



# INSTRUCTIONS

J05996

2017-01-20



## BOOM! AUDIO STAGE II TOUR-PAK AMPLIFIER INSTALLATION KIT

### GENERAL

Dealer installation is recommended.

### Kit Number

76000585

### Models

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

### Installation Requirements

This kit must be installed:

- **Before** installation of the Boom! Audio Stage II Tour-Pak Speaker Kit (Part No. 76000526).
- **After** installation of a PRIMARY fairing-mounted amplifier.

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

**FLHX, FLHXS and FLHXSE models** require installation of an original equipment (OE) rigid Tour-Pak Mounting Rack. See a Harley-Davidson dealer for the correct parts, available separately. Install per the service manual.

**FLHTKSE and FLTRUSE models** require installation of a Speaker Interconnect Harness (Part No. 69200714) and Rear Speaker Jumper Harness (Part No. 69200489). See a Harley-Davidson dealer for the correct parts, available separately. Install per the service manual.

**ALL models:** If installing **more than TWO amplifiers**, only **one** AUDIO IN Three-Way Y-Connector (Part No. 69201092) **AND one** Battery+ Three-Way Y-Connector (Part No. 70270-04A) are needed for **up to** a four amplifier installation. These connectors could be included in other kits. Purchase separately from a Harley-Davidson dealer as needed.

#### NOTE

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

#### 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 the 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. (00211d)**

#### ⚠ 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 5 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 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 battery.
- e. Remove right side cover.
- f. Remove left side cover.
- g. Remove the two bolts attaching the electrical caddy under the left side cover.

## AMPLIFIER INSTALLATION

1. Clean the capacity label inside the Tour-Pak with a 50-50 mixture of isopropyl alcohol and distilled water. See Figure 5. Apply the **new** capacity label (2) from the kit to cover the original label. Note the revised load limit due to the amplifier installation.
2. Install the brackets (4 and 8) to amplifier (A) with screws (6). Alternately tighten screws.  
Torque: 9.5–12.2 N·m (84–108 **in-lbs**) Screw
3. Remove all items from Tour-Pak®. Remove Tour-Pak. Remove Tour-Pak liner (if present). Place Tour-Pak on a protected surface.

### 4. NOTE

- *Disconnect speakers. Remove speakers from speaker pods to avoid damage to wiring inside.*
- *Note wire locations in connectors. To aid in drilling, de-pin both connector halves. Pull wires away from drilling area.*
- *Use of a step drill bit is recommended to prevent damage to the speaker pod covering.*

See Figure 1. Drill a **new** hole (3) in each speaker pod (1), away from the existing grommet (2), approximately where shown.

Length/Dimension/Distance: 25 mm (1 in)

### 5. NOTE

*These holes are for leads [36TB] and [37TB] of the amplifier harness ( Figure 5, Item 3), which connect during installation of the Boom! Audio Stage II Tour-Pak Speaker Kit.*

Lightly sand the speaker housings around the grommet holes.

6. Pull wires back through holes. Repin connectors.

### 7. NOTE

*If the amplifier is installed **before** the Tour-Pak is mounted, it is not possible to secure the Tour-Pak.*

See Figure 2. Place hex nuts (1) into hex pockets (3) on the Tour-Pak support (5).

8. Install Tour-Pak. See the service manual. Tighten screws.  
Torque: 6.8–8.1 N·m (60–72 **in-lbs**) Screw

9. Cover the rear fender with a towel. Slide the amplifier with brackets in from the side.
10. Install the amplifier. Secure with flat washers (7), lockwashers (8) and screws (6). Tighten screws.  
Torque: 6.8–8.1 N·m (60–72 **in-lbs**) Screw

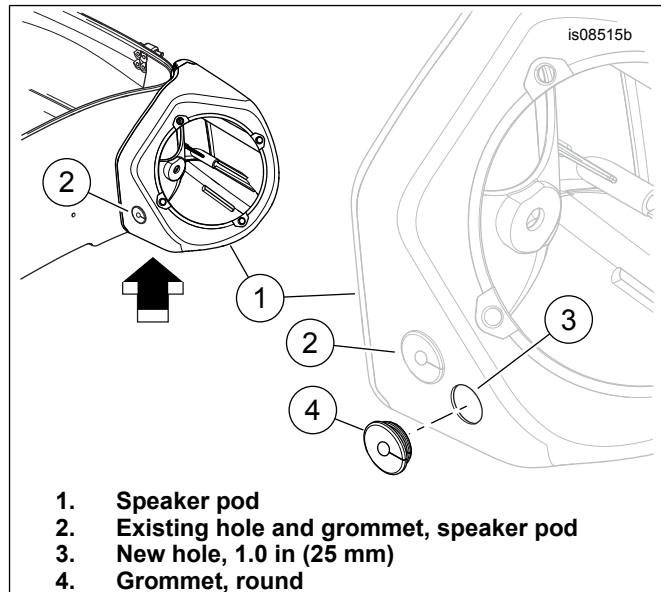


Figure 1. Grommet Installation

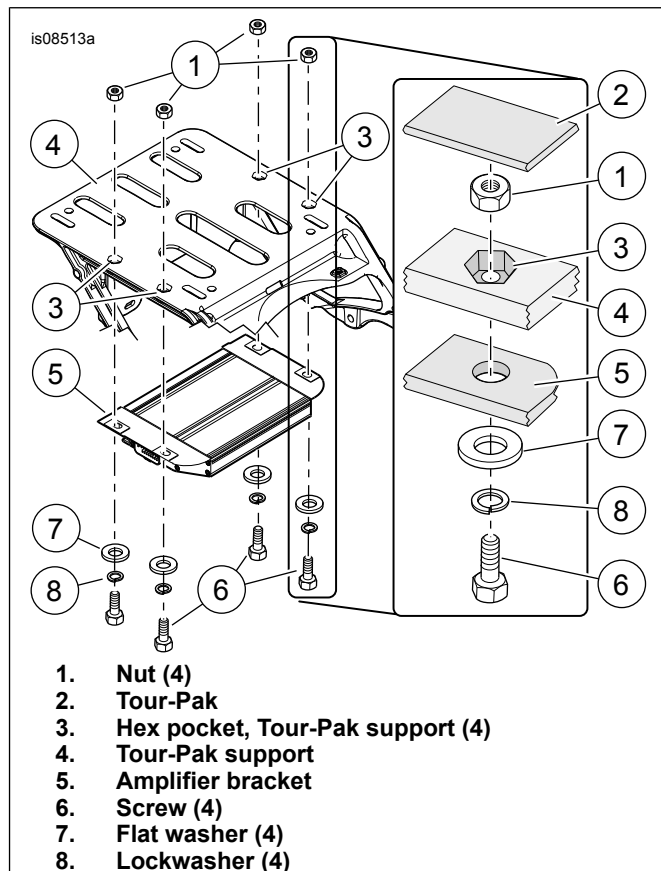


Figure 2. Amplifier Installation

## AMPLIFIER HARNESS INSTALLATION

### NOTE

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

- See Figure 4 and Main Amplifier Schematic ( Figure 7 ). Begin routing the amplifier harness from the large 23-way connector [149] (1), moving forward on the vehicle. The large connector **does not fit** through narrower passages.
- Route the remainder of the harness forward on the vehicle through the space between the Tour-Pak support (3) and fender (4).
- Route all wire harnesses **under** the frame rail to avoid pinching by cover or seat.
- Make connections [36TB] (right pod speaker) and [37TB] (left pod speaker) during installation of the Boom! Audio Stage II Tour-Pak Speaker Kit.
- 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 right to left sides of the vehicle, tuck harnesses **under** the frame tray **behind** the battery. 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 ABS module, if present.
- 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 into connector halves [296A] and [297B] on the interconnect harness (2). Plug amplifier harness (3) connector [296A] into the audio input harness.

- Confirm that the amplifier harness connectors and harness routing are clear of all moving parts.
- Route the battery terminal branch to the battery terminals, but **DO NOT** connect the battery cables now.
- If more than two amplifiers or other accessories already use the ground post of the battery, use one of the frame ground studs.
- If more than two amplifiers are installed on the vehicle, **ONE Battery+ Three-Way Y-Connector** (available separately) is required.
- Once routing is finalized, secure with cable straps (10) and retainers (1).

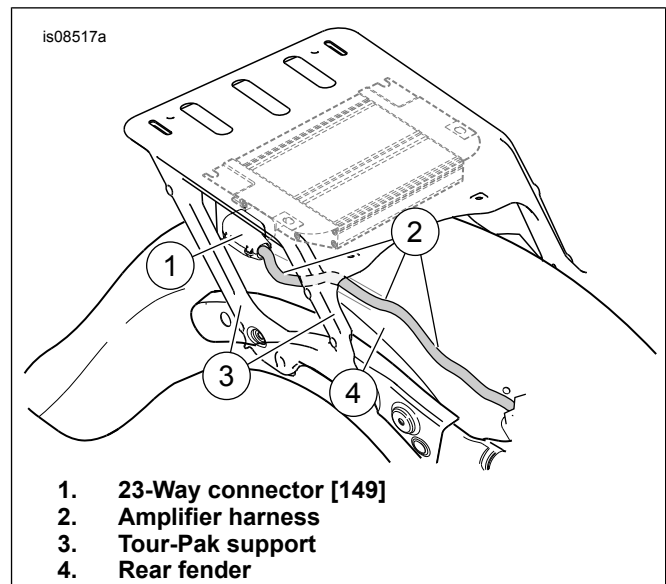


Figure 3. Harness Routing

## DATA LINK CONNECTOR (DLC) RELOCATION

1. Locate the gray six-way Data Link Connector [91A] in the electrical caddy. Note the wire colors and pin locations. De-pin connector. Remove connector and rubber plug.
2. Pull wires back through the electrical caddy to a location under the seat, behind the caddy.
3. See Figure 4 and Main Amplifier Schematic ( Figure 7 ). Install plug tether over wires. Re-pin connector. Plug in socket connector [91B] on the amplifier harness (6) to connector [91A] under the seat.

### NOTE

The **amplifier harness** gray six-way pin connector [91A] replaces the original equipment (OE) connector [91A] in the electrical caddy.

4. Route the **new** pin connector [91A] under the seat, and into the electrical caddy.
5. Insert the rubber plug into the new pin connector [91A]. Use a cable strap (10) from the kit to attach the tether to the harness.
6. On multiple amplifier installations, connect DLCs to each other in series.

## 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. Install battery. See the service manual.

2. 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.  
Torque: 6.8–7.9 N·m (60–70 **in-lbs**) *Hex head bolt*
3. Install the electrical caddy under the left side cover with the two bolts removed earlier. Tighten both bolts.  
Torque: 8.1–10.8 N·m (72–96 **in-lbs**) *Hex head bolt*
4. Install the ECM caddy per the service manual.
5. Apply a light coat of petroleum jelly or corrosion retardant material to battery terminals.
6. See the service manual. Install seat. After installing seat, pull up on the seat to verify that it is secure.
7. See the service manual. Install main fuse.

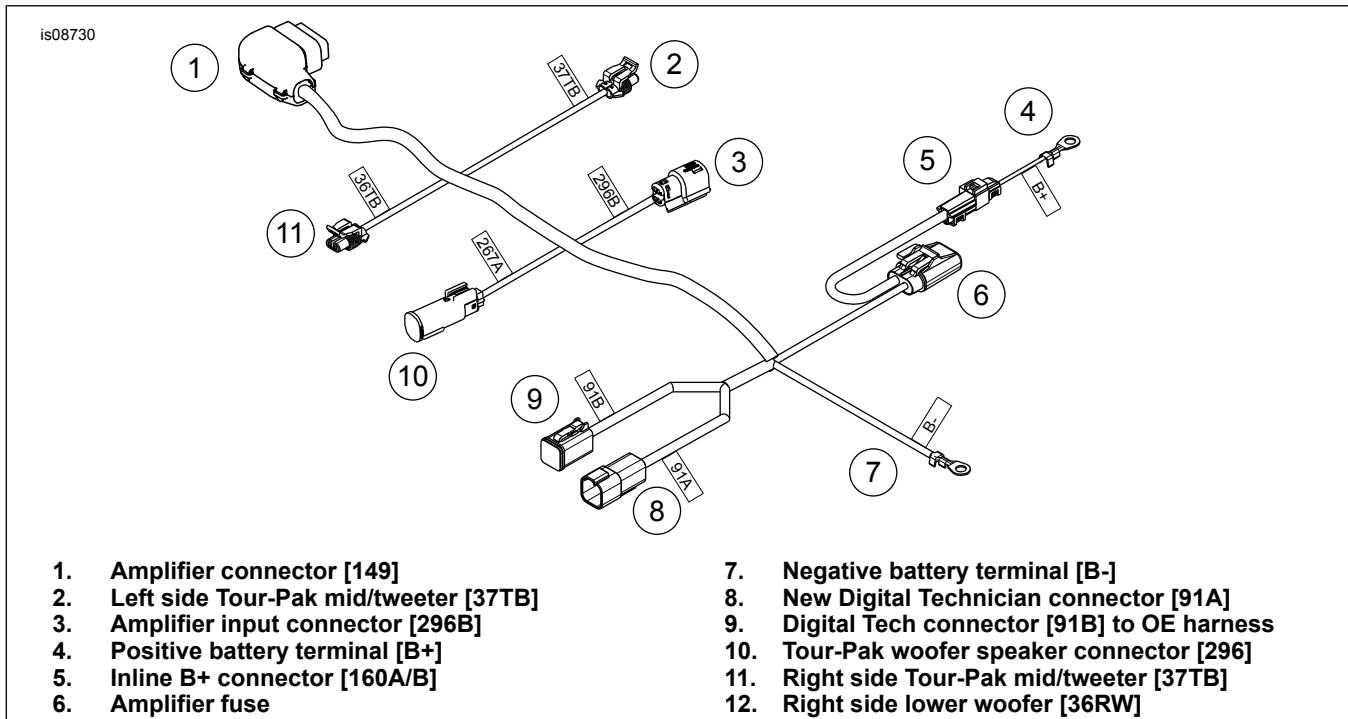


Figure 4. Main Amplifier Harness

## SERVICE PARTS

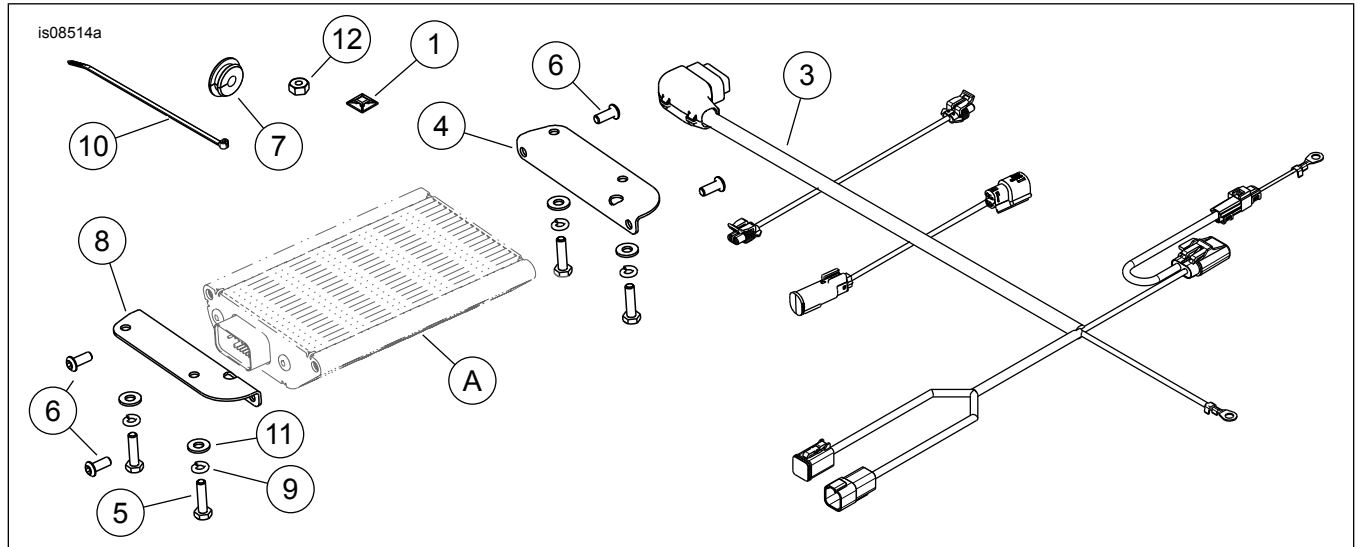


Figure 5. Service Parts, Amplifier Installation Kit

Table 1. Service Parts

Item	Description (Quantity)	Part Number
1	Bracket, wire retainer (4)	69200342
2	Capacity label (not shown)	14001001
3	Wire harness, Tour-Pak Amplifier	Not sold separately
4	Amplifier bracket	Not sold separately
5	Capscrew (4)	2551W
6	Screw (4)	926
7	Grommet, round (2)	12100073
8	Amplifier bracket	Not sold separately
9	Lockwasher (4)	7036
10	Cable strap (6)	10006
11	Flatwasher (4)	6703
12	Nut (4)	10100065
<b>Item mentioned in text, but not included in kit:</b>		
A	Amplifier	

## Wiring Diagram Information

### Wire Color Codes

**For Solid Color Wires:** See Connector/Wiring Diagram Symbols ( Figure 6 ). 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 ( Figure 6 ). 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 (6) after a connector number identifies the pin side of the terminal connectors.

**B=Socket:** The letter B and the socket symbol (5) 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 (7) allows current flow in one direction only in a circuit.

**Wire break:** The wire breaks (8) are used to show option variances or page breaks.

**No Connection (9):** 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 (10):** This symbol indicates the complete circuit diagram continues on another page. The symbol also identifies the direction of current flow.

**Splice:** Splices (11) 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 (12) 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 (13):** 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.

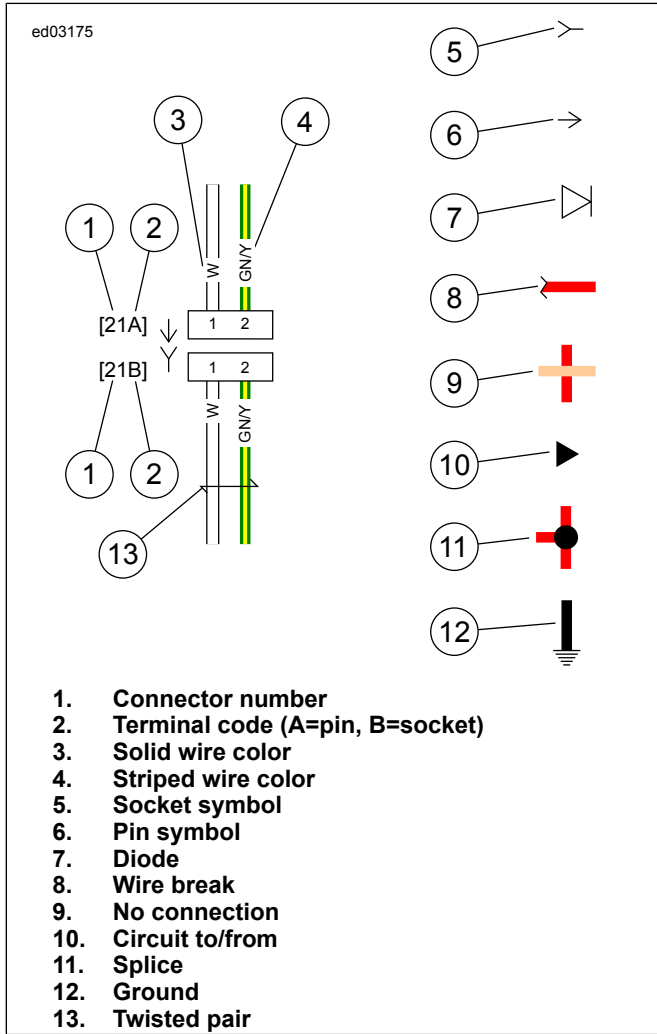


Figure 6. Connector/Wiring Diagram Symbols

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
TN	Tan
V	Violet
W	White
Y	Yellow

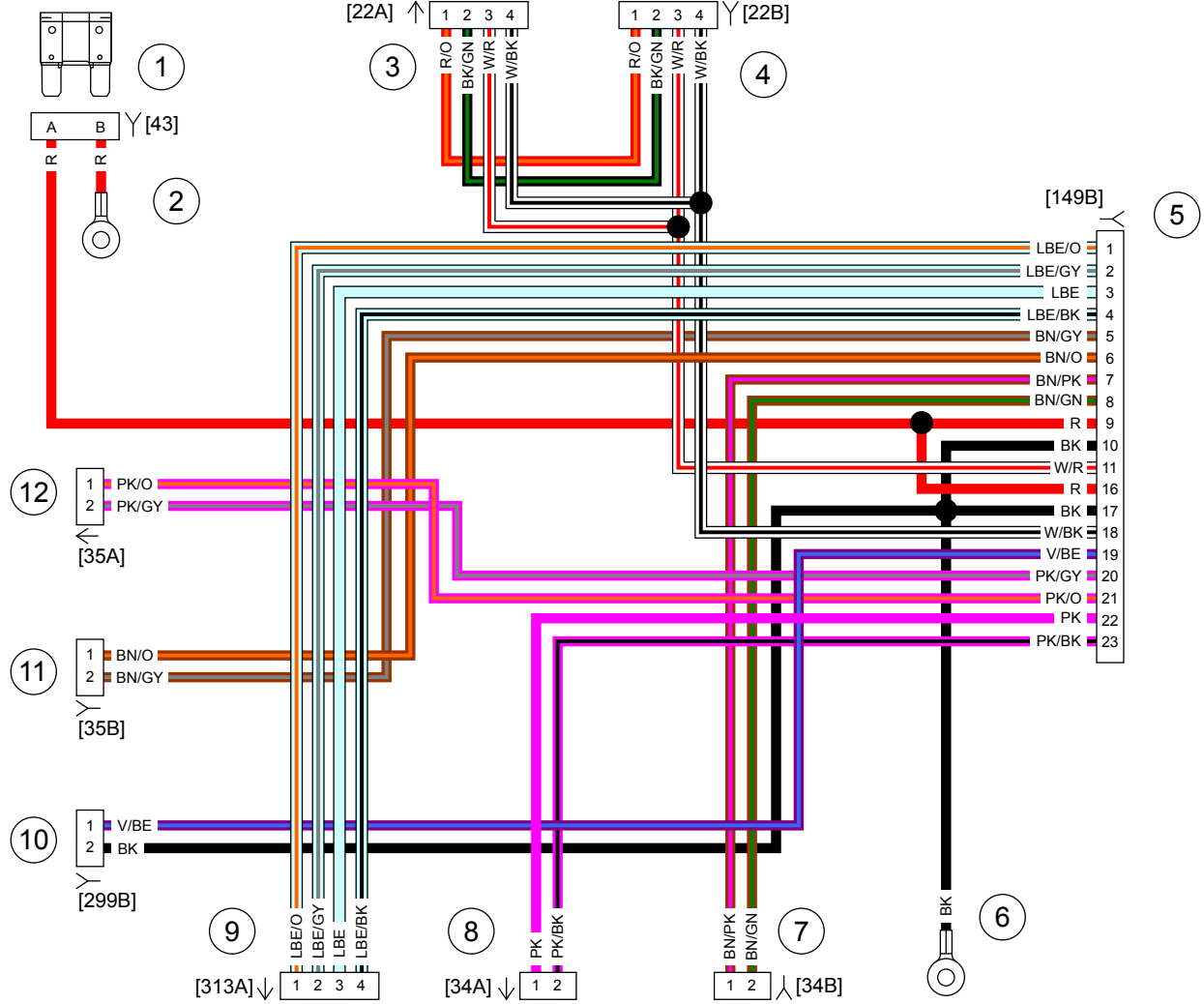
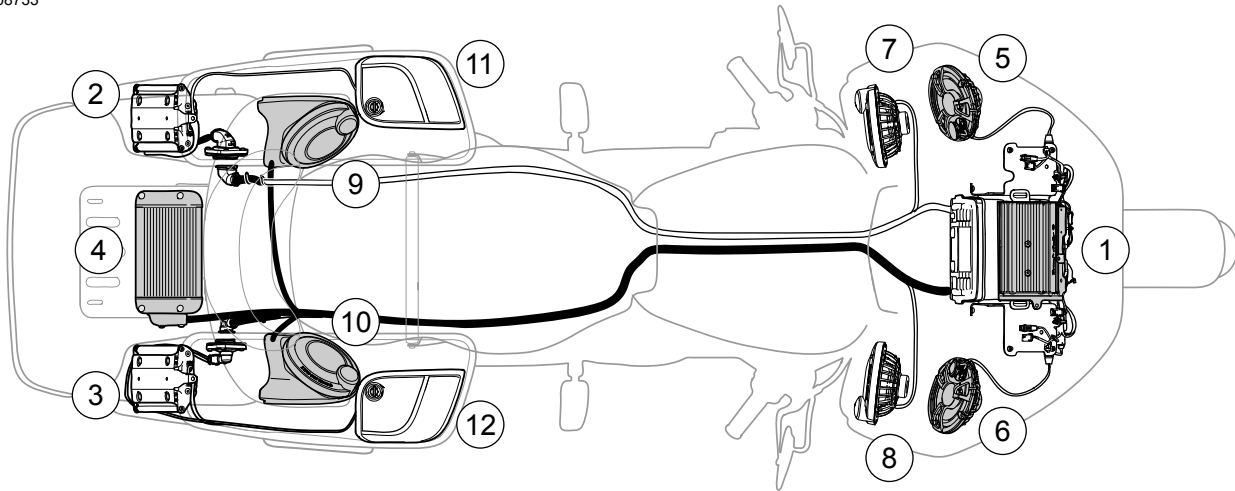


Figure 7. Main Amplifier Wiring Harness (Fairing)



- |   |   |
|---|---|
| 1. Amplifier, fairing, powers fairing speakers, amplifier number 1 (installed earlier)              | 7. Left lower speaker (may be installed)              |
| 2. Amplifier, left side saddlebag, powers saddlebag speakers, amplifier number 2 (may be installed) | 8. Right lower speaker (may be installed)             |
| 3. Amplifier, right side saddlebag, powers lower speakers, amplifier number 3 (may be installed)    | 9. Left Tour-Pak speaker (installed using this kit)   |
| 4. Amplifier, Tour-Pak, powers Tour-Pak speakers, amplifier number 4 (installed using this kit)     | 10. Right Tour-Pak speaker (installed using this kit) |
| 5. Left fairing speaker (installed earlier)   | 11. Left saddlebag speaker (may be installed)         |
| 6. Right fairing speaker (installed earlier)  | 12. Right saddlebag speaker (may be installed)        |

Figure 8. Speaker Stage II Boom! Audio Tour-Pak Amplifier Installation Kit