



INSTRUCTIONS

-J06319

2016-05-25

AMPLIFIER INSTALLATION KIT FOR BOOM! AUDIO STAGE II SADDLEBAG LID SPEAKERS

GENERAL

Dealer installation is recommended.

Kit Number

76000745

Models

For model fitment information, see the P&A retail catalog or the Parts and Accessories section of www.harley-davidson.com (English only).

Installation Requirements

NOTE

DO NOT mix Stage I and Stage II speakers on the same vehicle.

These speakers are for use **ONLY** on **2014 and later** Harley-Davidson audio systems. Using these speakers on **2006-2013** Harley-Davidson audio systems **WILL permanently damage these speakers**. Using these speakers on **2005 or earlier** Harley-Davidson audio systems **WILL permanently damage those systems**.

This kit must be installed:

- **Before** installation of the Boom! Audio Stage II Saddlebag Lid Speaker Kit (Part No. 76000319)
- **After** installation of a PRIMARY fairing-mounted amplifier.
- **Before OR after** installation of a painted or primed Saddlebag Lid Kit.
- **ONLY if also installing a Fairing Lower Speaker Kit: Before OR after** installation of a painted or primed Fairing Lower Speaker Cap Kit.

The amplifier (Part No. 76000277A) installed **with this kit** must be purchased separately from a Harley-Davidson dealer.

NOTICE

Radio EQ MUST be updated by a Harley-Davidson dealer BEFORE operating the audio system. Operating the audio system prior to radio EQ update will IMMEDIATELY damage the speakers. (00645d)

Radio EQ update using the Digital Technician[®] II diagnostic tool is:

- Recommended **before** speaker **INSTALLATION**
- Required **before** audio system **OPERATION**.
- Only available through authorized Harley-Davidson dealers.

▲ WARNING

Rider and passenger safety depend upon the correct installation of this kit. Use the appropriate service manual procedures. If the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333b)

NOTE

This instruction sheet references service manual information. A service manual for this year/model motorcycle is required for this installation. One is available from a Harley-Davidson dealer.

Electrical Overload

NOTICE

It is possible to overload your vehicle's charging system by adding too many electrical accessories. If the combined electrical accessories operating at any one time consume more electrical current than the vehicle's charging system can produce, the electrical consumption can discharge the battery and cause damage to the vehicle's electrical system. See an authorized Harley-Davidson dealer for advice about the amount of current consumed by additional electrical accessories or for necessary wiring changes. (00211c)

▲ WARNING

When installing any electrical accessory, be certain not to exceed the maximum amperage rating of the fuse or circuit breaker protecting the affected circuit being modified. Exceeding the maximum amperage can lead to electrical failures, which could result in death or serious injury. (00310a)

The amplifier installed **with this kit** requires up to **8 amps** more current from the electrical system.

Kit Contents

See Figure 20 and Table 1.

PREPARATION

▲ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, remove main fuse before proceeding. (00251b)

1. See the service manual. Remove main fuse.



▲ WARNING

Disconnect negative (-) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00049a)

1. See the service manual to perform the following generalized steps:
 - a. Remove seat. Retain all seat mounting hardware.
 - b. Remove the ECM caddy from the top of the battery.
 - c. Disconnect both battery cables, negative battery cable first.
 - d. Remove right side cover.
 - e. Remove left side cover.
 - f. Remove the two bolts securing the electrical caddy under the left side cover.

RIGHT SADDLEBAG DRILLING AND CONNECTOR INSTALLATION

NOTE

To minimize damage to paint during cutting and drilling. Cover both sides of the area being drilled or cut with masking tape.

1. Remove all items from the right saddlebag. Remove saddlebag. Remove bag liners (if present).
2. Place the saddlebag on a protected surface with mounting (inboard) side facing up.
3. See Figure 1. Place the template (1) on the saddlebag. Align the grommet (2) and latch (3) fastener openings. Drill the hole at locations (4) and (5), beneath the remark "S'BAG SPEAKER ONLY".
4. Drill four 4.5 mm (3/16 in) holes (5) for the lower connector flange mounting locations. Drill a 22.5 mm (7/8 in) hole (4) for the connector location.
5. See Figure 14. Verify pilot hole placement with the four-way flanged connector [C36A] (3) on the harness.
6. Test-fit the connector. Shape the hole as seen on the template if necessary.

NOTE

ONLY if upper openings were cut for lower speakers: Insert the connector through the **lowest** saddlebag hole from the inside.

7. **If also installing an amplifier in the right saddlebag as part of the Fairing Lower Speaker Installation Kit:** Cut the openings (see Figure 1, Items 6) for the two upper bulkhead connectors now, per the instructions in that kit.

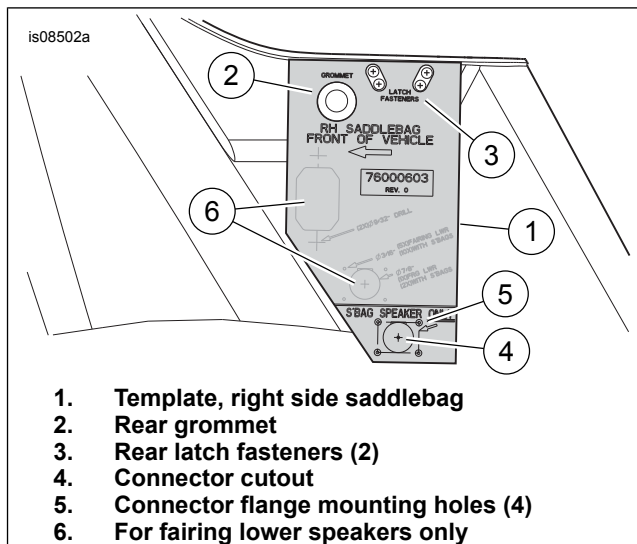


Figure 1. Right Saddlebag Drilling For Stage II Saddlebag Speaker Installation

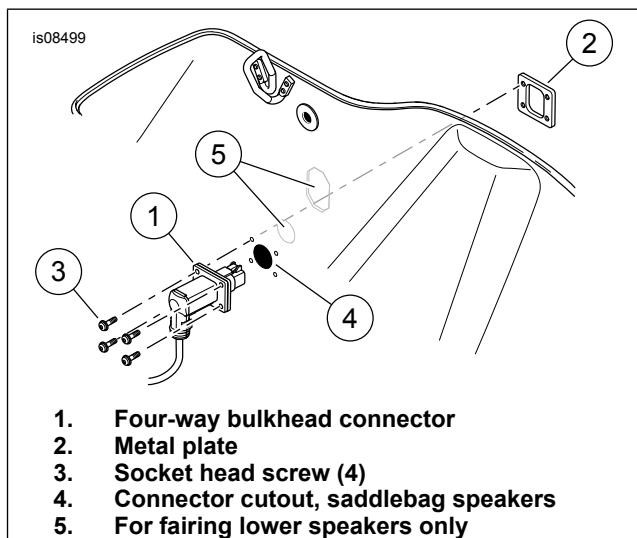


Figure 2. Four-Way Harness Connector Installation

8. See Figure 2. Remove the metal plate (2) from the four-way bulkhead connector (1) on the saddlebag harness. Insert the connector through the saddlebag hole (4) from the inside.

NOTE

Speaker connections [36TB] and [36WB] are covered in the instructions for the Saddlebag Speakers.

9. Slide the metal plate back onto the connector outside the saddlebag. Secure the connector with four socket head screws (3) from **inside** the saddlebag. Tighten to 4–4.5 N·m (35–40 in-lbs).

LEFT SADDLEBAG DRILLING AND AMPLIFIER INSTALLATION AND CONNECTOR INSTALLATION

NOTE

To minimize damage to paint during cutting and drilling. Cover both sides of the area being drilled or cut with masking tape.

1. Remove all items from the left saddlebag. Remove saddlebag. Remove bag liners (if present).

- Place the saddlebag on a protected surface with the mounting (inboard) side facing up. See Figure 3. Place the template (1) on the saddlebag. Align the grommet (2) and latch fastener (3) openings. Trace the cut outline (4) for connector [288A] onto the saddlebag. If saddlebag lid speakers are present from a previous installation, left side speaker wires could be in the connector cutout location. Remove the wire and grommet.
- Carefully cut the cutout (4) in the template (1) for connector [288A] on the dashed line.
- Drill two pilot holes (5) for the connector flange mounting locations.
- Remove template. Verify size of cutout (4) with the 18-way flanged connector [288A] on the saddlebag harness (see Figure 13, Item 4) from the kit.
- Cut the cutout for connector [288A] into the saddlebag wall.
- See Figure 3, Item 5. Drill two 7.25 mm (9/32 in) holes at the connector flange mounting pilot hole locations.

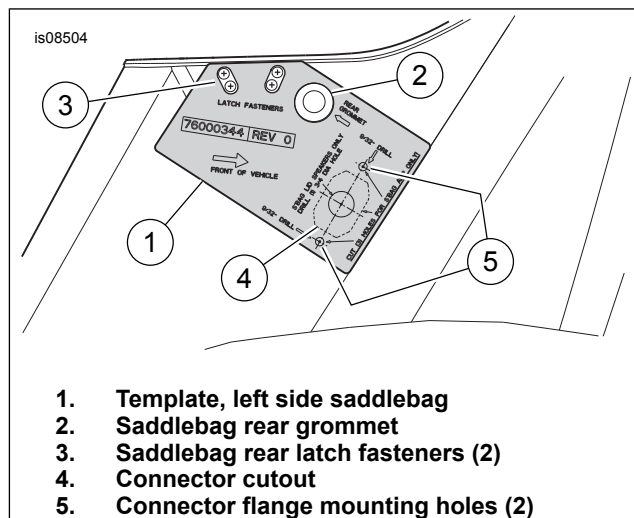


Figure 3. Left Saddlebag Drilling For Stage II Amplifier Installation

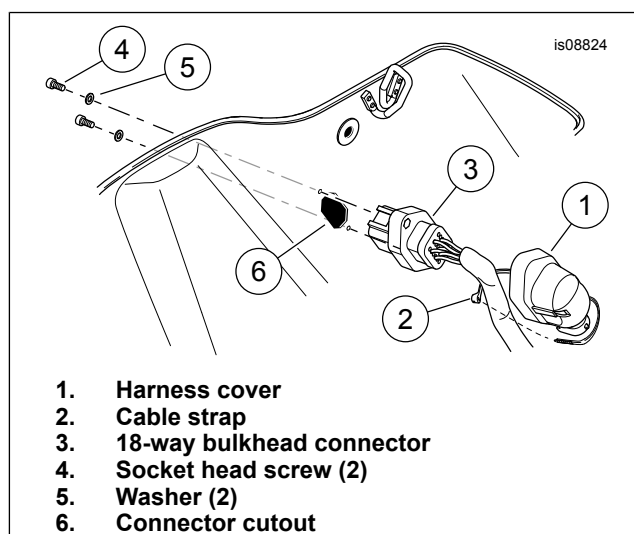
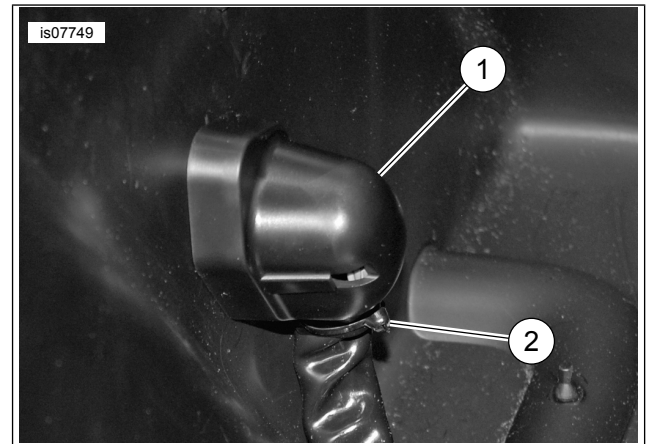


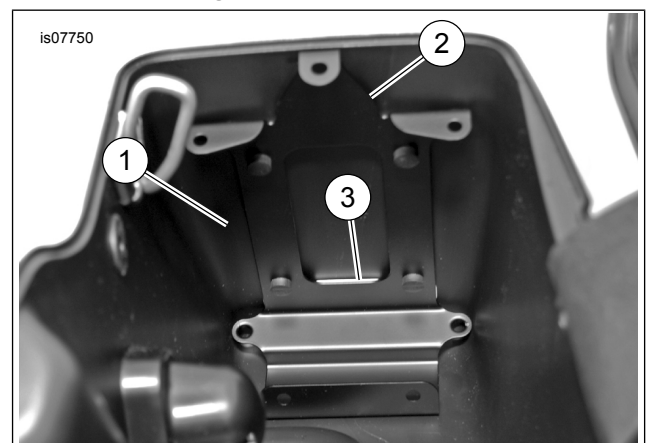
Figure 4. 18-Way Connector and Cover Installation to Left Saddlebag

- See Figure 4. Insert the pin side 18-way bulkhead connector (3) from the saddlebag harness through the connector cutout (6) from the inside. Secure the connector from **outside** the saddlebag with two socket head screws (4) and washers (5). Tighten to 4–4.5 N-m (35–40 in-lbs).
- See Figure 5. Snap the harness cover (1) over the 18-way connector. Secure with a cable strap (2). The harness routes inside the saddlebag after the amplifier is mounted.



- Harness cover
- Cable strap

Figure 5. Harness Cover



- Area to be cleaned
- Amplifier bracket
- Tape strips

Figure 6. Amplifier Bracket Installation

NOTE

Verify that all four tape strips are contacting the saddlebag.

- See Figure 6. Clean the inside rear and bottom surfaces of the saddlebag with a 50-50 mixture of isopropyl alcohol and distilled water.
- Remove the four pieces of protective backing from the amplifier bracket tape strips. Position the bracket as shown.
- See Figure 7. Install the amplifier pin studs in the amplifier. Tighten to 9.4–12.2 N-m (7–9 ft-lbs). Install the grommets.

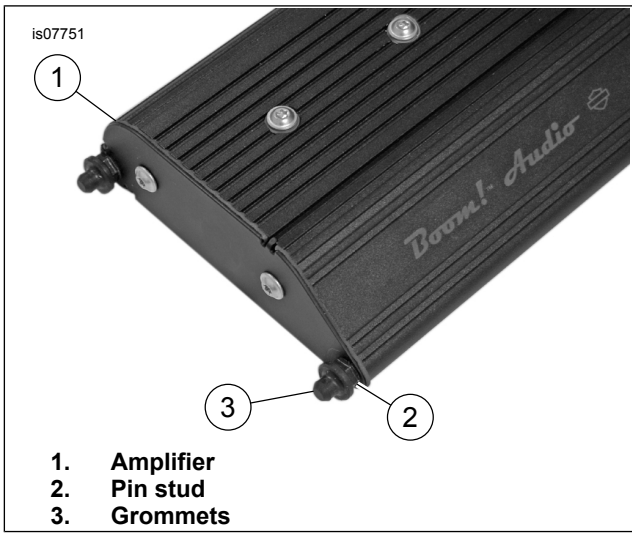


Figure 7. Amplifier Pin Studs

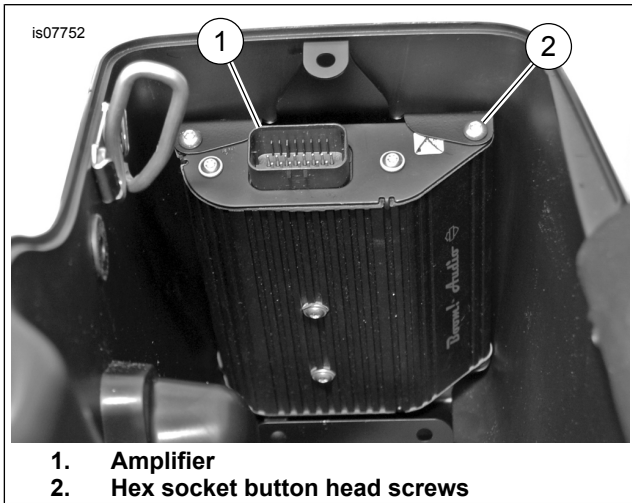


Figure 8. Amplifier Installation

13. See Figure 8. Position the amplifier with the grommets in the holes in the bottom of the amplifier bracket. Slide the top into the bracket. Install the hex socket button head screws (2). Tighten to 9.4–12.2 N·m (7–9 ft-lbs).

14. See Figure 9. Plug in connector [149] of the saddlebag harness to the top of the amplifier. Route the saddlebag side harness inside the left saddlebag. Clean the inside bottom and side surfaces of the saddlebag along the harness path with a 50-50 mixture of isopropyl alcohol and distilled water. Secure with cable straps and bases as shown.

NOTE

Speaker connections [37TB] and [37WB] are covered in the instructions for the Saddlebag Speakers.

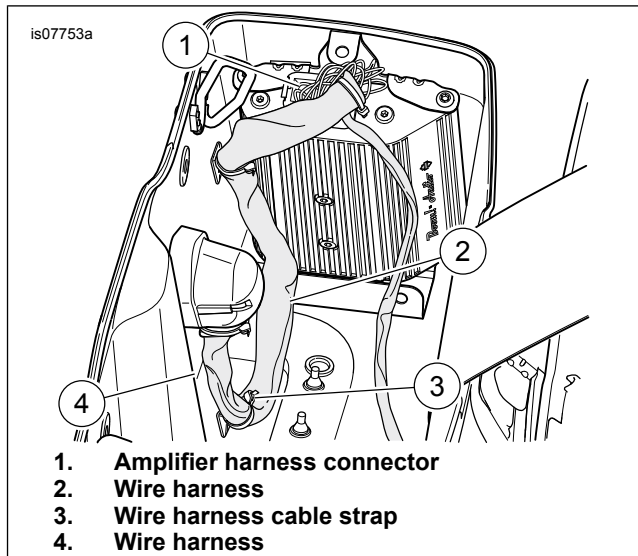


Figure 9. Inner Harness Routing

AMPLIFIER HARNESS INSTALLATION

NOTE

These tips help make sure all wiring fits under the seat, especially in multiple amplifier installations:

- Begin routing the vehicle-side amplifier harness from the large 18-way amplifier connector [288B], moving forward on the vehicle. The large connector **does not** fit through narrower passages.
- Route all wire harnesses **under** the frame rail to avoid pinching by covers or the seat.
- Take care to route ALL amplifier harness branches away from spark plug wires. Close proximity induces spark noise into the audio system.
- When routing wires from one side of the vehicle to the other, tuck harnesses **under** the frame tray **behind** the battery to keep the battery compartment accessible.
- Route the six-way black, pink-wired audio connectors **under** the right frame rail, into the right side cover. Bundle in front of the ABS module (if present).

1. See Figure 10. Route the vehicle-side amplifier harness (1) in the saddlebag mounting area, beginning the vehicle. Route the harness around the rear wheel sprocket, following the saddlebag support rail.

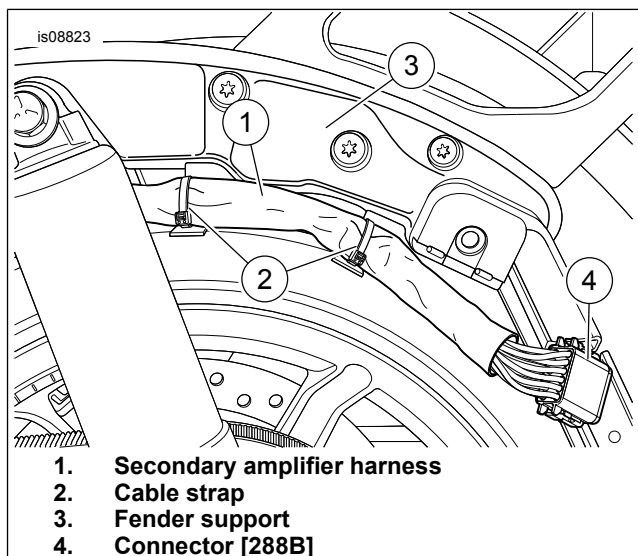


Figure 10. Harness Routing

2. Route the harness:
 - a. behind and underneath the frame,
 - b. into the underseat battery area.
3. Use cable straps (2) to tie the harness loosely to the saddlebag support. Use the large hole near the saddlebag rear attachment point or one of the cable strap slots along the bottom of the support.
4. Temporarily install the left saddlebag into the support assembly. When sufficient clearance is confirmed, tighten the cable straps. Remove the saddlebag.
 - a. Confirm that the vehicle-side harness connectors reach the saddlebag connectors.
 - b. Confirm that the amplifier harness connectors and harness routing are clear of all moving parts.

NOTE

Continue routing the harness forward on the vehicle.

- c. Confirm that no contact is made at full extension and compression of the shock absorber.
5. Locate the black, four-way Molex connector [296A] near the back of the underseat area. **FLHX/FLTRX models:** On a jumper harness coming from the fairing. **FLHTCU/FLHTK models:** On an adapter harness with two 16-way ([162C] and [162D]) and two four-way ([296A] and [297B]) connectors. **With ONLY ONE Stage II amplifier installed in the rear:** Remove the plug in the [296A] connector. Connect the amplifier harness. **With TWO or more Stage II amplifiers installed in the rear:** Plug the audio input harness (15) from **this** kit into connector halves [296A] and [297B] on the adapter harness. Plug **amplifier harness** connector [296A] into the audio input harness.
6. See Figure 11.
 - a. Locate the 2-way Delphi CAN connector [319B] (1) under the right side cover.
 - b. The cap is a terminating resistor pack secured to the electrical caddy. Remove connector [319B] from the resistor pack.
 - c. Connect [319A] (See Figure 18 item 9) from the harness to [319B] of the vehicle.
 - d. If this is the only (rear) amplifier connection in this installation, connect the [319B] (See Figure 18 item 10) side of the harness back into the terminating resistor pack from step "B" above. If multiple rear amplifiers are used, daisy chain [319B] from this harness to [319A] of the next amplifier harness. Always verify that the remaining connector [319B] is connected to the terminating resistor of the vehicle.
7.
 - a. Locate connector 299 on the vehicle (under the inner fairing, see service manual for location). This connector may already be connected to a fairing amplifier.

- b. Install 69200921 "Y" (See Figure 17)to vehicle side 299, with one end to the fairing amplifier harness.
 - c. Install the 69201545 jumper (See Figure 16 to the other end of the 69200921 "Y" inside the fairing. (If a 69201545 jumper has already been installed on vehicle skip ahead to "e". Do not install more than one 69201545 jumper.)
 - d. Route the 69201545 jumper through the inner fairing and into the wire trough following the Faring harness routing.

NOTE

If more than one amplifier is installed in rear of vehicle, up to two 69200921 connectors may be used.

NOTE

- If more than two amplifiers or other accessories already use the ground post of the battery, use one of the frame ground studs.
- If installing **more than TWO amplifiers**, an **AUDIO IN Three-Way Y Connector** (included in **THIS** kit) is needed.

- e. Locate the end of the 69201545 jumper under the RH side cover near the [319] connectors. If a 69201545 is present from a prior install use a 6920921 "Y" under the RH side cover to connect [299].

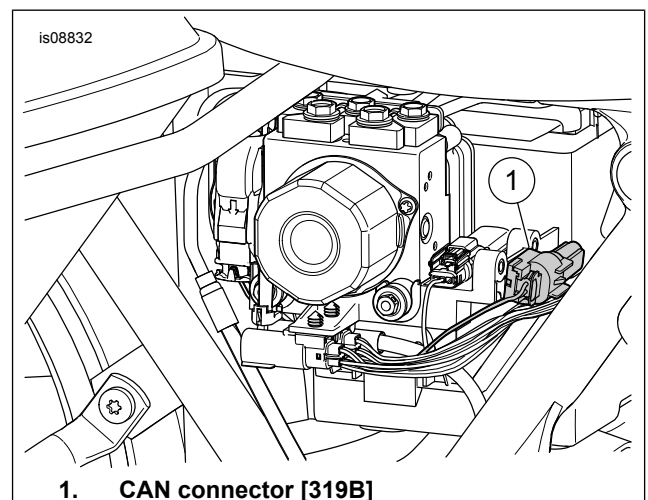


Figure 11. CAN Connector [319B], Under Right Side Cover

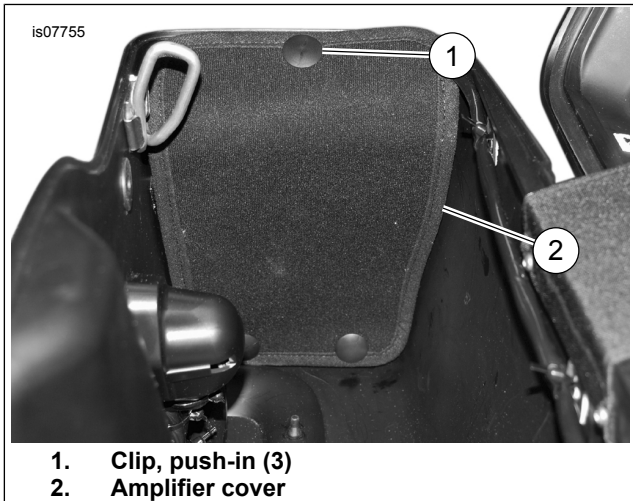
8. Route the battery terminal branch to the battery terminals, but **DO NOT** connect the battery cables now.
 9. Route the longer harness branch (with six-way socket connector [36B]) to the right side of the vehicle. Use cable straps (3) to tie the harness loosely to the saddlebag support. Use the large hole near the saddlebag rear attachment point or one of the cable strap slots along the bottom of the support.
10. Temporarily install the right saddlebag into the support assembly. When sufficient clearance is confirmed, tighten the cable straps. Remove the saddlebag.
 - a. Confirm that the vehicle-side harness connector [36B] reaches saddlebag connector [36A], installed earlier.

- b. Confirm that the amplifier harness connector and harness routing are clear of all moving parts.
- c. Confirm that no contact is made at full extension and compression of the shock absorber.

11. Follow instructions in the Boom! Audio Saddlebag Speaker Kit to complete the installation.

SADDLEBAG WIRING

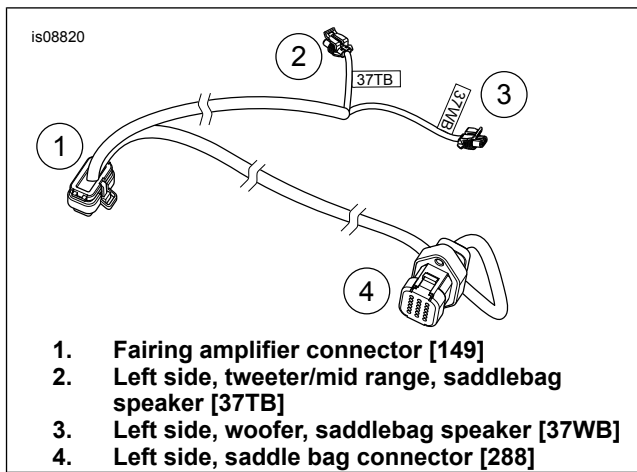
- 1. See Figure 12. Install the amplifier cover on the bracket. Secure with three clips.
- 2. **Saddlebag liners (if present):** Trim saddlebag liners. Install saddlebag liners.



- 1. Clip, push-in (3)
- 2. Amplifier cover

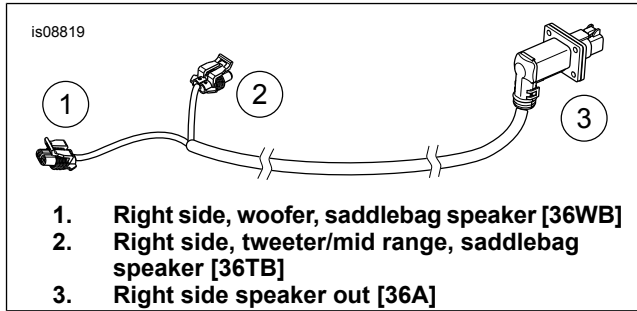
Figure 12. Amplifier Cover

- 3. Install the saddlebags. Plug in all saddlebag connectors.
- 4. Attach a **new** saddlebag capacity label (included in the Saddlebag Lid Kit) over the existing label in the left saddlebag. Note the revised load limit for the left saddlebag due to the amplifier installation.
- 5. Install the electrical caddy under the left side cover with the two bolts removed earlier. Tighten the bolts to 8.1–10.8 N·m (72–96 in-lbs).
- 6. Install left side cover.
- 7. Install right side cover.



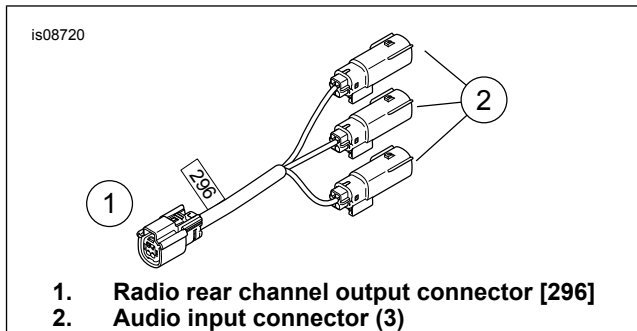
- 1. Fairing amplifier connector [149]
- 2. Left side, tweeter/mid range, saddlebag speaker [37TB]
- 3. Left side, woofer, saddlebag speaker [37WB]
- 4. Left side, saddle bag connector [288]

Figure 13. Wire Harness, Left Side Saddlebag Speaker



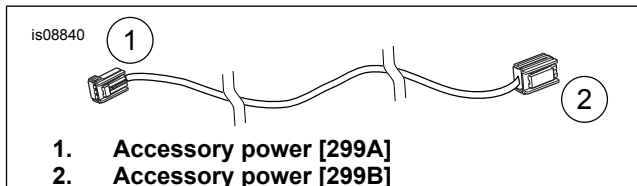
- 1. Right side, woofer, saddlebag speaker [36WB]
- 2. Right side, tweeter/mid range, saddlebag speaker [36TB]
- 3. Right side speaker out [36A]

Figure 14. Wire Harness, Rear Speaker Jumper



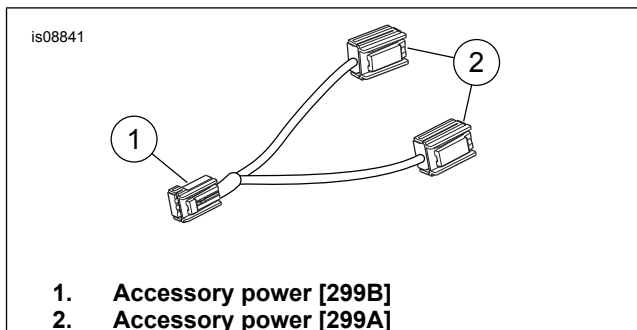
- 1. Radio rear channel output connector [296]
- 2. Audio input connector (3)

Figure 15. Audio Input and Output Wire Harness



- 1. Accessory power [299A]
- 2. Accessory power [299B]

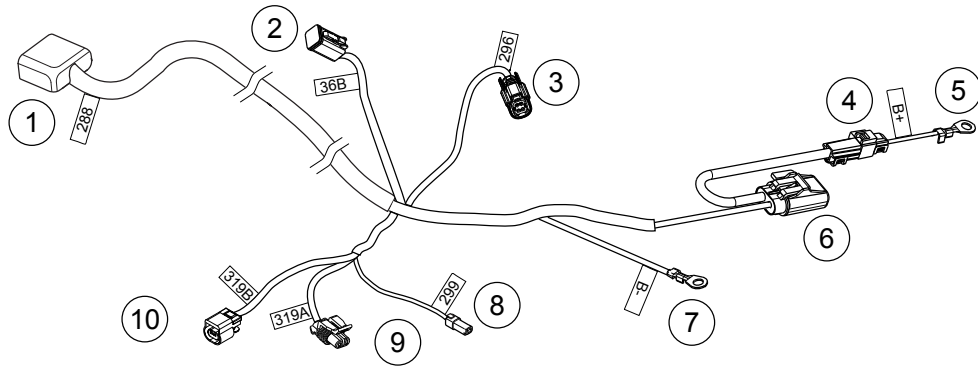
Figure 16. Wire Harness, Jumper



- 1. Accessory power [299B]
- 2. Accessory power [299A]

Figure 17. Accessory Power Wire Harness

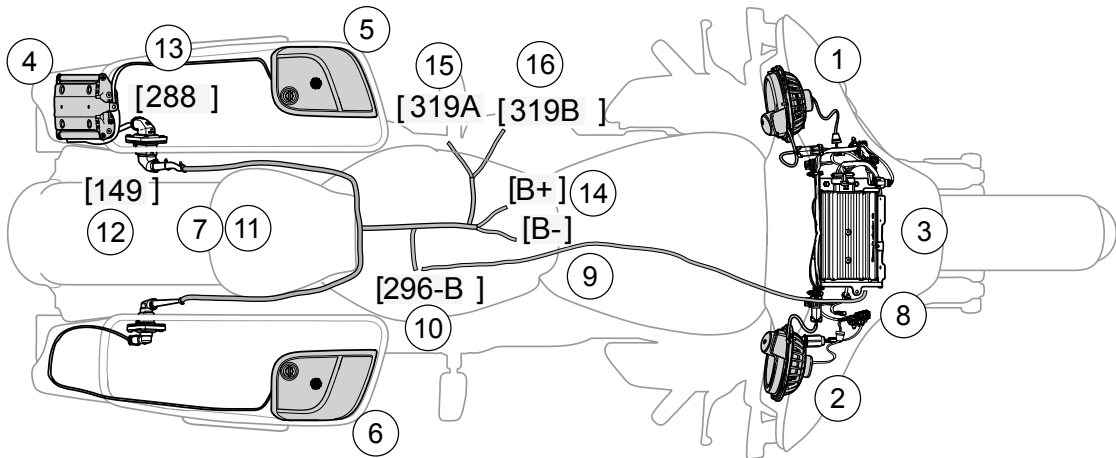
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- | | |
|---|--|
| 1. Left side saddlebag connector [288] | 6. Amplifier fuse |
| 2. Saddlebag speaker interconnect [36B] | 7. Negative battery terminal [B-] |
| 3. Secondary amplifier input [296] | 8. Accessory/ignition power [299] |
| 4. Inline B+ connector [160A/B] | 9. New CAN connector [319A] to OE harness |
| 5. Positive battery terminal [B+] | 10. CAN connector [319B] to terminating resistor, or daisy chain to additional amplifier harness |

Figure 18. Wire Harness

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- | | |
|---|--|
| 1. Left side fairing speaker (installed earlier) | 9. Jumper harness, (models without Tour-Pak) |
| 2. Right side fairing speaker (installed earlier) | 10. Connector [296B] |
| 3. Amplifier, fairing (installed earlier) | 11. Speaker interconnect (models with Tour-Pak) |
| 4. Amplifier, left side saddlebag | 12. Amplifier connector [149] |
| 5. Left side saddlebag speaker | 13. Amplifier connector [288] |
| 6. Right side saddlebag speaker | 14. Connection to battery [B+ and B-] |
| 7. Connector [162] (under seat) | 15. New CAN connector [319A] to OE harness |
| 8. Connector [162] (inside fairing) | 16. CAN connector [319B] to terminating resistor, or daisy chain to additional amplifier harness |

Figure 19. Saddlebag Speakers and Left Side Saddlebag Amplifier

COMPLETION

NOTE

To prevent possible damage to the sound system, verify that the ignition switch is OFF **before** attaching the battery cables.

▲ WARNING

Connect positive (+) battery cable first. If positive (+) cable should contact ground with negative (-) cable connected, the resulting sparks can cause a battery explosion, which could result in death or serious injury. (00068a)

1. See the service manual. Connect the battery terminal branch to the battery terminals (red positive cable first).
 - a. Position the + ring terminal onto the positive battery terminal. Install the bolt.
 - b. Position the in-line fuse holder in a location that can be easily accessed.
 - c. Position the - ring terminal onto the negative battery terminal. Install the bolt.
 - d. Tighten both bolts to 6.8–7.9 N·m (60–70 **in-lbs**).
2. Apply a light coat of petroleum jelly or corrosion retardant material to battery terminals.
3. Install the ECM caddy per the service manual.
4. See the service manual. Install seat. After installing seat, pull up on the seat to verify that it is secure.
5. Install main fuse.

SERVICE PARTS

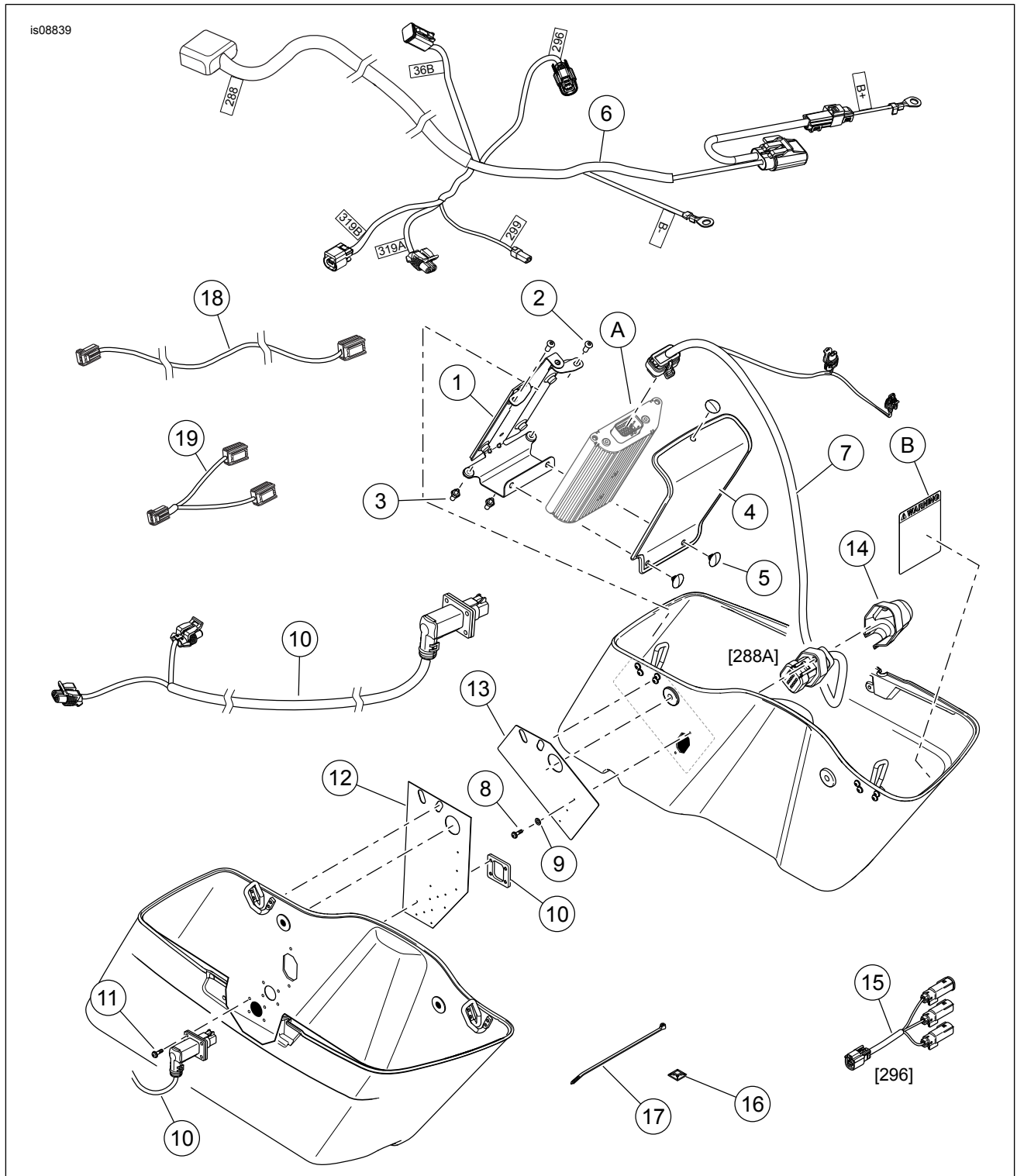


Figure 20. Service Parts, Amplifier Installation Kit For Boom! Audio Saddlebag Speakers

SERVICE PARTS

Table 1. Service Parts

Item	Description (Quantity)	Part Number
1	Amplifier bracket	76000282A
2	Screw, hex socket button head (2), 1/4-20 x 0.62 in long, Grade 8, with lock patch	926
3	Pin stud (2)	12600087
4	Cover, amplifier	76000502
5	Clip, push-in (3)	12600068
6	Wire harness, vehicle side, Boom! Audio Stage II saddlebag speaker	69201541
7	Wire harness, saddlebag side, Boom! Audio Stage II right saddlebag speaker	69200923
8	Screw, hex socket head, M5-0.8 x 12 mm long (2)	3798M

Table 1. Service Parts

Item	Description (Quantity)	Part Number
9	Flat washer, M5 (2)	6454
10	Wire harness, saddlebag side, Boom! Audio Stage II left saddlebag speaker	69200916
11	Screw, pan head, TORX, #8-32 x 0.62 in long, stainless, with lock patch (4)	10200065
12	Drill template, saddlebag amplifier connector (right)	76000603
13	Drill template, saddlebag speaker connector (left)	76000344
14	Cover, saddlebag amplifier connector	69200586
15	Wire harness, audio input	69201092
16	Base, cable strap (10)	69200342
17	Cable strap (10)	10006
18	Jumper harness	69201545
19	Power connector	69200921
Items mentioned in text, but not included in kit:		
A	Amplifier (Part No. 76000277A, purchase separately)	
B	Saddlebag capacity label (Part No. 14001047, from Saddlebag Lid Kit)	

Wiring Diagram Information

Wire Color Codes

For Solid Color Wires: See Connector/Wiring Diagram Symbols (Typical) . The alpha code identifies wire color.

For Striped Wires: The code is written with a slash (/) between the solid color code and the stripe code. For example, a trace labeled GN/Y is a green wire with a yellow stripe.

Wiring Diagram Symbols

See Connector/Wiring Diagram Symbols (Typical) . Brackets [] indicate connector numbers. The letter inside the brackets identifies whether the housing is a socket or pin housing.

A=Pin: The letter A and the pin symbol after a connector number identifies the pin side of the terminal connectors.

B=Socket: The letter B and the socket symbol after a connector number identifies the socket side of the terminal connectors. Other symbols found on the wiring diagrams include the following:

Diode: The diode allows current flow in one direction only in a circuit.

Wire break: The wire breaks are used to show option variances or page breaks.

No Connection: Two wires crossing over each other in a wiring diagram that are shown with no splice indicating they are not connected together.

Circuit to/from: This symbol indicates a complete circuit diagram on another page. The symbol is also identifying the direction of current flow.

Splice: Splices are where two or more wires are connected together along a wiring diagram. The indication of a splice only indicates that wires are spliced to that circuit. It is not the true location of the splice in the wiring harness.

Ground: Grounds can be classified as either clean or dirty grounds. Clean grounds are identified by a (BK/GN) wire and are normally used for sensors or modules.

NOTE

Clean grounds usually do not have electric motors, coils or anything that may cause electrical interference on the ground circuit.

Dirty grounds are identified by a (BK) wire and are used for components that are not as sensitive to electrical interference.

Twisted pair: This symbol indicates that the two wires are twisted together in the harness. This minimizes the circuit's

electromagnetic interference from external sources. If repairs are necessary to these wires, they should remain as twisted wires.

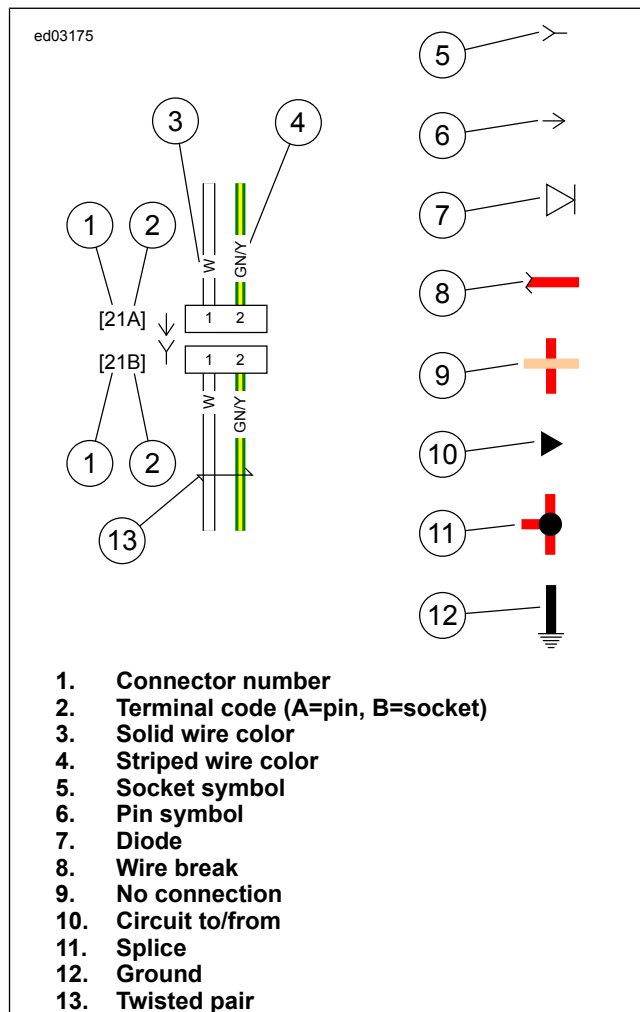


Figure 21. Connector/Wiring Diagram Symbols

Table 2. Wire Color Codes

ALPHA CODE	WIRE COLOR
BE	Blue
BK	Black
BN	Brown
GN	Green
GY	Gray
LBE	Light Blue
LGN	Light Green
O	Orange
PK	Pink
R	Red

Table 2. Wire Color Codes

ALPHA CODE	WIRE COLOR
TN	Tan
V	Violet

Table 2. Wire Color Codes

ALPHA CODE	WIRE COLOR
W	White
Y	Yellow

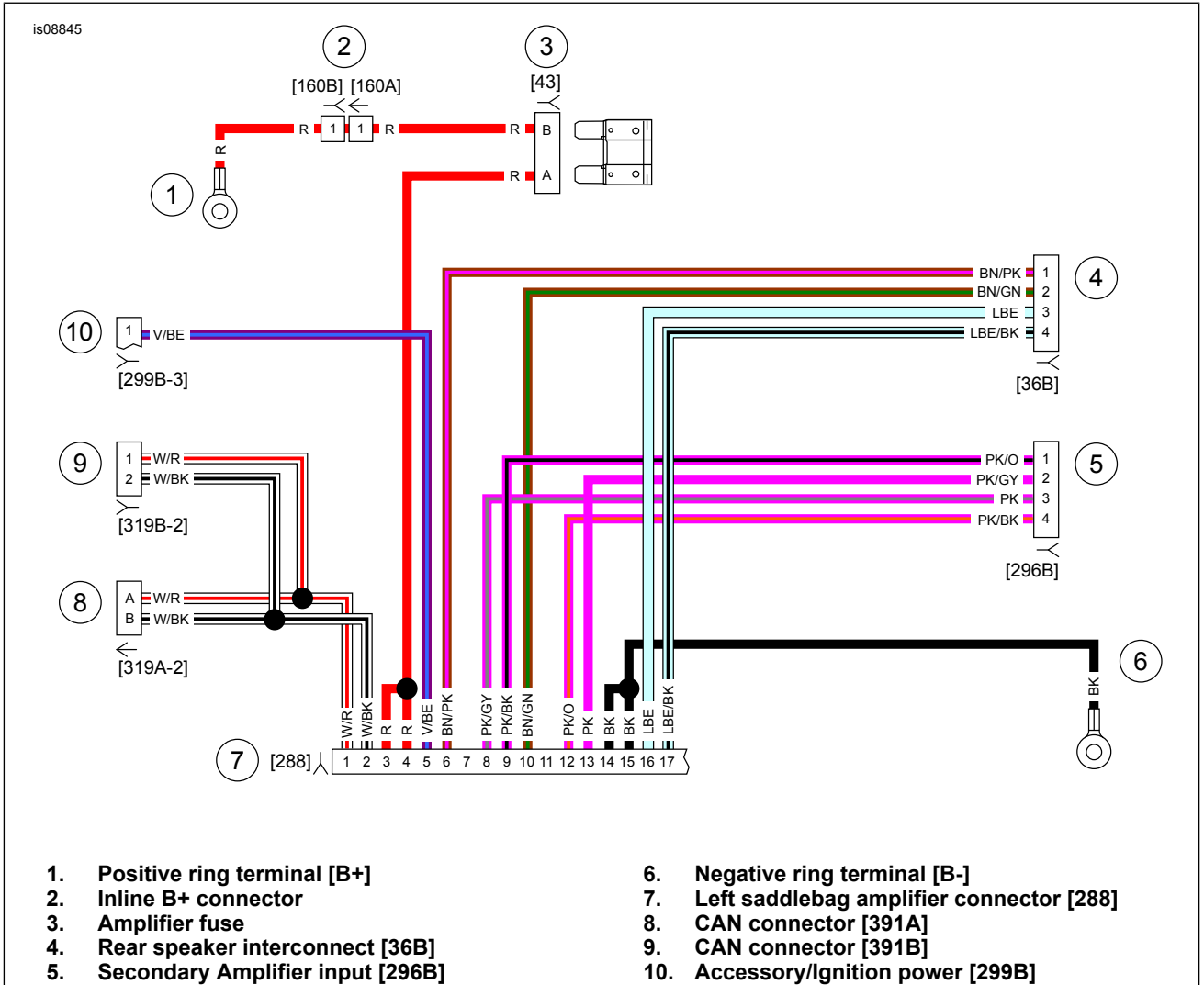


Figure 22. Saddlebag Speaker Wire Harness

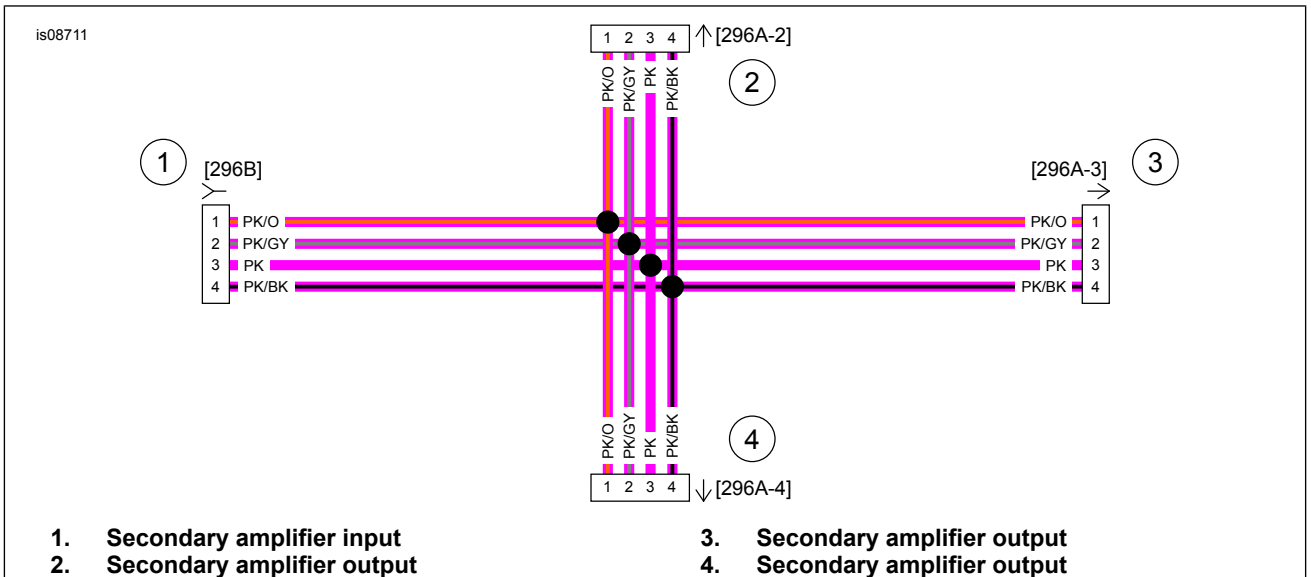


Figure 23. Audio Input Harness

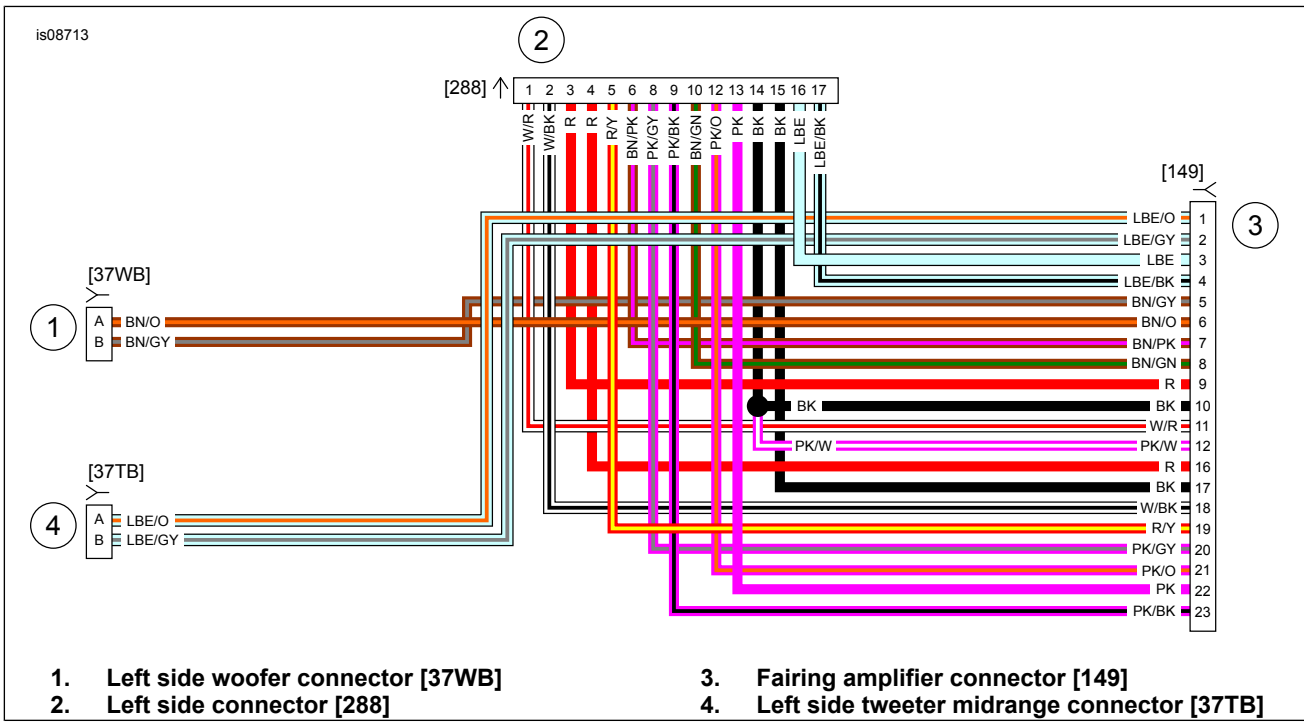


Figure 24. Left side saddlebag speaker Wire Harness

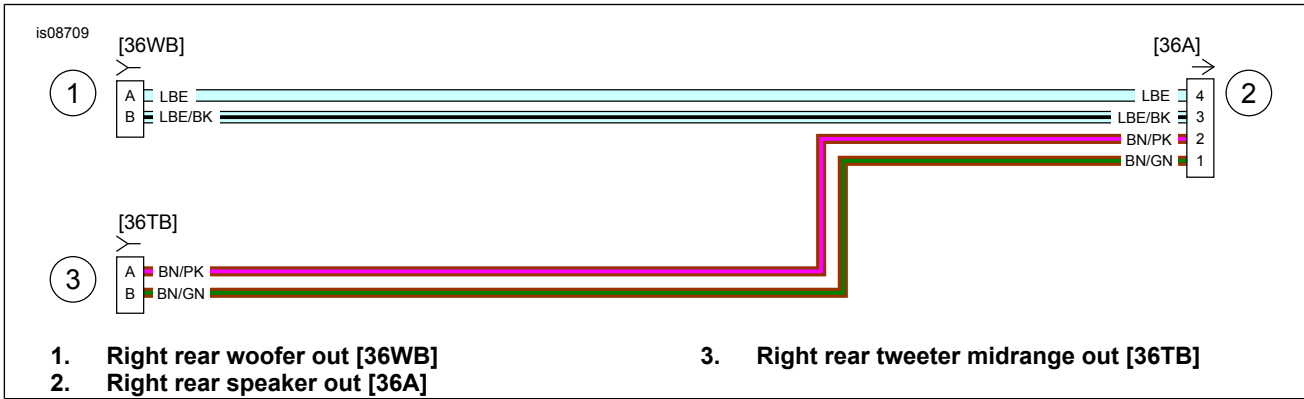


Figure 25. Rear Speaker Jumper Wire Harness

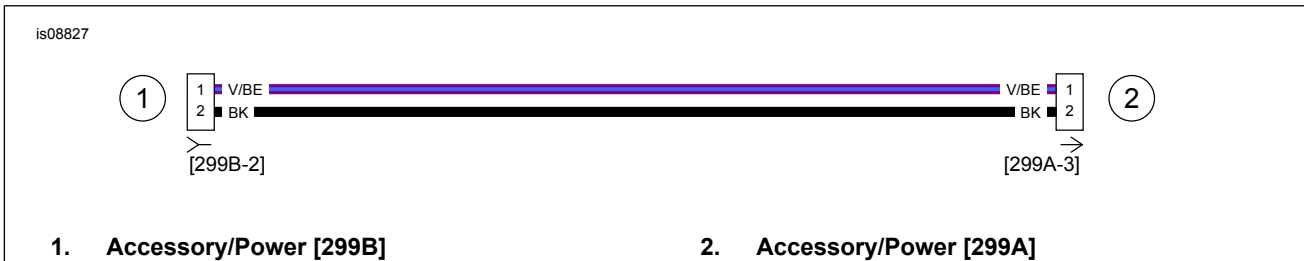


Figure 26. Rear Jumper Wire Harness

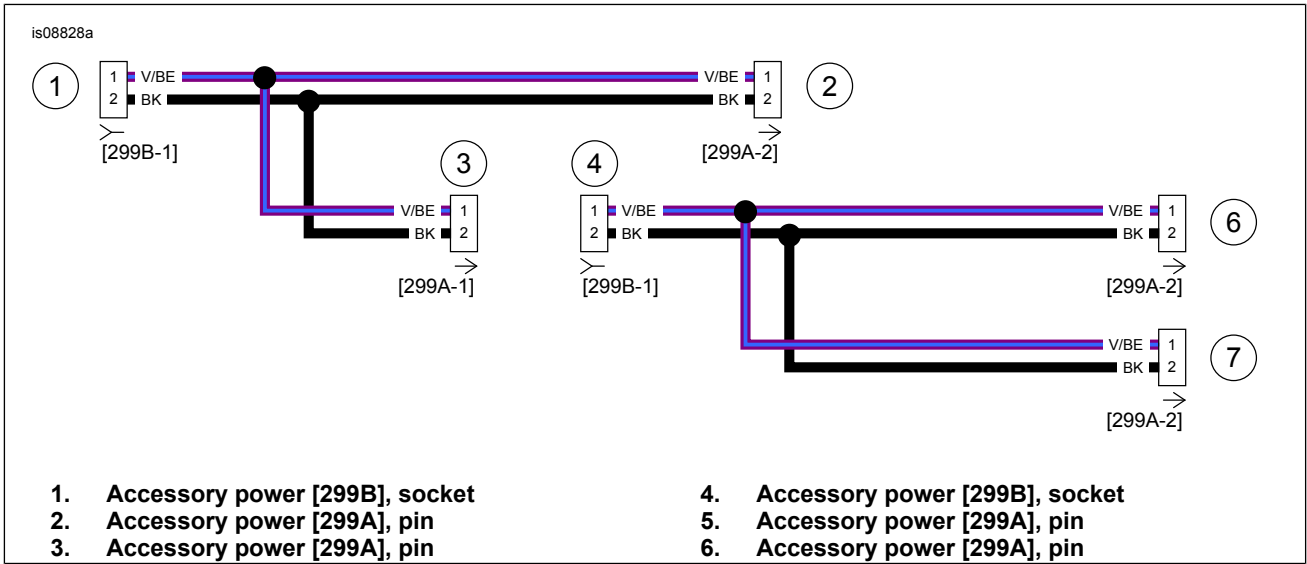


Figure 27. Accessory Power Harness