



BrakeRite EHB & BrakeRite II

**ELECTRIC / HYDRAULIC
TOWED VEHICLE BRAKE
ACTUATION SYSTEMS**

**INSTRUCTION AND
INSTALLATION MANUAL**

BrakeRite EHB



BrakeRite II



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1.0 - INTRODUCTION

Congratulations on your selection of a TITAN BrakeRite brake actuation system. TITAN has been a pioneer in the development of brake actuation and brakes. The Titan BrakeRite EHB & BrakeRite II Towed Vehicle Brake Actuation Systems are *state of the art* ELECTRIC over HYDRAULIC brake systems.

The systems use electric power from the towing vehicle to drive the hydraulic power source. In a *breakaway* situation the electric power is supplied by a *breakaway* battery connected to the Towed Vehicle Brake Actuation System. This battery is charged by a charger built into the control circuitry. All BrakeRite systems are actuated one of three ways; primarily they turn on when the brake pedal of the towing vehicle is depressed, if due to road conditions it is desirable to apply only the towed vehicle brakes this is achieved by applying the *manual over-ride* on the “in-cab” brake controller, or in a *breakaway* situation the towed vehicle brake system is applied by the *breakaway* switch. Both “in-cab” over-ride and the *breakaway* feature are mandated by Federal Law.

The BrakeRite EHB & BrakeRite II “SD” Towed Vehicle Brake Actuation Systems both require “in-cab” electric brake control not provide as a part of these two actuation systems. These two systems will operate from “most” electric brake controllers **WHEN PROPERLY INSTALLED**. The BrakeRite II “RF” Towed Vehicle Brake Actuation Systems has its own “in-cab” control.

PROPER ELECTRICAL WIRING is **CRITICAL** for the performance of any of these systems. Improper wiring can result in damage to the actuation system or system failure after initial use. A “pure ground” and direct power (+12 VDC) with fuse or circuit breaker (30 amp) are necessary to ensure good performance. Adequate wire size, 12 Gauge Stranded Automotive or heavier is required, the longer the run the greater the chance of “line losses”. Line losses and poor grounding will result in poor performance or total loss of towed vehicle braking! The use of “frame grounding” is not acceptable. Wiring for the BrakeRite EHB must be done in accordance with the wiring instructions provided. The connection for the BrakeRite II “SD” & “RF” are provide by ‘pre-wired’ harnesses and the plug connectors are “keyed” so that they cannot be connected wrong, however, if the plug between towing and towed vehicles is not wired properly the unit will not function properly, or not at all. Consult applicable wiring diagrams in section 9.0. **Selection of a qualified and knowledgeable installer** is key to years of **trouble free service**.

2.0 - SAFETY CONCERNS

PROPER INSTALLATION & MAINTENANCE is essential for the safe and reliable operation of **all** vehicle braking systems. This manual provides a general outline of information addressing this matter. The variation in; tools, procedures, techniques, and related components related to the proper installation of these BrakeRite systems is as numerous as the skills and knowledge of the individuals doing the installation. We **cannot** possibly anticipate the various approaches or the possible effect of these variations. Therefore, anyone undertaking the installation and/or maintenance of any BrakeRite system must determine that the specific action taken will neither effect personal safety nor effect the performance of the system or vehicle reliability by their approach, technique, and/or choice of related components.

BRAKE INSTALLATION, MAINTENANCE & REPAIR should be preformed only by qualified personnel, knowledgeable in braking and brake systems.

WHEN COUPLING THE TOWED VEHICLE to the TOWING VEHICLE always assure that the two vehicles are coupled in accordance with the vehicle manufactures' instructions and that **ALL COUPLING DEVICES and PROCEDURES CONFORM TO APPLICABLE STATE and FEDERAL REGULATIONS.**

2.0 - SAFETY CONCERNS (cont.)



Before using the trailer always check:

1) PROPER BRAKE FLUID LEVEL:

Must be between $\frac{3}{8}$ & $\frac{3}{4}$ inch of filler opening.

2) PRIOR TO MOVING THE COUPLED UNIT:

- a. Verify the brake system is working properly.
(consult owners manual)
- b. Verify that Breakaway Protection is working properly,
being certain Breakaway battery is properly charged.

**NEVER TRANSPORT THE TOWED VEHICLE if the
breakaway protection is not functioning properly.**

3) WHEN OPERATING/TRANSPORTING THE TOWED VEHICLE:

- a. Do not rely on the Towed Vehicle brakes for
deceleration of the entire combined unit braking. The
towed vehicle Brakes are designed for braking of the
towed vehicle only and not the entire combined unit.
- b. Always operate the combined unit within the specified
parameters outlined in the vehicle owner manuals and
OBEY ALL LAWS.

3.0 - SYSTEM DESCRIPTION

3.1 The basic BrakeRite EHB & BrakeRite II units are the same, the difference is with the electronics. The BrakeRite EHB has the ECB (electronic control board) built within the unit and has five wires exiting the housing. Termination of these five wires is performed by the installer per the wiring diagram. If not properly connected the unit will not perform properly or at all. The BrakeRite II has no ECB and has a three-wire cable with a Female Weather Pack plug, therefore it requires a control module. With the BrakeRite II either the SD or RF control module is used (both systems described below).

3.2 The heart of both the BrakeRite EHB & BrakeRite II are the electric motor driven piston pump and electronically controlled pressure relief valve. The outward appearance of the two units are very similar, only the wiring exiting the housing is different and each has its own distinct Model Markings.

3.3 The “SD” Control Kit for the BrakeRite II is basically the same control circuitry as the BrakeRite EHB. However in an effort to improve installation efficiencies and reliability the “SD” control kit consists of; one SD Control Module, one I/O Harness with 7 pin RV plug 7 pin RV receptacle and three wire tap with Weather Pack plug, one breakaway switch with Weather Pack plug, and one battery cable with Weather Pack plug. All electrical circuitry is “plug-in”, the individual circuits are keyed so that wires cannot be connected improperly. Great importance must be placed upon proper wiring in the towing vehicle plug. (Consult the wiring diagram in section 9.0).

3.4 The “RF” Control Kit for the BrakeRite II is designed to make the BrakeRite II “RF” a ‘stand-alone’ brake actuation system. The system requires only a 4 pin flat connector between the towing and towed vehicles. Normal activation is achieved by the brake/signal light circuit and brake pressure is ‘modulated’ as a result of accelerometer output in the control module. This system does not require a ‘hard wired in-cab’ controller as it has its own controller.

3.0 - SYSTEM DESCRIPTION (cont.)

3.5 The 'in-cab' controller has a radio link between the control module and controller and a programmable code so that each controller will only communicate with the specific control module intended. This 'in-cab' controller plugs into the towing vehicle power source (cigarette lighter socket) and does not have to be 'hard wired' into the towing vehicle. The control module must be mounted facing forward and should not be totally surrounded in metal. The "RF" Control Kit consists of; one I/O Cable, Control Module, Breakaway Switch, and Battery Cable. All cables and module leads have Weather Pack plugs to insure proper connection.

3.6 For the BrakeRite EHB & BrakeRite II SD the brake pressure control is established by most in-cab electronic brake controllers and for the BrakeRite II RF it has it's own in-cab controller. Brake performance is selected by the driver, from the driver's position and so is *manual override* if the drive wishes to apply only the towed vehicle brakes.

3.7 Federal law requires that ALL towed vehicles with brakes have the ability to apply the brakes in the event that the towed vehicle becomes uncoupled from the towing vehicle. This requires a *breakaway switch* and a power source (battery) on the towed vehicle.

The BrakeRite EHB & BrakeRite II control has circuitry for breakaway, however breakaway switches are provided only with the "SD" & "RF" control kits and no breakaway battery is supplied with any of the kits.

4.0 - ELECTRICAL

4.1 All models of the BrakeRite are 12 Volt DC with negative ground. Improper connections and grounding can and will result in damage to the systems. For both the BrakeRite EHB & BrakeRite II SD 12 gauge or larger wire must be run from the towing vehicle battery to the BrakeRite with either a 30 amp fuse or circuit breaker for protection. The control leads for the BrakeRite EHB & BrakeRite II SD and all leads for the BrakeRite II RF 16 gauge or larger wires must be used. If light wiring is used for the power leads low voltages will result with slower response times and generally poor performance of the brake system.

For both the BrakeRite EHB & BrakeRite II SD a BREAKAWAY BATTERY OF AT LEAST 12 AMP HOURS must be used and for the BrakeRite II RF AT LEAST A 20 AMP HOUR BATTERY must be used. The breakaway battery serves to operate both the BrakeRite EHB & BrakeRite II SD as a peaking battery for brake applications and to supply power in a “breakaway condition”. While for the BrakeRite II RF the battery not only supplies power for “breakaway conditions” but also supplies the power for operating the brake system. All three systems have internal chargers to maintain charge on the battery from the towing vehicle. The charger circuit for the BrakeRite II RF requires that the Running/Marker lights be on at ALL times during towing.

4.2 Wiring Diagrams covering the BrakeRite EHB, BrakeRite SD & BrakeRite RF are provided on the pages indicated below:

Pg. 19 BrakeRite EHB wiring diagram. (figure 4.2.1)

Pg. 20 BrakeRite II SD wiring diagram. (figure 4.2.2)

Pg. 21 BrakeRite II RF wiring diagram. (figure 4.3.3)

4.0 - ELECTRICAL (cont.)

4.3 The BREAKAWAY SWITCH (circuit) is required by law. Both of the BrakeRite II models have the switch included as part of the kit, however neither kit includes the battery. For the BrakeRite EHB neither the switch or battery is included and must be purchased separately. The switch, when installed properly, applies towed vehicle brakes in the event that the towed vehicle becomes un-coupled from the towing vehicle.

The closing of a circuit is required to activate the breakaway function. The breakaway switch is a normally closed switch held OPEN by a plastic key. A cable is attached to the key and to the towing vehicle, if the units become uncoupled the cable pulls the key from the switch closing the circuit activating the breakaway function and applying the trailer brakes.

4.4 The ECB (electronic control board) has a **battery protection** circuit to assure that the breakaway (auxiliary) battery maintains a charge at all time and prevents a *surge charge* witch could damage the battery. There is also protection designed into the board to prevent power draw from the auxiliary battery to the towing vehicle electrical system.

5.0 - INSTALLATION

5.1 Mounting location: Mounting the BrakeRite EHB or the BrakeRite II is at the discretion of the installer, however things such as accessibility for service, protection from damage, and the ability to minimize the length of hydraulic lines while protecting the integrity of the lines are factors to be considered. The physical envelope size for the power unit is approximately 6 inches front to back, 7¼ inches left to right, and 9⅛ inches high. Two sets of mounting holes are provided in the power unit; one set is located in the bottom (Figure 5.1A—pg.22) consisting of four ¼-20 UNC x ⅝ deep and one set located in the back (Figure 5.1B—pg.22) consisting of three 5/16-18 UNC x ⅝ deep.

SEE MOUNTING TEMPLATE INSERT FOR HOLE PATTERN

5.2 Hydraulic Line: All BrakeRites have a ⅛-27 NPTF port located on the lower front of the housing and a straight ⅛-27 NPTF Male by #3 Female Inverted Tube seat (¾-24 NPTF) adapter. When installing this or any adapter do not use TEFLON PIPE TAPE, properly mated brass fitting joints **do not** require a sealant. Route the brake lines to the axels per the Brake Line Fitting Kit manufactures instructions, using flexible tubing as required and properly securing all tubing and hoses for maximum protection from damage due to pinching, vibration, corrosion, or catching on road hazards. When bending and flaring steel tubing always use the proper tools to assure sound connections to prevent “kinking the lines. Kinked and /or damaged brake lines can cause restriction in flow resulting in **poor braking** or **no brakes at all**.

5.3 Electrical Connections: Depending upon the brake system chosen there are various approaches to be considered. Though TITAN is the producer of the BrakeRite EHB system and the two BrakeRite II systems Titan has **NO** control over how the towing vehicle or the basic wiring on the towed vehicle have been installed or its color coding. Therefore, when installing any of the BrakeRite systems it is **important** that all wiring is connected per these instructions. While it is desirable to establish a ground between the frame, BrakeRite unit, and also the negative side of the breakaway battery, **NEVER RELY SOLELY ON FRAME GROUNDING**.

5.0 - INSTALLATION (cont.)

Always use good ground leads between ALL specified points. As the electrical portion of the installation is carried out make certain the wires are properly routed, wrapped, anchored, and protected to prevent damage or catching on road hazards. When making connection in the circuit, other than the plug-in connectors, the desirable joint is a solder joint. If using crimp-type joints always use the manufacturers recommended crimping tools in accordance with the manufacturers directions and always properly wrap and protect all joints to prevent "shorting" and corrosion.

5.3.1 The **BrakeRite EHB** requires that the installer assure that all wires are connected properly, **per the applicable wiring diagram**, insuring that the system works as designed. FIGURE 4.2.1 (pg.19) is the preferred method for electrical wiring, this method requires an independent battery solely for the brake system. However, the towed vehicle auxiliary battery can be used in place of the breakaway battery if it is in good condition and fully charged. NOTE: If the towed vehicle has set for an extended period of time the auxiliary battery may have been discharge excessively resulting in **poor or no braking**.

5.3.1.1 Function of and size of each of the five (5) wires exiting the BrakeRite EHB unit are as follows:

- 5.3.1.1.1** White 12 gauge, 12 VDC negative (-) system ground.
- 5.3.1.1.2** Black 12 gauge, 12 VDC Positive (+) system power in.
- 5.3.1.1.3** Blue 18 gauge, Brake Control Input (from In Cab Electronic Brake Controller)
- 5.3.1.1.4** Brown 14 gauge, Breakaway Input (from one lead of Breakaway switch)
- 5.3.1.1.5** Violet (mauve) 14 gauge, 12 VDC Input/Output between Unit and Breakaway battery. (2nd lead of Breakaway switch is also connected to 12 VDC positive of breakaway battery)

5.0 - INSTALLATION (cont.)

5.3.2 The BrakeRite II SD kit has a complete wiring harness as a “plug-in” system and all connections within the system have been “pre-selected” at the factory so that upon installation the connectors are simply plugged in. Though TITAN is the producer of the BrakeRite II SD system, Titan has **NO** control over how the towing vehicle or the basic wiring on the towed vehicle have been installed or its color coding. It is crucial that the SEVEN PIN “RV” receptacle on the towed vehicle is wired per FIGURE 5.3.2A (pg.23—is the most common factory installed wiring arrangement). The two basic options left to the installer are whether to use the auxiliary battery on the towed vehicle, if one is available, or to install a separate breakaway battery (the preferred method). No battery is supplied with the kit. FIGURE 4.2.2 (pg.20) illustrates the preferred method (separate breakaway battery) however, the towed vehicle auxiliary battery can be used in place of the breakaway battery if it is in good condition and fully charged.

5.3.3 The BrakeRite II RF kit is supplied complete with the wiring harness as a “plug-in” system so that all connections within the system have been “pre-selected” at the factory, upon installation the connectors are simply plugged in. Though TITAN is the producer of the BrakeRite II RF system, Titan has **NO** control over how the towing vehicle or the basic wiring on the towed vehicle have been installed or its color coding. The Four Pin Flat Connector on the towing vehicle must be wired as shown in FIGURE 5.3.3A (pg.24—this is the industry excepted standard). As with The BrakeRite II SD two basic options left to the installer are whether to use the auxiliary battery on the towed vehicle, if one is available, or to install a separate breakaway battery (the preferred method). No battery is supplied with the kit. FIGURE 4.2.3 (pg.21) illustrates the preferred method (separate breakaway battery) however, the towed vehicle auxiliary battery can be used in place of the breakaway battery if it is in good condition and fully charged.

5.0 - INSTALLATION (cont.)

5.4 System Start-Up: After the unit has been mounted, all hydraulic lines have been installed and connected, and the electrical connections have been completed we can now proceed with the start-up of the system.

5.4.1 Initial electrical check: Before putting brake fluid into the unit pull the Breakaway switch to insure that the unit starts and runs. Do not allow the unit to run more the ten (10) seconds. After testing the breakaway feature test the manual override feature and also depress the brake pedal to assure that this will start the unit. At no time during these initial checks should the unit be allowed to run dry for more then five (5) consecutive seconds.

5.4.2 Fill reservoir and Bleed the brakes: Upon initial verification of the electrical system remove one of the filler caps and fill the reservoir to within 3/8 inches of the filler cap opening (there are two filler caps on the reservoir, either may be used for filling and checking fluid level as they both enter a common reservoir) see FIGURE 5.4.2A (pg.22). Fill the reservoir with **NEW DOT II BRAKE FLUID**. **Never** reuse brake fluid that has been salvaged or removed from another system. Contaminated or dirty brake fluid may cause damage to the system resulting in system failure.

5.4.2.1 Bleeding the brakes: It is essential to remove **all** air from the brakes and brake-lines prior to operation of the vehicle. To bleed the brakes remove the key from the breakaway switch to start the unit. Starting with the brake furthest from the actuator open the 'bleeder screw' and allow it to remain open until seeing brake fluid free of air bubbles coming out of the bleeder screw. Close the bleeder screw and move to the next brake and so on until all brakes have been bled. While performing the bleeding process monitor the fluid level in the reservoir so that more air is not pumped into the brake lines because of low fluid level. To prevent spilling brake fluid on the ground one end of a length of plastic tubing should be placed over the end of the bleeder screw and the other end should be placed into a container (see FIGURE 5.4.2.1A—pg.24) so that the fluid flow can be monitored for bubbles. After all brakes have been bled replace the "key" in the breakaway switch.

6.0 - OPERATION

6.1 Coupling the Units: WHEN COUPLING THE TOWED VEHICLE to the TOWING VEHICLE always assure that the two vehicles are coupled in accordance with the vehicle manufactures' instructions and that ALL COUPLING DEVICES and PROCEDURES CONFORM TO APPLICABLE STATE and FEDERAL REGULATIONS.

6.1.1 Install Electrical Plug: After the units are properly coupled connect the electrical plug and assure that the "safety cable" from the breakaway switch on the towed vehicle is connected to the towing vehicle.

6.1.1.1 Test Prior to Moving the Vehicle: To assure proper connections have been made, most In-Cab controllers have some type of indicator to show that the electrical connection is adequate. Consult the "In-Cab Controller" manufacturers operator's manual for proper checking and setting procedures. Before moving the vehicle depress the towing vehicle brake pedal, the BrakeRite unit should start (you can hear the unit running). Release the towing vehicle brake pedal and activate the BrakeRite unit by operating the "manual override" on the "In-Cab" controller, again you will hear the unit turn on. With the manual override you are able to tell by the change in tone that the system is building pressure relative to the amount of "activation" initiated on the override switch (again consult the In-Cab Controller Manual for proper operation). **Do Not attempt to move the unit until the brake system performs in the tests described above!**

6.0 - OPERATION (cont.)

6.1.1.2 Getting the feel of the system and setting the In-Cab controller: After the system responds to the tests previously described you may proceed with moving the vehicle to establish feel for the brake system and also to set your brake response based upon the instructions given in the Electronic Brake Controller manual. It is best to perform this familiarization in a parking lot or low traffic area. Do Not attempt to operate this unit in congested traffic or on major thoroughfares until you have totally familiarized yourself with the “feel” and performance of the system. Every operator and every vehicle have unique requirements and characteristics. Take the time to familiarize yourself with the feel of the unit, the performance of the brake system, and the proper operation and setting selections of the Electronic Brake Controller.

6.2 Operation: Towed vehicle brakes are meant to assist the towing vehicle in the stopping of the combined units, they are not intended to stop the entire combined unit. There are two basic types of “In-Cab” Electronic Brake Controllers; one is the *inertia* based controllers that create a small ‘bias’ braking force when activated and modulates the braking forces of the towed vehicle relative to the braking “reaction” created by the towing vehicle, these offer the most desirable braking effect. The second type of In-Cab Electronic Brake Control is *time* based controller. This type of controller turns on when the towing vehicle brake pedal is applied and braking force increases at a selected rate of increase until it reaches maximum set point. This does not generate as smooth of braking as the inertia based controller and is very speed sensitive. No matter what type of controller you have thoroughly know its performance and “feel” before any extensive travel is considered. **Manual override is required by law and should be fully understood for safe operation.** When operating on wet or slippery surfaces it is desirable to brake only with the towed vehicle brakes to maintain alignment of the vehicles and help prevent a jack-knife condition. By maintain adequate braking on the towed vehicle, sway or the tendency of the towed vehicle to “push” the towing vehicle is greatly reduced.

7.0 - SERVICE & MAINTENANCE

7.1 Periodic Inspection should be made of the electrical connector, wiring, brake lines and hose for the entire brake system to insure there are no abraded or bare wires, damaged steel lines, or cracked and damaged hoses. During inspection assure there are no loose or “hanging” lines or wire that might drag or catch on objects/debris while being towed.

7.2 Every time the towed vehicle is coupled to a towing vehicle:

7.2.1 Check the fluid level in the reservoir. The fluid level must be maintained within $\frac{3}{8}$ to $\frac{1}{2}$ inch below the filler opening. If brake fluid is needed add only **NEW, CLEAN, DOT III BRAKE FLUID**. Use caution when opening to the reservoir (removing the filler cap) to prevent the admission of dirt and/or contaminants into the fluid reservoir.

7.2.2 Check to be certain the breakaway battery is charged and that the breakaway works. This is accomplished by “pulling” the cable on the breakaway switch. If the vehicle has been parked for long periods of time the breakaway battery may be discharged. If this is the situation, charge the breakaway battery per manufacturers recommendations prior to using the vehicle. If the battery is allowed to discharge in a cold environment there is a possibility of freezing it, causing damage to the battery.

7.2.3 Inspect the coupler and safety chains to assure that they are fully functional and there is no wear or damage to them and that they meet manufacturers specifications and recommendations and all applicable state and federal laws.

7.0 - SERVICE & MAINTENANCE (cont.)

7.3 Trouble Shooting

<u>ISSUE</u>	<u>SOLUTION</u>
Indicator on “In Cab Controller” Shows no connection between towed and towing-vehicle	Inspect plug and wiring for open circuit. Consult applicable wiring diagram to assure proper wiring connections
Poor response time	Check and add brake fluid as required (figure 5.4.2A-pg.22) Bleed brake lines and devices Check input for adequate “charge” (12 VDC)
Inadequate or excessive trailer braking	Adjust “gain” control on In-Cab Controller
BrakeRite unit runs but does not build pressure	Assure proper brake fluid level, add fluid and bleed the system as required
BrakeRite unit does not run when Breakaway is pulled	Check breakaway battery charge. Assure wires are properly connected.
BrakeRite unit does not run when the vehicle brake pedal is depressed	Verify and connect wire connections in the entire electrical circuit
BrakeRite unit does not run when the in-cab manual override is activated.	Verify and connect wire connections in the entire electrical circuit

Experience has shown that virtually all problems with BrakeRite units are the result of INCORRECT OR FAILED WIRING. If problems arise consult the applicable wiring diagram (Section 9.0) and inspect all wiring and terminations.

7.0 - SERVICE & MAINTENANCE (cont.)

7.4 Replacement Parts:

7.4.1 BrakeRite EHB is shipped from the factory with “tamper proof” seals between the cover and casting. The warranty is void if these seals have been broken. Contact Titan Distribution, Inc. at **800-832-8781** for information on where to obtain related service parts such as; breakaway switches, breakaway batteries, electrical plugs, filler caps.

For BrakeRite EHB unit covered by warranty, requiring repairs, follow the instructions on page 18, section 8.5.

If the **BrakeRite EHB** is out of warranty contact Titan Distribution, Inc. at **800-832-8781** for a service center and parts source.

7.4.2 BrakeRite II SD & BrakeRite II RF have various parts available as service parts. Consult the applicable illustration for service parts and contact Titan Distribution, Inc. at **800-832-8781** for information on where to obtain these service parts.

8.0 - WARRANTY

8.1 - Eligibility. You are eligible for the benefits of this limited warranty if you are the original end-use purchaser of this BrakeRite EHB and if the unit has been used only on the vehicle in which it was first installed.

8.2 - What Is Covered. Titan Tire warrants this product to be free from defects in material and workmanship for 18 months after the date of manufacture or one year from the date of retail sale, whichever occurs first, when properly installed, used and maintained.

8.3 - What Is Not Covered. The warranty does not apply to damage or loss caused by any of the following circumstances or conditions:

1. Freight damage
2. Misapplication, misuse, modification, or failure to follow the directions or observe cautions and warnings on installation, wiring, operation, application, inspection or maintenance specified in any Titan specification sheet, instruction and installation manual ;
3. Using parts, accessories or components not specified in Titan's specification sheet, instruction and installation manual or approved by Titan Tire in writing.

8.4 - Conditions and Limitations. Titan Tire's liability and purchaser's remedy are expressly limited, at Titan's sole option, to the repair or replacement of the defective product.

For the warranty to apply, Titan Tire must receive notice of the alleged defect within 30 days of i) the alleged defect or ii) the expiration of the warranty period, whichever is earlier. Any claim not made within this period shall conclusively be deemed void.

Titan Tire reserves the right to request that the product be returned to Titan Tire, intact and postage prepaid, prior to processing a warranty claim.

8.0 - WARRANTY

Titan Tire shall not be liable for loss of use of the unit, or any other incidental or consequential costs, expenses or damages incurred by the purchaser.

Some states do not allow the exclusion or limitation of implied warranties, incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

8.5 - To Receive Benefits Under This Warranty.

Contact Titan Tire at the address or phone number below to obtain an authorization for return.

Titan Tire Corporation
Attention Warranty Dept.
2345 E. Market Street
Des Moines, IA 50317
800-832-8781

The product must be returned, shipping costs prepaid, insured to the factory for evaluation.

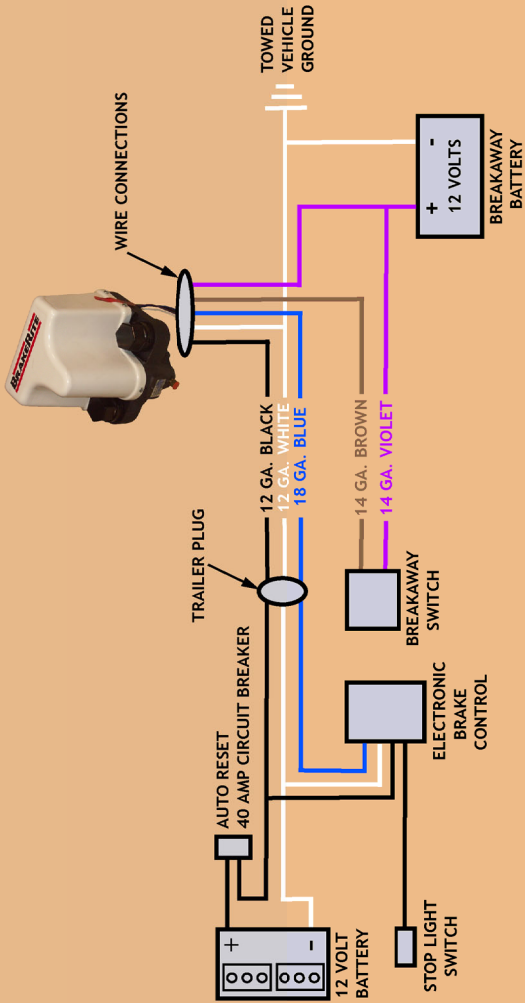
The following information should be available when contacting the factory and must accompany the return, legibly prepared: i) name, address and telephone number of purchaser, ii) proof of purchase including date, iii) model and serial number of the unit, iv) name and address of the dealer where the unit was purchased, v) description of the alleged defect.

These terms and conditions represent the entire Titan Tire BrakeRite EHB warranty, and no terms or conditions in any way adding to, modifying or otherwise altering the provisions stated herein shall bind Titan Tire unless in writing signed by Titan Tire.

9.0 - DIAGRAMS / ILLUSTRATIONS

4.2.1

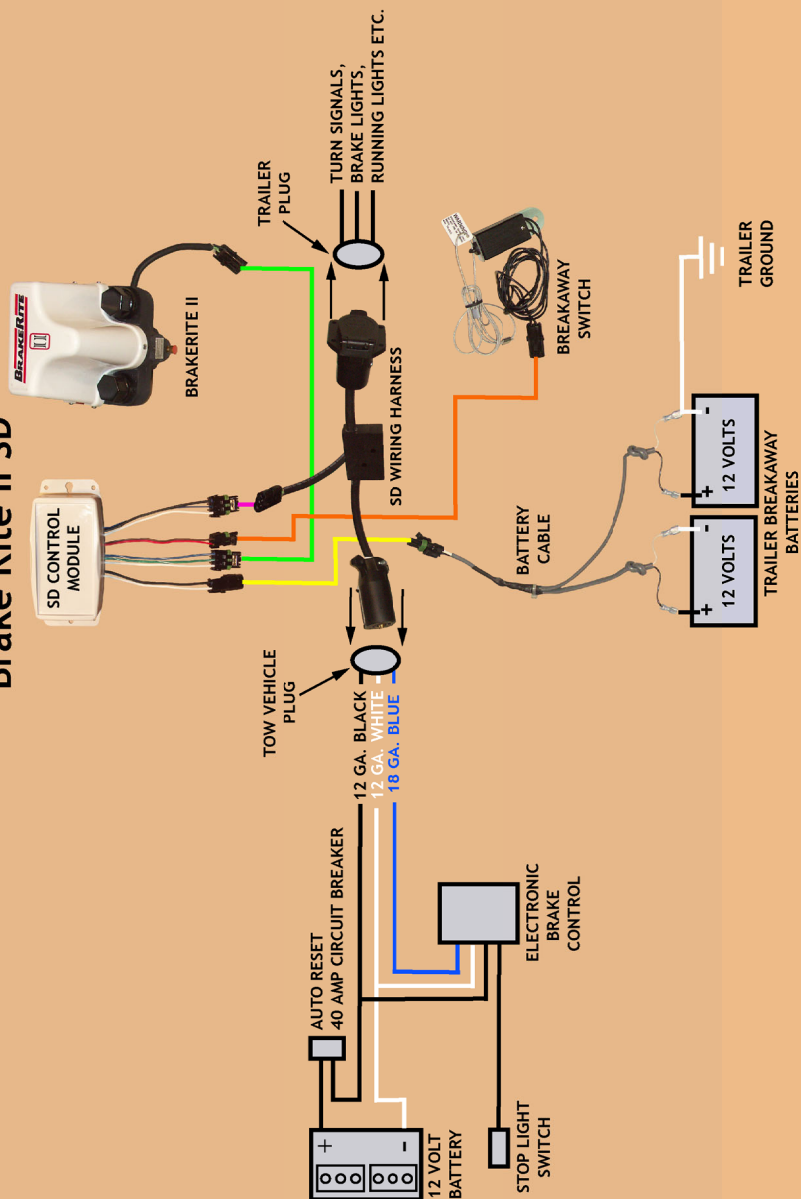
Brake Rite EHB



9.0 - DIAGRAMS / ILLUSTRATIONS

4.2.2

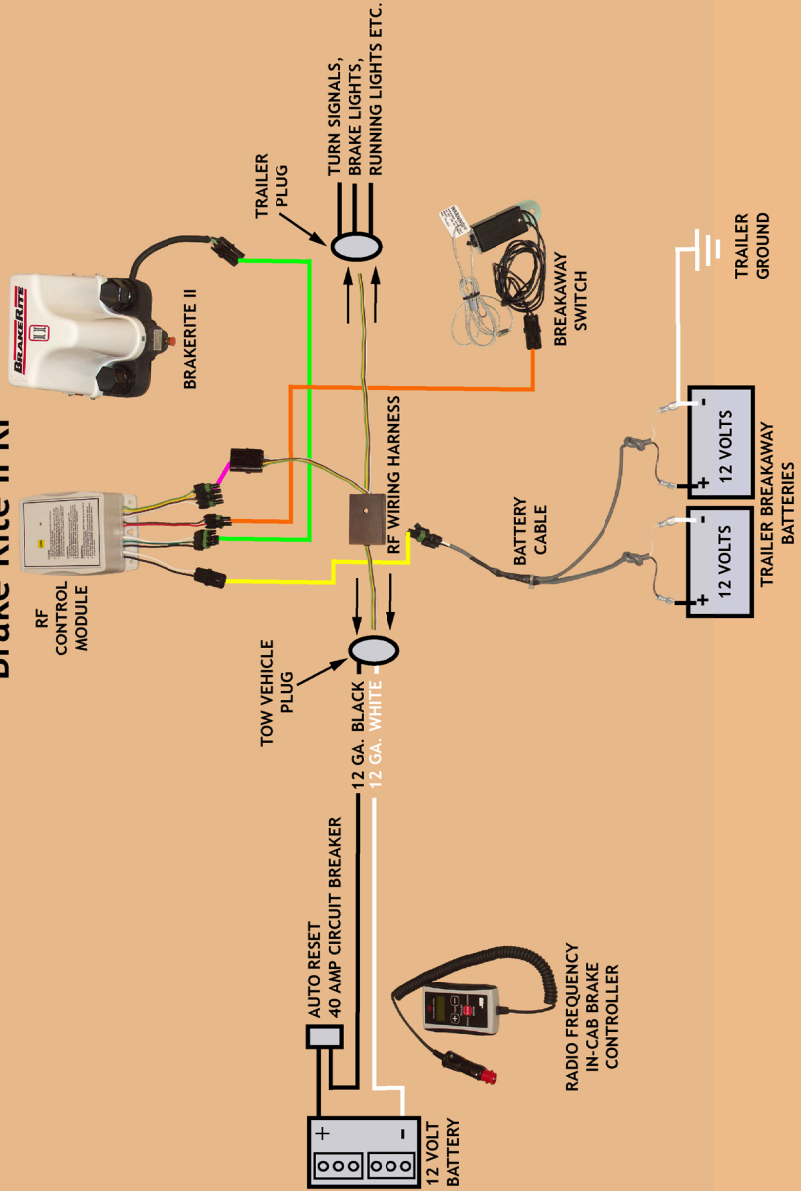
Brake Rite II SD



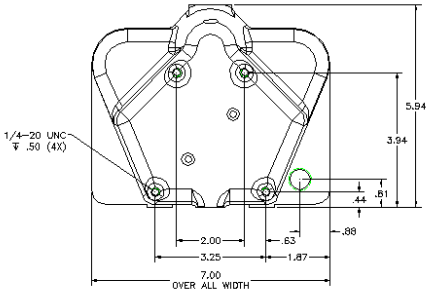
9.0 - DIAGRAMS / ILLUSTRATIONS

4.2.3

Brake Rite II RF

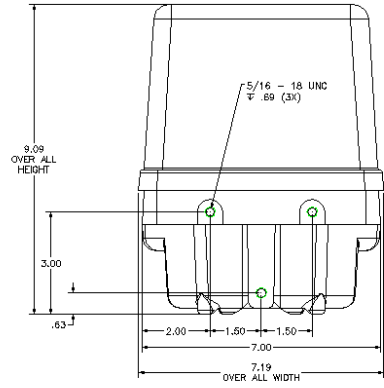


9.0 - DIAGRAMS / ILLUSTRATIONS



BOTTOM MOUNTING PATTERN

FIGURE 5.1A



BACK MOUNTING PATTERN

FIGURE 5.1B

BRAKERITE EHB & BRAKERITE II

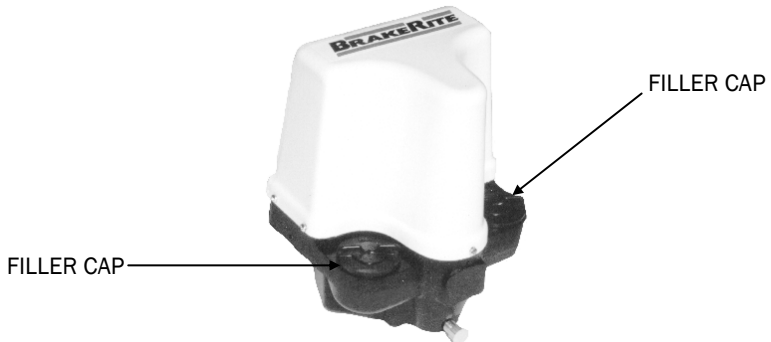
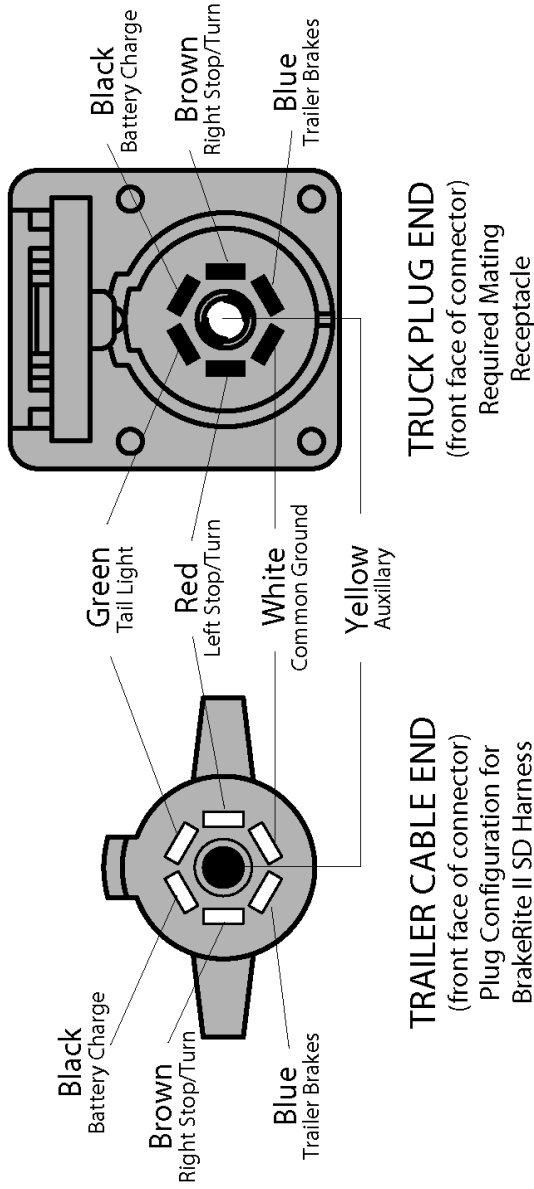


FIGURE 5.4.2A

BRAKERITE EHB & BRAKERITE II

9.0 - DIAGRAMS / ILLUSTRATIONS

7-WAY TRAILER / TRUCK CONNECTION



9.0 - DIAGRAMS / ILLUSTRATIONS

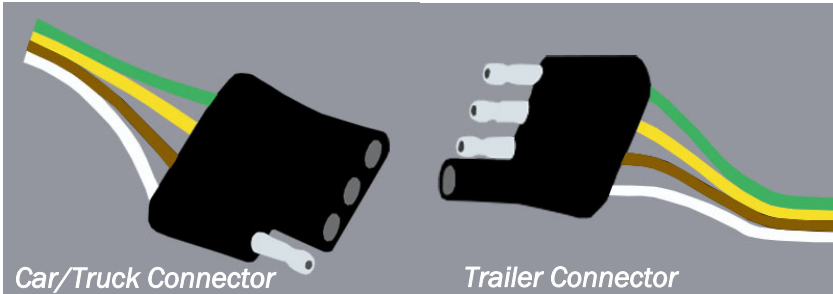


Figure 5.3.3A

Four Pin Flat Connector - BrakeRite II RF Connection

White Wire - Vehicle Ground

Brown Wire - Vehicle Running Lights

Yellow Wire - Left Turn and Left Brake Light

Green Wire - Right Turn and Right Brake Light



Figure 5.4.2.1A

Bleeder Screw & Tube

WARNING

IMPORTANT SAFETY NOTICE

Appropriate installation, maintenance, and repair procedures are essential for the safe, reliable operation of vehicle brakes, as well as the safety of the individual doing the work. This booklet provides general information in this regard.

There are numerous variations in procedures, techniques, tools, and parts for servicing brakes, as well as in the skill of the individual doing the work. This booklet cannot possibly anticipate all such variations and provide advice and caution as to each. Accordingly, anyone who undertakes to install, maintain, or repair a vehicle brake system or brake system components, must first establish that they neither compromise their personal safety nor the vehicle integrity by their choice of methods, tools or parts.

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