Banks SpeedBrake
For use with Banks iQ only

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

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

WARNING: Below 32°F (0°C) or above 140°F (60°C), the Banks iQ may be susceptible to damage as a result of extended direct exposure to sunlight, heat or extreme cold. It is highly recommended that the Banks iQ 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 Banks iQ 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 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.

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**Figure 2**  Main Transmission Connector Location

![Diagram of main transmission connector location with labels for Banks Main Transmission Intercepting Connector, Transmission Main Connector, and Banks Speed Brake Wire Harness.](imageurl)
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

Remove the 10mm Bolt Under the Brake Release Lever

Remove the Two (2) Philips Screws
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
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-
Section 2
MOUNTING AND CONNECTING THE BANKS iQ

WARNING: Below 32°F (0°C) or above 140°F (60°C), the Banks iQ may be susceptible to damage as a result of extended exposure to sunlight, heat or extreme cold. It is highly recommended that the Banks iQ 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 Banks iQ resulting from exposure conditions.

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

1. Locate the Window Mount Assembly in your kit.
2. Assemble the Banks iQ docking station to the Universal mount by inserting and sliding the Universal mount tab into the docking station groove. Hand tighten the nut behind the docking station to hold the docking station in place.
3. Attach the window mount to your Banks iQ. See Figure 11. Align and place the two (2) lower tabs on the window mount to the corresponding slots on the bottom of Banks iQ first then snap the top of Banks iQ into place.

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**Figure 11 Attaching Banks iQ to window mount**

![Diagram](image-url)
NOTE: Due to the snug fit, use caution when installing the Banks iQ into the window mount.

4. Find a suitable place on the windshield for ease of access and viewing of Banks iQ. Use location shown in Figure 12 as a reference for mounting Banks iQ in your vehicle. Loosen the knob and move the swivel suction plate to achieve desired viewing angle of the Banks iQ screen. Do a test fit and note the angle necessary to achieve the correct viewing angle.

5. Make sure the suction cup and the mounting area on the windshield are clean and dry. With the suction lever in the up position, ensure the suction cup is flat against the windshield, and then push the suction lever down to secure in place.

6. 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 13 to secure the Banks interface cable to the vehicle OBD II connector.

7. Next, connect the 6-pin connector on the Banks OBD II interface cable to the 6-pin connector on the Six-Gun Tuner harness.

Figure 12  Mounting location for Banks iQ, Chevy LMM Shown.
Figure 13  

![Image of OBD II Connector]

Figure 14  Optional Tuner-to-SpeedBrake Cable

![Image of Optional Tuner-to-SpeedBrake Cable]
NOTE: If your vehicle is equipped with a Banks Diesel Tuner, Optional Tuner-to-SpeedBrake cable will be needed (P/N 55412). See Figure 14. 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 male connector to the Diesel Tuner female 6-pin connector and connect the four (4) wire male connector to the SpeedBrake female 6-pin connector.

8. Locate the RJ12 Cable (similar to telephone connector) on your Banks OBDII interface cable. See Figure 15.

9. Locate Banks iQ Bridge Module and connect the RJ12 connector into the Bridge Module. See Figure 16.

10. Route the Banks iQ USB interface cable from the Banks iQ Bridge Module under the dash and out through the fuse access panel opening. The cable can be slid under the door frame’s seal and run up to the top of the dash. Pull enough cable to reach the Banks iQ and connect it to the USB receptacle on the left side of Banks iQ. See Figure 12. Snap the fuse access panel back in place making sure not to pinch the wire.

WARNING: THE CHARGING CABLE CONNECTED TO THE BANKS IQ IS DESIGNED TO SUPPLY A CONSTANT LOW-VOLTAGE POWER SOURCE (+5VDC) TO THE BANKS IQ AND IS “LIVE” AS LONG AS THE SYSTEM’S OBD II INTERFACE CABLE OR BANKS WIRING HARNESS IS COMPLETELY INSTALLED AND THE USB CABLE CONNECTOR IS PLUGGED INTO BANKS IQ. 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.

11. Secure Banks iQ Bridge Module under the dash to any dash frame support using the supplied cable ties. Use the cable tie support loops on the side of the Bridge Module to securely fasten it under the dash.

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

13. 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-
Figure 15  Banks iQ System

Figure 16  Banks Bridge Module
Section 3
UPDATING BANKS iQ & BANKS SPEEDBRAKE SOFTWARE

FOR IDASH 1.8 INSTRUCTIONS, SEE IDASH MANUAL 97654

System Info

To view your System Information, press the ‘System Info’ button in the ‘Adjustments’ menu. See Figure 17. Use this info to verify that you are downloading the correct update/upgrade version for your Banks iQ. Press the ‘Return’ icon to go back to the ‘Adjustment’ menu.

To update SpeedBrake

1. Go to www.bankspower.com/downloads and check for the Banks Power Tuner or SpeedBrake updates.
2. Download them onto your Micro-SD card (sold separately) and insert it into the port on your Banks iQ.
3. Press the ‘Update SpeedBrake’ button in the ‘Adjustment’ menu.
4. Press the ‘Check For Updates’ button and available SpeedBrake updates will appear in the window. See Figure 18. Highlight the appropriate file name from the available list.
5. Press ‘Update SpeedBrake’ to download updates into Banks iQ.

NOTE: A warning message will appear if the chosen file is the same or older than the file currently in use.

To update Banks iQ Software

1. Plug Banks iQ into your PC using the supplied USB cable.
2. Go to www.bankspower.com/downloads and click on ‘Check for Updates’.
3. Follow the on-screen directions on your PC to update your Bank iQ with the latest software updates.

- END, SECTION 3 -

Figure 17

![System Info](image-url)
Section 4
TROUBLESHOOTING

Check the Banks iQ’s Status indicator for the “OK” icon on the upper left corner of the iQ Environment screen. Any SpeedBrake fault will be indicated by the “SpeedBrake Caution” icon (see Figure 19) and its cause can be investigated by running a ‘SpeedBrake Diagnostic’ from the Diagnostic menu.

1. In the Environment select menu press on the ‘Diagnostics’ button. See Figure 20.

2. In the Diagnostics menu press on the ‘SpeedBrake Diagnostics’ button to run a tuner diagnostics. See Figure 21.

3. The ‘Self Diagnostic’ screen displays a log of diagnostic events related to the Tuner. The ‘Logged Events’ list takes a moment to update each time this screen is opened. Once the list is updated, the most current event will appear at the bottom of the list. Each event has an associated timestamp and description, which will be displayed below the list when that event is highlighted. Each key cycle of the vehicle produces a minimum of two logged events. See Figure 22. Table 1 lists the common diagnostic codes and the suggested Course of Action for each.

4. Use the arrow buttons to scroll through the recorded events.

5. Touch the iQ icon on the lower left of the screen to return to the environment screen or the return icon to return to the Diagnostics menu.

6. A pop-up “Log-File” screen will appear asking you if you want to erase the contents of the log. Press ‘No’ to keep the contents on Log-file or ‘Yes’, to erase the Log-files.

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

*If problem persists, call Gale Banks Engineering Tech Support.*
Section 5
PLACEMENT OF THE BANKS POWER DECALS

TYPICAL LEFT FENDER PLACEMENT

TYPICAL RIGHT FENDER PLACEMENT