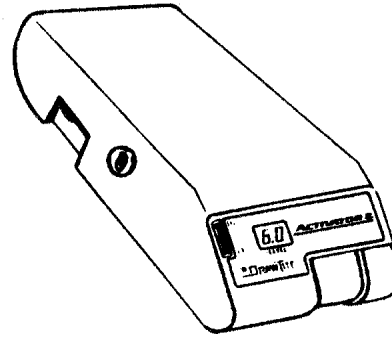




INSTRUCTIONS FOR THE INSTALLATION AND OPERATION OF ACTIVATOR II TM

ELECTRONIC TRAILER BRAKE CONTROL
5500 FOR 2, 4, 6 & 8 BRAKE SYSTEMS



IMPORTANT: READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY. KEEP THESE INSTRUCTIONS IN YOUR TOW VEHICLE FOR FUTURE REFERENCE.

THIS PACKAGE INCLUDES:

- (1) Brake Control Unit
- (1) Mounting Bracket
- (4) Mounting Screws
- (1) Wire Tap Connector
- (1) Warranty Card

- 30 Amp auto-reset circuit breaker
- Assorted ring terminal & butt connectors
- 4" cable ties (6-10)

MATERIAL REQUIRED:

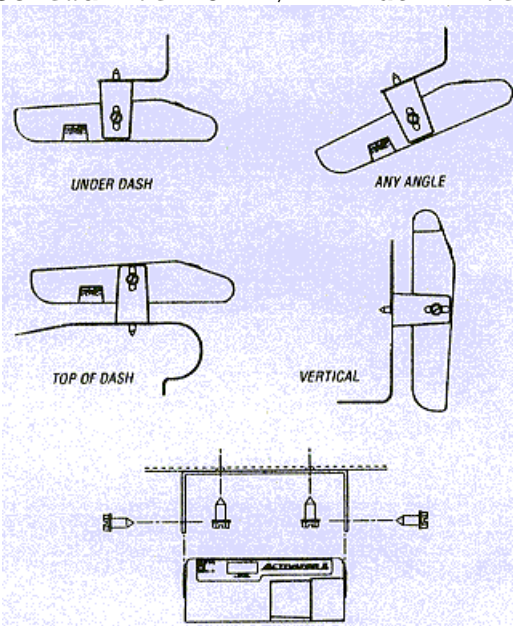
- 5506 Wiring Kit or 10 Ga. wire

TOOLS REQUIRED:

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

IMPORTANT: MAKE SURE AREA BEHIND PANEL IS CLEAR BEFORE DRILLING.

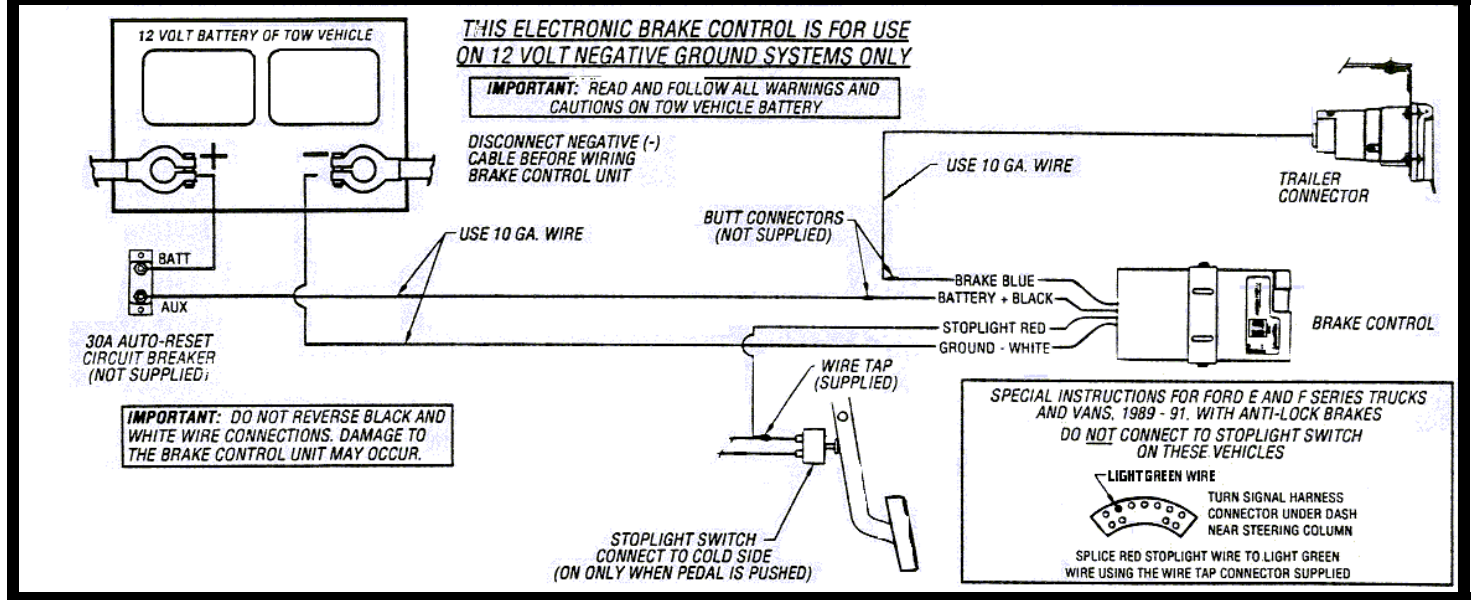
- USE BRACKET AS TEMPLATE TO MARK HOLE LOCATIONS.
- DRILL (2) 1/8" DIA. HOLES AND MOUNT BRACKET WITH SCREWS PROVIDED.
- MOUNT BRAKE CONTROL TO BRACKET USING THE REMAINING (2) SCREWS.



MOUNTING

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 hold 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



WARNING: Do not connect the black "BATTERY" wire to the fuse panel or tie into accessory wiring. Connecting to existing wiring may damage vehicle wiring and cause trailer brake failure.

FOR TOW VEHICLES EQUIPPED WITH FACTORY TRAILER TOWING PACKAGES:

- Wire per tow vehicle manufacturer's instructions.

NOTE: Make sure that the tow vehicle's Brake Control Battery Feed circuit is capable of carrying enough current to supply trailer brake requirements (check tow vehicle manufacturer's instructions and trailer brake manufacturer's information). If the circuit does not meet the trailer's requirements, wire directly to the battery per steps 1 through 7.

FOR TOW VEHICLES WITHOUT FACTORY TRAILER TOWING PACKAGES:

1. Disconnect the tow vehicle's negative (-) battery cable.
2. Mount a 30 Amp auto-reset circuit breaker (such as Draw-Tite 18024) as close to the positive (+) battery terminal as possible. Using 10 Ga. stranded wire and crimp type ring terminals connect the "BATT" side of the circuit breaker to the positive battery terminal.

NOTE: When passing wire through sheet metal always do through an existing grommet, add a grommet or use silicone rubber to insulate the wire from the hole.

3. Feed one black and one white, 10 Ga. stranded wire from the Brake Control location to the tow vehicle's battery area.

4. Connect the black wire to the " AUX" side of the circuit breaker with a ring terminal.
5. Connect the white wire to the negative battery post with a ring terminal.
6. Attach the Control's black " BATTERY +" wire to the wire (black) connected to the " AUX" side of the circuit breaker using a butt connector.
7. Connect the control's white " GROUND" wire to the wire (white) leading from the negative battery terminal with another butt connector.

IMPORTANT: A brake control that is not properly grounded may operate intermittently or not at all. Recheck to make sure that the white " GROUND-" wire is connected to the (-) negative battery terminal and that the black " BATTERY +" wire is attached to the (+) positive battery terminal.

8. For tow vehicles other than 1989-91 Ford E and F series trucks and vans:

- Determine which side of the stoplight switch is the cold side. To determine the cold side probe the terminals of the switch with a test light until one is found that is only on when the brake pedal is depressed.
- Using the wire tap provided, splice the brake control's red " STOPLIGHT" wire to the attached to the cold side of the stoplight switch as determined above.

For 1989-91 Ford E and F series trucks and vans with anti-lock brakes:

- Find the crescent shaped connector located on the steering column (turn signal harness). The connector has two rows of wires, one row has four wires (inside row) the other has seven.
- The wire needed is the light green wire, second in from the row of seven (see wiring diagram above).
- Using the wire tap provided, splice the brake control's red " STOPLIGHT" wire to the attached to the cold side of the stoplight switch as determined above.

For 1989-91 Ford E and F series trucks and vans with anti-lock brakes:

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- The wire needed is the light green wire, second in from the row of seven (see wiring diagram above).
- Using the wire tap provided, splice the brake control's red " STOPLIGHT" wire to the light green wire.

9. Secure all loose wires with cable ties so that they will not be damaged and reconnect battery. See vehicle's owners manual for special re-connection instructions.

10. Test installation:

- Without a trailer connected, push the brake pedal. A single . (decimal point) should light up on the Display.
- If the decimal point does not light or if **OL** or **Er** is shown go to the Trouble Shooting section.

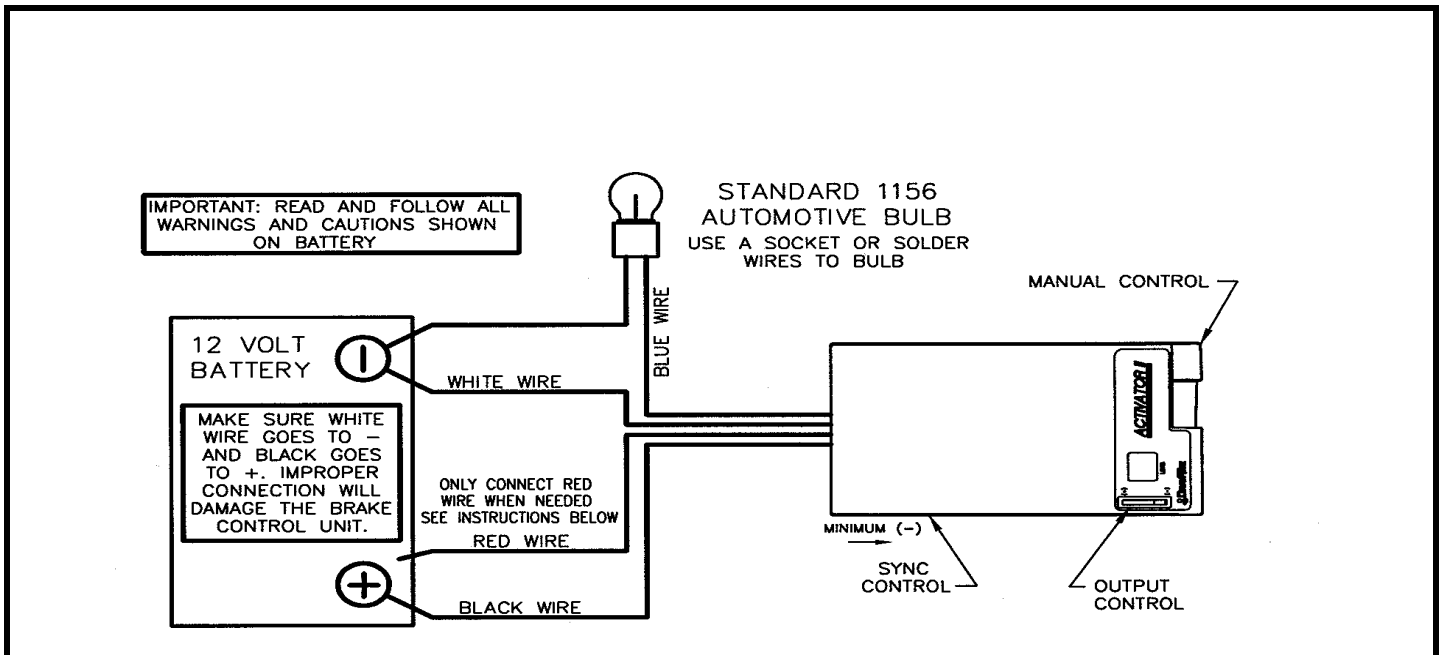
BENCH TEST INSTRUCTIONS

1. Wire as shown at right. Set the Output control to maximum (+) and set the Sync control to minimum (-).

NOTE: If at any time during the bench test, the display shows **OL** make sure that the blue " BRAKE" wire is not shorted to the " -" battery terminal or the white " BATTERY - " wire.

- If at any time, the display shows **Er**, return the unit to your Draw-Tite dealer for further evaluation.
2. Test " Standby Condition"
 - Hold the red " STOPLIGHT" wire on the " +" battery terminal. The display should show a single . (decimal point). This indicates correct wiring and that the control is ready.
 - Disconnect the red " STOPLIGHT" wire from the battery.

BENCH TEST



3. Test Brake Pedal Activation:

- Firmly ground the light bulb to the " - " terminal of the battery.
- Re-attach the red " STOPLIGHT " wire to the " + " battery terminal.
- The display should step up to 10 and the bulb should start out dim and slowly get brighter (unhook and re-attach the red wire as many times as necessary to confirm this)

With the red wire still hooked up, slowly move the Output Control down to (-). The display should count down to 0 and the bulb should dim and go off.

- Slowly move the Output Control back up to (+), the display should go back to 10 and the bulb should return to full brightness.
- Slowly move the Sync Control to maximum (+). The display should change to Sync mode and count up to 90.
- Disconnect and reconnect the red wire. The bulb should light brightly with no delay and the Display should read 10.
- Disconnect the red wire.

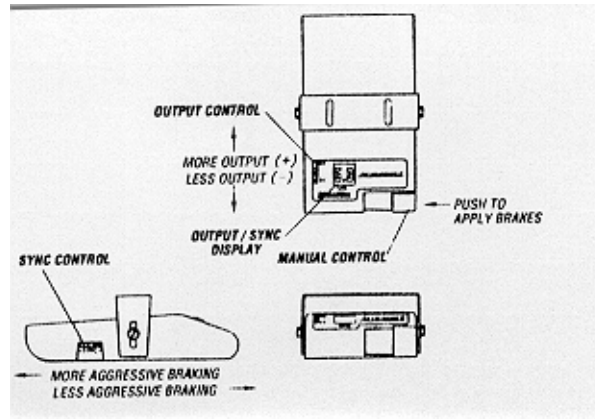
4. Test Manual Activation:

- With the Output Control still set at maximum, slowly activate the Manual Control button.
- The bulb should start to dim and get brighter and the display should count up to 10 as the Manual Control is pushed.
- While holding the Manual Control all the way in, rotate the Output Control up and down. As the output changes the bulb should go bright and dim and the display should read 0 to 10.

5. Defective Unit:

If the Brake Control unit does not function as described, return it for service or replacement.

CONTROLS



OUTPUT CONTROL

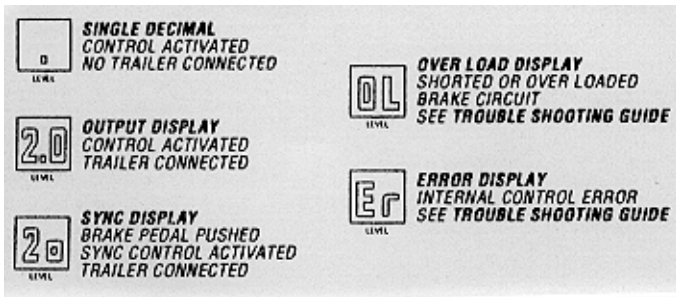
- The output Control establishes the maximum amount of power available to the trailer brakes
- As the Control is rotated up more power will be available to the brakes when the brake pedal is pressed or the manual control is used.
- The Output Control would be adjusted during initial setup, when trailer load changes, when different trailers are used or to adjust for a change in road conditions.
- The Output setting is shown on the digital display when a trailer is connected and the brake pedal is pressed or the Manual Control is actuated.
- The Output setting is shown as **0** through **10** with **0** being the minimum and **10** the maximum.

SYNC CONTROL

- The Sync Control is located on the left side of the Brake Control Unit, forward of the mounting bracket.
- The Sync Control adjusts trailer brake aggressiveness.
- The trailer brakes become more aggressive as the switch is moved toward the front of the tow vehicle.
- To view the Sync setting on the display, press the brake pedal (trailer must be connected) and move the Sync Control slightly. The display will change to the Sync Mode.
- The Sync setting is shown as **10**. through **90** with **10** being the least aggressive and **90** being the most aggressive.
- The Sync Adjustment has no effect on the manual control. The Sync Control would be adjusted for individual driver preference or changing road conditions.

MANUAL CONTROL

- The Manual Control is located on the front of the Brake Control Unit at the right side
- The Manual Control 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 Control is pushed to the left, the control begins to apply the trailer brakes. The further to the left it is pushed the harder the brakes are applied until the maximum set by the Output Control is reached.
- The Output setting will be shown on the display and can be adjusted when using the Manual Control.
- The Manual Control activates the tow vehicle and trailer stoplights.



Display Modes

DIGITAL DISPLAY

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

SETUP


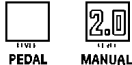










- Preliminary Adjustments
- With the trailer connected press and hold the brake pedal, the Display will show the Output setting.
- Adjust to **2.0** by turning the control up or down as needed.
- While still holding the brake pedal move the Sync Control slightly, the Display will change to the Sync setting.
- Adjust to **4.0** by sliding the Sync Control ahead or back as necessary.

TEST DRIVE

- In an open area, such as a large parking lot, drive forward and apply the trailer brakes using the Manual Control.
 - If the trailer brakes are weak adjust the Output Control up.
 - If the trailer brakes jerk or lockup adjust the Output Control down.
 - Repeat this step until firm braking is felt without jerking or lockup.
 - Once the Output 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, move the Sync Control rearward while holding the brake pedal.
 - If the stop seems too aggressive adjust the Sync Control rearward while holding the brake pedal.
 - If the stop seems too aggressive adjust the Sync Control rearward while holding the brake pedal.
 - 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 Control may also be desirable.
- NOTE:** If any problems occur during Setup refer to the Trouble Shooting section of these instructions.

TROUBLE SHOOTING GUIDE

TEST WITHOUT TRAILER FIRST

	CONDITION	DISPLAY	PROBABLE CAUSES	POSSIBLE SOLUTION
WITHOUT TRAILER CONNECTED	DECIMAL POINT DOES NOT LIGHT WHEN BRAKE PEDAL OR MANUAL CONTROL IS USED	 BLANK	NO POWER TO CONTROL, NO GROUND, REVERSED BLACK AND WHITE WIRES, CIRCUIT BREAKER BLOWN	CHECK AND REPAIR CONNECTIONS REFER TO "WIRING" SECTION
	DECIMAL POINT DOES NOT LIGHT WHEN BRAKE PEDAL IS PUSHED DOES LIGHT WITH MANUAL	 PEDAL MANUAL	NO CONNECTION OR INCORRECT CONNECTION AT STOPLIGHT SWITCH, BLOWN FUSE IN STOPLIGHT CIRCUIT	CHECK AND 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 AND REPAIR CONNECTIONS REFER TO "WIRING" SECTION
	DISPLAY SHOWS OUTPUT SETTING	 OUTPUT SETTING	BRAKE CONTROL UNIT MISWIRED	CHECK AND REPAIR CONNECTIONS REFER TO "WIRING" SECTION
	DISPLAY SHOWS OL WHEN ACTIVATED	 FLASHING OL	SHORT IN BLUE WIRE CIRCUIT	LOCATE AND CORRECT SHORT
	DISPLAY SHOWS Er	 ERROR	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 AND BRAKES - BLUE WIRE CIRCUIT	CONFIRM CONNECTION TO TRAILER CONNECTOR, CONFIRM CONNECTOR TERMINAL POSITIONS, CHECK TRAILER
	NO TRAILER BRAKES, PEDAL OR MANUAL	 OUTPUT SETTING	MISWIRED TRAILER CONNECTOR	CONFIRM TRAILER CONNECTOR TERMINAL POSITIONS
	NO TRAILER BRAKES, PEDAL OR MANUAL	 FLASHING OL	SHORT OR OVERLOAD IN TRAILER BRAKES	TROUBLE SHOOT TRAILER BRAKE CIRCUIT PER BRAKE MANUFACTURER'S INSTRUCTIONS
	NO TRAILER BRAKES, PEDAL OR MANUAL	 ERROR	INTERNAL BRAKE CONTROL PROBLEM	RETURN UNIT TO DEALER FOR EVALUATION
	WEAK OR NO TRAILER BRAKES	 OUTPUT SETTING	MISWIRED TRAILER CONNECTOR	CHECK AND CORRECT CONNECTOR WIRE POSITIONS
	TRAILER BRAKES ON ALL THE TIME	 BLANK	MISWIRED TRAILER CONNECTOR	CHECK AND CORRECT CONNECTOR WIRE POSITIONS

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".
- When towing (in most applications) with Hazard Flashers on the Digital Display will flash with the Hazard Flashers. If the Brake Control is set aggressively pulsing may be felt in the trailer brakes.
- Installation of a Draw-Tite 5501 Pulse Preventor will isolate the brake control from the flashers and eliminate the flash/pulse situation.