

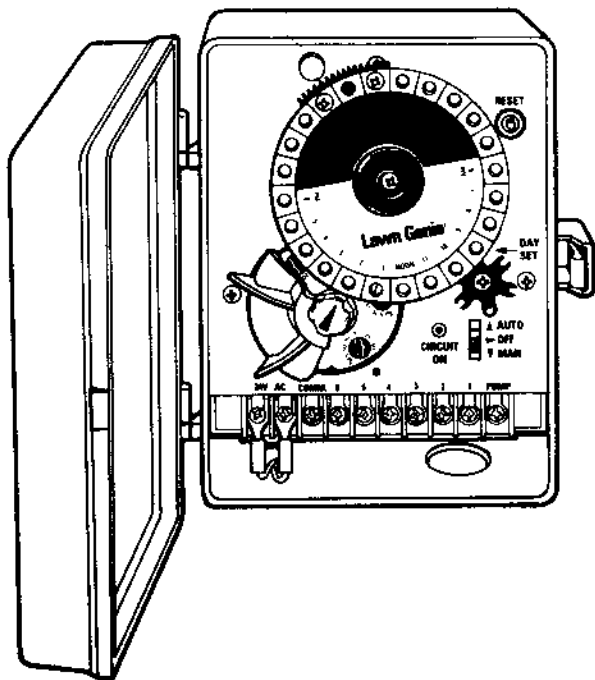
Lawn Genie®

Single-Program Mechanical Timer

Installation and Operation Guide

► For Models L50104P, L50106P

► Please read instructions completely before attempting to install or operate controller.



This manual explains how to install your Lawn Genie sprinkler timer and program it for the watering schedule that's right for your garden. The following sections are arranged to match the most efficient installation sequence. Refer to them in the order presented for best results.

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Your Lawn Genie sprinkler timer is the heart of your automated watering system. It lets you supply different parts of your lawn and garden with precisely the water they require, exactly when they require it. All without any effort on your part once you've programmed your system.

The Lawn Genie L50104P and L50106P timers give you four ways to control how you distribute water to various parts of your yard. Here's how they work:

Zone control

Lawns, shrubs, flower beds and other foliage all need different amounts of water. You can tailor the water

delivered to different parts of your yard by assigning a different day schedule and run time to one or more sprinkler heads controlled by a single valve. Each valve and the sprinklers it controls are called a Zone. The L50104P lets you divide your yard into as many as four Zones; the L50106P allows as many as six.

Day schedules

You can program your timer to water either by day interval or on specific days of the week. For instance, you might choose to water every other day (using 6-day dial), or perhaps on Monday, Wednesday and Saturday of every week (using 7-day dial).

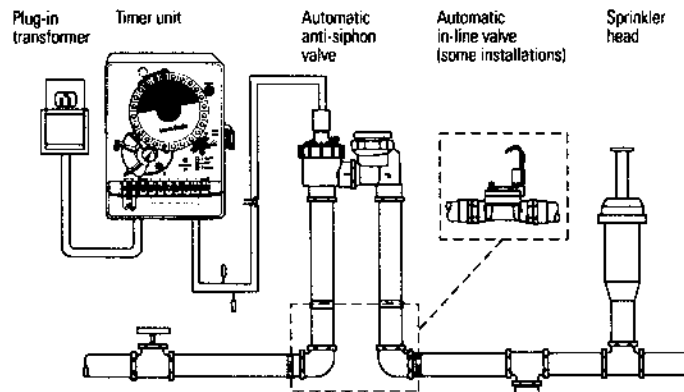
Start times

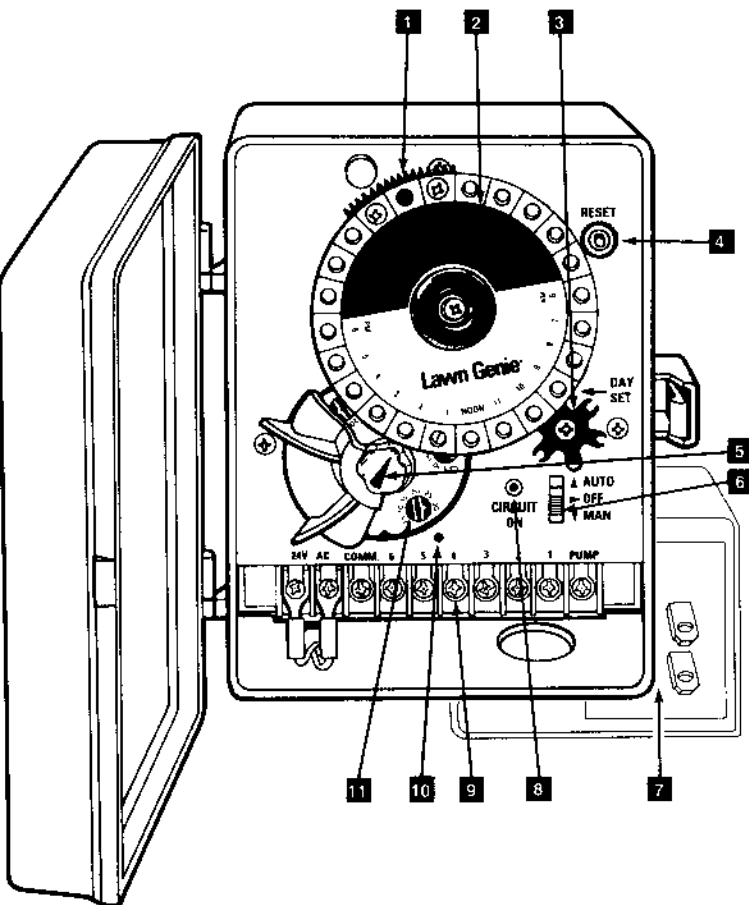
You can set up to five different times a day to repeat the watering cycle you've programmed. For example, once at 6 AM and again at 10 AM and 2 PM on every day watering is scheduled.

Watering run time

To deliver the correct amount of water to the foliage within each Zone, you can set each Zone to shut off after a specified period of time—from 5 to 45 minutes with the L50104P and 5 to 30 minutes with the L50106P.

Here's how the timer connects to your system





- 1 Tripper gear**
Activates watering cycle; optional additional gears let you set up to six start times a day.
- 2 Time dial**
For setting current time of day.
- 3 Skip-a-day dial**
For setting which days to water; use six-spoke dial for regular intervals, seven-spoke dial for specific days of the week.
- 4 Circuit breaker**
Shuts down system in case of electrical problem in wiring or valves; resets with push of a button.
- 5 Zone selector knob/time-of-day index**
For selecting desired Zone to water manually, and setting current hour on time dial (3).
- 6 Rain shutoff**
For shutting down system in case of rain, or selecting manual or automatic modes.
- 7 Plug-in transformer**
For converting 120-volt household current into safe, low-voltage power. (250-volt source on 50 Hz units.)
- 8 Circuit indicator light**
Indicates watering in progress; remains lit when timer is in manual mode.
- 9 Terminal screws**
For connecting valve wires to timer.
- 10 Zone Alignment Dot**
Aligns with Zone number on Zone Selector when manually watering a selected Zone.
- 11 Run time selector**
For setting separate watering run times for each Zone—from 5 to 45 minutes with the L50104P and 5 to 30 minutes with the L50106P.

Installing the timer

Select the location

A. For the L50104P and L50106P, choose an indoor location near a standard 120-volt dual electrical outlet. (250-volt outlet for 50 Hz international units.)

CAUTION: Don't place the timer where temperatures may exceed 130° Fahrenheit (55° Centigrade), on a circuit controlled by a switch, or on the same circuit as a high power user (refrigerator, air conditioner, etc.). Malfunctions may result.

B. If your timer must be mounted a greater distance from the outlet, replace the power cord attached to the transformer with a similar electrical cord (available from hardware and electrical supply stores).

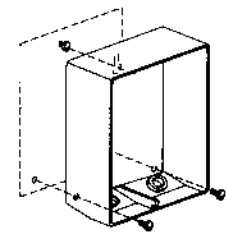
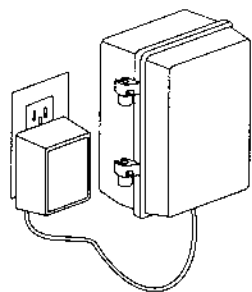
Mount the timer

A. Install a No. 8 screw at eye level in the wall, leaving 1/8" of screw head projecting.

B. Slip the keyhole opening on the back of the timer over the screw head.

C. Open the timer case and install two screws through the holes in the wiring compartment at the bottom of the timer.

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



Connecting the valves

Wire the valves

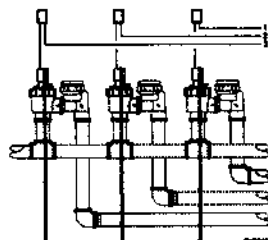
A. Run valve wiring underground wherever possible. For line runs less than 800 feet long, use 18-gauge, plastic jacketed thermostat control wire; over 800 feet, use 14-gauge wire. Your dealer can provide this wire in 2, 3, 4, 5, 6, 7 and 8-wire color-coded strands.

B. Connect a single common wire to one of the wires from each valve.

C. Solder or join all splices with wire nuts; then seal with vinyl or waterproof cement to assure a water-resistant connection.

IMPORTANT: The power transformer is protected by a circuit breaker. Do not connect a combination of valves requiring an inrush current of more than 1 amp at 24 VAC.
(Two valves maximum per Zone.)

Wires to individual timer terminals



One wire from each valve connects to a single common wire running to timer.



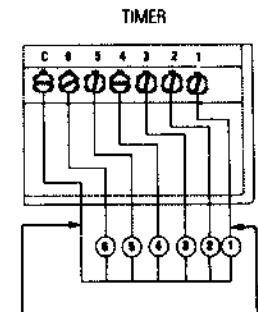
Connect the valve wires to timer

A. Bring all valve wires up through hole in bottom right-side of timer.

B. Connect the wire from valve number 1 to the terminal screw marked 1 on the timer; the wire from valve number 2, to the terminal 2, and so on. This allows your timer to selectively water the Zone controlled by each valve.

C. Connect the common wire to the terminal marked COMM.

D. If using a water pump or master valve, refer to page 14 for installation details.



Individual wires connect valves to separate terminals

Single common wire connects all valves to COMM terminal

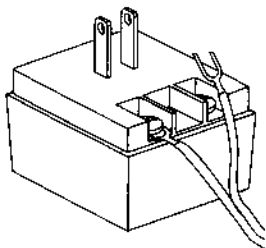
Connect the transformer

L50104P and L50106P:

A. Connect one lead of the power cable from the timer to each terminal screw on the transformer. Make sure terminals at end of cable do not touch.

B. Plug in the transformer

CAUTION: Use with supplied transformer ONLY!
NOTE: Due to varying regulations, check your local codes.

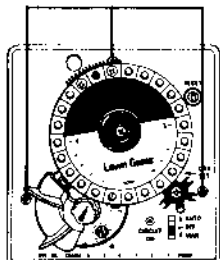


To remove timer control chassis

To withdraw the timer chassis from its case for repair or other reason, remove the three screws that hold it in place as shown.

Circuit breaker

If an electrical fault occurs in any valve or the wiring that controls it, the circuit breaker will shut down the system on the Zone where the problem has occurred. After correcting the fault, reset the breaker by pushing the reset button.



RESET



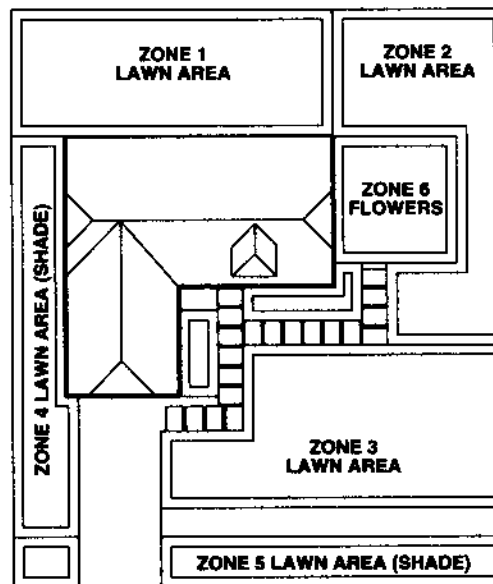
Dividing up your yard

Zones let you assign a specific run time to one or more sprinkler heads controlled by a single valve. This makes it possible to deliver the correct volume of water to areas of your yard with different watering needs.

For example, you might assign Zones 1, 2 and 3 to lawn areas on the sunny side of your home, and Zones 4 and 5 to lawn areas in the shade. You might then assign Zone 6 to a flower garden.

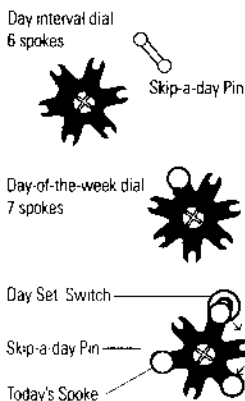
In the example above, you might set run times of 30 minutes for Zones 1, 2 and 3; 20 minutes for Zones 4 and 5; and 15 minutes for Zone 6.

NOTE: You need not use all Zones available on the timer.



Setting the day schedule

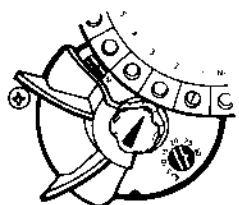
Set skip-a-day dial



The skip-a-day dial lets you choose how to program the days on which your timer will water. Use the pre-installed six-day dial to water at day intervals (e.g. every 2nd or 3rd day). Use the 7-day dial supplied in your accessory pack to water on specific days (e.g. Monday, Wednesday, Saturday).

- Install the appropriate skip-a-day dial, using the screw provided. Use the six-spoke dial for interval programs, or the seven-spoke dial for days of the week.
- Insert skip-a-day pins in spokes for days on which you **DON'T** want to water.
- Rotate skip-a-day dial clockwise until spoke you've chosen for today is directly on top of Day Set switch.

Set current time of day



Tripper gear starts watering cycle at desired time.

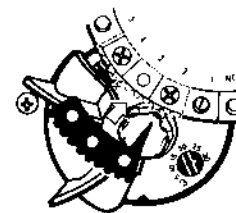
- Rotate the time dial counterclockwise until proper time of day (note AM and PM markings) is opposite arrow on Zone selector knob.
- Gently rotate time dial clockwise until you feel firm resistance. This eliminates backlash in the clutch and gears that can delay initial rotation of the time dial by up to an hour.

CAUTION: Time dial rotates freely only in counterclockwise direction.
DO NOT FORCE DIAL CLOCKWISE.

Setting current time and start times

Set the start time

The tripper gear lets you set your timer to begin watering at the time of day you desire every hour on the half hour. If more than one watering cycle per day is desired, you can add additional gears (up to five) to set up to six start times a day. Simply fasten the tripper gear to the time dial beneath the three hours that run clockwise from the desired start time.



IMPORTANT: If only one start time per day is desired, install tripper gear with post on its underside. If multiple start times are desired, tripper gear with post must be installed as the last start time of the day, since it will turn the skip-a-day dial advancing your schedule to the next day.

NOTE: The tripper gear requires three hours to cycle through all four 45-minute Zones on the L50104P and all six 30-minute Zones on the L50106P, regardless of the actual run times you've set or how many Zones are in use.

Setting additional start times

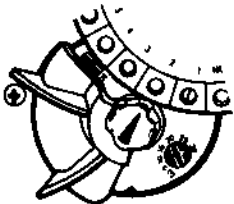
To set up to five more watering start times, install additional tripper gears, available from Lawn Genie Customer Service, Carson City, Nevada 89702-1170. You must allow one hour between the end of one watering period and the beginning of the next (four hours between start times).



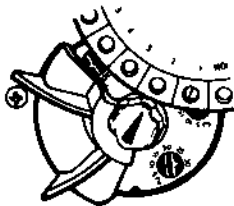
Install additional tripper gears for up to 5 more start times

Set automatic run times

L50104P



L50106P



You can set each Zone with its own specific run time—from 5 to 45 minutes on the L50104P and from 5 to 30 minutes on the L50106P.

A. Place slide switch in OFF position. Rotate Zone selector knob until run time selector is visible. Insert dime or screwdriver into slot in run time selector and turn to align arrow with required run time. (Run times are approximate and may vary by up to + or - 4 minutes.)

B. After setting all desired Zones, rotate Zone selector knob until it clicks into position with index arrow pointing directly at time dial. Move slide switch to AUTOMATIC position.

NOTE: Regardless of the specific watering run time you select for a Zone, your timer will wait the maximum run time setting possible before watering will begin in the next consecutive Zone. For example if you select a run time of 15 minutes for Zone 1, your L50104P timer will wait 30 minutes (your L50106P 15 minutes) before watering will begin in Zone 2.

Manual operations and shutoff

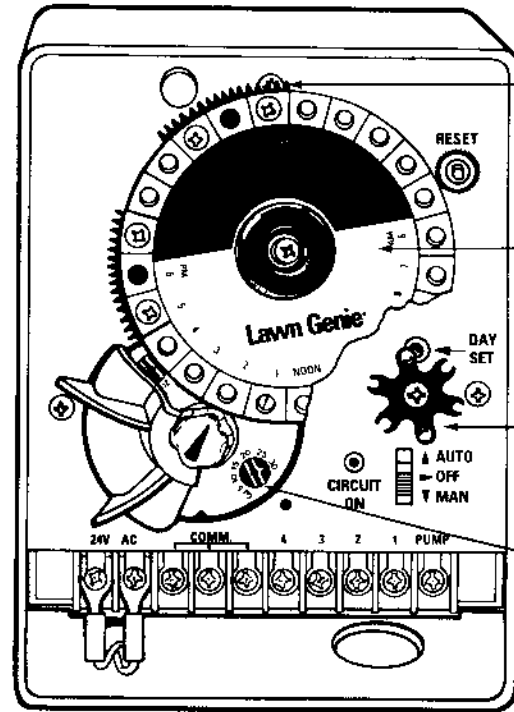


A. For system shutdown in case of rain or other reasons, move switch to OFF. This turns off power to valves while clock continues to keep time.

B. For manual operation, first move switch to OFF. Rotate Zone selector knob until desired Zone aligns with dot on chassis, then move switch to MANUAL. The Zone will water and indicator light will remain on as long as timer is in manual mode. You must shut off watering manually by resetting the selector knob to another Zone or switching to OFF or Automatic positions.

NOTE: After manual operation, always turn Zone selector knob so index arrow points directly at time dial, then move switch to AUTOMATIC or OFF.

Here's how you might set your Lawn Genie timer to handle a watering schedule for a typical lawn and garden. Please refer to instructions on the preceding pages for programming details.



To set a watering cycle to start at 5:00 AM, fasten a tripper gear to the time dial beneath the three hour time span beginning with 5:00 AM through 7:00 AM time span.

To set a second start time at 10:00 AM, fasten an additional tripper gear to the time dial beneath the 10:00 AM through 12:00 PM time span.

To set zones to water every other day, install Skip-a-Day pins in spokes for days on which you DON'T want watering to occur.

To set zones to run for 15 min. each, turn run time selector to align arrows with 15 min. marks.

To connect your timer to a well pump or master valve:


If your water *doesn't* come from the pipes of a standard public water supply, you may be using an electrically operated master valve, or a pump to draw directly from a well, pond, or similar source. In these cases, you'll need to make the following wiring connections so your sprinkler timer can activate the valve or pump.

- A. Bring two wires up through the same hole in the timer cabinet used for the valve wiring.
- B. Connect one wire to the terminal marked Pump.

- C. Connect the second wire to the unused terminal marked COMM on the L50104P, or to the COMM terminal shared with the valve common wire on the L50106P.

- D. For master valve installations, connect both wires to a master valve rated at 24 VAC and a current no greater than 9 VA, as in A through C above.

- E. For pump start relay installations, connect the two wires to an auxiliary relay with a coil rated at 24 VAC and a current no greater than 9 VA. Then wire the relay's contact to supply voltage to the pump's contactor. A qualified electrician can make these connections for you. For best results, use Lawn Genie's L30000W Pump Starter to control a pump up to 2 HP at 240 volts.

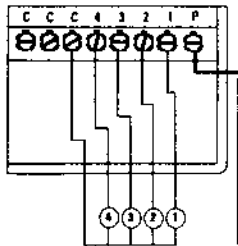
 **NOTE:** The timer's pump output will turn on only when a Zone is watering manually or automatically.

IMPORTANT: The power transformer is protected by a circuit breaker. Do not connect a combination of pump relay and valves requiring an inrush current of more than 1 amp at 24 VAC.

If possible, schedule watering cycles in the early morning, when water pressure is at its highest. This allows ample time for water to soak in while evaporation and wind drift are low. Evening watering can leave foliage damp for too long, leading to mildew under some circumstances.

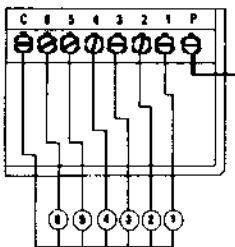
Ask your local nursery or garden center for a schedule suited to the special weather and soil conditions in your area.

L50104P



FROM
PUMP START
RELAY

L50106P



FROM
PUMP START
RELAY

Malfunctions aren't common, but when they occur, they're often due to one of these frequently overlooked causes.

Problem	Possible Cause
<i>One or more valves do not water</i>	<ol style="list-style-type: none"> 1. Faulty solenoids and/or valves 2. Poor wire connection 3. Possible break in wire 4. Valve flow stem screwed down too far
<i>Circuit breaker is tripped</i>	<ol style="list-style-type: none"> 1. Faulty solenoid 2. Poor or shorted wire connection
<i>Time dial won't keep correct time</i>	<ol style="list-style-type: none"> 1. Timer on circuit controlled by a switch
<i>Watering cycle starts late.</i>	<ol style="list-style-type: none"> 1. Less than one hour between start times
<i>Clock has correct time but no valve will turn on</i>	<ol style="list-style-type: none"> 1. Slide switch is in "OFF" position 2. The common wire is not connected 3. Valve/solenoid failure
<i>One Zone won't shut off electrically</i>	<ol style="list-style-type: none"> 1. Zone switch is in "MAN" position 2. Faulty valve 3. Particles of dirt or debris are stuck in valve
<i>First or last Zone continues to run</i>	<ol style="list-style-type: none"> 1. Zone selector knob is bent out of engagement with time dial. Turn selector knob clockwise until it clicks into locked position.

WARNING: Do not link two or more timers using a common transformer or common wire.

Turning off the system

To prevent automatic watering (for example, if rain is expected), move slide switch to OFF position. This turns off power to the valves but permits clock to continue running.

Manual watering

To water a single zone at a time, first move slide switch to OFF position. Rotate zone selector knob until desired zone number aligns with dot on chassis, then move switch to MANUAL position. The circuit indicator light will remain on to indicate that switch is in the MANUAL watering position.

Voltage Specifications

Input	Output
120 VAC	24 VAC
60 HERTZ	1 AMP
15 WATTS	

International Units

250 VAC
50 HERTZ
15 WATTS