

PART NO.

05650



GUARDIAN[®]

INSTALLATION INSTRUCTIONS FOR TIME ACTIVATED BRAKE CONTROLLER

THIS PACKAGE INCLUDES:

- (1) Brake Control Unit
- (1) Mounting Bracket
- (4) Mounting Screws

TOOLS REQUIRED:

- Assorted spanners
- Drill with 1/8" bit
- Wire connector crimp tool
- Probe type circuit tester
- Wire cutter/stripper
- Screwdriver or 1/4" Nut Driver

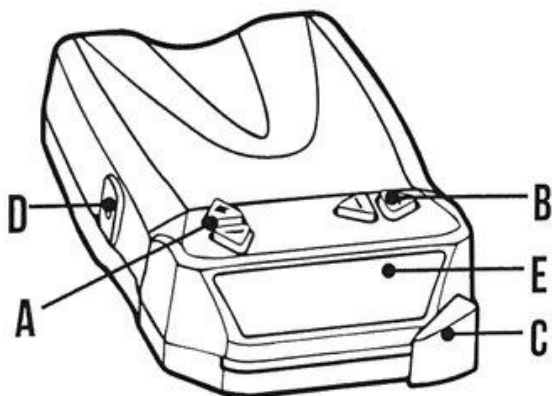
MATERIAL REQUIRED:

- 10 Gauge wire
- Assorted ring & terminal connectors
- 100mm Cable ties (6-10)

READ THIS FIRST

Read and follow all instructions carefully before installing or operating the Brake Controller. Keep these instructions with the Brake Controller for future reference.

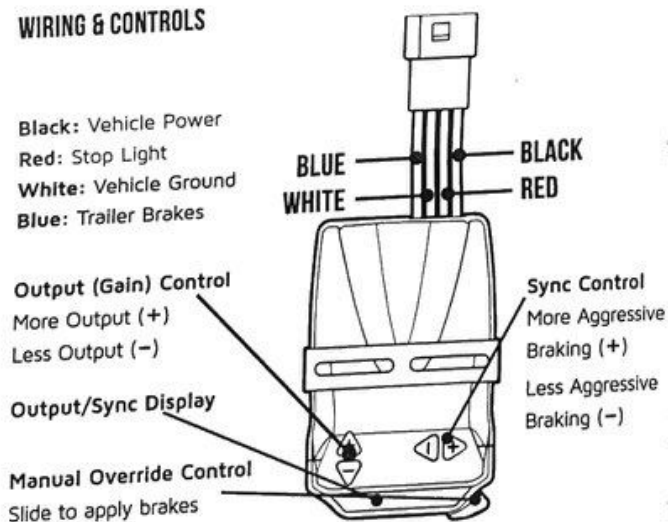
COMPONENTS OF THE BRAKE CONTROLLER



- A** Output (Gain) Control
- B** Sync Control
- C** Manual Override Slide Control
- D** Bracket Mounting Holes
- E** LED Display

WIRING & CONTROLS

- Black: Vehicle Power
- Red: Stop Light
- White: Vehicle Ground
- Blue: Trailer Brakes



- Output (Gain) Control
- More Output (+)
- Less Output (-)

Output/Sync Display

Manual Override Control
Slide to apply brakes

- Sync Control
- More Aggressive Braking (+)
- Less Aggressive Braking (-)

OUTPUT (GAIN) CONTROL

The Output (Gain) Control establishes the maximum amount of power available to the trailer brakes.

As the Gain is increased more power will be available to the brakes when the brake pedal is pressed or the manual control is used.

The Output (Gain) Control should be adjusted during initial setup, when trailer load changes, when different trailers are used or to adjust for a change in road conditions.

The Gain setting is shown on the digital display when a trailer is connected and the brake pedal is pressed or the Manual Override is activated.

The Gain setting is shown as 0 through 10 with 0 being the minimum and 10 the maximum.

SYNC CONTROL

The Sync Control adjusts trailer brake aggressiveness.

The trailer brakes become more aggressive as the Sync "+" button is pressed.

To view the Sync setting on the display press either the + or - Sync button. The display will change to the Sync mode.

The Sync setting is shown as 00 through 90 with 00 being the least aggressive and 90 being the most aggressive. The Sync adjustment has no effect on the Manual Override.

The Sync Control should be adjusted for individual driver preference or changing road conditions.

MANUAL OVERRIDE CONTROL

The Manual Override is located on the front of the Brake Control Unit at the right side.

The Manual Override only applies the trailer brakes and would be used during initial setup and in situations where it is desirable to reduce speed slowly.

When the Manual Override is moved to the left, the control begins to apply the trailer brakes.

The further to the left it is moved the harder the brakes are applied until the maximum setting by the Output (Gain) Control is reached.

The Gain setting will be shown on the display and can be adjusted when using the Manual Override.

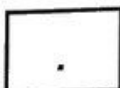
The Manual Override activates trailer brakelights.

NOTE: Some tow vehicles' lights may also activate.

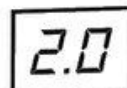
DIGITAL DISPLAY

The Digital Display shows the Gain setting when the control is activated. It is used to setup and monitor the Brake Control and can be used when trouble shooting.

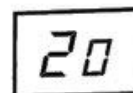
DISPLAY EXAMPLES



Single Decimal
Controller Activated
No Trailer Connected



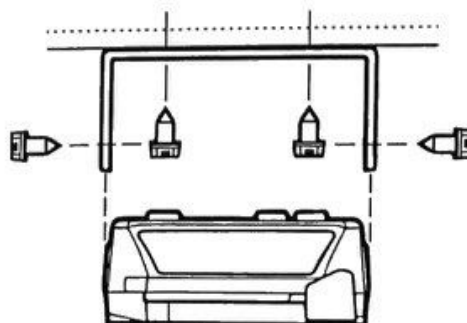
Output (Gain) Display
Controller Activated
Trailer Connected



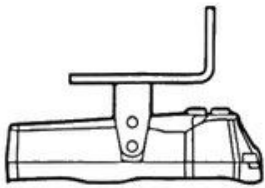
Sync Display
Sync Button
Depressed

SETUP

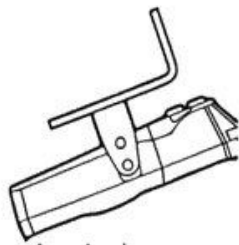
MOUNTING



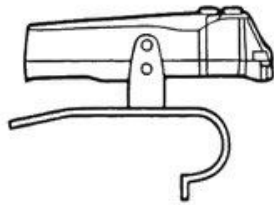
MOUNTING OPTIONS



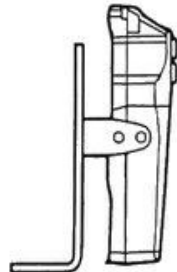
Under Dash



Any Angle



Top of Dash



Vertical

IMPORTANT:

Make sure area behind panel is clear before drilling.
Use bracket as template to mark hole locations.

1. Determine a suitable mounting location.
 - A) The unit must be mounted securely to a solid surface.
 - B) The unit must be easily reached by the driver.
 - C) The area behind the mounting location must be clear so nothing will be damaged when drilling.
2. Hold the mounting bracket in the position selected and mark hole locations through the slots in the bracket.
3. Using a 1/8" dia. bit, drill holes in the marked locations.
4. With a screwdriver or a 1/4" nut driver, secure the bracket in place using (2) self tapping screws (provided). Be careful not to strip the holes by over-tightening.
5. Mount the brake control unit in the bracket using the other (2) self tapping screws as shown in the illustration.

WIRING INSTRUCTIONS FOR ELECTRONIC BRAKE CONTROLS

READ THIS FIRST

Read and follow all instructions carefully before wiring brake controller. Keep these instructions with the brake controller for future reference.

OPTION 1 - HAYMAN REESE

For ease of brake controller fitment, Hayman Reese offers a range of brake controller harnesses.

- Connects your brake controller to your vehicle & trailer
- Plug & Play Installation, no cutting or soldering required*
- Provide 15 or 30Amp additional power (optional)
- Vehicle Specific Installation Instructions available for popular makes.

*When used with a Hayman Reese towbar with SmartClick wiring.

OPTION 2 - GENERIC WIRING

IMPORTANT FACTS TO REMEMBER

1. The brake controller must be installed with a 12 volt negative ground system.
2. **WARNING** Reversing BLACK and WHITE wires or improper wiring will damage or destroy brake control.
3. **WARNING** Be sure to solidly connect all four wires or the brake control will not function properly.
4. Soldering is recommended or crimp-on connectors are a suitable substitution.
5. Route all wires as far from the radio antenna as possible to reduce AM interference.
6. **WARNING** Use of proper gauge wire when installing the brake control is CRITICAL; smaller gauge wire may result in less than efficient braking.
7. Collection of water inside the trailer connector mounted on the tow vehicle will reduce the life of the connector.
8. Technical assistance call toll-free:
1800 812 017 or www.haymanreese.com.au

PRELIMINARY ADJUSTMENTS

With the trailer connected press and hold the brake pedal, the Display will show the Gain setting.

Adjust to approx. 2.0 by pushing the Gain button up (+) or down (-) as needed.

While still holding the brake pedal press either Sync button. The display will change to the Sync setting. Adjust to 40 by pressing the Sync button (+ or -) as necessary.

TEST DRIVE

In an open area, such as a large car park, drive forward and apply the trailer brakes using the Manual Control.

If the trailer brakes are weak adjust the Output (Gain) Control (+) up.

If the trailer brakes jerk or lockup adjust the Output (Gain) Control down (-).

Repeat this step until firm braking is felt without jerking or lockup.

Once the Gain is set, drive forward and press the brake pedal, the tow vehicle and trailer should make a smooth stop.

If the stop seems slow and more aggressive braking is desired, push the Sync Up (+) button.

If the stop seems too aggressive press the Sync Down (-) button.

After making a Sync adjustment the Display will show the setting until the brake pedal is released.

Make several stops at various speeds and adjust the Sync until stops are smooth and firm.

Slight adjustment of the Output (Gain) Control may also be desirable.

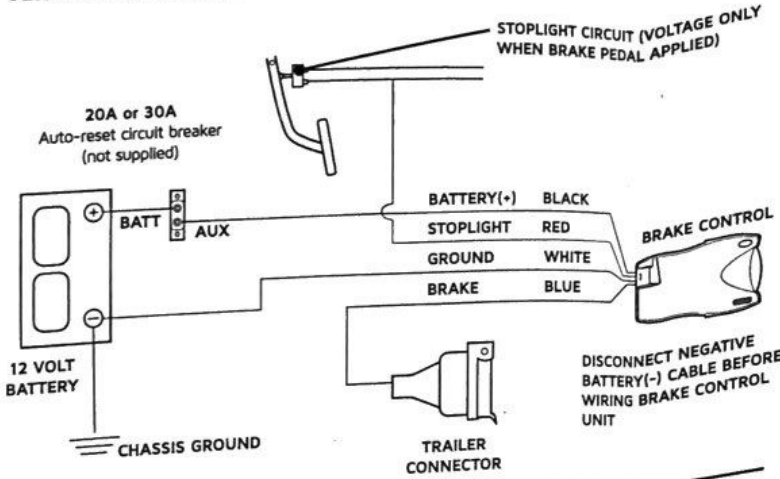
NOTE: If any problems occur during Setup refer to the Troubleshooting section of these instructions.

USAGE TIPS

Light pressure on the brake pedal will activate the trailer's brakes with no effect on the tow vehicle's brakes. This is useful for gradual slowing on steep grades or before stops. Periodic adjustment of the Sync and Output controls may be necessary to correct for changing road conditions, trailer loading, brake wear, and/or driver preference.

On some vehicles, operating the Brake Control's Manual Control will not disengage "Cruise Control".

GENERIC WIRING DIAGRAM (OPTION 2)



WIRING LEGEND

Black: Wire (positive battery) Red: Wire (cold side of stoplight switch)
 White: Wire (negative battery) Blue: Wire (brake output to trailer)

- ### WIRING CONNECTIONS
- The WHITE (-) wire must be connected to a known ground.
WARNING Inadequate grounding may cause intermittent braking or lack of sufficient voltage to trailer brakes. The WHITE wire must be connected to a suitable ground location. The negative ground location in the absence of a Trailer Tow Package connection.
 - Connect BLACK (+) wire through an automatic reset circuit breaker to the POSITIVE (+) terminal of the battery. The BLACK wire is the power supply line to the brake control.
 - The RED (Stoplight) wire must be connected to the cold side of the brake light circuit, the brake pedal stoplight switch is suitable for older vehicles. Splice down line from the switch **DO NOT** disturb the position of the switch or check with the vehicle manufacturer on newer vehicles for suitable location.
 - The BLUE (brake output) wire must be connected to the trailer connector's brake wire.

TROUBLESHOOTING CHART: TEST WITHOUT TRAILER FIRST

		CONDITION	DISPLAY	PROBABLE CAUSES	POSSIBLE SOLUTION
NO TRAILER BRAKES, PEDAL OR MANUAL	Decimal point does not light when brake pedal or manual control is used	Blank	Blank	No power to control, no ground, reversed black & white wires, circuit breaker blown	Check & repair connections, refer to 'wiring' section
	Decimal point does not light when brake pedal is pushed, does light with manual	Pedal	2.0 Manual	No connection or incorrect connection at stoplight switch, blown fuse in stoplight circuit	Check & repair connections, refer to 'wiring' section, check stoplight circuit
	Decimal on all the time	Decimal Only	.	Red wire connected to the wrong side of the stoplight switch or to wrong switch (cruise control)	Check & repair connections, refer to 'wiring' section
	Display shows output setting	Output Setting	2.0	Brake control unit miswired	Check & repair connections, refer to 'wiring' section
	Display shows OL when activated	Flashing OL	OL	Short in blue wire circuit	Locate & correct short
	Display shows Er	Error	Er	Internal brake control problem	Return unit to dealer for evaluation
WITH TRAILER CONNECTED	No trailer brakes, pedal or manual	Decimal Only	.	No connection between brake control & brakes - blue wire circuit	Confirm connection to trailer connector, confirm connector terminal positions, check trailer
	No trailer brakes, pedal or manual	Output Setting	2.0	Miswired trailer connector	Confirm trailer connector terminal positions
	No trailer brakes, pedal or manual	Flashing OL	OL	Short or overload in trailer brakes	Troubleshoot trailer brake circuit per brake manufacturer's instructions
	No trailer brakes, pedal or manual	Error	Er	Internal brake control problem	Return unit to dealer for evaluation
	Weak or no trailer brakes	Output Setting	2.0	Miswired trailer connector Output (Gain) setting too low	Check & correct connector wire positions, Increase Output (Gain) Control
	Trailer brakes on all the time	Blank	Blank	Miswired trailer connector	Check & correct connector wire positions