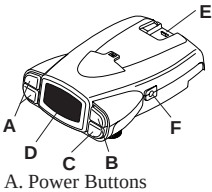
TEKONSHA®

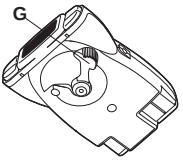
Electronic Brake Control

For 2, 4, 6 and 8 brake applications

READ THIS FIRST:
Read and follow all instructions carefully before installing or operating the P3. Keep these instructions with the Brake Control for future reference.

Components of the Brake Control





A. Power Buttons
B. Boost Button
C. Menu/Options Button
D. LCD Display Screen
E. Connector (For Wiring Harness)
F. Mounting Hole (1 per side)
G. Manual Knob

Important Facts to Remember

1. Do not mount or activate RF generating items (cell phones, two way radios) near (less than 12") the brake control.
2. The P3 employs an inertial sensor. It senses deceleration and generates an output that is based on deceleration, thus the term “Proportional Braking”.
3. The P3 will “HOLD” your trailer with 25% of power setting while you are at a standstill with brake pedal applied for longer than 5 seconds.
4. The P3 will brake proportionally in reverse. It will apply the appropriate brake voltage based on deceleration.
5. ⚠ WARNING The Gross Combined Weight Rating (GCWR) must never exceed the vehicle manufacturers recommendation.
6. ⚠ CAUTION Boost not intended to be used during icy road conditions.

Installation Guide

The P3 can be mounted from 0 degrees to 360 degrees vertically in the direction of travel. (See Diagram for **Mounting the P3**).

Wiring Brake Control

Your P3 brake control has a unique connector located at the back of the control. This connector allows you two options to wire your brake control.

Option 1:
Use Pigtail Wiring Harness included. This harness can be installed by following the Generic Wiring Guide.

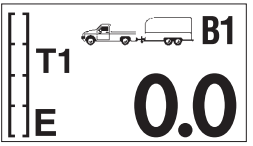
Option 2:
Use an OEM specific wiring harness. If your vehicle came with a factory tow package that included a 7-way connector, you can purchase a Tekonsha OEM wiring harness with the P3 connector on one end and your specific vehicle's connector on the other.

Display Readings after Wiring the P3

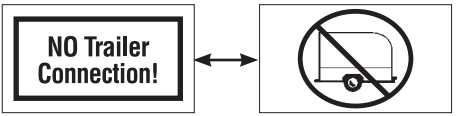
After successfully wiring your P3 you should see the following on the LCD display:

- Power to P3 without trailer connected.

- Power to P3 with trailer connected Boost feature engaged (**B1**).

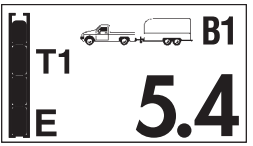


- Manual Knob Activated without trailer connected.



ALTERNATING SCREENS

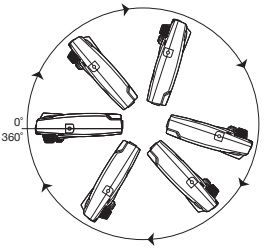
- Manual knob activated (with trailer), 5.4 denotes a hypothetical power output. This value is set using the Power Buttons. Range is 0.0 to 15 volts. This is an indication of voltage output to electric brakes.

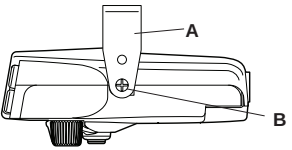


- Power to P3 but display is in power saving mode (no motion or activity for at least fifteen minutes).

(Blank Screen)

Mounting the P3

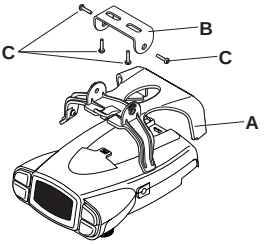




Traditional Bracket Mount

A. Mounting Bracket
B. #8 X 3/8" Machine Screw with Internal Tooth Washer

1. ⚠ CAUTION Drilling or use of longer screws may damage unit.
2. Securely mount bracket to a solid surface.
3. Insert supplied *#8 x 3/8" machine screws* on each side into the mounting holes.
4. Adjust control to desired position and tighten *screws* until snug.



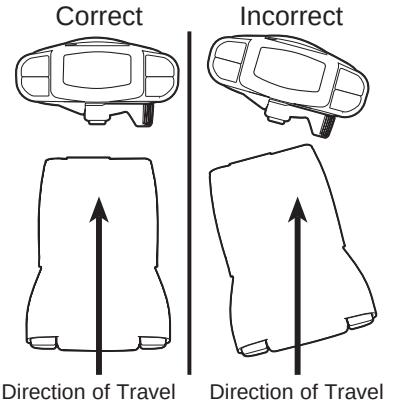
Under Dash Pocket Mount

A. T Slot Mount
B. Small Metal Bracket
C. #8 X 3/8" Self Tapping Screws

1. Securely mount *Small Metal Bracket* to a solid surface using supplied #8 X 3/8" Self Tapping Screws.
2. Securely mount *T Slot Mount* to Small Metal Bracket using supplied #8 X 3/8" Self Tapping Screws.
3. Plug in connector.
4. Insert P3 Brake control.

NOTE:

1. Front of the P3 must be horizontal, *see below*.
2. The P3 must be parallel to direction of travel, *see below*.

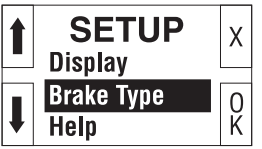


Automatic Leveling of the Sensor

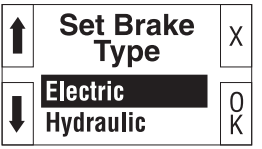
The P3 will automatically acquire the proper level setting. It will also automatically adjust as you travel up or down hills.

Set Brake Type

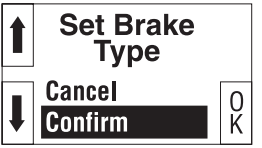
Press Menu/Options Button to view Setup screen. Select/highlight **Brake Type** and Press **OK** (Menu Button).



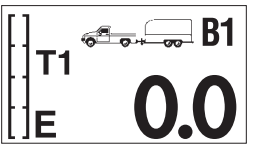
Select/highlight **Electric** or **Hydraulic** and Press **OK** (Menu Button).



Select/highlight **Confirm** and Press **OK** (Menu Button).



Screen should show Brake Type Setting **E** (Electric) or **H** (Hydraulic) in the lower left of screen.



Adjusting the Power to the Trailer Brakes (Prior to setting Boost)

Once the control has been securely mounted, it is necessary to set the power needed to stop the trailer during a braking event.

1. Connect trailer to tow vehicle.

2. With engine running set power (with Power Buttons) to indicate 6.0

3. Drive tow vehicle and trailer on a dry level paved surface at 25 mph and fully apply Manual Knob.

✓ If trailer brakes lock up:
❑ Turn power down using Power Buttons.

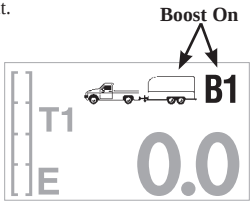
✓ If braking was not sufficient:
❑ Turn power up using Power Buttons.

4. Repeat Step (3) until power has been set to a point just below wheel lock up or at a sufficient force as to achieve maximum braking power.

5. Using the brake pedal, make a few low speed stops to check the power setting. Trailer braking is initiated and terminated via the stoplight switch. When the brake pedal is released, trailer braking will cease.

Boost Setting

The boost button was designed to allow a more aggressive setting for your trailer brakes and is available in three levels - **B1**, **B2**, **B3**. Each incremental boost setting increases the sensitivity of the P3's inertial sensor, enhancing the participation of the trailer brakes during a braking event.



Truck/Trailer B1 icons on the screen indicate **Boost On**.

For example: With the boost off, during a braking event, the power to the brakes starts out at zero and increases with deceleration. **With the boost on level 1**, **B1**, during a braking event, the power automatically starts out at approximately 13% of the power setting and increases with deceleration. **With the boost on level 2**, **B2**, **or with the boost on level 3**, **B3**, during a braking event, the power automatically starts out at approximately 25% of the power setting and increases with deceleration.

Some cases where you might want to use the boost button:

- You like the trailer braking to 'LEAD' the tow vehicle's braking
- Towing a full vs. empty trailer
- Degraded brake performance (most electric brakes require manual adjustment - see Appendix A or a dealer for adjustment or repair)

(Boost Setting continued on next page)

NOTE: Boost not intended to be used to take place of trailer brake adjustment or repair.

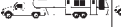
See the chart below for recommended "Boost" settings (indicated with **X**) for typical Trailer to Vehicle weight relationships.

Select your boost setting based on your towing situation, driving preference and condition of your trailer brakes.

Typical Boost Settings For Optimal Performance

TRAILER WEIGHT compared to VEHICLE WEIGHT

(with properly adjusted trailer brakes*)

(BOOST "OFF") 	B1	B2 	B3 
BOOST "OFF"	↻ *INCREASING BOOST LEVEL* ↻		
X	**X**		
Trailer weighs **LESS** than Vehicle			
X	**X**	**X**	
Trailer weighs **APPROXIMATELY SAME** as Vehicle			
	X	**X**	**X**
Trailer weighs **UP TO 25% MORE** than Vehicle			
		X	**X**
Trailer weighs **UP TO 40% MORE** than Vehicle			
⚠ **WARNING** Do not exceed Gross Combined Weight Rating (GCWR)			**X**
Trailer weighs **OVER 40% MORE** than Vehicle			

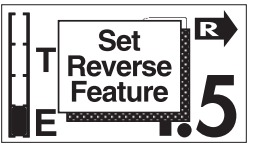
***Increased Boost setting may be needed if trailer brakes are worn, see Appendix A or a dealer for brake adjustment or repair.**

NOTE:

1. Always warm the trailer's brakes before setting the power. Warm trailer brakes tend to be more responsive than cold brakes. To warm trailer brakes, drive a short distance (1/4 mile) at 45 MPH with manual lever engaged enough to cause trailer braking at a low level.
2. ⚠ WARNING The power should never be set high enough to cause trailer brakes to lock up. Skidding trailer wheels can cause loss of directional stability of trailer and tow vehicle.
3. The power/Boost may need to be adjusted for different load weights and road conditions.
4. Not all trailer brakes will lock up due to various conditions. However, inability to lock up the brakes generally indicates the need for an inspection to determine the cause.
5. When the power is set correctly you should feel unified braking between the trailer and tow vehicle.

Reverse

When backing a trailer you can cancel “BOOST” and “HOLD” for a period of three minutes. This can be accomplished by pressing the boost button continuously for five seconds with the brake pedal depressed. The display will indicate:



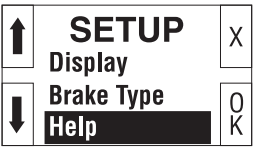
Release boost button and the “R” Arrow icon will flash.

After three minutes the “BOOST” and “HOLD” features will automatically return to your previous settings.

NOTE:
Returning to your previous settings prior to three minutes can be accomplished by pressing the boost button.

Set Language

Press Menu/Options Button to view Setup screen. Select/highlight **Help** and Press **OK** (Menu Button).

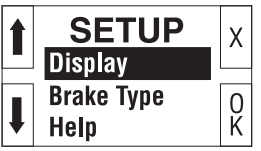


Select/highlight **Language** and Press **OK** (Menu Button).

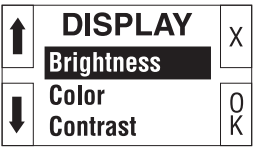
Select/highlight **English** (or **French** or **Spanish)** and Press **OK** (Menu Button).

Set Screen Brightness/Color/Contrast

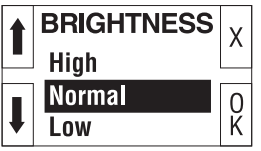
Press Menu/Options Button to view Setup screen. Select/highlight **Help** and Press **OK** (Menu Button).



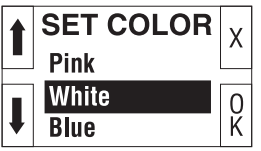
Select/highlight **Display** and Press **OK** (Menu Button).



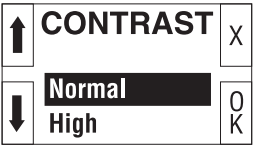
Select/highlight option to change - **Brightness / Color / Contrast** and Press **OK** (Menu Button). Brightness has **High / Normal / Low** as options. Select your desired Brightness and Press **OK** (Menu Button).



Color has **Pink / White / Blue / Light Blue / Cyan / Green / Light Green / Orange / Magenta** as options. Select your desired Color and Press **OK** (Menu Button).



Contrast has **Normal / High** as options. Select your desired Contrast and Press **OK** (Menu Button). High contrast makes the text black on colored background.



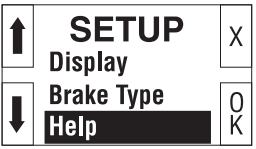
Select Storable Settings

Press and hold the boost button for 2 seconds until the "Select" menu comes up.

Arrow down to select the preferred "Trailer" setting and press **OK**. This "Trailer" setting is now ready to be customized by following the desired setting (Brake Type, Power Setting, Boost Setting, Language, Brightness/Color/Contrast). To store presets 2-5, repeat above instructions.

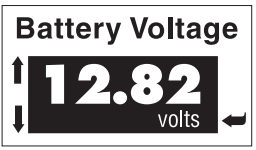
Troubleshooting

Press Menu/Options Button to view Setup screen. Select/highlight **Help** and Press **OK** (Menu Button).



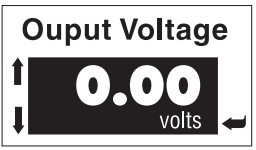
Select/highlight **Trouble Shoot** and Press **OK** (Menu Button).

Select/highlight **Trouble Shoot** and Press **OK** (Menu Button). The following 4 functions are available for diagnostic and troubleshooting.

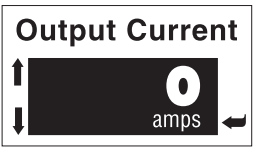


Displays the vehicle battery voltage (black wire).

Displays voltage supplied from stoplight switch with brake pedal depressed (red wire).



Displays average voltage provided to the trailer brakes (blue wire).



Displays the current provided to the trailer brakes (blue wire).

Warnings & Cautions

The P3 has built in troubleshooting/diagnostic features.

Situation: screen flashes **Warning! Open Ground**

Probable Cause: Trailer is connected and P3 loses connection to battery ground.

Situation: screen flashes **Warning! Overload**

Probable Cause: P3 detects an excessive current overload condition during operation.

Situation: screen flashes **Warning! Output Shorted**

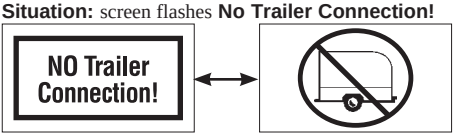
Probable Cause:

1. Detects brake output wire shorted to ground. Short during idle condition.
2. Use of some test lights or non-Tekonsha testers can cause this problem.

Situation: screen flashes **Caution! Power Loss**

Probable Cause: Power to P3 interrupted during braking or stop lamp active while connecting power to the trailer brake control.

Situation: screen flashes **No Trailer Connection!**



ALTERNATING SCREENS

Probable Cause:

1. Trailer not connected to tow vehicle.
2. Trailer connected with open circuit on brake line.
3. Trailer connector disconnected or corroded.
4. Loss of trailer brake magnet ground.

Appendix A: Trailer Brake Adjustment**

Brakes should be adjusted after the first 200 miles of operation when the brake shoes and drums have "seated" and at 3000 mile intervals, or as use and performance requires. The brakes should be adjusted in the following manner:

1. Jack up trailer and secure on adequate capacity jack stands. Follow trailer manufacturers recommendations for lifting and supporting the unit. Check that the wheel and drum rotate freely.

⚠ WARNING ***Do not lift or support trailer on any part of the axle or the suspension system.***

2. Remove the adjusting hole cover from the adjusting slot on the bottom of the brake backing plate.

3. With a screwdriver or standard adjusting tool, rotate the starwheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.

Note: With drop spindle axles, a modified adjusting tool with about an 80 degree angle should be used.

4. Then rotate the starwheel in the opposite direction until the wheel turns freely with a slight lining drag.

5. Replace the adjusting hole cover and lower the wheel to the ground.

6. Repeat the above procedure on all brakes.

⚠ WARNING ***Never crawl under your trailer unless it is resting on properly placed jack stands.***

Follow the trailer manufacturers recommendations for lifting and supporting the unit. Do not lift or place supports on any part of the suspension system.

**Note: Trailer Brake Adjustment procedures courtesy Dexter Axle.