (1) clockwise until the current time of day lines up with the point of the day switch arm (2).

STEP 2: TO SET THE PROGRAM DIALS (Skip-a-day)

Rotate the program 1 dial (3) clockwise until the current day lines up with the center of the program switch arm (4). Program 2 dial (5) will rotate with the program 1 dial.

STEP 3: TO SET WATERING START TIME

Pull the day dial's switch lug (6) out at the time of day watering is required to start. More than one switch lug may be pulled out for multiple waterings in a 24 hour period. All other switch lugs must be pushed in so they will not start to the day switch arm.

STEP 4: TO SET THE WATERING PROGRAM

Pull out program 1 and program 2 dials' switch lugs (7) representing the days of the week of watering for both programs. All other lugs must be pushed in so the program switch arms will not be started on days to be skipped.

STEP 5: TO SET PROGRAM CIRCUIT SWITCHES AND CIRCUIT WATERING TIMES

Place each of the twelve circuit switches (8) to the desired program: program 1, program 2, or off. Before adjusting the watering time, place the master switch (9) in the rain position. Each of the twelve circuits can then be individually adjusted for watering time. To change the time simply rotate the selected circuit timing knob (10) until its raised line matches up with the minutes required on the circuit selector wheel (11). If while making these adjustments the circuit selector wheel is moved off of its set point, it must be returned to the set point before placing the master switch to its automatic position. Rotate the circuit selector wheel clockwise until its pointer lines up with the solid mark to the left of the set arrow. When the master switch is placed in automatic, the wheel will move to its set position and stop.

CAUTION: Move selector wheel clockwise only.

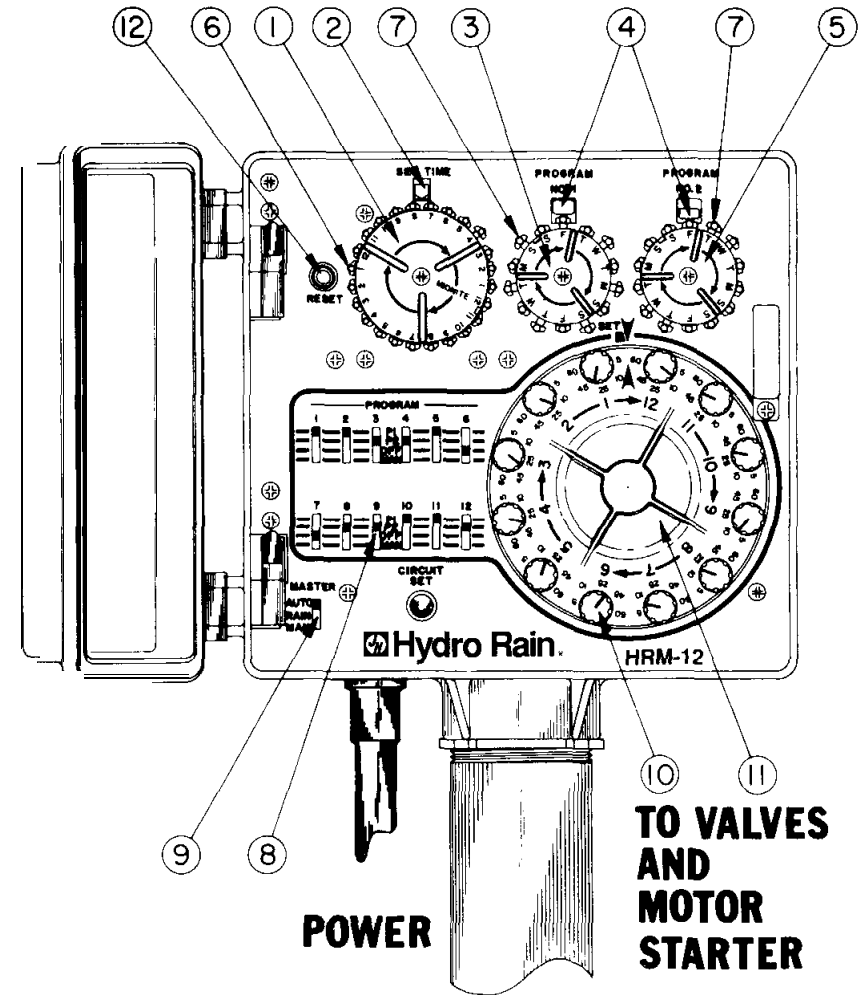
NOTE: Watering time must exceed 15 minutes. Otherwise, watering cycle will immediately repeat.

STEP 6: MASTER SWITCH

For programmed watering, move the master switch (9) to the automatic position. To shut down the system (rain), move the master switch to the rain position. For manual watering, move the master switch to the manual position, then move the desired program circuit switch to the manual position. The selected circuit will run as long as both switches are in their manual positions. If the master switch is moved back to the automatic position and an automatic cycle starts with a program circuit switch left in the manual position, the circuit selector wheel will move past the circuit without watering.

STEP 7: CIRCUIT BREAKER

A tripped circuit breaker (12) indicates an electrical problem in the wiring to the valves or in the valve. If the circuit breaker trips, the controller will stop on the circuit causing the problem. To reset the circuit breaker, push the reset button.



ZONE LEGEND					
ZONE	TIME	LOCATION	ZONE	TIME	LOCATION
1			7		
2			8		
3			9		
4			10		
5			11		
6			12		

1- Year Limited Warranty

LIMITED WARRANTY

Hydro Rain warrants to the purchaser of its products for a period of one (1) year from the date of original purchase that any defective product proved to be caused by faulty workmanship or faulty materials, when installed per instructions and used in a normal manner, will be repaired or replaced at Hydro Rain's option at no charge, providing the product is received at the Hydro Rain factory or authorized factory service center with all transportation charges prepaid within one year of the date of original purchase. This warranty does not apply to damages or malfunctions resulting from accidents, misuse, or neglect. Hydro Rain will not pay labor or other costs of removal or reinstallation of any so-called defective products.

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This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

To exercise Your warranty send unit with photocopy of dated receipt postage prepaid

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