

TRAILER BREAKAWAY KIT

SURE BRAKE 12V EMERGENCY



WARNING

Before using the product, read and follow the instructions carefully

- Test the internal battery status before towing the trailer
- Ensure the Sure Brake is mounted under cover, in an area protected from all weather conditions
- Do not submerge the product in water or expose to rain
- Batteries might release explosive gases during normal operation and charging so ensure the Sure Brake is mounted outside of internal cabin area
- Mount the unit in well ventilated and easy to access location
- Ensure the Test button is not accidentally activated by any objects
- Read the and follow the instruction on the internal label before replacing the internal battery
- Check the Sure Brake breakaway system regularly, especially after periods of non-use
- Disconnect the trailer connector from the tow vehicle prior to testing the breakaway system
- Make sure the (+) and (-) leads of the external charger are connected to the (+) and (-) external charging terminals respectively

IMPORTANT

1. Prior to each use check the systems battery operating voltage.

Warning: In order to avoid severe damage to the tow vehicle's electric brake controller, disconnect the trailer connector from the tow vehicle prior to testing the breakaway system.

2. Check the Sure Brake breakaway system from time to time to ensure proper secure connections.
3. Check that the Breakaway Switch cables aren't damaged from dragging on the ground and that they move freely.
4. Brake light fuse is 10A. Battery fuse is 30A.

SURE BRAKE TRAILER BREAKAWAY KIT

The Sure Brake Breakaway Kit is designed to activate a trailers electric brakes if it should disconnect while towing which will bring the trailer to a safe stop. Trailer Breakaway Kits are required when towing trailers at 2000kg gross trailer mass (GTM) or greater.

***Your trailer must be equipped with electric brakes in order to use this kit.**

FEATURES

- Durable battery case
- Internal charging via tow vehicle alternator or house battery
- External charging via terminal posts
- External charging function is compatible with most of the chargers in the market
- Fused battery connection

- Output for battery monitoring
- Potted circuitry with over-voltage, overcurrent and short circuit protection
- Test button and status LEDs for battery condition
- Breakaway switch with coiled cable and carabiner clip
- Step-up convertor added to provide better charging of internal battery with smart alternator vehicles

KIT INCLUDES:

- (1) Battery Case with Charging/Test Circuit
- (1) Breakaway Switch with coiled cable and carabiner clip
- (4) Case Mounting Screws

L.E.D STATUS INDICATORS

'Charging' LED: Illuminates **Green** when the internal battery is being charged by the tow vehicle or house battery (auxiliary battery at the caravan/trailer).

'Good' LED: Illuminates **Green** when the internal battery has enough charge.

'Low' LED: Illuminates **Red** when the internal battery needs charging before use.

NOTE:

The LED will not turn on if external battery charger is connected to the DC terminals. Please check the battery charger display for internal battery charging status.

INTERNAL BATTERY TEST

Push the 'Test' button on the front of the unit to check the internal battery condition. The trailer brakes and brake lights will activate when the 'Test' button is pressed, this operational load is applied each time the 'Test' button is pushed. If the battery voltage is above 11.5V, a 'green' LED is illuminated. If the battery voltage drops under 11.5V, a 'red' LED is illuminated. If the battery is under 6V neither LED indicator will be illuminate.

'Good' LED – Illuminates **Green** when internal battery has enough charge.

'Low' LED – Illuminates **Red** when the internal battery needs charging before use.

No LED turns On – The internal battery is flat or heavily discharged. Try to charge the battery fully. Repeat the battery test. If LOW LED turns Red or no LED turns on, replace the internal battery.

NOTE:

1. Prior to replacing the internal battery, disconnect the trailer connector from the tow vehicle.
2. Check the Sure Break breakaway system periodically to ensure proper secure electrical connections.
3. Check that the breakaway switch cable isn't damaged from dragging on the ground and is free from obstruction.
4. Internal battery fuse is rated at 30A. Brake light fuse is rated at 10A.

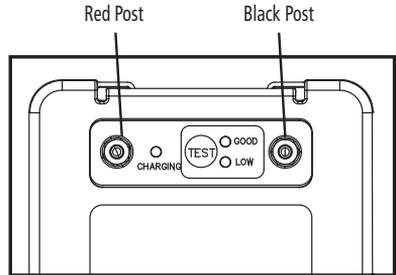
BATTERY CHARGING

If the system measures voltage less than 13.5V, the charging circuit will provide maximum charging current to a 12V 7Ah Battery until the battery is fully charged to 13.5V. During the operation the system provides a 'Trickle Charge' to maintain battery voltage. An external charger can be used.

When battery voltage is under 6V, the internal circuit will not activate when the 'Test' button is pressed and the whole test circuit will have no power and will not activate either the green or red LED. This will indicate a flat battery.

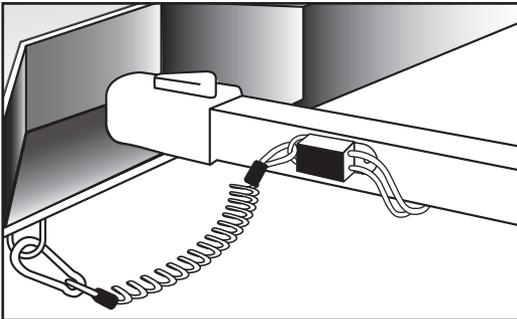
EXTERNAL CHARGING

The Sure Brake Breakaway Kit has the option to charge the battery using an external battery charger. Just connect the positive clamp/cable of the external charger to the red post and the negative clamp/cable of the external charger to the black post.



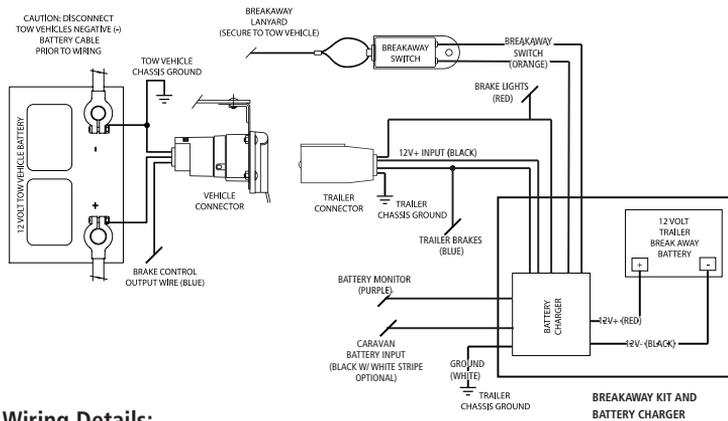
MOUNTING

1. **Breakaway Switch:** Position the Breakaway Switch on the drawbar of the trailer such that it allows the cable to reach the tow vehicle's hitch chain safety eyelets. It must be mounted so the breakaway/plunger lanyard is facing the tow vehicle, per the diagram below. This is critical for proper engagement of the switch.



Drill a 7mm hole in the trailer drawer bar frame to mount the Breakaway Switch once you've located the mounting location. Use an M6 bolt and lock nut (both not provided) to mount the Breakaway Switch to the trailer. **Note: Use caution when drilling the hole that there are no wires or other objects behind the mounting surface. Note: Take care not to over-tighten the bolt because the Breakaway Switch needs to pivot.**

2. **Battery Case:** Find a suitable location on the trailer frame to mount the Breakaway battery case. It should be mounted under cover or in an area protected from all weather conditions.



Wiring Details:

Orange (2 wires) – to Breakaway Switch (no polarity on the wires)

Red – to trailer brake lights (+ terminal)

Blue – to trailer electric brakes (+ terminal)

Ground Ring Terminal – to the chassis of the trailer

Black with White Stripe – to motor home/caravan 12V house battery (+ terminal) if available

Black – to 12V supply from the trailer connector

Purple – to battery monitor at the vehicle (+ terminal)

WIRING INSTRUCTIONS

1. Disconnect the trailer connector from the vehicle and any internal battery the caravan/ trailer has before wiring.
2. Do not connect internal Breakaway battery during wiring of the kit.
3. Connect the orange wires of the kit to the Breakaway Switch. There is no polarity on the wires.
4. Splice the red wire of the kit to the trailer brake lights.
5. Splice the blue wire of the kit to the trailer electric brakes.
6. Connect the purple wire of the kit to the battery monitor.
7. Splice the black wire with white stripe of the kit to the caravan 12V system if available (not necessary if not available).
8. Splice the black wire of the kit to the 12V supply from the trailer connector.
9. Connect the ground ring terminal to the chassis of the trailer.
10. Connect the Sure Brake Breakaway Kit battery by attaching the red wire inside the kit to the Positive (+) terminal of the battery and the black wire to the negative (-) terminal of the battery.
11. Test unit by pulling firmly on coiled cable of breakaway switch. The battery will activate the trailer brakes and brake lights. (Note: Do not use this kit as a parking brake.) The battery should be charged and tested prior to each trailer outing.

Caution: Do not attach the Breakaway Switch cable to mounting hooks, trailer safety chains or the trailer hitch ball.

Caution: Disconnect the trailer connector from the tow vehicle and any internal house battery before replacing Breakaway Kit battery.

TROUBLE SHOOTING

Q: When an external charger is connected the charging LED on the front panel does not turn on?

A: The charging LED only turns on when the internal battery is charged by the towing vehicle or the house battery.

Q: When the test button is pressed the brake lights do not activate/illuminate yet the battery status LED is green.

A: Check the brake light fuse and continuity of the cable connection. Replace fuse and tighten the connection if required.

Q: When the test button is pressed the brakes do not lock yet the battery status LED is green.

A: Measure the voltage at the blue cable. There should be more than 11.5V applied to the blue wire if the battery status LED is green. If no voltage or voltage is below 11.5V, check the continuity of the cable connection. Tighten the connection if required. If the connection and measured voltage is fine, bring the trailer to repair shop to check the electric brakes as soon as possible.

Q: The pin was pulled from the 'Breakaway Switch' but the brakes did not engage/lock.

A: Check if the pin was broken. If yes, replace the breakaway switch. Check if the orange wires are well connected to the black wires of the breakaway switch. Check if the orange wires are short-circuited when the pin is pulled. If not, replace breakaway switch. If yes, measure the voltage at the blue cable. There should be more than 11.5V applied to the blue wire if the battery status LED is green. If no voltage or the voltage is below 11.5V, check the continuity of the cable connection. Tighten the connection if required. If the connection and measured voltage is fine, bring the trailer to repair shop to check the electric brakes as soon as possible.

Q: When the test button is pressed no LED illuminates.

A: Check if the internal battery terminals are connected well with female blade terminals. If yes, replace the battery as soon as possible.

Q: When the test button is pressed the battery status LED momentarily turns green and red.

A: The internal battery is below its full charge level. Charge the battery as soon as possible before starting to use the trailer. If battery does not hold charge, replace with a new battery

Q: When the tow vehicle is running and the trailer plug is engaged the charging LED is not turned on.

A: Check if the internal battery terminals are connected well with female blade terminals.

Q: When the black and white stripe wire is connected to house battery which is being charged, the charging LED is not turned on.

A: Check if the house battery voltage is below the internal battery voltage. If yes, the charging LED will be turned on once both battery voltages are equal. If not, check if the internal battery terminals are connected well with female blade terminals.

Q: When using an external charger to charge the Sure Brakes internal battery, what current setting should I use?

A: The charging current should not be set more than 2A (otherwise, the internal resettable fuse will activate and limit the current).

WARRANTY STATEMENT

Brown & Watson International Pty. Ltd. ("BWI") of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, warrants that all products described in its current catalogue will under normal use and service be free of failures in material and workmanship for a period of one (1) year from the date of the original purchase by the customer as marked on the invoice (see elsewhere for specific warranty period). This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the purchaser.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either BWI or the retailer from where the product was bought in order that a warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim.

In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage.

This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation.

IMPORTANT NOTE

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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