

TROUBLESHOOTING HANDBOOK

SCAN FOR
MANUALS



HEAD OFFICE 1.800.468.2567

TECH SUPPORT 1.866.420.3360 Mon – Fri 4:30 am – 4:30 pm PST



	Remotes		Matching Receivers	
	Valor #	Maxitrol #	Valor #	Maxitrol #
	553RCK/720A555	G30-ZRHS	4005677	G30-ZRRS
	4000327	G30-ZRHTT-Z4	4006113 (4000328 Equivalent)	G30-ZRRTTB
	4001910-04	G6R-H3T1	4001911-04	G6R-R3A
	4001910-08 *Can use with 4001911 but no 5-day shutdown	G6R-H3T	4001911-08	G6R-R3AN
	4001910 (PLUS)	G6R-H3T5	4001911 (PLUS) *Can use with 4001910-08 but no 5-day shutdown	G6R-R3AM
	GV60BRK (Bedroom Kit)	G6R-H3T18	4001911	G6R-R3AM
	GV60NTK (Non-thermostatic Kit)	G6R-H3D6	4001911	G6R-R3AM
	4002251 (MAX)	G6R-H3TV4	4002422 (MAX)	G6R-R3AU
	4004520 (8-Button)	B6R-H9TF22W	4004468	B6R-R9U
	4007548 (Valor10)	B6R-HAT	4005597 (Valor10)	B6R-RAP

Check	Service Point Description	Readings
☐	Confirm the Remote and Receiver are communicating	
☐	Test total voltage at receiver box – should be 6+ volts.	volts
☐	Light the fireplace either with handset, wall switch or manually	
☐	Test start up voltage, millivolt reading on Yellow terminal (should read 5mV)	mV
☐	Test the millivolt reading on the Red terminal	mV
☐	Test voltage loss in receiver (no more than 2-3mV) (reading across Red and Yellow term)	mV
☐	Test gas valve drop out voltage (Yellow term) (blow out pilot, listen for click)	mV
☐	Test gas valve drop out time (alternate method) (blow out pilot, listen for click)	sec
☐	Direct Vent window test	
☐	Test gas inlet pressure (house pressure) (5-10"wc NG / 11-14" wc LP) (on high fire)	in/wc
☐	Test manifold pressure (burner pressure) (3.5-4" wc NG / 9.5-10" wc LP) (on high fire)	in/wc
☐	Inspect window gasket, ensure contacts firebox at all points	
☐	Check window pressure relief spring action, lubricate with high temp grease if stiff	
☐	Inspect vent system for secure connections, blockages and proper draft	
☐	Ensure logs/rocks/coins are installed to factory specification	
☐	Ensure air/exhaust restrictor(s) and burner air shutter adjusted for optimal flame performance	
☐	Clean glass, vac soot build up, touch up logs, coal, rocks and ceramic liner if needed	
☐	Check for gas leaks (careful if using liquid)	
☐	Review operation and proper location of remote handset with homeowner	
☐	Check safety clearances to a combustible mantle and to room furnishings	
☐	Check barrier screen installed correctly	

GV60 Startup Sequence

1. For Valor Plus and Max Remotes, push up-flame and off buttons. For Valor 10 Remote, press and hold power button.
2. Handset goes to manual mode.
3. Motor moves valve to pilot only position.
4. Motor ratchets to prove micro switch.
5. 5 mV is applied to gas valve magnet (yellow terminal).
6. Solenoid hits gas valve magnet – “clunk”.
7. Pilot gas starts flowing.
8. Igniter starts sparking.
9. Pilot lights and proves flame with thermocouple.
10. Relay in receiver switches from batteries to thermocouple.
11. Motor turns valve to high flame.

Important

This startup sequence applies to ALL GV60 control systems.

Please pay special attention to which step in this sequence the control system fails. It will assist you in troubleshooting the fireplace.

The following 10 tests are arranged in priority order.

Do not skip ahead.

Test #1

Confirm the remote and receiver are communicating:

- ☐ Does it say MAN (manual) on screen?
- ☐ Does the battery icon show voltage?
- ☐ Does the knob move when you push the up-flame?
- ☐ Does the motor move when you push the down-flame?

Sound	Indicates
1 beep but no motor	motor failure
1 long beep	electrical problem
Rapid beeps	low battery voltage



Solution #1

Replace battery(s) in handset if no display or low battery indicator.

1. Replace all 4 AA batteries for receiver if you hear 3 seconds of rapid beeps.
2. Sync handset to receiver
 - a. Press and hold receiver RESET button until 2nd beep then release.
 - b. Push down-flame button on handset until acknowledge beep from receiver
(Note: Valor10 handset will countdown from 8 before sync is accomplished)
 - c. If long beep—wiring short—check harness wire, Red and Yellow cables, electrode lead then interrupter block.
3. Push up-flame or down-flame
 - d. Long beep—check toggle switch (I/O)—“I” must be pushed.
 - e. Beep but no knob move:
 - ☐ Replace wiring harness.
 - ☐ Replace front of valve with valve repair kit.

Test #2

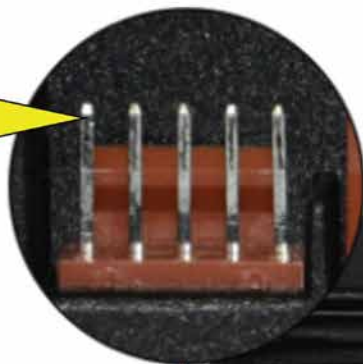
Batteries, Batteries, Batteries!!

Put - test probe on last pin

Put + on ground

(ground of fireplace bare metal)

**Test battery box for
proper voltage.
Not less than 5.8 DCV.**



Solution #2

1. Testing on this pin allows for all 4 batteries to be tested in total. It also shows if fresh batteries test low due to corroded spring connection in battery box or bad battery box cable.
2. Less than 5.8 DC volts — replace all 4 AA batteries with quality alkaline batteries.
 - a. No rechargeable or store brand batteries.
 - b. If possible, install remote battery box and cable. This will protect the receiver if batteries leak in the future.



4 new batteries will read about 6.2 volts DC.

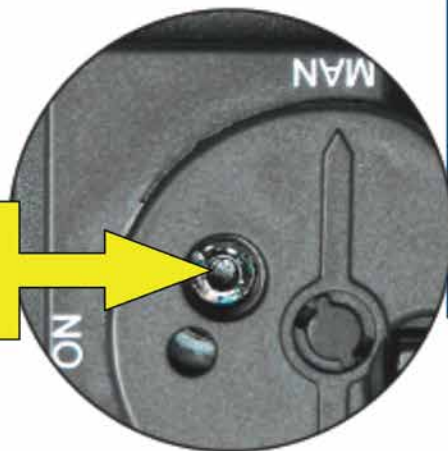
Test #3

Manual Lighting the Fireplace

Do a manual light to see if the fireplace will light and gas supply is sufficient.

Turn knob to MAN, insert small tool and depress. Light pilot and hold for 10 sec. Turn back to ON.

This proves that the thermocouple circuit is good



Solution #3

1. If unable to light pilot, check gas supply:
 - ☐ Gas line shutoffs are on.
 - ☐ Propane tank has fuel.
 - ☐ Gas line or pilot orifice not crimped or plugged.
2. If pilot lights but won't hold
 - ☐ Check that thermocouple is impinged by a strong and stable pilot flame.
 - ☐ Check interrupter block snug into valve.
 - ☐ Check thermocouple connection snug into interrupter block.
 - ☐ Check Red and Yellow cable connections on receiver.
 - ☐ Test thermocouple circuit (Test #4).
 - ☐ Replace receiver.
3. If pilot holds but no main burner flame
 - ☐ Check ON/MAN dial set to ON.
 - ☐ Replace front of valve with valve repair kit.

Test #4

Testing the Thermocouple Circuit

Take a mV reading at the
red terminal.
Should have 9 – 15 mV.

Put - test probe on red wire.

Put + probe on ground.

(ground of fireplace bare metal)



- ☐ Test must be done with pilot on and holding.
- ☐ Check pilot flame impingement on thermocouple.

Solution #4

If you get a reading of 9 mV or lower, the thermocouple is likely defective and needs replacement. If the unit is an H3, it is also possibly a defective thermal switch.

If you get a reading of 15 mV or higher, possible issues include

- ☐ bad toggle switch (if present)
- ☐ bad thermal switch (H3 only)
- ☐ wire break in either the yellow or red wire
- ☐ bad receiver

**A good thermocouple
reading is 12 mV DC.**

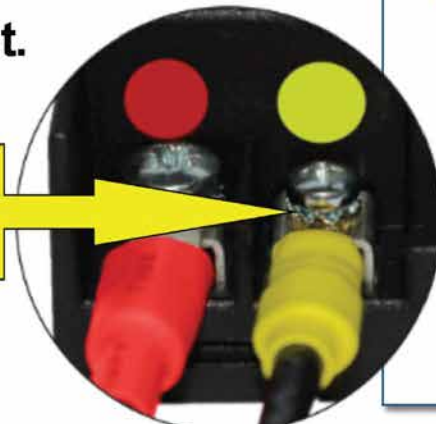
Test #5

Testing the Startup Voltage

Do you hear the “clunk”
when the solenoid engages?
Should read 5+ mV at yellow
as batteries power magnet.

Put - test probe on yellow wire.
Put + on ground.

(ground of fireplace bare metal)



Solution #5

This reading is the voltage supplied by the batteries in the receiver to the electromagnet in the valve. This voltage energizes the electromagnet to allow gas flow to the pilot before the thermocouple heats up. Without this 5+ mV, the solenoid will “clunk” and the magnet won’t hold the valve open—no pilot gas.

If you don’t read 5mV, possible causes include

- ☐ Weak batteries.
- ☐ Bad receiver—replace it.

If you do read 5mV and pilot didn’t light:

1. Try manual light procedure (Test #3).
2. Check for loose connection at Yellow or Red connections.
3. Check for bad connection at the interrupter block.
4. Bad impulse solenoid—install valve repair kit.
5. Bad electromagnet—replace valve.

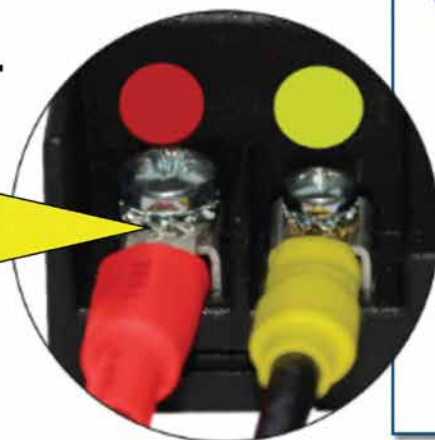
Test #6

Testing the Voltage Loss in Receiver

Test the thermocouple voltage drop through the receiver.

No more than 2-3 mV loss.

Put **+** test probe on red
and **-** test probe on yellow.



Solution #6

This reading is the voltage drop of the thermocouple as the voltage passes through the receiver.

A higher reading than 3mV indicates unusual high resistance in the receiver. The only cause is a bad receiver. Replace it.

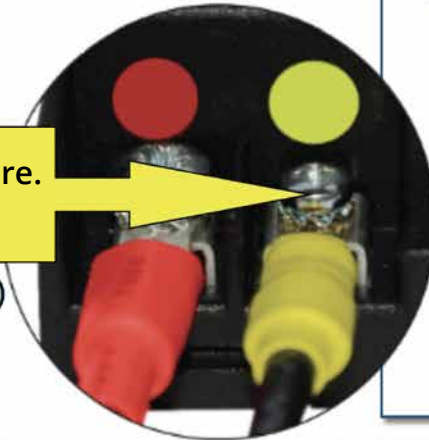
Test #7A

Testing the Gas Valve Dropout Voltage

Take a mV reading at the yellow terminal. Shut off gas or blow out the pilot light.

Put - test probe on yellow wire.
Put + on ground.

(ground of fireplace bare metal)



Solution #7A

Dropout voltage is the minimum required to hold the valve open.

1. 1.5 – 2mV is normal.
2. 2 – 4.5mV is high: tighten the interrupter block into the valve finger tight. Next, tighten the thermocouple into the block finger tight plus $\frac{1}{4}$ turn with a wrench.
Caution: Over-tightening will damage the electromagnet in the valve.
3. Over 5mV—the electromagnet is bad and the valve must be replaced.

Note: The electromagnet is delivered 5mV on startup from the receiver. If it takes more than 5mV to hold the valve open, the controls won't be able to start the fireplace.

Test #7B

Testing the Gas Valve Dropout Time

Alternate test for test #7A – Measuring dropout voltage

**Shut off gas or blow out the
pilot light and measure
how many seconds before you
hear the gas valve magnet reset.**

**Less than 10 seconds – BAD
More than 20 seconds - GOOD**



Solution #7B

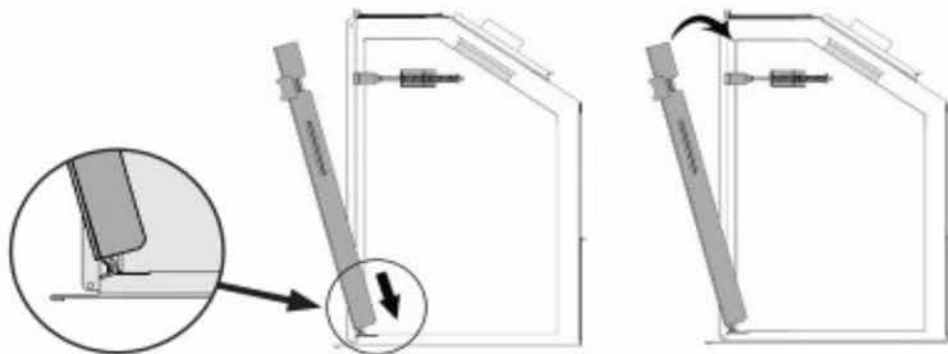
Dropout time measures how long it take for the thermocouple to cool down to a voltage that releases the electromagnet in the valve.

1. 20 – 25 seconds is normal.
2. Less than 10 seconds is bad—tighten the interrupter block into the valve finger tight. Next, tighten the thermocouple into the block finger tight plus $\frac{1}{4}$ turn with a wrench.
Caution: Over-tightening will damage the electromagnet in the valve.
3. If the dropout voltage is good (2mV or less), the thermocouple is bad and must be replaced.

Test #8

Direct Vent Window Test

Fireplace burns right with window off.
Will not burn properly with window on.



**You have a
vent problem**

Solution #8

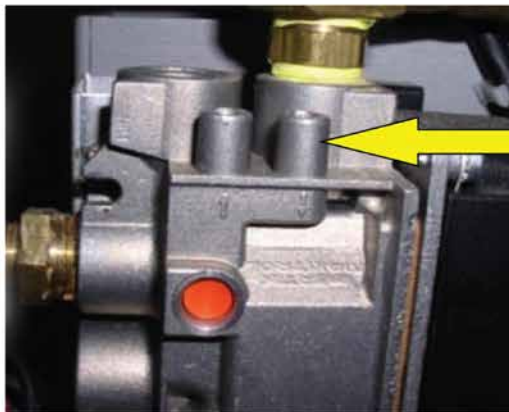
- ☐ Ensure fireplace is connected to a tested and approved venting system/ manufacturer.
- ☐ Insert fireplace vent sliders are fully engaged and hose clamps are used to secure liners to collars.
- ☐ Co-linear vent liners are not crossed with incorrect connections to terminal cap.
- ☐ Liners are not torn inside chimney.
- ☐ Vent terminal is not damaged, plugged with debris or frozen over.
- ☐ Co-axial venting is not beyond manual allowances (venting table).
- ☐ Ensure co-axial vent connections are sound and not damaged.
- ☐ Ensure air or exhaust restricters are set correctly based on the vent system in use (see manual).
- ☐ Ensure the brick liners are installed correctly and not blocking air inlet ports.
- ☐ Ensure the fuel bed is installed correctly and not blocking air inlet ports.

Test #9

Testing Gas Inlet or House Pressure



Always test gas pressure with the burner turned on high.



Inlet or system pressure

5 – 10" NG
11 – 14" LP

Solution #9

Always test gas pressure with the burner turned on high.

If inlet pressure is too low (less than 5" NG or 11" LP)

- ☐ Check for partially closed shutoff valves in piping system.
- ☐ Ensure gas pipe run is not too long and is sized correctly.
- ☐ Ensure another gas appliance wasn't added to the system since the fireplace was installed.
- ☐ Check fuel level in propane tank.
- ☐ Ensure 2nd stage regulator at propane tank is adjusted correctly.

If inlet pressure is too high (more than 10" NG or 14" LP)

- ☐ Check for an appliance step-down regulator in cases with high pressure NG delivered to the house. (2 or 5lb systems)
- ☐ Check that a second stage regulator is installed at the propane tank.

Test #10

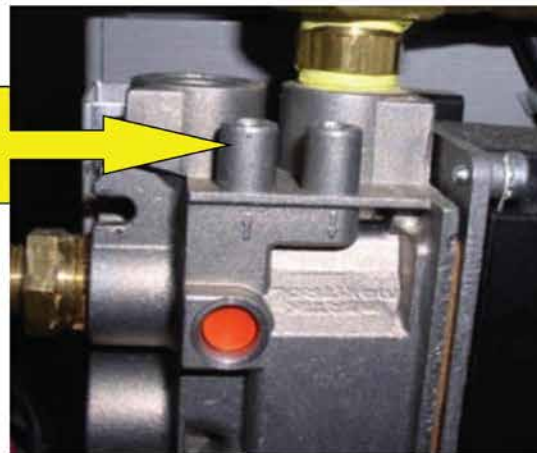
Testing Gas Manifold or Burner Pressure



Always test gas pressure with the burner turned on high.

Manifold or
burner pressure

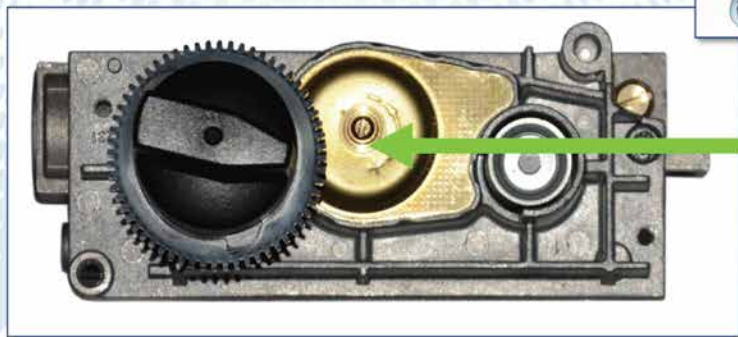
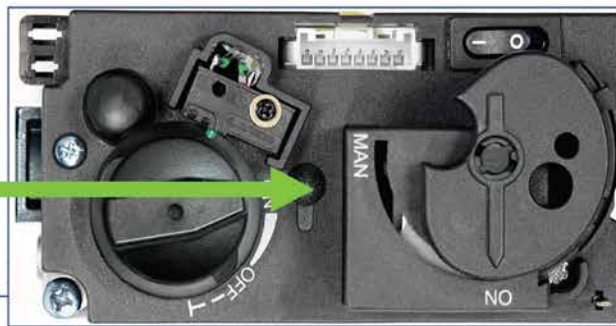
3.5 – 4" NG
9.5 – 10" LP



Solution #10

Always test gas pressure with the burner turned on high.

Remove small plug to access the adjustment screw.



Turn the adjustment screw to set required burner pressure (high fire). Pressure is increased by turning clockwise or decreased by turning counterclockwise. This adjustment is required for fuel conversions.

Parts Stocking Kit - PSK100



Description	Part Number
Thermocouple	4000061
Round Pilot Orifice NG #51	4000735
Round Pilot Orifice LP #30	4000736
Pilot Orifice NG #35	4002511
Pilot Orifice LP #27	720A195
Short Electrode	4001856
Long Electrode	720A543
Electrode Lead	4001039
Electrode Lead Sleeve	4002244
Interrupter Block	4001037
GV60 MAX Handset	4002251
GV60 MAX Receiver	4002422
GV60 Wiring Harness	4001187
Auxiliary Battery Box W/Cable	4002249S

Description	Part Number
GV60 Valve Repair Kit	4004544
Red Cable to Interrupter	4001035
Yellow Cable to Interrupter	4002096
Pilot Hood (In-Line)	4001756
Pilot Hood (Offset)	4000730
Pilot Hood Spring Clip	4008520
Pilot Injector NG #62	4001352
Temperature Limit Switch	4007633-175C

notes



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