

ONGUARD™ COLLISION MITIGATION SYSTEM (CMS) KIT INSTALLATION FOR P3 CASCADIA

INSTALLATION INSTRUCTIONS

WABCO

Table of contents

1 Safety Information..... 5

2 How to Obtain Additional Maintenance, Service and Product Information 5

3 How to Obtain Parts and Kits..... 6

4 OnGuard™ Collision Mitigation System (CMS) Kit..... 6

5 Installation Procedures 6

5.1 OnGuard™ Radar Installation..... 6

5.2 OnGuard™ Radar Harness Installation 9

5.3 OnGuard™ Cab Harness Installation – Detroit Diesel Engine..... 11

5.4 OnGuard Cab Harness Installation – Cummins Engine..... 16

5.5 Pressure Sensor Installation 23

5.6 OnGuard Radar System Inspection 26

5.7 Align/Calibrate the System..... 27

6 Important Information..... 28

7 Radar Template 31

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1 Safety Information



WARNING

- This warning symbol identifies special instruction or procedures, which if not correctly followed could result in personal injury, or loss of life.

Read and observe all Warning and Caution hazard alert messages in this publication. They provide information that can help prevent serious personal injury, damage to components, or both.



WARNING

- To prevent serious eye injury, always wear safe eye protection when you perform vehicle maintenance or service.



WARNING

- Park the vehicle on a level surface. Block the wheels to prevent the vehicle from moving. Support the vehicle with safety stands. Do not work under a vehicle supported only by jacks. Jacks can slip and fall over. Serious personal injury and damage to components can result.



WARNING

- Release all air from the air systems before you remove any components. Pressurized air can cause serious personal injury. Refer to the vehicle manufacturer's service manual for instructions.



WARNING

- Verify and diagnose all active faults in the system prior to replacing OnGuard™ components. When diagnosing OnGuard™, TOOLBOX™ Software (11.0 or higher) must be used. Be aware that diagnostic devices must be connected prior to keying on the unit to minimize possible OnGuard™ faults during diagnosis.

2 How to Obtain Additional Maintenance, Service and Product Information

If you have any questions about the material covered in this bulletin, or for information about the WABCO product line, please contact WABCO North America Customer Care at 855-228-3203 or visit our website: wabco-auto.com.

3 How to Obtain Parts and Kits

Contact Meritor's Commercial Vehicle Aftermarket at 888-725-9355.

4 OnGuard™ Collision Mitigation System (CMS) Kit

This technical bulletin provides procedures for installing parts included in the OnGuard™ Collision Mitigation system kit.

The following parts are included in the kit.

- Radar Sensor
- Radar Bracket
- OnGuard™ Display
- Fascia
- Radar Harness
- Engine and Cab Harness
- Pressure Sensor
- Pressure Sensor Engine and Cab Harness
- 1939 Jumper Harness (for Cummins engine only)
- 1/2" Flange Bolts
- Radar and Fascia M6 Nuts

NOTE: Make sure to verify the correct kit part number is being installed on the vehicle as all CMS radars look alike.

5 Installation Procedures

5.1 OnGuard™ Radar Installation

1. Check the parts in the kit against the parts list and make sure the kit is complete.
2. Wear safe eye protection. Park the vehicle on a level surface. Apply the parking brake. Ensure the ignition is turned OFF.

Installation Procedures

3. Check the bumper type to determine the correct location for mounting the radar to the bracket. For trucks with an aerodynamic/Aerodyne bumper "A", position the radar to the upper mounting holes marked "A" as shown (Figure 1 and Figure 2). For trucks with a Hendrickson bumper "B", position the radar to the lower mounting holes marked "B" as shown (Figure 3 and Figure 4).

Fig. 1



Fig. 2

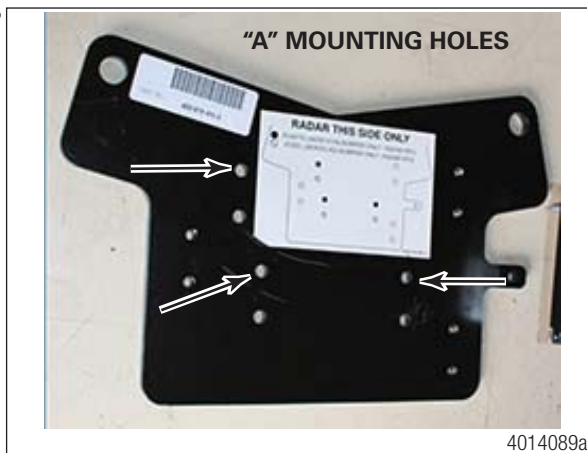
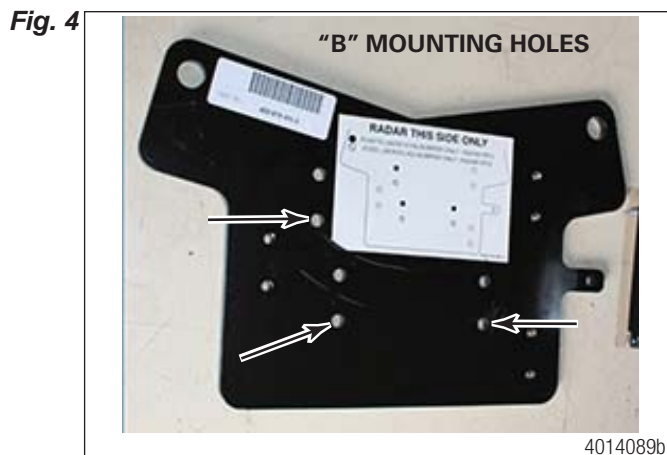


Fig. 3



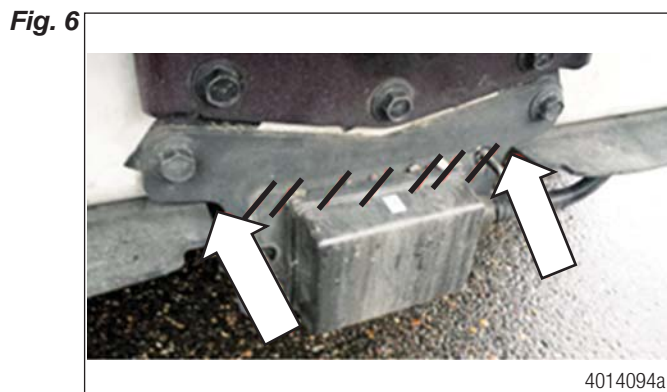
Installation Procedures



4. Assemble the radar to the mounting bracket using the 3 M6 flanged nuts and tighten to 61-75 in-lbs (6.9-8.4 N m).
5. Remove the bumper according to the vehicle manufacturer's recommended instructions.
6. Place the radar bracket assembly in mounting position on the cross member just below the hood mount pivot. Install the two ½-13 flanged bolts provided in the kit (Figure 5) and tighten to 80-110 ft-lb (108-150 Nm).



7. If necessary, modify the air dam baffle to clear the radar bracket. If a center flap is present, cut it back to the cross member so it is flush (Figure 6). After modification, ensure the radar bracket does not bind on any part of air dam when installed.



8. Install the fascia over the radar.

5.2 OnGuard™ Radar Harness Installation

The radar harness will route as follows (Figure 7).

- A. From the radar across the truck's front closing cross member to the driver's side frame rail
- B. Around the radiator back into the frame rail.
- C. Past the engine with the existing wiring and electrical harness to the front firewall.
- D. Up out of the frame rail, up to the fire wall and up to the Cab electrical bulk head connector.

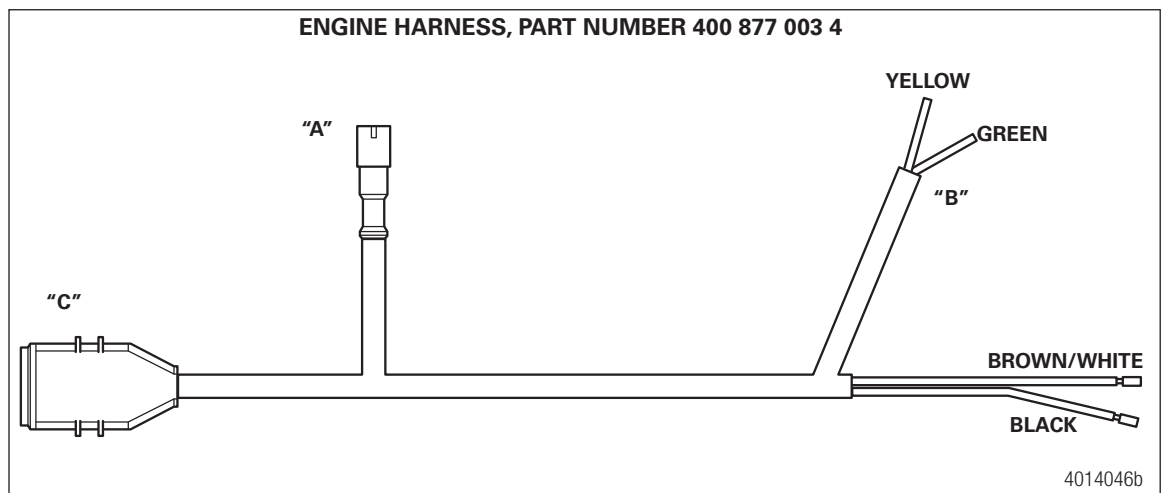
NOTE: The following schematic shows the harness layout.

End A. Radar plug at the front center of the bumper.

End B. The end of line resistor location on the left hand forward frame rail.

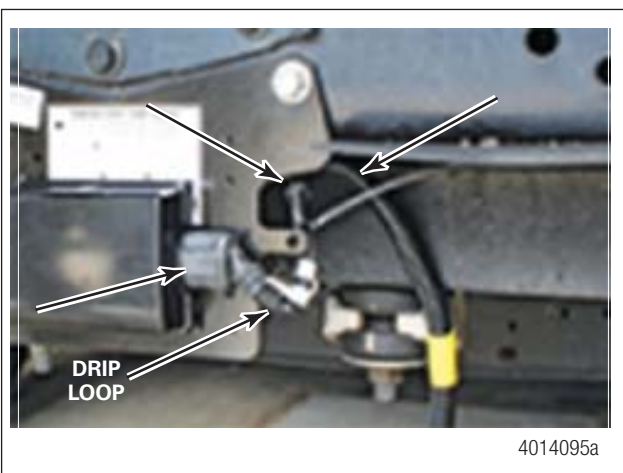
End C. The cab bulk head connection on the left hand firewall inside.

Fig. 7

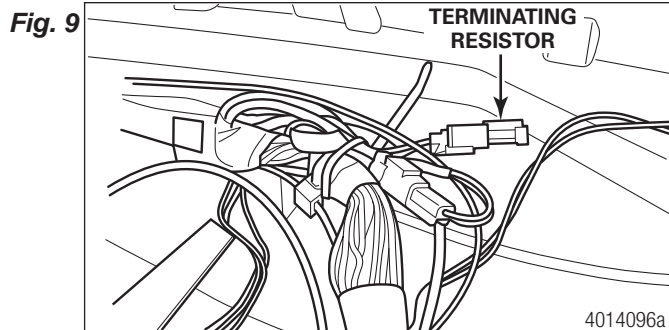


1. Starting at the radar, plug the harness into the radar connector firmly until you feel it click. Make a drip loop then zip tie the harness at the radar bracket to ensure the harness is secure (Figure 8).

Fig. 8



2. Route the harness across the front closing cross member to outside the driver's side frame rail (Figure 9). When routing the harness through the frame rail, ensure the J1939 end-of-line resistor connector is accessible near the front of the frame rail.



3. Continue routing the harness along with the headlight electrical harness back through the left hand frame rail access hole, just past the radiator.
4. Route the harness down the inside of the frame rail to the front of the firewall, then up to the cab side bulk head connector.
5. Disconnect the harness from the cab bulk head connector.
6. Remove the pin locking clip from the harness. Refer to the factory harness installation information.

NOTE: If you have extra length of harness, bundle it up in this area and tie it down to the main bundle (Figure 10).

Fig. 10



7. Install the following radar harness wires into the backside of the cab bulk head harness connector (Figure 11 and Figure 12): Wire 444 to pin 9, wire GND to pin 42, yellow wire (J1939-) to pin 10 and green wire (J1939+) to pin 11. Reinstall the locking pin clip on the harness.

Fig. 11

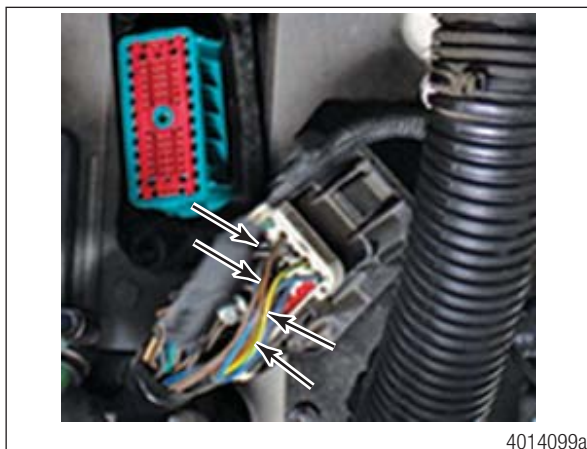
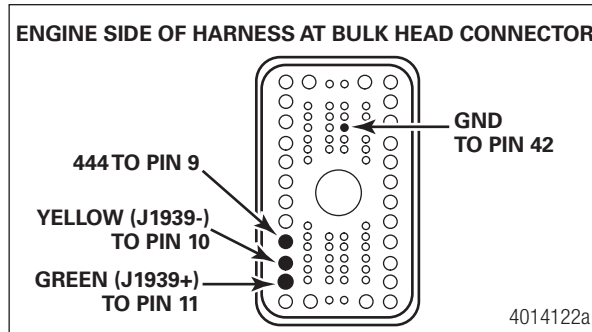


Fig. 12



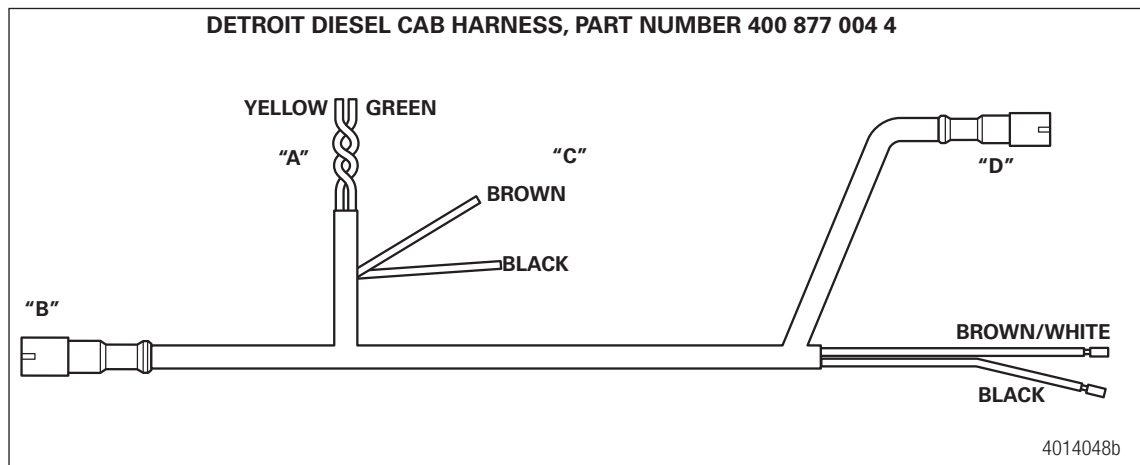
8. Install the wire harness connector back into the cab bulk head connector.
9. After the harness is connected, review the routing. Ensure the harness does not contact any fuel or air discharge lines. Make sure it is adequately secured the entire path and will not rub on any sharp edges.
10. Move the J1939 end-of-line resistor from the cab harness and installed it at on the radar harness connector on the front left frame rail, as referenced in Step 3.

5.3 OnGuard™ Cab Harness Installation – Detroit Diesel Engine

NOTE: The following schematic shows the harness layout (Figure 13).

- A. J1939 connection at the left hand kick panel
- B. Cab bulk head connector at the firewall
- C. Display connection at the B-panel
- D. Power/Ground connection SAM Cab under glove box

Fig. 13



Installation Procedures

1. To gain adequate access for wire routing, disassemble the instrument cluster, B-panel, dog house cover, glove box assembly and driver's side kick panel as necessary (Figure 14, Figure 15 and Figure 16). Refer to the vehicle manufacturer's instructions for correct procedures.

Fig. 14



Fig. 15



Fig. 16



2. Locate adequate space on the B-panel to install the OnGuard™ display. Tape the supplied template in place and drill the required holes on the template.

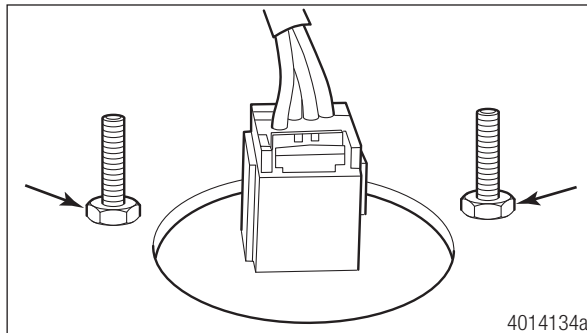
Installation Procedures

3. Install the display (Figure 17) in the B-panel using the two #4 nuts and washers. Tighten the nuts until snug (Figure 18).

Fig. 17



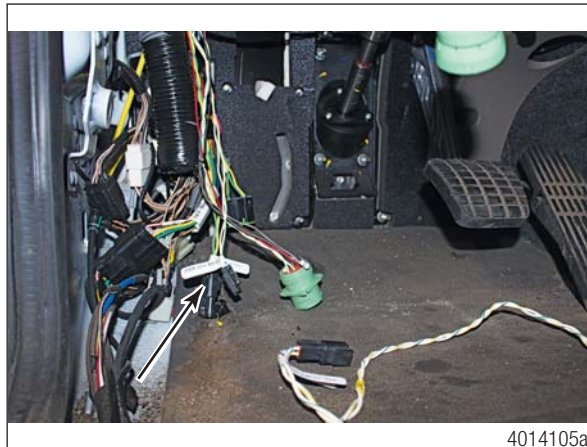
Fig. 18



4. Starting in the B-panel location, feed the "A" side of the harness in the direction of the dash cluster and the "D" side of the harness to the Switch Activation Module (SAM) cab in the glove box area (Figure 19).

NOTE: The "A" side of the harness will terminate at the driver's side kick panel. Connection will later be made at the J1939 end-of-line connector.

Fig. 19



5. Route the "B" leg of the harness to the cab bulk head connector area inside the cab.
6. From the engine bay side, remove the four mounting screws from the cab bulk head connector and pull the connector forward to access the back side.
7. Feed the B-leg wires through into the engine bay.
8. Remove the center screw and the red locking plate from the bulk head connector.

Installation Procedures

9. Install the wires from the cab harness B-leg into the back of the cab bulk head connector as follows (Figure 20 and Figure 21).

- wire 444 to pin 9
- wire GND to pin 42
- yellow (J1939-) wire to pin 10
- green (J1939+) wire to pin 11

Fig. 20

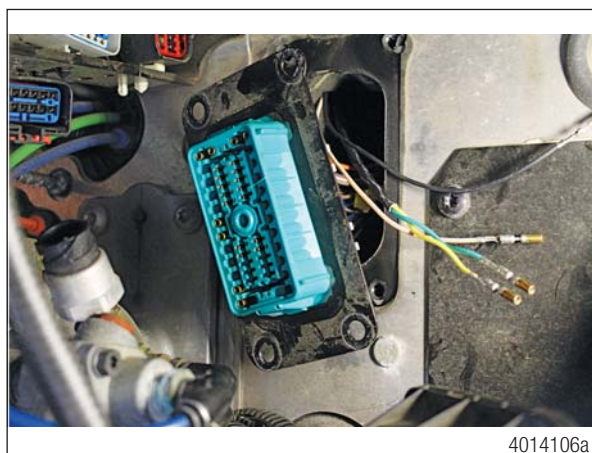
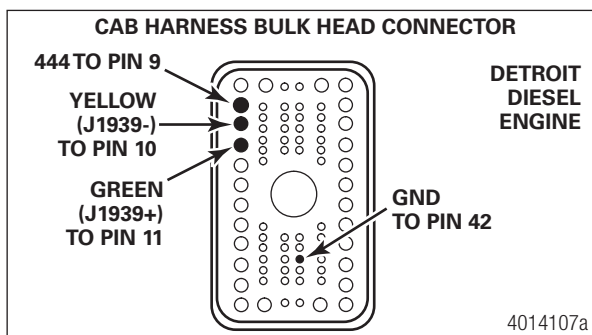


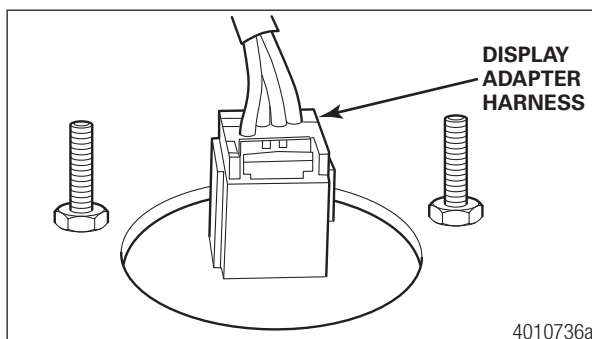
Fig. 21



10. Reinstall the red locking plate and secure it with the center screw.

11. At the B-panel inside the cab, plug the "C" harness connector into the newly mounted display (Figure 22). Ensure there is enough slack in the harness before the tie down to allow access to the B-panel without stressing the harness.

Fig. 22



12. At the SAM cab under the glove box, pull connector 2B from the SAM cab and unlock the slide lock connector.

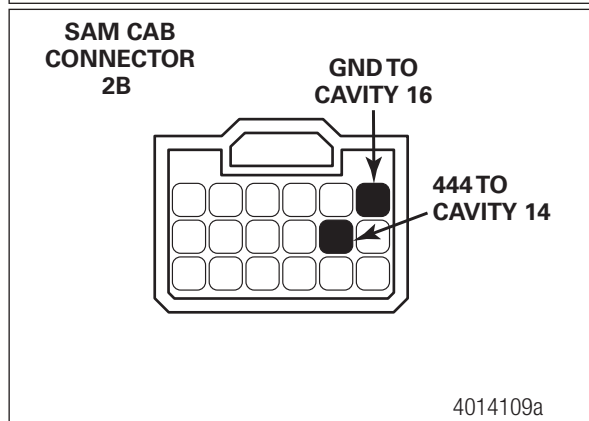
Installation Procedures

13. Install the following wires from the “D” leg of the cab harness into the back side of the 2B connector (Figure 23 and Figure 24). Wire 444 to Cav 14 and wire GND to Cav 16.

Fig. 23



Fig. 24



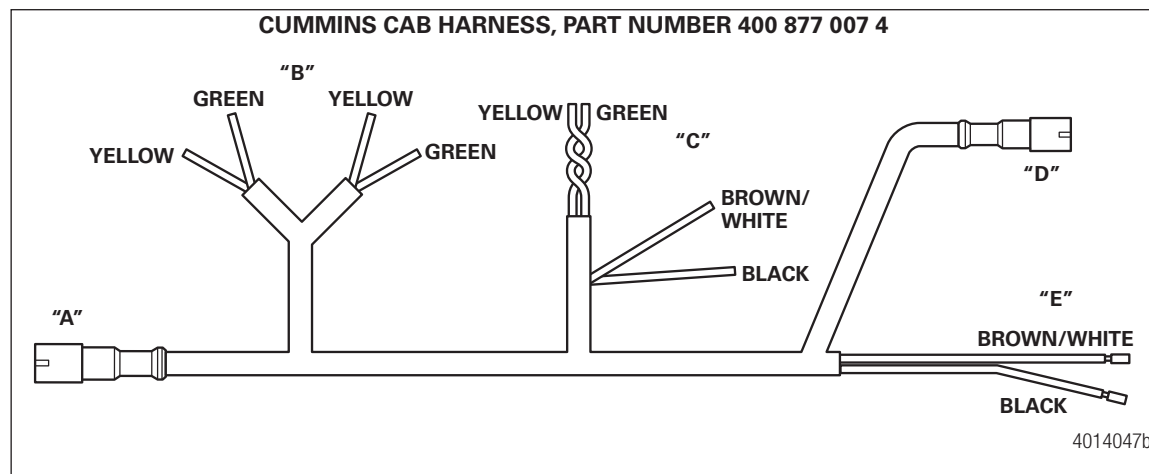
14. Relock the connector.
15. Plug the 2B harness back in to the SAM cab.
16. Once the installation is complete, inspect the harness to ensure it is tied down adequately and avoids all sharp edges.
17. Once the system is tested, reinstall all the dash panels according to vehicle manufacturer's recommended instructions.

5.4 OnGuard Cab Harness Installation – Cummins Engine

NOTE: The schematic below shows the harness layout and connection locations (Figure 25).

- A. J1939 connection, left hand kick panel
- B. Engine bulk head connector, firewall
- C. Cab bulk head connector, firewall
- D. Display connection, B-panel
- E. Power/Ground connection, SAM Cab under glove box

Fig. 25



1. To gain adequate access for wire routing, disassemble the instrument cluster, B-panel, dog house cover, glove box assembly and driver's side kick panel as necessary (Figure 26, Figure 27 and Figure 28). Refer to the vehicle manufacturer's instructions for correct procedures.

Fig. 26



Installation Procedures

Fig. 27



4014101a

Fig. 28



4014102a

2. Locate adequate space on the B-panel to install the OnGuard™ display (Figure 29). Tape the supplied template in place and drill the required holes on the template.

Fig. 29

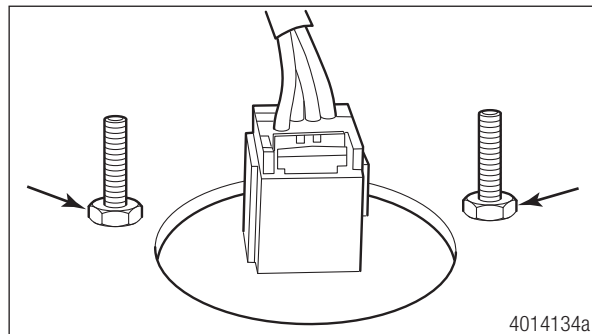


4014103a

Installation Procedures

3. Install the display in the B-panel using the two #4 nuts and washers (Figure 30). Tighten the nuts until snug.

Fig. 30

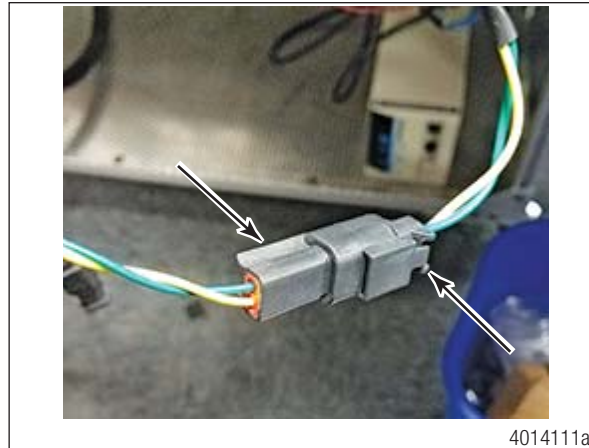


4. Starting at the B-panel location, feed the "A" side of the harness in the direction of the dash cluster and down to the left side kick panel.
5. Route the "E" side of the harness to the SAM cab in the glove box area.
6. Unplug the truck's current J1939 harness from the left side kick panel.
7. From the engine bay, remove the four mounting screws from the engine bulk head connector and pull the connector forward to access the back side. Remove the center screw and remove the red lock plate.
8. Locate the J1939 twisted pair wires (yellow J1939- in cavity 55 and green J1939+ in cavity 56) in the engine bulk head connector and pull the wires out.
9. Perform a resistance test on the wires to confirm they are the ones connected to the J1939 harness unplugged in Step 6. Once you have confirmed these are the correct wires, tape off the two wires and the plug at the other end. Stow the wires/harness as necessary.
10. Plug the "A" leg of the cab harness into the kick panel where the original J1939 harness was removed (Figure 31 and Figure 32).

Fig. 31



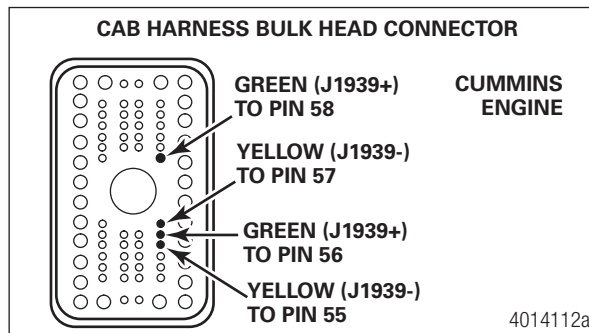
Fig. 32



11. Route the "B" leg of the harness to the engine bulk head connector and feed the wires through into the engine bay. Install the following wires into the engine bulk head connector (Figure 33).

- yellow J1939- wire to pin 55
- green J1939+ wire to pin 56
- yellow wire J1939- to pin 57
- green wire J1939+ to pin 58

Fig. 33



12. Confirm that the J1939 twisted pair from the "A" leg of the harness is in pin 55 and 56. Ensure the other J1939 twisted pair is in pin 57 and 58.
13. Route the "C" leg of the cab harness over to the cab bulk head connector and feed the wires through into the engine side. NOTE: The cab bulk head connector should still be disassembled from the previous procedure.
14. From the engine bay, install the following wires from the "C" leg of the harness into the back side of the cab bulk head connector (Figure 34 and Figure 35).
- wire 444 to pin 9
 - wire GND to pin 42
 - wire 1939- to pin 10
 - wire 1939+ to pin 11

Installation Procedures

When pinning is complete, reinstall the red locking plate and secure it with the center screw.

Fig. 34

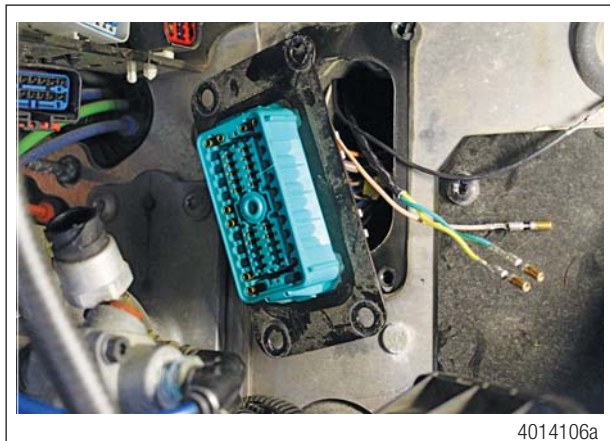
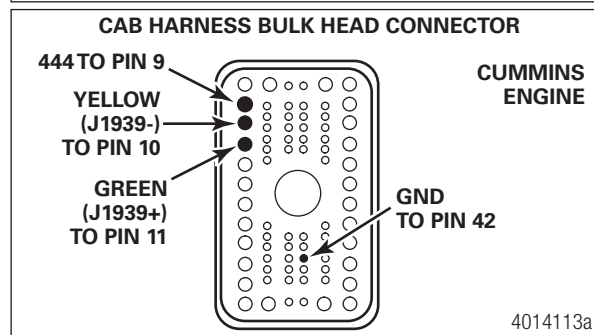


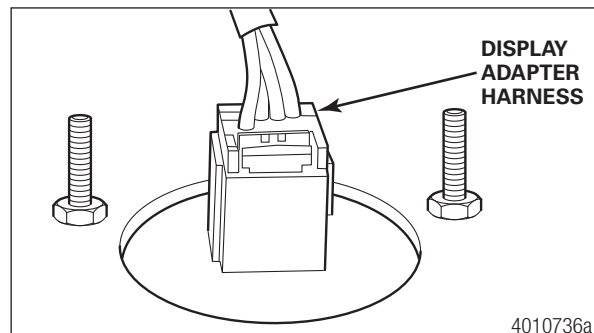
Fig. 35



15. Reinstall the cab bulk head connector on the firewall and secure it with the four mounting screws.

16. On the B-panel in the cab, plug in harness connection "D" to the newly mounted display. Make sure there is adequate slack in the harness before tying it down to ensure access to B-panel without stressing the harness (Figure 36).

Fig. 36



17. At the SAM cab under the glove box, pull connector 2B from the SAM cab and unlock the slide lock connector.

Installation Procedures

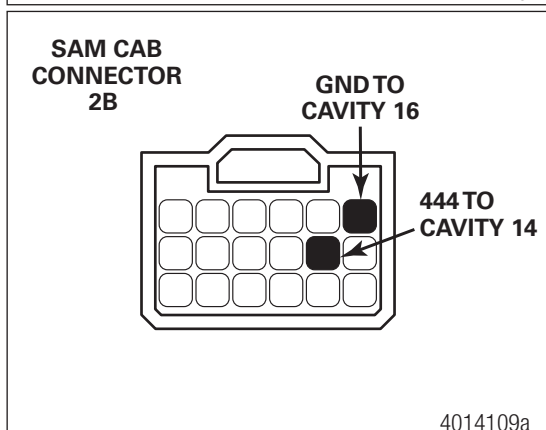
18. Install the following wires from the “E” leg of the harness to the back side of the 2B connector (Figure 37 and Figure 38).

- wire 444 to Cav 14
- wire GND to Cav 16

Fig. 37



Fig. 38



19. Relock the connector.

20. Plug 2B connector back into the SAM Cab.

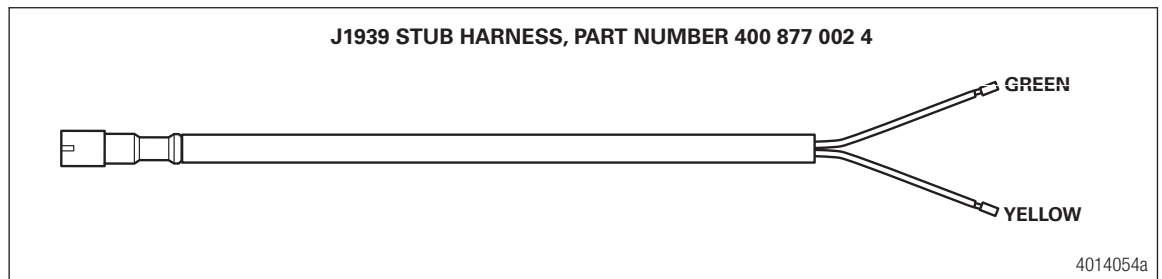
Installation Procedures

21. At the engine bulk head connector, locate the End-of-line resistor and remove it. Plug in the J1939 jumper harness, part number 400 878 002 4, where the resistor was removed (Figure 39 and Figure 40).

Fig. 39



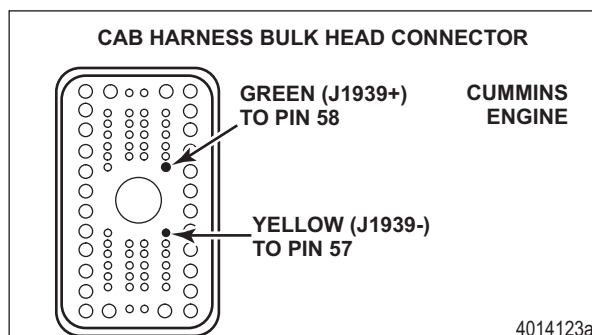
Fig. 40



22. Unlock the locking clip on the engine side bulk head connector. Pin the following wires from the J1939 jumper stub harness into the engine side of the engine bulk head connector (Figure 41).

- wire 1939- to pin 57
- wire 1939+ to pin 58

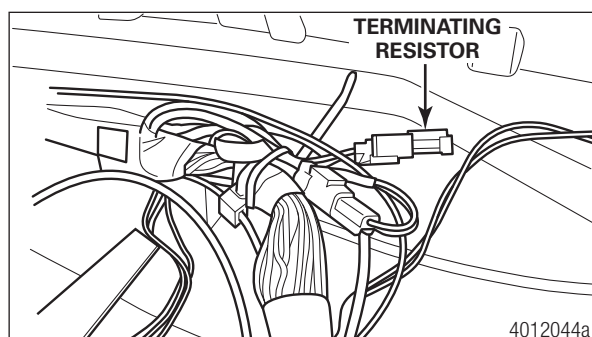
Fig. 41



When pinning is complete, relock the locking clip.

23. Plug the removed End-of-line resistor into the engine harness 1939 connector located at the front left frame rail. Refer to engine harness installation procedure (Figure 42).

Fig. 42



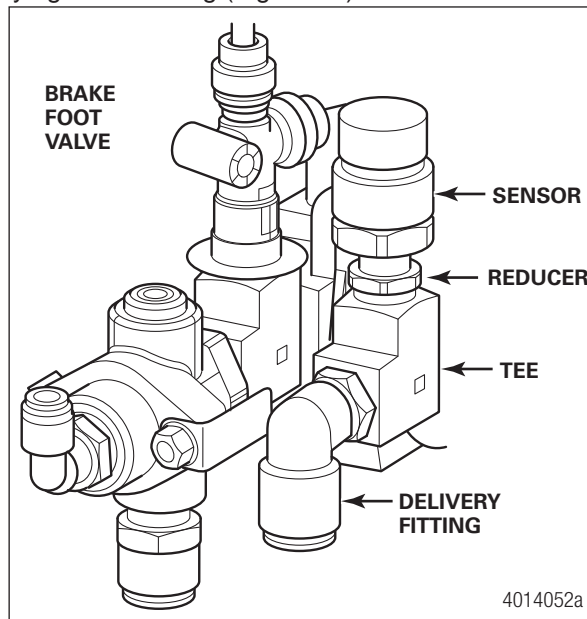
24. Recheck all of the new connections in the cab and engine bulk head connectors. Once you have verified all of the pinouts are correct, reassemble both the cab and engine bulk head connectors unless you need to install a pressure sensor. If so, refer to the next procedure.

5.5 Pressure Sensor Installation

NOTE: A pressure sensor is required for all OnGuard installations. If one is not present in the current build of the truck, you must install one. The correct four-plug ABS ECU will also be required. Please refer to DTNA for the correct ECU.

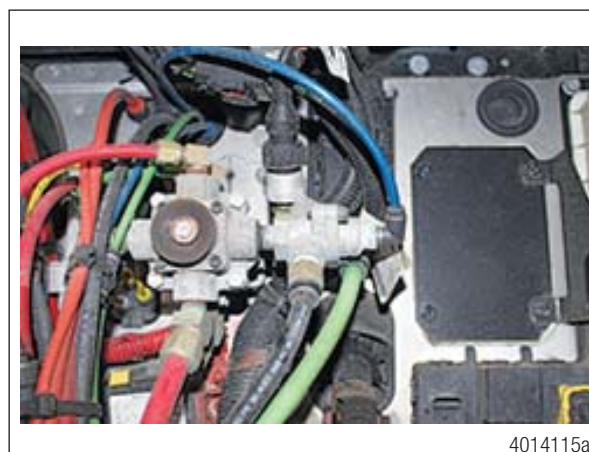
1. Locate the foot valve. Identify the primary delivery port located on the left side of the valve closest to the firewall. It will have a green airline connected.
2. Remove the delivery fitting. Confirm that the OnSide™ System is installed and operating correctly by verifying the following (Figure 43).

Fig. 43



3. Apply correct thread sealant to all threads and install the Tee, reducer and sensor.
4. Reinstall the delivery fitting on the Tee. **NOTE:** Some fittings on the secondary side may need to be removed to gain access to the primary circuit. Be sure to apply thread sealant during reassembly.
5. Connect the short pressure sensor harness to the pressure sensor (Figure 44).

Fig. 44



Installation Procedures

6. Route the short harness to the cab bulk head connector.
7. Install the following wires from the pressure sensor harness to the cab bulk head connector (Figure 45 and Figure 46).
 - circuit 376C1 to pin 12
 - GND to pin 26
 - 402 to pin 64

Fig. 45

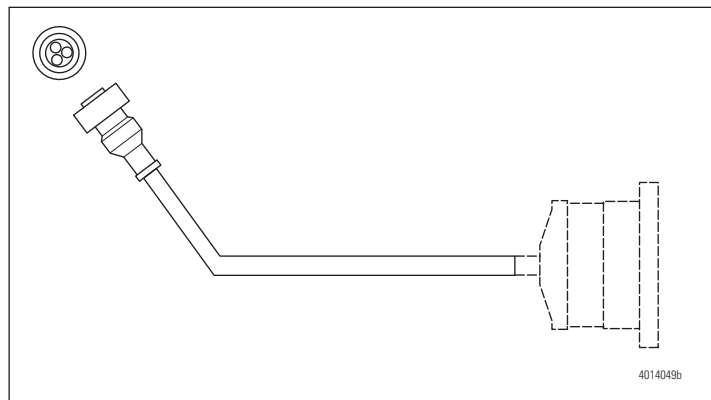


Fig. 46



8. Route the cab pressure sensor harness (400 877 006 4) from the cab bulkhead connector to the ABS ECU located on the lower dog house.

Installation Procedures

9. Install the following wires from the cab pressure sensor harness to the cab bulk head connector (Figure 47 and Figure 48).

- Circuit 376C1 to pin 12
- GND to pin 26
- 402 to pin 64

Fig. 47

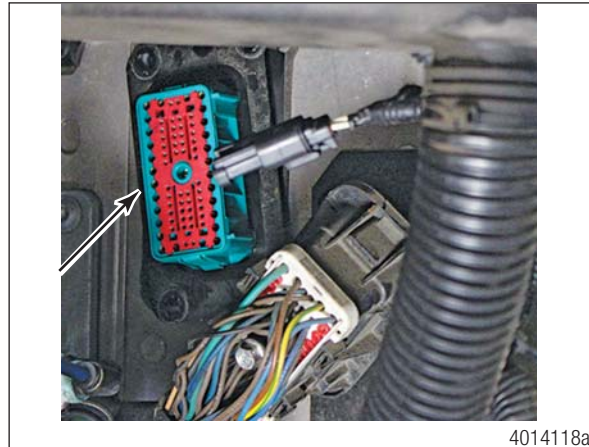
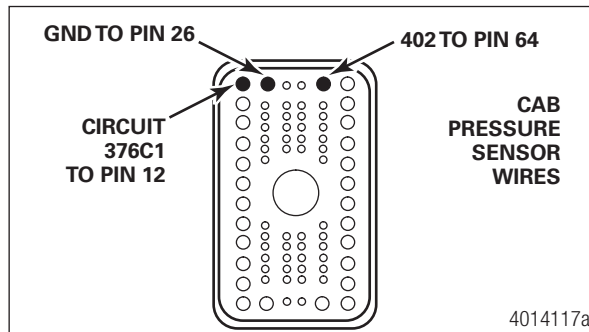


Fig. 48



10. Locate the X4 connector on the ABS ECU and plug in the cab pressure sensor harness (Figure 49 and Figure 50).

Fig. 49



Fig. 50

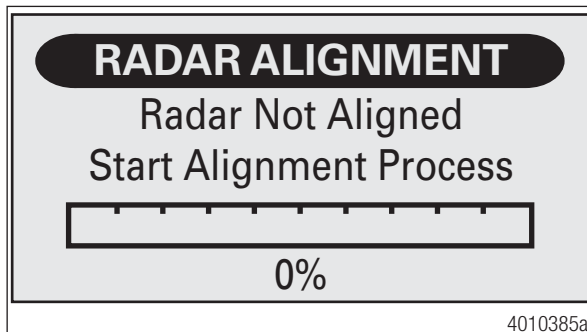


11. Recheck all of the new connections. Once you have verified all of the pinouts are correct, reassemble and reinstall both the cab and engine bulk head connectors.

5.6 OnGuard Radar System Inspection

1. Once all installation procedures have been completed, inspect and verify all connectors are plugged in.
2. Reconnect the battery or turn the battery disconnect back on, then cycle the ignition to Accessories ON. The OnGuard system will cycle through it's self-checks and end with a RADAR ALIGNMENT screen (Figure 51).

Fig. 51



3. Perform a resistance test at the diagnostic plug for 1939. There should be 60 ohms of resistance. If you get a reading of 120 ohm, only one of the End-of-line resistors installed. If resistance is 30 ohms, you have three resistors installed. The correct number is two end-of-line resistors, located on each end of the 1939 back bone.
4. With certified engine communication tool, turn on the Engine parameters per the Detroit Diesel or Cummins engine spec for OnGuard.

NOTE: The WABCO ABS may also need the XBR parameter turned on. If necessary, turn this parameter on using the included tool wrench.

5. If there are no faults in the system, perform the following procedure to Align/Calibrate the Radar System.

5.7 Align/Calibrate the System

NOTE: While the OnGuard system is in Service Alignment mode, OnGuard will not track vehicles or operate until the Service Alignment procedure is completed.

1. Before starting the alignment procedure, visually verify that the radar sensor is not loose. To correctly inspect the integrity of the radar mounting hardware, remove the cover. Hold on to the radar and wiggle it back and forth. There should not be any physical or visual movement or slack in the radar or the radar mounting bracket.
2. Ensure there is at least ¼-inch (6.35mm) of clearance between the radar sensor and the bumper in all directions. Contact between the radar mounting and the bumper can cause damage to the radar sensor or false activation of the system
3. Drive the vehicle on a straight road above 30 mph (48 kpm). The road should have telephone poles, sign posts and or other non-moving objects along the roadside. There must also be other traffic on the road, either on-coming or lead vehicles at distances greater than 150 ft (45.72m). While in radar alignment mode, the OnGuard display will show the progress of the alignment until it reaches 100%.

NOTE: Stopping the vehicle while traveling in traffic is acceptable, but will increase the time needed to complete the alignment procedure (Figure 52 and Figure 53).

Fig. 52

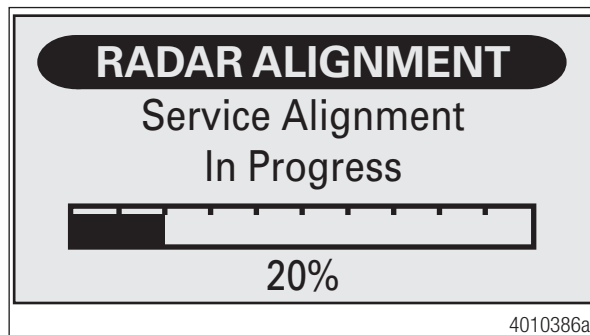
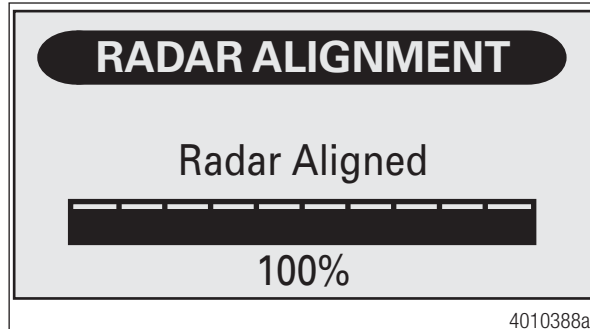


Fig. 53








4. Once completed, the system will revert to one of the normal operating screens. This completes the Radar Sensor Service Alignment procedure. The OnGuard™ System should now be aligned.





NOTE: At the completion of the Service Alignment, the engine may have an active Diagnostic Trouble Code because Adaptive Cruise Control was inoperable during the alignment. If this is the case, park the vehicle in a safe location and turn the ignition switch OFF for two minutes to reset these trouble codes.

Please contact WABCO North America Customer Care at 855-228-3203 for additional information.






6 Important Information

 WARNING	<ul style="list-style-type: none">– The OnGuardACTIVE™ Collision Mitigation System (CMS) is a driver aid only. It is designed to assist the vehicle operator in maintaining a safe following distance and, if needed, provide limited initial braking to reduce the severity of a possible collision. It is not an auto-pilot system for operating the vehicle.– The OnGuardACTIVE™ CMS is no substitute for the most important factor in vehicle safety, which is a safe, conscientious driver. Use of OnGuardACTIVE™ CMS cannot compensate for a driver who is distracted, inattentive or impaired by fatigue, drugs or alcohol. As always, it is the driver's responsibility to:<ul style="list-style-type: none">– Use safe driving techniques– Exercise proper judgment for the traffic, road and weather conditions– Maintain a safe distance between vehicles– Apply the brakes when needed to maintain control of the vehicle– Whether OnGuardACTIVE™ CMS is in use or not, the driver is responsible for the vehicle's speed, distance between other vehicles and braking the vehicle, if necessary, to avoid a collision. Never wait for an OnGuardACTIVE™ CMS warning before applying the brakes. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– The driver is responsible for understanding the operation and limitations of the OnGuardACTIVE™ system before operating the vehicle. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– If the driver accelerates to a faster speed than the one set to overtake a vehicle, OnGuardACTIVE™ CMS will return to the last stored speed once the driver removes his/her foot from the accelerator pedal. The driver must be aware of the last stored speed to make sure that the vehicle can remain in control or deactivate the system. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– OnGuardACTIVE™ CMS may take a few moments to adjust to the selected speed. Adjust the speed as necessary to accommodate the current road, traffic and weather conditions. Use care to avoid dramatic acceleration or deceleration of the vehicle which can lead to a loss of control. Serious personal injury or death, and/or severe property damage can result.
 WARNING	<ul style="list-style-type: none">– Using the "Resume" option will return the vehicle to the last stored set speed. It is the driver's responsibility to be aware of what the last stored speed is and ensure it is safe and legal for the current road, traffic and weather conditions. Failure to do so can result in serious personal injury or death, and/or severe property damage.

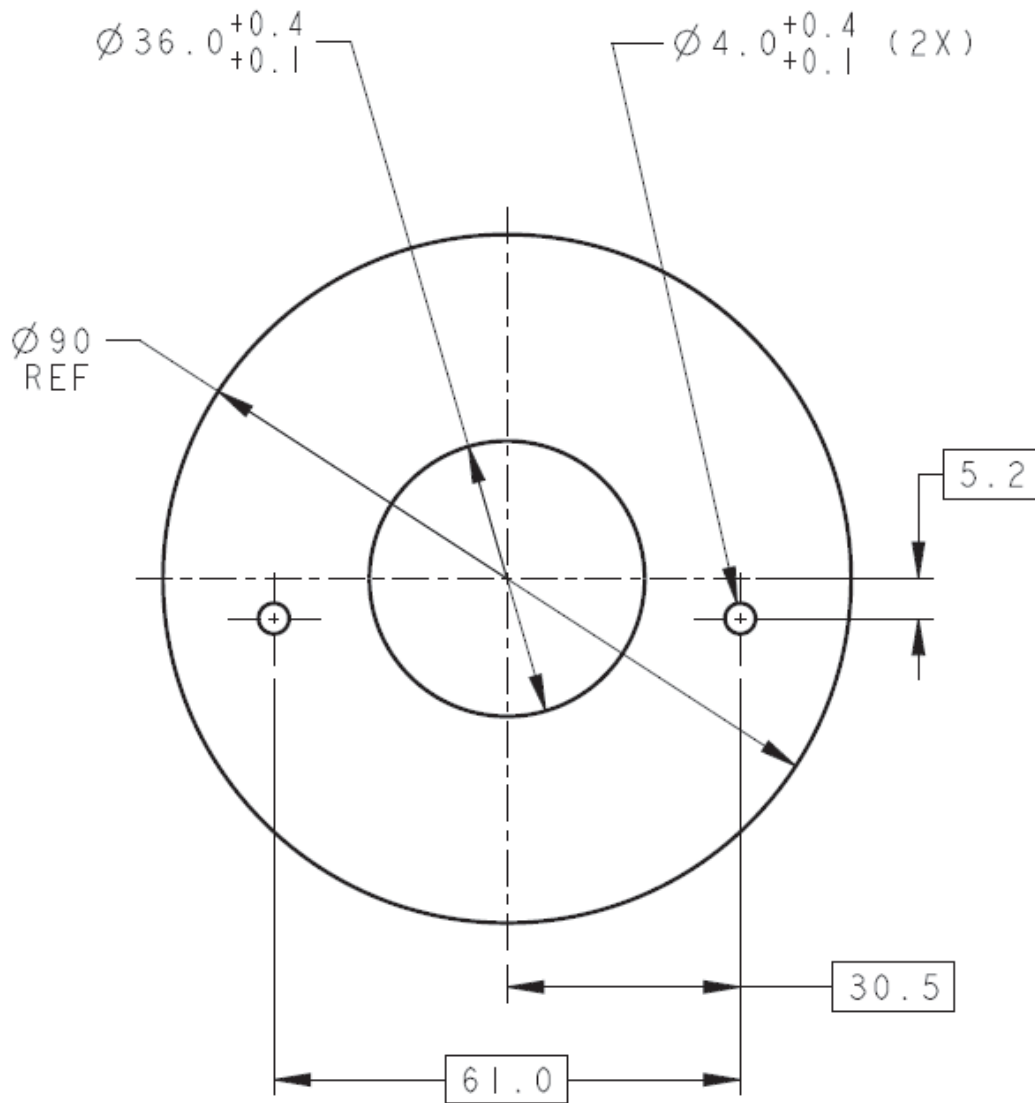
Important Information

 WARNING	<ul style="list-style-type: none">– The driver should consider the benefit/risk of using the ACC function under the following conditions:– Weather such as rain, sleet, snow, ice, heavy fog, as well as smoke or dust. These conditions can make roads slippery which can cause a spinout, or block or limit the radar's distance sensing ability.– Construction zones, off road, dirt roads or muddy roads with loose surface. These conditions can cause the wheels to lose traction and limit the ability of OnGuardACTIVE™ to provide appropriate warning and adequate braking.– Curvy or winding roads, roads with sharp turns can make it difficult for the OnGuardACTIVE™ CMS radar to track vehicles in it's path. While in a sharp turn or if the preceding vehicle is in a sharp turn, OnGuardACTIVE™ may no longer track a vehicle in front of you. Your vehicle could then unexpectedly accelerate to the previously selected speed.– Heavy or complicated traffic, entry and exit ramps, downhill, cross traffic and intersections. OnGuardACTIVE™ CMS is not capable of taking into account these complex traffic situations and respond to each scenario. It cannot track traffic and objects traveling perpendicular to it's path.– Driving in these conditions with OnGuardACTIVE™ CMS active can produce false warnings, unexpected braking or no response at all. Serious personal injury or death, and/or severe property damage can result.
 WARNING	<ul style="list-style-type: none">– The driver is responsible for understanding the operation and limitations of the OnGuardACTIVE™ CMS before operating the vehicle. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– Do not allow the fascia to become blocked by any foreign matter (dirt, snow, ice, stickers, deer guards, etc.), otherwise a system fault will occur and the OnGuardACTIVE™ system will be disabled. If the system becomes disabled, immediately inspect the OnGuardACTIVE™ fascia for a blockage and correct it as necessary. Whether or not the radar is working correctly, it is the driver's responsibility to apply the brakes when necessary to maintain vehicle control. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– If the OnGuardACTIVE™ CMS is not correctly tracking vehicles that are in your lane or is tracking vehicles that are not in your lane, this may be due to radar operational issues. Typically, these are radar operational issues that can result from the following problems: Debris (dirt, snow, ice) on the radar fascia or between the fascia and the radar sensor. This must be removed.– A loose radar sensor or one that is not tightly secured on the mounting bracket. The radar sensor may be too close to, or actually contacting, the bumper as mounted. There should be at least 1/4 inch of clearance between the fascia, radar sensor or bracket and the bumper.

Important Information

 WARNING	<ul style="list-style-type: none">– When active Diagnostic Trouble Codes (DTCs) are present, the OnGuardACTIVE™ CMS may be partially or fully disabled depending on whether the DTC(s) is associated with the Adaptive Cruise Control (ACC) functions or the CMS functions. If OnGuardACTIVE™ CMS is not functioning correctly or as expected, have the OnGuardACTIVE™ CMS inspected immediately to correct the issue. Whether or not the radar is working correctly, it is the driver's responsibility to apply the brakes when necessary to maintain vehicle control. Failure to do so can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– The OnGuardACTIVE™ system is designed to monitor the distance between your vehicle and the vehicle in front of you, moving or stationary. It may not identify a vehicle moving TOWARD it in the road. As such, the OnGuardACTIVE™ system will not provide engine torque control or braking. The driver must always be aware of the objects in front of his vehicle and be ready to apply the brakes, if required. Failure to apply the brakes when needed can result in an accident.
 WARNING	<ul style="list-style-type: none">– The driver is responsible for selecting a safe and legal speed setting that is appropriate for the traffic, road surface and weather conditions. Adjust the speed setting as necessary when driving in reduced visibility or potentially slick conditions. Driving with the OnGuardACTIVE™ system at a speed that is inappropriate for following a vehicle safely can lead to an accident. Serious personal injury or death, and/or severe property damage can result.
 WARNING	<ul style="list-style-type: none">– If a potential collision is developing and the driver does not take action to decelerate the vehicle, the OnGuardACTIVE™ CMS sounds an alert, automatically de-throttles the engine, and sends a message to the ABS ECU requesting foundation brake application to provide up to 0.35g of braking power. (For information about the ABS system, refer to the latest ABS maintenance manual available from Literature On Demand at www.meritorwabco.com.) The driver must still apply the brakes to provide additional braking force to help avoid an accident. Failure to apply the brakes when necessary can result in serious personal injury or death, and/or severe property damage.
 WARNING	<ul style="list-style-type: none">– The OnGuardACTIVE™ CMS requires time to recognize an object or potential obstacle. An object moving at a speed of approximately 20 mph or more may not be recognized in enough time to produce a warning or brake the vehicle. Never wait for the OnGuardACTIVE™ CMS to intervene when a potentially hazardous situation arises. The driver must always monitor traffic and apply the brakes, if needed, to avoid a crash. Failure to do so can result in serious personal injury or death, and/or severe property damage.

7 Radar Template



DIMENSIONS ARE IN MILLIMETERS



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