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TT345C: ADVANCED AUDIO SYSTEM INFORMATION

April 4, 2014

SB-10055746-7880

Electrical

APPLIES TO	SYMPTOMS
All 2006-2013 Touring Models with Advanced Audio System	• Intermittent or Erratic Electrical Operation

Reason for Revision

This revision reflects a service vendor change from United Radio to CTDI.

Purpose

Since the introduction of the Advanced Audio System (AAS) on 2006 Touring Models, a number of service, warranty, P&A bulletins and tech tips have been published. Some of the previous information is outdated or may no longer apply. This Tech Tip provides the most current information to date.

Radio Self Diagnostics

Figure 1. Self Diagnostics

See Figure 1. Self Diagnostics provides a quick check to see if there are any current issues or DTCs recorded. It also provides the ability to check for proper operation of AAS handlebar and passenger switches.

Access by holding in any two preset buttons (1-5) while powering up the radio. Wait for the Self Diagnostic Test screen to appear, then release the buttons. Perform radio faceplate, rider and passenger switch functions and observe results on radio display.

NOTES

- *Radio Self Diagnostics will only show one DTC. Use DTII (Digital Technician II) to determine if multiple DTCs are present.*
- *When a handlebar switch function problem is suspected, it is important to remember a pinched wire on the other side of the handlebar could be causing the issue. The pink/white wire is connected to every remote rider and passenger radio switch on the vehicle.*

ROM Default Reset

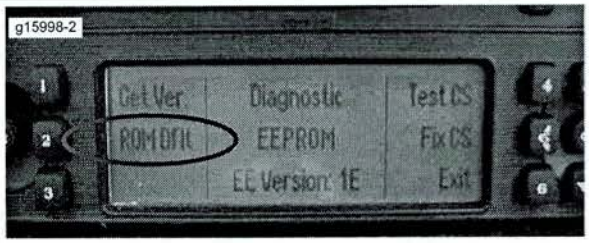

Figure 2. ROM Default Reset

See Figure 2. ROM Default Reset returns the radio to base settings. Always perform this reset to eliminate possible user-induced issues such as low volume, low or no display visibility, etc. before ordering a replacement radio.

1. With radio turned ON (AM or FM), press soft keys 1, 3 and OK at the same time and release.
2. Press the UP arrow two times.
3. Press soft key 2 (ROM Dflt) once.
4. Turn ignition off for 30 seconds.

NOTE

If the issue was a blank screen and the problem is not corrected on the first try, perform this reset a second time to ensure the proper steps were performed. If the display recovers, immediately check the software version. If it is not current, update the software.

Software

Figure 3. Software Update

1. See Figure 3. Access by holding any two preset buttons (1-5) in while powering up the radio. Wait for diagnostics screen to appear, then release the buttons.
2. Press button 4 to see the current software version in the radio.

In earlier software versions, both ST10 and TMS320 lines would be at the same level. Software versions above 8.19 may only change the ST10 to the higher number. The TMS320 may stay at 8.19 which is acceptable.

If a software update is needed, press button 5 (Update) and insert the software update CD when prompted. The rest of the process is automatic and may take up to 10 minutes. After completion,

always check the software version again to make sure the installation was successful. Again, the latest software (above 8.19) will update the ST10 and may leave the TMS320 at 8.19.

The latest software update as well as step-by-step installation instructions are available at:

http://www.harley-davidson.com/cp/moar/en/software.asp

Software for other audio devices or functions (such as iPod Module or Navigation Interface Module) may also be at this location, so be sure to download the correct software. It is advisable to make a folder called "AAS Software" to provide place to save all software updates.

We recommend the technician check the software version in any 2006-2013 radio-equipped motorcycle when there is a radio issue. It only takes a few seconds to check, and if there is a newer version available, pressing the "update" button and inserting the disc is all that should be needed. The update will be completed automatically with no further attention, allowing the technician to continue with other service work.

The latest version of the software will update all previous versions eliminating the need to incrementally "step up" software versions.

NOTE

Remember to eject the CD after the update is complete.

Preventing Physical Damage Rejects

- Do not attempt to forcefully retrieve a CD if it will not eject or if power is removed from the radio.
- Do not, under any circumstances, remove the faceplate.
- Do not return a unit if it looks like the customer has done any of the above.
- Do not return units involved in an accident.

Preventing NTF (No Trouble Found) Returns

Do not submit a unit without the issue clearly detailed on the return tag. Although the unit will go through the same vigorous tests as all other units, it is helpful to have a reported issue to focus on. Explain the problem as thoroughly as possible. "Radio Inop" and similarly vague statements are not useful. Always attach a completely filled out warranty return tag with a full description of the verified issue.

Following are some basic diagnostics of common problems. Refer to the appropriate electrical diagnostic manual for more in-depth diagnostics.

The best practice to avoid a NTF return is simply to verify the customer's complaint first-hand and correctly diagnose the root cause of the issue while the issue is occurring. Once it has been determined that the radio chassis is at fault, it is recommended that the radio be installed in another vehicle to verify the issue follows the radio.

If a radio core was returned to you with "No Trouble Found", attempt to verify the condition of the radio prior to calling Tech Services.

CD Skipping/Pausing

- Be sure technician verifies the complaint with test drive. Do not return radios for skipping/pausing unless issue has been verified.
- Be aware of any other issues that might cause excessive vibration, like aftermarket exhaust or loose motor mounts.
- Be sure problem CD is in reasonable condition without excessive scratches or fingerprints. Hazy appearance or dirty CDs can also cause problems. If CD is customer recorded, verify the problem exists using a commercially recorded CD.
- In some cases the radio chassis may come in contact with the two forward handlebar riser clamp bolts. See Service Bulletin M-1289 if this is suspected.

Will Not Eject

- Be sure customer is not using a disc with adhesive label applied to disc surface, lens-cleaning brushes or dual sided disc. These discs can jam the eject mechanism.
- Be sure the ignition switch is ON.
- If disc will not eject, remove the main fuse and let motorcycle sit for approximately 5 minutes. Install the main fuse and immediately press the eject button to eject the disc.
- Initiating a software update with a non-software disc will sometimes resolve the issue. When the radio realizes the disc is not software, it may eject the disc.

Display Issues

- Be sure that the display contrast is not adjusted to either the extreme high or low setting.
- Be sure the ignition switch is ON.

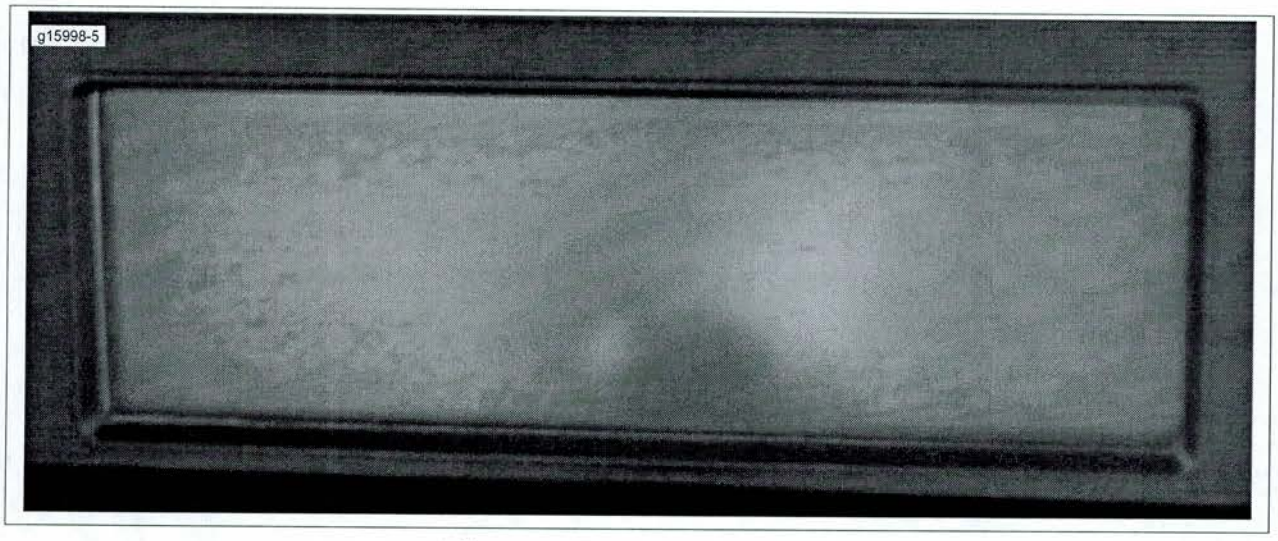

Figure 4. Damaged Display

- See Figure 4. Certain chemicals, including gasoline, when spilled or splashed on the display will cause the appearance of tiny spots or bubbles. This is not considered a warranty situation. Testing has shown that Novus No. 2 Scratch Remover (available through P&A) will remove the outer anti-glare coating and restore the appearance of the display. The display is coated on both sides, so glare should not be an issue.

System Switches to Weather Band (WB) On Its Own

Be sure the WB Alert feature is not activated. WB Alert will only function if CB module is installed. See owner's manual for more information.

Unit Will Not Power Up

Be sure all connections are properly seated and all grounds are clean and secure. Often a radio with a no power symptom is replaced unnecessarily. Since the new unit powers up, it is assumed that the old radio was faulty when in fact poor connections or intermittent opens in the harness were at fault. A truly faulty radio will not power on even when plugged into another motorcycle.

An alternate method of powering up a radio without installing it in another motorcycle is to attach the breakout box to the radio chassis only, leaving the harness disconnected. Run 12 volt power and ground to the radio via the breakout box, thereby eliminating any possible motorcycle wire harness or switch issues. Pins 10 / 20 are positive (+) and pins 11 / 19 are negative (-). These are the only wires that need be attached to power the unit and use the faceplate buttons. No sound will be heard unless speakers are also attached.

General Radio Issues

Disconnecting all rider and passenger input switches will eliminate the possibility of a shorted switch causing issues with the radio. Since the volume and mode switches share common wires, a short on one switch can affect the function of the other (i.e. a pinched left switch housing wire can cause the radio to scroll from AM/FM/WB/CD Modes).

A variety of issues have been attributed to poor ground connections. A good way to eliminate ground connections as a possible cause is to remove the ground wires, clean the terminals, then tighten the fasteners. This method is preferred in addition to measuring the resistance of the ground circuit.

Warranty Replacement Radios and Modules

NOTE

The following information is specific to U.S. dealers only. International warranty procedures have not changed.

Do not remove the defective radio until a replacement is received.

Contact CTDI for Harman radio components only. Refer to the latest revision of Warranty Bulletin W132 for Harman replacement part numbers and detailed ordering procedures. If a component is not listed in the latest revision of W132, do not contact CTDI for replacement or repair. The component must be replaced or repaired by the component manufacturer.

The Radio Core Return Process

- Refer to the latest revision of Warranty Bulletin W132 for a comprehensive return process.
- See Figure 5. The serial number of each unit is located on a small square decal on the radio case. It is advised to record the serial number on the repair order prior to removing the radio from the motorcycle to eliminate any confusion as to which radio was removed from which motorcycle.

Setting Region Code (Calibrating Radio)

P&A and Replacement radios will beep repeatedly and display the message "Radio not Calibrated" until the Region Code has been set. Use DTII to reflash the radio. Enter the correct VIN in DTII and select Reflash > Radio > select the appropriate region code for your area.

When the correct VIN is used in DTII and the Calibrated Radio Download is selected the "Options" feature may be pre-populated. This is because the intercom and four speakers are standard features for some models and are configured with the radio download. When the "Options" section is non-selectable, it is NOT a chargeable download.

Out of Warranty/Physical Damage Process

If a radio requires repair and is out of warranty, has physical damage or is otherwise not a warranty event, see the latest revision of P&A Bulletin 912.

ESP / CCP (formerly COOP)

The CCP guidelines state that radios are covered.

ESP procedures dictate that the issue is first verified and that the radio is at fault. Then contact ESP for an authorization for repairs. Reference the latest revision of P&A Bulletin 912 for repair prices. Refer to the Job/Time Code manual for labor codes. Once approved, follow the latest revision of P&A bulletin 912 and send the customer's radio with payment for repair.

Clock Issues

If a clock display reads Newfoundland, removing the main fuse for 10 minutes should correct this issue. Additionally, if the AAS Internal Navigation kit is installed, the clock is set via satellite and is not user controllable.

Locating and Recording the Serial Number

When sending a radio for repair or warranty replacement, it is recommended that the serial number from the tag on the defective radio be recorded and kept with the vehicle repair records. Figure 5 shows a serial number of 8030AP A2 2266 OCWF

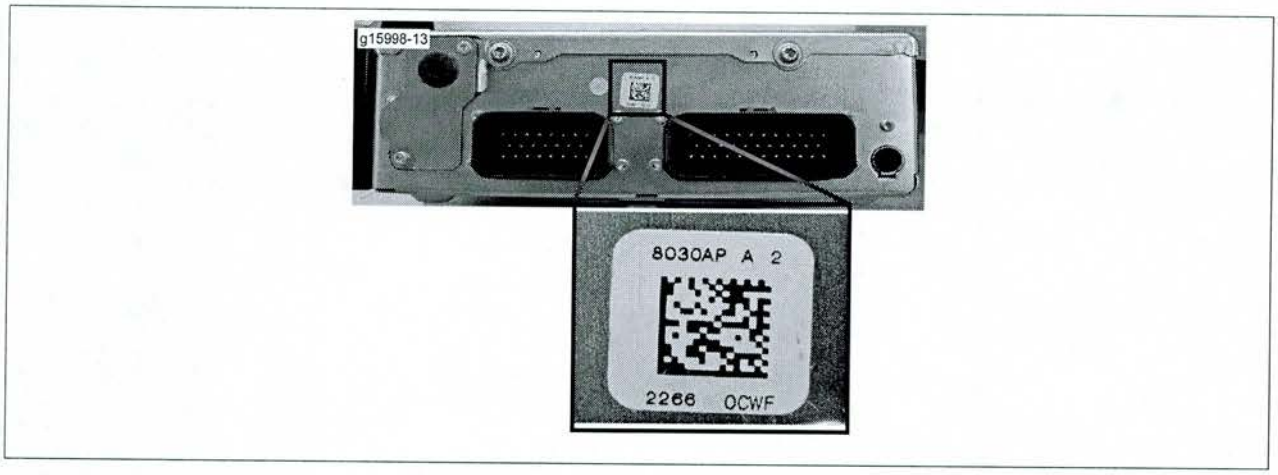

Figure 5. Serial Number Location