FedEx Freight

Bendix®

Bendix® Wingman® Advanced™
Upgrade Checklist

Bendix Retrofit Support
Phone Number
440-284-6573

GENERAL SAFETY GUIDELINES

⚠ **WARNING! PLEASE READ AND FOLLOW THESE INSTRUCTIONS** ⚠
TO AVOID PERSONAL INJURY OR DEATH:

When working on or around a vehicle, the following guidelines should be observed AT ALL TIMES:

▲ Park the vehicle on a level surface, apply the parking brakes and always block the wheels. Always wear personal protection equipment.

▲ Stop the engine and remove the ignition key when working under or around the vehicle. When working in the engine compartment, the engine should be shut off and the ignition key should be removed. Where circumstances require that the engine be in operation, EXTREME CAUTION should be used to prevent personal injury resulting from contact with moving, rotating, leaking, heated or electrically-charged components.

▲ Do not attempt to install, remove, disassemble or assemble a component until you have read, and thoroughly understand, the recommended procedures. Use only the proper tools and observe all precautions pertaining to use of those tools.

▲ If the work is being performed on the vehicle's air brake system, or any auxiliary pressurized air systems, make certain to drain the air pressure from all reservoirs before beginning ANY work on the vehicle. If the vehicle is equipped with a Bendix® AD-IS® air dryer system, a Bendix® DRM™ dryer reservoir module, or a Bendix® AD-9si® air dryer, be sure to drain the purge reservoir.

▲ Following the vehicle manufacturer's recommended procedures, deactivate the electrical system in a manner that safely removes all electrical power from the vehicle.

▲ Never exceed manufacturer's recommended pressures.

▲ Never connect or disconnect a hose or line containing pressure; it may whip and/or cause hazardous airborne dust and dirt particles. Wear eye protection. Slowly open connections with care, and verify that no pressure is present. Never remove a component or plug unless you are certain all system pressure has been depleted.

▲ Use only genuine Bendix® brand replacement parts, components and kits. Replacement hardware, tubing, hose, fittings, wiring, etc. must be of equivalent size, type and strength as original equipment and be designed specifically for such applications and systems.

▲ Components with stripped threads or damaged parts should be replaced rather than repaired. Do not attempt repairs requiring machining or welding unless specifically stated and approved by the vehicle and component manufacturer.

▲ Prior to returning the vehicle to service, make certain all components and systems are restored to their proper operating condition.

▲ For vehicles with Automatic Traction Control (ATC), the ATC function must be disabled (ATC indicator lamp should be ON) prior to performing any vehicle maintenance where one or more wheels on a drive axle are lifted off the ground and moving.

▲ The power MUST be temporarily disconnected from the radar sensor whenever any tests USING A DYNAMOMETER are conducted on a vehicle equipped with a Bendix® Wingman® system.

▲ You should consult the vehicle manufacturer's operating and service manuals, and any related literature, in conjunction with the Guidelines above.

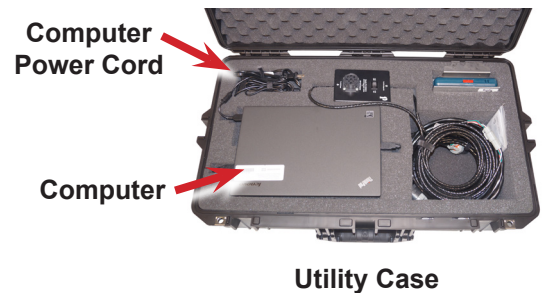# Bendix® Wingman® Advanced™ Upgrade Checklist

- Follow the checklist below to make sure all the required steps are completed in the order shown.
- The section letter at the end of a step indicates where more details can be found in the *Bendix™ FLR10™ Radar Upgrade Instructions: Bendix® Wingman® ACB to Bendix® Wingman® Advanced™* (BW8037) manual (i.e. Section A).

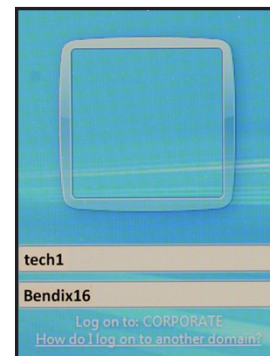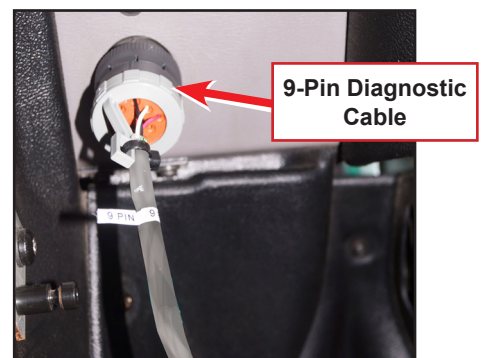| Step	✓	Action
1.	☐	Repair any existing vehicle faults. *(Section A)*
2.	☐	Check the vehicle's voltage; if the voltage is less than 10V, connect the vehicle to a battery charger. The voltage <u>MUST</u> be above 10V during the upgrade process or the upgrade will fail.
3.	☐	Open the Bendix® utility case. Plug in the computer power supply and start the computer.
4.	☐	Log in: User Name: **tech1** Password: **Bendix16** *(Section B)*
5.	☐	Connect the gray 9-pin diagnostic cable to the vehicle's 9-pin port.

Computer Power Cord

Computer

Utility Case

tech1

Bendix16

Log on to: CORPORATE
How do I log on to another domain?

9-Pin Diagnostic Cable

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Step	✓	Action
6.	☐	Turn the key to the "ON" (IGN) position.
7.	☐	Double-click the "Bendix® ACom® Diagnostics" icon. *(Section C)*

| Step	✓	Action
8.	☐	Select "EC-60" with "J1587" from the ACom menu. Click the "Start with ECU" button. Wait for the prompt. If prompted, select USBLINK (USB-Link 2) and click the "blue arrow" button. Click on the "DTC" button. If you receive an "ECU Talk Platform Error," make sure the ignition key is in the "ON" position. If the ignition key is in the "OFF" position, repeat Steps 6 – 8 and if the "ECU Talk Platform Error" message appears again, *see Section C*.
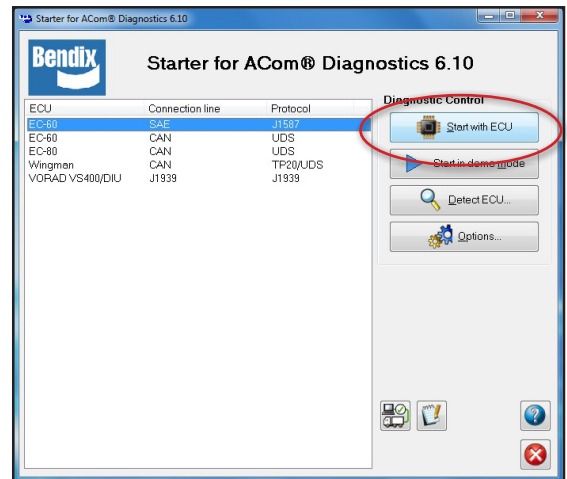
Step	✓	Action
9.	☐	Confirm no active faults exist. If the ABS Electronic Control Unit (ECU) has faults, repair the faults and *go back to Step* 7. Otherwise*, go to Step 10.*
10.	☐	Select the "Report" icon. Select "OK" on the VIN warning prompt. On the "Print Data" screen enter the unit number in the VIN number line. Click "OK."

Step	✓	Action
		Save the report as Unit # ECU1 (i.e. R1234ECU1) in VIN box and click "OK."

Save files to **Computer\C:\KBApps\Wingman Advanced Upgrade\Logs.** (Type in or click on folders.)
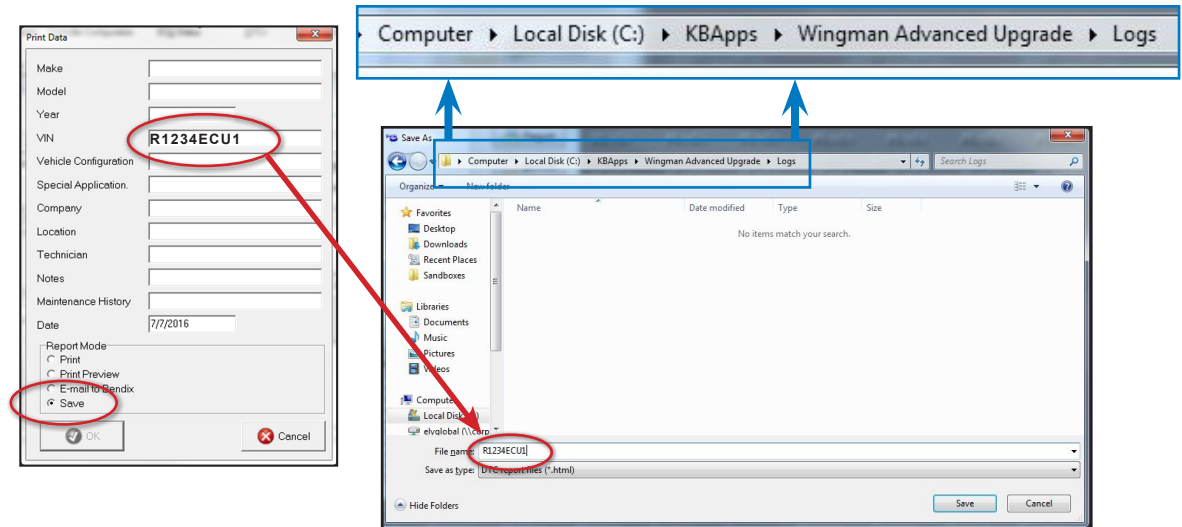
Click the "Save" button.

Click "OK."

Exit out of all Bendix® ACom® Screens.

Files must be saved and recorded for tracking purposes.

11. ☐

12. ☐

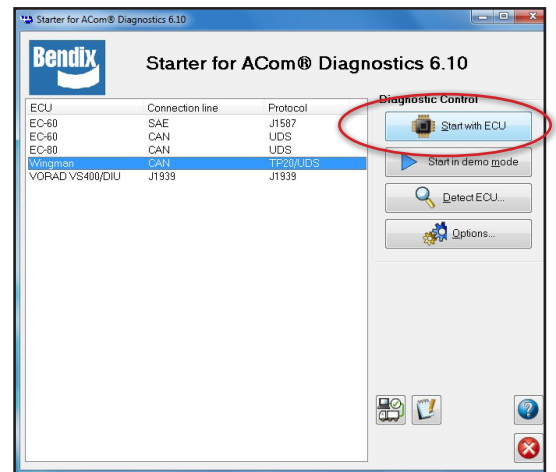Double-click the "Bendix ACom Diagnostics" icon. (*Section C*)

Restart the ACom menu.

Select "Wingman" from the starter screen.

Click the "Start with ECU" button.

If prompted, select USBLINK (USB-Link 2) and click the "Open" button.

Click on the "DTC" button.

13. ☐ Confirm no faults exist. If the Wingman system radar has faults, repair the faults and go back to Step 12. Otherwise, go to Step 14.

| Step	✓	Action
14.	☐	Select and double-click the "Report" button. On the "Print Data" screen, enter the unit number and click "OK." On the "Report Mode" screen click on the "Save" dot and click "OK." Save the report as Unit # WM1 (i.e. R1234WM1) and click "OK." Save files to **Computer\C:\KBApps\Wingman Advanced Upgrade\Logs.** (Type in or click on folders.)
15.	☐	Close the Bendix® ACom® diagnostics software program by closing all screens.
16.	☐	Determine if the vehicle is equipped with a **Bendix™ FLR10™ or FLR20™** forward looking radar. (Section D)

FLR-10 Radar   **FLR-20 Radar**
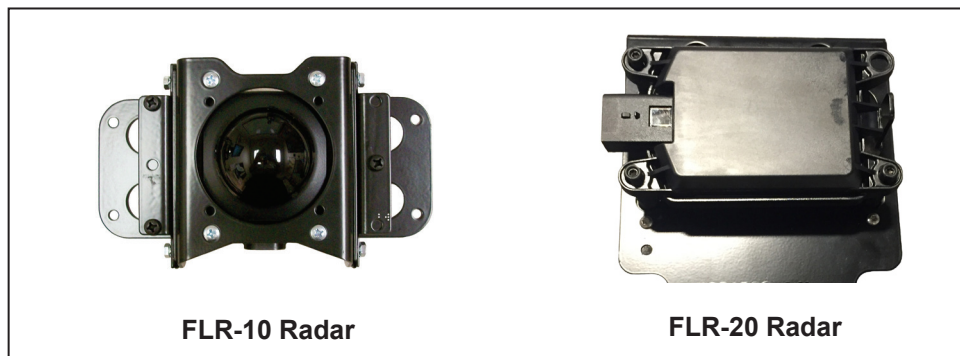
For vehicles with a Bendix FLR10 radar sensor, complete steps 17−52. If the vehicle has a Bendix FLR20 radar sensor, go to steps 36−52.

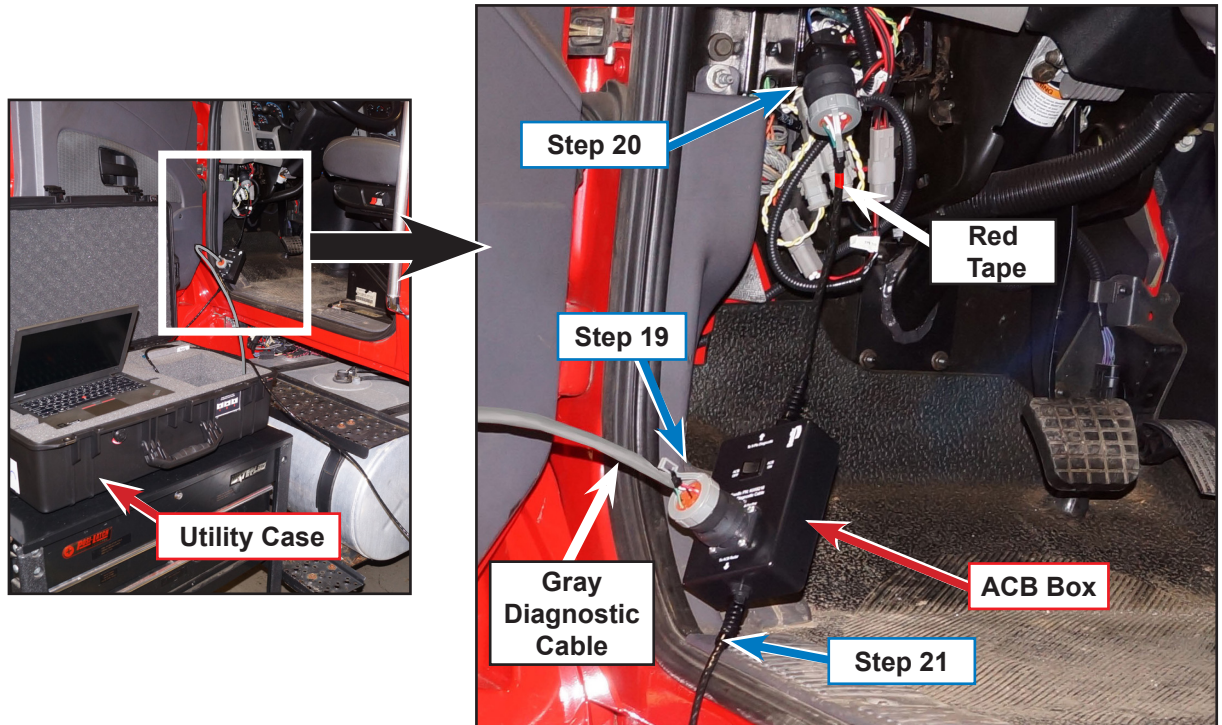| Step	✓	Action
17.	☐	Begin the FLR10 radar software upgrade process. *(Section E)* Turn the ignition key "OFF."
18.	☐	Remove the Bendix® Wingman® ACB box (with attached diagnostic cables) from the utility case. Make <u>sure</u> the switch on the ACB box is in the "ACB OFF" position.

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Step ✓ Action


Step	✓	Action
19.	☐	Disconnect the gray diagnostic cable from the vehicle (connected in Step 5) and connect it to the front of the Bendix® Wingman® ACB box. *(Section E)*
20.	☐	Connect the ACB box 9-pin cable (marked with red tape) to the cab's 9-pin diagnostic port. *(Section E)*
21.	☐	Route the ACB box radar cable along the driver-side fender to the radar on the bumper.
22.	☐	Remove the radar cover at the bumper to allow access to the Bendix™ FLR10™ radar.

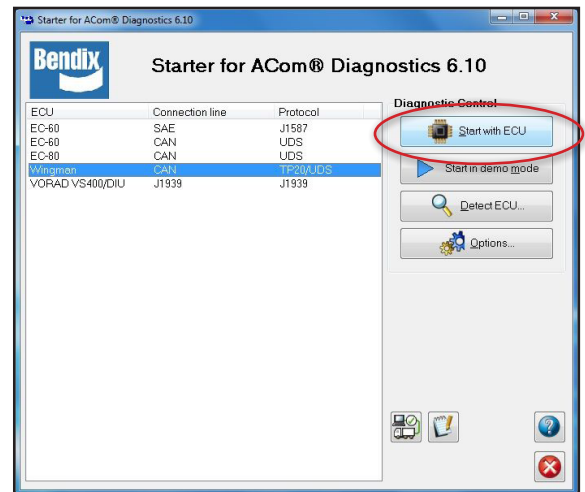| Step	✓	Action

23. ☐

Unplug the connector from the FLR10 radar.

Connect the ACB box connector to the FLR10 radar.

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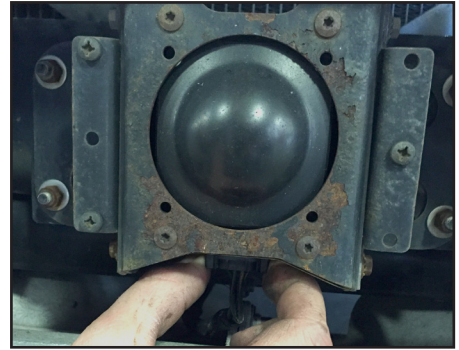
24. ☐

Turn the switch on the ACB box to the "ACB ON" position.

Turn the ignition key to "ON."

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25. ☐ Double-click the "Bendix® ACom® Diagnostics" icon.

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26. ☐

Select "Wingman" from the ACom menu.

Click the "Start with ECU" button. *(Section E)*

If prompted, select USBLINK (USB-Link 2) and click "Open."

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Step	✓	Action
27.	☐	Select the "Flash Download" icon from the top menu bar.
28.	☐	Select the "ACB software 13.356.2" from the "ECU Software Update" window.
29.	☐	Click the "Download" button. The download takes 6 – 10 minutes. If the download fails, click "OK" at the error message and turn the ACB box "OFF" and "ON." Repeat Steps 27 – 29. **A download may take multiple tries after any failure.** If the message "ACB Sensor in Reflash Mode" appears, click "OK."
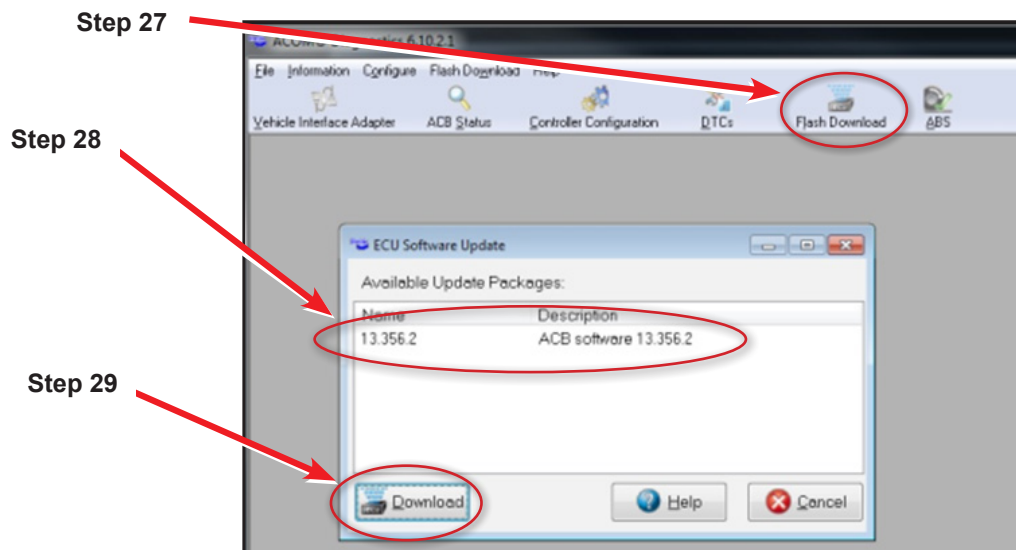
Step	✓	Action
30.	☐	When complete, a red message that the download was successful will be displayed. **CAUTION:** When the "Information" window opens, **STOP. Do <u>NOT</u> click "OK."** Continue to the next step. If "OK" is clicked in error, repeat Steps 26 to 30. *(Section E)*
31.	☐	Turn the switch on the Bendix Wingman ACB box to the "ACB OFF" position, then to the "ACB ON" position.
32.	☐	Click "OK" in the "Information" window to continue. A "Writing EEPROM" status bar will appear for about 30 seconds.

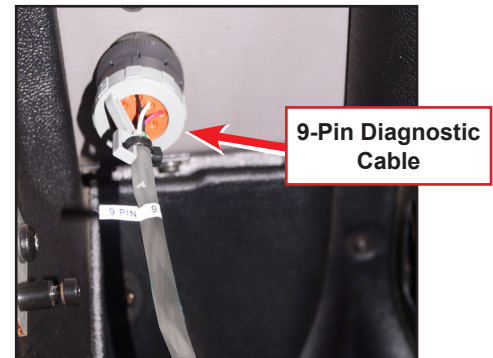# Bendix® Wingman® Advanced™ Upgrade Checklist

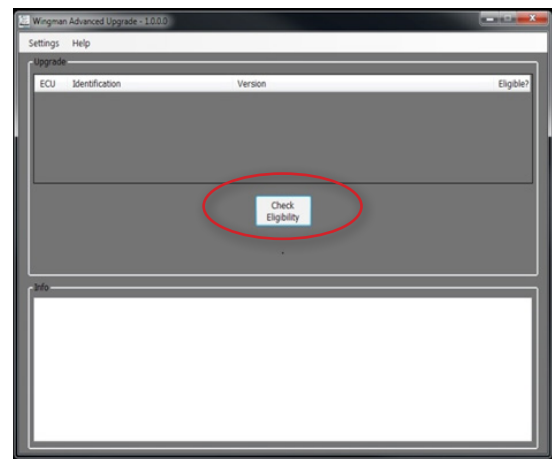| Step	✓	Action
33.	☐	When complete, the "Information" window will display "Flash Download Successfully Finished."
34.	☐	Click "OK," close and exit all Bendix® ACom® screens. Turn the ignition key to "OFF."
35.	☐	Disconnect the cables connected in Steps 19 – 21. Reconnect the vehicle's original Bendix™ FLR10™ radar connector at the bumper. Return the ACB box to the utility case.
36.	☐	Connect the gray 9-pin diagnostic cable to the vehicle's 9-pin port. 9-Pin Diagnostic Cable
37.	☐	Turn the ignition key to "ON."
38.	☐	Select the **"**Wingman Advanced" icon on the computer and double-click to launch the program. *(Section F)*
39.	☐	Select the "Check Eligibility" button.

| Step	✓	Action
40.	☐	If the vehicle is not eligible, **STOP** here. See the FedEx service manager and contact Bendix Retrofit Support at 440-284-6573. A representative will respond to you within three hours of your call. Representatives are available 24/7/365. Select "OK" to begin the program.
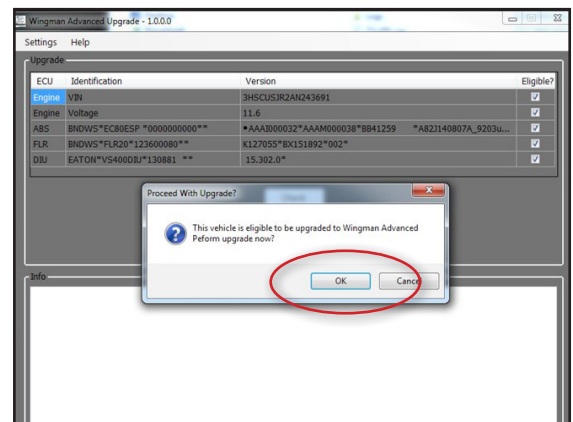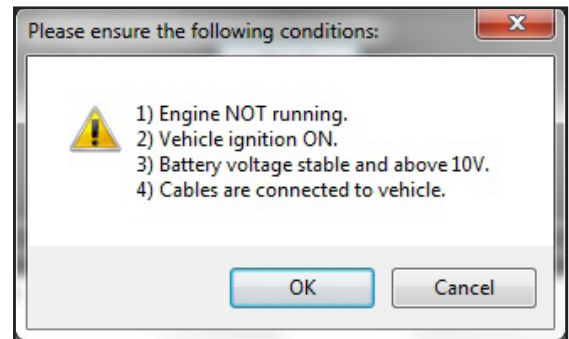
Step	✓	Action
41.	☐	If prompted, connect the yaw rate sensor by doing the following: Remove the yaw rate sensor connector from the yaw rate sensor. The yaw rate sensor is usually near the center of the vehicle, on the frame rail. *(Section F)* Connect the yaw rate sensor diagnostic cable (from the utility case) to the vehicle's yaw rate wiring harness. *(Section F)* Select "OK."
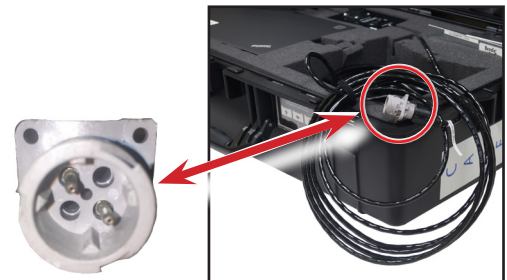
Yaw Rate Sensor Connector (2-Pin)

Step	✓	Action
42.	☐	Programming in progress. Wait for completion. Follow the "Cycle Ignition Power" prompts. *(Section F)*
43.	☐	If the download was successful, turn "OFF" the ignition key. *(Section G)* Close all screens. If the download failed, refer to *Section F, Step 5*.

Step	✓	Action
44.	☐	Remove the yaw rate sensor cable and reconnect the vehicle's connector/cable – if removed in *Step 41* – to the vehicle's yaw rate sensor. Coil the cable and return it to the utility case.
45.	☐	Turn the ignition key to the "ON" position.
46.	☐	Repeat *Steps 7 – 15* **with the following exceptions**: a. In Step 11, save the ECU report as Unit # ECU2 (i.e. R1234ECU2). b. In Step 14, save the Bendix Wingman system report as Unit # WM2 (i.e. R1234WM2).
47.	☐	Disconnect the 9-pin connector from the vehicle's diagnostic port. Coil the cable and return it to the utility case.
48.	☐	Complete the following Power-Up Self-Test *(Section H)* steps to determine if the system operation is normal: 1. Park the vehicle. Turn the ignition to "OFF." 2. Turn the key to the "ignition power" position. 3. Toggle the cruise control switch at least once, and leave it in the "ON" position. 4. Start the vehicle, but do not drive the vehicle away. **Note:** If the cruise control is "OFF", or if the vehicle is moving, this test will not run. **Note:** If an issue is found that will prevent the system from functioning properly, a long warning beep will alert the driver and a DTC will be logged in the system (typically with a "status indicator/dash" icon illuminated).
49.	☐	Remove the existing Wingman ACB sticker on the vehicle's sun visor, if applicable. *(Section I)*
50.	☐	Replace the ACB sticker on the visor with the new warning sticker. This sticker is included in the documentation kit available from FedEx *(part number 0033182)* or Bendix *(part number K139420)*.

Warning sticker (Step 50):

This vehicle is equipped with a safety system that may activate the vehicle brakes at any time to help mitigate a rollover, jackknife or forward collision — independent of cruise control.

⚠ WARNING

- This system should not be relied upon to stop the vehicle.
- Heed all proper driving practices and safety information in your vehicle Operator's Manual(s).
- For optimal system performance, keep the radar sensor clean and aligned, and the brake system properly maintained.
- Improper use of this system can lead to a serious accident.

Ultimate responsibility for safe vehicle operation remains with the driver!

Read the latest Operator's Manual (BW2850) - Go to - www.bendix.com

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Step	✓	Action

51. ☐ When finished with the upgrade, carefully read the Operator's Manual *(Bendix part number BW2850)*. Place the manual in the vehicle's glove box for future use.
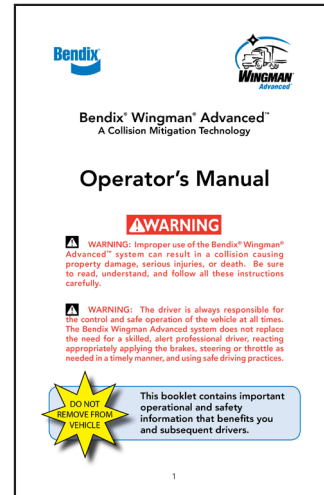
52. ☐ The installation is complete. If <u>no</u> Diagnostic Trouble Code (DTC) faults are indicated the vehicle can be placed back into service.