

banks

with Installation Instructions
Owner's Manual

Banks OttoMind[®] Programmer

2002 Chevrolet/GMC 8.1L Workhorse Class-A Motorhome

THIS MANUAL IS FOR USE WITH KITS 66032

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General Installation Practices

- 1.** Before starting work, familiarize yourself with the installation procedure by reading all of the instructions.
- 2.** 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.** Ensure the vehicle battery is in a fully charged state and all voltage draining electrical equipment in OFF position during Banks OttoMind Installation.
- 5.** Save this Owner's Manual as a reference for system maintenance and service.

Introduction

The Banks OttoMind is designed to reprogram the factory PCM in order to give you a custom Banks Performance tune. The Banks OttoMind programmer will store your factory tune and install the Banks OttoMind tune, easily and in minutes. With the Banks OttoMind programmer you will be able to monitor your vehicle parameters in Real Time, diagnose any trouble codes and clear trouble codes. Follow the instructions to complete the Banks OttoMind performance tune and get ready to enjoy a Banks Power product upgrade.

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Section 1

PREPARING VEHICLE FOR BANKS OTTOMIND PROGRAMMING

Follow the vehicle preparation steps to ensure a complete program installation. These steps must be performed prior to installing the Banks OttoMind program.

Warning

- **Failure to follow proper instructions can result in a damaged or disabled PCM (Powertrain Control Module).**
- **Do not perform any operations on Banks OttoMind (expect live data diagnostics) while vehicle is running. The vehicle must be parked and engine OFF.**

Preparation and Precautions

1. Remove the instrument cluster fuse. Locate the fuse panel under the lift-up dashboard or beneath the dashboard on the driver side. Remove fuse 21 from the fuse panel and set aside.

Note: Some models will not have an instrument cluster fuse (fuse 21). You may continue with the installation if your vehicle does not come equipped with the fuse.

Note: Fuse 21 will be replaced after the installation of the OttoMind tune is complete.

2. Do not activate any electrical accessories while installing the Banks OttoMind Performance tune. Ensure that there are no electronic devices wired or plugged into the vehicle that can cause a substantial voltage drop when activated during installation of

the Banks OttoMind Performance tune. Please contact Banks dealer if uncertain about devices that are on your vehicle.

- 3.** Certain cellular phones or radio equipment might also cause interference, please remove or turn such devices off.
- 4.** Ensure that the vehicle battery voltage is correct. Charge your battery if necessary.

Note: Do not attempt to install the Banks OttoMind performance tune on a vehicle with a low voltage battery.

5. Unless instructed, never turn the ignition key OFF while the Banks OttoMind is plugged into the OBDII connection port.

Warning: Do not unplug the Banks OttoMind Programmer while it is installing the Banks OttoMind performance tune.

6. Ensure that the factory "stock" tune is in the vehicle's PCM before installing the Banks OttoMind. If you are uncertain if your vehicle has the stock tune then have the vehicle's PCM re-flashed by a GM dealer.

Note: GM dealer re-flashes are the same as stock factory tune.

WARNING: The Banks OttoMind should not be installed over a non-factory/aftermarket performance tune, and cannot be used in conjunction with other tuning devices such as chips or plug in modules of any kind.

-END, SECTION 1-

Section 2

INSTALLING THE BANKS OTTOMIND PROGRAM

Familiarize yourself with Banks OttoMind keypad controls. The keypad will allow the user to navigate between screens and to select functions. (See **Figure 1**).

Connecting to OBD II

1. Locate the OBD II connection port in your vehicle. The OBD II connection port is located under the dash panel and can be located on either side of the steering wheel.
2. Connect your Banks OttoMind programmer to the vehicle OBD II connection port.

3. Turn the Ignition key to ON position. **Do not START the engine.** When the OBD II connector is plugged in correctly, the Banks OttoMind will illuminate its screen. If the Banks OttoMind does not come on then check the fuse to the cigarette lighter in the fuse panel.

After connecting the Banks OttoMind OBD II connector to the vehicle, the Banks OttoMind Programmer will automatically power on. The screen will display the Banks OttoMind logo, then display the 'Main Menu'. (See **Figure 2**).

Figure 1: Display and Keypad Description

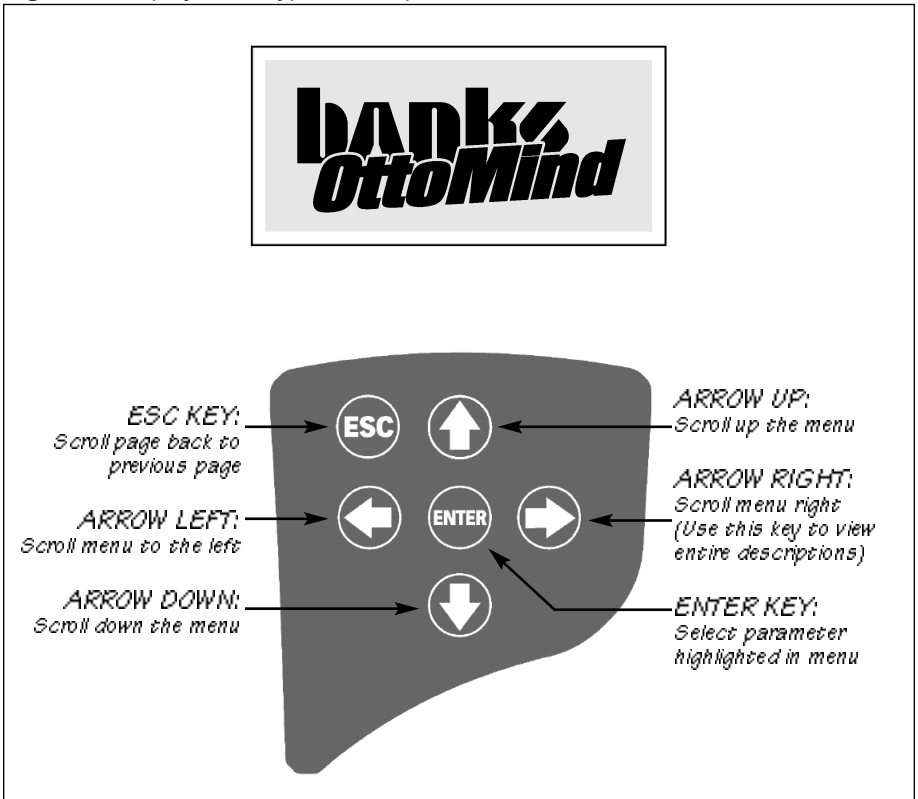
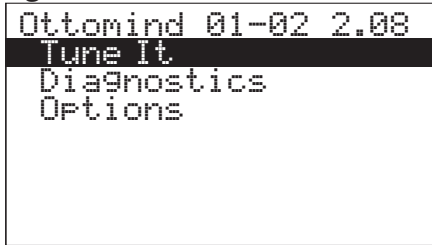


Figure 2



Backing up the Factory Tune

Warning: Do not unplug the Banks OttoMind Programmer while it is installing the Banks OttoMind performance tune.

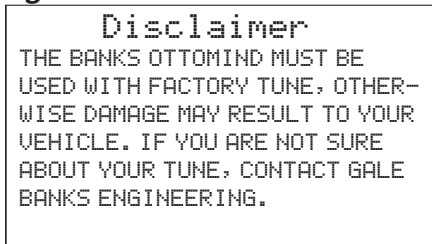
4. Using the keypad, highlight 'Tune It' and press the 'Enter' button on the keypad.

5. Follow the instructions listed on the screen. Then press any key to continue.

6. Read the Disclaimer on the screen, then press any key to continue.

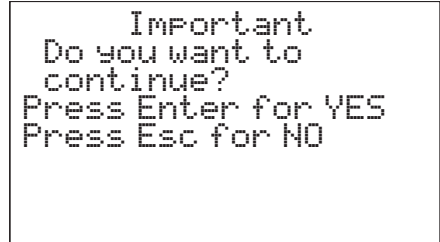
WARNING: THE BANKS OTTOMIND MUST BE USED WITH FACTORY TUNE, OTHERWISE DAMAGE MAY RESULT TO YOUR VEHICLE. IF YOU ARE NOT SURE ABOUT YOUR TUNE, CONTACT GALE BANKS ENGINEERING. (See Figure 3)

Figure 3



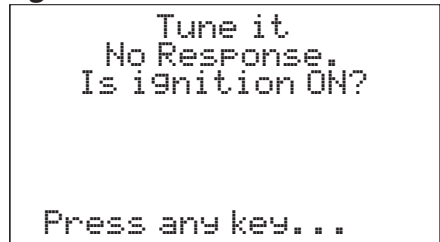
7. If you want to continue, press the Enter button for YES. Or press the Esc button for NO. (See **Figure 4**)

Figure 4



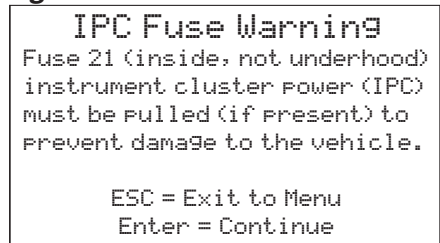
*Note: If the ignition key is not turned on then the following screen will be seen. (See **Figure 5**) Check to see that the Ignition is in the Run position, then do step 4 thru 7.*

Figure 5



8. Make sure fuse 21 was removed from the instrument cluster as directed in Section 1, Step 1. See **Figure 6**.

Figure 6



9. The Banks OttoMind programmer will begin the stock tune back-up process by copying the stock factory tune currently installed in your vehicle.

10. *Note: During the back-up process, the Banks OttoMind will build the Banks Tune. After The Banks Tune is built, press the ENTER key on the keyboard.*

11. Wait for 10 seconds. After waiting for 10 seconds turn the ignition switch to the OFF position, then press any key to continue.

Note: Some vehicles may require the key to be turned "OFF" then back "ON" after the 10-second countdown, if the "communicating" message is displayed for more than 30 seconds.

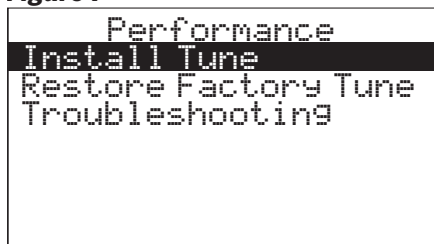
12. The Banks OttoMind programmer will count 15 seconds until it is ok to proceed. Turn the ignition ON, then press any key to continue. **DO NOT start the engine.**

13. Vehicle data backup is now complete. Press any key to continue installing the performance tune.

Install Performance Tune

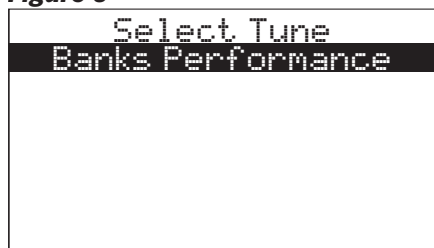
14. Select "Install Tune" and press the "Enter" button. See **Figure 7**

Figure 7



15. Select Banks Performance tune by highlighting then press ENTER. See **Figure 8**

Figure 8



16. You will be asked if you wish to continue the installation of the Banks OttoMind tune. If you wish to continue the Banks OttoMind tune press the Enter button.

If you chose not to install the Banks OttoMind tune then press 'Esc' for NO.

Note: The installation takes several minutes to install.

17. The Banks OttoMind message center will display the percentage of completion. When the process is complete the message center will display "uploading 100% completed". Press any key to continue the Banks OttoMind tune installation.

18. Turn the ignition off and then press any key to continue.

19. After waiting 10 seconds Turn On the ignition switch and the press any key to continue. **Do not start the engine.**

20. Data uploading will continue, please wait for 10 seconds.

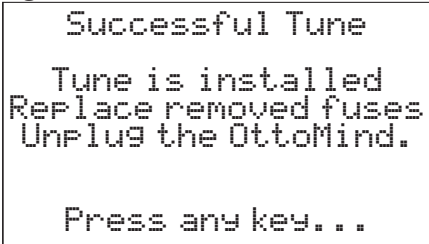
21. Data upload is complete and Performance tune has been successfully installed. Press any key to continue.

22. When the screen displays **Figure 9**, the data upload is complete and the Banks OttoMind tune has been successfully installed. Now press any key to return to the main menu. At this

point you can unplug the Banks OttoMind programmer and replace fuse 21 (if removed previously). Installation of the Banks OttoMind program is complete.

NOTE: To verify that the performance tune was accomplished correctly proceed to Steps 23 thru 24.

Figure 9



23. To verify that the Banks Performance tune was installed go to the main menu and select Options. Once in the Options menu, scroll through the menu and select CAR TUNE by highlighting then press ENTER.

24. The CAR TUNE option displays the current tune installed in the vehicle. The current tune should be the "Banks Performance tune". If the Banks Performance tune is not the current tune then repeat steps 14 thru 21

-END, SECTION 2-

Section 3

RESTORING FACTORY TUNE

The stock tune can be reinstalled at any time using the "Restore Saved Data" feature. This feature will take the Banks OttoMind tune out and will reset the factory tune back into the vehicles PCM. The Banks OttoMind performance tune will be saved in the Banks OttoMind programmer.

NOTE: It is recommended to return to stock tune whenever the vehicle goes in for service. This will allow any reflashing of the PCM by the dealership without affecting the Banks OttoMind performance tune.

1. Plug the OBD II connector from your Banks OttoMind programmer into the OBDII connection port of your vehicle.

Warning: Do not unplug the Banks OttoMind Programmer while it is restoring the factory tune.

2. Using the keypad, highlight 'Tune It' and press the 'Enter' button on the keypad. See **Figure 2**.

3. Follow the instructions listed on the screen. Then press any key to continue.

Note: Remove the instrument cluster fuse (fuse 21) from the fuse panel. Read Section 1, Step 1 for location of fuse.

4. Read the Disclaimer on the screen, then press any key to continue.

WARNING: THE BANKS OTTOMIND MUST BE USED WITH FACTORY TUNE, OTHERWISE DAMAGE MAY RESULT TO YOUR VEHICLE. IF YOU ARE NOT SURE ABOUT YOUR TUNE, CONTACT GALE BANKS ENGINEERING.

5. If you want to continue, press the Enter button for YES. Or press the Esc button for NO.

6. Using the keypad, move to and select "Restore Factory Tune". Select it by highlighting and press ENTER on the keypad. See **Figure 10**.

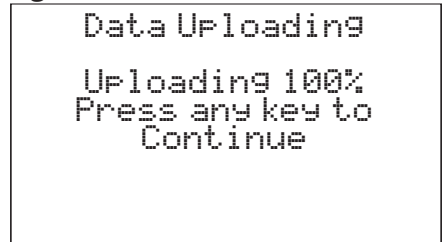
Figure 10



7. The Banks OttoMind programmer will begin to restore the Factory stock tune that was previously saved into the Banks OttoMind.

8. Once data uploading is complete, you will be instructed to press any key on the keypad to continue. See **Figure 11**.

Figure 11

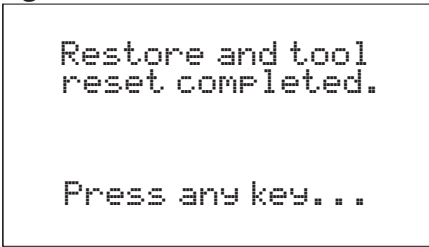


9. The Banks OttoMind programmer will countdown 10 seconds. Turn the ignition switch to the OFF position. Then press any key to continue.

10. The Banks OttoMind programmer will countdown 10 seconds. Turn the ignition switch to the ON position, **do not start the engine**, then press any key to continue.

12. The Banks OttoMind programmer will countdown an additional 10 seconds. Once the countdown is complete the factory restore is complete. See **Figure 12**.

Figure 12



-END, SECTION 3-

Section 4

DIAGNOSTIC SECTION

The diagnostic feature on the Banks OttoMind programmer allows you to check and clear Service Engine Soon (SES) light, check and clear Trouble Codes, view Real Time Data, read Abbreviations and assist in Troubleshooting. Also, the diagnostic section will allow you to check the key parameters in your vehicle in real time. This feature can be helpful in diagnosing sensors and other equipment in your vehicle.

Note: Fuse 21 does not need to be removed for diagnostics.

1. Open the Diagnostic menu by highlighting then press ENTER. (See **Figure 13**). The Options menu displays the available parameters and specific data assigned to your Banks OttoMind programmer. Scroll through the list using the UP and DOWN arrow keys to view the Options menu contents. See **Figure 14**

Figure 13

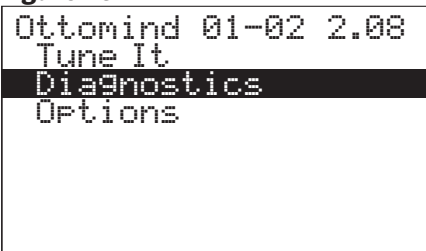
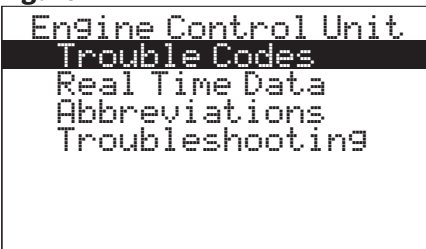


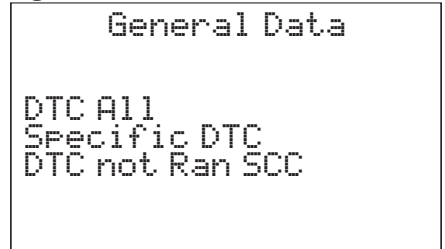
Figure 14



2. Highlight Trouble Codes then press ENTER to view any stored diagnostic trouble codes.

3. Highlight DTC Information then press ENTER to view stored diagnostic trouble codes. Under the DTC Information menu titled General Data, select from the three available options by highlighting and then press ENTER. See **Figure 15**

Figure 15



-DTC ALL- The listing of all stored diagnostic trouble codes.

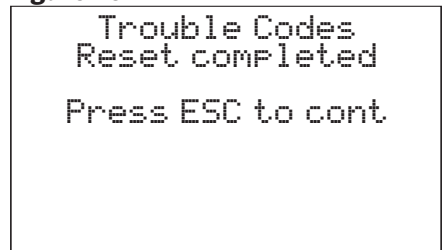
-Specific DTC- Use this to view a specific diagnostic trouble code.

-DTC not Ran SCC- Use this to view diagnostic trouble codes that were not performed during the DTC ALL check.

4. To remove diagnostic trouble codes highlight Erase DTC's and press ENTER.

Highlight Reset and then press ENTER. The Banks OttoMind will reset any available trouble codes. Once the erasure of the trouble codes is complete the screen will flash, 'Reset completed. Press ESC to cont'. See **Figure 16**.

Figure 16



NOTE: The PCM performs tests of modules during driving cycles, some modules are not tested at the time the "DTC All" command is performed. This feature displays what modules were excluded during the "DTC All" test. This information always bases itself from last "Erase DTC's" command performed.

5. To view running engine parameters highlight Real Time Data and press ENTER. The Banks OttoMind programmer has the capability to display engine data parameters while the engine is running. This feature can be useful when diagnosing the engine and other diagnostic procedures. The data displayed is shown in real time. Use the keyboard to scroll through the displayed parameters. See **Figure 17**.

Figure 17

```

18.43 Engine Load
118°F ECT
.78% Short term
.00% Long term
.78% Short term
-1.56 long term
4.9 Psi MAP
709 rpm Engine Speed
0 mph Vehicle Speed
  
```

6. To view listed abbreviated words highlight Abbreviations and press ENTER. This will list all the abbreviations that may be used during the real time data session. Use the keyboard to highlight and select the corresponding letter that represents the abbreviated word, by pressing the ENTER button.

7. To view the contents in Troubleshooting highlight

Troubleshooting and press ENTER.

NOTE: This section should only be utilized if instructed by Banks staff and will be used in assisting to troubleshoot the Banks OttoMind. The available section are:

-Show VIN- The 'Show VIN' screen will display the vehicle VIN number that the Banks OttoMind programmer is assigned to.

-Calibration Ids- The 'Calibration Ids' option displays the identification number of selected components in the vehicle. See **Figure 18**

Figure 18

```

12592618 Operating S
12592223 Engine Cal.
12585697 Engine Diag
12585702 Transmissi
  
```

-Ping ALL- Unless instructed do not use the 'Ping All' function. The 'Ping All' option is designed to aid Gale Banks Engineering in troubleshooting your Banks OttoMind. The 'Ping All' function monitors communication status between PCM and modules.

-Disable/Enable ALL- Unless instructed do not use the 'Disable/Enable All' function. The 'Ping All' option is designed to aid Gale Banks Engineering in troubleshooting your Banks OttoMind. The 'Disable/Enable All' function monitors communication status between PCM and modules.

-END, SECTION 4-

Section 5

OPTIONS

The Options menu should only be utilized to check for the current vehicle tune, to set or clear a password, and if directed by Banks staff. Many of the listed options are not necessary to complete the Banks Performance tune. The listed options are to be used primarily for the identification of serial numbers and ID's.

Note: Fuse 21 does not need to be removed for options.

1. Open the option menu by highlighting then press ENTER. (See **Figure 13**). The Options menu displays the available parameters and specific data assigned to your Banks OttoMind programmer. Scroll through the list using the list using the UP and DOWN arrow keys to view the Options menu contents. See **Figure 19**

Figure 19



-PC Communication- The 'PC Communication' option is for Banks authorized service only. This feature is not intended for customer use.

-Display Serial No.- The 'Display Serial No.' option displays the Banks OttoMind programmer serial number and manufacture date.

-Set Password- The 'Set Password' option allows you to set your own personal password. Use the Up or

Down arrow keys to scroll through and set a numeric digit. Use the Left and Right arrow to move to the next digit. Repeat the previous instruction until you have set all four digits to your liking, and then press the Enter button on the keyboard.

-Clear Password- The 'Clear Password' option allows you to clear the previously set security password. Press the Enter button on the keyboard to clear the previously set security password.

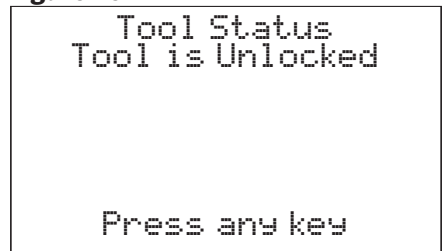
-Tool ID- The 'Tool ID' option displays the tool identification number.

-About Tool- The 'About Tool' option displays the current Banks OttoMind installed software and hardware.

-Tool Status- The 'Tool Status' option displays the Banks OttoMind programmer locked or unlocked status.

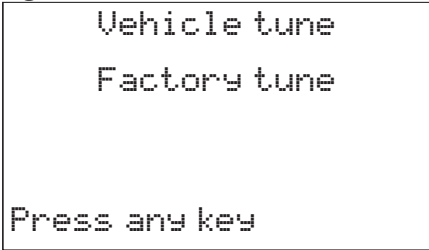
*NOTE: The Banks OttoMind programmer will become locked once the factory tune has been backed-up. You will not be able to use the Banks OttoMind programmer on any other vehicle when it is in a locked status. You will however be able to use the diagnostic and real time data reading capabilities on any 8.1L workhorse class-A motorhome and other GM vehicles, regardless of tool status. See **Figure 20**.*

Figure 20



- Car Tune - The 'Car Tune' option displays the current tune installed in the vehicle. The current tune will be the last tune written to the vehicle PCM. See **Figure 21**

Figure 21



-Send Software ID- This function is not available for use.

-END, SECTION 5-

Section 6

TROUBLESHOOTING

Table 1

	Event	Course of Action												
1	Banks OttoMind will not power up when I plug it into the OBDII port	Make sure that the cigarette lighter fuse in your vehicle is functional. You may also want to try plugging the Banks OttoMind into any other vehicle with an OBDII port to see if it powers up. If it does not, please return to point of purchase for a warranty exchange.												
2	Banks OttoMind lights up, but nothing happens.	Please contact Gale Banks Engineering customer service department for further assistance.												
3	Banks OttoMind is flashing "Script error: Interpreter stopped." Verify that you have done the following:	<p>-Check to see that all fuses in the fuse panel are good.</p> <p>-Make sure you have disabled any aftermarket electronics in the vehicle such as alarm systems, stereos, CD players etc.</p> <p>-Removed anything that is plugged into the cigarette lighter.</p>												
4	Banks OttoMind says "FEATURE NOT SUPPORTED ON THIS VEHICLE,"	Locate the VIN number on the vehicle nameplate and record the 10th digit of the VIN. Compare the recorded 10th digit to the table below. If the Banks P/N does not coincide with the 10th digit number then the incorrect P/N was ordered. If the incorrect part was ordered then obtain the correct P/N and attempt the installation again. If the correct P/N was ordered then contact Gale Banks Engineering customer service department for further assistance.												
5	Banks OttoMind says "VEHICLE NOT IN DATABASE"	<table> <thead> <tr> <th>10th Digit</th> <th>Banks P/N</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>66032</td> </tr> <tr> <td>2</td> <td>66032</td> </tr> <tr> <td>3</td> <td>66033</td> </tr> <tr> <td>4</td> <td>66033</td> </tr> <tr> <td>5</td> <td>66033</td> </tr> </tbody> </table>	10th Digit	Banks P/N	1	66032	2	66032	3	66033	4	66033	5	66033
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Notes

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