

Installation Manual

Banks SpeedBrake

For use with Banks iDash

2007-2010 Chevy/GMC 6.6L (LMM) Turbo-Diesel Pickup

THIS MANUAL IS FOR USE WITH KITS 55444 & 55446

For iDash 1.8 instructions, see iDash 1.8 manual 97654 & 97674

Gale Banks Engineering
546 Duggan Avenue • Azusa, CA 91702
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565
Customer Support: (888) 839-5600
Installation Support: (888) 839-2700

bankspower.com

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, 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 **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 devices 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

General Installation Practices	4
Section 1	5
Installation of Banks SpeedBrake Wire Harness	
Section 2	13
Mounting and Connecting The Banks iDash	
Section 3	17
Updating Banks iDash & SpeedBrake Software	
Section 4	19
Troubleshooting	
Section 5	22
Placement of the Banks Power Decal	

General Installation Practices

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 4:00pm (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.

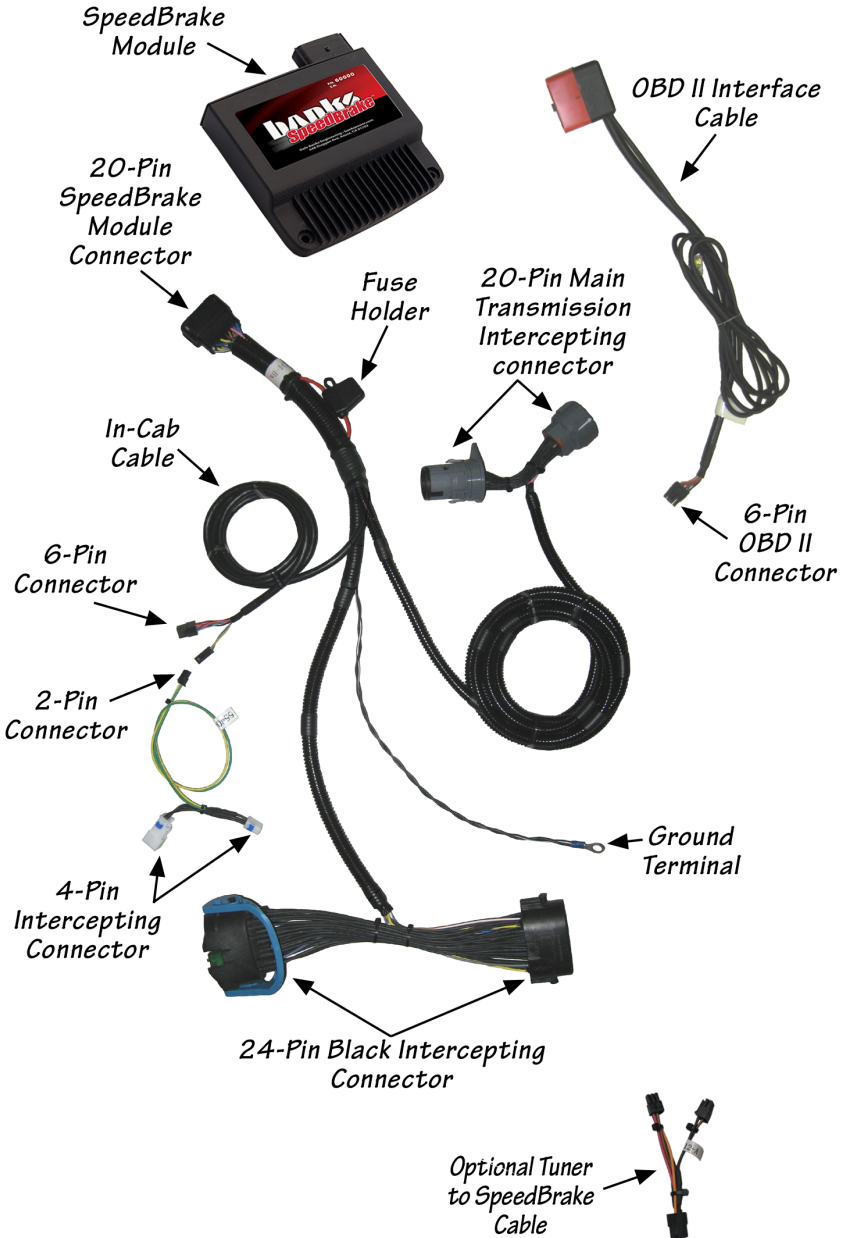
TOOLS REQUIRED:

- 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
- 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. 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. Run the Main Transmission intercepting connector wire harness on the SpeedBrake wire harness down to the transmission following the factory transmission main connector harness from transmission control module.

3. On the right side of the transmission locate the transmission main connector. See **Figure 2**. Disconnect the connector by applying pressure on both sides and pull out.

4. Insert the female connector on the SpeedBrake wire harness into the transmission connector. Insert the factory main transmission connector to the male connector on the SpeedBrake wire harness.

NOTE: When installing the male connector to the transmission orient the arrow on the connector up.

5. Bend the heat shield as shown in **Figure 3** to relieve tension from connectors and to allow the connectors to be positioned away from heat sources.

6. Secure the wire harness using some of the supplied cable ties along the factory wire harness up the left side of the engine to the Fuse box.

Figure 2 Main Transmission Connector Location

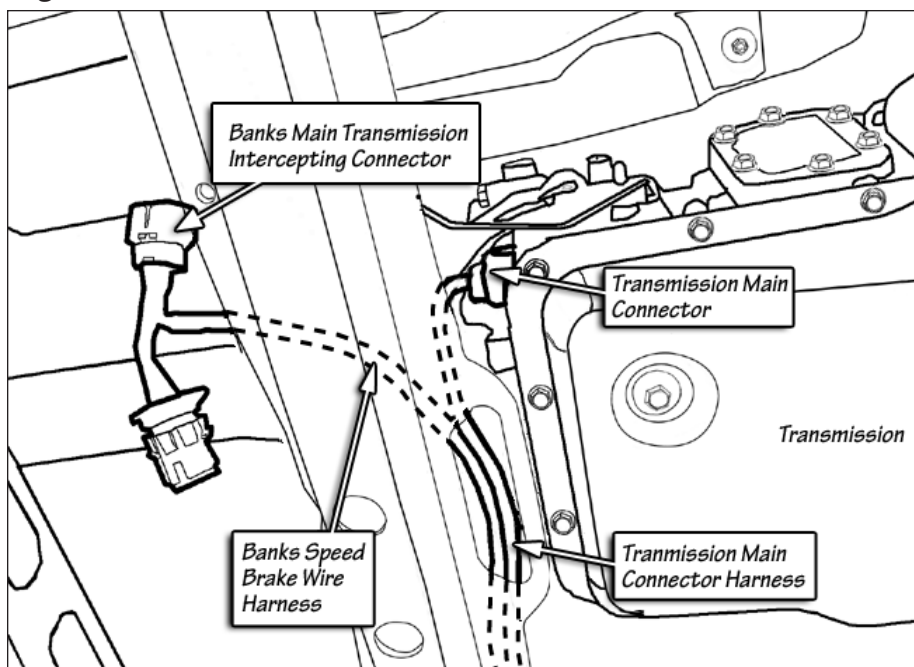


Figure 3 Heat shield alteration

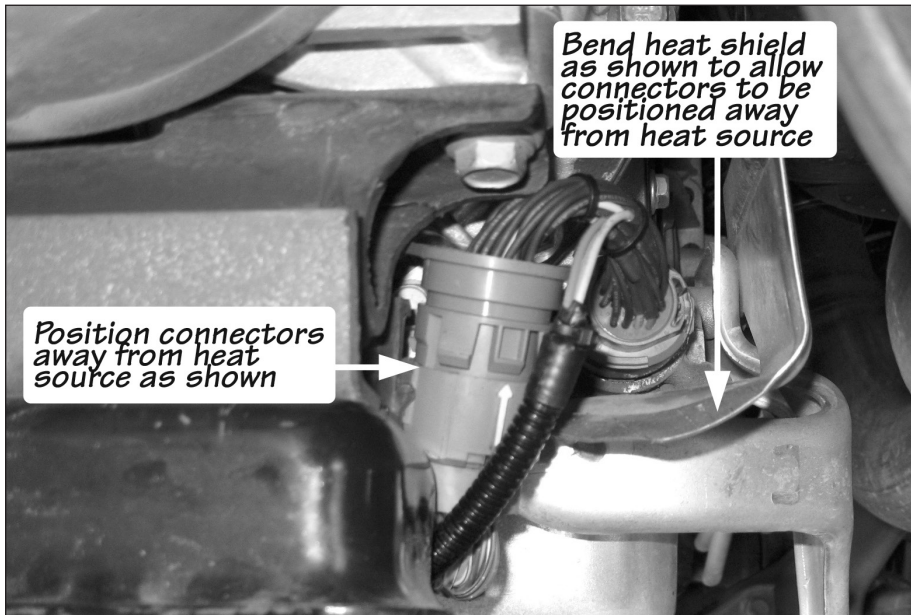
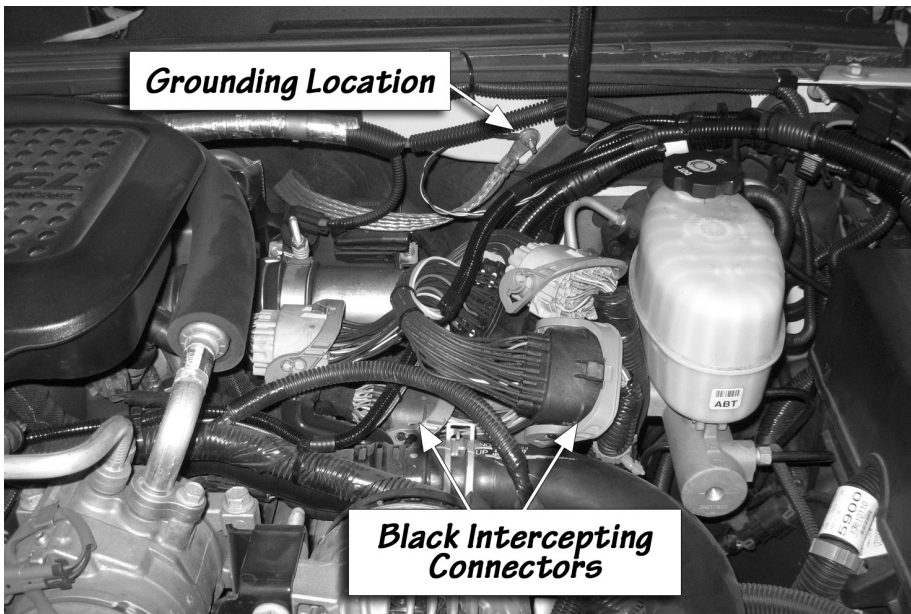


Figure 4 Grounding Location & Black Intercepting Connectors Shown



7. Locate the black wire harness locking connectors between the brake fluid reservoir and the air conditioning compressor. Lift the blue connector locks and disconnect the black connector pair. See **Figure 4**.

8. Insert the male black connector on the SpeedBrake harness into the female black connector on the factory harness. Insert the female black connector on the SpeedBrake harness onto the male black connector of the factory harness.

NOTE: If vehicle is equipped with a Banks Tuner, disconnect the black connectors between the factory and the Banks Tuner connection. 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 black connector on the SpeedBrake harness into the female black connector on the factory harness or Banks Tuner's harness. Insert the female black connector on the SpeedBrake harness onto the male black connector of the factory harness or Banks Tuner's.

9. Attach the Ground ring Terminal to an existing bolt on the firewall by removing the existing nut and sliding the ring terminal over the bolt. Re-install the nut and tighten to 80 lb-in. See **Figure 4**.

NOTE: Make sure your ground location is clean from dirt, grease and corrosion or the Banks SpeedBrake may not function properly.

Figure 5 Driver Side Firewall Engine Compartment, Rubber Grommet

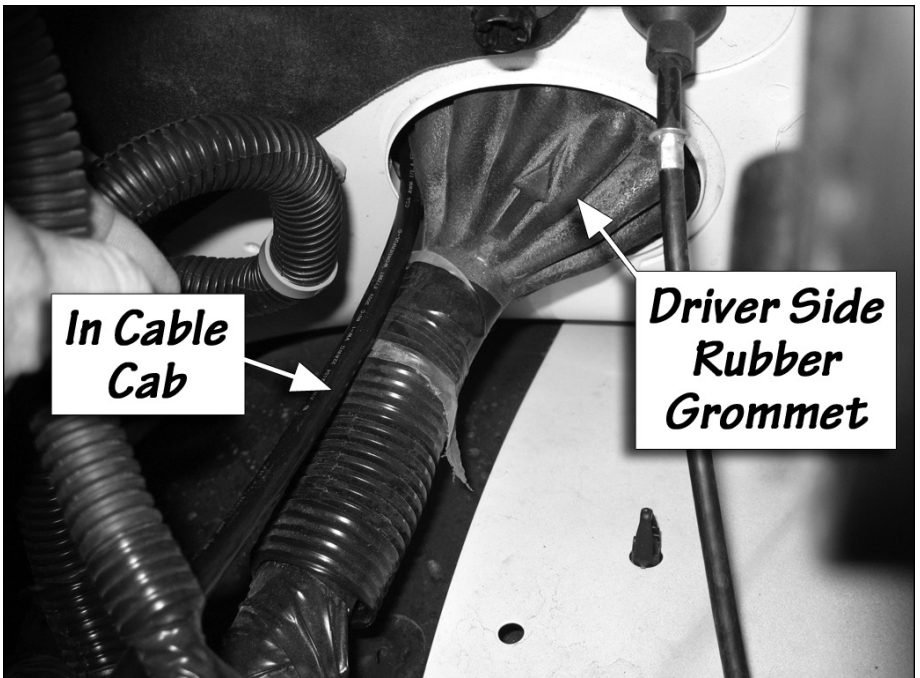
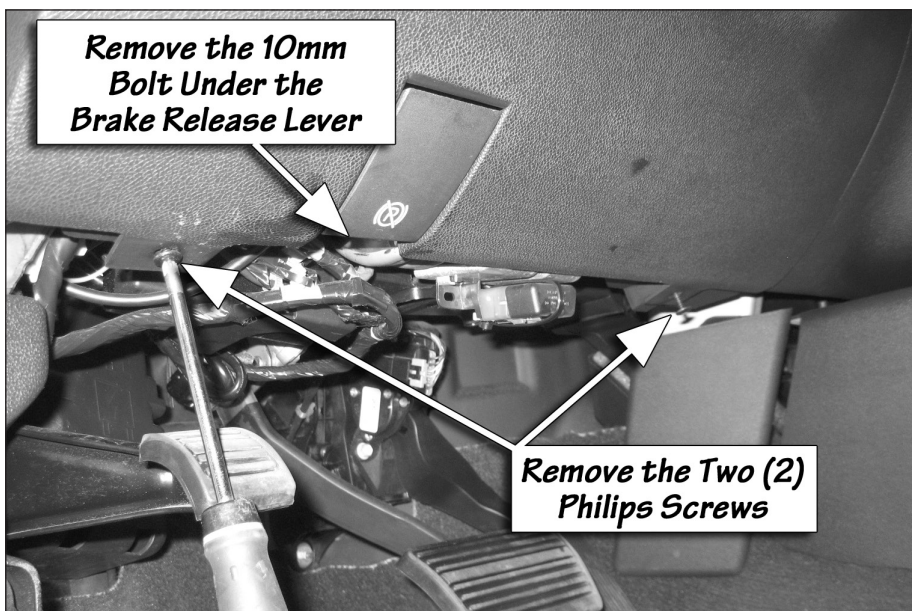


Figure 6 Fuse Access Panel Location



Figure 7



If a Banks Diesel Tuner has been previously installed, skip step 11.

10. 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. Be careful not to cut or damage the factory wire harness. See **Figure 5**. Locate the grommet on the firewall from inside the cab and make another 1" x 1" cross-shaped incision on the grommet.

11. Feed the two-connector in-cab cable from the main wire harness through the incision made in the firewall grommet and into the cab.

NOTE: Disconnect the 4-pin Intercepting connector Harness with label 55404-9x from the main harness before routing through firewall.

CAUTION: Pull gently to avoid damage to the cable connectors.

Always pull on the cable sheath rather than the wires themselves.

12. From inside the cab remove the fuse access panel shown in **Figure 6**.

13. Remove the lower knee bolster panel by removing the two (2) Phillips screws on the lower edge of the panel. Using a 10mm socket and ratchet, unbolt the brake release lever. Retain all hardware for reuse. See **Figure 7**.

14. Pull the panel out by grasping it on either side of the steering column and pull out as shown in **Figure 8**. Disconnect any switch wires.

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

15. Connect the 4-pin intercepting wire harness to the 2-pin connection on the SpeedBrake in cab cable.

Figure 8 Removal of Knee Bolster



16. Under the steering column locate the 4-pin connection and disconnect. See **Figure 9**.

17. Insert the male 4-pin connector from the Speed Brake harness into the female 4-pin connector on the factory harness. Insert the female 4-pin connector on the SpeedBrake harness onto the male 4-pin connector of the factory harness. Secure the wire harness with the supplied ties under the dash.

18. The lower knee bolster panel and the Fuse panel will be reinstall in the next section.

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

19. 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. See **Figure 10**. 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.

NOTE: make sure the fuse box cover is clean and free of any oil residue and contaminates. Clean the 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.

Figure 9 Location of 4-Pin Connector Under Steering Column

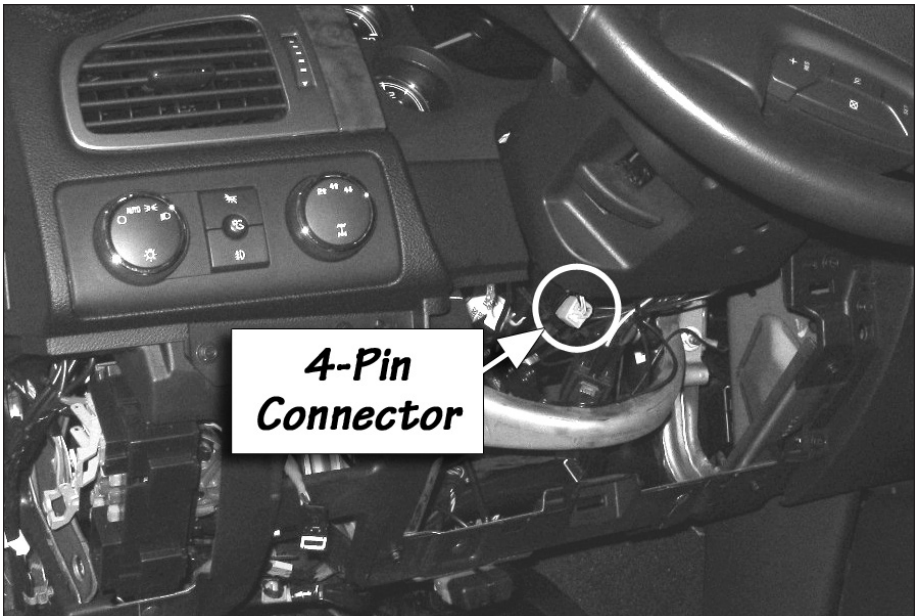


Figure 10 Placement of the SpeedBrake Module



If vehicle is equipped with a Banks Tuner, the Banks SpeedBrake can be installed next to the Banks Tuner.

20. Insert the SpeedBrake 20-pin female 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-

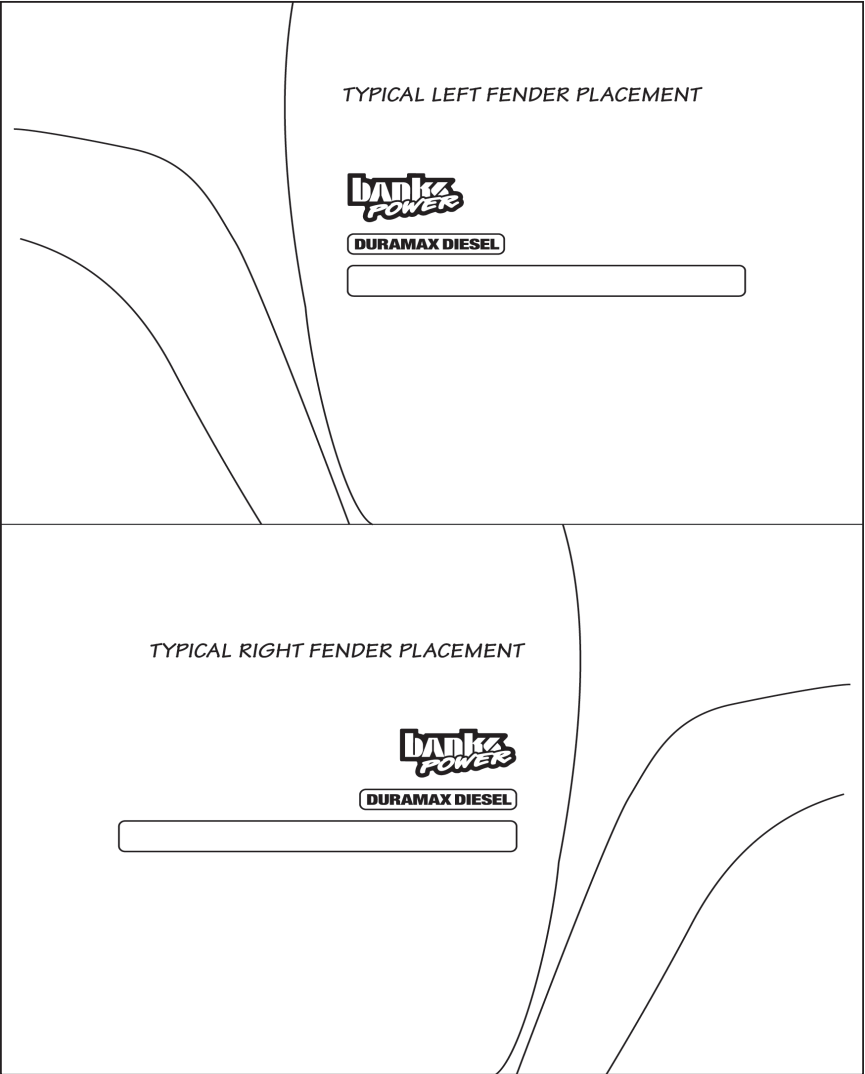
Table 1 - (For 07-10 model years)

Flash Code	iQ Error Message	Corrective Action – LBZ/ LMM
1,1	Code 11: VGT control input out of range.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code. If problem persists, call Gale Banks Engineering Tech Support.
1,2	Code 12: Vane Position Sensor input out of range.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
1,3	Code 13: Rear wheels slipping.	None required. When traction is regained, error will clear after 30 seconds.
1,4	Code 14: Low power voltage detected.	Turn ignition OFF and check the 40-Pin connector and the Ground O-ring. Turn ignition back ON and re-check for presence of code.
2,1	Code 21: VGT control output malfunction.	Turn ignition OFF. Turn ignition back ON and re-check for presence of code.
2,2	Code 22: VGT control output overcurrent.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
2,3	Code 23: Low relay voltage detected.	Turn ignition OFF. Turn ignition back ON and re-check for presence of code.
2,4	Code 24: Vane Position Sensor voltage output malfunction.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
3,1	Code 31: OBD communication error.	Turn ignition off and check the OBD connector and cable. Turn ignition back ON and re-check for presence of code.
3,2	Code 32: Internal module malfunction or intermittent power.	Turn ignition OFF. Turn ignition back ON and re-check for presence of code.
3,3	Code 33: OBDII CAN communication output error.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
3,4	Code 34: OBDII CAN communication input error.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
4,2	Code 42: Torque Converter Clutch slippage detected.	Turn ignition OFF and check the 40-Pin connector. Turn ignition back ON and re-check for presence of code.
4,3	Code 43: Shift control malfunction.	Turn ignition OFF and check the 4-Pin and 20-Pin connectors. Turn ignition back ON and re-check for presence of code.
4,4	Code 44: Internal memory malfunction.	Turn ignition OFF. Turn ignition back ON and re-check for presence of code.

If problem persists, call Gale Banks Engineering Tech Support.

Section 5

PLACEMENT OF THE BANKS POWER DECALS



Gale Banks Engineering
546 Duggan Avenue • Azusa, CA 91702
(626) 969-9600 • Fax (626) 334-1743

Product Information & Sales: (888) 635-4565
Customer Support: (888) 839-5600
Installation Support: (888) 839-2700

bankspower.com