

SERVICE BULLETIN



M-1203

March 9, 2007

2007 SPORTSTER WIRING HARNESS RUNNING CHANGE

Purpose

The purpose of this service bulletin is to detail a running change that has been made to the wiring harness on all 2007

Sportster models. Figure 1, Figure 2 and Figure 3 show the major changes to the wiring harness.

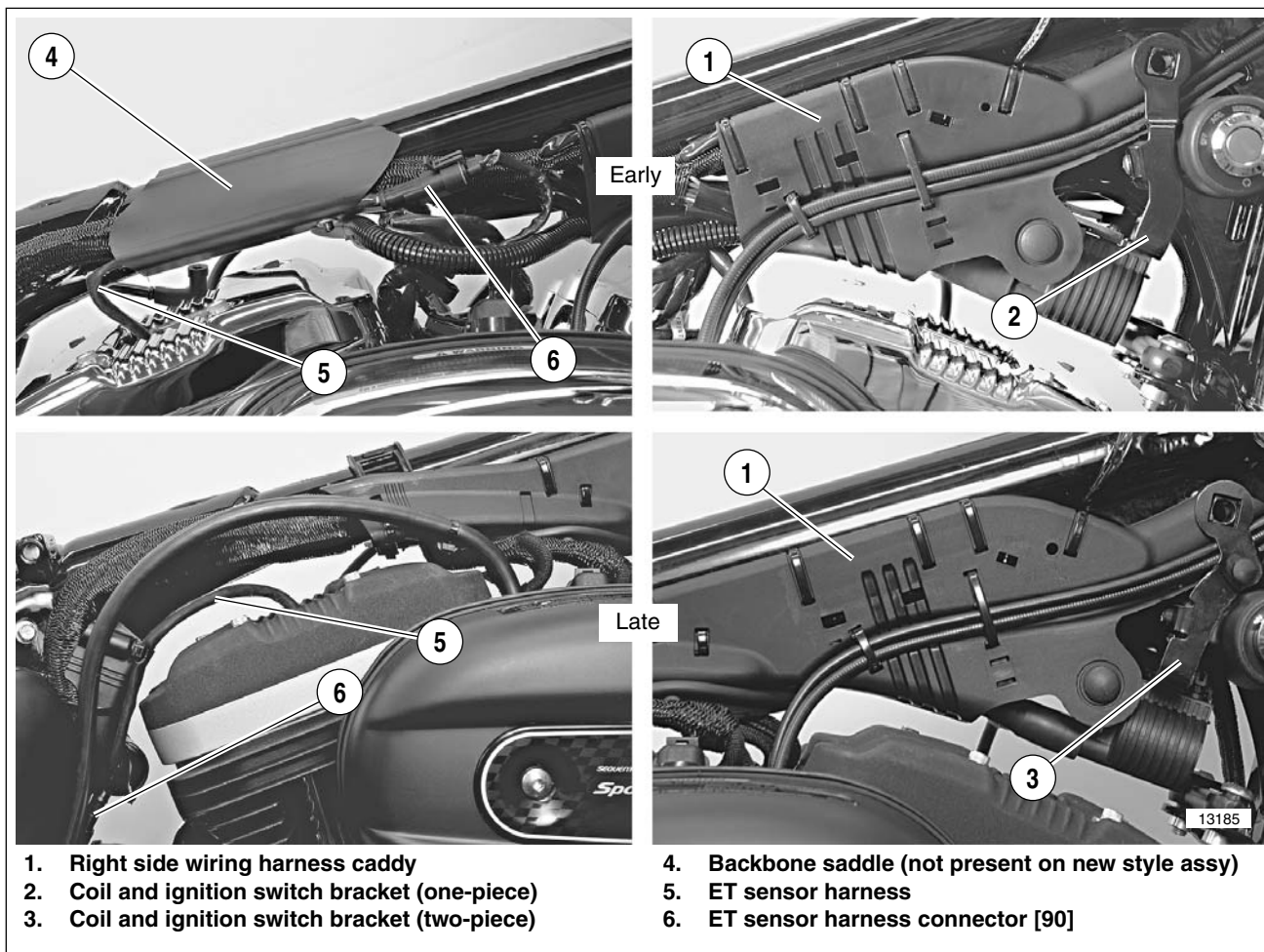


Figure 1. Main Wiring Harness Caddy Assembly: Early Style (top) and Late Style (bottom)

IMPORTANT NOTE

In the interest of preserving customer safety and satisfaction, always check for outstanding recalls whenever any motorcycle is brought into your dealership for either maintenance or service.

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO
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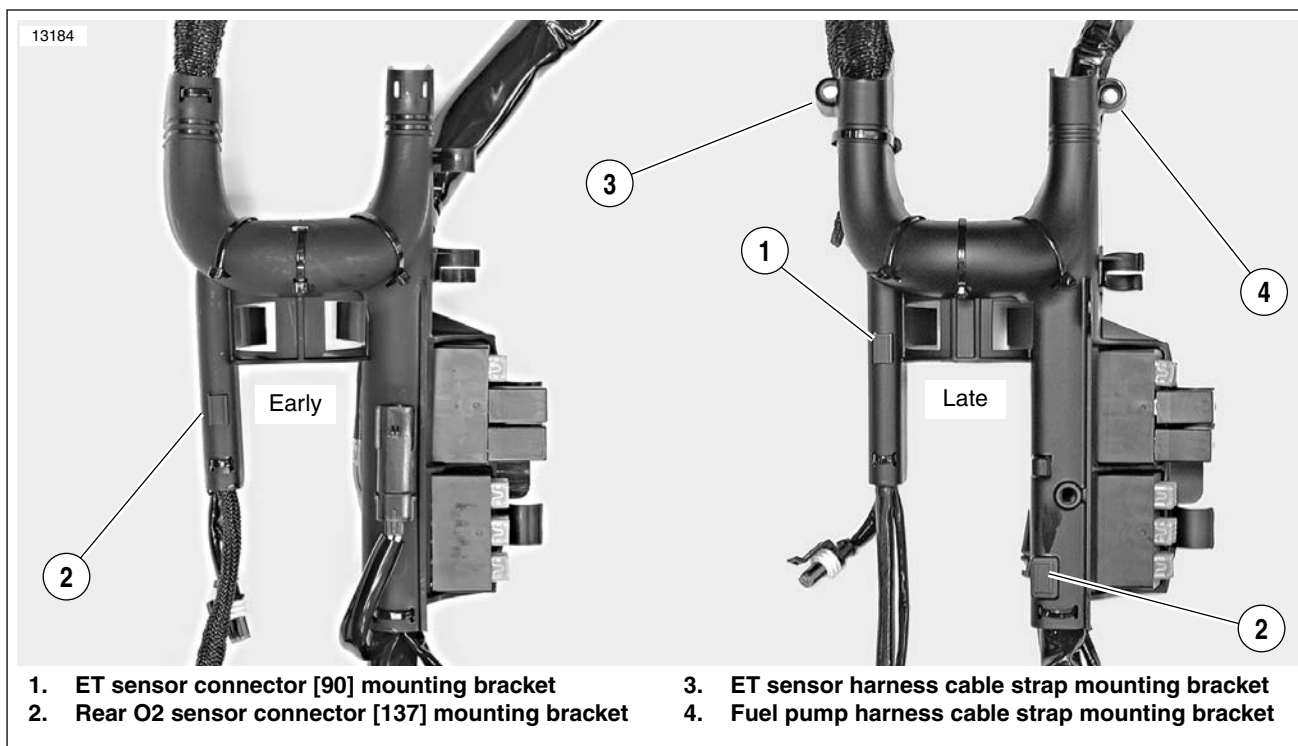


Figure 2. H-Bracket Assembly: Early Style (left) and Late Style (right)

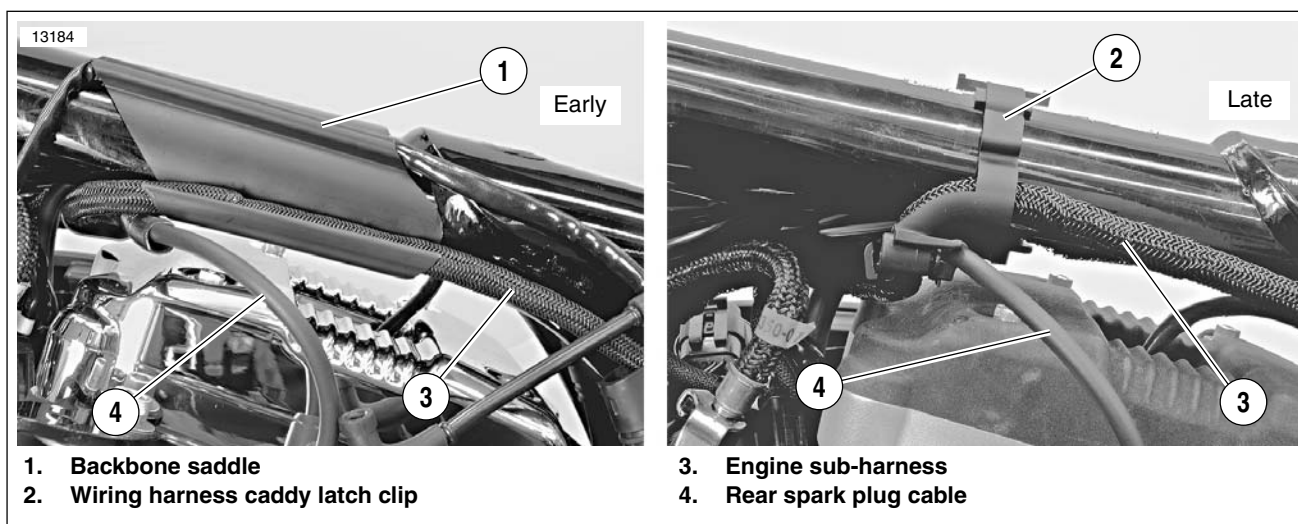


Figure 3. Frame Backbone Caddy Assemblies: Early Style (left) and Late Style (right)

Motorcycles Affected

All 2007 Sportster models produced on or after 1/31/2007.

Required Dealer Action

Replace the following sections in the 2007 SPORTSTER MODELS SERVICE MANUAL (Part No. 99484-07A) with pages 3 through 17 of this bulletin:

- a. 7.8 SPARK PLUG CABLES,
- b. 7.9 IGNITION COIL,
- c. 7.37 MAIN WIRING HARNESS,
- d. 7.38 ELECTRICAL CADDIES.

Other changes and updates are listed on pages 18-20 of this document.

GENERAL

Resistor-type high-tension spark plug cables have a carbon-impregnated fabric core (instead of solid wire) for radio noise suppression and improved reliability of electronic components. Use the exact replacement cable for best results.

REMOVAL

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)

1. Purge the fuel supply hose of high pressure gasoline. Disconnect fuel supply hose from fuel pump module. See PURGING AND DISCONNECTING FUEL SUPPLY HOSE under 4.5 FUEL TANK.

WARNING

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

2. Unplug Maxi-Fuse. See 7.26 MAXI-FUSE.
3. Remove seat. See 2.33 SEAT.
4. Remove fuel tank. See 4.5 FUEL TANK.
5. See Figure 7-8. Remove screw (1) securing left wire harness caddy (2) to right wire harness caddy. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES. Carefully disengage left wire harness caddy and pull away from frame backbone.

NOTE

When disconnecting each spark plug cable from its spark plug terminal, always grasp and pull on the rubber boot at the end of the cable assembly (as close as possible to the spark plug terminal). Do not pull on the cable portion itself. Pulling on the cable will damage the cable's carbon core.

6. See Figure 7-9. Pull front spark plug boot (2) and cable from left side ignition coil (1) tower.

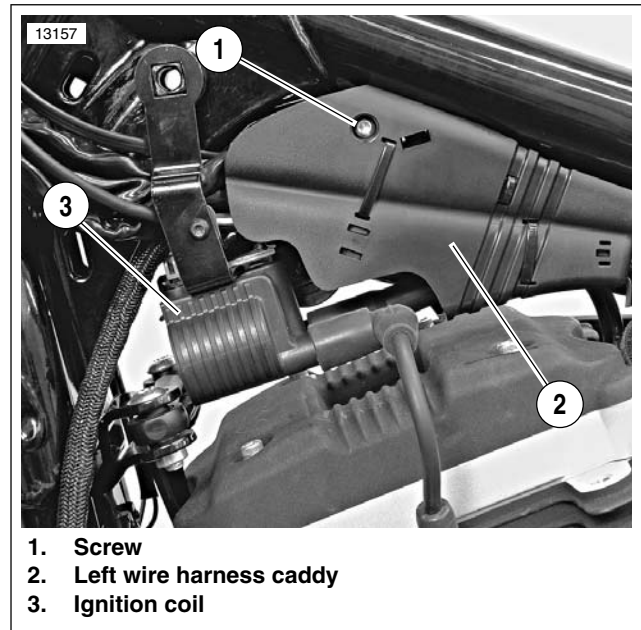


Figure 7-8. Ignition Coil and Left Wire Harness Caddy

7. Pull rear spark plug boot (3) and cable from right side ignition coil tower.
8. Unplug spark plug boot and cable assemblies from front and rear spark plugs.
9. Disengage rear spark plug cable from notch in right wire harness caddy (5) and remove cable from vehicle.

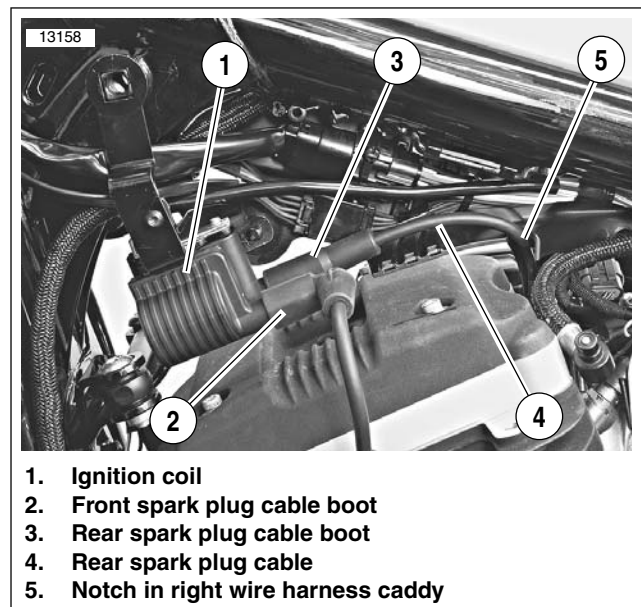


Figure 7-9. Spark Plug Cable Routing

10. See Figure 7-10. Remove rear spark plug cable (2) from curved trough on wire harness caddy (1). Cut cable strap (4). Feed spark plug cable out from between frame and engine and remove cable from vehicle. Remove cable strap from mounting boss on caddy latch clip (5). Discard cable strap.

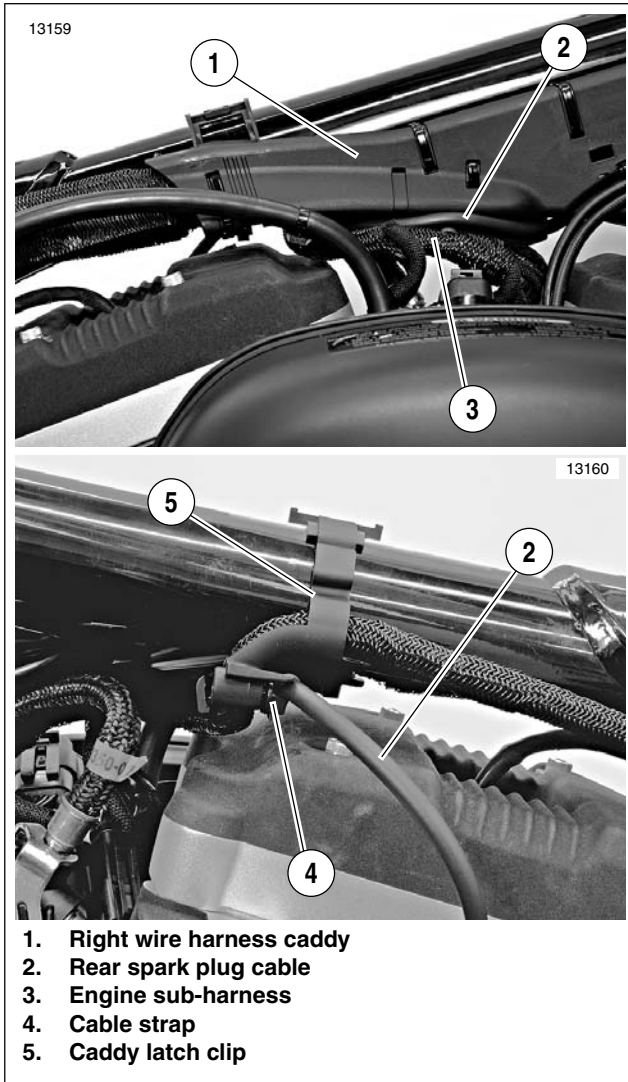


Figure 7-10. Rear Spark Plug Cable Routing

INSPECTION

1. Check cables for cracks or loose terminals.
2. Use ohmmeter to measure resistance of spark plug cables. Resistance must be 1,750-4,836 ohms for front cable and 4,400-12,000 ohms for rear cable.
3. Replace cables that are worn/damaged or that do not meet resistance specifications.
4. Check cable boots for cracks or tears; also check for loose fit on ignition coil and spark plugs. Replace boots if you find any of the detrimental conditions mentioned above.

INSTALLATION

1. See Figure 7-9. Plug rear spark plug cable boot (3) into right side ignition coil (1) tower. Route cable between wire harness caddies, and down through notch (5) in right caddy, toward right side of engine.
2. See Figure 7-10. Route rear spark plug cable (2) in trough in right wire harness caddy (1), over top of engine sub-harness (3) and back toward left side of engine.
3. See Figure 7-11. Install **new** barbed cable strap (3) onto spark plug cable (1), 7.0-7.25 in (178-184 mm) from tip of spark plug cable boot (2), orienting cable strap so that spark plug cable is above mounting boss on caddy latch clip when barbed prong on cable strap is inserted in hole in boss. Press cable strap barbed prong firmly into hole in caddy latch clip mounting boss.
4. Plug rear spark plug cable and boot onto rear spark plug until it clicks.
5. See Figure 7-9. Plug front spark plug cable and boot (2) into left side ignition coil (1) tower. Plug other end of cable onto front spark plug until it clicks.

NOTE

Make sure rear spark plug cable is routed properly and cannot chafe against frame, fuel tank or rear cylinder head.

6. See Figure 7-8. Mate left wire harness caddy (2) to right wire harness caddy. Secure with screw (1) and tighten. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES.
7. Install fuel tank. See 4.5 FUEL TANK.
8. Install seat. See 2.33 SEAT.

WARNING

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

9. Plug in Maxi-Fuse. See 7.26 MAXI-FUSE.
10. Start vehicle to verify proper ignition function.

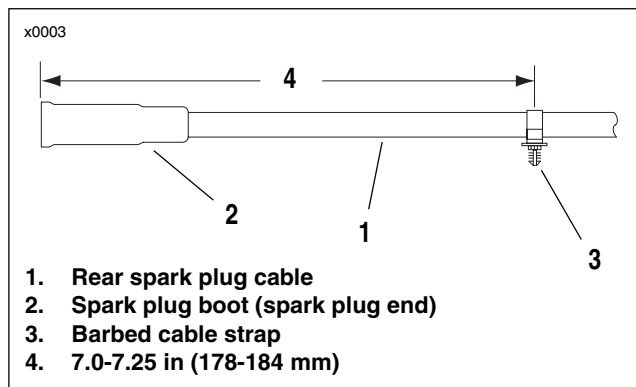


Figure 7-11. Rear Spark Plug Cable and Cable Strap

GENERAL

The ignition coil is attached to a mounting bracket secured by the front fuel tank mounting bolt. The unit is divided into separate front and rear coils that fire the spark plugs one cylinder at a time.

The ignition coil is mounted on the left half of a two-piece bracket assembly. The right half of the bracket assembly secures the ignition switch and right wire harness caddy to the vehicle. The two bracket halves are secured together with a screw.

NOTE

The ignition coil cannot be repaired. Replace the unit if it fails.

TROUBLESHOOTING

See the SPORTSTER MODELS ELECTRICAL DIAGNOSTIC MANUAL for complete troubleshooting information.

REMOVAL

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)

1. Purge the fuel supply hose of high pressure gasoline. Disconnect fuel supply hose from fuel pump module on bottom left side of fuel tank. See PURGING AND DISCONNECTING FUEL SUPPLY HOSE under 4.5 FUEL TANK.

WARNING

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

2. Unplug Maxi-Fuse. See 7.26 MAXI-FUSE.

3. Remove seat. See 2.33 SEAT.
4. Remove fuel tank. See 4.5 FUEL TANK.
5. See Figure 7-12. Remove screw (1) securing left wire harness caddy (2) to right wire harness caddy. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES. Carefully disengage left wire harness caddy and pull away from frame backbone.

NOTE

When disconnecting each spark plug cable from its spark plug terminal, always grasp and pull on the rubber boot at the end of the cable assembly (as close as possible to the spark plug terminal). Do not pull on the cable portion itself. Pulling on the cable will damage the cable's carbon core.

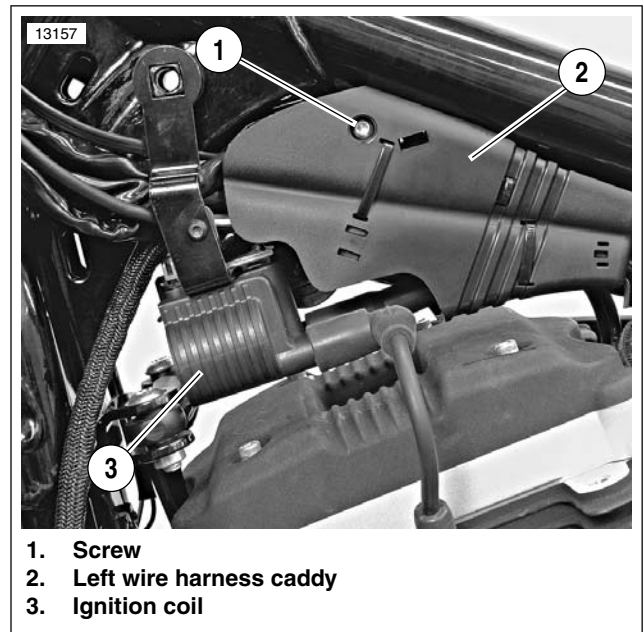


Figure 7-12. Ignition Coil

6. See Figure 7-13. Unplug coil harness connector [83B] (2) from ignition coil (1).
7. Pull front spark plug boot and cable (3) from left ignition coil tower.
8. Pull rear spark plug boot and cable (4) from right ignition coil tower.
9. Remove screw (5) securing coil bracket (6). Remove coil and bracket from vehicle.
10. See Figure 7-14. Remove two screws (4) from nut plate (3). Separate ignition coil (1) from mounting bracket (2).

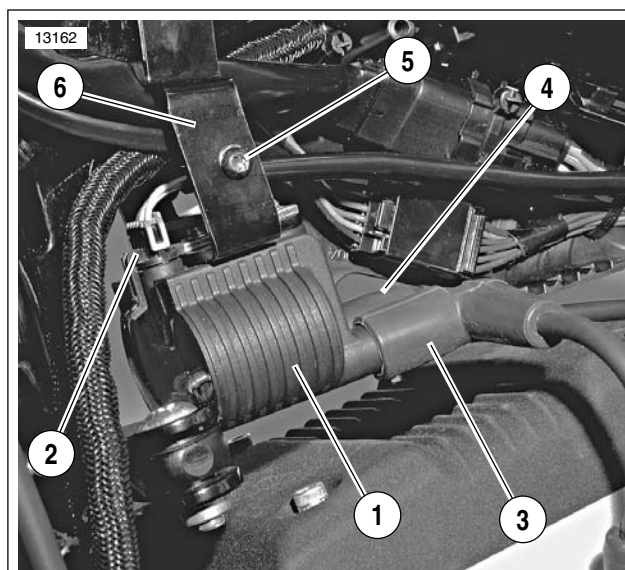
INSTALLATION

1. See Figure 7-14. Position **new** ignition coil (1) on underside of mounting bracket (2). Fasten coil to mounting bracket with two screws (4) and nut plate (3). Tighten screws to 24-72 **in-lbs** (2.7-8.1 Nm).
2. See Figure 7-13. Slide coil (1) with mounting bracket (6) into position. Make sure all wiring harnesses from front end of vehicle are positioned between coil bracket upright and vehicle frame. Secure bracket with screw (5) and tighten to 35-45 **in-lbs** (4.0-5.1 Nm).
3. Plug harness connector [83B] (2) into coil.
4. Plug spark plug cables into ignition coil towers; front spark plug cable (3) to left side of coil, rear spark plug cable (4) to right side of coil.
5. See Figure 7-12. Mate left wire harness caddy (2) to right wire harness caddy. Secure with screw (1) and tighten. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES.
6. Install fuel tank. See 4.5 FUEL TANK.
7. Install seat. See 2.33 SEAT.

WARNING

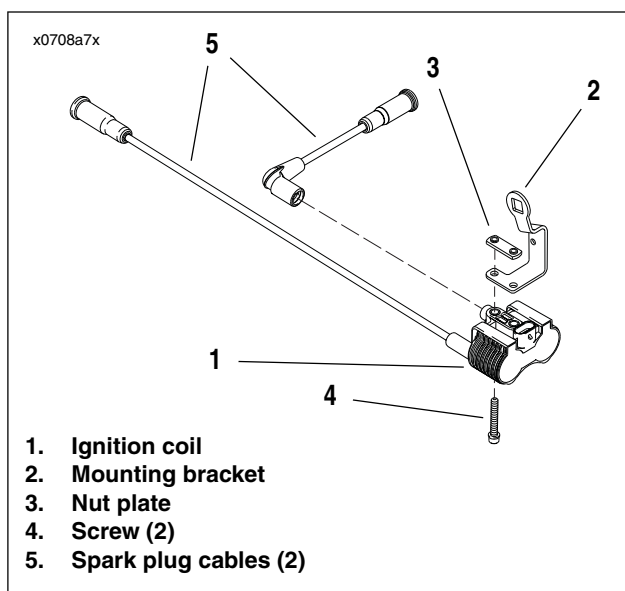
After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

8. Plug in Maxi-Fuse. See 7.26 MAXI-FUSE.
9. Start vehicle to verify proper ignition function.



1. Ignition coil
2. Coil harness connector [83B]
3. Front spark plug boot and cable
4. Rear spark plug boot and cable
5. Screw
6. Mounting bracket

Figure 7-13. Ignition Coil Mounting and Connections



1. Ignition coil
2. Mounting bracket
3. Nut plate
4. Screw (2)
5. Spark plug cables (2)

Figure 7-14. Ignition Coil Mounting

GENERAL

The main wiring harness supplies power to all electrical systems on the vehicle. It is an electrical conduit, passing signals from sensors and switches, as well transferring data between the ECM, TSM/TSSM/HFSM and speedometer.

Various wiring sub-harnesses, such as the engine sub-harness, handlebar control harnesses, instruments harness and rear lighting harness, are connected to the main wiring harness. These sub-harnesses are discussed elsewhere in this manual.

See appendix B of this manual for wiring schematics. See the SPORTSTER MODELS ELECTRICAL DIAGNOSTIC MANUAL for testing and troubleshooting information.

REMOVAL

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)

1. Purge the fuel supply hose of high pressure gasoline. Disconnect fuel supply hose from fuel pump module. See PURGING AND DISCONNECTING FUEL SUPPLY HOSE under 4.5 FUEL TANK.
2. Remove seat. See 2.33 SEAT.
3. Remove left side cover. See 1.6 LEFT SIDE COVER.

WARNING

Prevent accidental vehicle start-up, which could cause death or serious injury. First disconnect negative (-) battery cable at engine and then positive (+) cable from battery. (00280a)

4. Disconnect battery cables, negative cable first, and remove battery. See BATTERY DISCONNECTION AND REMOVAL under 1.7 BATTERY MAINTENANCE.
5. Remove fuel tank. See 4.5 FUEL TANK.
6. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES and separate wire harness caddies:
 - a. See Figure 7-105. Remove screw (1) securing left wire harness caddy (2) to right wire harness caddy. Carefully disengage left wire harness caddy and pull away from frame backbone.
 - b. Remove screw (3) securing coil bracket (4) to ignition switch bracket.
 - c. Unplug spark plug cable boots from ignition coil towers. Remove ignition coil and coil bracket. See 7.9 IGNITION COIL.

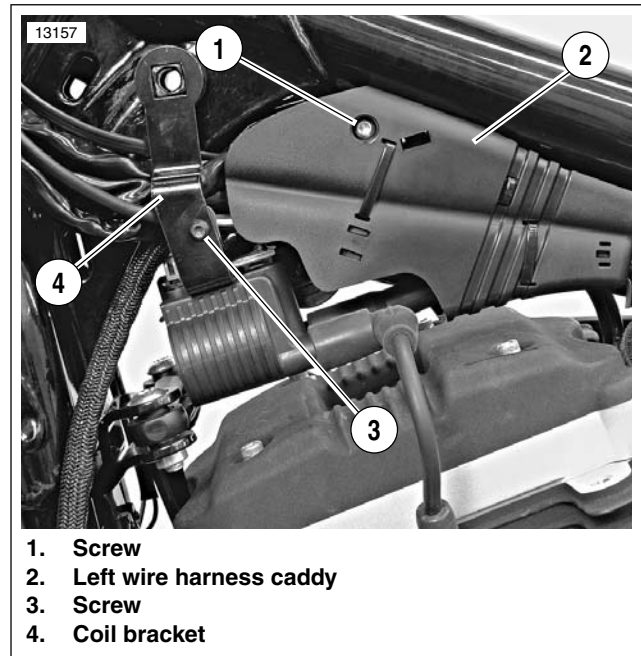


Figure 7-105. Left Wire Harness Caddy

NOTE

It is not necessary to remove rear spark plug cable and cable strap from wire harness caddy latch clip, unless latch clip or spark plug cable is being replaced.

7. See Figure 7-106. Unhook wire harness caddy latch clip (4) from rear of wire harness caddy. If necessary, cut cable strap (3) securing rear spark plug cable (1) to caddy latch clip.

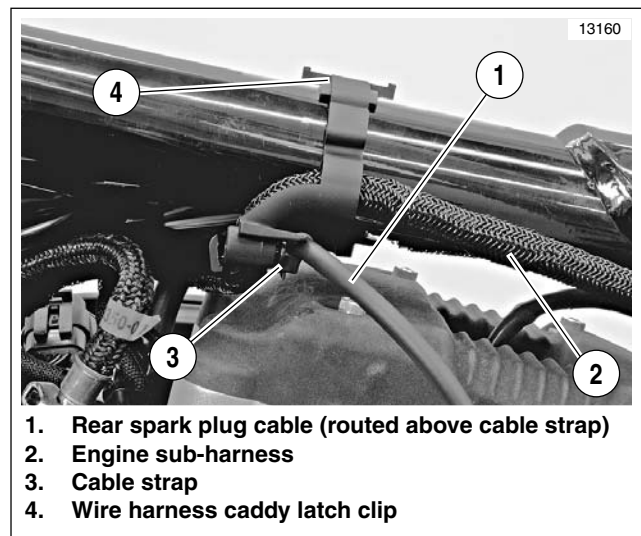


Figure 7-106. Wire Harness Caddy Latch Clip

8. See Figure 7-107. Cut cable strap (4) securing ET sensor harness to H-bracket (2).
9. Cut and remove barbed prong on cable strap (5) securing engine sub-harness to right wire harness caddy.
10. **California models:** Cut clip (3) securing purge hose to right wire harness caddy.

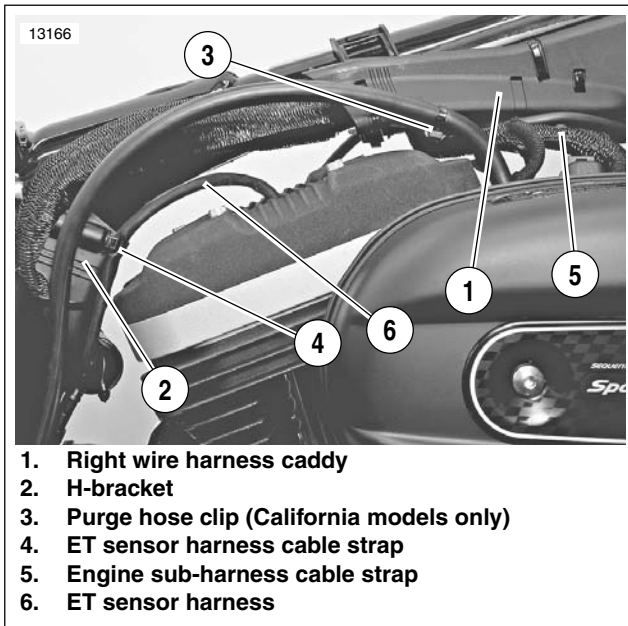


Figure 7-107. Remove/Install Cable Straps

11. See Figure 7-108. Cut two cable straps (4) securing throttle cables (5) to right wire harness caddy (1).
12. Remove push-in fasteners (2, 3) securing right wire harness caddy to ignition switch bracket (6) on right side. Discard push-in fasteners.
13. Lower ignition switch bracket from mounting boss on frame to free right wire harness caddy. Unhook right wire harness caddy from frame backbone bracket.
14. Remove screw (7) securing ignition switch to mounting bracket and remove bracket. See 7.6 IGNITION/LIGHT SWITCH.
15. Unplug the following connectors located in the wire harness caddies:
 - a. Headlamp connector [38B].
 - b. Left hand control connector (gray) [24A].
 - c. Right hand control connector (black) [22A].
 - d. Front turn signal connector [31B].
 - e. Instruments connector [20A].

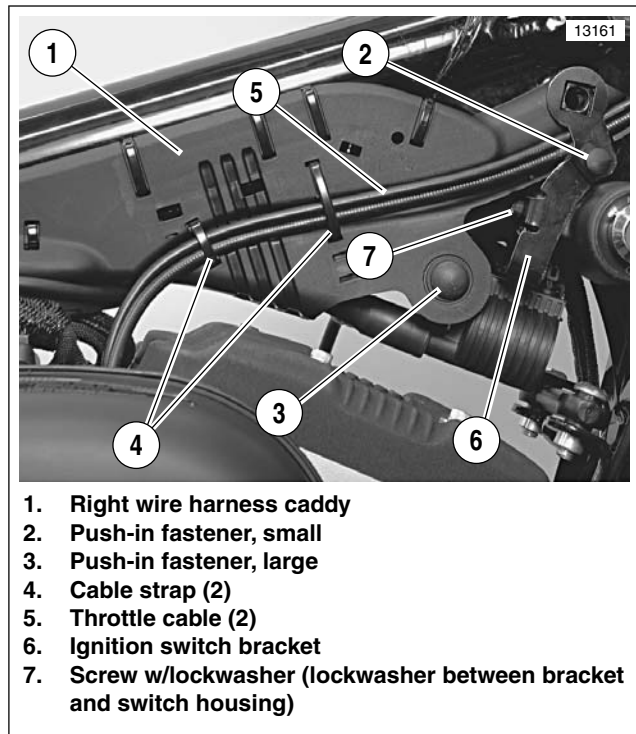


Figure 7-108. Right Wire Harness Caddy

16. Slide left wire harness caddy between frame and front cylinder head toward right side of vehicle. Pull both wire harness caddies out of the way.
17. Unplug the following connectors from the main harness:
 - a. Oil pressure switch [120B],
 - b. Voltage regulator DC output [77B],
 - c. Crank Position (CKP) sensor [79B],
 - d. Front oxygen (O₂) sensor [138B],
 - e. Rear oxygen (O₂) sensor [137B],
 - f. Neutral switch jumper [136B],
 - g. Engine temperature (ET) sensor [90B],
 - h. Horn [122B],
 - i. ECM [78B],
 - j. Harness ground wire at engine crankcase [GND1],
 - k. Rear stop lamp switch [121B],
 - l. Vehicle speed sensor (VSS) [65B],
 - m. Green starter motor wire [128B].
 - n. **Vehicles with optional security siren:** Unplug security siren connector [142B].
18. **Vehicles with front mounted horn:** Remove horn wire harness from clip attached to right front frame downtube.
19. Locate engine sub-harness connector [145A] and rear lighting sub-harness connector [7A] on top of oil tank. Unplug both sub-harnesses from main harness.
20. Pull P&A battery harness/connector [160B] and fuel sender resistor assembly/connector [200] out from recess in top left rear corner of oil tank, under frame.

21. Remove TSM/TSSM/HFSM. See REMOVAL under 7.32 TURN SIGNAL/SECURITY MODULE (TSM/TSSM/HFSM):
 - a. Reach under battery tray and push TSM/TSSM/HFSM up from cavity in bottom of tray.
 - b. Unplug harness connector [30B].
 - c. **H-DSSS equipped vehicles:** unplug antenna connector [208B].
22. Remove two frame clips on front left frame downtube to release wiring harness.
23. Remove vapor valve from clip on H-bracket. See VAPOR VALVE under 4.14 EVAPORATIVE EMISSIONS CONTROL-CAL MODELS.
24. Remove battery tray. See REMOVAL under 7.4 BATTERY TRAY.
25. Pull H-bracket away from rear frame downtube.
26. Remove main wiring harness from left side of vehicle, carefully sliding wire harness caddies between rear cylinder and frame as harness is removed.

INSTALLATION

See Figure 7-109. The main wiring harness can be divided up into four “bundles”, originating at the H-bracket (1). These bundles are:

Lower left bundle (2) including:

- a. Rear brake switch wires [121B],
- b. Crankcase ground [GND1],
- c. Fuel pump connector [141A],
- d. Siren connector [142B],

- e. TSM/TSSM/HFSM connector [30B],
- f. Maxi-Fuse holder [5],
- g. Data link connector [91A],
- h. Rear oxygen (O₂) sensor connector [137B].

Lower right bundle (3) including:

- a. Vehicle speed sensor (VSS) connector [65B],
- b. Green starter motor wire [128B],
- c. Engine temperature (ET) sensor connector [90B].

Upper left bundle (4) including:

- a. ECM connector [78B],
- b. Engine sub-harness connector [145A],
- c. P&A battery connector [160B],
- d. Rear lighting sub-harness connector [7A],
- e. Fuel sender resistor assembly/connector [200].

Upper right bundle (5) including:

- a. Hand control connectors [22B], [24B],
- b. Headlamp connector [38A],
- c. Front turn signal connector [31A],
- d. Instruments connector [20B],
- e. Horn wires [122B],
- f. Ignition switch [33],
- g. Coil connector [83B],
- h. Neutral switch jumper connector [136B],
- i. Oil pressure switch connector [120B],
- j. Crank position (CKP) sensor connector [79B],
- k. Front oxygen (O₂) sensor connector [138B],
- l. Voltage regulator DC output connector [77B].

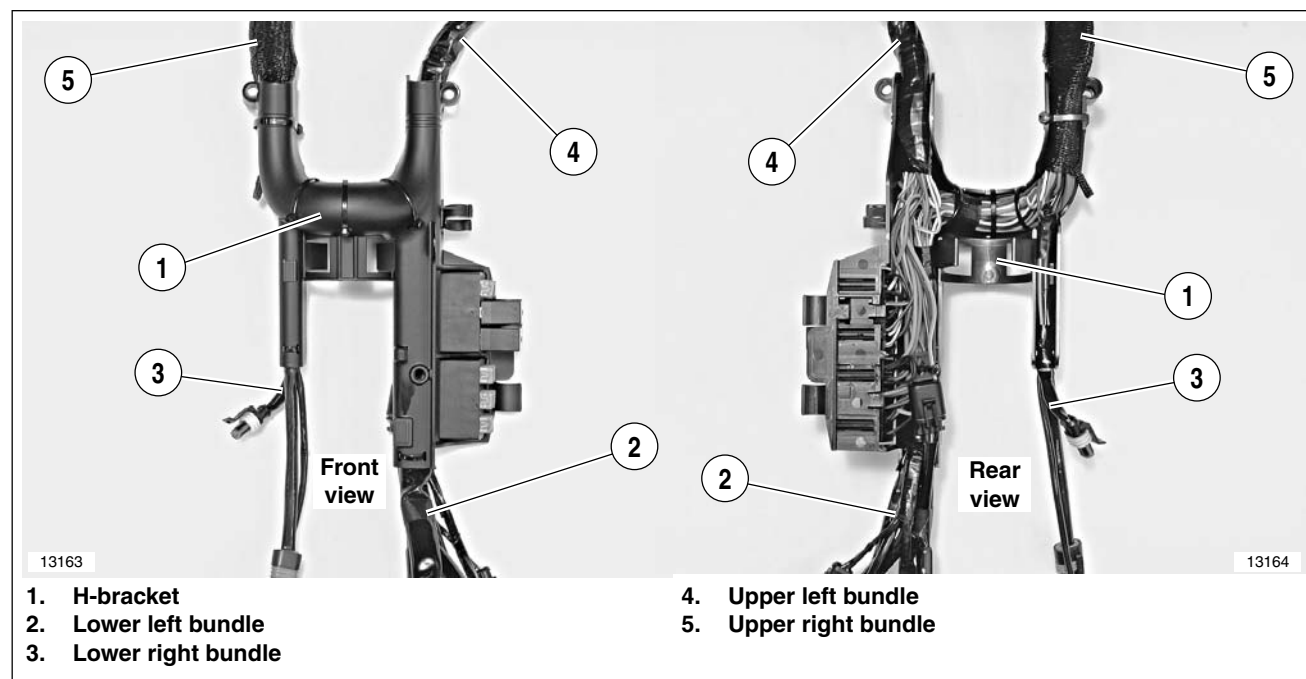


Figure 7-109. Main Wiring Harness H-Bracket

1. See Figure 7-109. Loosely position **new** main wiring harness on vehicle. From left side of vehicle, slide H-bracket (1) into position on rear frame downtube, guiding each wire bundle toward its respective area on the vehicle. Make sure lower right bundle (3) and upper right bundle (5) with wire harness caddies feed out toward right side of vehicle. Press H-bracket onto rear frame downtube until it snaps in place.
2. Feed upper left bundle (4) up over top of oil tank. Make sure engine sub-harness also feeds up into that area.
3. Feed upper right bundle forward along frame backbone toward front of vehicle.
4. Feed TSM/TSSM/HFSM harness connector into position under battery tray location.

NOTE

The TSM/TSSM/HFSM harness connector MUST be in position before the battery tray is installed. Make sure the harness feeds over the top of the oil tank return hose.

5. Install battery tray. See INSTALLATION under 7.4 BATTERY TRAY. Make sure battery tray interlocks with H-bracket on left side. Make sure to reattach rear brake hose fasteners and rear brake master cylinder reservoir.
6. Plug connector [30B] into TSM/TSSM/HFSM. **H-DSSS equipped vehicles:** plug in antenna connector [208B].
7. Lower TSM/TSSM/HFSM into place in bottom of battery tray.
8. Snap vapor valve into clip on left side of H-bracket. See VAPOR VALVE under 4.14 EVAPORATIVE EMISSIONS CONTROL-CA MODELS.
9. Slide P&A battery harness and connector [160B] and fuel sender resistor assembly/connector [200] into recess in top left rear corner of oil tank, under frame.
10. Plug rear lighting connector [7B] into main harness connector [7A].
11. Plug engine sub-harness connector [145B] into main harness connector [145A].
12. Slide left wire harness caddy between front cylinder head and frame, from right side of vehicle toward left side.

13. Make sure harness (part of upper right bundle) containing neutral switch connector [136B], CKP sensor connector [79B], oil pressure switch connector [120B], front O₂ sensor connector [138B] and voltage regulator DC output connector [77B] runs down front left frame downtube.
14. **Vehicles with front mounted horn:** Install horn wire harness in clip attached to rear of right front frame downtube.
15. See Figure 7-108. Mount ignition switch to ignition switch bracket (6). Secure with screw with lockwasher (7). Position lockwasher between ignition switch bracket and switch housing. Tighten screw to 35-45 **in-lbs** (4.0-5.1 Nm).
16. Plug in the following connectors located in the left and right wire harness caddies:
 - a. Headlamp connector [38B],
 - b. Left hand control connector (gray) [24A],
 - c. Right hand control connector (black) [22A],
 - d. Front turn signal connector [31B],
 - e. Instruments connector [20A].
17. Mount right wire harness caddy onto frame backbone bracket. Make sure front of caddy engages square mounting boss on frame.

NOTE

*See Figure 7-108. **New** main wiring harness is equipped with two cable straps (4) already in position. Cut and remove these cable straps before performing the next step.*

18. Route throttle cables (5) in recess running along outside of right wire harness caddy. Secure throttle cables to caddy with two cable straps. Note that forward cable strap also secures instrument connector [20] on other side of caddy wall. Rear cable strap also secures wire harness leading to instrument connector.
19. Position ignition switch bracket onto square mounting boss on right side of frame. Make sure throttle cables are in right wire harness caddy recess, inboard of ignition switch bracket. Install **new** push-in fasteners (2, 3) to secure right wire harness caddy to ignition switch bracket.

20. See Figure 7-110. Slide ignition coil bracket (6) up into place, making sure coil bracket upright is outboard of wiring harnesses (handlebar controls, turn signals, instruments and headlamp) on left side of frame.
21. Install screw (7) to secure coil and ignition switch bracket halves together. Tighten to 35-45 **in-lbs** (4.0-5.1 Nm).
22. Route rear spark plug cable (3) up through notch (5) in right wire harness caddy and plug into right side ignition coil (1) tower. Plug front spark plug cable (2) into left ignition coil tower.

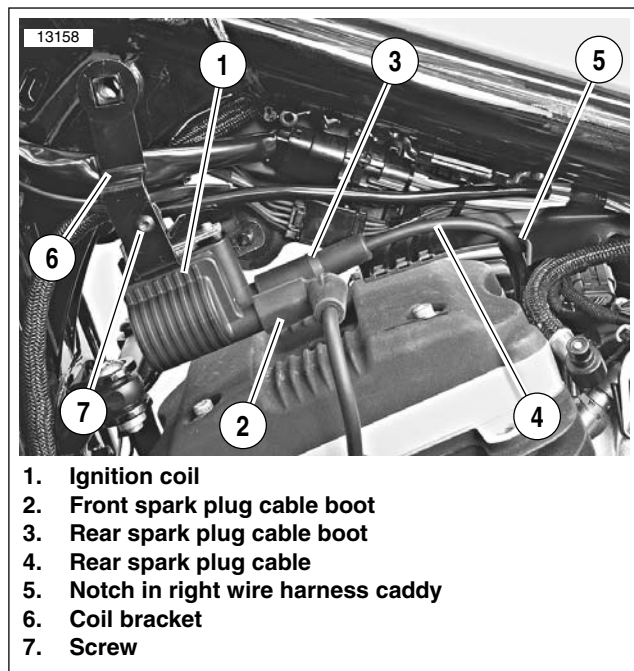


Figure 7-110. Spark Plug Cable Routing

23. Plug harness connector [83B] into ignition coil. See 7.9 IGNITION COIL.
24. Mate wire harness caddies together. Secure with screw and tighten. See WIRE HARNESS CADDY under 7.38 ELECTRICAL CADDIES.
25. See Figure 7-111. Route engine sub-harness (3) around trough in right wire harness caddy.
 - If reusing original engine sub-harness: secure sub-harness to caddy trough with a cable strap. Run strap through hole in boss that originally secured engine sub-harness.
 - If installing **new** engine sub-harness: press barbed prong of sub-harness cable strap into hole in wire harness caddy boss.
26. **California models:** Secure EVAP purge hose (4) to rear end of wire harness caddy with **new** hose clip (5). Make sure hose is positioned up against engine sub-harness, as far away from rear rocker cover as possible.

27. Route rear spark plug cable (2) in right wire harness caddy trough. Make sure spark plug cable is positioned above engine sub-harness. Make sure engine sub-harness is tightly positioned around wire harness caddy trough to avoid contact with rear cylinder head.

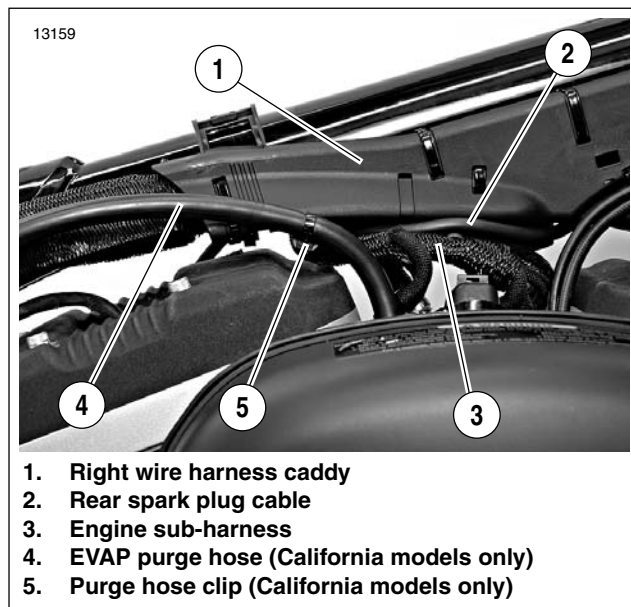


Figure 7-111. Rear Spark Plug Cable Routing

28. See Figure 7-106. Install caddy latch clip (4) onto wire harness caddy. Make sure engine sub-harness (2) is positioned in loop in caddy latch clip assembly.
29. See Figure 7-112. If caddy latch clip or rear spark plug cable were replaced, install **new** cable strap (3) onto spark plug cable (1), 7.0-7.25 in (178-184 mm) from tip of spark plug cable boot (2), orienting cable strap so that spark plug cable is above mounting boss on caddy latch clip when barbed prong on cable strap is inserted in hole in boss. Press cable strap barbed prong firmly into hole in caddy latch clip mounting boss.

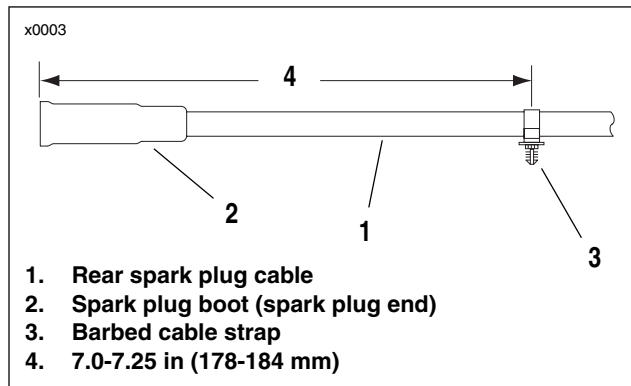


Figure 7-112. Rear Spark Plug Cable and Cable Strap

30. Make sure rear spark plug cable is plugged into rear spark plug.
31. Plug in the following harness connectors:
 - a. Oil pressure switch [120B],
 - b. Voltage regulator DC output [77B],
 - c. Crank Position (CKP) sensor [79B],
 - d. Front oxygen (O₂) sensor [138B],
 - e. Rear oxygen (O₂) sensor [137B],
 - f. Neutral switch jumper [136B],
 - g. Engine temperature (ET) sensor [90B],
 - h. Horn [122B],
 - i. ECM [78B],
 - j. Harness ground wire at engine crankcase [GND1],
 - k. Rear stop lamp switch [121B],
 - l. Vehicle speed sensor (VSS) [65B],
 - m. Green starter motor wire [128B].
 - n. **Vehicles with optional security siren:** Plug in security siren connector [142B].
32. Secure clutch cable and wiring harness running down left frame downtube with two frame clips. Make sure lower frame clip also captures front O₂ sensor harness and frame clip is positioned as close to bottom of upper voltage regulator bracket as possible. Also make sure front O₂ sensor harness is not pulled tight between sensor and frame clip. Harness must form a slight loop.
33. See Figure 7-107. Secure ET sensor harness to H-bracket (2) with a barbed cable strap (4). Make sure there is a loop in the harness between the ET sensor and the H-bracket to avoid damaging harness during vehicle operation.
34. Install fuel tank. See Figure 7-113. Make sure fuel pump harness rests in harness clip (5) on wire harness caddy latch clip (2). See INSTALLING FUEL TANK under 4.5 FUEL TANK.

NOTE

Make sure there is a loop in fuel pump harness between caddy latch clip and fuel pump module to avoid pinching harness between fuel tank and frame backbone. See INSTALLING FUEL TANK under 4.5 FUEL TANK.

⚠ 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)

35. Install battery, connect battery cables, positive (+) cable first. See BATTERY INSTALLATION AND CONNECTION under 1.7 BATTERY MAINTENANCE.
36. Install left side cover. See 1.6 LEFT SIDE COVER.
37. Install seat. See 2.33 SEAT.

⚠ WARNING

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

38. Start vehicle and test operation of all electrical functions: headlamp, tail lamp(s), turn signals, brake lamp(s), indicator lamps, instruments, horn and handlebar controls.

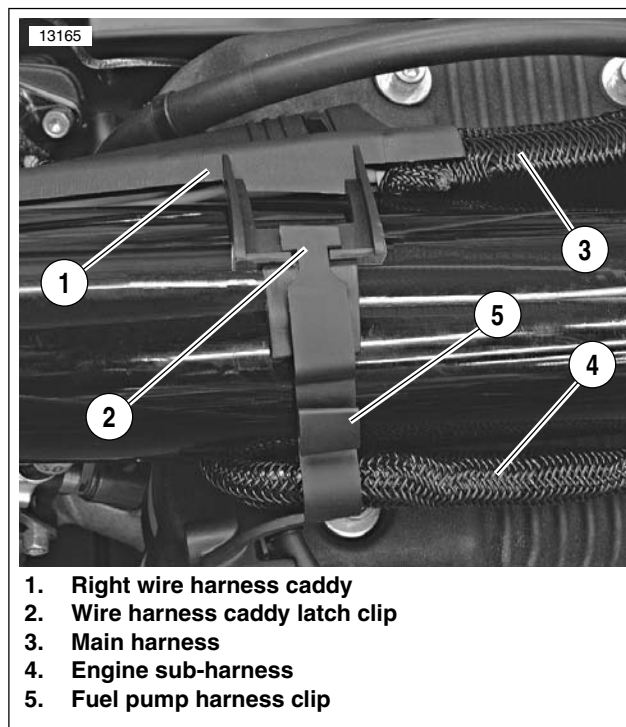


Figure 7-113. Right Wire Harness Caddy Latch Clip

GENERAL

Two electrical caddies are used on all Sportster models. They are:

- **Voltage regulator caddy:** located between the front frame downtubes below the voltage regulator. This caddy supports the voltage regulator DC output connector [77] and the neutral switch wiring harness.
- **Wire harness caddy:** a matched pair of caddies located under the fuel tank. This assembly supports handlebar control harness connectors [22] and [24], instruments connector [20], headlamp connector [38] and front turn signals connector [31]. This caddy assembly also supports the rear spark plug cable, main harness, engine sub-harness and throttle cables.

VOLTAGE REGULATOR CADDY

See Figure 7-114. The voltage regulator caddy (1) is attached to the lower end of the voltage regulator mounting bracket by four tabs (2) located on the caddy.

Removal

1. See Figure 7-115. Remove DC output connector [77] (3) from mounting tabs (4) on caddy (2). Remove DC output cables from cable clip (7).
2. Remove neutral switch harness (5) from mounting tabs (6) on voltage regulator caddy.
3. Grasp caddy and gently pull straight away from frame downtubes. It may be necessary to bend four tabs (item 2, Figure 7-114.) back slightly to disengage caddy from voltage regulator bracket on frame.
4. Carefully slide caddy out from between frame front downtubes and engine toward left side of motorcycle.

Installation

1. Slide **new** voltage regulator caddy from left side of motorcycle, in between frame front downtubes and engine, below voltage regulator.
2. See Figure 7-114. Line up four caddy mounting tabs (2) with bottom of voltage regulator (3) mounting bracket and press into place.
3. See Figure 7-115. Press neutral switch wiring harness (5) into tabs (6) on caddy (2).
4. Install voltage regulator DC output cables into cable clip (7) on caddy. Press voltage regulator DC output connector [77] (3) into mounting tabs (4) on caddy.

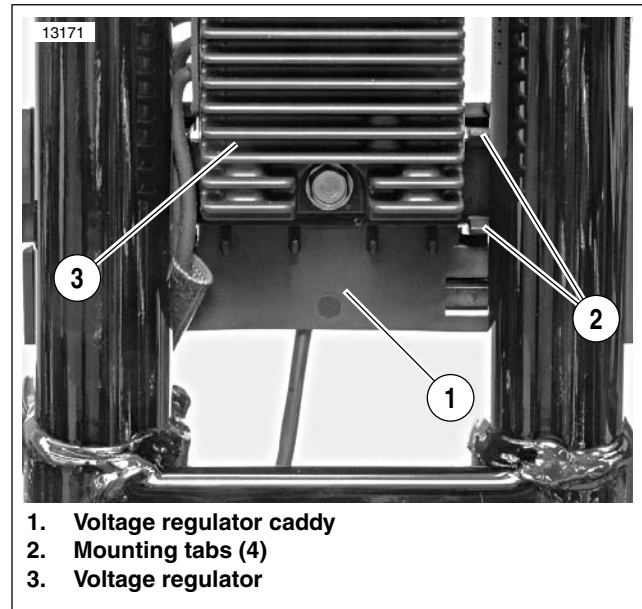


Figure 7-114. Voltage Regulator Caddy: Front View

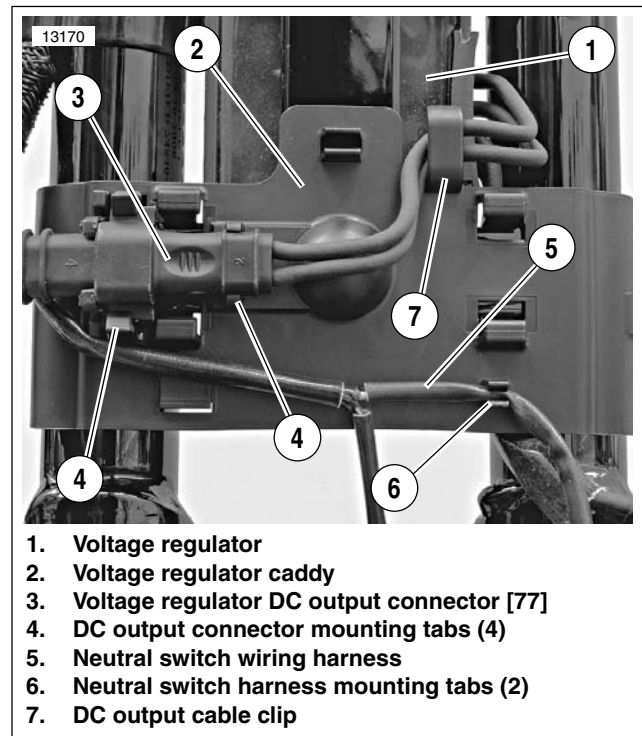


Figure 7-115. Voltage Regulator Caddy: Rear View

WIRE HARNESS CADDY

See Figure 7-116. The wire harness caddy assembly (1, 2) is secured to the ignition switch bracket (3) with two push-in fasteners (6, 7), and to the frame with mounting tabs hooked onto a bracket under the frame backbone tube. The left and right wire harness caddies are locked together with three tabs (see Figure 7-117.) and secured with a screw (item 12, Figure 7-116.).

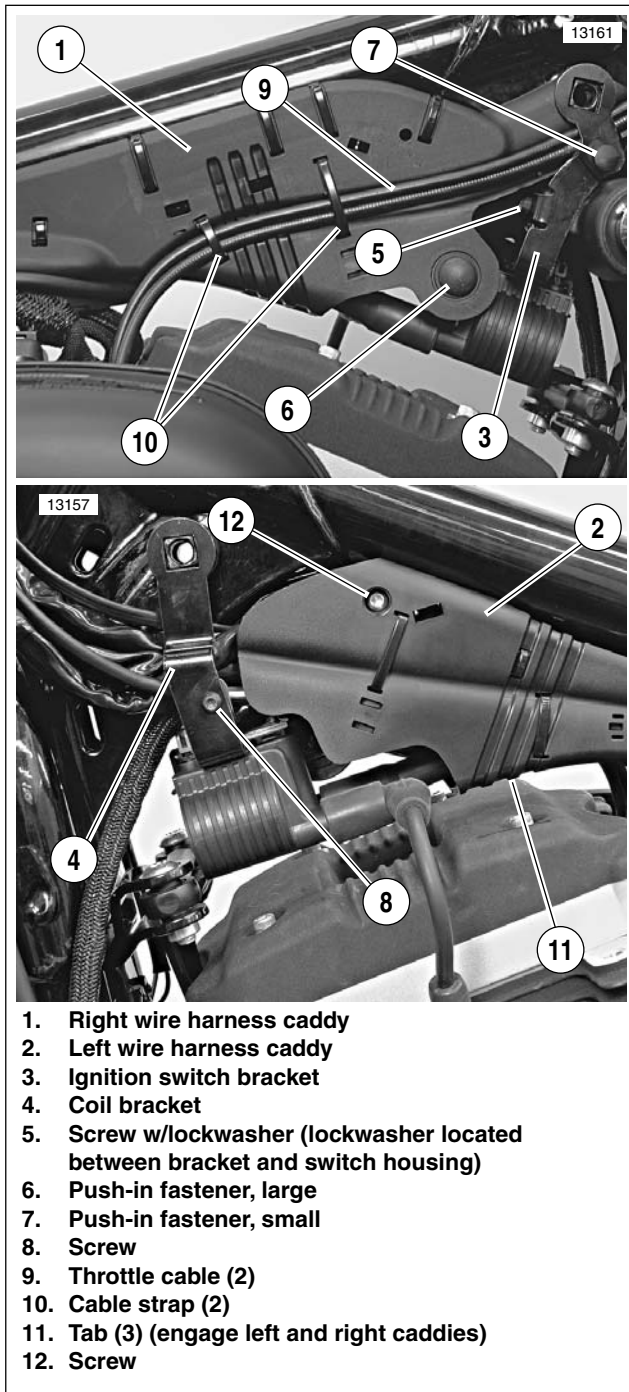


Figure 7-116. Wire Harness Caddy Assembly

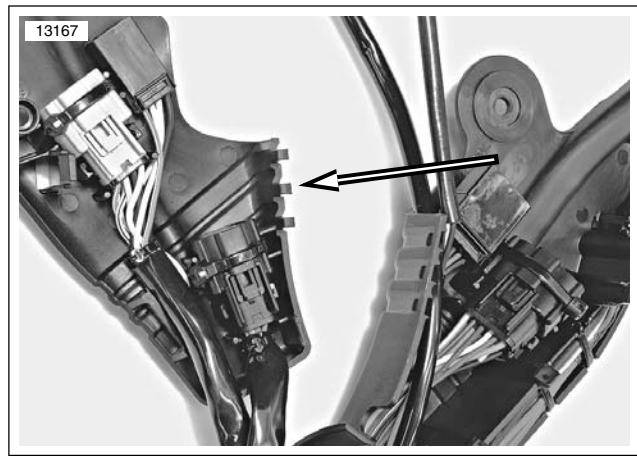


Figure 7-117. Wire Harness Caddy: Locking Tabs

Removal

⚠ 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)

1. Purge the fuel supply hose of high pressure gasoline. Disconnect fuel supply hose from fuel pump module. See PURGING AND DISCONNECTING FUEL SUPPLY HOSE under 4.5 FUEL TANK.

⚠ WARNING

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

2. Unplug Maxi-Fuse. See 7.26 MAXI-FUSE.
3. Remove seat. See 2.33 SEAT.
4. Remove fuel tank. See 4.5 FUEL TANK.
5. See Figure 7-116. Remove screw (8) and disengage coil bracket (4) from mounting boss on frame.

6. See Figure 7-118. Unhook caddy latch clip (2) from right wire harness caddy (1).

NOTE

It is not necessary to remove rear spark plug cable from wire harness caddy latch clip, unless latch clip is being replaced.

7. If necessary, cut cable strap securing rear spark plug cable to caddy latch clip.
8. Remove engine sub-harness from loop in caddy latch clip.
9. See Figure 7-116. Remove screw (12) and carefully disengage left wire harness caddy (2) from right wire harness caddy (1).
10. Cut two cable straps (10) securing throttle cables (9) to right wire harness caddy.
11. See Figure 7-119. Disengage rear spark plug cable (2) from trough in right wire harness caddy (1). Cut barbed cable strap securing engine sub-harness (3) to right wire harness caddy.
12. **California models:** Cut barbed cable strap (5) securing EVAP canister purge hose (4) to rear of right wire harness caddy.
13. See Figure 7-116. Remove and discard push-in fasteners (6, 7). Unhook right wire harness caddy from frame backbone bracket. Lower ignition switch bracket (3) from mounting bosses on frame to free right wire harness caddy.

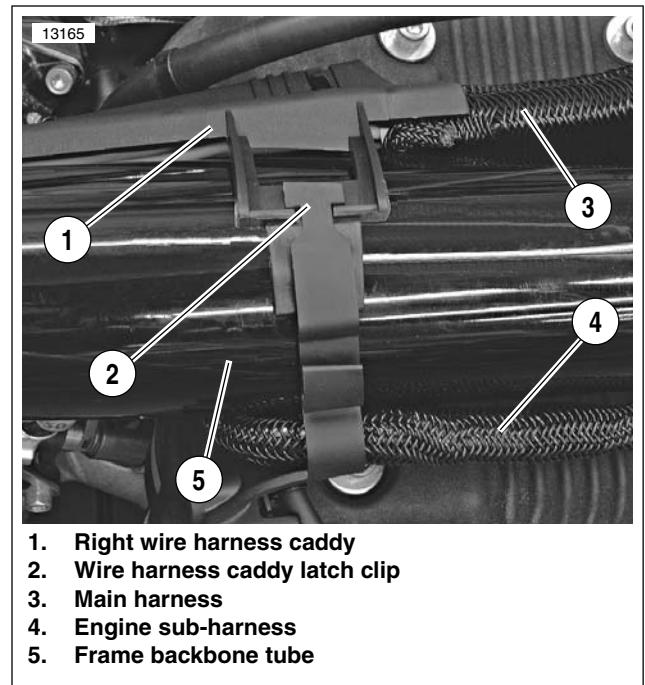


Figure 7-118. Right Wire Harness Caddy Latch Clip

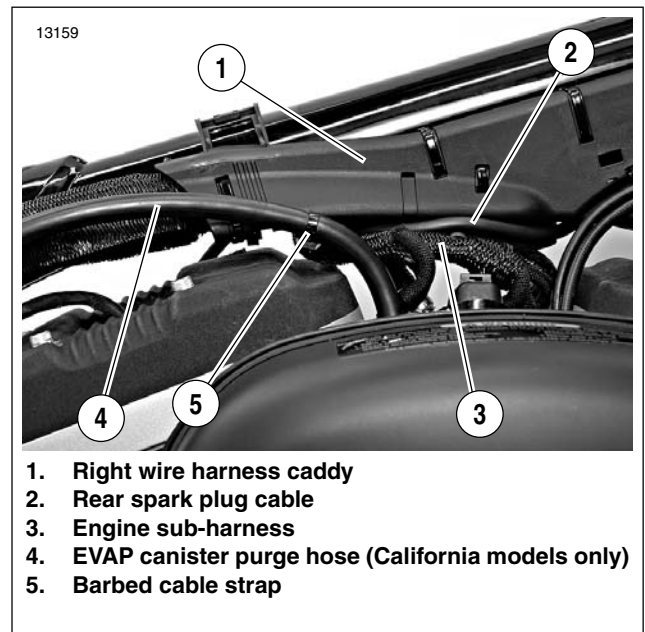
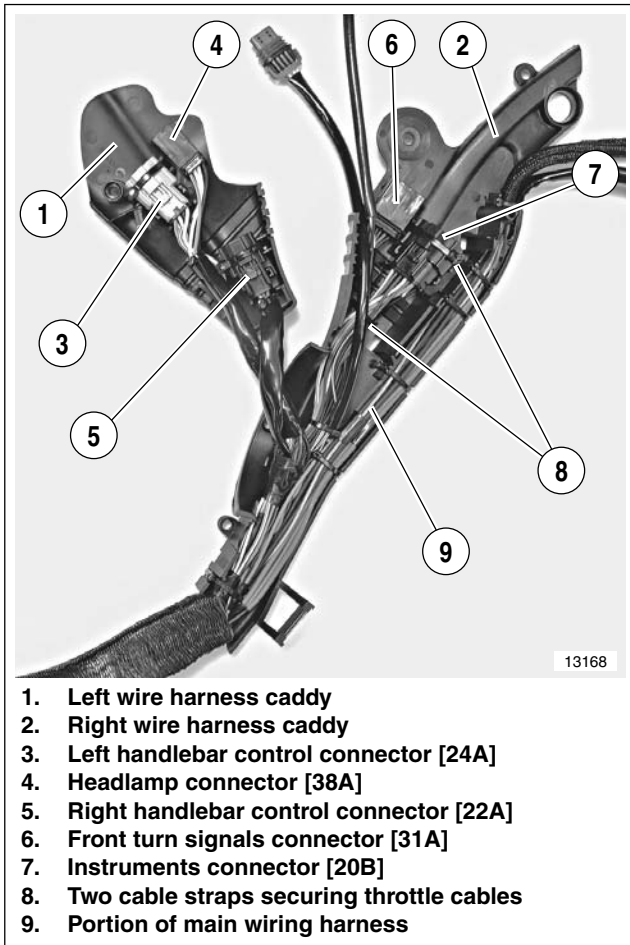


Figure 7-119. Rear Spark Plug Cable Routing

14. See Figure 7-120. Unplug the following connectors:
 - a. Headlamp connector [38B] (4).
 - b. Left hand control connector (gray) [24B] (3).
 - c. Right hand control connector (black) [22B] (5).
 - d. Front turn signal connector [31B] (6).
 - e. Instruments connector [20A] (7).
15. Make a note of the location of all cable straps securing harnesses and harness connectors to left and right wire harness caddies. Cut cable straps and remove harnesses and connectors from caddies. Remove wire harness caddies from vehicle.



**Figure 7-120. Wire Harness Caddies
(Removed from Vehicle for Clarity)**

Installation

1. See Figure 7-120. Fit portion of main wiring harness (9) and ignition switch harness along top of right wire harness caddy (2) and secure with cable straps, as shown in the figure.
2. Mount front turn signals connector [31A] (6) onto mounting tab on right wire harness caddy.
3. See Figure 7-116. Place throttle cables (9) in groove in right wire harness caddy (1).
4. See Figure 7-120. Place instruments connector [20B] (7) into right wire harness caddy (2). Secure connector and throttle cables with a cable strap (8). Secure throttle cables and harnesses (as shown in the figure) with a second cable strap.
5. Mount handlebar control connectors [22A], [24A] (5, 3) to left wire harness caddy (1) with cable straps. Mount headlamp connector [38A] (4) onto tab on left wire harness caddy.
6. See Figure 7-116. Hook right wire harness caddy (1) into bracket on frame backbone. Secure front of caddy onto ignition switch bracket mounting boss on right side of frame. Raise ignition switch bracket (3) up into position and mount it onto boss on frame.

NOTE

Make sure ignition switch bracket upright is outboard of right wire harness caddy and throttle cables on right side of frame.

7. Secure right wire harness caddy to ignition switch bracket with **new** push-in fasteners (6, 7).
8. See Figure 7-118. Install caddy latch clip (2) onto right wire harness caddy (1). Make sure engine sub-harness (4) is routed in loop in caddy latch clip.

9. See Figure 7-121. Raise coil bracket (5) up into position and mount it on boss on left side of frame. Secure coil bracket to ignition switch bracket with screw (6). Tighten to 35-45 **in-lbs** (4.0-5.1 Nm).

NOTE

Make sure coil bracket upright is outboard of all wire harnesses leading to front of vehicle on left side of frame.

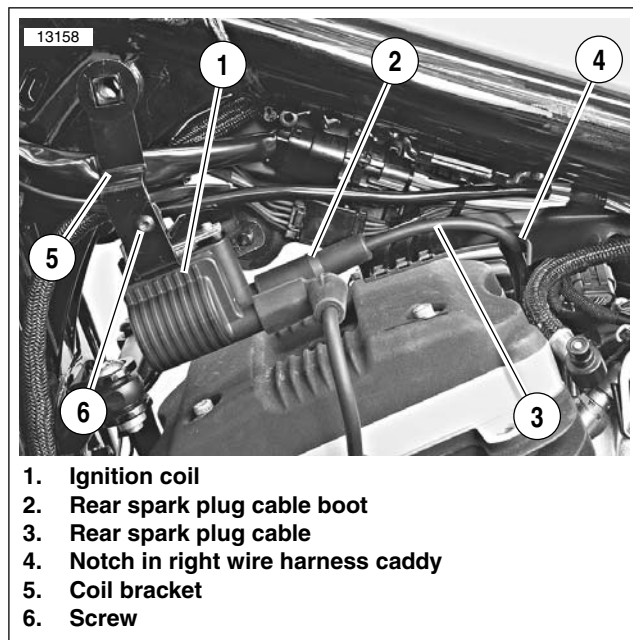


Figure 7-121. Rear Spark Plug Cable Routing

10. Route rear spark plug cable (3) from ignition coil (1) tower down through notch (4) in right wire harness caddy.
11. See Figure 7-119. Route rear spark plug cable (2) in right wire harness caddy trough.
12. Route engine sub-harness (3) around trough in right wire harness caddy. Secure sub-harness to caddy trough with a cable strap. Run strap through hole in boss that originally secured engine sub-harness.
13. **California models:** Secure EVAP canister purge hose (4) to rear of right wire harness caddy with a barbed cable strap (5).

14. Plug in the following connectors:
 - a. Instruments connector [20A] (7).
 - b. Front turn signal connector [31B] (6)].
 - c. Right hand control connector (black) [22B] (5).
 - d. Left hand control connector (gray) [24B] (3).
 - e. Headlamp connector [38B] (4).
15. See Figure 7-116. Mate left wire harness caddy (2) to right wire harness caddy (1). Secure with screw (12) and tighten.
16. See Figure 7-122. If barbed cable strap (3) securing rear spark plug cable (1) to caddy latch clip was cut, install **new** barbed cable strap 7.0-7.25 in (178-184 mm) from tip of spark plug cable boot (2), orienting cable strap so that spark plug cable is above mounting boss on caddy latch clip when barbed prong on cable strap is inserted in hole in boss. Press cable strap barbed prong firmly into hole in caddy latch clip mounting boss.

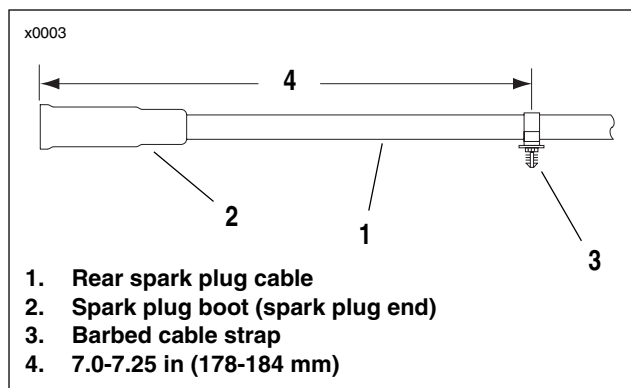


Figure 7-122. Rear Spark Plug Cable and Cable Strap

17. Make sure rear spark plug cable is plugged onto rear spark plug.
18. Install fuel tank. See 4.5 FUEL TANK.
19. Install seat. See 2.33 SEAT.

WARNING

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

20. Plug in Maxi-Fuse. See 7.26 MAXI-FUSE.
21. Start vehicle and test the operation of headlamp, turn signals, brake lamp(s), indicator lamps, instruments and handlebar controls.

Other Changes and Updates

- One of the running changes to the electrical system of the 2007 XL vehicles was to move the Engine Temperature (ET) sensor connector [90] from the engine sub-harness to the main harness. See Figure 1. It will be necessary to correct the following schematics in the 2007 SPORTSTER MODELS SERVICE MANUAL (Part No. 99484-07A) to reflect the change shown in the figure:
 - Figure 4-1, page 4-4,
 - Figure 7-4, page 7-7,
 - Main Harness schematic on page B-35,
 - Engine Management schematic on page B-41.

NOTE

Page number references in the following steps are for Revision A, English version of the 2007 Sportster Service Manual, Part No. 99484-07A. Please synchronize the page numbers given with those in your service manual.

- Correct step 19i of 3.12 REMOVING ENGINE FROM CHASSIS, PROCEDURE on page 3-24 to read:

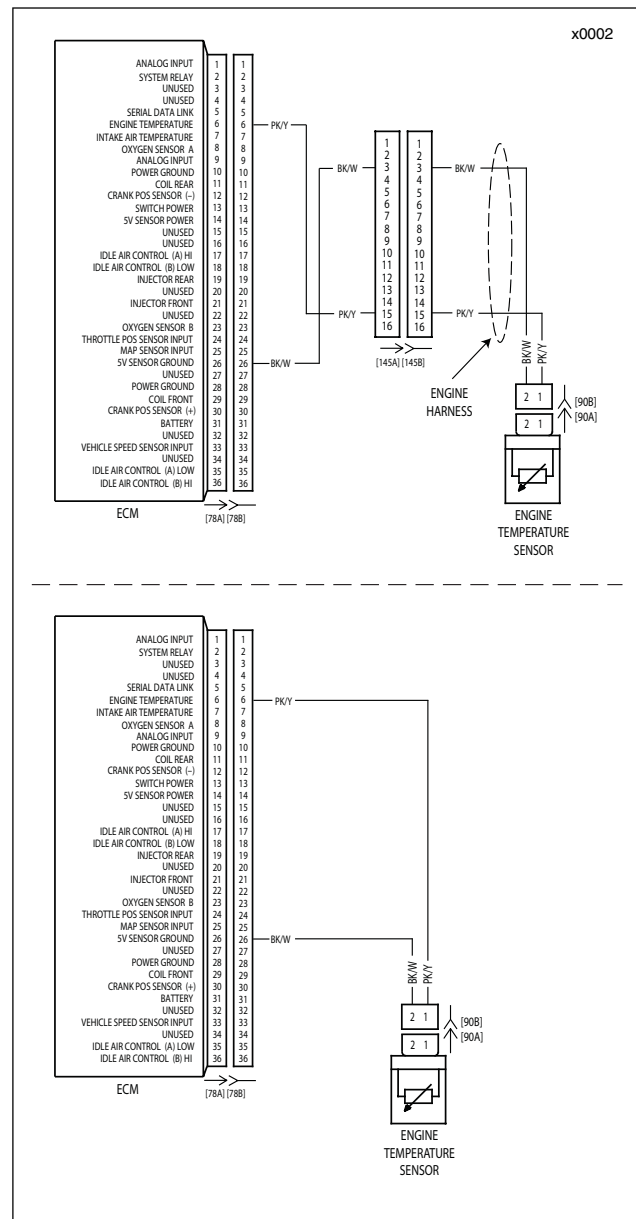
“Engine Temperature (ET) sensor connector [90]. Cut and remove barbed cable strap securing sensor harness to H-Bracket. See 4.12 ENGINE TEMPERATURE (ET) SENSOR.”

- Correct step 30A of 3.13 INSTALLING ENGINE IN CHASSIS, PROCEDURE on page 3-29 to read:

“Engine Temperature (ET) sensor connector [90]. Secure sensor harness to H-Bracket with barbed cable strap. To avoid damage to sensor when vehicle is in operation, position cable strap on harness so there is a loop in harness between sensor and H-Bracket. Press barbed prong of cable strap into hole in boss in H-Bracket. See 4.12 ENGINE TEMPERATURE (ET) SENSOR.”

- Correct step 4 of 4.5 FUEL TANK, REMOVING FUEL TANK on page 4-9 to read:

“See Figure 4-6. Remove vent hose (1) from fuel tank vent nipple. Remove cable clip (3) securing fuel pump wiring harness (2) to mounting boss on H-bracket.”



**Figure 1. Engine Temperature (ET) Sensor Circuit:
Old (top) and New (bottom)**

5. Correct step 7 of 4.5 FUEL TANK, REMOVING FUEL TANK on page 4-9 to read:

“Place a clean, soft cloth over front of fuel tank to keep tank from contacting top fork clamp and damaging paint. Lift up rear of fuel tank. Remove fuel pump harness from clip on wire harness caddy latch clip on frame backbone tube.”

6. Correct step 4 of 4.5 FUEL TANK, INSTALLING FUEL TANK on page 4-10 to read:

“See Figure 4-8. Place a clean, soft cloth over front of fuel tank to keep tank from contacting top fork clamp and damaging paint. Lift up rear of fuel tank. Place fuel pump wiring harness (1) into clip on wire harness caddy latch clip on frame backbone tube. Make sure harness forms a loop (5) between caddy latch clip and fuel pump module (6) to avoid pinching harness between fuel tank and frame backbone tube.”

7. Correct step 5 of 4.5 FUEL TANK, INSTALLING FUEL TANK on page 4-10 to read:

“Route fuel pump wiring harness down along left side of H-bracket. Secure with cable clip (3). Push clip into hole in mounting boss (2) on H-bracket.”

8. Correct step 4a of 4.6 FUEL PUMP, INSTALLATION on page 4-20 to read:

“Make sure fuel pump harness fits in wire harness caddy latch clip with loop in harness between latch clip and fuel pump module to avoid harness being pinched between fuel tank and frame backbone tube.”

9. Correct step 5 of 4.12 ENGINE TEMPERATURE (ET) SENSOR, REMOVAL on page 4-39 to read:

“See Figure 4-49. ET sensor connector [90] (3) is located on right side of H-Bracket. Unplug connector by pulling external latch outward and use rocking motion to separate connector halves.”

10. Correct step 6 of 4.12 ENGINE TEMPERATURE (ET) SENSOR, REMOVAL on page 4-39 to read:

“Cut barbed cable strap (5) to free sensor harness from H-Bracket.”

11. Correct step 4 of 4.12 ENGINE TEMPERATURE (ET) SENSOR, INSTALLATION on page 4-40 to read:

“See Figure 4-49. Use a barbed cable strap (5) to secure sensor harness (2) to H-bracket. Position cable strap so harness forms a loop (4) between sensor and H-bracket.”

12. Correct the NOTE following step 4 of 4.12 ENGINE TEMPERATURE (ET) SENSOR, INSTALLATION on page 4-40 to read:

“See Figure 4-49. Make sure there is a loop (4) in sensor harness in front of H-Bracket. If harness is pulled tight between H-Bracket and sensor, it can be damaged during vehicle operation which could disable the sensor.”

13. Correct step 3 of 4.14 EVAPORATIVE EMISSIONS CONTROL-CA MODELS, HOSE ROUTING, Canister Hose Routings on page 4-47 to read:

“Route canister-to-induction module purge hose up right side of frame rear downtube. Continue routing hose forward along right side of frame backbone tube and down, connecting hose to induction module fitting. Secure hose to boss on rear end of right wire harness caddy with a barbed cable strap. Press barbed prong of cable strap into hole in caddy boss. Ensure that hose is positioned up against engine sub-harness. Hose should be routed as far from rear rocker cover as possible.”

NOTE

Replace figures in the service manual with figures on this and the next page of this bulletin. You may wish to photocopy each page separately, cut out the figures, and paste them into the appropriate locations in the service manual.

14. Replace Figure 4-6 on page 4-9 with Figure 4-6 below.

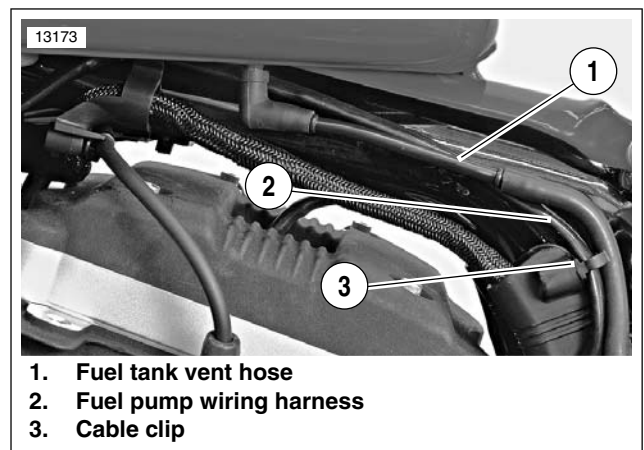


Figure 4-6. Fuel Tank Vent Hose and Fuel Pump Harness

15. Replace Figure 4-8 on page 4-10 with Figure 4-8 below.

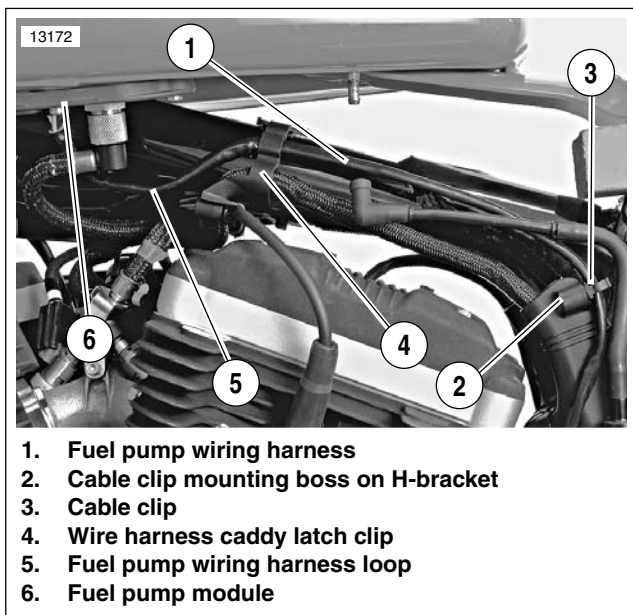


Figure 4-8. Fuel Pump Wiring Harness Routing

16. Replace Figure 4-49 on page 4-39 with Figure 4-49 below.

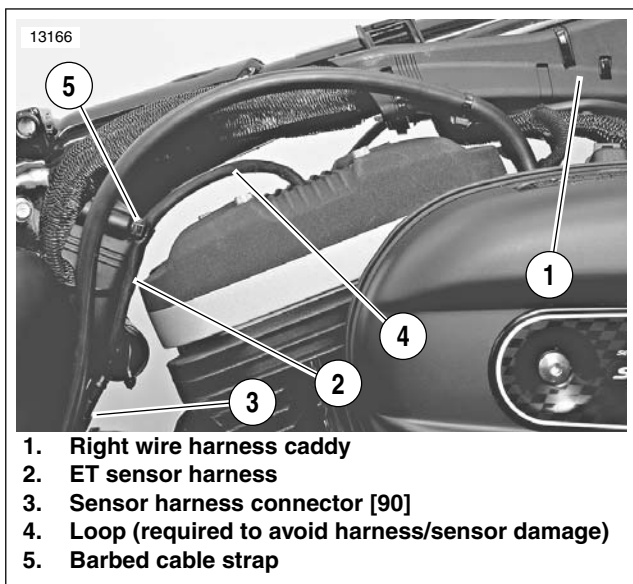


Figure 4-49. Engine Temperature Sensor Harness

17. Replace the photograph in Figure 4-58 on page 4-46 with the photo below.

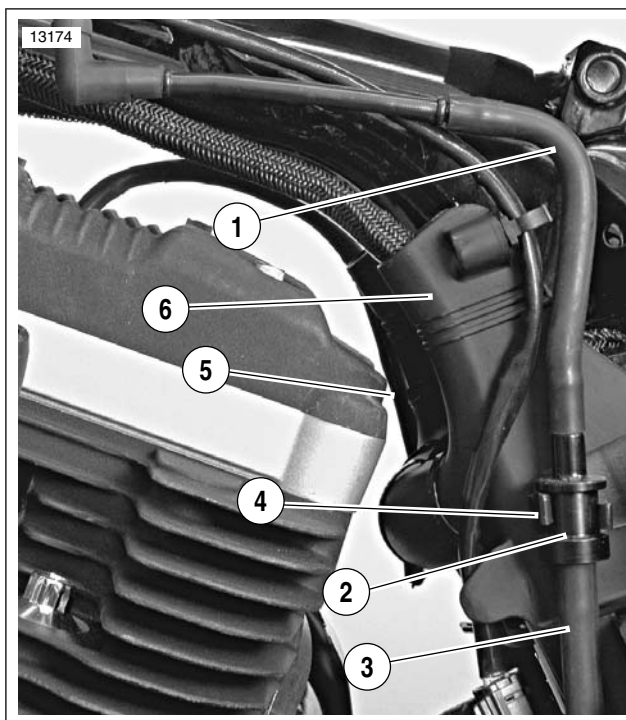


Photo for Figure 4-58

18. Replace Figure 4-60 on page 4-47 with Figure 4-60 below.

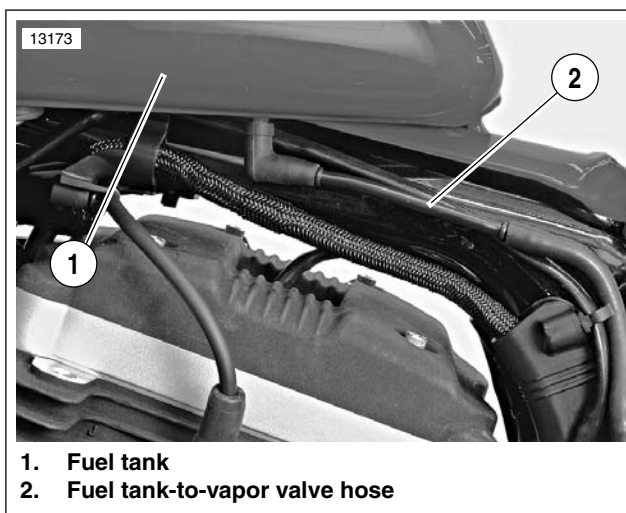


Figure 4-60. Fuel Tank-To-Vapor Valve Hose Routing