



FUEL INJECTOR FASTENER REPLACEMENT KIT INSTALLATION INSTRUCTIONS

APPLICATION

Use the information contained in this instruction sheet to replace fuel injector retainer fasteners on **2001, certain 2004 and 2005 Evinrude 90° V6 DI (200-250 HP) model outboards and certain 2005 Evinrude 60° V4 DI (100-115 HP), 60° V6 DI (135-175 HP) model outboards. Note: This kit is not for use on Evinrude E-TEC™ outboards.** Please refer to Warranty Bulletin 2005-03(W).

SAFETY INFORMATION

For safety reasons, this kit **MUST** be installed by an authorized *Evinrude/Johnson* dealer. This instruction sheet is not a substitute for work experience. Additional helpful information may be found in other service literature for your engine.

This instruction sheet uses the following signal words identifying important safety messages.

| | | |
|---|---------------|--|
| | DANGER | |
| Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury. | | |

| | | |
|---|----------------|--|
| | WARNING | |
| Indicates a potentially hazardous situation which, if not avoided, CAN result in severe injury or death. | | |

| | | |
|--|----------------|--|
| | CAUTION | |
| Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate personal injury or property damage. It also may be used to alert against unsafe practices. | | |

IMPORTANT: Identifies information that will help prevent damage to machinery and appears next to information that controls correct assembly and operation of the product.

These safety alert signal words mean:

ATTENTION!
BECOME ALERT!
YOUR SAFETY IS INVOLVED!

Always follow common shop safety practices. If you have not had training related to common shop safety practices, you should do so to protect yourself, as well as the people around you.

It is understood that this instruction sheet may be translated into other languages. In the event of any discrepancy, the English version shall prevail.

DO NOT do any repairs until you have read the instructions and checked the pictures relating to the repairs.

Be careful, and never rush or guess any service procedure. Human error is caused by many factors: carelessness, fatigue, overload, preoccupation, unfamiliarity with the product, and drugs and alcohol use, to name a few. Damage to a boat and outboard can be fixed in a short period of time, but injury or death has a lasting effect.

When replacement parts are required, use *Evinrude/Johnson Genuine Parts* or parts with equivalent characteristics, including type, strength and material. Using substandard parts could result in injury or product malfunction.

Torque wrench tightening specifications must be strictly followed. Replace any locking fastener (lock-nut or patch screw) if its locking feature becomes weak. Definite resistance to turning must be felt when reusing a locking fastener. If replacement is specified or required because the locking fastener has become weak, use only authorized *Evinrude/Johnson Genuine Parts*.

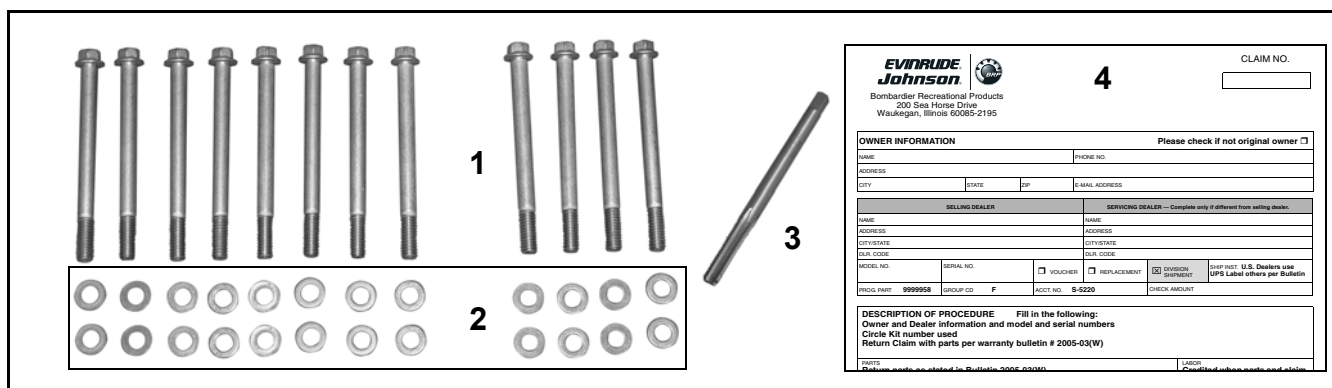
If you use procedures or service tools that are not recommended in this instruction sheet, **YOU ALONE** must decide if your actions might injure people or damage the outboard.

TO THE INSTALLER: Give this sheet to the owner. Advise the owner of any special operation or maintenance information contained in the instructions.

TO THE OWNER: Save these instructions in your owner's kit. This sheet contains information important to the future use and maintenance of your engine.



Kit Contents



1. Fuel injector fasteners (Twelve in V6 kits; eight in V4 kits), P/N 352699
2. Washers (Twenty-four in V6 kits; sixteen in V4 kits), P/N 348224
3. Cleaning tap, P/N 352798
4. Pre-printed claim form, P/N 352817

004975

ALL MODELS

IMPORTANT: Refer to the appropriate *Evinrude* 60° V4/V6 DI Service Manual or 90° V6 DI Service Manual before attempting any service repairs or part replacement.

Disconnect battery cables and remove upper and lower engine covers.

Relieve fuel system pressure. Refer to FUEL SYSTEM section of Service Manual.

Work on one injector at a time. Start at the lowest injector of each cylinder bank and work toward the top injector. Do not remove any of the spark plugs during any part of this procedure.

DO NOT REMOVE INJECTOR. DO NOT allow dirt and debris to enter injectors or fuel tubes. Replace one injector fastener at a time (first top and then bottom fastener).

100–175 HP MODELS

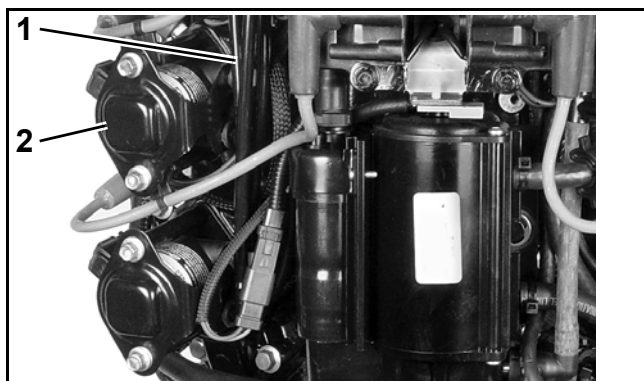
PROCEDURE

IMPORTANT: Note the proper locations and positioning of all spark plug leads and retainer clips prior to disassembly. Check condition of retainer assembly cap and sleeve. Replace if damaged.

DO NOT remove the fuel injector retainer, fuel manifolds, or fuel injector assembly from the cylinder head.

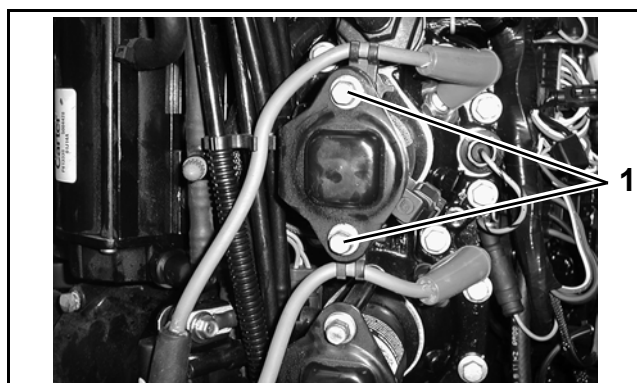
IMPORTANT: Back out the upper and lower injector fasteners **two to three turns** each.

After backing out both fasteners, completely remove **only top** injector fastener and washers.



1. Fuel manifolds
2. Fuel injector retainer

02234



1. Injector fastener

000203

IMPORTANT: DO NOT discard the old fasteners. The fasteners **MUST be returned** with the pre-printed warranty form to receive warranty credit. Pay close attention to keeping the new fasteners away from the old fasteners to be returned.

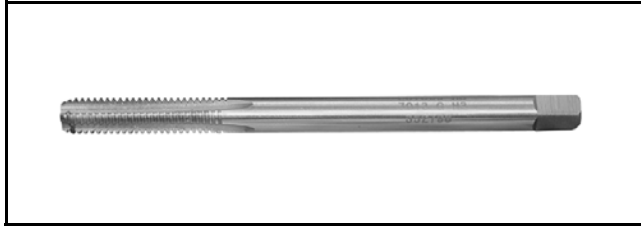
Clean cylinder head threads using cleaning tap (provided), *Cleaning Solvent*, and compressed air.



WARNING



Wear safety glasses to avoid personal injury, and set compressed air to less than 25 psi (172 kPa).



Cleaning Tap

004966



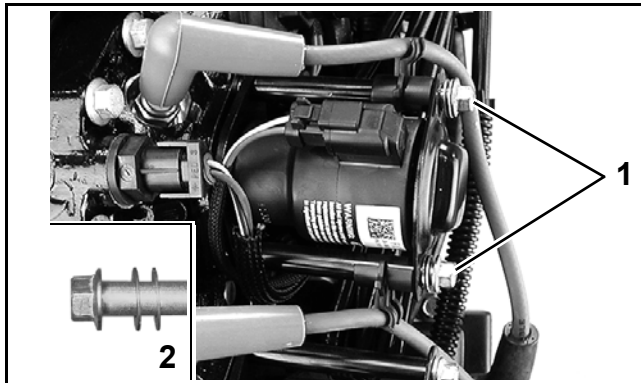
CAUTION



All injector components must be clean to ensure correct torque tightening specifications. To prevent fuel leakage, carefully follow these installation instructions.

Install two washers on each fastener.

IMPORTANT: Washers are factory-lubricated. Do not clean the washers.



1. Fasteners and washers
2. Washers (two per fastener)

000233

Apply *Locquic Primer* and *Nut Lock* to threads of fastener.

Install fastener. Finger tighten only.

IMPORTANT: DO NOT torque fastener until completing installation of bottom fastener. Torque procedure must be followed **only after both fasteners are installed.**

Repeat steps for the bottom fuel injector fastener before performing torque procedure.

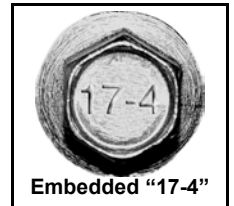
Torque Procedure

IMPORTANT: Torquing of each fastener must be completed within two minutes of chemical application.

After both fasteners are installed, tighten in stages, starting with lower fastener, and alternating to upper with each torque. Torque fasteners to 10 ft. lbs. (14 N·m), then 12 ft. lbs. (16 N·m), and then to a final torque of 14 ft. lbs. (19 N·m).

Check Work

After all fasteners are installed, confirm each fastener has an embedded numeric stamp on the fastener head.



Embedded "17-4"

Completing



WARNING



After servicing the fuel system, check for leaks. Failure to check for fuel leakage could allow a leak to go undetected, resulting in fire or explosion.

Reconnect battery cables. Turn key switch "ON" to pressurize fuel system. Inspect all fuel system components for leaks. Repair any fuel leaks.

Confirm location of spark plug leads and retainer clips.

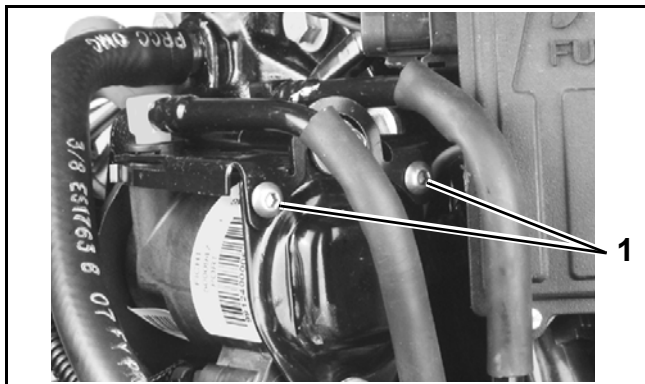
Install upper and lower engine covers.

200–250 HP MODELS

PROCEDURE

IMPORTANT: Note the proper locations and positioning of all spark plug leads and retainer clips prior to disassembly. Check condition of retainer assembly cap and sleeve. Replace if damaged.

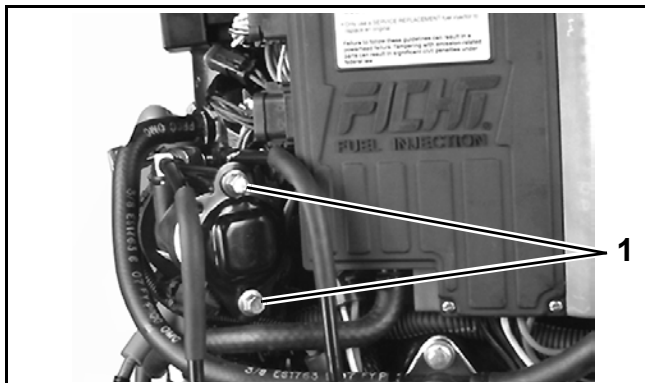
DO NOT remove the fuel injector retainer, fuel manifolds, or fuel injector assembly from the cylinder head.



1. Fuel manifold retainer screws (DO NOT REMOVE) DP0779

IMPORTANT: Back out the upper and lower injector fasteners **two to three turns** each.

After backing out both fasteners, completely remove **only top** injector fastener and washers.



1. Injector sleeve fasteners DP0784

IMPORTANT: DO NOT discard the old fasteners. The fasteners **MUST be returned** with the pre-printed warranty form to receive warranty credit. Pay close attention to keeping the new fasteners away from the old fasteners to be returned.

Clean injector adapter threads using cleaning tap (provided), *Cleaning Solvent*, and compressed air.



WARNING



Wear safety glasses to avoid personal injury, and set compressed air to less than 25 psi (172 kPa).



Cleaning Tap

004966



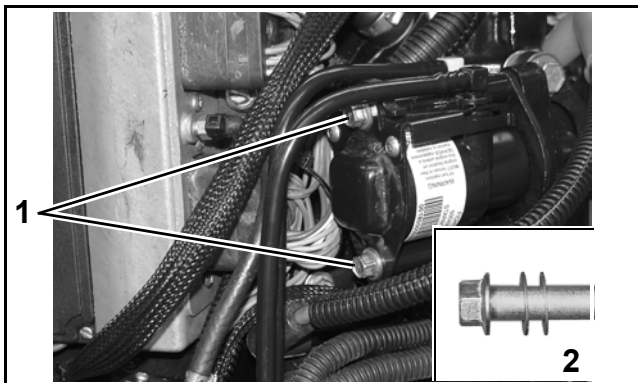
CAUTION



All injector components must be clean to ensure correct torque tightening specifications. To prevent fuel leakage, carefully follow these installation instructions.

Install two washers on each fastener.

IMPORTANT: Washers are factory-lubricated. Do not clean the washers.



1. Fasteners and washers

2. Washers (two per fastener)

000396

Apply *Locquic Primer* and *Nut Lock* to threads of fastener.

Install fastener. Finger tighten only.

IMPORTANT: DO NOT torque fastener until completing installation of bottom fastener. Torque procedure must be followed **only after both fasteners are installed**.

Repeat steps for the bottom fuel injector fastener before performing torque procedure.

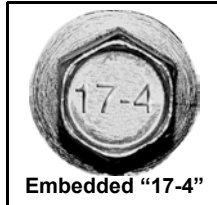
Torque Procedure

IMPORTANT: Torquing of each fastener must be completed within two minutes of chemical application.



After both fasteners are installed, tighten in stages, starting with lower fastener, and alternating to upper with each torque. Torque fasteners to 10 ft. lbs. (14 N·m), then 12 ft. lbs. (16 N·m), and then to a final torque of 14 ft. lbs. (19 N·m).

Check Work

After all fasteners are installed, confirm each fastener has an embedded numeric stamp on the fastener head.



Completing

| | | |
|---|----------------|---|
|  | WARNING |  |
| After servicing the fuel system, check for leaks. Failure to check for fuel leakage could allow a leak to go undetected, resulting in fire or explosion. | | |

Reconnect battery cables. Turn key switch "ON" to pressurize fuel system. Inspect all fuel system components for leaks. Repair any fuel leaks.

Confirm location of spark plug leads and retainer clips.

Install upper and lower engine covers.

ALL MODELS

Please refer to Warranty Bulletin # 2005-03(W).

The pre-printed warranty claim form enclosed in the kit **MUST** be completed and submitted along with the following parts:

- All original fuel injector fasteners

Returning Parts

- **U.S. Dealers only** — Use pre-paid UPS label. **UPS label cannot be used in conjunction with any other package or return program.**
- **Canadian Dealers** — Account will be credited \$10 U.S. (or equivalent).

The address is: Bombardier Recreational Products Inc.
 Attn: Service Department
 1789 Stenson Boulevard
 Peterborough, ON Canada K9J7B6

- **Dealers Outside North America** — Return old fasteners to regional office.