



# INSTRUCTIONS

J04949

2011-03-11



## BOOM! AUDIO CRUISER AMP AND SPEAKER KIT - WINDSHIELD MOUNT

### GENERAL

#### Kit Number

76321-09

#### 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).

#### Additional Parts Required

**2011 and later Softail models** will require separate purchase of an Electrical Connection Kit (Part No. 72673-11).

Connection to an audio device (MP3 player or similar device, purchased separately) with a 3.5 mm (1/8 in) stereo output (headphone jack or audio line out) is required.

#### NOTE

*A Boom! Audio Tank Pouch (Part No. 91003-10) can be used to secure a **solid-state** audio device.*

*DO NOT secure an MP3 player or similar device with a **hard drive memory** on or to the vehicle.*

#### Tools and Supplies Required

An UltraTorch UT-100 (Part No. HD-39969), Robinair Heat Gun (Part No. HD-25070) with Heatshrink Attachment (Part No. HD-41183), or other suitable radiant heating device is required for the proper installation of this kit.

Electrical Contact Lube (Part No. 99861-02) or equivalent is required for the proper installation of this kit. This item is available from a Harley-Davidson dealer.

#### ⚠ 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 refers to service manual information. A service manual for this year/model motorcycle is required for this installation and 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 Speaker and Amplifier Kit requires up to **4.0 A** additional current from the electrical system.

### Kit Contents

See Figure 5 and Table 1.

### PREPARATION

#### NOTE

**For 2007 and later vehicles equipped with security siren:**

- Verify that the Hands-Free Fob is present.
- Turn the ignition key switch to **IGNITION**.

### For EFI Models:

#### ⚠ WARNING

**To prevent spray of fuel, purge system of high-pressure fuel before supply line is disconnected. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00275a)**

Follow service manual instructions to purge the fuel supply of high pressure gasoline and remove the fuel supply line.

### For ALL Vehicles With Main Fuse:

#### ⚠ WARNING

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



1. Refer to the service manual and follow instructions to remove the main fuse.

## For ALL Vehicles With Main Circuit Breaker:

### ⚠ WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

1. Refer to the service manual and follow instructions to remove the seat and disconnect the negative (black) battery cable from the negative (-) battery terminal. Retain all seat mounting hardware.

## For Carbureted Models:

### ⚠ WARNING

Gasoline can drain from the carburetor fuel line when disconnected from fuel valve fitting. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. Wipe up spilled fuel immediately and dispose of rags in a suitable manner. (00256a)

1. Turn the fuel supply valve to OFF. Remove the fuel line from the valve.

## For ALL models:

1. Remove the windshield from the vehicle per the instructions in the service manual or accessory kit. Be sure to protect the windshield from scratches during removal and installation, and while off the vehicle.

### ⚠ WARNING

When servicing the fuel system, do not smoke or allow open flame or sparks in the vicinity. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00330a)

2. Follow the instructions in the service manual to remove the instrument console (if equipped) from the fuel tank.
3. Remove the fuel tank from the vehicle. See the correct section (Carbureted or EFI Engine) of the service manual for instructions.
4. **For Road King® models only:** Remove the handlebar cover from the vehicle and separate the left and right nacelle halves. Remove the headlamp assembly per the instructions in the service manual.

## INSTALLATION

### Amplifier and Bracket Installation

1. See Figure 5. Select two 1/4-20 x 16 mm (0.62 in) long TORX® head screws (8) and the correct amplifier mounting bracket (item 9 or 10) from the kit.
  - **For Road King models:** select bracket (9).
  - **For Softail models:** select bracket (10).

#### NOTE

The wire exiting the amplifier must face **downward**.

2. See Figure 1. Install the amplifier (4, part of the wire harness assembly) to the bracket with the screws (5), and tighten to 7.4 N·m (65 in-lbs).
3. **If this kit is being installed on a vehicle with an engine guard (except for Road King models),** use the engine guard hardware to secure the amplifier bracket. **If NOT being installed with an engine guard,** use hardware from the kit to secure the amplifier bracket. See Figure 5.
  - **For Softail models:** Select the 5/16-18 screw (8) and hex locknut (9) from the kit.
  - **For Road King models:** Select two 1/4-20 x 16 mm (0.62 in) long TORX head screws (5), two fender washers (10) and two hex locknuts (11) from the kit.
4. Install the amplifier and bracket to the frame crossmember between the front down tubes as shown.
  - **For Softail models except FXCW/C (Rocker):** The amplifier bracket installs **behind** the crossbar. Tighten the fasteners to 25.8 N·m (19 ft-lbs).
  - **For FXCW/C (Rocker) models:** The amplifier bracket installs **in front of** the crossbar. Tighten the fasteners to 25.8 N·m (19 ft-lbs).
  - **For Road King models:** Tighten the fasteners to 7.4 N·m (65 in-lbs).

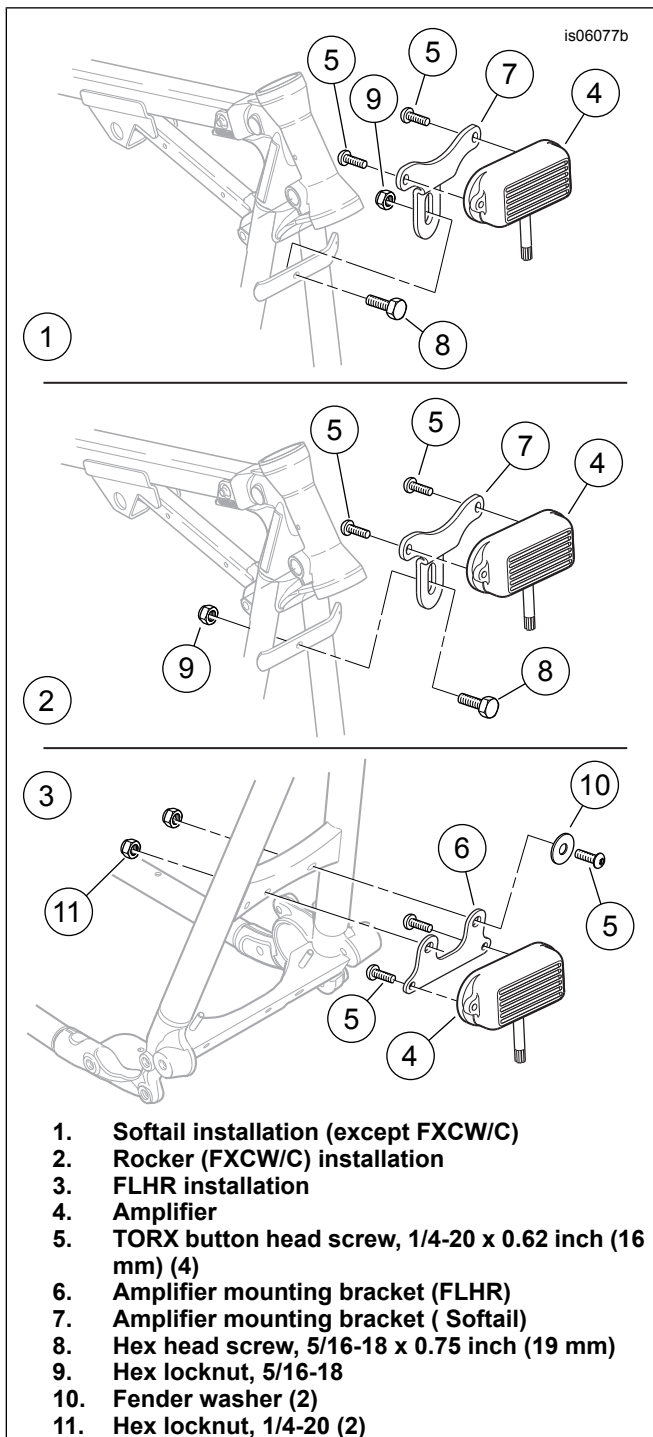


Figure 1. Amplifier and Bracket Installation

## Hand Control and Bracket Installation

1. See Figure 2. Remove the front brake lever clamp screws from the vehicle. Remove and retain the clamp (1). The screws can be discarded.
2. Obtain the hand control bracket (3), two spacers (2), two #10-24 Phillips screws (6) and two 1/4-20 x 44.4 mm (1.75 in) long hex socket head screws (4) from the kit.
3. Route the hand control (5) wire harness through the center of the hand control bracket (3) as shown.

4. Position the spacers into the clamp mounting cutouts, and place the hand control bracket onto the spacers. Install the clamp, spacers and bracket to the brake master cylinder with the two screws. Tighten the screws to 6.8–9.1 N·m (60–80 in-lbs).
5. Install the hand control (5, part of the wire harness assembly) to the bracket with the #10-24 screws (6), and tighten securely.
6. Use cable straps from the electrical hardware pack to secure the wiring to the existing hand control wiring.

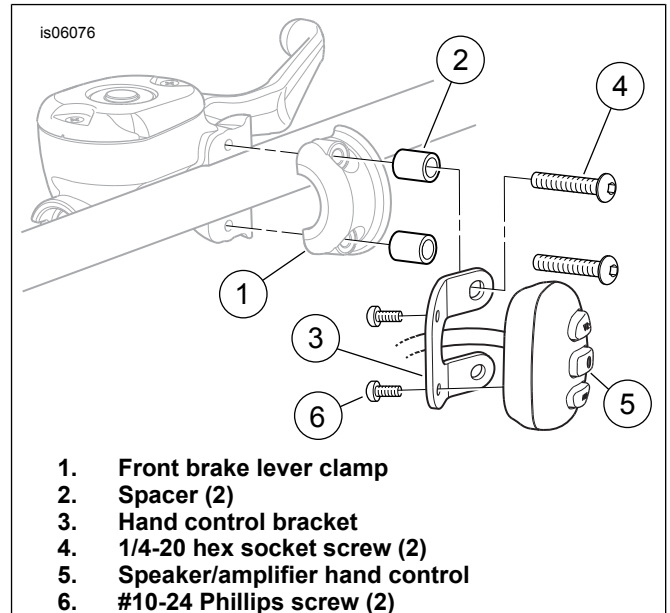


Figure 2. Hand Control and Bracket Installation

## Speaker Installation

1. Get the windshield removed earlier, and place it face up on a clean, padded surface.
2. See Figure 3. Holding the acorn nuts (3) on the rear side, remove the three **innermost** TORX screws (2) retaining the horizontal windshield brace (1). Keep the acorn nuts for installation. The screws can be discarded.
3. See Figure 5. Get the **new** #12-24 x 21 mm (0.81 in) long screw (4), two 25 mm (1 in) long screws (5), three black washers (6) and the assembled speaker pod (1) and mounting bracket (2) from the kit.
4. Place the windshield face down on the clean, padded surface. Position the speaker pod bracket over the top edge of the windshield inner horizontal brace, and align the center hole and end slots with the holes in the brace.
5. Place a black washer on the threads of the short screw. Insert the screw, from the front, through the center hole in the horizontal brace, windshield and speaker pod bracket, and fasten with one of the acorn nuts (A) removed in Step 2.

6. Insert the longer screws, from the front, through the horizontal and vertical braces, windshield and slots in the speaker pod bracket. Place a black washer on the threads of each screw, and fasten with the remaining acorn nuts. Alternately tighten all three screws to 2.8 N·m (25 in-lbs).

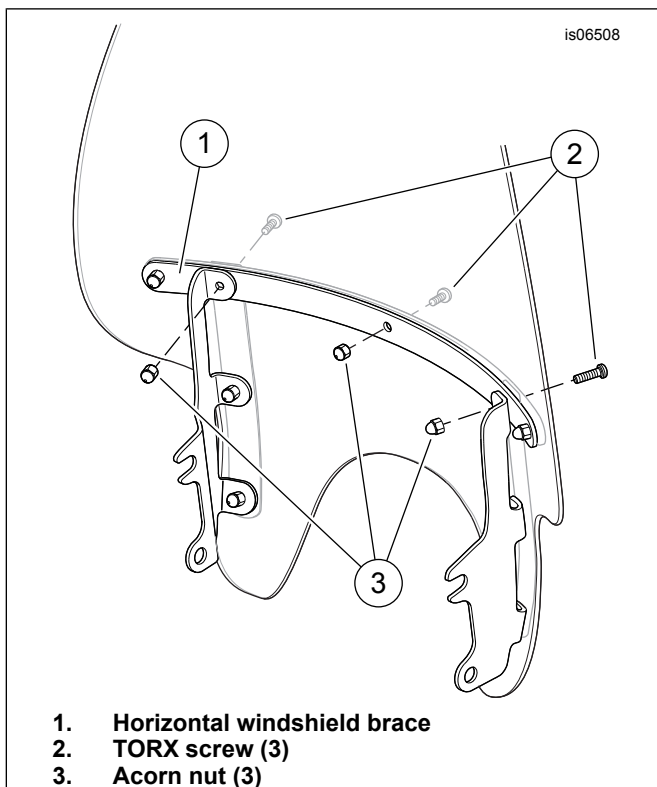


Figure 3. Remove Windshield Upper Fasteners (Typical)

## Wire Harness Connection

### General

Splicing of wire leads is necessary in the installation of the speaker and amplifier kit to the motorcycle. Find the instructions for a specific model in the sections that follow, and refer to the service manual appendix for proper wire splicing procedures.

#### ⚠ WARNING

**Be sure to follow manufacturer's instructions when using the UltraTorch UT-100 or any other radiant heating device. Failure to follow manufacturer's instructions can cause a fire, which could result in death or serious injury. (00335a)**

- Avoid directing heat toward any fuel system component. Extreme heat can cause fuel ignition/explosion resulting in death or serious injury.
- Avoid directing heat toward any electrical system component other than the connectors on which heat shrink work is being performed.
- Always keep hands away from tool tip area and heat shrink attachment.

**For 2011 and later Softail models:** Proceed to the next section.

**For ALL OTHER models:** Proceed to **THAT** section.

## For 2011 and Later Softail Models

### NOTE

*Requires separate purchase of Electrical Connection Kit (H-D Part No. 72673-11).*

1. Install the Electrical Connection Kit:
  - a. Locate the Digital Technician connector [91A] (a gray six-way Deutsch pin connector with a rubber boot) under the seat. Place the Electrical Connection Harness at the Digital Technician connector, but **DO NOT** connect them at this time.
  - b. Route the speaker and amplifier wires over to the Electrical Connection Harness. Cut the speaker and amplifier wires to a suitable length to easily reach the sealed splice connectors on the Electrical Connection Harness.
  - c. Splice the orange/white speaker and amplifier wire to the **red/yellow** wires in the Electrical Connection Harness.
  - d. Splice the black speaker and amplifier wire to the **black** wires in the Electrical Connection Harness.
  - e. Splice the red speaker and amplifier wire to the **red/blue** wires in the Electrical Connection Harness.
  - f. Use a heat gun or suitable radiant-heating device to shrink the connector to the wires.
  - g. Pull the rubber boot out from the gray Digital Technician pin connector [91A].
  - h. Connect the socket housing of the Electrical Connection Harness to connector [91A].
  - i. Insert the rubber boot into the open pin connector of the Electrical Connection Harness.
  - j. Proceed to **WIRE ROUTING**.

## For ALL OTHER Models

1. See Figure 5. Get the electrical hardware pack (21) from the kit. Select the in-line fuse holder (22) and one blue sealed splice connector (27) from the hardware pack.
2. Cut the **orange/white** wire in the main electrical harness near the rear lighting connector [7A]. Splice the two cut orange/white wires to the free end of the **orange/white** wire in the **amplifier/hand control/wire harness assembly** per the instructions in the service manual appendix.
3. Use a heat gun or suitable radiant-heating device to shrink the sealed splice connectors to all three wires.
4. Select the free end of the **red** wire in the wire harness assembly. Get two blue sealed splice connectors (27) and the 12V adapter wire (24) from the hardware pack. Splice the in-line fuse holder to the red wire per the instructions in the service manual. Splice the adapter wire to the opposite end of the in-line fuse holder.
5. See Figure 4. Locate the B+ (battery positive) connector (1) on the main electrical harness under the seat (a red wire with an unused gray connector). Remove the cover (2) from the B+ connector. Mate the **red** power wire connector on the wire harness assembly to the B+ connector.

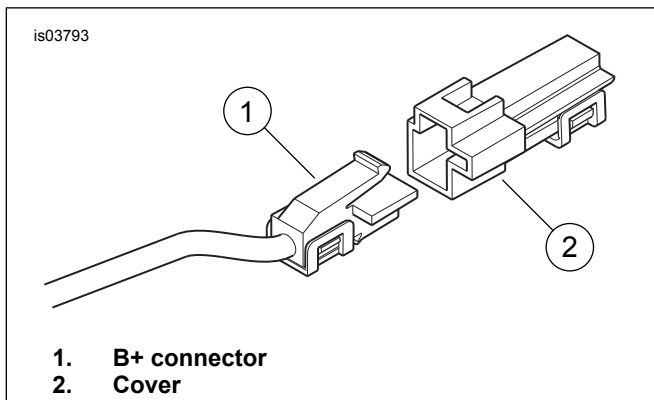


Figure 4. B+ Connector

6. Select the 6.4 mm (1/4 in) ID ring terminal (25) from the electrical hardware pack.
7. Select the free end of the **black** wire in the wire harness assembly. Cut the black wire to easily reach the location of the vehicle ground. Crimp the ring terminal to the black wire per the instructions in the service manual.
8. Attach the black wire ring terminal to the vehicle ground stud.

## Wire Routing

1. Use cable straps from the electrical hardware pack to secure the amplifier wiring to the frame downtube. **For Road King models:** Use the existing P-clamp on the left side of the frame near the steering head to secure the amplifier wiring.

### ⚠ WARNING

**Be sure that steering is smooth and free without interference. Interference with steering could result in loss of vehicle control and death or serious injury. (00371a)**

- Make sure the wires do not restrict steering movement.
  - Route the wires along the frame backbone under the tank and tie to existing wire bundles with cable straps, especially at any change in direction.
2. Coil excess wire under the fuel tank, inside the nacelle or under the handlebar clamp where it will not interfere with steering function. Install the 5A fuse (23) in the in-line fuse holder on the red wire.
  3. Lay the harness along the frame backbone, under the fuel tank and seat, with the four-way connector positioned near the steering head.
  4. See Figure 5. The wire harness from the hand control can be secured to the handlebar with cable straps or secured to the upper triple clamp or nacelle with the adhesive-backed clip (20) from the kit. If using the clip:
    - a. Ambient temperature should be **at least** 16 °C (60 °F) for proper adhesion of the clip to the vehicle.
    - b. Test-fit the clip to the upper triple clamp or nacelle before installation. Do not remove the liner until ready to apply the clip.

5. Clean the clip mounting area with a mixture of 50-70% isopropyl alcohol and 30-50% distilled water. Allow to dry thoroughly. Remove the liner from the adhesive backing of the clip. Carefully position the clip to the upper triple clamp or nacelle, and press firmly into place. Hold the clip in position with steady pressure for a few seconds.

### NOTE

*Allow AT LEAST 24 hours after applying the clip before exposing the area to vigorous washing, strong water spray or extreme weather.*

*The adhesive bond will increase to maximum strength after about 72 hours at normal room temperature.*

6. Secure the hand control wire harness to the clip.

## Return to Service

1. **For Road King models only:** Assemble the left and right nacelle halves per the instructions in the service manual. Assemble the handlebar cover to the vehicle. **For 2011 and later Softail models only:** Install the split conduit (29) over the brake line where it passes closest to the amplifier.
2. **ALL models:** Install the fuel tank to the vehicle per the instructions in the service manual.
3. Install the windshield to the vehicle per the instructions in the service manual or accessory kit. Be sure to protect the windshield from scratches during installation.
4. Mate the four-way connector from the speaker pod to the four-way connector on the wire harness assembly.
5. Connect the 3.5mm plug at the end of the speaker pod wire harness to the 3.5mm stereo jack from the hand control.

### ⚠ WARNING

**Be sure that steering is smooth and free without interference. Interference with steering could result in loss of vehicle control and death or serious injury. (00371a)**

6. Check to be sure the speaker pod will not interfere with steering function, controls operation or visibility of instruments.

### NOTE

*Verify that the ignition key switch is in the OFF position **before** installing the main fuse or attaching the battery cable.*

7. **Models with main fuse:** Refer to the service manual and follow the instructions to install the main fuse. **Models with main circuit breaker:** Refer to the service manual and follow the instructions to attach the negative battery cable. Apply a light coat of Harley-Davidson electrical contact lubricant (Part No. 99861-02), petroleum jelly or corrosion retardant material to the negative battery terminal.

**▲ WARNING**

After installing seat, pull upward on seat to be sure it is locked in position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070b)

8. **ALL models:** Refer to the service manual, and follow instructions to install the seat.
9. Turn the ignition key switch to IGNITION, but do not start the motorcycle.
10. Connect one end of the audio input cable (19) from the kit to the 3.5mm stereo jack on the front of the speaker pod.

11. Connect the free end of the audio input cable to the headphone jack (or line out) of the audio device (MP3 player or similar device, purchased separately).
  - a. Turn the device on. Set the device volume output at 75-80 percent of maximum.
  - b. Turn the amp on using the hand control on/off push button switch. The switch will illuminate when power is on.
  - c. Use the handlebar control to adjust the volume level. VOL+ increases the volume. VOL- decreases the volume.
  - d. The amp and speakers can be operated with the ignition switch in either the "ACC" or "IGNITION" position.

**NOTE**

DO NOT secure an MP3 player or similar device with a hard drive memory on or to the vehicle.

**SERVICE PARTS**

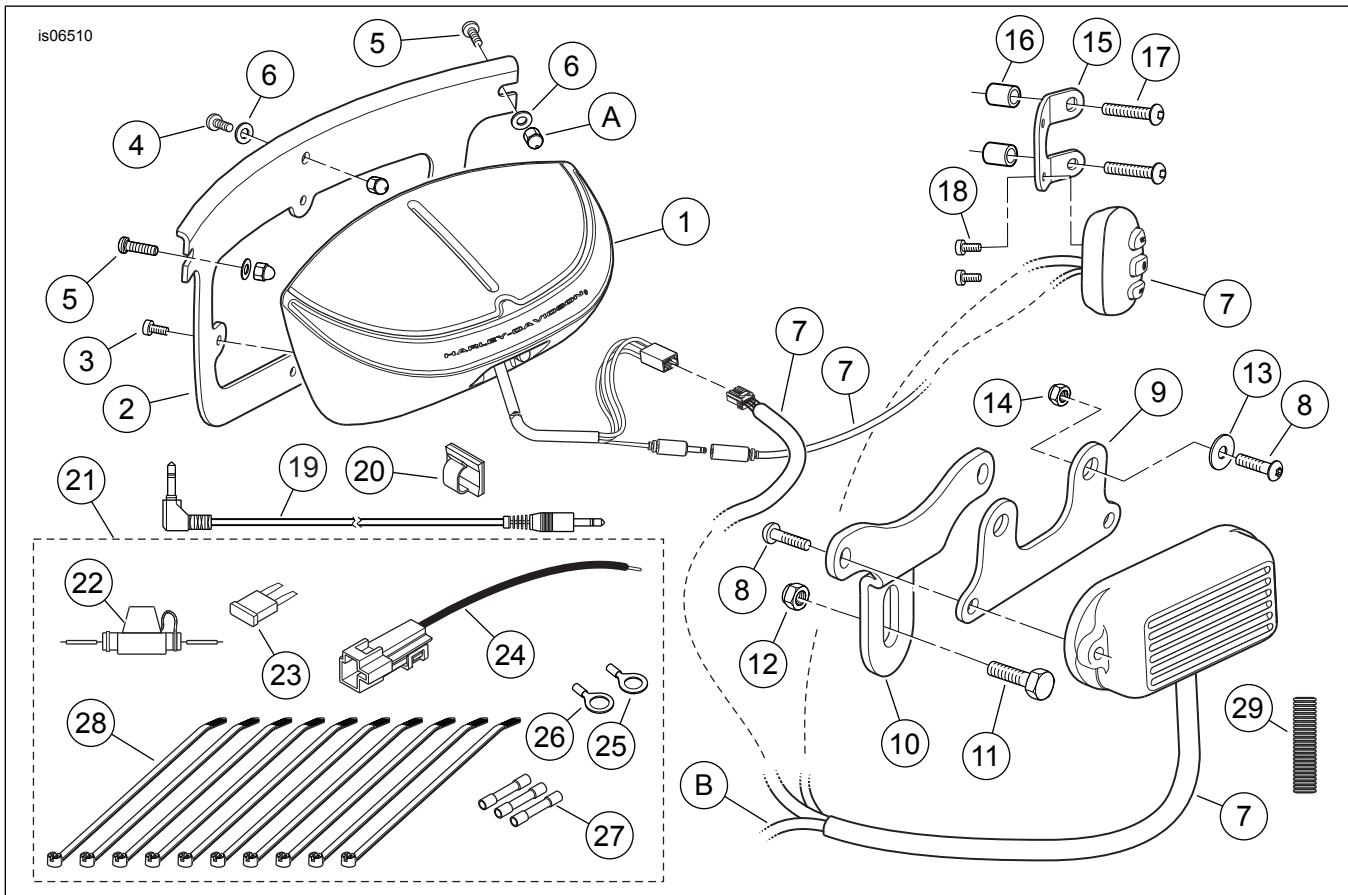


Figure 5. Service Parts, Windshield-Mounted Speaker and Amplifier Kit

**SERVICE PARTS**

Table 1. Service Parts

Item	Description (Quantity)	Part Number
1	Speaker pod assembly	Not sold separately
2	Speaker bracket, windshield mount	Not sold separately
3	Screw, M5 (4)	Not sold separately
4	Screw, pan head, TORX, #12-24 x 21 mm (0.81 in)	2452

Table 1. Service Parts

Item	Description (Quantity)	Part Number
5	Screw, pan head, TORX, #12-24 x 25 mm (1 in) (2)	Not sold separately
6	Flat washer, black (3)	Not sold separately
7	Amplifier/hand control/wire harness assembly	Not sold separately
8	Screw, button head, TORX, 1/4-20 x 16 mm (0.62 in) long (4)	924
9	Bracket, amplifier mounting (Road King models)	Not sold separately
10	Bracket, amplifier mounting ( Softail models)	Not sold separately
11	Cap screw, hex head, 5/16-18 x 19 mm (0.75 in) long	3987
12	Hex locknut, 5/16-18 Nylock	7739
13	Fender washer, M6 (2)	Not sold separately
14	Hex locknut, 1/4-20 Nylock (2)	7686
15	Bracket, hand control	Not sold separately
16	Spacer, hand control mounting (2)	Not sold separately
17	Cap screw, button head, 1/4-20 x 44.4 mm (1.75 in) long (2)	3129
18	Cap screw, #10-24 x 13 mm (0.5 in) long (2)	Not sold separately
19	Audio input cable	92383-09
20	Clip, adhesive back	Not sold separately
21	Electrical hardware pack (includes items 22 through 28)	Not sold separately
22	• In-line fuse holder	70306-02
23	• Fuse, blade type, 5A (light tan)	72331-95
24	• Adapter wire, 12 V positive	76204-03
25	• Ring terminal, #18-22 AWG (6.4 mm (1/4 in) stud)	9858
26	• Ring terminal, #18-22 AWG (7.9 mm (5/16 in) stud)	9859
27	• Sealed splice connector, #14-16 AWG (blue) (3)	70586-93
28	• Cable strap (10)	10006
29	Conduit, split loom, convoluted 6.4 x 127 mm ( x in) long	62519-03
<b>Items mentioned in text, but not included in kit:</b>		
A	Original equipment acorn nut (3)	
B	To power and ground	