

REMOVAL

1. Place a scissor jack under jacking point and raise front wheel off ground. For location of jacking point see [2.29 EXHAUST SYSTEM](#).
2. Remove handlebars. See [2.27 HANDLEBARS](#).
3. Remove front modules. See [2.26 FRONT MODULES](#).
4. Remove front fork assemblies. See [2.16 FRONT FORK](#).
5. See [Figure 2-75](#). Remove steering stem pinch fastener (2).
6. See [Figure 2-75](#). Hold or brace the lower fork clamp and remove steering stem capnut (1).
7. Remove the upper fork clamp (4).
8. Remove the lower fork clamp (6).
9. If steering head bearings need replacing, see [2.18 STEERING HEAD BEARINGS](#).

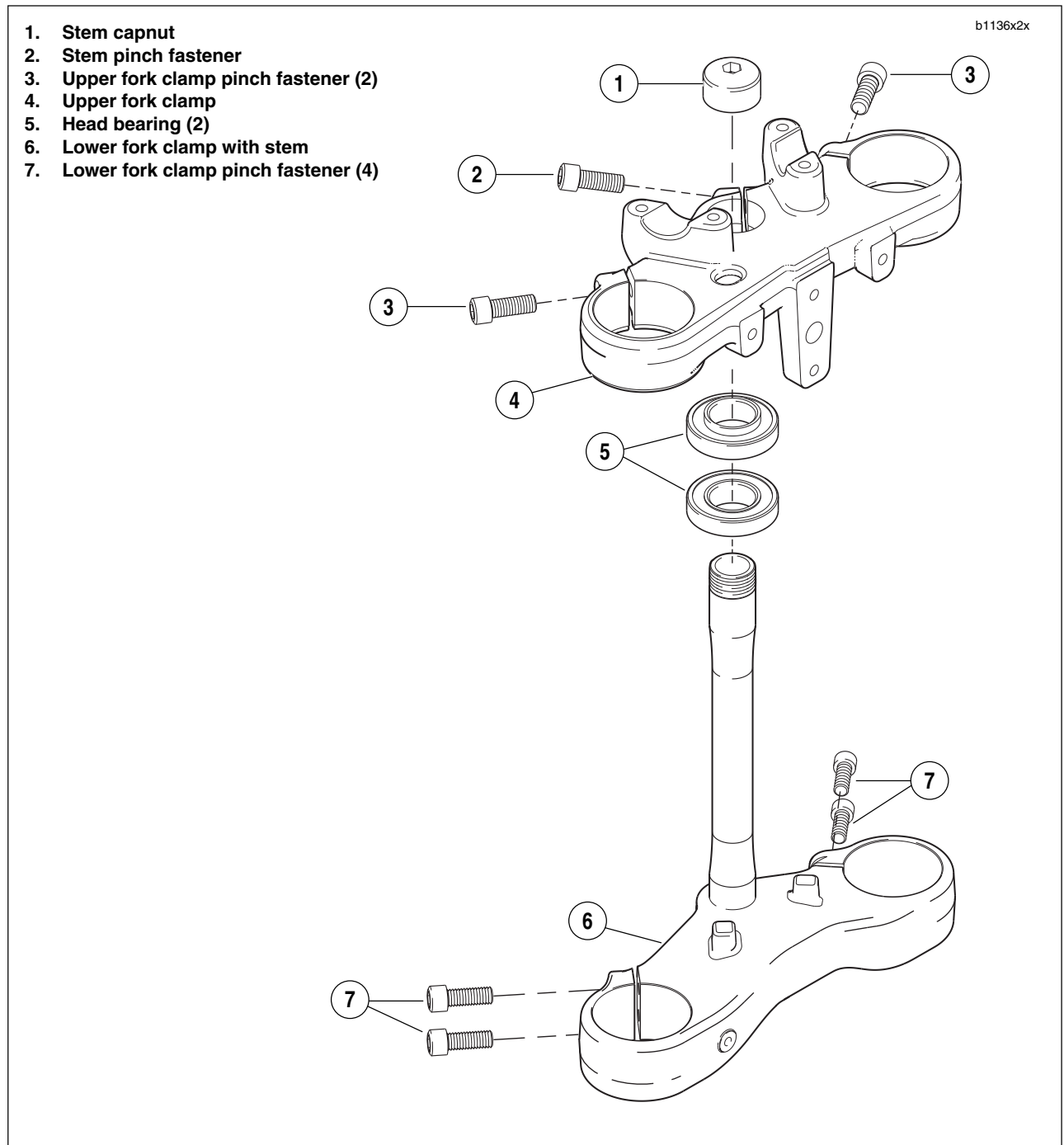


Figure 2-75. Steering Stem Assembly

INSTALLATION

1. See [Figure 2-75](#). Install the lower fork clamp (6) into the steering stem bore and install the upper fork clamp (4).
2. Install steering stem capnut (1). Tighten but do not torque.

WARNING

Carefully install the fork into the upper fork clamp. Forcing the fork into the upper fork clamp could move the stopper ring out of the groove which will not allow the correct clamp load causing a possible loss of control of the motorcycle which could result in death or serious injury.

3. Install one front fork assembly into lower fork clamp (6).
4. See [Figure 2-69](#). Slide the stopper ring (19) over top of fork assembly and into groove.
5. Install fork assembly into upper fork clamp. Tighten but do not torque lower fork clamp pinch fasteners.
6. Repeat previous two steps on second fork assembly.
7. Tighten steering stem capnut to 38-42 ft-lbs (52-57 Nm).
8. Install steering stem pinch bolt applying LOCTITE 272 and tightening to 17-19 ft-lbs (23-26 Nm).

WARNING

Both forks should display the same number of alignment lines. Forks that are not properly aligned may lead to a loss of control which could result in death or serious injury.

9. See [Figure 2-74](#). Position both forks with same number alignment lines (4) visible and reflectors facing to the sides. Do not tighten.
10. Use LOCTITE 272 on upper fork clamp fasteners and tighten to 17-19 ft-lbs (23-26 Nm).
11. Use LOCTITE 272 on lower fork clamp fasteners and tighten to 13-15 ft-lbs (18-20 Nm).
12. Repeat torque sequence in steps 10 and 11 to verify proper clamp load.
13. Install front modules. See [2.26 FRONT MODULES](#).
14. Install handlebars. See [2.27 HANDLEBARS](#).

REMOVAL

1. Place a scissor jack under jacking point and raise front wheel off ground. For location of jacking point see [2.29 EXHAUST SYSTEM](#).
2. Remove brake lever housing. See [2.10 FRONT BRAKE MASTER CYLINDER AND HAND LEVER](#).
3. Remove headlight assembly and support bracket. See [2.25 HEADLIGHT ASSEMBLY AND SUPPORT BRACKET](#).
4. Remove front forks, lower fork clamp, brake and wheel as front-end assembly.
 - a. See [Figure 2-75](#). Loosen steering stem pinch fastener (2) and upper and lower fork clamp pinch fasteners (3, 7).
 - b. Brace wheel while removing steering stem capnut fastener (1).
 - c. Remove upper fork clamp (4) and front-end assembly which includes front wheel, steering stem/lower fork clamp.
5. Remove upper and lower steering head bearings (5).
 - a. See [Figure 2-76](#). Locate notches inside steering head stem bore (upper bearing removed for clarity).
 - b. Place a suitable tool in the notches of the steering stem bore and remove upper and lower steering head bearings.

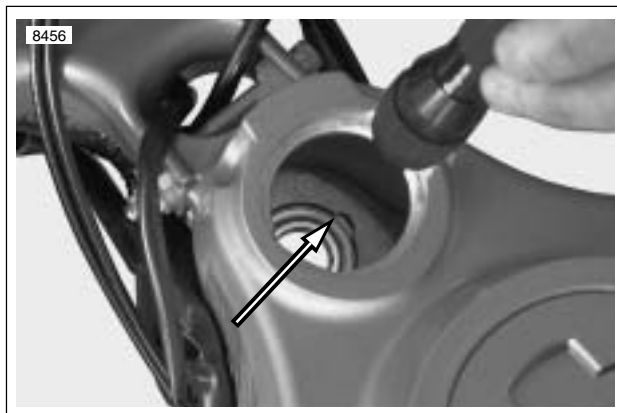


Figure 2-76. Lower Steering Head Bearing Notches (upper bearing removed for clarity)

NOTE

Discard steering head bearings and replace with new. Steering head bearings are not reusable.

INSTALLATION

NOTE

For easier installation of bearing, lubricate the outer bearing with engine oil prior to installing into steering stem bore.

1. See [Figure 2-77](#). Install **new** upper and lower steering head bearings into the steering stem using STEERING HEAD BEARING RACE INSTALLER (Part No. HD-

39302). and the STEERING HEAD BEARING INSTALLER (Part No. B-45521).

- a. See [Figure 2-78](#). Place the upper bearing squarely in the steering stem bore with the inner race lip pointing away from the steering head.
- b. See [Figure 2-77](#). Insert the steering head bearing installation tool into the upper bearing, with the shoulder into the bearing bore.
- c. Insert the forcing screw from the steering head bearing race installer through the steering head bearing installation tool.

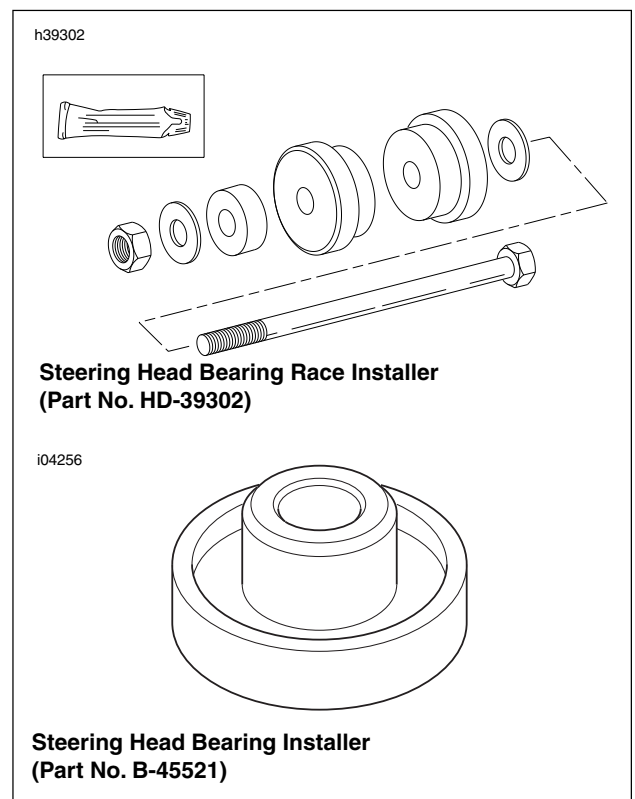


Figure 2-77. Steering Head Bearings Installation Tools

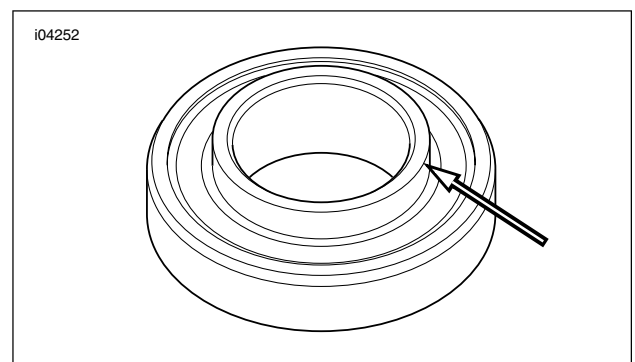


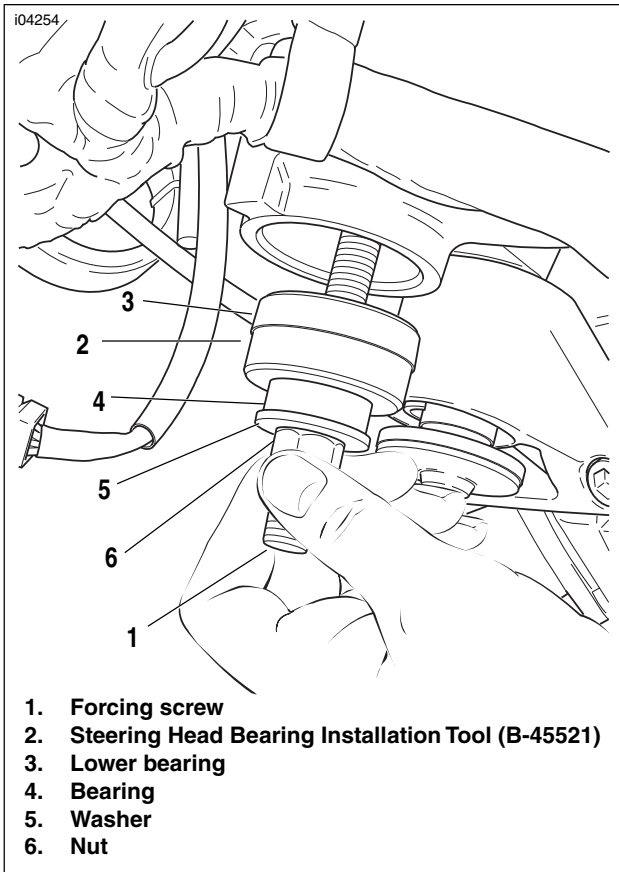
Figure 2-78. Steering Head Bearing Lip

- See [Figure 2-79](#). Sparingly apply EXTREME PRESURE LUBRICANT (Part No. J-23444-A) to the threads of the forcing screw (1) from the STEERING HEAD BEARING RACE INSTALLER (Part No. HD-39302), to prolong service life and ensure smooth operation. Insert the forcing screw (1) through the STEERING HEAD BEARING INSTALLATION TOOL (Part No. B-45521) (2).

NOTE

For ease of steering head bearing installation, lubricate the outside of the steering head bearings.

- See [Figure 79](#). Place the lower bearing (3) onto the forcing screw (1), with the inner race lip pointing away from the steering head.
- Place the STEERING HEAD BEARING INSTALLATION TOOL (Part No. B-45521) (2) onto the forcing screw, with the shoulder into the bearing bore.
- Install the bearing (4), washer (5) and nut (6) from the STEERING HEAD BEARING RACE INSTALLER (Part No. HD-39302) onto the forcing screw (1).
- Tighten the nut (6) by hand, until both bearings are started into the bores in the steering head.



- Forcing screw
- Steering Head Bearing Installation Tool (B-45521)
- Lower bearing
- Bearing
- Washer
- Nut

Figure 2-79. Lower Bearing

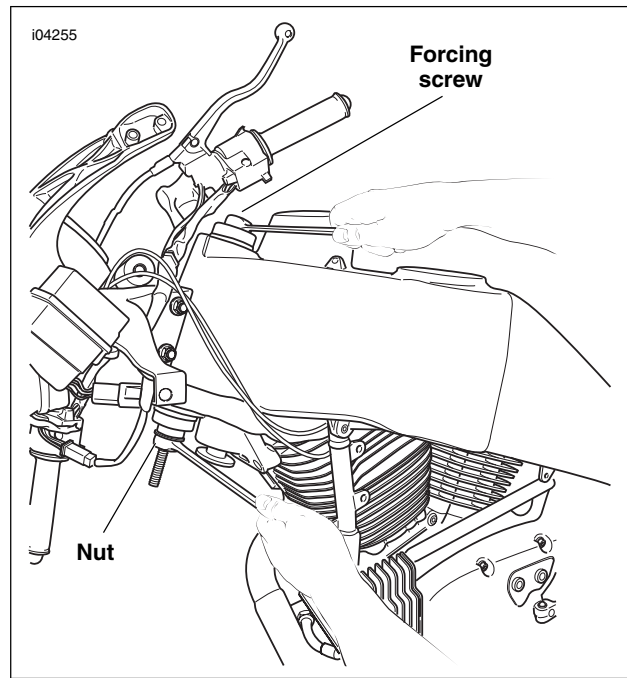


Figure 2-80. Install Bearings

- See [Figure 2-80](#). Hold the forcing screw while tightening the nut to draw the bearings into the steering head. Continue tightening until both bearings are fully seated.
- Visually check to make sure the bearings are completely seated against the shoulders in the steering head.
- Install forks, front wheel, and lower fork clamp/steering stem as an assembly.
- Install upper fork clamp.
- Tighten steering stem capnut to 38-42 ft-lbs (52-57 Nm).
- Use LOCTITE 272 on steering stem pinch fastener and tighten to 17-19 ft-lbs (23-26 Nm).
- Install headlight assembly and support bracket. See [2.25 HEADLIGHT ASSEMBLY AND SUPPORT BRACKET](#).

GENERAL

The swingarm also serves as the oil tank. For information on the swingarm function as the oil tank, see [3.8 LUBRICATION SYSTEM](#).

The swingarm features a removable brace on the right side to allow drive belt replacement. Sealed bearings eliminate the need for preload adjustment.

REMOVAL

Brace

CAUTION

Before removing swingarm brace, always relieve belt tension first. Removing swingarm brace without releasing tension will cause swingarm brace damage.

1. Remove right side rider footpeg mounts. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
2. See [Figure 2-81](#). Loosen rear axle pinch fastener (2).
3. Loosen rear axle (1) approximately 15 rotations to allow partial tension to be removed from rear drive system.
4. See [Figure 2-83](#). Remove swingarm brace mounting fasteners (11).
5. Remove swingarm brace (12).

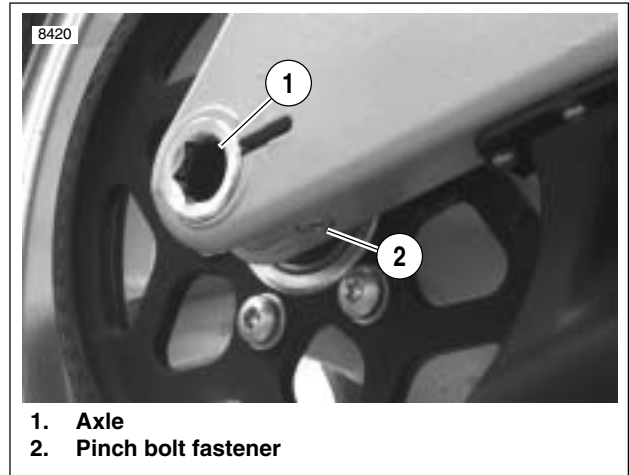


Figure 2-81. Rear Wheel Mounting, Right Side

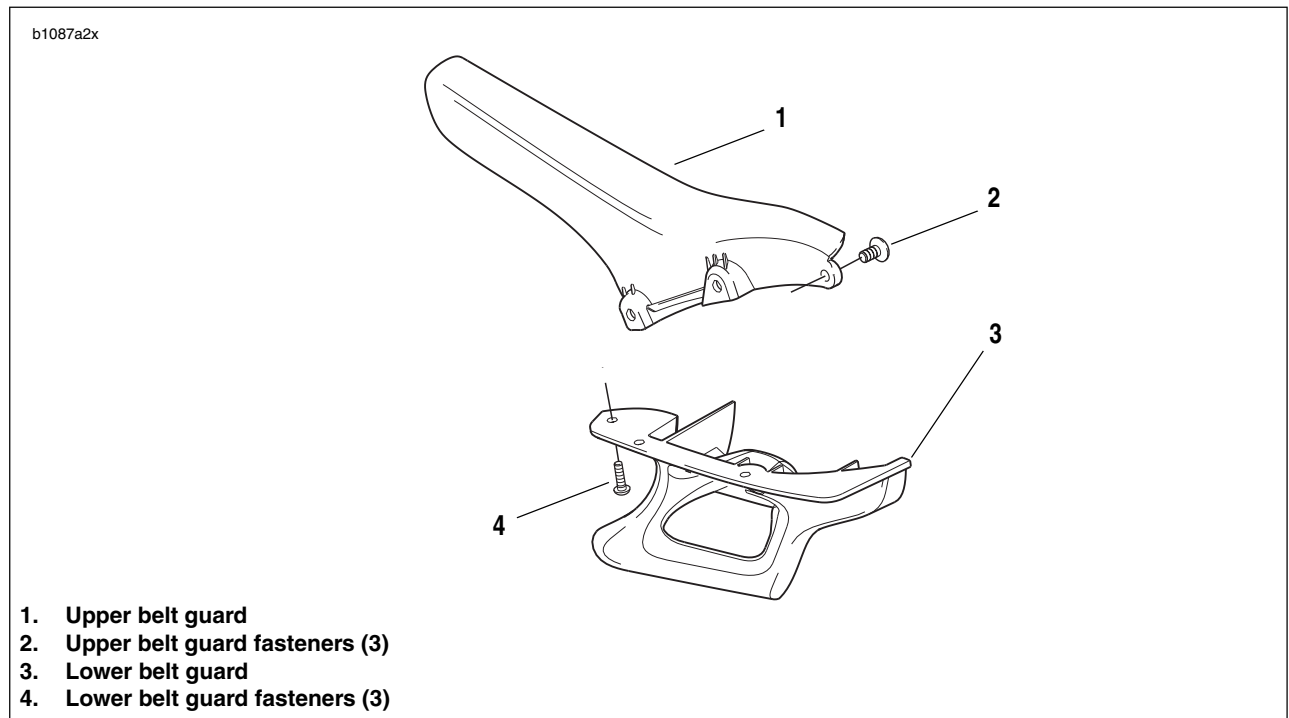


Figure 2-82. Belt Guard Assembly

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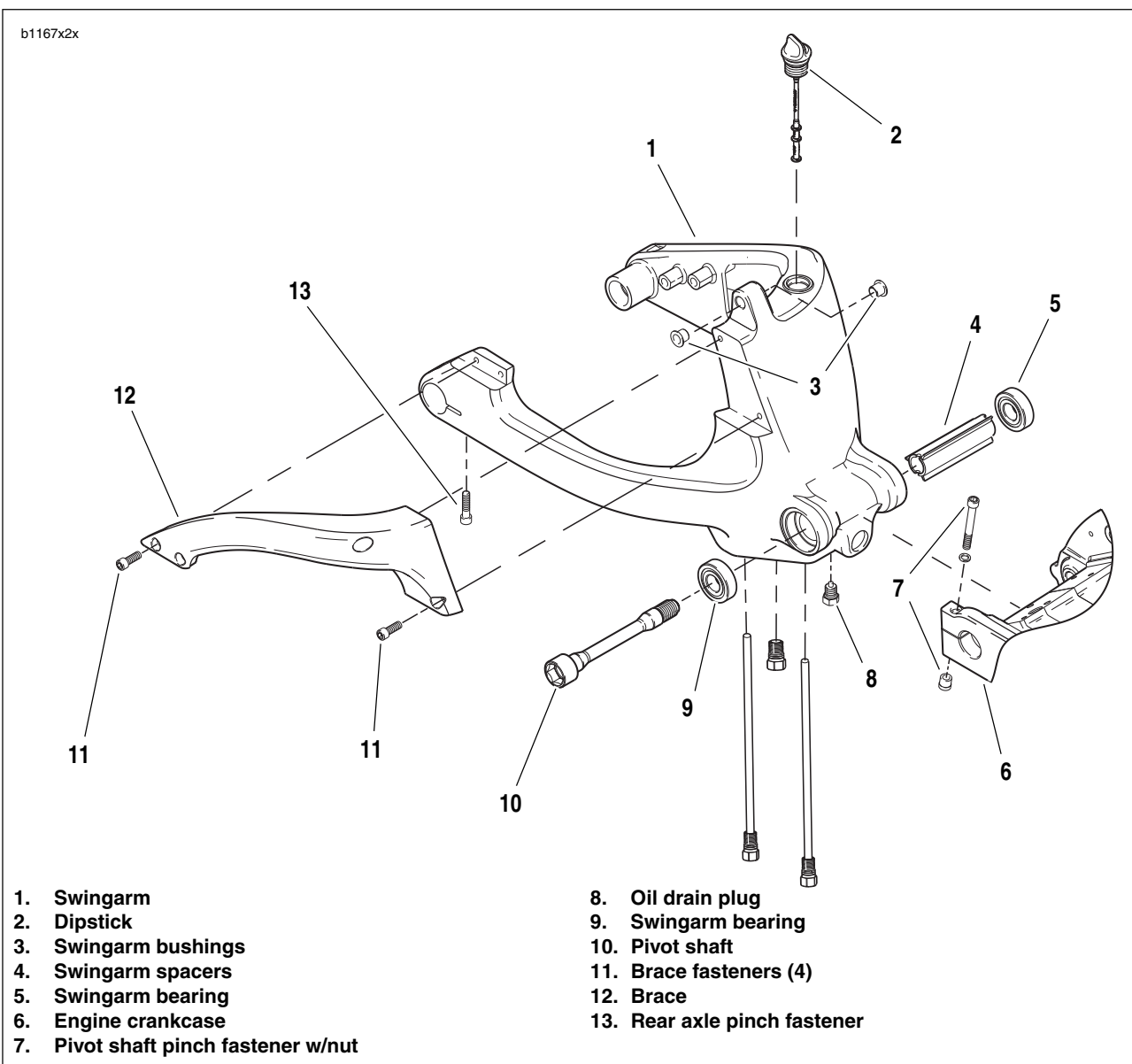


Figure 2-83. Swingarm Assembly

Swingarm

1. Remove seat. See [2.41 SEAT](#).

WARNING

To protect against accidental start-up of vehicle and possible personal injury, disconnect the negative battery cable before proceeding. Inadequate safety precautions could cause a battery explosion, which could result in death or serious injury.

2. Disconnect battery by unthreading fasteners removing negative cable (black) from battery first. See [1.5 BATTERY MAINTENANCE](#).
3. See [Figure 2-83](#). Remove oil drain plug (8) and drain oil from swingarm. See [Draining Oil](#) in [1.6 ENGINE LUBRICATION SYSTEM](#).
4. Remove rear wheel. See [2.6 REAR WHEEL](#).

5. Remove three oil lines from swingarm fittings. See [3.9 OIL HOSE ROUTING AND OIL RESERVOIR](#).
6. Remove p-clamp and washer that secures rear brake line to swingarm.
7. See [Figure 2-89](#). Remove lower shock absorber mounting fastener (7) and spacer from shock absorber and swingarm.
8. See [Figure 2-83](#). Loosen pivot shaft pinch fastener (7).
9. Remove pivot shaft (10) with a special 7/8 in. hex tool located in tool kit.

DISASSEMBLY

CAUTION

Carefully mark all bearing components as they are removed so that they may be returned to their original locations. Do not intermix bearing components.

Swingarm

1. See [Figure 2-84](#). Remove oil line fittings from swingarm. See [Table 2-13](#).

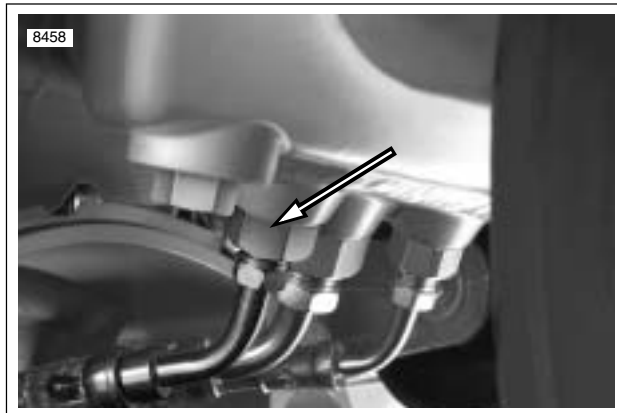


Figure 2-84. Oil Line Fittings

Table 2-13. Oil line Fittings

FITTINGS (FUNCTION)	HEX SIZE (SWINGARM)	HEX SIZE (HOSE)
Right/Small (Vent)	5/8"	7/16"
Center/Large (Supply)	13/16"	5/8"
Left/Medium (Return)	3/4"	1/2"

2. See [Figure 2-83](#). Remove swingarm bearings (5, 9) using slide hammer (SNAP-ON Part No. CJ1275 or equivalent) and 3/4 in. bearing remover and spacer.
3. Remove shock mount bushings (3) and sleeve.
4. Remove rear fender. See [2.32 FENDERS](#).

NOTE

See [Figure 2-83](#). Remove swingarm bearings (5, 9) only if replacement is required. The complete bearing assembly must be replaced as a unit when replacement is necessary. Do not intermix bearing components.

CLEANING AND INSPECTION

WARNING

Compressed air can pierce the skin and cause injury. Never use your hand to check for leaks or to determine air flow rates. Wear safety glasses to shield your eyes from flying dirt and debris. Failure to comply could result in death or serious injury.

1. Thoroughly clean all components in solvent. Blow dry with compressed air.
2. Carefully inspect all bearing components for wear and/or corrosion. Replace complete bearing assembly if any component is damaged.
3. Check that swingarm is not bent or twisted. Replace if damaged.

ASSEMBLY

Swingarm

1. See [Figure 2-83](#). Install **new** shock mount bushings (3).
2. Install **new** bearings (5, 9) and spacer (4) with BEARING INSTALLER (Part No. HD44060) by lightly seating spacer.

NOTE

Swingarm bearings should be replaced as a unit. Do not intermix components. Mark all components so they may be correctly installed.

3. See [Figure 2-84](#). Install oil line fittings on swingarm. Tighten to 29-31 ft-lbs (39-42 Nm). See [3.9 OIL HOSE ROUTING AND OIL RESERVOIR](#).
4. See [Figure 2-83](#). Install drain plug (8). Tighten to 29-31 ft-lbs (39-42 Nm).

INSTALLATION

Swingarm

1. See [Figure 2-83](#). Align swingarm (1) in pivot of engine crankcase (6).
2. Install pivot shaft (10) with a special 7/8 in. hex tool located in tool kit, ANTI-SEIZE and tighten to 24-26 ft-lbs (32-35 Nm).
3. Tighten pivot shaft pinch fastener (7) to 17-19 ft-lbs (23-26 Nm).
4. See [Figure 2-89](#). Install lower shock absorber mounting fastener (7) and spacer from shock absorber and swingarm and tighten to 15-17 ft-lbs (20.3-23 Nm).
5. Install p-clamp and washer that secures rear brake line to swingarm and tighten to 36-60 **in-lbs** (4-7 Nm).
6. Install three oil lines from swingarm fittings. See [3.9 OIL HOSE ROUTING AND OIL RESERVOIR](#).
7. Install rear wheel. See [2.6 REAR WHEEL](#).

NOTE

Installing the rear wheel will include installation of the belt drive system. See [6.6 DRIVE BELT SYSTEM](#).

8. Fill motorcycle with recommended oil. See [1.6 ENGINE LUBRICATION SYSTEM](#).

Brace

1. See [Figure 2-82](#). Install upper belt guard (1) and fasteners (2, 4).
2. Install the belt. See [6.6 DRIVE BELT SYSTEM](#).
3. See [Figure 2-83](#). Install swingarm brace (12) with swingarm brace mounting fasteners (11) loosely. Do not tighten.
4. Tighten swingarm brace fasteners (11) to 25-27 ft-lbs (34-37 Nm).
5. Tighten rear axle to 48-52 ft-lbs (65-70 Nm).
6. Tighten rear axle pinch fastener (13) to 40-45 ft-lbs (54-61 Nm).
7. Install. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
 - a. Left side passenger footpeg mount. Tighten to 15-18 ft-lbs (20-24 Nm).
 - b. Right side passenger footpeg mount. Tighten to 15-18 ft-lbs (20-24 Nm).
 - c. Right side rider footpeg mount. Tighten to 108-132 **in-lbs** (12-15 Nm).
 - d. Heel guard.
8. Remove rear wheel support stand.

WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

9. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

WARNING

After completing repairs or bleeding the system, always test motorcycle brakes at low speed. If brakes are not operating properly or braking efficiency is poor, testing at high speeds could result in death or serious injury.

WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

10. Install seat. See [2.41 SEAT](#).

Final Swingarm Inspection

1. Check oil level after starting motorcycle and allowing it to reach operating temperature.
2. Check rear brake operation.

FRONT ISOLATOR

Removal

CAUTION

Avoid cross-threading front isolator bolt or insert. Keep weight of motorcycle off front isolator by alternately loosening front isolator bolt and raising scissor jack to support engine.

1. Place a scissor jack under jacking point for supporting engine only. For location of jacking point see [Figure 2-102](#).
2. See [Figure 2-85](#). Remove clutch cable wire form.

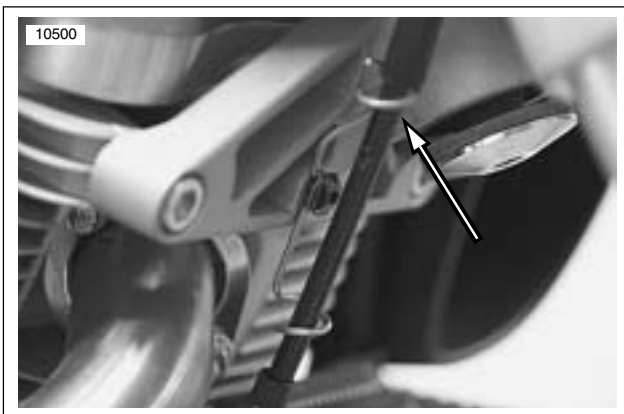


Figure 2-85. Clutch Cable Wire Form

3. See [Figure 2-86](#). Remove front isolator bolt (6).
4. Remove front isolator mount fasteners (5).
5. Remove front isolator bracket (4).
6. Remove upper snubber fastener (2) and remove upper snubber (1).

Installation

NOTE

See [Figure 2-86](#). If the threaded insert (3) is damaged and needs to be replaced, install new insert with **LOCTITE 272** and tighten to 49-51 ft-lbs (66.4-69.1 Nm).

7. See [Figure 2-86](#). Install upper snubber (1) tightening snubber fastener (2) to 12-36 **in-lbs** (1-4 Nm).
8. See [Figure 2-87](#). Lubricate front isolator bolt with **ANTI-SEIZE** and loosely install.
9. See [Figure 2-86](#). Use **LOCTITE 272** on front isolator bracket (4) and install. Tightening fastener (5) to 49-51 ft-lbs (66-69 Nm).

CAUTION

Avoid cross-threading front isolator bolt or insert. Keep weight of motorcycle off front isolator by alternately tightening front isolator bolt and raising scissor jack to support engine.

10. Tighten front isolator bolt (6) to 49-51 ft-lbs (66-69 Nm).
11. See [Figure 2-85](#). Install clutch cable wire form. Tighten fastener to 12-36 **in-lbs** (1-4 Nm).

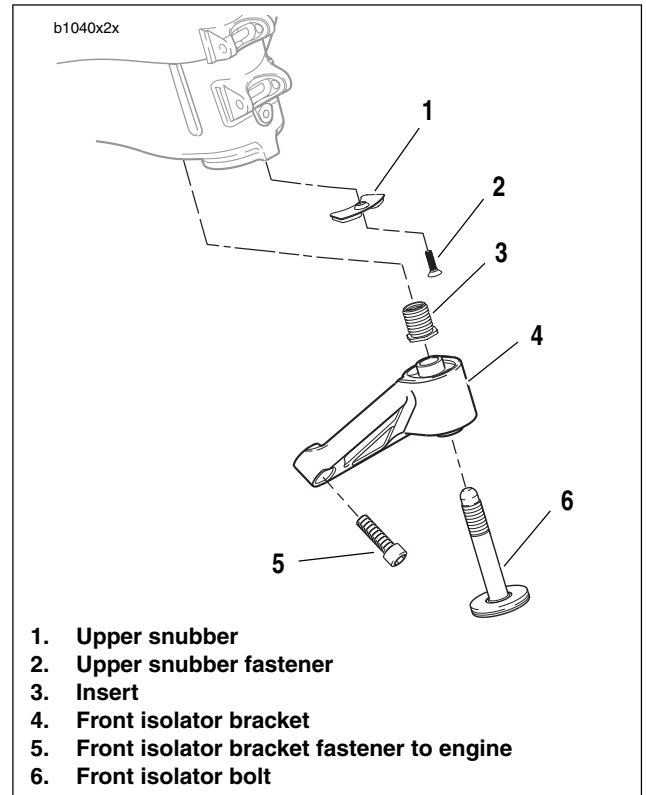


Figure 2-86. Front Isolator

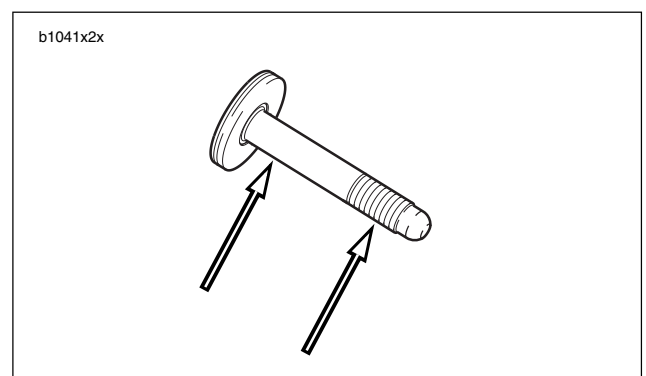


Figure 2-87. Lubrication Points on Front Isolator Bolt

REAR ISOLATOR

NOTE

It is necessary to remove engine to access rear isolator.

See [3.4 STRIPPING MOTORCYCLE FOR ENGINE SERVICE](#) to access the rear isolator.

REMOVAL

1. Remove fuel from frame. See [DRAINING FUEL TANK](#) in [4.25 FUEL PUMP](#).
2. Rotate engine. See [3.3 ENGINE ROTATION FOR SERVICE](#).
3. Remove exhaust header. See [2.29 EXHAUST SYSTEM](#).
4. Remove tail frame. See [2.37 LEFT TAIL SECTION AND BATTERY PAN](#).
5. Remove rear shock. See [2.22 REAR SHOCK ABSORBER](#).
6. Remove upper and lower fork clamps. See [2.17 FORK CLAMPS, UPPER AND LOWER](#).
7. Remove main wire harness. See [7.24 MAIN WIRE HARNESS](#).
8. Remove rear isolator fastener. See [2.20 FRONT AND REAR ISOLATORS](#).
9. See [Figure 2-88](#). Lift and remove frame from the motorcycle.

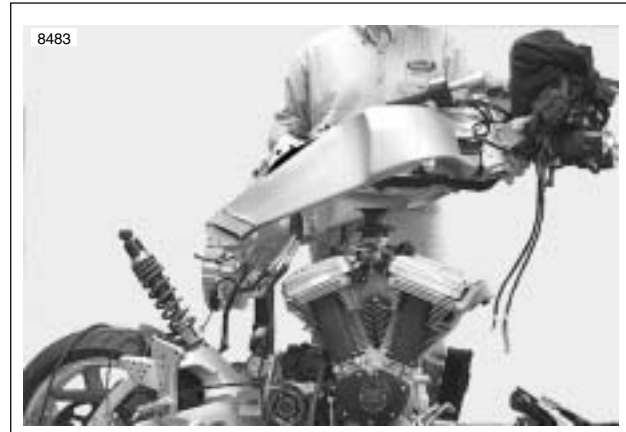


Figure 2-88. Lift Frame Off Motorcycle (Typical)

INSTALLATION

1. Place frame over the motorcycle.
2. Install rear isolator fastener. See [2.20 FRONT AND REAR ISOLATORS](#).
3. Install main wire harness. See [7.24 MAIN WIRE HARNESS](#).
4. Install upper and lower fork clamps. See [2.17 FORK CLAMPS, UPPER AND LOWER](#).
5. Install rear shock. See [2.22 REAR SHOCK ABSORBER](#).
6. Install tail frame. See [2.37 LEFT TAIL SECTION AND BATTERY PAN](#).
7. Install exhaust header. See [2.29 EXHAUST SYSTEM](#).
8. Rotate engine. See [3.3 ENGINE ROTATION FOR SERVICE](#).

GENERAL

The rear suspension is controlled by the shock absorber. The shock allows adjustment of rear compression and rebound damping and spring preload.

The most important rear shock adjustment is the preload setting. Before making any damping adjustments, set the proper preload. See [1.12 SUSPENSION DAMPING ADJUSTMENTS](#).

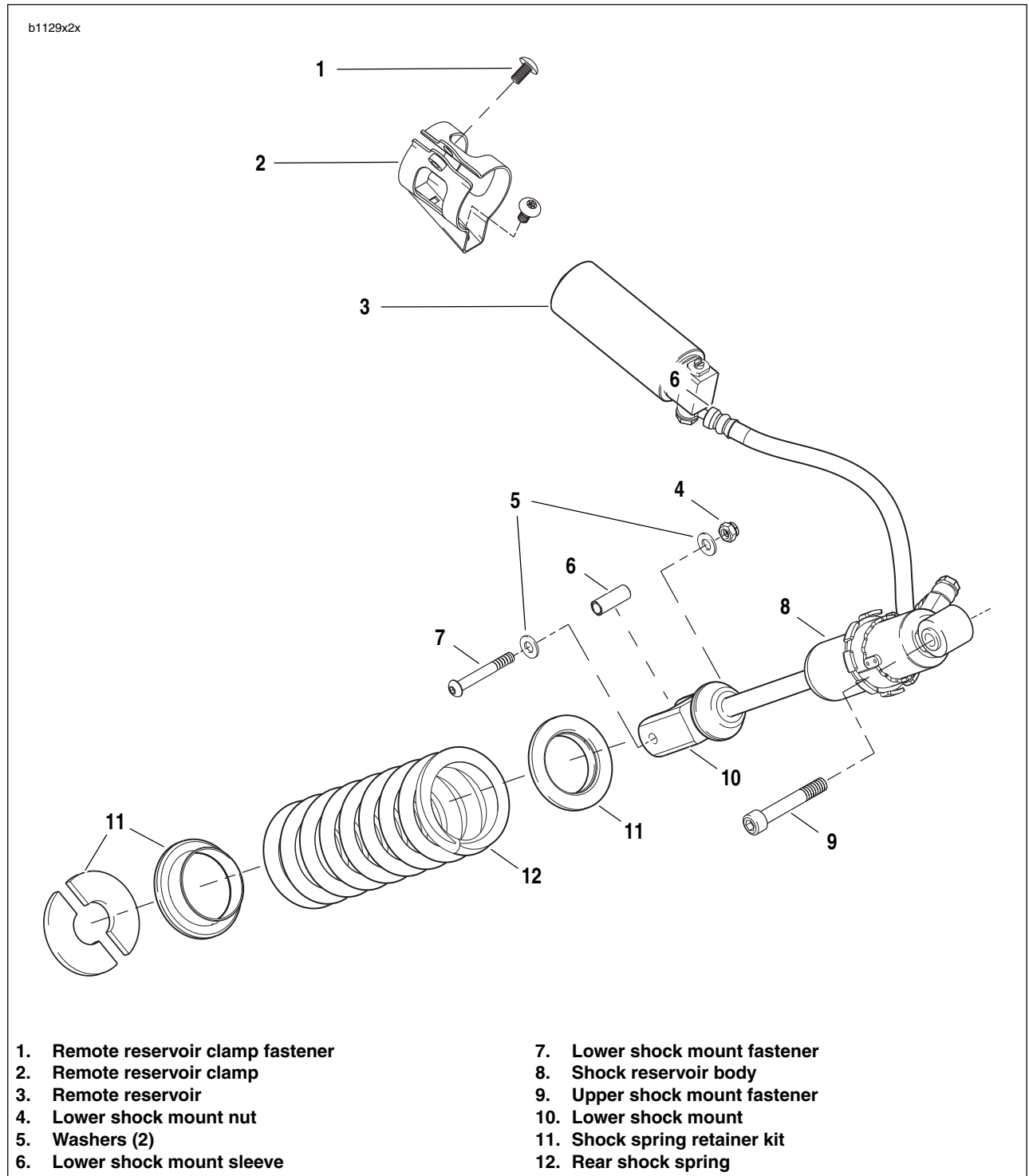


Figure 2-89. Rear Shock Absorber Assembly

REMOVAL

1. Remove seat. See [2.41 SEAT](#).

⚠ WARNING

Always disconnect the negative battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

2. Disconnect and remove battery. See [1.5 BATTERY MAINTENANCE](#).
3. Place a scissor jack under jacking point at the rear muffler and raise chassis until load has been removed from the lower shock bolt (7). See [2.29 EXHAUST SYSTEM](#) for jacking point.
 - a. Remove the nut (4) and washer (5) from the lower shock bolt and raise scissor jack until the lower bolt can be removed by hand.
 - b. After removing both shock fasteners (7, 9) and reservoir clamp fastener (1), remove rear shock assembly and reservoir.

NOTE

Remove shock assembly through the top of the tail section (opening underneath rider seat).

INSTALLATION

1. See [Figure 2-89](#). Install rear shock assembly in upper shock mount
2. Install fastener (9) and tighten to 49-51 ft-lbs (66-69 Nm).
3. Install lower shock mount with fasteners (4, 5, 7) and lower shock mount sleeve (6) and tighten to 15-17 ft-lbs (20.3-23 Nm).
4. Install rear shock reservoir through reservoir clamp and tighten clamp on reservoir to 96-120 **in-lbs** (11-14 Nm).

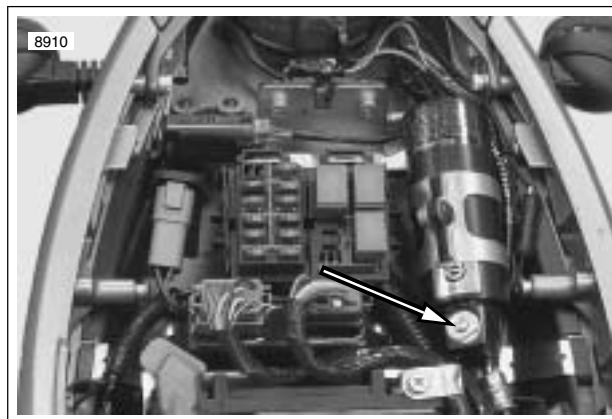


Figure 2-90. Rear Shock Absorber Adjuster Screw

NOTE

Verify compression dial is facing up. See [Figure 2-90](#).

⚠ WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

5. Install positive battery cable (red) to positive terminal of battery. Tighten to 72-96 **in-lbs** (8-11 Nm).
6. Connect negative battery cable. Tighten to 72-96 **in-lbs** (8-11 Nm).

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

7. Install seat. See [2.41 SEAT](#).

REMOVAL/DISASSEMBLY

1. See [Figure 2-91](#). Loosen cable adjuster lock (thick disc) (3) on each cable.
2. Turn adjusters (3) in direction which will shorten cable housings to minimum length.
3. Remove fasteners (1) on right switch housing and separate housing from handlebar.
4. See [Figure 2-92](#). Remove cables (2, 3) from notches in front housing (4).
5. Remove cables (2, 3) and ferrules (6) from cable wheel (7).
6. Remove airbox cover and baseplate. See [4.30 AIRBOX](#).
7. Disconnect cables from throttle body manifold to remove.
8. Cut cable straps and remove cables.

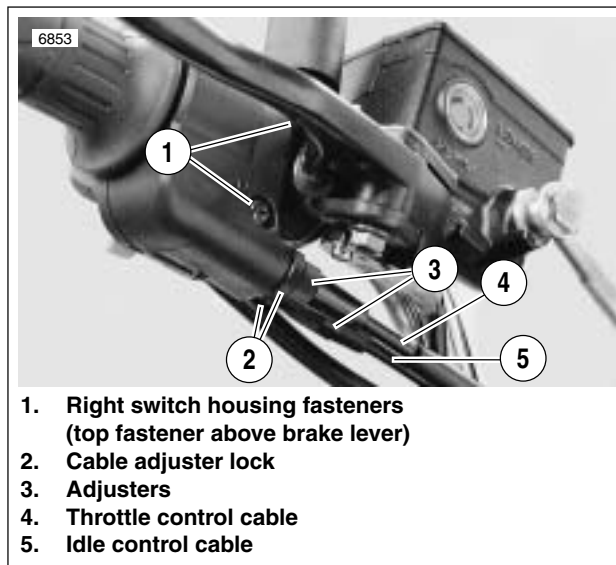


Figure 2-91. Throttle Control Cables

CLEANING AND INSPECTION

⚠ WARNING

Compressed air can pierce the skin and cause injury. Never use your hand to check for leaks or to determine air flow rates. Wear safety glasses to shield your eyes from flying dirt and debris. Failure to comply could result in death or serious injury.

Clean all parts except cables in a non-flammable cleaning solvent. Blow dry with compressed air. Replace cables if frayed, kinked or bent.

ASSEMBLY/INSTALLATION

1. Route cable as shown in [HOSE AND WIRE ROUTING](#).
2. Add cable straps as shown in the throttle cable routing in [HOSE AND WIRE ROUTING](#).
3. Install throttle grip and position ferrules (6) into cable wheel (7).
4. Insert idle control into front switch housing.
5. Slide switch housing over throttle.
6. Insert throttle cable into front switch housing.
7. See [Figure 2-91](#). Attach rear switch housing and position housings on right handlebar by engaging locating pin on front housing with hole in handlebar. Attach housings with two fasteners, installing longer fastener on bottom. Tighten to 25-33 **in-lbs** (3-4 Nm).
8. Adjust cables. See [1.16 THROTTLE CABLE AND IDLE SPEED ADJUSTMENT](#).
9. Install airbox assembly. See [4.30 AIRBOX](#).

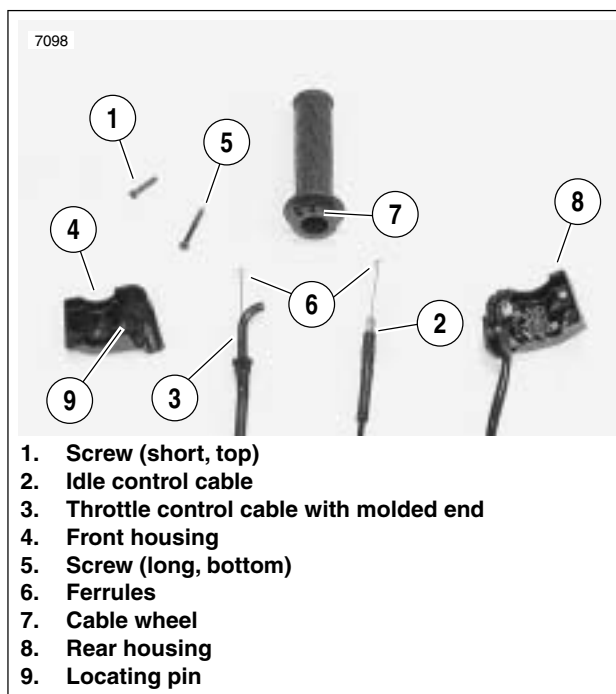


Figure 2-92. Cable Connections

REMOVAL/DISASSEMBLY

NOTE

For clutch adjustment, see 1.9 CLUTCH.

1. See Figure 2-93. Remove wire form from front isolator.
2. Cut cable strap on left handlebar to release wiring harness.
3. See Figure 2-94. Slide clutch cable adjuster boot (8) up to access clutch adjuster (7).
4. Loosen clutch adjuster (7) to release tension from hand lever (4).
5. Remove clutch cable ferrule (9) from hand lever (4).
6. Remove hand lever pinch bolt (3).
7. Remove hand lever (4) from hand lever clamp (2).
8. Remove safety interlock switch (5).
 - a. Remove hand lever clamp fastener (1) and spin clamp (2) to access safety interlock switch (5).
 - b. Disconnect safety interlock switch connector (5) and remove switch fastener (6) and switch (5).

NOTE

The individual parts of the clutch switch are not serviceable. Replace switch upon failure.

9. Remove left handlebar grip.
10. Slide clutch lever bracket off of handlebar.

ASSEMBLY/INSTALLATION

1. See Figure 2-94. Slide hand lever clutch clamp (2) over left handlebar. Loosely tighten hand lever pinch fastener and nut (3).
2. Connect safety interlock connector and switch (5).
3. Install safety interlock switch (5) with fastener (6) tightening to 7-10 **in-lbs** (0.8-1.0 Nm).

NOTE

Apply small amount of **LOCTITE ANTI-SEIZE LUBRICANT** to bolt (3).

4. Install clutch hand lever (4) in hand lever clamp (2) and tighten hand lever pinch fastener (3) to 39-48 **in-lbs** (4-5 Nm).
5. Position hand lever (4) to rider preference and tighten hand lever clamp pivot fastener (1) to 36-60 **in-lbs** (4-7 Nm).
6. Connect clutch cable ferrule (9) to hand lever clamp (2).
7. Install cable strap attaching wiring harness to left handlebar. Do not over tighten cable strap.
8. Adjust clutch cable. See 1.9 CLUTCH.

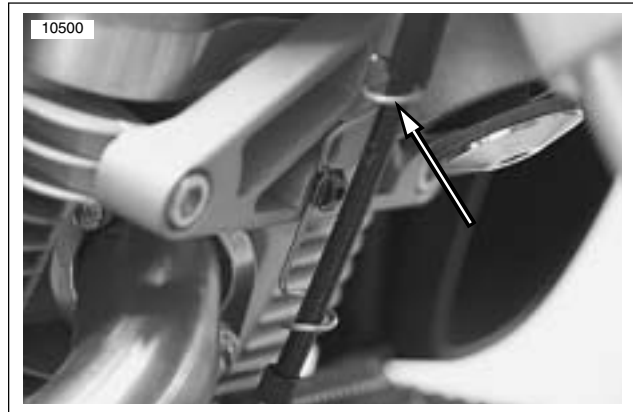
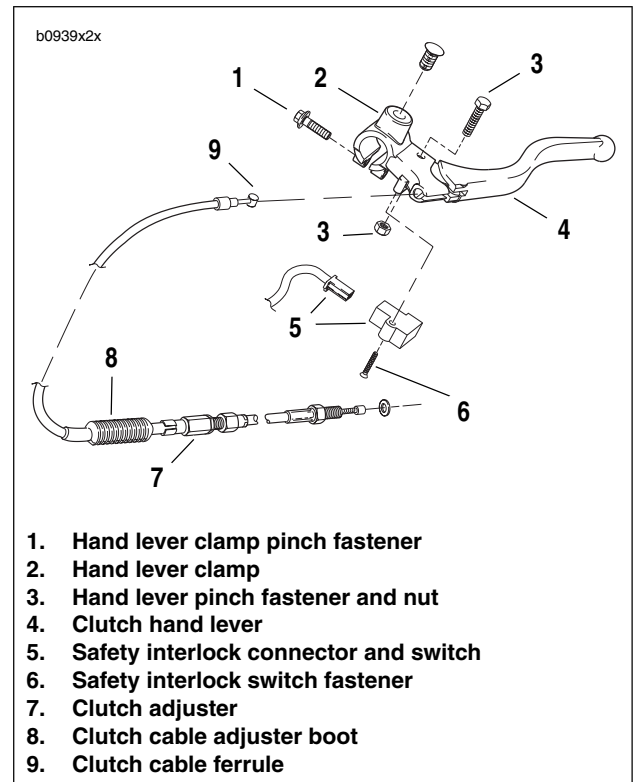


Figure 2-93. Clutch Cable Wire Form



1. Hand lever clamp pinch fastener
2. Hand lever clamp
3. Hand lever pinch fastener and nut
4. Clutch hand lever
5. Safety interlock connector and switch
6. Safety interlock switch fastener
7. Clutch adjuster
8. Clutch cable adjuster boot
9. Clutch cable ferrule

Figure 2-94. Clutch Hand Control Assembly

REMOVAL

1. Remove seat. See 2.41 SEAT.

WARNING

To protect against accidental start-up of vehicle and possible personal injury, disconnect the negative battery cable before proceeding. Inadequate safety precautions could cause a battery explosion, which could result in death or serious injury.

2. Disconnect battery by unthreading fastener removing negative cable (black) from battery first. See 1.5 BATTERY MAINTENANCE.
3. Remove windscreen. See 2.40 WINDSCREEN.
4. See Figure 2-95. Disconnect horn connectors [122] (2) and remove horn fastener (4) and horn (1).

NOTE

Horn bracket (3) should remain attached to headlight support bracket.

5. See Figure 2-95. Disconnect headlight connector [38] (5).
6. Remove female connector from headlight support bracket by sliding connector upward and off of attachment clip.
7. Remove headlight assembly.
 - a. Remove both upper headlight assembly fasteners (6).
 - b. Remove lower fastener (not shown).
 - c. Remove headlight assembly (7) from headlight support bracket (9).
8. Remove remaining two fasteners (8) securing headlight support bracket to left and right front modules (10).
9. Remove headlight support bracket (9) by sliding the left side of the bracket (on right side of vehicle) up, back and then out.

NOTE

The horn bracket (3) should be attached to the headlight support bracket and should be removed as needed.

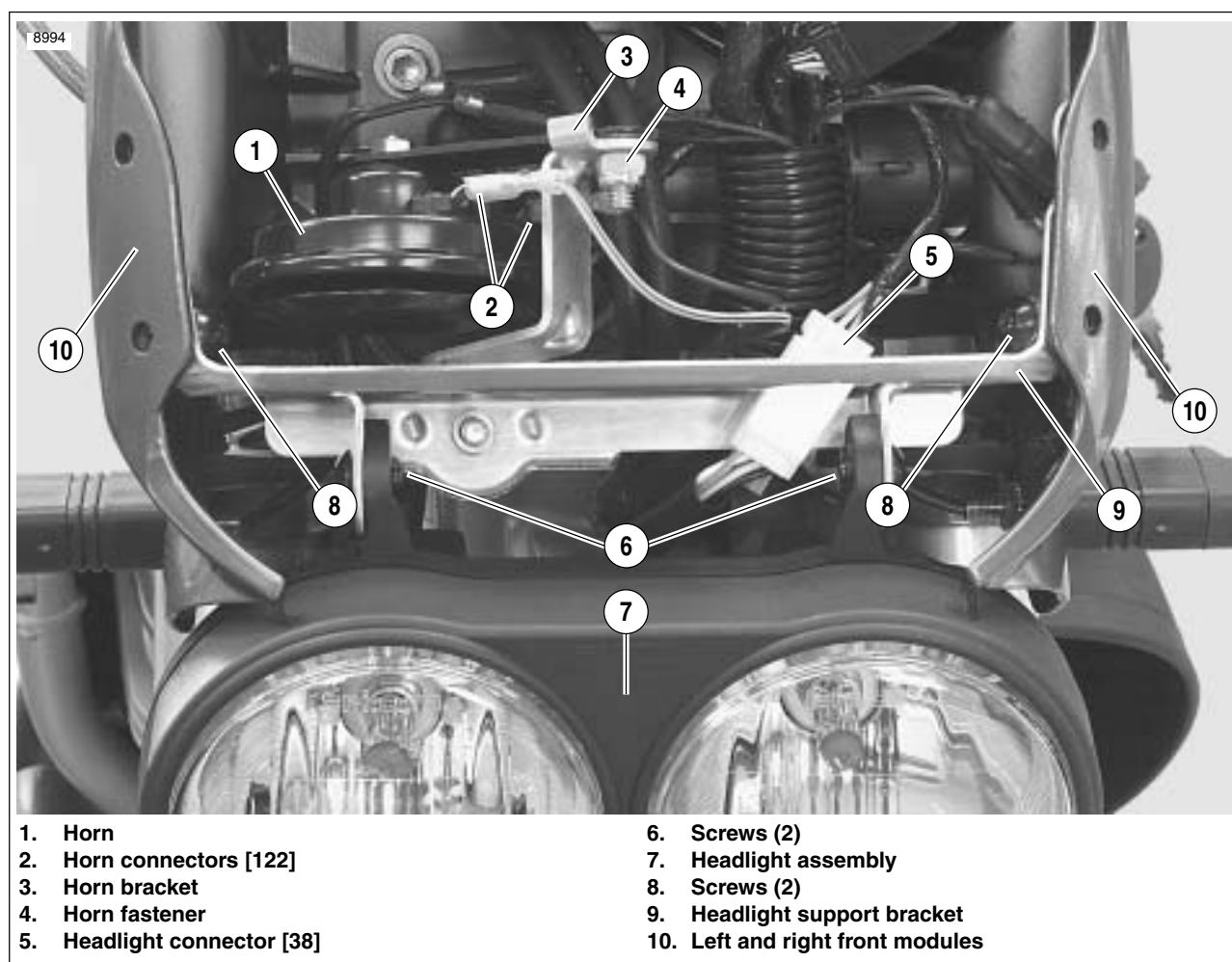


Figure 2-95. Headlight Assembly and Support Bracket

DISASSEMBLY

1. See [Figure 2-96](#). Remove rubber boots (1) from rear of headlight housing.
2. Disconnect wiring harness (5) from headlight bulbs (3) and remove along with position bulb socket (6).
3. Remove bulb holders (2).
4. Remove headlight bulbs (3) from back of headlight housing (4).

NOTE

The tab on the base of the headlight bulb should rest between the two tabs located at the top of the hole on the back of the headlight assembly.

2. Install bulb holders (2).
3. Connect wiring harness (5) to headlight bulbs (3) and install rubber boots (1) and install position bulb socket (6) between the headlights. For proper alignment of rubber boots see [7.12 HEADLIGHT](#).

ASSEMBLY

1. See [Figure 2-96](#). Align and install headlight bulbs (3) into back of headlight housing (4).

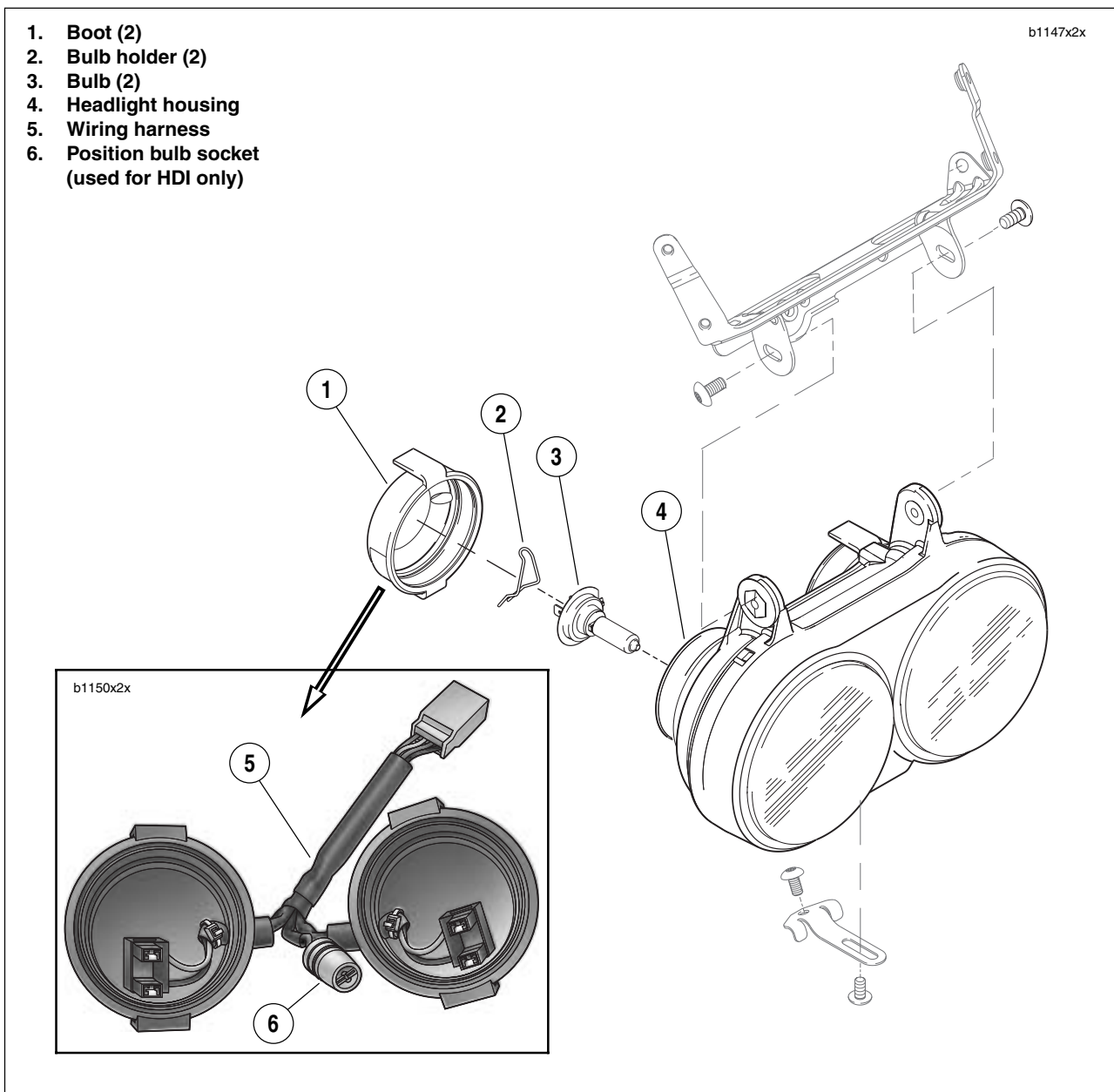


Figure 2-96. Headlight Assembly

INSTALLATION

1. See [Figure 2-97](#). Install headlight support bracket (9).
2. Install fasteners (8) securing headlight support bracket to left and right front modules (10) and tighten to 48-72 in-lbs (5.4-8.1 Nm).
3. Install headlight assembly.
 - a. Install headlight assembly (7) into headlight support bracket (9).
 - b. Install both upper headlight fasteners (6) but do not tighten.
 - c. Install lower fastener (not shown), do not tighten.
4. Attach headlight connector to headlight support bracket.
5. Connect headlight connector [38] (5).
6. Install shorn (1) and tighten fastener (4) to 72-96 in-lbs (8.1-10.8 Nm).
7. Connect horn connectors [122] (2).
8. Adjust headlights. See [1.19 HEADLIGHTS](#).
9. Install windscreen. See [2.40 WINDSCREEN](#).

⚠ WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

10. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 in-lbs (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

11. Install seat. See [2.41 SEAT](#).

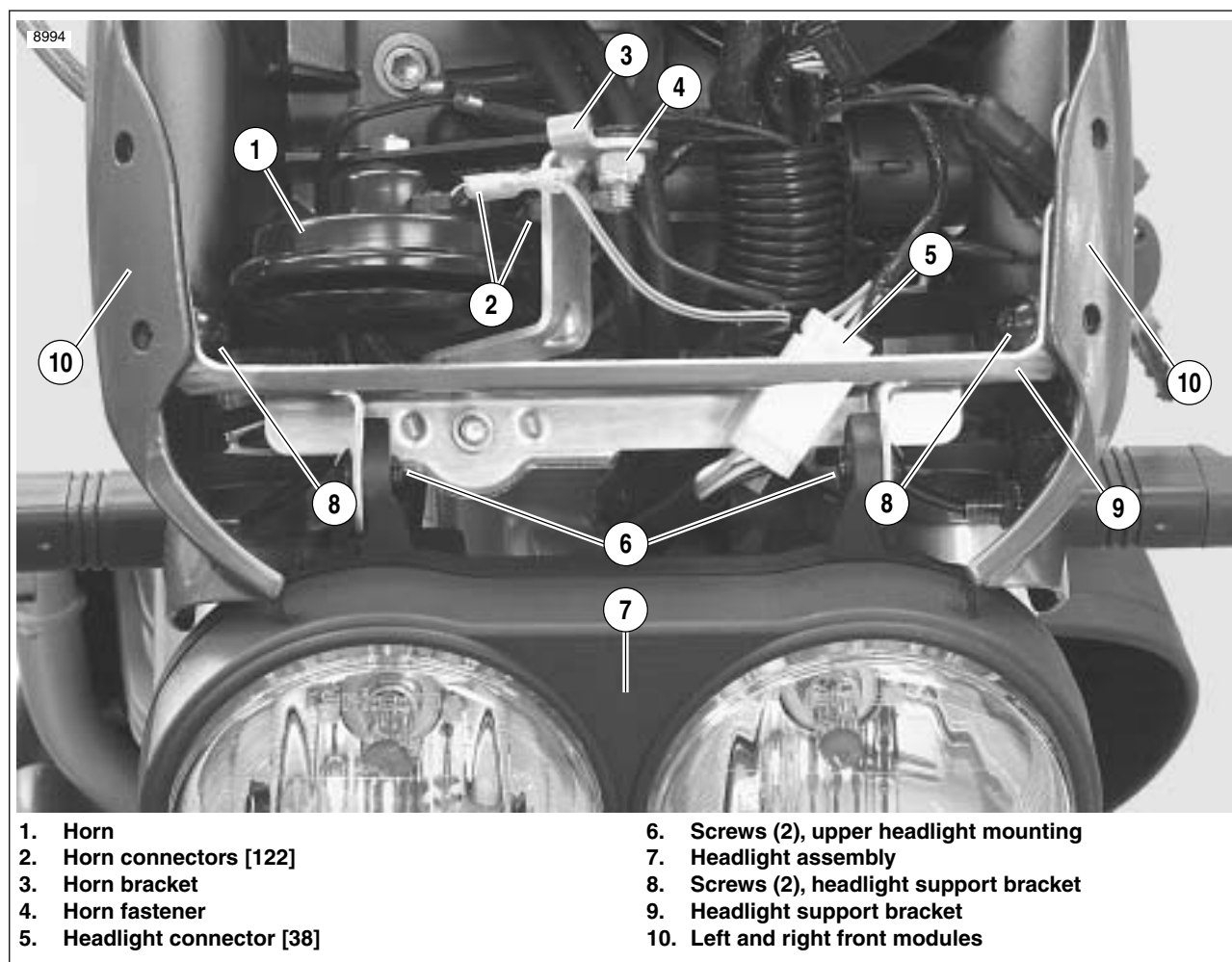


Figure 2-97. Headlight Assembly and Support Bracket

REMOVAL

1. Remove seat. See [2.41 SEAT](#).

 **WARNING**

To protect against accidental start-up of vehicle and possible personal injury, disconnect the negative battery cable before proceeding. Inadequate safety precautions could cause a battery explosion, which could result in death or serious injury.

2. Disconnect battery by unthreading fastener removing negative cable (black) from battery first. See [1.5 BATTERY MAINTENANCE](#).
3. Remove windscreen. See [2.40 WINDSCREEN](#).
4. Remove headlight assembly and support bracket. See [2.25 HEADLIGHT ASSEMBLY AND SUPPORT BRACKET](#).
5. Disconnect and remove instrument module. See [7.19 INSTRUMENT MODULE](#).
6. Remove ignition switch. See [7.3 IGNITION/HEADLIGHT KEY SWITCH](#).

NOTE

See [Figure 2-98](#). Once the ignition switch has been removed there will be two remaining fasteners.

7. See [Figure 2-98](#). Remove fastener attaching p-clamp to rear side of right front module.

NOTE

See [Figure 2-99](#). Once the clamp load has been released on the final fastener securing the right front module to the upper triple clamp, the left front module can be removed.

8. See [Figure 2-98](#). Loosen but do not remove final fastener securing the right front module to upper triple clamp.
9. See [Figure 2-99](#). Remove the left front module.
10. See [Figure 2-98](#). Remove the final fastener and the right front module.

INSTALLATION

1. See [Figure 2-98](#). Install right front module leaving single fastener loose.
2. After installing the left front module and aligning with holes in upper triple clamp, tighten previously installed single fastener to 12-14 ft-lbs (16.3-19 Nm).
3. Attach front brake line p-clamp to rear of right front module and tighten fastener to 36-60 **in-lbs** (4.1-6.8 Nm).
4. Install ignition switch. See [7.3 IGNITION/HEADLIGHT KEY SWITCH](#).
5. Install and connect instrument module. See [7.19 INSTRUMENT MODULE](#).
6. Install headlight assembly and support bracket. [2.25 HEADLIGHT ASSEMBLY AND SUPPORT BRACKET](#).
7. Install windscreen. See [2.40 WINDSCREEN](#).

 **WARNING**

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

8. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

 **WARNING**

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

9. Install seat. See [2.41 SEAT](#).

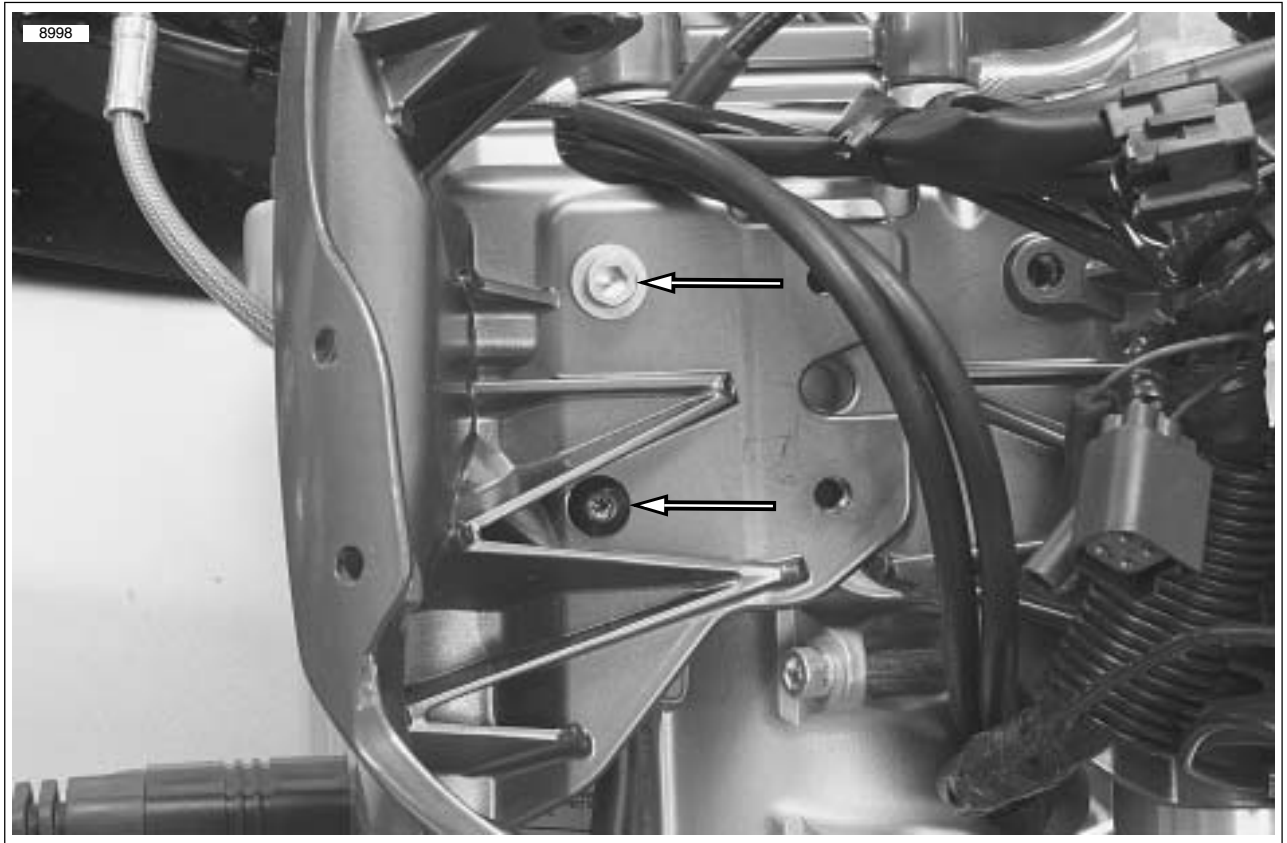


Figure 2-98. Right Front Module Fastener and Brake Line P-Clamp Fastener

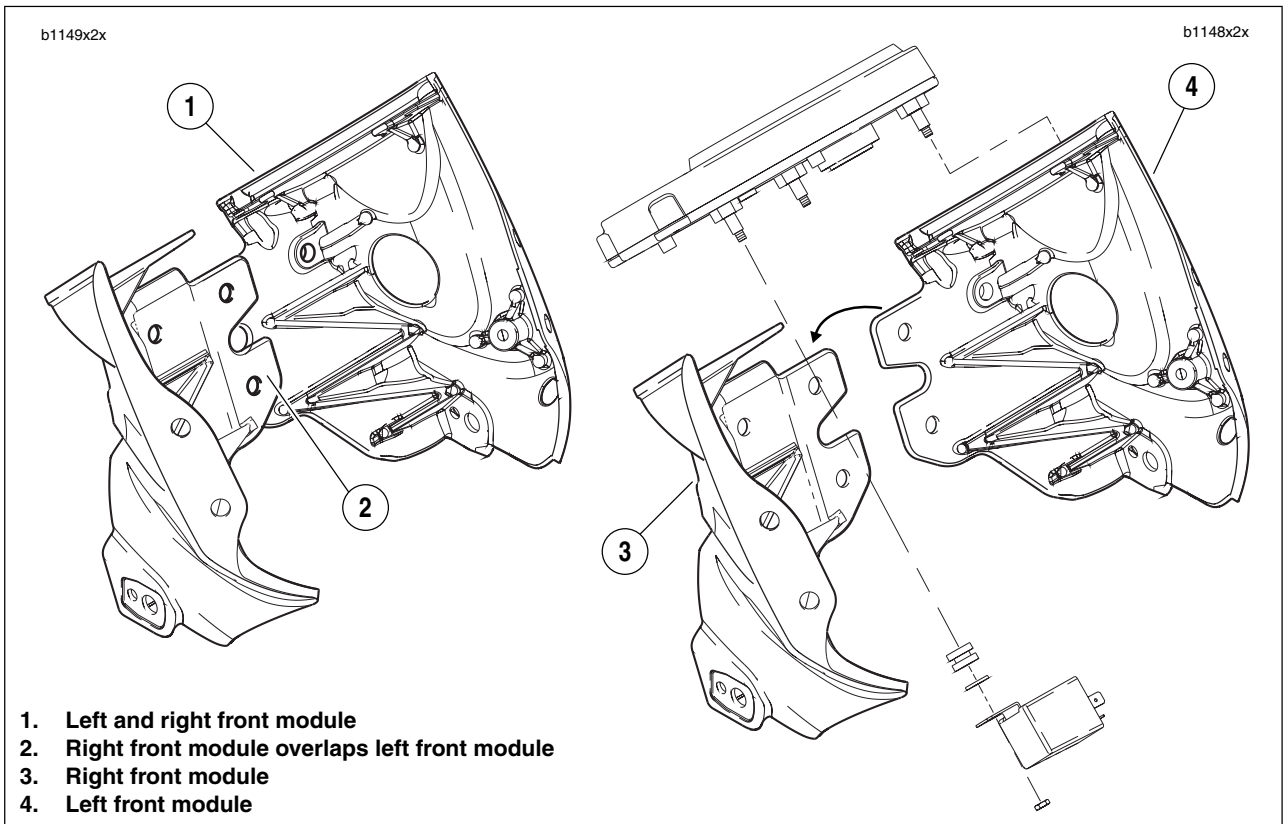


Figure 2-99. Fairing Support Bracket Assembly

REMOVAL

1. Remove seat. See [2.41 SEAT](#).

WARNING

To avoid accidental start-up of vehicle and possible personal injury, disconnect the negative battery cable before proceeding. Inadequate safety precautions could result in death or serious injury.

2. Disconnect battery negative cable.
3. Remove left handlebar switch housing. See [7.17 HANDLEBAR SWITCHES](#). Cut left handlebar grip and remove.
4. Detach clutch hand control from handlebars. See [2.24 CLUTCH HAND LEVER](#).
5. Remove front brake master cylinder. See [2.10 FRONT BRAKE MASTER CYLINDER AND HAND LEVER](#).
6. Loosen screws on right handlebar switch housing, but do not detach throttle grip assembly from handlebar. See [2.23 THROTTLE CONTROL](#).
7. See [Figure 2-100](#). Remove the four screws holding upper handlebar clamp.

NOTE

Right hand control assembly may now be removed from detached handlebar.

8. Remove handlebars without stretching throttle cables.
9. See [Figure 2-100](#). Remove endcaps.

INSTALLATION

1. Slide handlebars into throttle grip assembly. Fasten right handlebar switch housing to handlebar. See [2.23 THROTTLE CONTROL](#).
2. See [Figure 2-100](#). Attach handlebars.
 - a. Position handlebar on lower clamp.
 - b. Place the upper handlebar clamp in position and thread the four screws in place after applying Loctite 272 (Red).
 - c. Tighten both front screws to 10-12 ft-lbs (14-16 Nm).
 - d. Then tighten both rear screws (2) 10-12 ft-lbs (14-16 Nm).

3. Install clutch hand control. See [2.24 CLUTCH HAND LEVER](#).
4. Install left switch housing. See [7.17 HANDLEBAR SWITCHES](#).
5. Check control wire routings. See [HOSE AND WIRE ROUTING](#).
 - a. Route right hand control wires between the lower clamp and fork tube and on the outside of the clutch cable.
 - b. Route left hand control wires between the lower clamp and fork tube.
6. Install a **new** left hand grip.
7. Install front brake master cylinder. See [2.10 FRONT BRAKE MASTER CYLINDER AND HAND LEVER](#).
8. Check steering motion range to both fork stops.

WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

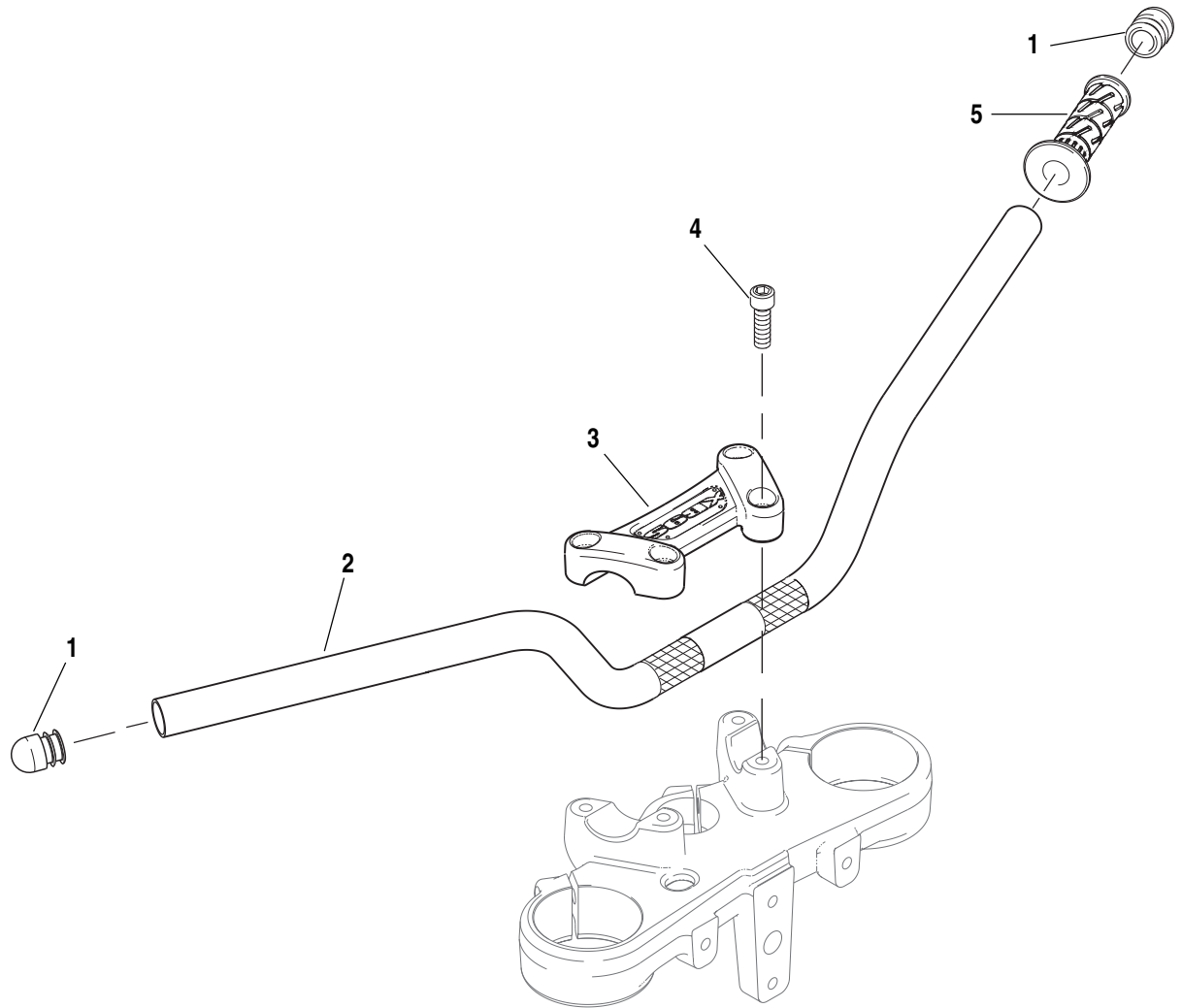
9. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

10. Install seat. See [2.41 SEAT](#).

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- 1. Endcap (2)
- 2. Handlebar
- 3. Handlebar clamp
- 4. Clamp fasteners (4)
- 5. Left hand grip

Figure 2-100. Handlebar Assembly

REMOVAL

1. See Figure 2-101. Loosen adjuster nut (2) and remove mirror (1) from mount (3).
2. Loosen mount (3) and remove from bracket (4).

INSTALLATION

1. Install mount (3) onto bracket (4) and tighten to 20-22 ft-lbs (27.1-29.8 Nm).

NOTE

Before tightening adjuster nut, position mirrors for rider.

2. Install mirror (1) and tighten adjuster to 115-130 in-lbs (13-14.7 Nm).

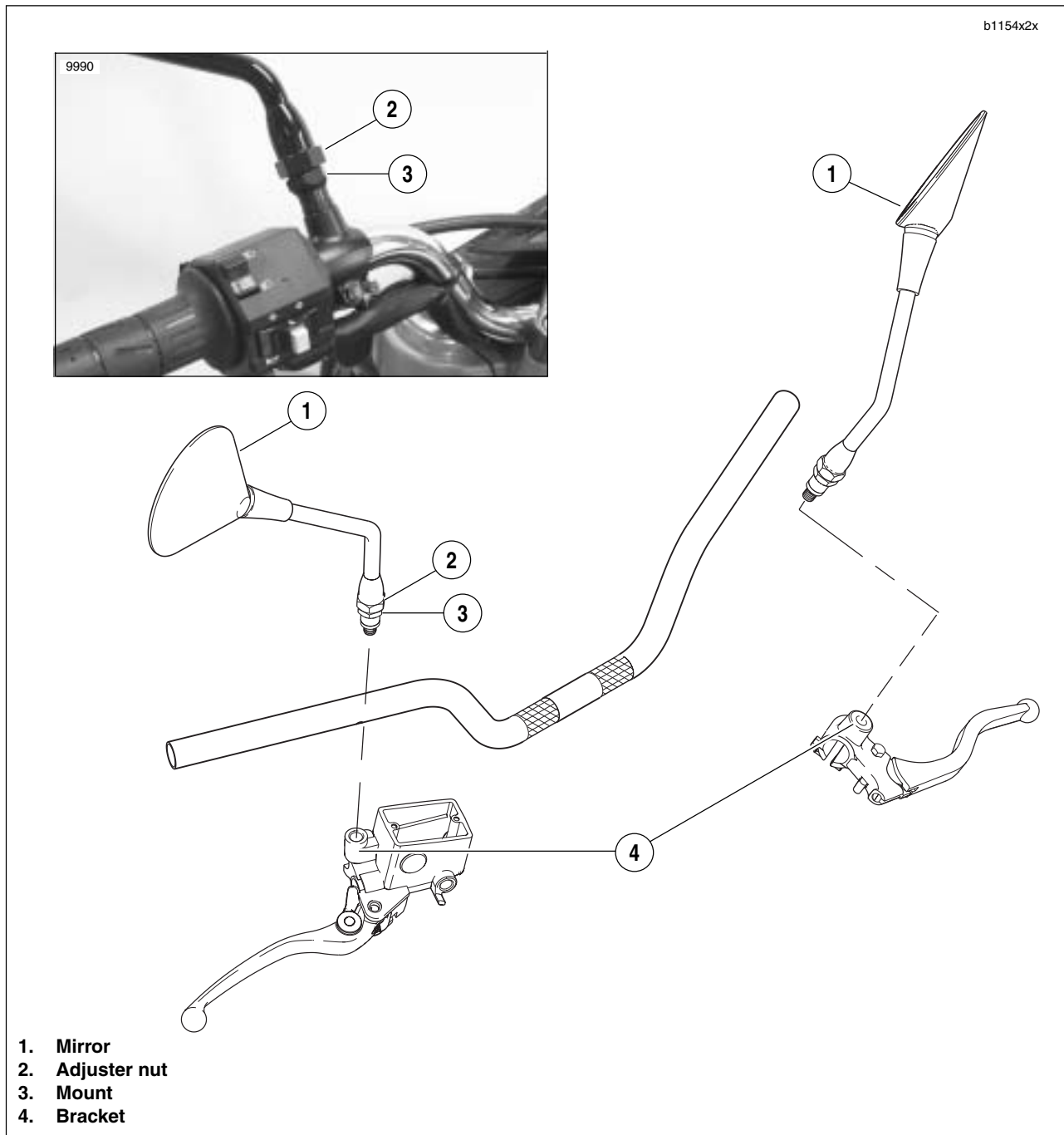


Figure 2-101. Mirrors and Mounting Hardware

REMOVAL/DISASSEMBLY

NOTE

For details on removal of components on XB12S with interactive exhaust systems, see [REMOVAL](#) under [7.6 INTERACTIVE EXHAUST SYSTEM \(XB12S\)](#).

Muffler

1. Remove chin fairing. See [2.34 CHIN FAIRING](#).
2. Remove front sprocket cover. See [2.31 SPROCKET COVER](#).
3. Remove idler pulley. See [DRIVE BELT REMOVAL](#) in [1.10 DRIVE BELT](#).
4. See [Figure 2-102](#). Loosen front muffler mount fastener (7) but do not remove.
5. Remove front and rear muffler straps.

Front: Remove front muffler strap fastener (5).

NOTE

Always replace the front muffler strap.

Rear: Alternately loosen rear strap fasteners (1) and remove straps (2).

6. See [Figure 2-103](#). Loosen Torca clamp (1) and remove muffler.

NOTE

The muffler may be removed for replacement without removing the exhaust header.

Front Muffler Mount

1. Remove muffler.

NOTE

For details on removal of components on XB12S with interactive exhaust systems, see [REMOVAL](#) under [7.6 INTERACTIVE EXHAUST SYSTEM \(XB12S\)](#).

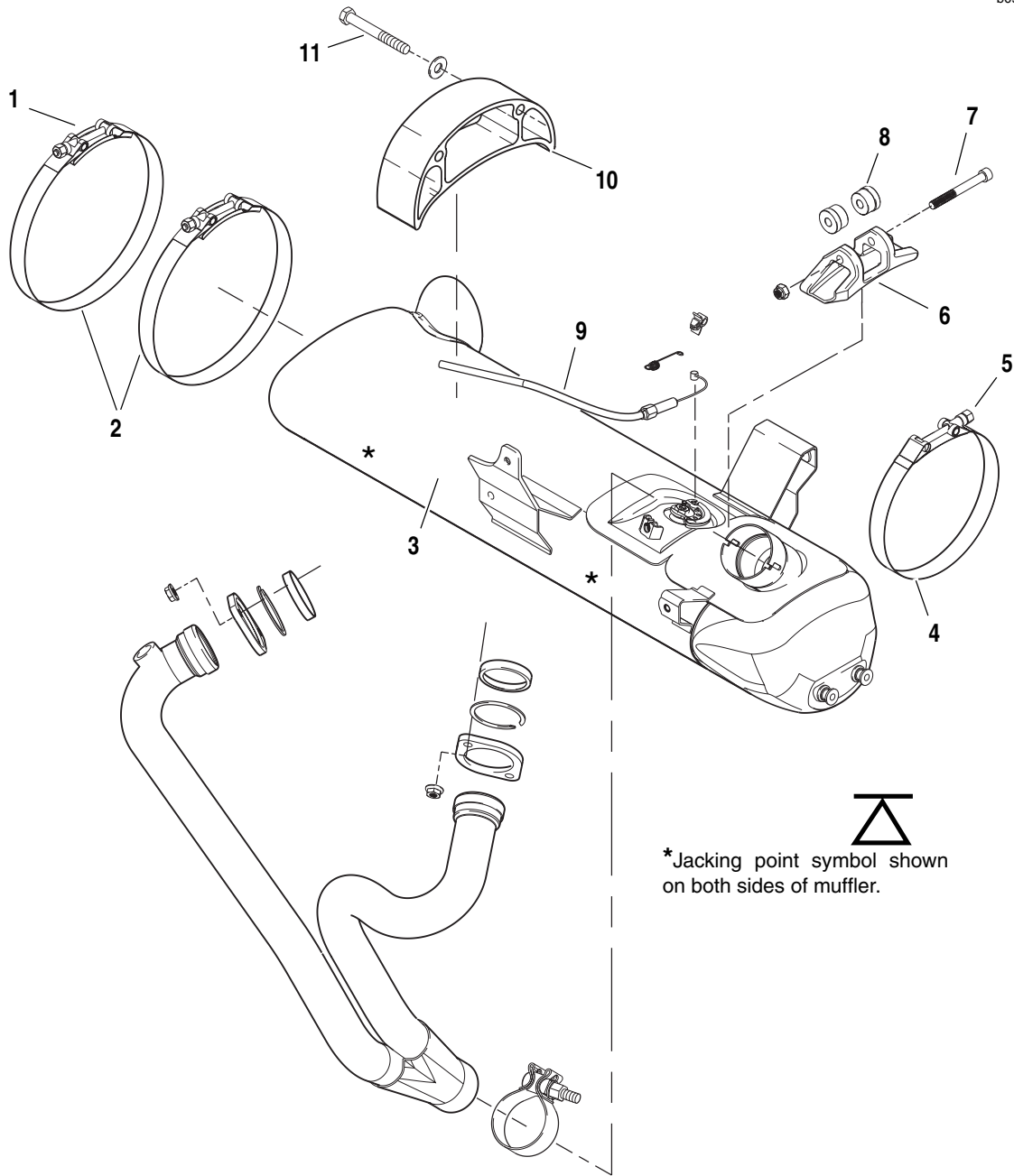
2. See [Figure 2-102](#). Remove front muffler mount fastener (7).
3. Remove strap (4) from front muffler mount (6).
4. Remove front muffler mount bushings (8) by punching out with suitable tool.

Rear Muffler Bracket

1. Remove muffler.
2. Drain oil. See [Draining Oil](#) in [1.6 ENGINE LUBRICATION SYSTEM](#).
3. Remove oil lines from swingarm. See [3.9 OIL HOSE ROUTING AND OIL RESERVOIR](#).
4. See [Figure 2-102](#). Remove rear muffler bracket fasteners (10).
5. Slide oil lines from rear muffler bracket and remove rear muffler bracket (9).

Exhaust Header

1. Rotate engine down. See [3.3 ENGINE ROTATION FOR SERVICE](#).
2. Remove oxygen sensor. See [4.19 OXYGEN SENSOR](#).
3. See [Figure 2-103](#). Remove exhaust header (2) by removing mounting fasteners (3).
4. Remove exhaust ring (4), retaining ring (5) and port gasket (6).



1. Rear muffer strap fastener (2)
2. Rear muffer strap (2)
3. Interactive muffer
4. Front muffer strap
5. Front muffer strap fastener
6. Front muffer mount
7. Front strap fastener
8. Front muffer mount bushings
9. Interactive exhaust cable
10. Rear muffer bracket
11. Rear muffer bracket fasteners (2)

*Jacking point symbol shown
on both sides of muffer.

Figure 2-102. Muffer Assembly

ASSEMBLY/INSTALLATION

Exhaust Header

1. See [Figure 2-103](#). Install exhaust ring (4), retaining ring (5) and **new** port gasket (6).
2. Install exhaust header (2). Tighten mounting fasteners (3) to 72-96 in-lbs (8-11 Nm).

NOTE

Tighten header nuts gradually, alternating between studs to insure that exhaust rings are flush with engine.

3. Install oxygen sensor. See [4.19 OXYGEN SENSOR](#).
4. Rotate engine up. See [3.3 ENGINE ROTATION FOR SERVICE](#).

Rear Muffler Bracket

1. See [Figure 2-102](#). Slide rear muffler bracket (9) over oil lines.
2. Install rear muffler bracket fasteners (10) and tighten to 32-36 ft-lbs (43-49 Nm).
3. Install oil lines to swingarm. See [3.9 OIL HOSE ROUTING AND OIL RESERVOIR](#).
4. Fill swingarm/oil tank with 2.5 quarts (3.3 liters) oil. See [Draining Oil](#) in [1.6 ENGINE LUBRICATION SYSTEM](#).
5. Install muffler.

Front Muffler Mount

1. See [Figure 2-102](#). Install front muffler mount bushings (8).
2. Install **new** strap on front muffler mount (6).
3. Install front fastener (7) loosely. **Do not tighten.**
4. Install muffler.

NOTE

For details on assembly of components on XB12S with interactive exhaust systems, see [INSTALLATION](#) under [7.6 INTERACTIVE EXHAUST SYSTEM \(XB12S\)](#).

Muffler and Straps

NOTE

Torca muffler clamps have eliminated the need for silicone or graphite tape during assembly. To ensure sealing integrity of muffler clamps and prevent the possibility of leakage, Buell recommends that muffler clamp assemblies be discarded and replaced each time they are removed.

1. Install muffler and **new** Torca clamp onto header.

NOTE

If necessary, use a fiber hammer to fit muffler on header.

⚠ WARNING

Never reuse front muffler strap. Always replace front muffler strap with a new strap when removed from system.

2. See [Figure 2-102](#). Loosely install **new** front and rear muffler straps (2, 4).

⚠ WARNING

Muffler straps must be tightened in steps to keep from over tightening or muffler will be crushed.

⚠ WARNING

Always ensure that straps do not contact the chin fairing or the idler pulley assembly.

3. Tighten front strap fastener and alternately tighten rear muffler strap fasteners evenly till fasteners are tightened to:
 - a. Front: 108-120 **in-lbs** (12-14 Nm).
 - b. Rear: 48-60 **in-lbs** (5-7 Nm).
4. See [Figure 2-102](#). Tighten front muffler mount fastener (7) to 16-18 ft-lbs (21.7-24.4 Nm).
5. See [Figure 2-103](#). Tighten the Torca clamp (1) to 40-45 ft-lbs (54-61 Nm).
6. Install idler pulley. See [DRIVE BELT REMOVAL](#) in [1.10 DRIVE BELT](#).
7. Install front sprocket cover. See [2.31 SPROCKET COVER](#).
8. Install chin fairing. See [2.34 CHIN FAIRING](#).

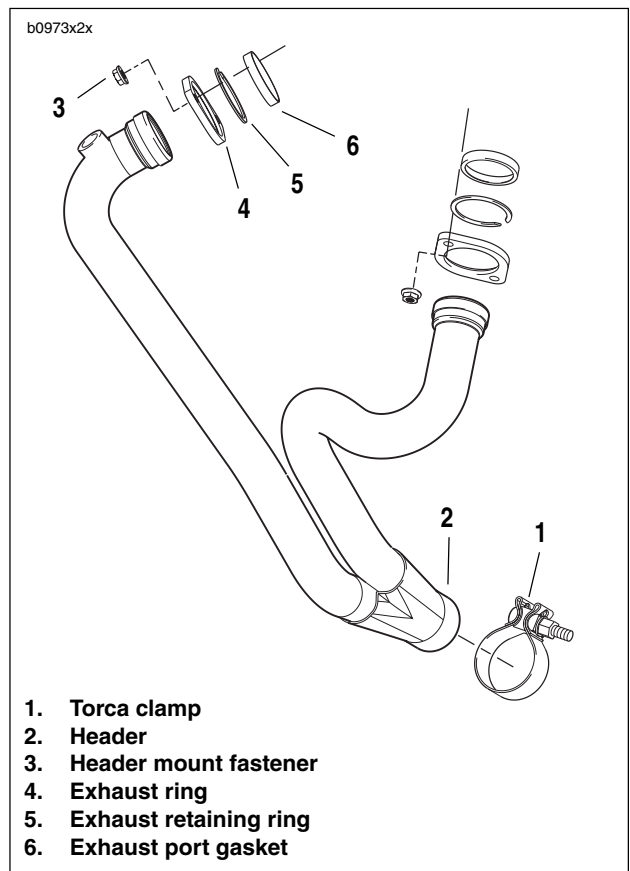


Figure 2-103. Exhaust Header

RIDER

Remove Wear Peg

1. See [Figure 2-104](#). Remove wear peg from end of footpeg assembly.

Remove Footpeg

1. See [Figure 2-104](#). Remove clip (5).
2. Remove footpeg pin (9).
3. Remove footpeg (8).

Remove Heel Guard

1. See [Figure 2-104](#). Remove heel guard fasteners (4).
2. Remove heel guard (3).

Remove Mount

1. See [Figure 2-104](#). Remove footpeg mount fasteners (2).
2. Remove footpeg mount (1).

Install Mount

1. See [Figure 2-104](#). Position footpeg mount (1).
2. Install footpeg mount with fasteners (2). Tighten to 108-132 **in-lbs** (12-15 Nm).

Install Heel Guard

1. See [Figure 2-104](#). Position heel guard (3) onto footpeg mount (1).
2. Install heel guard (3) with fasteners (4). Tighten to 72-96 **in-lbs** (8-11 Nm).

Install Footpeg

1. See [Figure 2-104](#). Install clip (5).
2. Position footpeg (8) on to footpeg mount (1).
3. Install footpeg pin (9).

Install Wear Peg

1. See [Figure 2-104](#). Apply Loctite 272 (Red) and tighten to 36-48 **in-lbs** (4.1-5.4 Nm).

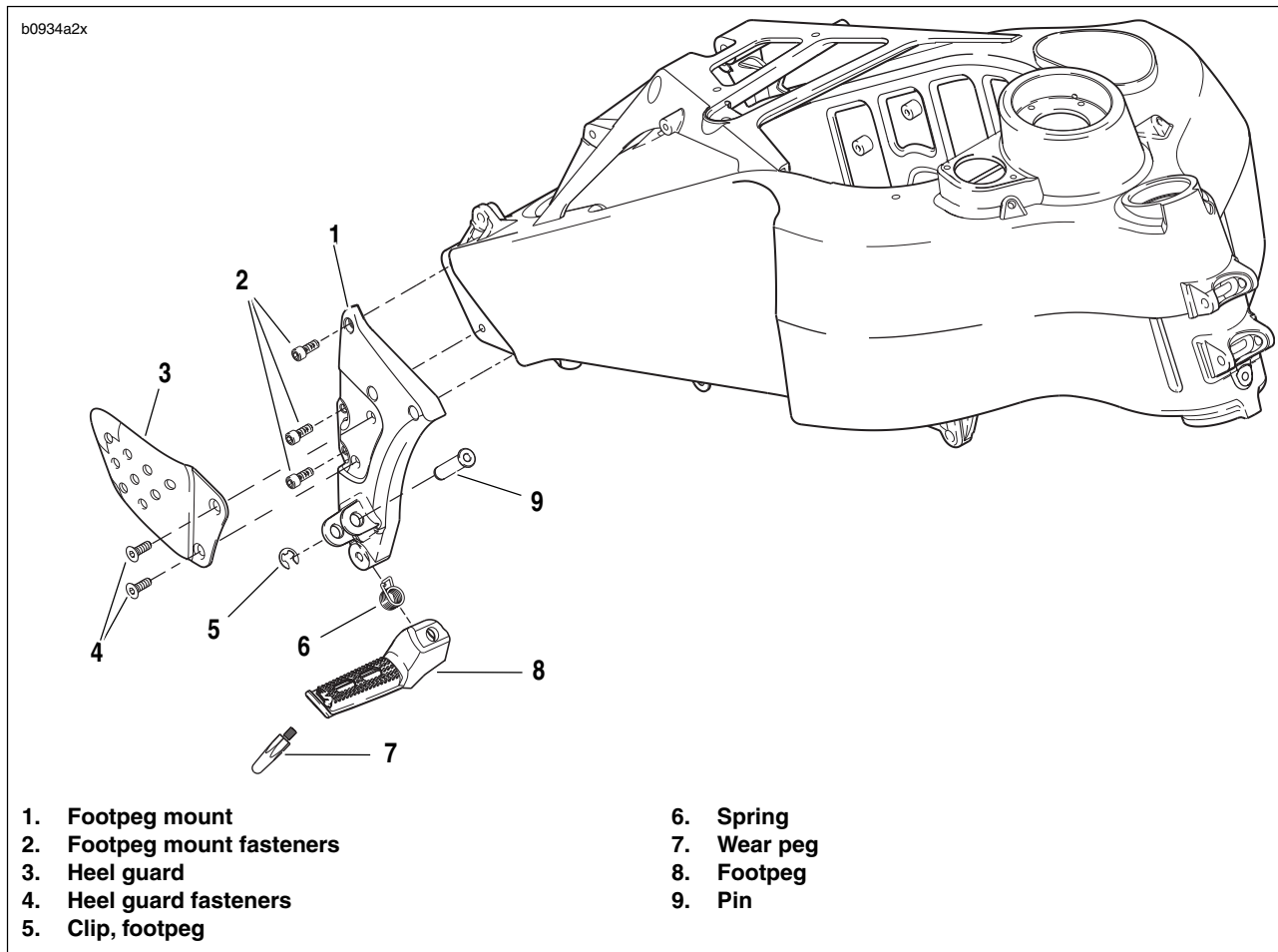


Figure 2-104. Rider Footpeg, Mount and Heel Guard Assembly

PASSENGER

Remove Footpeg

1. See [Figure 2-105](#). Remove clip (7).
2. Remove footpeg pin (9).
3. Remove footpeg (8), detent plate (6), ball (5) and spring (4).

Remove Heel Guard

1. See [Figure 2-105](#). Remove heel guard fasteners (1).
2. Remove heel guard (2).

Remove Mount

NOTE

The portion of the right and left tail sections where the passenger footpeg supports attach is threaded at both locations. A jam nut is utilized on one of the fasteners on each side in order to help secure battery pan.

1. See [Figure 2-105](#). Remove footpeg mount fasteners (10).
2. Remove footpeg mount (3).

Install Mount

1. See [Figure 2-105](#). Position footpeg mount (3) onto tail section.

2. Apply LOCTITE 272 (Red) to footpeg mount fasteners (10), install and tighten to 25-28 ft-lbs (34-38 Nm).
3. Install jam nut (11) and tighten to 48-72 **in-lbs** (5.4-8.1 Nm).

Install Heel Guard

1. See [Figure 2-105](#). Position heel guard (2) onto footpeg mounts (3).
2. Install heel guard (2).
 - a. Apply WD40 lubricant to the heel guard fasteners before installing.
 - b. Tighten heel guard fasteners to 48-72 **in-lbs** (5.4-8.1 Nm).

Install Footpeg

1. See [Figure 2-105](#). Position footpeg (8), detent plate (6), ball (5), and spring (4) on to footpeg mount (3).
2. Install footpeg pin (9).
3. Install clip (7).
4. Check that footpeg clicks in the up and down position.

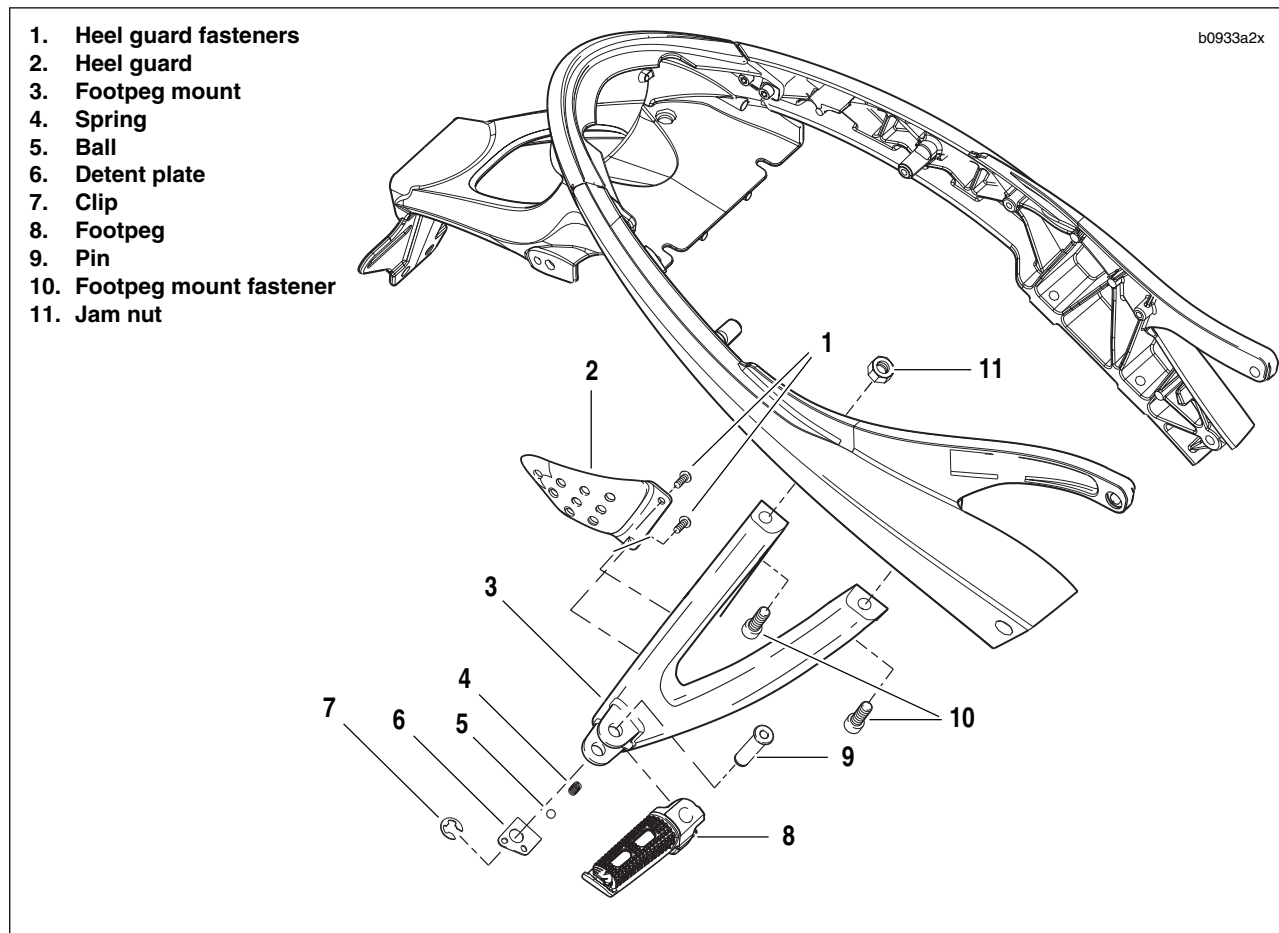


Figure 2-105. Passenger Footpeg, Mount and Heel Guard Assembly

REMOVAL

1. See [Figure 2-106](#). Remove back right chin fairing fasteners.

NOTE

Must remove two chin fairing fasteners for sprocket cover access.

2. See [Figure 2-107](#). Remove sprocket cover fasteners and washers (1).

INSTALLATION

1. See [Figure 2-107](#). Position sprocket cover (2) over front sprocket.

NOTE

Apply **LOCTITE 222 (purple)** to the long fastener (1) only.

2. Install sprocket cover (2) using sprocket cover fasteners (1, 3) and tighten all fasteners and washers (1, 3) to 12-36 **in-lbs** (1-4 Nm).
3. Install chin fairing. See [2.34 CHIN FAIRING](#).

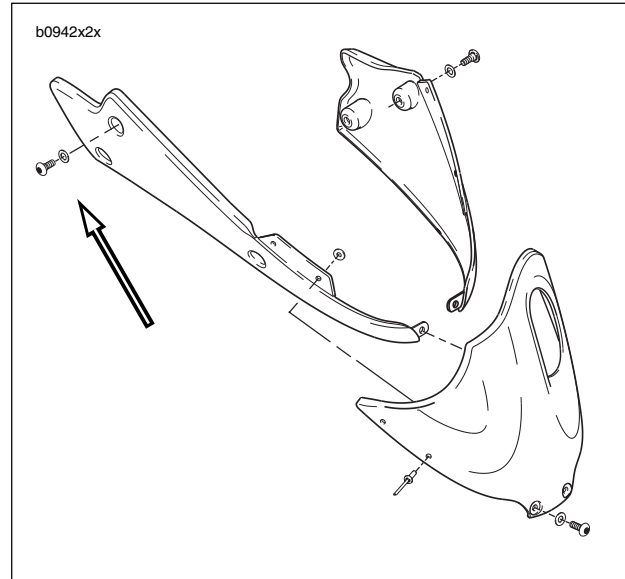
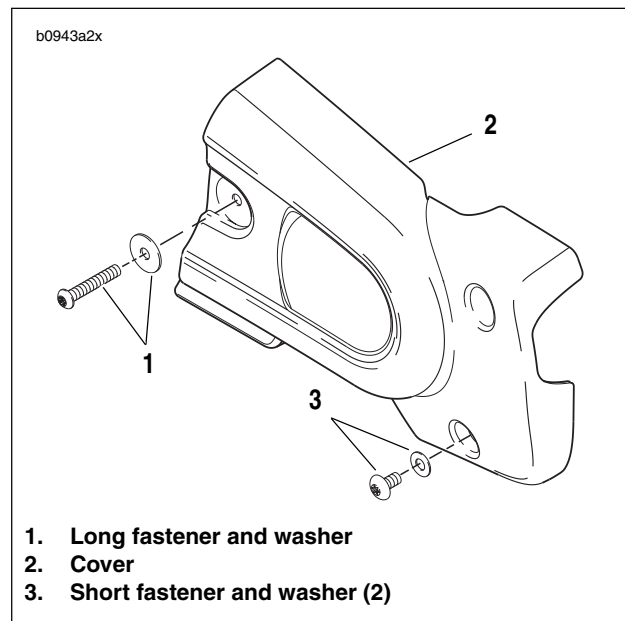


Figure 2-106. Chin Fairing Assembly, Right Rear Fasteners



1. Long fastener and washer
2. Cover
3. Short fastener and washer (2)

Figure 2-107. Sprocket Cover

FRONT FENDER

Removal

1. See [Figure 2-108](#). Remove fasteners and washers (2) securing the front fender (1) to front forks.
2. Carefully remove front fender (1).

Installation

1. See [Figure 2-108](#). Align front fender (1) to fender mounts on front forks.
2. Install front fender (1) with fasteners and washers (2) and tighten to 12-36 **in-lbs** (1-4 Nm).

REAR FENDER

Removal

1. Remove rear wheel. See [2.6 REAR WHEEL](#).
2. See [Figure 2-108](#). Remove fasteners and washers (4) securing the rear fender (3) to frame.
3. Remove rear fender (3).

Installation

1. See [Figure 2-108](#). Align rear fender (3) to frame.
2. Install rear fender (3) with fasteners and washers (4). Tighten to 12-15 **in-lbs** (1-1.7 Nm).

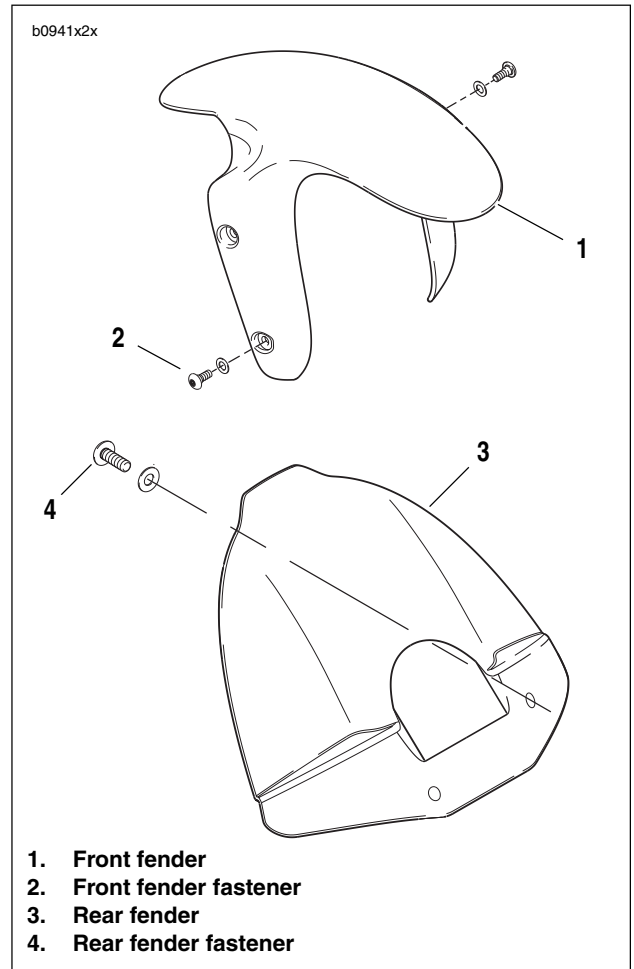


Figure 2-108. Front and Rear Fender

REMOVAL

1. Place a scissor jack under jacking point and raise rear wheel off ground. For location of jacking point see [2.29 EXHAUST SYSTEM](#).
2. Remove right side rider footrest support bracket.
3. Loosen rear axle pinch fastener.
4. Loosen rear axle approximately 15 rotations to allow partial tension to be removed from rear drive system.
5. Remove lower belt guard (4) by removing fasteners (3).

CAUTION

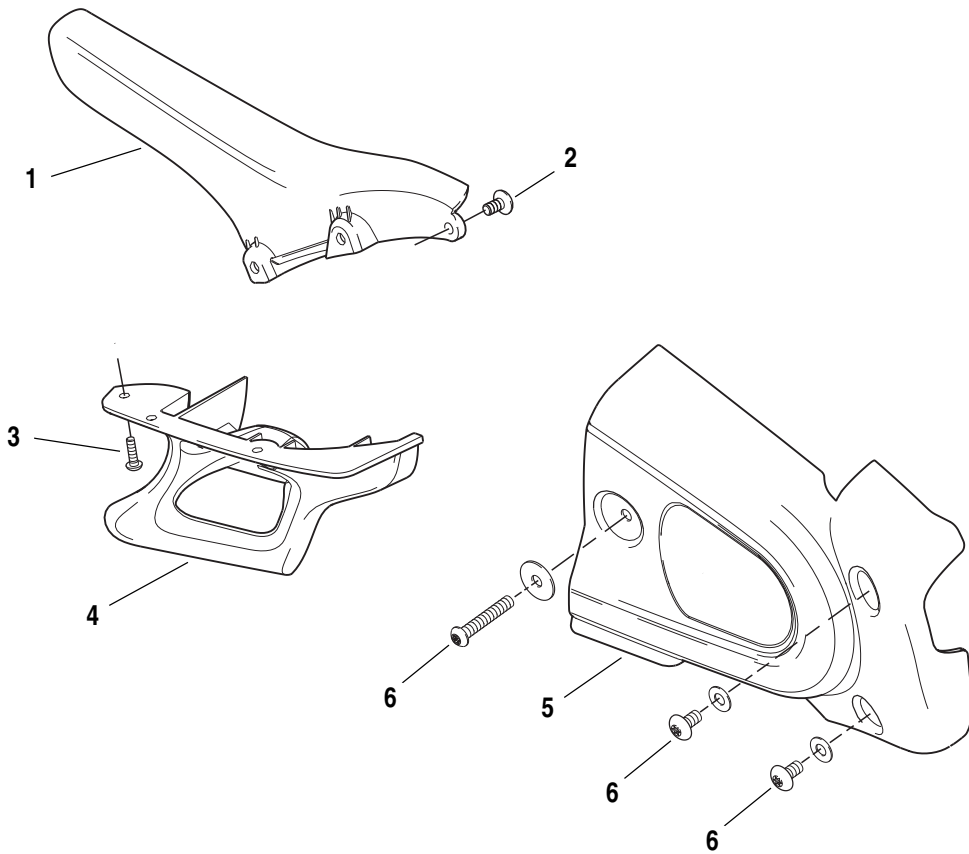
Before removing swingarm brace, always relieve belt tension first. Removing swingarm brace without releasing tension will cause swingarm brace damage.

6. Remove swingarm brace by removing fasteners. See [2.19 SWINGARM AND BRACE](#).
7. Remove upper belt guard (1) by removing fasteners from swingarm brace.

INSTALLATION

1. Install upper belt guard (1) to swingarm brace tightening fasteners to 12-36 **in-lbs** (1-4 Nm).
2. Install swingarm brace and tighten swingarm brace fasteners to 25-27 ft-lbs (34-37 Nm). See [2.19 SWINGARM AND BRACE](#).
3. Install lower belt guard (4) and tighten fasteners (3) to 12-36 **in-lbs** (1-4 Nm).
4. Tighten rear axle to 48-52 ft-lbs (65-70 Nm).
5. Tighten rear axle pinch fastener to 40-45 ft-lbs (54-61 Nm).
6. Install right side rider footrest mount and tighten fasteners to 108-132 **in-lbs** (12-15 Nm).
7. Remove scissor jack from motorcycle.

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- 1. Upper belt guard
- 2. Upper belt guard fasteners (3)
- 3. Lower belt guard fasteners (3)
- 4. Lower belt guard
- 5. Sprocket cover
- 6. Sprocket cover fasteners (2 short, 1 long)

Figure 2-109. Belt Guard Assembly

REMOVAL

1. Secure back tire down.
2. Turn wheel full right or left for easier access to center fasteners.
3. See [Figure 2-110](#). Remove center section fasteners and washers (2).
4. Remove left section fasteners and washers (4).
5. Remove right section fasteners and washers (6).
6. Remove chin fairing.

NOTE

To separate the left, right and center sections, drill out the rivets.

INSTALLATION

NOTE

To join the left, right and center sections, use the rivet gun from a Marson Thread-Setter™ Tool Kit MODEL NO. MAR39200HD.

1. See [Figure 2-110](#). Position chin fairing (5) and install with right side fasteners and washers (6).
2. Align left section (3) and install with left side fasteners and washers (4).
3. Turn wheel full right or left for easier access to center fasteners.
4. Align center section (1) and install with center section fasteners and washers (2). Use LOCTITE 272 (red) on all fasteners tightening to 36-48 in-lbs (4-5 Nm).

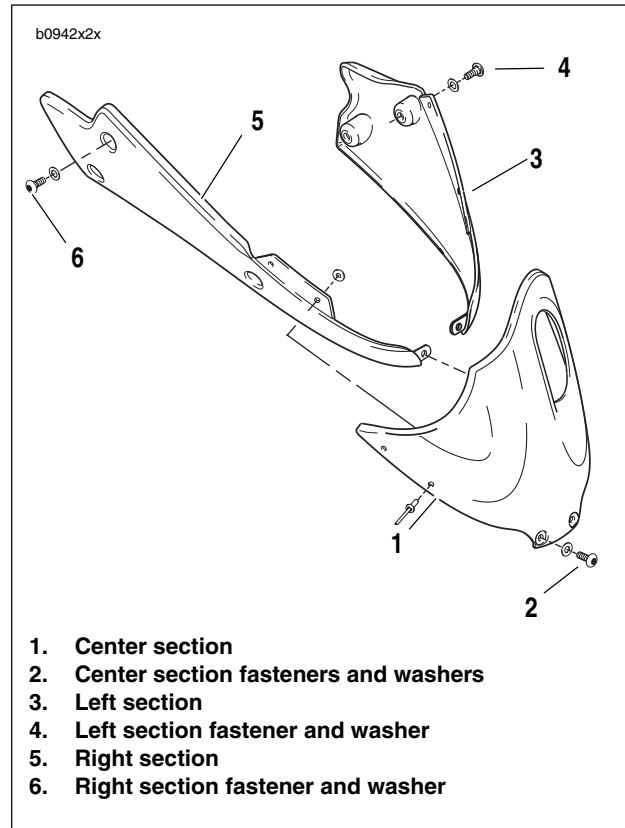


Figure 2-110. Chin Fairing Assembly

REMOVAL

1. Remove seat. See [2.41 SEAT](#).
2. See [Figure 2-111](#). Remove fasteners and nylon washers (2).
3. Remove intake cover assembly (1).

INSTALLATION

1. Position intake cover assembly over top of airbox cover.
2. See [Figure 2-111](#). Start the front two fasteners (2) with nylon washers.
3. Install the remaining fasteners and nylon washers (2). Tighten all fasteners to 12-36 **in-lbs** (1-4 Nm).

NOTE

Front screws go in at a slight angle.

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

4. Install seat. See [2.41 SEAT](#).

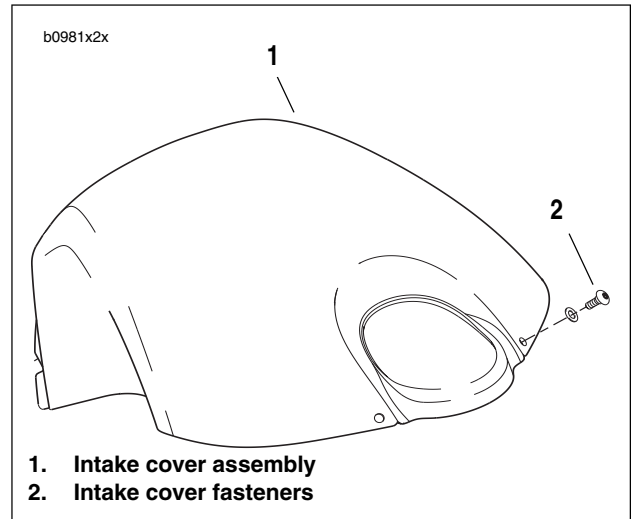


Figure 2-111. Intake Cover Assembly

RAM AIR SCOOP

Removal

1. See [Figure 2-112](#). On left side of bike, locate ram air scoop (4).
2. Remove three ram air scoop fasteners (3).
3. Remove ram air scoop (4).

Installation

1. See [Figure 2-112](#). Position ram air scoop (4).
2. Install ram air scoop (4) with three fasteners (3). Tighten to 12-36 **in-lbs** (1-4 Nm).

ENGINE SHROUD AIR SCOOP

Removal

1. See [Figure 2-112](#). On right side of bike, locate engine shroud air scoop (6).
2. Remove three engine shroud air scoop fasteners (5).

3. Remove engine shroud air scoop (6).

Installation

1. See [Figure 2-112](#). Position engine shroud air scoop (6).
2. Install engine shroud air scoop (6) with three fasteners (5). Tighten to 12-36 **in-lbs** (1-4 Nm).

OIL COOLER AIR SCOOP

Removal

1. See [Figure 2-112](#). On left side of bike, locate oil cooler air scoop (2).
2. Remove two oil cooler air scoop fasteners (1).
3. Remove oil cooler air scoop (2).

Installation

1. See [Figure 2-112](#). Position oil cooler air scoop (2).
2. Apply LOCTITE 272 (red) to oil cooler air scoop fasteners (1) and tighten to 120-144 **in-lbs** (14-16 Nm).

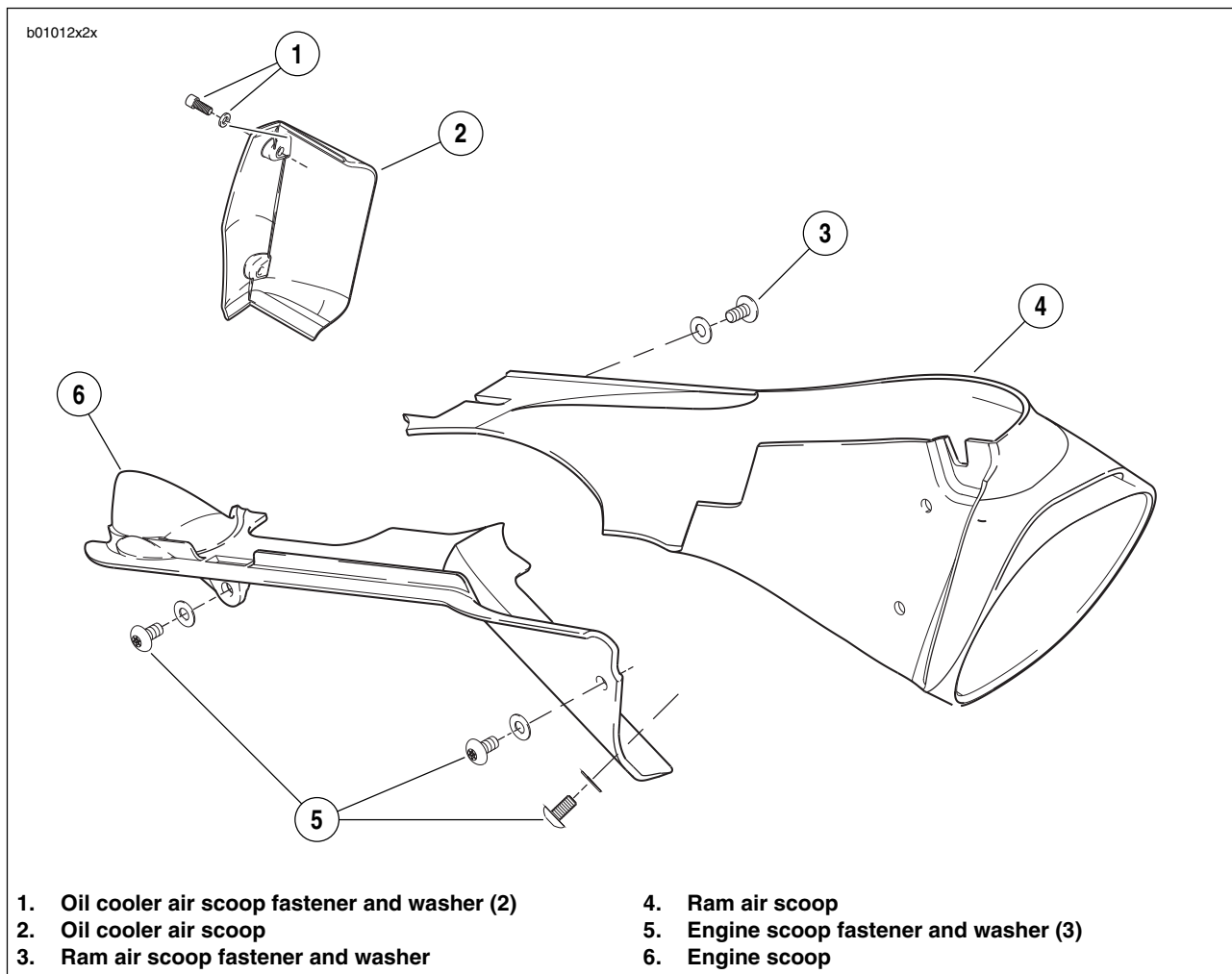


Figure 2-112. RAM Air Scoop, Engine Shroud, Oil Cooler

DISASSEMBLY

1. Remove seat. See 2.41 SEAT.

WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

2. See Figure 2-113. Unthread fastener and remove battery negative cable (black) from battery negative (-) terminal.
3. Pull back terminal cover boot on battery positive cable (red).
4. Unthread fastener and remove battery positive cable from battery positive (+) terminal.
5. Remove battery.
6. See Figure 2-113. Disconnect:
 - Wire harness ground (2) [GRD 2].
 - Rear brake light switch connector (5) [121].
 - ECM connectors (7) [10 & 11].
 - BAS (bank angle sensor) connector (9) [134].
 - Right turn connector (11) [19].
 - Left turn signal connector (10) [18].
 - License plate lamp connector (12) [45].
 - Tail light connectors (13) [93].
 - Ground terminals on right side tail section (6) [GRD1] & [GRD 3].
 - Active exhaust system (1200 models only)
7. Remove the rear shock absorber reservoir. See 2.22 REAR SHOCK ABSORBER.
8. Cut cable strap loosely attaching BAS wire harness to seat latch cable.

9. See Figure 2-113. Remove fuse block and relay center from support bracket.
10. Move rear main harness and shock absorber reservoir to right side of vehicle.
11. Remove left side passenger footrest support assembly. See 2.30 FOOTPEG, HEEL GUARD AND MOUNT.
12. See Figure 2-113. Remove the following fasteners:
 - Left front trunk pan to left side tail section (14).
 - Left rear tail section to center tail section (15).
 - Left tail section to main frame/fuel tank assembly.
13. Remove left tail section from vehicle.

NOTE

In order to remove trunk pan it will be necessary to remove the following fasteners and components.

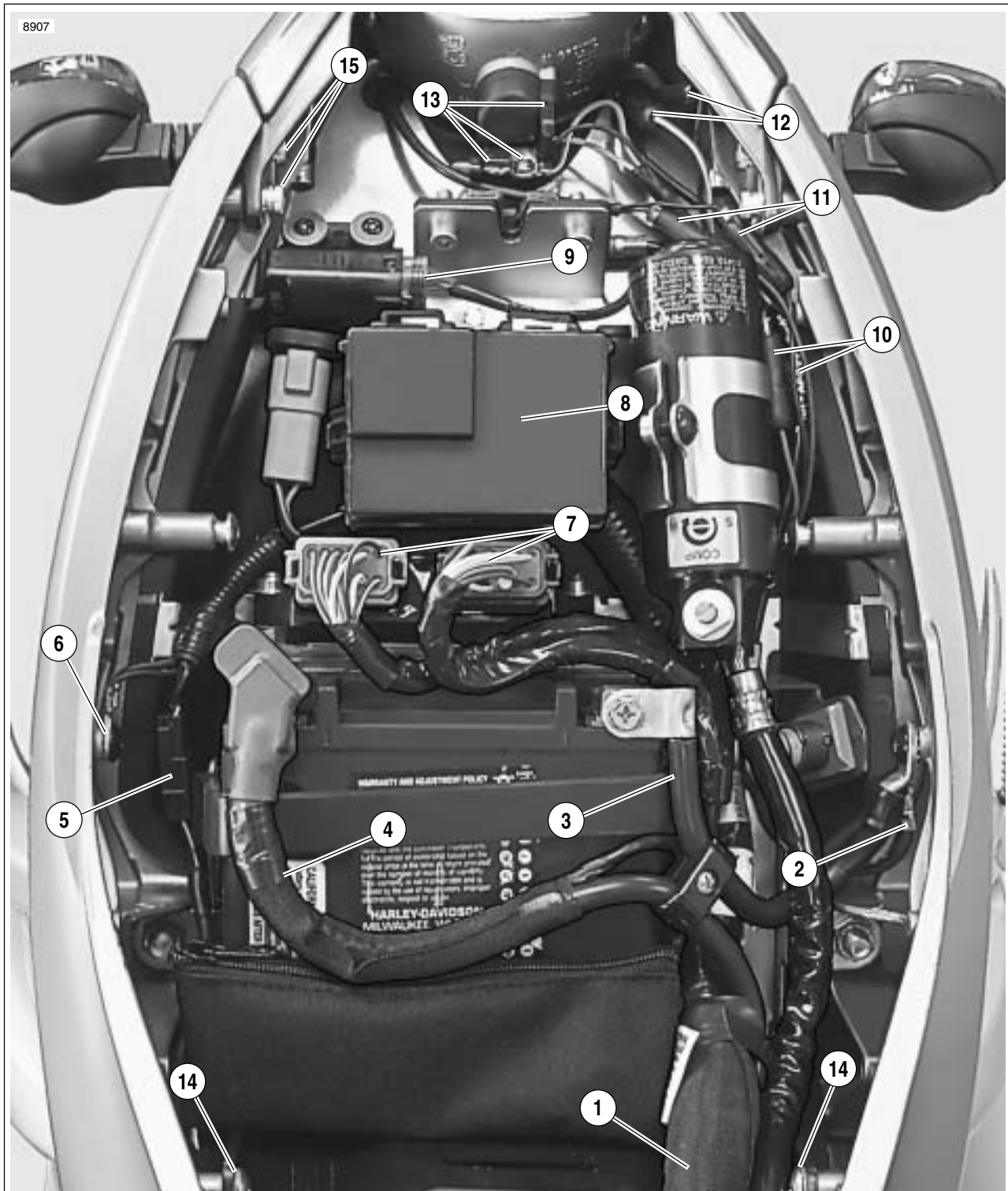
14. Remove two fasteners securing trunk pan to center tail section.
15. See Figure 2-113. Remove fastener securing right front trunk pan to right side tail section.
16. Remove right side passenger footrest support assembly. See 2.30 FOOTPEG, HEEL GUARD AND MOUNT.
17. Slide trunk pan with battery pan, seat latch, bank angle sensor, rear shock reservoir mounting bracket and ECM out left side of vehicle.
18. Remove remaining components on trunk pan as needed.

CLEANING

CAUTION

Do not use wheel care products or other compounds developed specifically for cleaning and polishing powdercoat. These cleaners could potentially damage the tail section finish.

The cast aluminum tail section has a powder coat. Because the surface is not bare polished aluminum, it must be cleaned using only mild soap and warm water. After washing, always dry the surface using a clean, soft cloth.



- | | |
|--|---|
| 1. Main harness | 9. BAS (bank angle sensor) connector [134] |
| 2. Main harness ground wire [GRD 2] | 10. Left turn signal connector [18] |
| 3. Battery ground cable | 11. Right turn signal connector [19] |
| 4. Battery positive cable | 12. License plate lamp connector [45] |
| 5. Rear brake light switch connector [121] | 13. Tail light connectors [93] |
| 6. Ground terminals [GRD1] & [GRD 3] | 14. Left and right front trunk pan fasteners (2) |
| 7. ECM connectors [10] & [11] | 15. Left rear and right rear tail section fasteners (4) |
| 8. Fuse block and relay center | |

Figure 2-113. Main Harness and Electrical Connectors Under Seat

ASSEMBLY

NOTE

See [Figure 2-114](#). There are two threaded plastic lugs (14) on the trunk pan that are used for manufacturing purposes only.

1. Install trunk pan assembly (11) from left side of vehicle.
2. Install fastener (8) securing right front trunk pan to right side tail section. Apply Loctite 272 to threads of left rear tail sections fasteners and tighten to 102-112 **in-lbs** (11.5-12.7 Nm).
3. Install right side passenger footrest support assembly. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
4. Install two fasteners (12) securing trunk pan to center tail section and leave loose.
5. Install left tail section (5) onto vehicle.
 - a. Install fastener (8) attaching left front trunk pan to left side tail section and tighten to 48-72 **in-lbs** (5.4-8.1 Nm).
 - b. Install fasteners (4) attaching left rear tail section to center tail section and tighten to 102-112 **in-lbs** (11.5-12.7 Nm).
 - c. Install fasteners (1) attaching left tail section to main frame/fuel tank assembly and tighten to 21-23 **ft-lbs** (28.5-31.2 Nm).
6. Tighten fasteners (12) securing trunk pan to center tail section to 48-72 **in-lbs** (5.4-8.1 Nm).
7. Install left side passenger footrest support assembly. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
8. Move rear main harness and shock absorber reservoir back to left side of vehicle.
9. See [Figure 2-113](#). Connect:
 - Wire harness ground (2) [GRD 2].
 - Rear brake light switch connector (5) [121].
 - ECM connectors (7) [10] & [11].
 - BAS (bank angle sensor) connector (9) [134].
 - Right turn signal connector (11) [18].
 - Left turn signal connector (10) [19].
 - License plate lamp connector (12) [45]
 - Tail light connectors (13) [93].
 - Ground terminals on right side tail section (6) [GRD 1] & [GRD 3].
10. Attach cable strap loosely securing the BAS harness to the seat latch cable.
11. Install the rear shock absorber reservoir into bracket and tighten fastener.

WARNING

Always connect positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

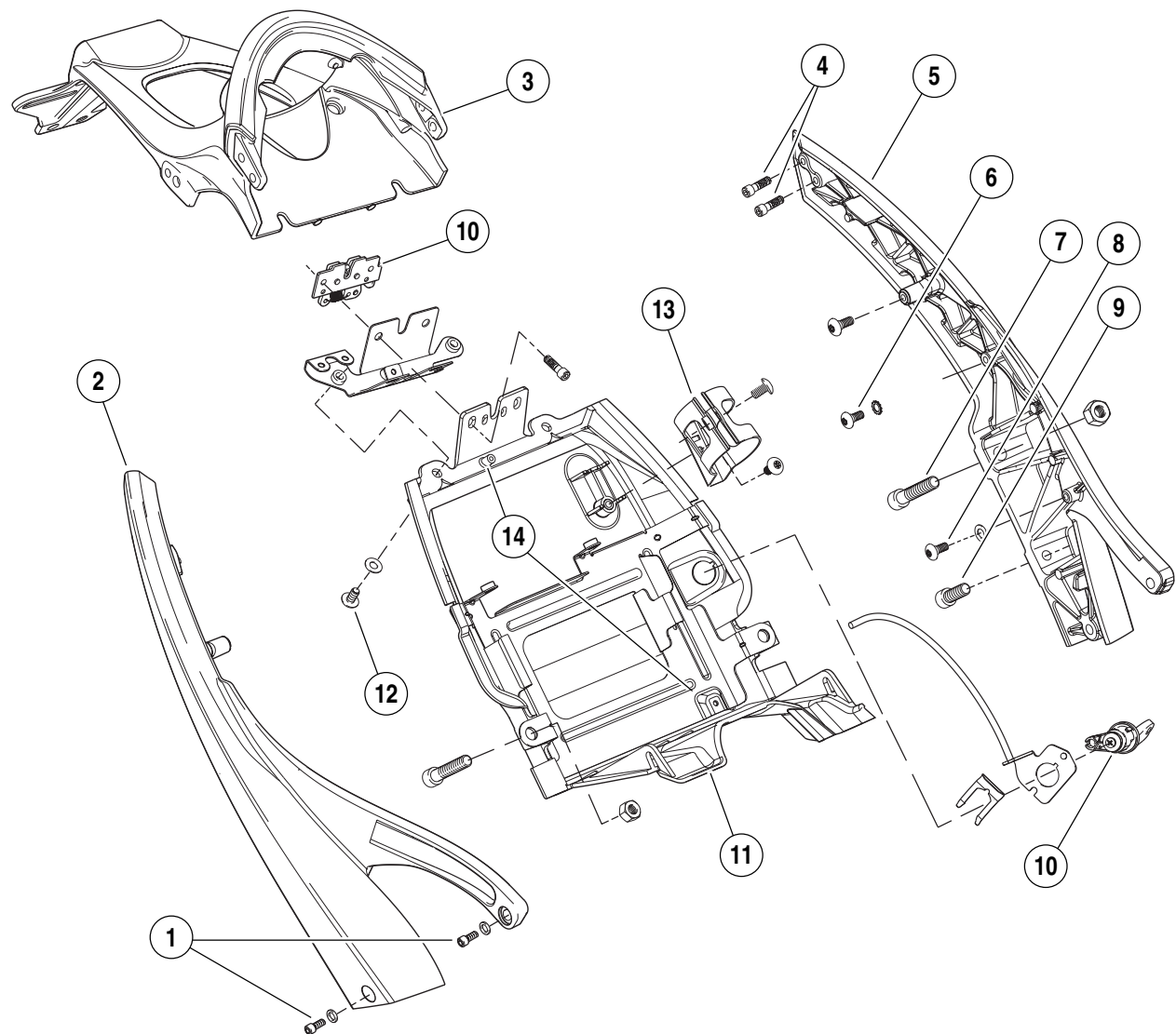
12. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

13. Install seat. See [2.41 SEAT](#).

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1. Left and right tail section fastener to main frame/fuel tank assembly (4)
2. Right tail section
3. Center tail section
4. Center tail section fastener to rear tail section (4)
5. Left tail section
6. Ground terminal fastener (2)
7. Passenger footrest support fastener with jam nut (2)
8. Front trunk pan fastener to side tail section (2)
9. Passenger footrest support fastener (no jam nut-2)
10. Seat latch assembly
11. Trunk pan assembly
12. Rear trunk pan fastener to center tail section (2)
13. Rear shock reservoir bracket
14. Plastic lugs (for manufacturing purposes only)

Figure 2-114. Tail Frame and Trunk Pan Assembly

DISASSEMBLY

1. Remove seat. See [2.41 SEAT](#).

⚠ WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

2. See [Figure 2-113](#). Unthread fastener and remove battery negative cable (black) from battery negative (-) terminal.
3. See [Figure 2-113](#). Disconnect:
 - a. Right turn signal connector [18].
 - b. Left turn signal connector [19].
 - c. License plate lamp connector [45]
 - d. Tail light connectors [93].
4. See [Figure 2-114](#). Remove two fasteners (12) securing trunk pan to center tail section.
5. Remove fasteners (4) securing left and right tail sections to center tail section.
6. Remove center tail section from vehicle.
7. To further disassemble center tail section see [7.13 TAIL LAMP](#), [7.14 LICENSE PLATE LAMP ASSEMBLY](#), [7.15 TURN SIGNALS](#).

ASSEMBLY

1. Install center tail section between left and right tail sections.
2. Install fasteners (4) securing left and right tail sections to center tail section but do not tighten.
3. Install two fasteners (12) securing trunk pan to center tail section but do not tighten.
4. Apply Loctite 272 to threads of left and right rear tail sections fasteners (4) and tighten to 102-112 **in-lbs** (11.5-12.7 Nm).
5. Tighten fasteners (12) securing trunk pan to center tail section to 48-72 **in-lbs** (5.4-8.1 Nm).
6. See [Figure 2-113](#). Connect:
 - a. Right turn signal connector [18].
 - b. Left turn signal connector [19].
 - c. License plate lamp connector [45]
 - d. Tail light connectors [93].

⚠ WARNING

Always connect positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

7. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

8. Install seat. See [2.41 SEAT](#).

DISASSEMBLY

1. Remove seat. See [2.41 SEAT](#).

WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

2. See [Figure 2-115](#). Unthread fastener and remove battery negative cable (black) from battery negative (-) terminal.
3. Pull back terminal cover boot on battery positive cable (red).
4. Unthread fastener and remove battery positive cable from battery positive (+) terminal.
5. Remove battery.
6. See [Figure 2-1](#). Disconnect:
 - a. Right side ground terminals (3) [GRD1] & [GRD 3]
 - b. Rear brake light switch connector (4) [121]
7. Remove right side passenger footrest assembly. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
8. Remove master cylinder remote reservoir. See [2.13 REAR BRAKE MASTER CYLINDER](#).
9. See [Figure 2-115](#). Remove right front trunk pan fastener (1).
10. Remove fasteners (15) securing center tail section to right tail section.
11. See [Figure 2-114](#). Remove fasteners (1) securing right tail section to main frame/fuel tank assembly.
12. Remove right tail section.

ASSEMBLY

1. See [Figure 2-115](#). Install right tail section (6) onto vehicle.
 - a. Install fastener (1) attaching right front trunk pan to right side tail section and tighten to 48-72 **in-lbs** (5.4-8.1 Nm).
 - b. Install fasteners (5) attaching left rear tail section to center tail section and tighten to 102-112 **in-lbs** (11.5-12.7 Nm).
 - c. Install fasteners attaching left tail section to main frame/fuel tank assembly and tighten to 21-23 **ft-lbs** (28.5-31.2 Nm).
2. Install master cylinder remote reservoir. See [2.13 REAR BRAKE MASTER CYLINDER](#).
3. Install right side passenger footrest support assembly. See [2.30 FOOTPEG, HEEL GUARD AND MOUNT](#).
4. See [Figure 2-1](#). Connect:
 - a. Right side ground terminals (3) [GRD1] & [GRD 3]
 - b. Rear brake light switch connector (4) [121]

WARNING

Always connect positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

5. Install battery by threading positive cable (red) into threaded hole first tightening to 72-96 **in-lbs** (8-11 Nm). See [1.5 BATTERY MAINTENANCE](#).

WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

6. Install seat. See [2.41 SEAT](#).



Figure 2-115. Right Side Frame Section

REMOVAL

NOTE

The windscreen fasteners (3) extend through the left and right front modules (2, 5) and thread into the headlight mounting bracket (1).

1. See [Figure 2-116](#). Remove four windscreen fasteners (3).
2. Remove windscreen (4).

INSTALLATION

1. See [Figure 2-116](#). Position windscreen (4) onto left and right front modules (2, 5).
2. Install four fasteners (3) and tighten to 10-12 **in-lbs** (1.1-1.4 Nm).

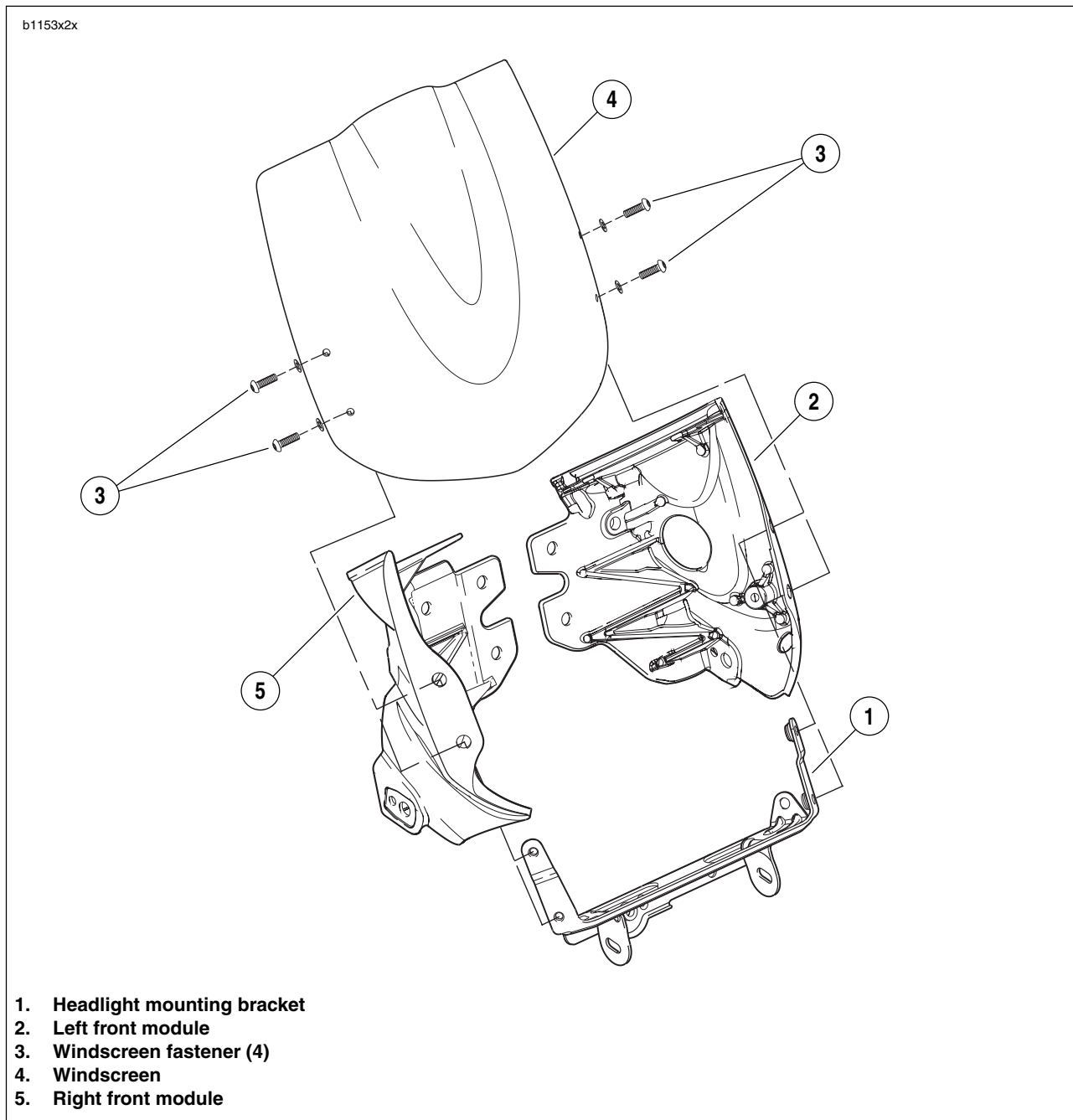


Figure 2-116. Front Windscreen

GENERAL

See [Figure 2-117](#). The seat anchors in three places on the vehicle. The first is where the locating tab (4) on the seat inserts into the opening on the trunk pan (5). The second is the pair of seats hooks (3) that slide onto the shouldered fasteners (6) located in the left and right tail sections. The last is the rear seat tab (2) which fits into the slot (7) on the seat latch (8).

REMOVAL

1. See [Figure 2-117](#). Insert ignition key into seat lock located on left side of motorcycle below seat.
2. Turn key clockwise to disengage rear seat latch.
3. Lift and remove seat (1).

INSTALLATION

⚠ WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

1. Install seat (1) by sliding locating tab (4) on front underside of seat into opening (5) on trunk pan.
2. Align rear tab (2) with latch slot (7) at rear of motorcycle.
3. Press down firmly on rear of seat to engage seat latch (8). Pull up on rear of seat to make sure latch is engaged.
4. Remove ignition key from seat lock.

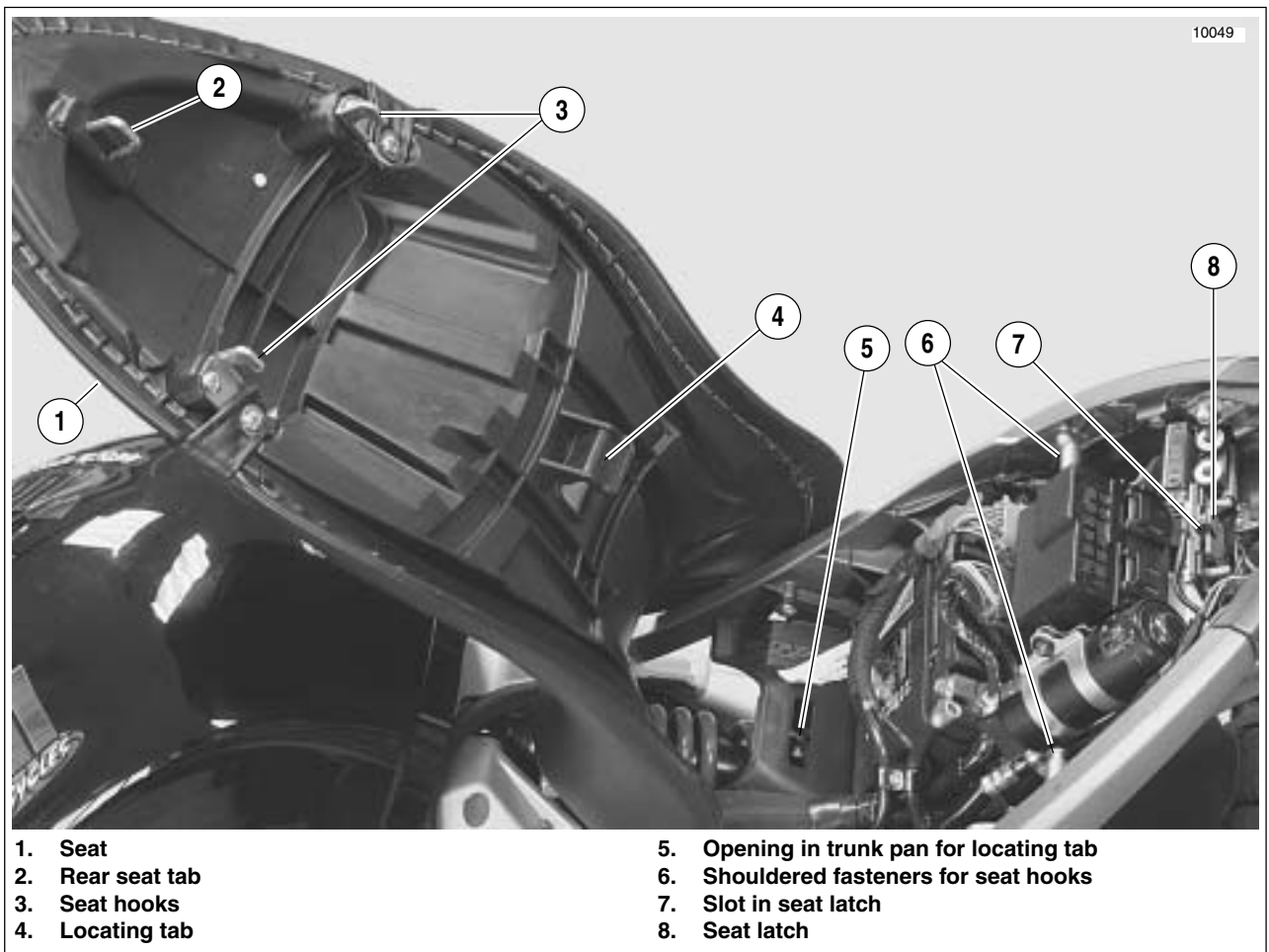


Figure 2-117. Seat and Attachment

REMOVAL

1. Remove seat. See [2.41 SEAT](#).
2. Cut cable strap loosely securing BAS wiring harness to seat lock cable.
3. See [Figure 2-118](#). Disconnect seat lock cable:
 - a. Remove latch (9) from latch bracket (10) by removing two fasteners (6).
 - b. Slide retainer (7) away from cable end (8).
 - c. Remove cable end (8) and cable (5) from latch.
4. Remove seat lock:
 - a. Remove seat lock retainer (3) from seat lock (1).
 - b. Remove seat lock (1) from plate (2) and trunk pan (11).

NOTE

When removing seat lock (1), cable end (4) should release from seat lock.

5. Remove cable (5) from plate (2).

INSTALLATION

1. See [Figure 2-118](#). Install cable (5) into plate (2).
2. Install the seat lock (1) into trunk pan (11) and plate (2).

NOTES

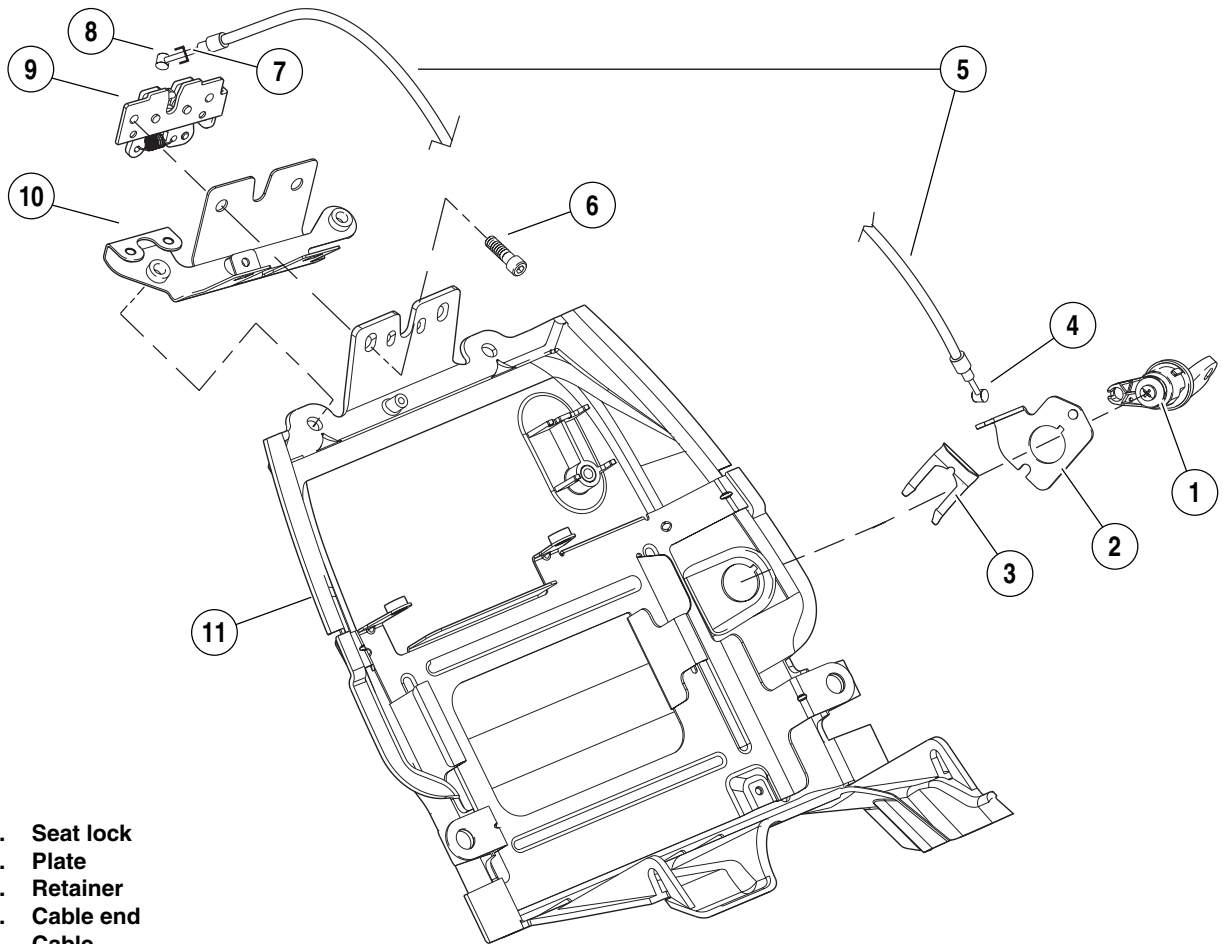
- *Once seat lock has been started through the hole in the trunk pan and plate, now is the time to connect the cable end to the seat lock.*
 - *Seat lock plate must be aligned to tab on seat lock for proper installation.*
3. Install seat lock retainer (3) by aligning retainer to retainer grooves on back side of seat lock (1).
 4. Connect seat lock cable to latch:
 - a. Install cable end (8) and cable (5) onto latch.
 - b. Slide retainer (7) over pin on latch to lock cable end (8) into place.
 - c. Install latch (9) to latch bracket (10) and tighten fasteners (6).
 - d. Install cable strap to loosely secure cable to BAS wiring harness.
 5. Open and close the seat lock with ignition key to verify that cable is working properly.

WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

6. Install seat. See [2.41 SEAT](#).

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1. Seat lock
2. Plate
3. Retainer
4. Cable end
5. Cable
6. Latch screw
7. Retainer
8. Cable end
9. Latch
10. Latch bracket
11. Trunk pan

GENERAL

CAUTION

This motorcycle does NOT have a locking sidestand. Park the motorcycle on a level, firm surface. An unbalanced motorcycle can fall, which could result in death or serious injury.

The sidestand is located on the left side of the motorcycle. The sidestand swings outward to support the motorcycle for parking.

REMOVAL

1. Remove muffler. See [Muffler and Straps](#) in [2.29 EXHAUST SYSTEM](#).
2. See [Figure 2-120](#). Remove fasteners (4) securing side-stand bracket (3) to frame.
3. Remove sidestand.

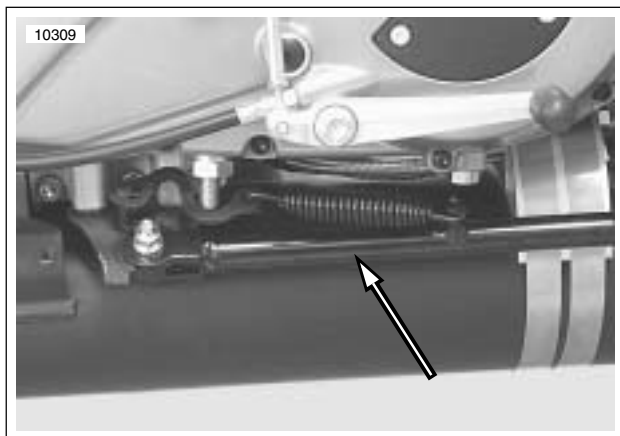


Figure 2-119. Sidestand, Retracted

DISASSEMBLY

NOTE

Sidestand assembly does not have to be removed from motorcycle in order to remove sidestand leg.

1. Remove two fasteners from the left side of chin fairing.
2. Remove sidestand leg (1).
 - a. Retract sidestand leg.
 - b. Remove sidestand spring (8) and spring extension plate (4) using SNAP-ON SPRING TOOL (Part No. HE-52B).
 - c. Remove sidestand pivot bolt (5).
3. Extend sidestand leg and remove.

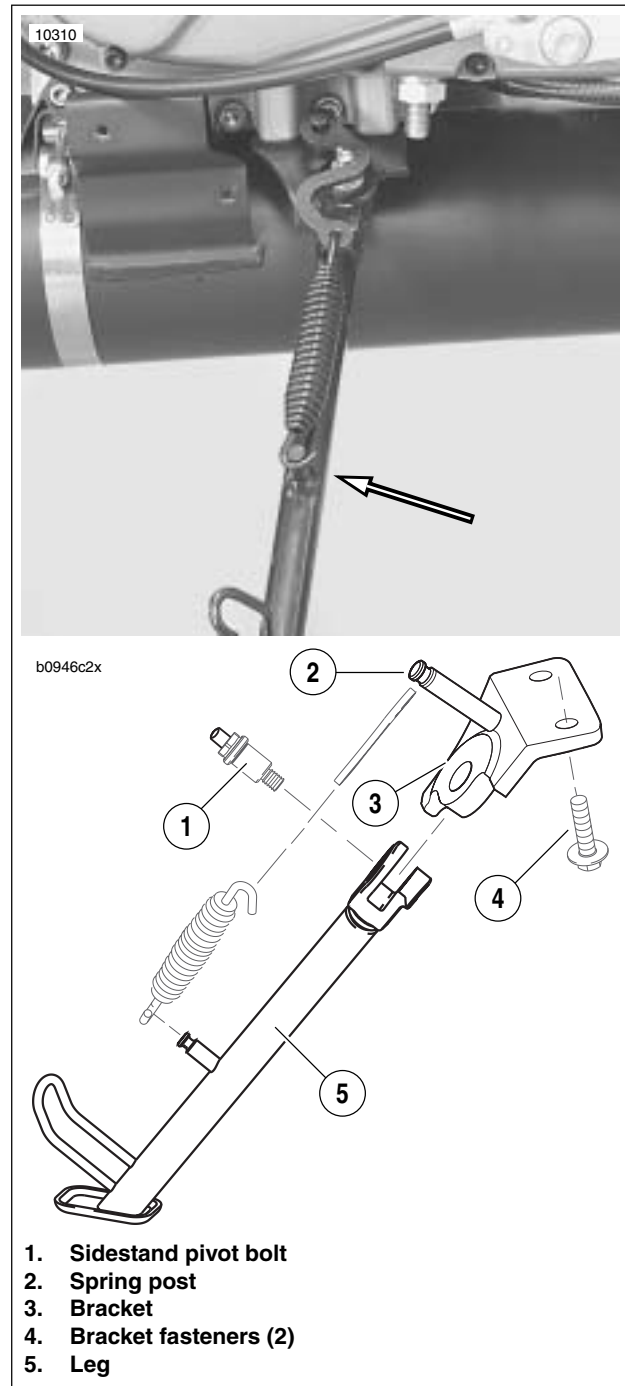


Figure 2-120. Sidestand Assembly (Extended)

1. Sidestand pivot bolt
2. Spring post
3. Bracket
4. Bracket fasteners (2)
5. Leg

ASSEMBLY

1. Install sidestand leg (1).
 - a. See [Figure 2-122](#). Lubricate sidestand pivot bolt (5) and mating portions on sidestand bracket (2) with WHEEL BEARING GREASE (Part No. 99855-89) as shown in [Figure 2-122](#).
 - b. See [Figure 2-123](#). Apply LOCTITE 272 (red) to threaded area (clevis) of sidestand leg.

NOTE

Applying LOCTITE to threaded area of clevis on sidestand leg, instead of threads on the pivot bolt, will eliminate build-up between clevis and sidestand bracket which can interfere with the applied lubricant.

- c. See [Figure 2-121](#). Install sidestand leg (1) and sidestand pivot bolt (3) tightening to 18-20 ft-lbs (24-27 Nm).
- d. Retract sidestand leg.
- e. Install spring extension plate (4) and sidestand spring (2) using SNAP-ON SPRING TOOL (Part No. HE-52B).

NOTE

Extension plate should curve away from primary chain adjustment screw to allow for clearance around adjustment screw.

INSTALLATION

1. Install sidestand to frame tightening the sidestand bracket fasteners to 25-27 ft-lbs (34-37 Nm).
2. Install muffler. See [Muffler and Straps](#) in [2.29 EXHAUST SYSTEM](#).
3. Inspect sidestand.

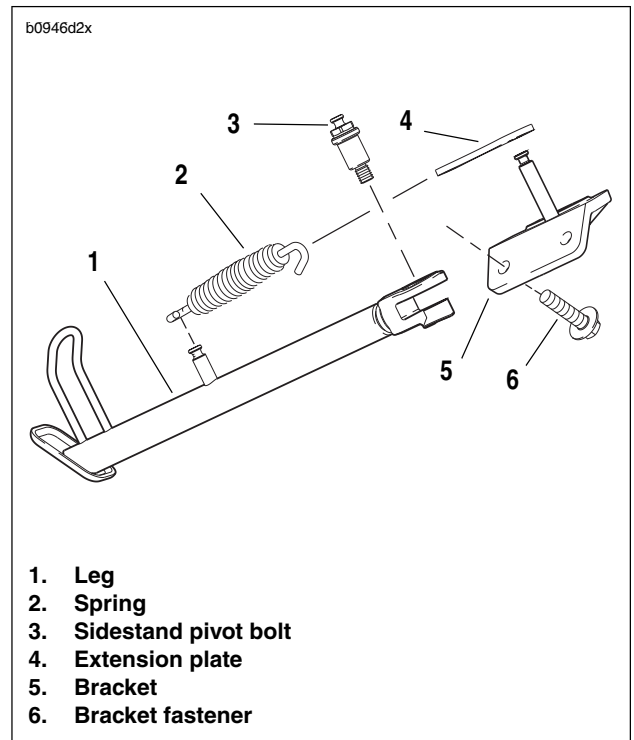


Figure 2-121. Sidestand Assembly

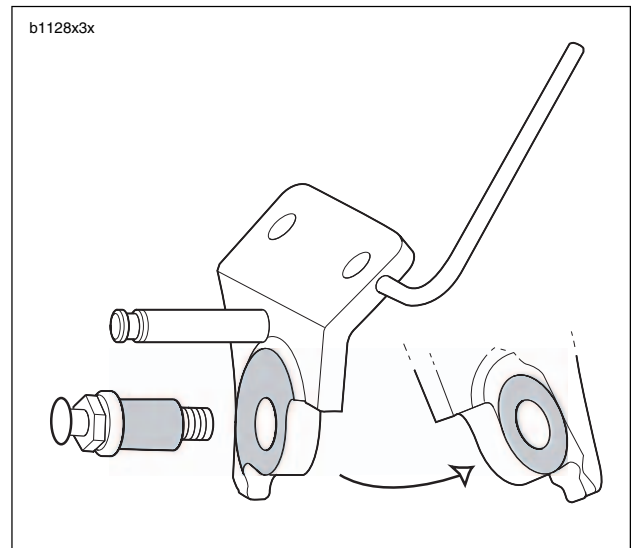


Figure 2-122. Lubricating Points (Shaded Areas)

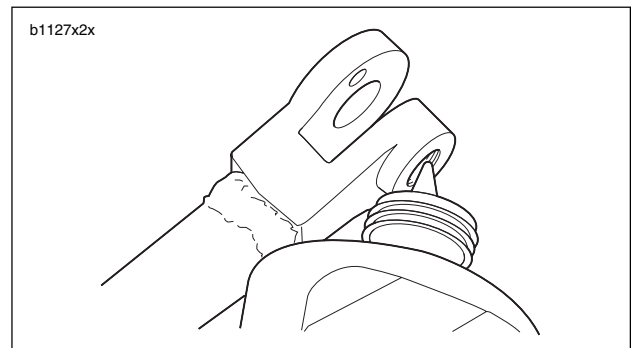


Figure 2-123. Threaded Area for Loctite Application

NOTES
