with Installation Instructions

Owner's Manual

Banks Brake®

Compatible with Installed Six-Gun® Power Tuner with Six-Gun Switch

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

THIS MANUAL IS FOR USE WITH KITS 55447

Gale Banks Engineering
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Product Information & Sales: (888) 635-4565

bankspower.com

03/05/12 **PN 97245** v.2.0

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.

Disclaimer of Liability

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.

The **BUYER** acknowledges that he/she is not relying on the **SELLER's** skill or judgement to select or furnish goods suitable for any particular purpose and that there are no liabilities which extended beyond the description on the face hereof and the **BUYER** hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the **SELLER** with respect to fitness, merchantability, and consequential damages) whether or not occasioned by the **SELLER's** negligence.

The **BUYER** is responsible to fully understand the capability and limitations of his/her vehicle according to manufacturer specifications and agrees to hold the **SELLER** harmless from any damage resulting from the failure to adhere to such specifications. The **SELLER** disclaims any warranty and expressly disclaims any liability for personal injury or damages. The **BUYER** acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the **BUYER** agrees to indemnify the **SELLER** and to hold the **SELLER** harmless from any claim related to the item of the equipment purchased. Under no circumstances will the **SELLER** be liable for any damages or expenses by reason of the use or sale of any such equipment. The **BUYER** is responsible to obey all applicable federal, state, and local laws, statutes, and ordinances when operating his/her vehicle, and the **BUYER** agrees to hold the **SELLER** harmless from any violation thereof. The **SELLER** assumes no liability regarding the improper installation or misapplication of its products. It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer. The **BUYER** is solely responsible for all warranty issues from the automotive manufacturer.

Limitation of Warranty

Gale Banks Engineering Inc. (hereafter "**SELLER**"), gives Limited Warranty as to description, quality, merchantability, fitness for any particular purpose, productiveness, or any other matter of **SELLER's** product sold herewith. The **SELLER** shall be in no way responsible for the product's open use and service and the **BUYER** hereby waives all rights except those expressly written herein. This Warranty shall not be extended or varied except by written instrument signed by **SELLER** and **BUYER**.

Please see enclosed warranty information card, or go to **www.bankspower.com/warranty**, for warranty information regarding your product. Parts or devises outside the products kit, are not covered under Gale Banks Engineering warranty. 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.

Under no circumstance shall the **SELLER** be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expense.

Under no circumstances will the **SELLER** be liable for any damage or expenses incurred by reason of the use or sale of any such equipment.

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.

Table of Contents

Products available From Banks Power for the 04-05 Chevy/GMC 6.6L LLY

Banks iQ System (P/N 61141-61145)

- 5" touchscreen interface that can control the Banks Diesel Tuner and/or SpeedBrake on the fly.
- Interchangable gauge display, read and clear codes, monitor engine diagnostics, log data, time your vehicles runs and much more.

Banks Monster Exhaust System (P/N 48670-48675, 48942-48946, 48628-48634 & 48769-48771)

- Increases exhaust flow, cuts backpressure, lowers exhaust gas temperatures (EGTs) and increases power.

Banks Ram-Air Intake System (P/N 42135)

- Increases your airflow over stock.
- Adds power, improves fuel economy, lowers EGTs and reduces smoke.

Banks Super-Scoop (P/N 42168-42169)

- Adds cooler denser air to the Ram-Air Intake housing, further increasing fuel economy, reducing smoke and lowers EGTs.

Boost and Pyro Gauges (P/N 64507)

- Keep your engine safe by monitoring vital engine parameters

Big Hoss Intake Manifold System (P/N 42733)

- Increases flow and provides more uniform air distribution to the engine for more available power at a given boost level.

Banks Techni-Cooler System (P/N 25978)

- Provides increased air flow to the engine by increasing air density for more increased power, lower EGTs and improved fuel economy.

Banks SpeedBrake (P/N 55437 & 55440)

- Allows for controlled hill decent at a user defined vehicle speed.

Banks Billet Torque Converter (P/N 72510)

- Higher torque capacity over stock

- Lockup clutch is slip-resistant so transmission fluids stay cooler and transmission life is prolonged.

Thermocouple

- Add a temperature limiting function to your diesel tuner.

Banks Speed-Loader (P/N 63718)

- Furthers the power output of the Banks Six-Gun and provides EGT limiting safety.

Banks Diesel Tuner
(P/N 63713 EconoMind w/ Switch
P/N 63737 EconoMind w/ iQ
P/N 63717 Six-Gun w/ Switch
P/N 63739 Six-Gun w/ iQ)

- Adds power safely to your vehicle
- Engine and transmission safeguards
- Change power levels on-the-fly

Banks PowerPack Systems (P/N 48989-48994)
Contains:

- Ram-Air Intake system
- Monster Exhaust (single or duals)
- EconoMind Tuner w/ Banks iQ
- Technis-Cooler System

Banks Stinger System (P/N 48982-48987)
Contains:

- Ram-Air Intake System
- Monster Exhaust (single or dual)
- EconoMind Tuner w/ Banks iQ

Banks Big Hoss Bundle (P/N 47737-47742)

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ
- Techni-Cooler System

Banks Six-Gun Bundle (P/N 47731-47736)

- Ram-Air Intake system
- Monster Exhaust (single or dual)
- Six-Gun Tuner w/ Banks iQ

For More Information please call (888)-635-4565
or Visit us online @ www.bankspower.com

General Installation Practices

Dear Customer,

Your new Banks Brake 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 Brake 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.

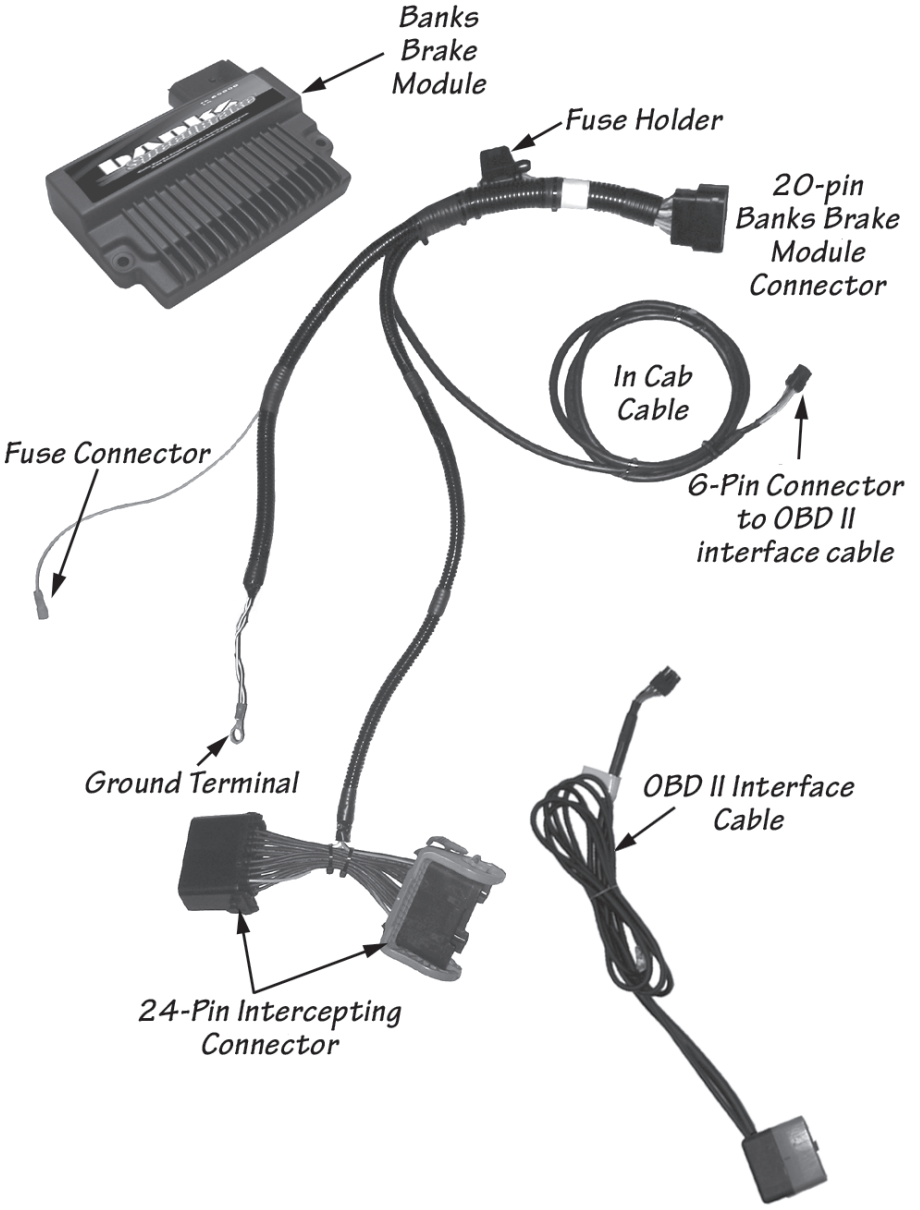
8. Save this Installation Manual as a reference for system maintenance and service.

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 BRAKE WIRE HARNESS

Figure 1 *Banks Brake and supplied wiring harness*



NOTE: If you have purchased a combination Banks Brake/ Tuner Package, install the Tuner first and ignore the installation of the OBD II interface cable. After completing installation of the Tuner continue with this manual.

1. 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.

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

3. Install the ground ring terminal on the SpeedBrake wire harness onto the bolt on the fire wall. See **Figure 2**.

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

5. Locate mini-fuse for the Body Control Module (TBC IGN1) and remove it. See **Figure 3.**

6. Install the mini-blade fuse tap onto the removed mini fuse as shown in **Figure 4**. 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 3.***

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

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

9. 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 2.**

10. 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

Figure 2 *Grounding location & 24-Pin Intercepting Connectors*

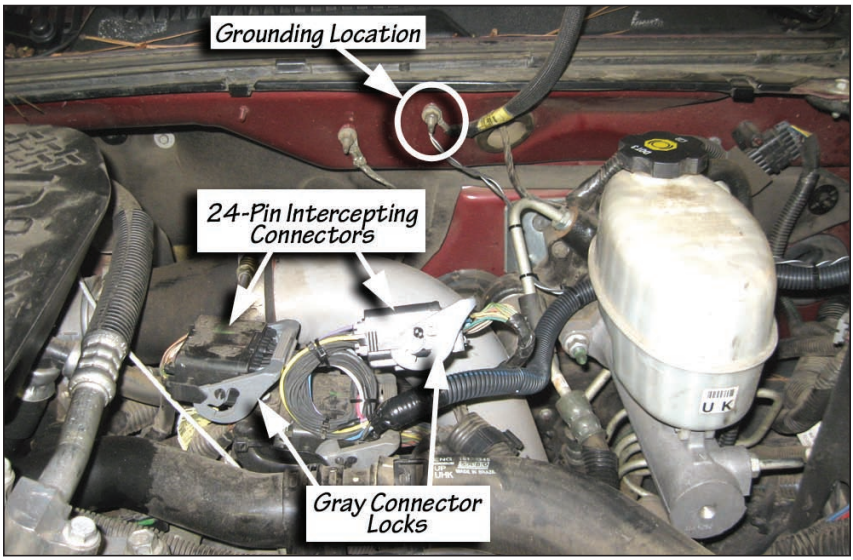


Figure 3 *Electrical Center Fuse Tap Location*

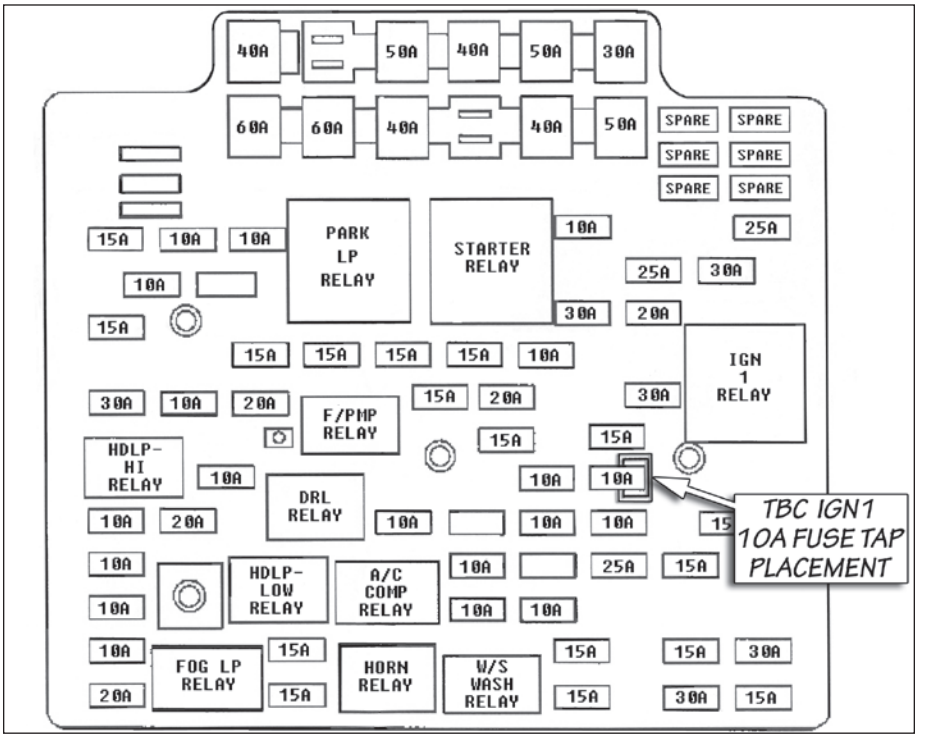
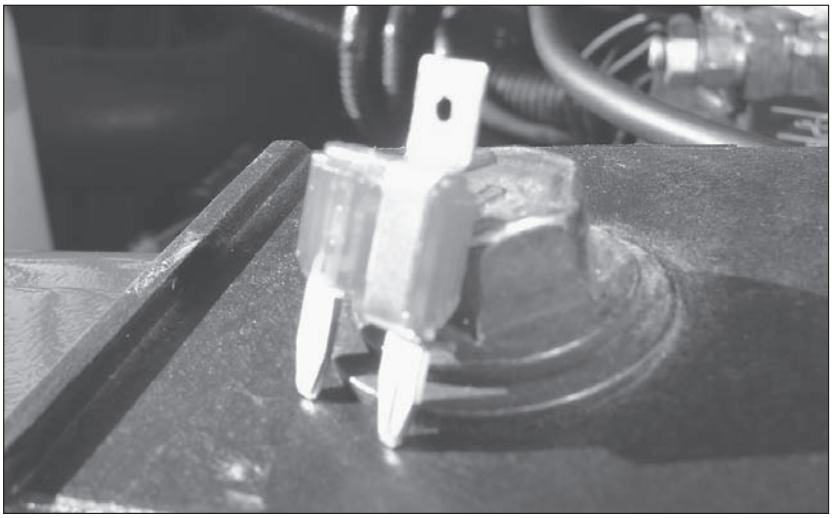


Figure 4 *Fuse Tap Installation*



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.

If a Banks Diesel Tuner has been previously installed, skip step 12.

11. 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 5.** Now from inside the cab locate the grommet on the firewall and make another 1" x 1" cross-shaped incision on the grommet.

12. 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.

13. 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 Module by hand for 60-seconds to create a strong bond between the fuse box and hook & loop interlocking fasteners.

Figure 5 *Driver Side Firewall, Rubber Grommet*

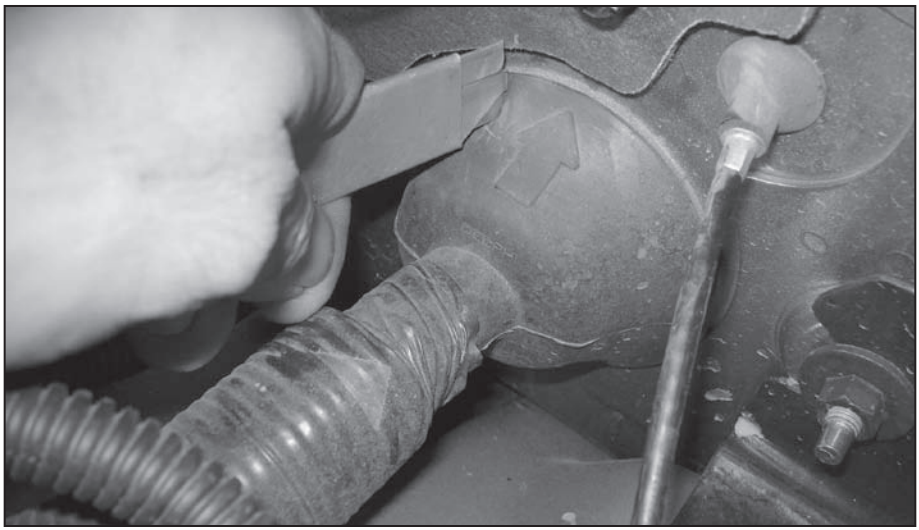


Figure 6 *Placement of Banks Tuner on top of the Fuse Box.*

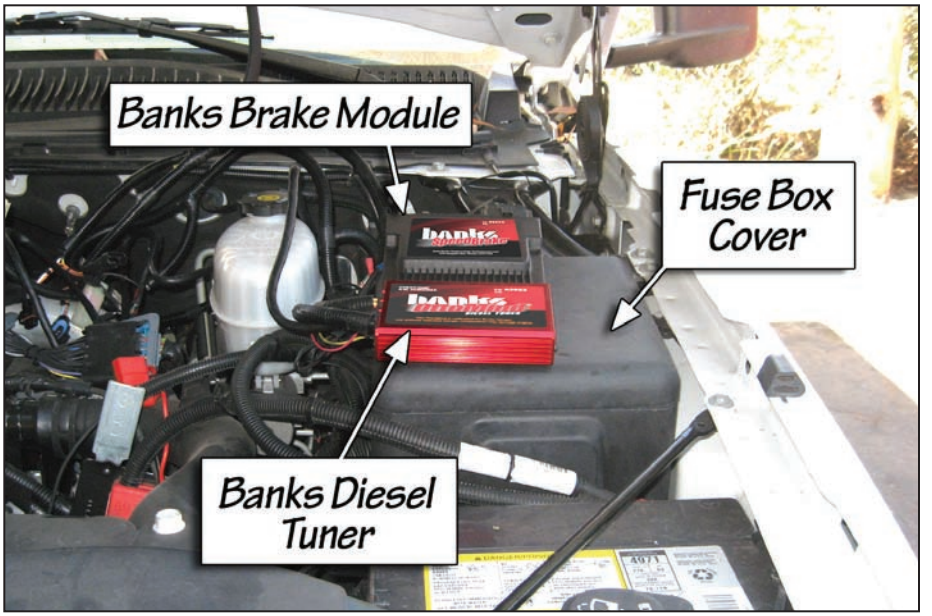
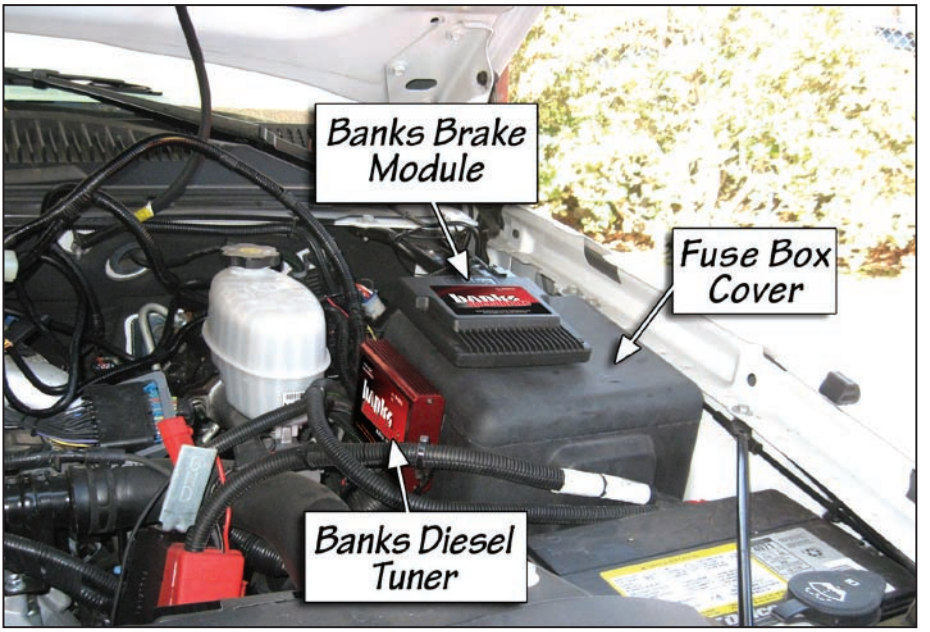


Figure 7 *Placement of Banks Tuner on side of the Fuse Box.*



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

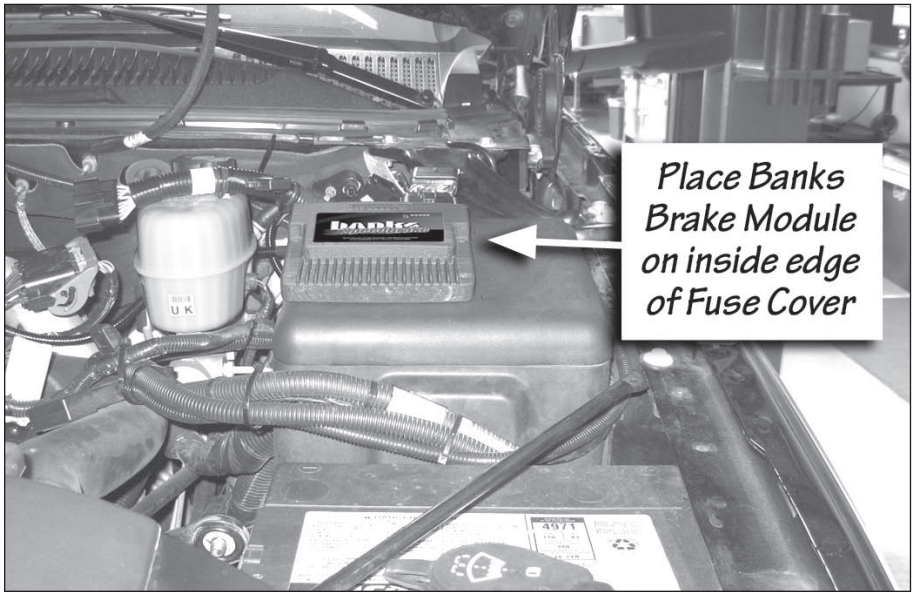
*If vehicle is equipped with a Banks Tuner, detach the Tuner from the top of the fuse box cover and reattach on the fuse box side or on top of the fuse box along with the SpeedBrake. See **Figure 6 & 7**. If placing the Tuner on top of the fuse box along with the SpeedBrake module there may be some over 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 8 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.

14. 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.

15. Locate the Banks OBD II Interface Cable in your kit. This cable has three connection points. Connect the RED OBD II connector on the Banks interface cable to the vehicle OBD II connector. Use a cable tie as shown in **Figure 9** to secure the Banks interface cable to the vehicle OBD II connector.

Figure 8



16. Next, connect the 6-pin connector on the Banks OBD II interface cable to the 6-pin connector on the Banks Brake wire harness.

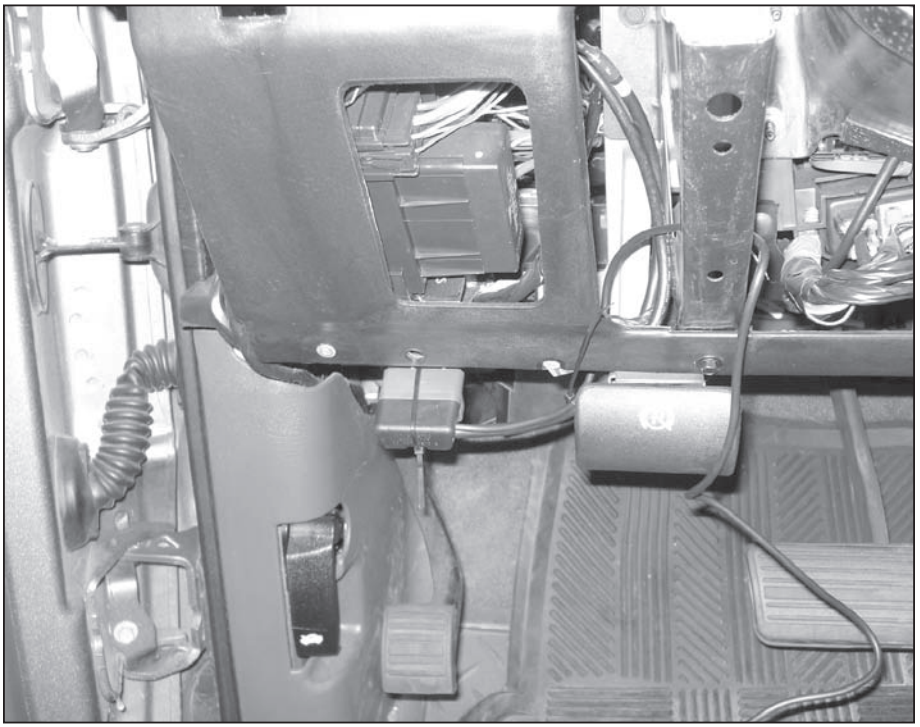
17. The RJ12 connector (phone like connector) on the Banks Brake Wire harness will be connected in the next section to the Brake level selector switch. Leave this wire loose for connecting to Brake level switch.

18. Go over all connection. Secure the wire harness with the supplied ties under the dash.

WARNING: Take care to keep any cables away from the pedals or where they could become tangled.

-END, SECTION 1-

Figure 9



Section 2
INSTALLATION OF BANKS BRAKE SWITCH

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

1. The Banks Brake switch will be installed on the driver's side of the instrument panel (IP) next to the steering column (see **Figure 10**). If a Six-Gun Power Level Selector switch has been install use the secondary drill location on supplied template and install the Banks Brake switch next to the Six-Gun switch. Carefully remove the IP from the dashboard by slowly pulling outwards from the dashboard around the edges of the IP, allowing the mounting pins to pull free from their dashboard sockets. Automatic transmission equipped vehicles will need to set the parking brake and move the shift lever down to the lowest gear to allow clearance for instrument panel removal.

2. Cut out the supplied template (see **Figure 16** on **page 19**) and align the template onto the rear of the IP, squarely seating it on the top of the IP mounting pin (see **Figure 11)**.

3. Using a 3/8" Uni-drill bit, center the bit onto the 3/8" drill location on the template and slowly drill through the IP. Using a 1/8" drill bit, center and drill through the 1/8" location on the template. Remove and discard the template and any plastic shavings.

4. On the front side of the IP, align the Banks Brake label onto the previously drilled hole (see **Figure 12**).

5. Remove the nut and internal tooth washer from the Banks Brake Switch. Rotate the shaft counter clockwise until the shaft stops. Verify the locating washer tab is inserted into the #5 position on the switch (see **Figure 13)**.

NOTE: If the washer is in any position other then the #5, your SpeedBrake will not function properly.

Figure 10

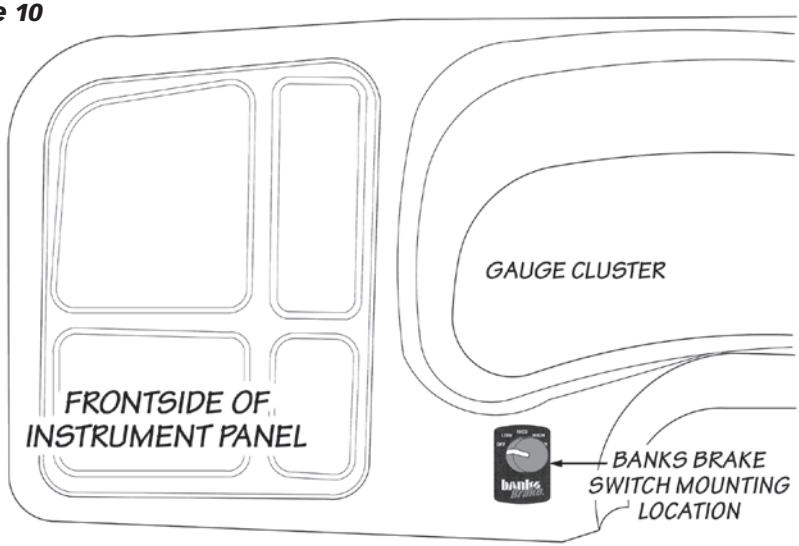


Figure 11

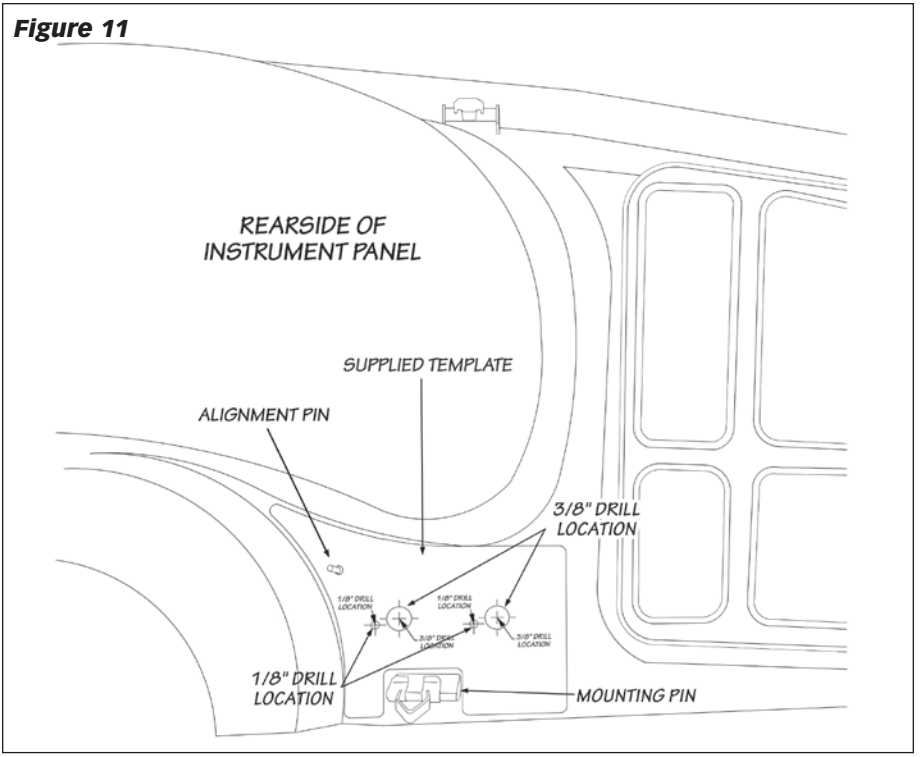


Figure 12

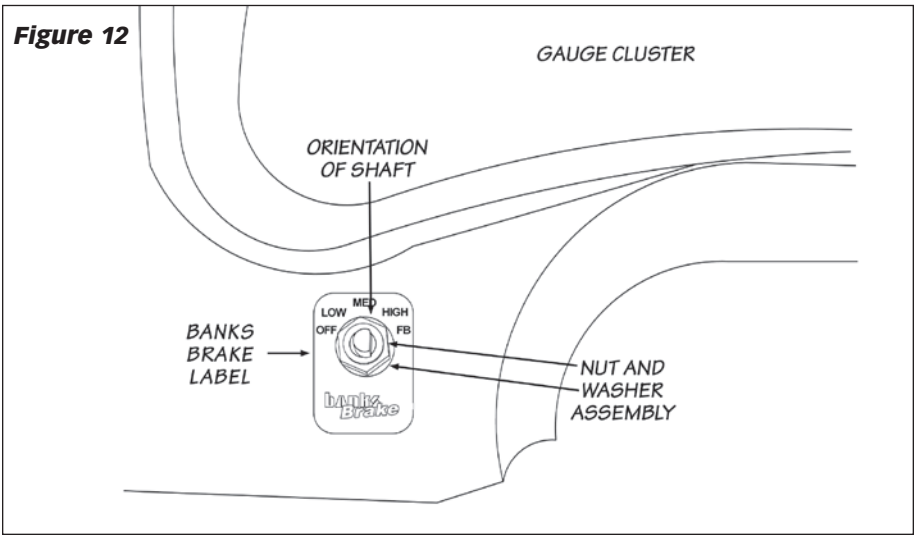
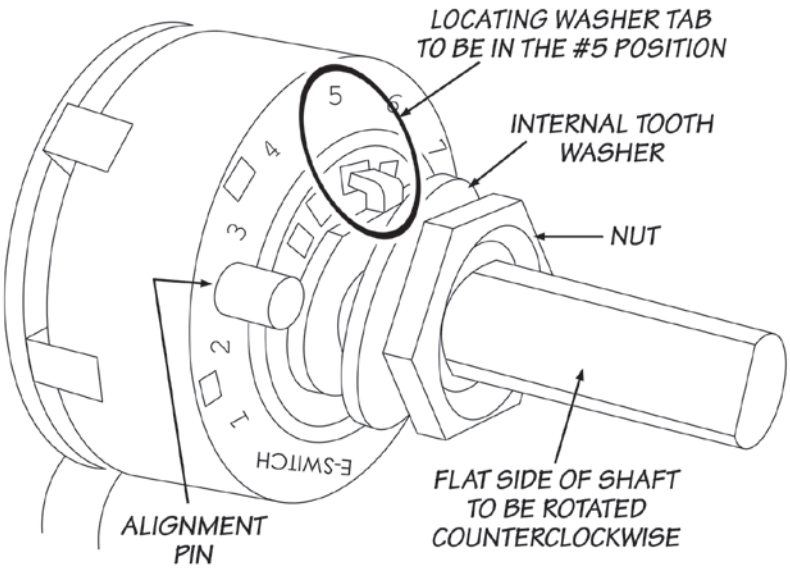


Figure 13



6. After confirming the locating washer is in the #5 location, install the switch through the ⅜" hole on the backside of the instrument panel. The alignment pin should rest in the ⅛" hole and with the switch fully rotated counter clockwise; the shaft's flat side should be facing the steering column. Secure switch with internal tooth washer and nut. Snug the washer; be careful not to over torque the nut and damage the plastic threads.

7. Install the knob onto the shaft facing the Off Level on the Banks Brake label. On the knob, snug the two (2) set screws with the supplied 0.050" hex key wrench.

8. Route **the RJ12 connector (phone like connector)** to the Banks Brake switch cable connector, and plug the connectors together.

9. Reinstall the IP panel, make all electrical connections that were disconnected. Secure all loose wiring under the dash with supplied cable ties.

WARNING: Take care to keep any cables away from the pedals or where they could become tangled.

10. Reinstall the lower knee panel back in place with the factory hardware. Tuck any excess cable behind it for a clean appearance.

-END, SECTION 2-

Section 3
BANKS BRAKE OPERATION

The Banks Brake has five (5) operating settings; HIGH, MED (medium) , LOW, OFF and FB (Foot Brake Activation). See **Figure 14**.

Figure 14: *Banks Brake Selector Switch Guide*

OFF mode allows the vehicle to behave as if the Banks Brake is not present.

When the selector switch is turned to the LOW, MED, or HIGH settings, the Banks Brake will activate and will downshift the transmission and adjust the turbocharger vanes, resulting in a braking effect that slows your vehicle to 15 mph.

HIGH strength achieves the highest level of braking force by aggressively downshifting the transmission and closing the turbocharger vanes. This setting is recommended for heavily loaded vehicles or whenever aggressive braking is desired.

MED (medium) strength achieves a moderate level of braking force by slightly delaying transmission downshifts. This setting is recommended for moderately loaded vehicles.

LOW strength setting achieves a lower level of braking force and is recommended for lightly loaded or unloaded vehicles. The LOW setting may also be used for daily driving.

CAUTION: Using the HIGH setting with a lightly loaded vehicle will result in VERY aggressive braking. Become familiar with the characteristics of the Strength Settings before encountering slippery road conditions, including rain, snow and icy.

Foot Brake Activation

When Foot Brake Activation is selected the Banks Brake will only activate when the foot brake is applied. In this setting the Brake will apply the highest level of braking force to assist in slowing the vehicle.

To Enable Foot Brake Activation, turn the Brake selector switch to the Foot Brake Activation (FB) level. To Disable, turn the switch to any other desired level.

CAUTION: Your Banks Brake is NOT a substitute for the hydraulic brakes on your truck. The device will not correct or compensate for improperly maintained hydraulic brakes. Also, please be aware that your Banks Brake is not designed to be used as a parking brake or to bring your vehicle to a complete stop. Your Banks Brake is a supplementary braking system designed to help you slow down or to assist you in maintaining a more constant speed when descending a grade. Remember that Banks Brake is first and foremost a preemptive device and is most efficient when used to help prevent, rather than correct, a vehicle over speed situation.

The use of a Banks Brake does not increase the load capacity of your vehicle. Gross combined Weight Rating specifications should always be adhered to. The Banks Brake will allow you to slow your vehicle more effectively within your vehicle's weight specifications.

OPERATION/DRIVING

Now that you are familiar with the features that are available with Banks Brake, it is recommended that you experiment with the various settings prior to using the braking features in a towing or extreme driving situation. Under light load conditions on local streets, the MEDIUM (MED) setting is an appropriate starting point to provide a reasonable demonstration that the brake is functioning.

NOTE: Whenever the brake is active and the footbrake is applied, the vehicle will not upshift until the throttle is pressed. This is also true even if cruise control is resumed.

For some model vehicles, whenever the brake is active the vehicles Tow-haul mode will activate. The tow-haul mode will deactivate when the Banks Brake is deactivated.

WHEEL SLIP DETECTION

The Banks Speedbrake continuously monitors wheel speeds to detect possible slippage caused by braking. If this occurs, the brake will shut off until traction is regained and then remain off for 30 seconds. This will be communicated as a fault via the Banks iQ Status Indicator.

-END, SECTION 3-

Section 4
PLACEMENT OF THE BANKS POWER DECALS

Figure 15

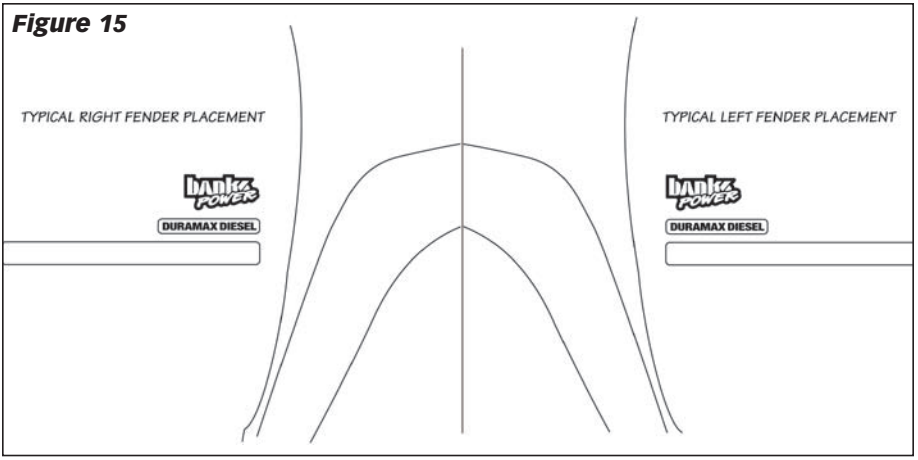
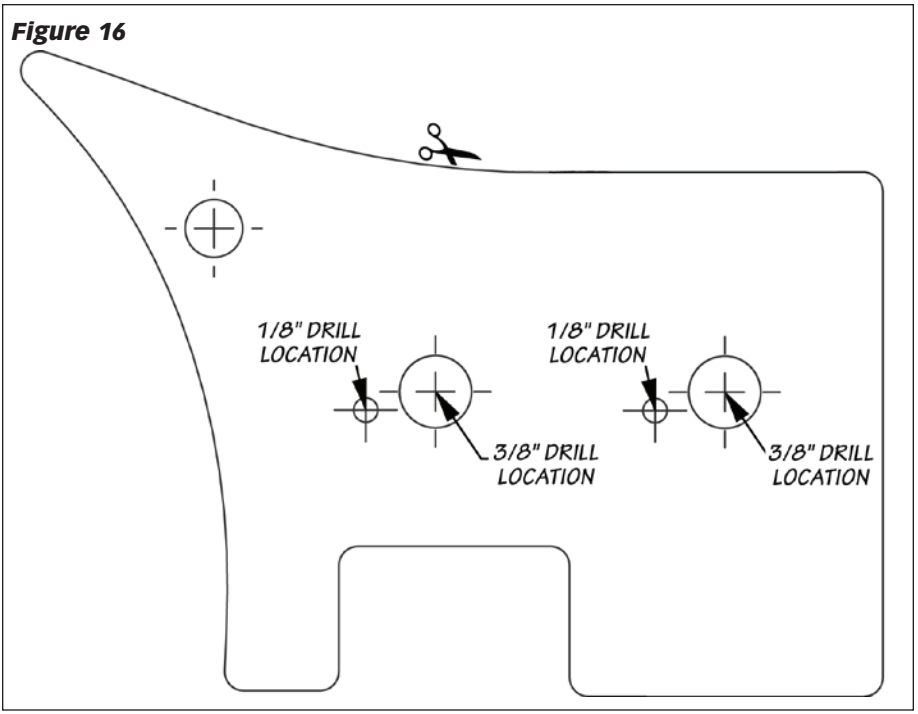


Figure 16



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