DIGITRAC II INSTRUCTIONS

INSTRUCTIONS FOR DIGITRAC® II BRAKE CONTROL

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 Brake Control. Keep these instructions with the Brake Control for future reference.

Components of the Brake Control (Shown "Right Side Up")



- A. HARD/TOP BRAKE SETTING
- B. SOFT/BOTTOM BRAKE SETTING
- C. Inertia Sensor Adjustment Arm
- D. Two Digit Power Display
- E. Manual Slide Knob
- F. Bracket Mounting Holes
- G. Ball Mount Interface

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. CAUTION Reversing the connection to a breakaway battery on the trailer will destroy the Brake Control.
- 3. CAUTION Disconnect trailer plug from the tow vehicle prior to testing a breakaway switch or you may destroy the Brake Control.
- 4. The Inertia Sensor is CRITICAL. The Adjust-ment Arm determines the transition point from Soft Effort Braking to Hard Effort Braking.
- 5. WARNING The Gross Combined Weight Rating (GCWR) must never exceed the vehicle manufacturers recommendation.
- 6. CAUTION This control is not designed for use with electric-hydraulic trailer brake systems.
- 7. For Technical Assistance and Warranty Information call: 1-888-785-5832 or www.tekonsha.com

2 Digit Power Display Legend

Power to Brake Control without trailer connected.



Power to Brake Control with trailer connected.



• Manual Slide Knob activated without trailer.



Display during braking event to indicate Soft Effort Braking in use. 3.2 denotes a hypothetical power output.



Displays during braking event to indicate Hard Effort Braking in use. 6.5 denotes a hypothetical power output.



• Blank display, Brake Control is in the power saving mode. Lack of activity (from manual control or stop light input) for 2 hours or more.



 Manual Slide Knob activated (with trailer). 5.4 denotes a hypothetical power output. This value is set using the HARD/TOP or SOFT/BOTTOM BRAKE SETTINGS. Range is 0.0 to 13 volts. This is an indication of voltage output to electric brakes.

NOTE: Display shows tenths of a volt up to 9.9. After 9.9 the display shows whole digits only.

Installation Guide Traditional Bracket Mount

▲ WARNING The Brake Control must be mounted from 0 degrees to 70 degrees nose up, *see below*. Failure to install Brake Control within these constraints may cause your control to become inoperable.



NOTE:

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





- A. Mounting Bracket
- B. #6 x 3/8" Screws
- C. Mounting Holes
- 1. CAUTION Drilling or use of longer screws may damage unit.
- 2. Securely mount bracket to a solid surface.
- 3. Insert supplied #6 x 3/8"screws on each side into the mounting holes.
- 4. Adjust Brake Control to desired position and tighten screws until snug.

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INSTRUCTIONS FOR DIGITRAC® II BRAKE CONTROL (CONTINUED)

Under Dash Mounting Ball

NOTE:

- 1. Arrow on top of Mounting Ball must point toward rear of tow vehicle, *see below.*
- 2. Prior to mounting, clean dash with all-purpose cleaner or 50/50 water alcohol mixture.



- A. Double Sided Tape C. Foam Gasket
- B. Mounting Ball D. Mounting Screw
- 1. Using *mounting ball*, find a desired location.
- 2. Attach *double sided tape* to back of *mounting ball*.
- 3. With the other side of the *double-sided tape*, temporarily attach *mounting ball* to desired location.
- 4. CAUTION Check behind dash for wires, etc. before drilling.
- Using *mounting ball* as a template drill
 (3) 1/16" holes for a #6 screw size.
- Permanently secure *mounting ball* using (3) #6 x 3/8" *screws* supplied.
- 7. Insert *mounting screw* through bottom of the Brake Control.
- 8. Place *foam gasket* on top of the Brake Control inserting *mounting screw* through hole in gasket.
- 9. Attach Brake Control to *mounting ball*.
- 10. Rotate Brake Control to desired position and tighten *mounting screw* until snug.

Adjusting the Power to the Trailer Brakes

Once the Brake Control has been securely mounted within the 0 to 70 degree range, it is necessary to set the power needed to stop the trailer during a braking event.

The Brake Control has independent SOFT/BOTTOM and HARD/TOP BRAKE SETTINGS.

- SOFT/BOTTOM BRAKE SETTING setting for Gradual stops, which allows for effective braking with out the wheel "hop"
- HARD/TOP BRAKE SETTING setting for hard or Panic stop, which is sensed by the Inertia Sensor and braking effort is automatically switched over to the HARD/TOP BRAKE SETTING.

Setting the Inertia Sensor

Once the Brake Control is securely mounted, the Inertia Sensor Adjustment Arm must be pointed directly toward the floor of the vehicle. To *Fine Tune* the Inertia Sensor, the Adjustment Arm can be moved to change the switching level. This needs to be done after the Soft and Hard Effort Braking is set.

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 may need to be adjusted for different load weights and road conditions.
- 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.

Setting the "Hard/Top" Brake Setting

- 1. Connect trailer to tow vehicle.
- Set HARD/TOP BRAKE SETTING to mid-position.
 Tow trailer at low speed (20-30 mph) of
- 5. Tow trailer at low speed (20-30 mph) on a level, dry and paved surface and apply Manual Slide Knob.
 - ✓If trailer brakes DO NOT lock up:
 □ Increase Hard Effort Braking by sliding HARD/TOP BRAKE SETTING toward <u>front of vehicle</u>.
 - ✓If brakes DO lock up:

 □ Decrease Hard Effort Braking by sliding HARD/TOP BRAKE SETTING toward <u>rear of vehicle</u>.
- 4. Repeat step (3) until Hard Effort Braking has been set to a point just below wheel lock up or at a sufficient force as to achieve maximum braking power.

Setting the "Soft/Bottom" Brake Setting

- After the Hard Effort Braking has been set, adjust the SOFT/BOTTOM BRAKE SETTING effort adjustment to mid-position.
- 2. Make a soft stop, such as stopping at a stop sign, etc.
 - ✓ If braking is too aggressive:
 - Decrease Soft Effort Braking by sliding SOFT/BOTTOM BRAKE SETTING toward rear of vehicle.
 - ✓ If braking is too light:
 - Increase Soft Effort Braking by sliding SOFT/BOTTOM BRAKE SETTING toward <u>front of vehicle</u>.
- 3. Repeat step (2) until Soft Braking Effort is noticeable but not aggressive.

NOTE:

- 1. If the SOFT/BOTTOM BRAKE SET-TING is set to a minimum and braking is too aggressive, the Inertia Sensor Adjustment Arm is not set correctly. Review *Setting the Inertia Sensor*.
- The HARD/TOP BRAKE SETTING must be set to allow for proper activation of brakes at quick (hard/fast) stops.
- 3. CAUTION Adjustment of SOFT/BOTTOM and HARD/TOP BRAKE SETTINGS may be necessary to compensate for changing road conditions, trailer loading, and conditions of trailer brakes.

Fine Tuning the Brake Control

To fine tune the Inertia Sensor, the Adjustment Arm can be moved to change the switching level.

NORMAL - recommended starting point before fine tuning, if necessary.

NOTE: Only small movements of the Inertia Sensor Adjustment Arm are needed to cause noticeable differences in the braking response.



 AGGRESSIVE – Move Adjustment Arm Notch toward <u>front of vehicle</u>. This will require a lower brake effort to use the HARD/TOP BRAKE SETTING (gradual stops now become more aggressive).



INSTRUCTIONS FOR DIGITRAC® II BRAKE CONTROL (CONTINUED)

DELAYED – Move Adjustment Arm Notch toward <u>rear of vehicle</u>. This will require a higher brake effort to use the HARD/TOP BRAKE SETTING (hard/fast stops may not cause the Inertia Sensor to use the HARD/TOP BRAKE SETTING).

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Troubleshooting Chart

Display	Situation	Probable Cause
	Flash for 15 seconds.	Detecting loss of 6-Way or 7-Way Electrical Connection between trailer and tow vehicle.
<u>5.</u> H		Shorted output has been detected on brake output voltage line.
<u> </u>		Excessive current overload has been detected on the brake output line.
0.9		Open ground fault condition has been detected (with trailer present).
0.0	Continuous flash.	Operator settable error. Either SOFT/BOTTOM or HARD/TOP BRAKE SETTINGS are set at zero.
Е.г	Continuous flash.	Operator settable error. HARD/TOP BRAKE SETTING is set less than SOFT/BOTTOM BRAKE SETTING.
(Blank Display)		Blank display, control is in the power saving mode. Lack of activity (from manual control or stop light input) for 2 hours or more.

Appendix A: Trailer Brake Adjustment**

Brakes should be adjusted (1) after the first 200 miles of operation when the brake shoes and drums have "seated," (2) at 3000 mile intervals, (3) or as use and performance requires. The brakes should be adjusted in the following manner:

- 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.

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

TECHNICAL INFORMATION IS CURRENT AS OF THE PRINTING OF THIS CATALOG. CONTACT TECHNICAL SERVICE FOR PERIODIC UPDATES.

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