Banks SpeedBrake

For use with Palm® Tungsten™ E2

2004-2005 Chevy/GMC 6.6L (LLY) Turbo-Diesel Pickup

THIS MANUAL IS FOR USE WITH KITS 55419 & 55421

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Do not use this product until you have carefully read the following agreement.

This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions.

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Gale Banks Engineering Inc., and its distributors, employees, and dealers (hereafter “SELLER”) shall in no way be responsible for the product’s proper use and service. The BUYER hereby waives all liability claims.

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Please see enclosed warranty information card, or go to www.bankspower.com/warranty, for warranty information regarding your product. Parts or devise outside the products kit, such as the Palm® Tungsten™ E2, are not covered under Gale Banks Engineering warranty. The warranty for the Palm Tungsten E2 is determined by the manufacturer’s warranty terms and conditions, and limited to a period of 90 days from purchase. All products that are in question of Warranty must be returned shipping prepaid to the SELLER and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Gale Banks Engineering Inc.

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In the event that the buyer does not agree with this agreement:

The buyer may promptly return this product, in a new and unused condition, with a dated proof-of-purchase, to the place-of-purchase within thirty (30) days from date-of-purchase for a full refund, less shipping and/or restocking fee.

The installation of this product indicates that the buyer has read and understands this agreement and accepts its terms and conditions.

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WARNING: The PDA may be susceptible to damage as a result of extended exposure to sunlight, heat or extreme cold. It is highly recommended that the PDA be removed from its mounting location if the vehicle will be subjected to high concentrations of sunlight, heat or cold for an extended period of time. Gale Banks Engineering is not responsible for damage to PDAs resulting from exposure conditions.
Dear Customer,

Your new Banks SpeedBrake is a uniquely designed braking system with electronic controls, designed to achieve the optimum level of braking from your vehicle’s engine.

If you have any questions concerning the installation of your Banks SpeedBrake System, please call our Technical Service Hotline at (888) 839-2700 between 7:00am and 5:00pm (PST). If you have any questions relating to shipping or billing, please contact our Customer Service Department at (888) 839-5600.

Thank you.

1. Before starting work, familiarize yourself with the installation procedure by reading all of the instructions.

2. The exploded views provide only general guidance. Refer to each step and section diagram in this manual for proper instruction.

3. Throughout this manual, the left side of the vehicle refers to the driver side, and the right side to the passenger side.

4. Disconnect the negative (ground) cable from the battery (or batteries, if there are two) before beginning work.

5. Route and tie wires and hoses a minimum of 6” away from exhaust heat, moving parts and sharp edges. Clearance of 8” or more is recommended where possible.

6. When raising the vehicle, support it on properly weight-rated safety stands, ramps or a commercial hoist.

Follow the manufacturer’s safety precautions. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the front wheels are centered squarely on the topsides. When raising the front of the vehicle, put the transmission in park (automatic) or reverse (manual), set the parking brake, and block the rear wheels. When raising the back of the vehicle, be sure the vehicle is on level ground and the front wheels are blocked securely.

CAUTION: Do not use floor jacks to support the vehicle while working under it. Do not raise the vehicle onto concrete blocks, masonry or any other item not intended specifically for this use.

7. During installation, keep the work area clean. Do not allow anything to be dropped into intake, exhaust, or lubrication system components while performing the installation, as foreign objects will cause immediate engine damage upon start-up.

8. Save this Installation Manual as a reference for system maintenance and service.

TOOLS REQUIRED:

• 1/2” and 3/8” drive ratchets with inch and metric sockets and 1/2” and 3/8” drive extension

• Inch and metric combination or open-end wrenches

• Standard & Phillips screwdriver

• Clean shop towels or rags

• Pliers

• Needle nose pliers

• Utility knife

• Inch-pound and foot-pound torque ratchets
Section 1
INSTALLATION OF BANKS SPEEDBRAKE WIRE HARNESS

Figure 1 Banks SpeedBrake and supplied wiring harness
1. Before beginning the SpeedBrake installation, locate The Palm Tungsten E2 Power PDA in your kit. It will need to be charged for a minimum of one hour before the unit will function. Charge the unit with the supplied AC-outlet wall charger. The unit will be fully charged in one to two hours.

2. Disconnect the negative (ground) cable from the battery (or batteries, if there are two) before beginning work. Secure the cables so that they do not come in contact with the battery posts during the installation.

3. Locate the Banks SpeedBrake wire harness in your kit. Start By placing the wire harness near the under hood fuse box.

4. Install the ground ring terminal on the SpeedBrake wire harness onto the bolt on the fire wall. See Figure 1.

5. Remove the fuse box cover to access the fuses on the electrical center and set aside.

6. Locate mini-fuse for the Body Control Module (TBC IGN1) and remove it. See Figure 2.

7. Install the mini-blade fuse tap onto the removed mini fuse as shown in Figure 3. Re-install the mini fuse with the attached blade tap into the fuse box.

NOTE: install the fuse tap in the Body Control Module (TBC IGN1) spot closest to the firewall. This is the “hot” side of the circuit. See Figure 2.

8. Locate the fuse connector wire on the SpeedBrake wiring harness and connect it to the mini-blade fuse tap.

9. Replace the fuse box cover and make sure not to pinch the fuse connector wire.

10. Locate the black wire harness locking connectors between the brake fluid reservoir and the air conditioning compressor. Lift the gray connector locks and disconnect the 24-pin connector pair. See Figure 1.

Figure 1 Grounding location & 24-Pin Intercepting Connectors
Figure 2  Electrical Center Fuse Tap Location

Figure 3  Fuse Tap Installation
11. Insert the male 24 pin connector on the SpeedBrake harness into the female 24-pin connector on the factory harness. Insert the female 24-pin connector on the SpeedBrake harness onto the male 24-pin connector of the factory harness.

*NOTE*: If vehicle is equipped with a Banks Tuner, disconnect the 24-pin connection between the factory 24-pin connectors and the Banks Tuner 24-pin connectors. It is not important if the intercepting connection is made before the Banks Tuner connection or after. This will not affect the performance of the Banks Tuner or SpeedBrake. Insert the male 24 pin connector on the SpeedBrake harness into the female 24-pin connector on the factory harness or Banks Tuner’s harness. Insert the female 24-pin connector on the SpeedBrake harness onto the male 24-pin connector of the factory harness or Banks Tuner’s harness.

12. Locate the rubber grommet on the driver’s side of the vehicle firewall. The grommet is about 3” in diameter. Make a 1” x 1” cross-shaped incision in the grommet. See Figure 4. Now from inside the cab locate the grommet on the firewall and make another 1” x 1” cross-shaped incision on the grommet.

13. Locate the In Cab Cable on Banks SpeedBrake wire harness and feed the single connector cable through the incision made in the firewall grommet and into the cab.

14. With the SpeedBrake Module positioned on top of the fuse box, peel the protective backing from the hook and loop interlocking fasteners and attached to the SpeedBrake Module. Position the SpeedBrake module to the edge closest to the engine of the fuse cover then press the adhesive onto the outside of the fuse box cover. Apply light pressure to the SpeedBrake

![Figure 4 Driver Side Firewall, Rubber Grommet]
**Figure 5** Placement of Banks Tuner on top of the Fuse Box.

**Figure 6** Placement of Banks Tuner on side of the Fuse Box.
Module by hand for 60-seconds to create a strong bond between the fuse box and hook & loop interlocking fasteners.

**NOTE:** make sure the fuse box cover is clean and free of any oil residue and contaminate. Clean fuse box cover with a non-oil based solvent such as Acetone, Mineral Spirits, Denatured Alcohol or Lacquer Thinner. Read and follow the manufacturer’s operation instruction for non-oil based solvent cleanser.

If the vehicle is equipped with a Banks Tuner, detach the Tuner from the top of the fuse box cover and reattach on the fuse box side or on top of the fuse box along with the SpeedBrake. See Figure 5 & 6. If placing the Tuner on top of the fuse box along with the SpeedBrake module there may be some over hang from the tuner. Secure the tuner so that it stays in place. Use the supplied hook & loop interlocking fasteners to make the necessary adjustment to attach the SpeedBrake to the top of the fuse box cover and Banks Tuner to the fuse box side or top.

**WARNING:** Make sure to place the SpeedBrake Module as shown in Figure 7 to avoid a clearance issue when closing the hood. Mount the SpeedBrake Module as close to the inside edge of the fuse cover as possible.

15. Insert the SpeedBrake 20-pin Module Connector on the wire harness to the SpeedBrake Module. Using the supplied cable ties, secure the wire harness away from any heat sources (i.e. Driver side exhaust manifold) or moving components.

- **End, Section 1-**
Section 2  
MOUNTING THE DOCKING STATION AND CONNECTING THE BANKS POWERPDA

NOTE: This system has been designed for use with the Palm Tungsten E2 PDA.

WARNING: The PDA may be susceptible to damage as a result of extended exposure to sunlight, heat or extreme cold. It is highly recommended that the PDA be removed from its mounting location if the vehicle will be subjected to high concentrations of sunlight, heat or cold for an extended period of time. Gale Banks Engineering is not responsible for damage to PDAs resulting from exposure conditions.

CAUTION: Do not use force when working on plastic parts. Permanent damage to the part might result.

1. Locate the universal mount and docking station in your kit. Interlock the docking station to the universal mount by inserting and sliding the universal mount tabs into the docking station grooves. See Figure 8.

2. Find a smooth, flat surface suitable for ease of access and viewing of the PowerPDA. See Figure 9 for an example. Loosen both knobs and move the swivel suction plate and docking station to achieve desired viewing angle of the PowerPDA screen. Do a test fit and note the angle necessary to achieve the correct viewing angle.

3. Tighten both knobs to lock in the position (Figure 8).

NOTE: If the universal mount swivel does not move or is tight after loosening the hold down knob, then remove the previously inserted docking station and slightly loosen the tension screw. See Figure 10.

4. With the alcohol swab from your kit, clean the suction cup and the mounting area and let dry. With the suction lever in the up position ensure the suction cup is flat against the windshield or smooth, flat surface. Then, push the suction lever down to secure in place.
5. Find the Banks OBD II Interface Cable in your kit. Connect the Banks Interface Cable to the vehicle’s OBD II connector. Use a cable tie, as shown in Figure 11, to secure the Banks Interface Cable to the vehicle’s OBD II connector.

6. Next, connect the 6-terminal connector on the Banks OBD II Interface Cable to the 6-pin connector on the Banks SpeedBrake wire harness.

NOTE: If your vehicle is equipped with a Banks Diesel Tuner, Optional Tuner-to-SpeedBrake cable will be needed (P/N 55411). See Figure 12. Disconnect the 6-pin terminal connections between Banks OBD II Interface Cable and Banks Diesel Tuner. Connect the OBD II 6-pin male connector to the optional Tuner-to-SpeedBrake 6-pin female connector. Connect the two (2) wire 6-pin male
connector to the SpeedBrake female 6-pin connector and connect the four (4) wire 6-pin male connector to the Diesel Tuner female 6-pin connector.

7. For the cleanest PowerPDA installation (Figure 9), remove the fuse access panel by pulling it out from the side of the dash. Route the RJ12 connector (phone like connector) on the Banks OBD II Interface Cable under the dash and out where the fuse access panel was. The RJ12 connectors’s cable can be slid under the door frame’s seal and run up to the top of the dash. Plug the RJ12 connector into one of the receptacles in the base of the PDA docking station. Re-install the fuse access panel.

8. Your Docking Station is now installed and is ready for the Banks PowerPDA. Install the Banks PowerPDA into the Docking Station. Be sure the Banks PowerPDA is completely seated in the Docking Station against the lower support bracket.

NOTE: There may be a snug fit when installing the PowerPDA into the docking station. Do not apply excessive force during PDA installation.

9. Plug the docking station’s charging cable (seen in Figure 8) into the charging receptacle on the lower edge of the PowerPDA.
WARNING: The charging cable on the docking station is designed to supply a constant low-voltage power source (+5vdc) to the Banks PowerPDA and is “live” as long as the system’s OBD II Interface Cable is completely installed and the RJ12 connector is plugged into the docking station. Although this charging cable is short and its circuitry is fuse protected, the user is expected to take appropriate measures to prevent small children and/or pets from contact with any part of this system.

10. Route all wiring away from any pedals or other moving components. Using the cable ties supplied, secure the wiring under the dash.

11. Double check everything to make sure it is securely fastened and it is not near any heat sources or moving parts before starting engine.

12. Set up the Banks PowerPDA according to its instructions.

13. Re-connect the negative (ground) cable(s).

-END, SECTION 2-
Section 3
BANKS SPEEDBRAKE POWERPDA SOFTWARE & INSTALLATION

Figure 13  Front view
The SpeedBrake PowerPDA software is supplied on a Secure Digital (SD) media card. The software should be installed on the Palm Tungsten E2 and run from main memory. You can use the additional space on the SD card to store music, photos and other data. Refer to your device instruction manual for using SD cards to store data. You should leave a copy of the SpeedBrake PowerPDA software on the SD card as a backup for future reference.

1. Insert the SD card into the slot on the top of the Palm Tungsten E2.

NOTE: the contents of the SD card should appear on the screen. (The “BanksBrake” name). See Figure 16.

2. Press the ‘Menu’ key on the bottom of the Palm Tungsten E2 (beneath the ‘Home’ key, see Figure 13). Then select ‘Copy’. See Figure 14.

3. In the ‘Copy From’ drop down menu select “Card”. See Figure 15. The ‘Copy To’ selection will automatically change to “Device” (Figure 16). Select on the “BanksBrake” name, if it is not already selected or there is more than one item in the list. Touch the “Copy” button. A dialog box will appear, indicating the Palm Tungsten E2 is copying the software from the SD card (Figure 17). Once completed, press the “Done” button.

4. Select the drop-down menu in the upper right hand corner of the screen. Touch the button labeled ‘All’. The Banks SpeedBrake PowerPDA software is now installed. You may now remove the SD Card from its slot.

5. To start the SpeedBrake PowerPDA software, touch the icon called “BanksBrake”. See Figure 18.

-END, SECTION 3-
Figure 16

Copy

Copy From: Card
To: Device
(5.5M Free)

BanksBrake 2080K
BitsNbyteslib 7K

Figure 17

Copy

Copy From: Card
To: Device
(5.5M Free)

BanksBrake 2080K
BitsNbyteslib 7K

Figure 18

Shown with Tuner program installed.

2:15 pm

Quick Tour  Banks  Banks Brake
Bluetooth  Calc  Calendar
Card Info  Contacts  Dialer
Expense  Favorites  HotSync
Section 4
PLACEMENT OF THE BANKS POWER DECALS

TYPICAL LEFT FENDER PLACEMENT

TYPICAL RIGHT FENDER PLACEMENT