

EXHAUST SYSTEM

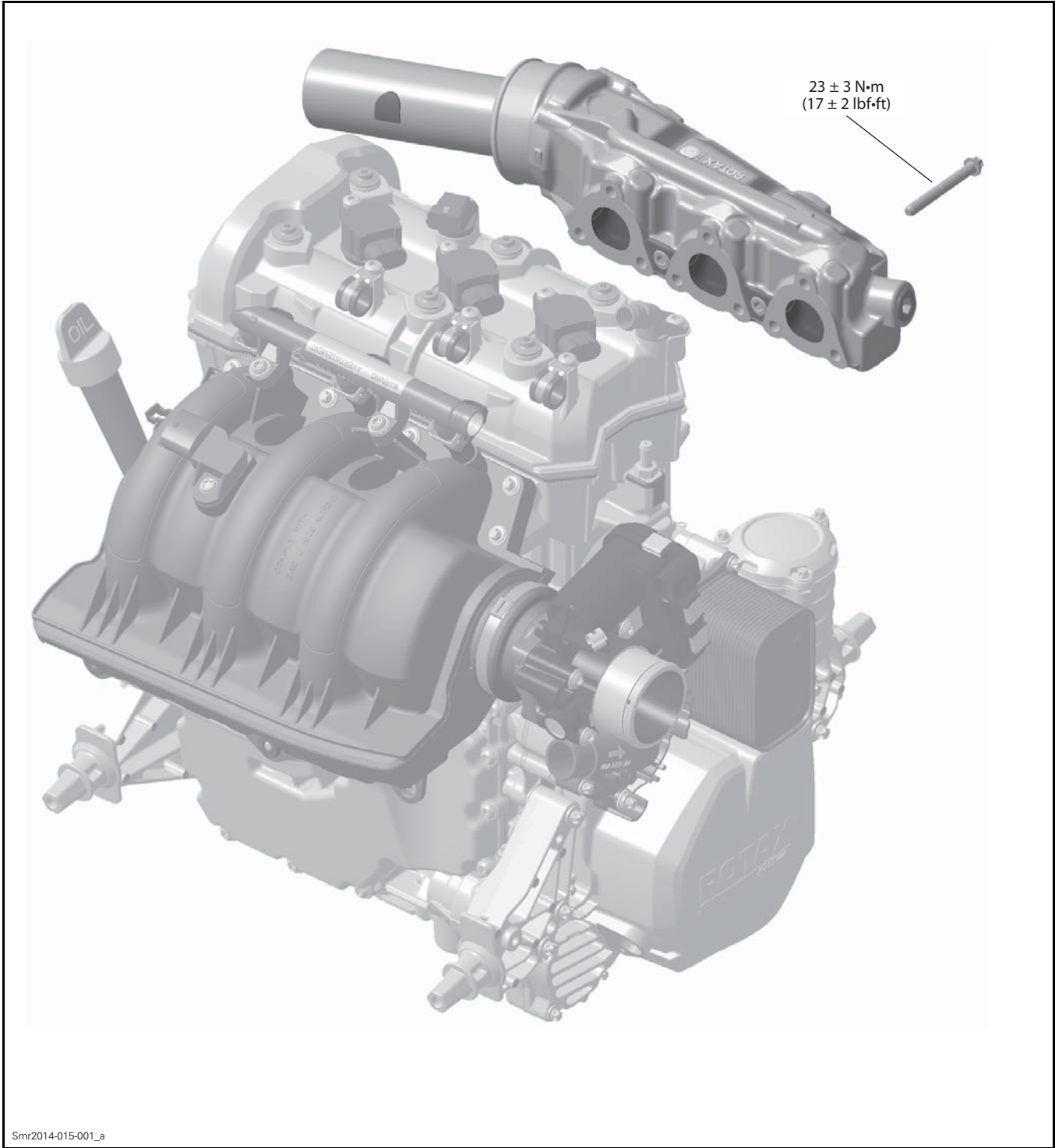
SERVICE TOOLS

Description	Part Number	Page
EXHAUST OUTLET SOCKET	529 036 282	7-8

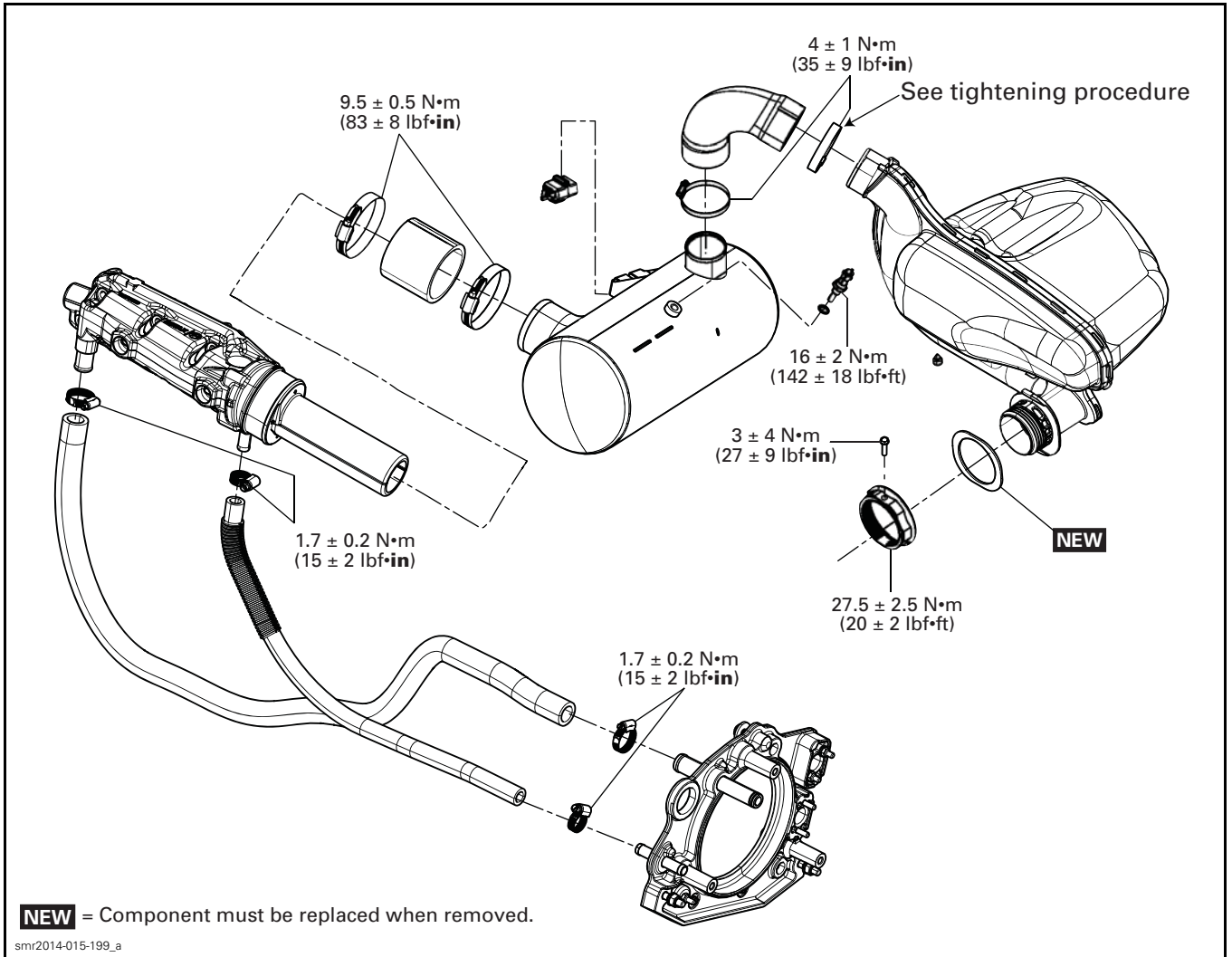
SERVICE PRODUCTS

Description	Part Number	Page
LOCTITE 5900	293 800 066	8

Subsection XX (EXHAUST SYSTEM)



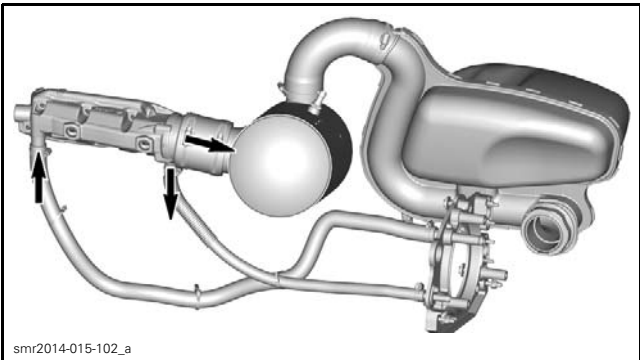
Smr2014-015-001_a



GENERAL

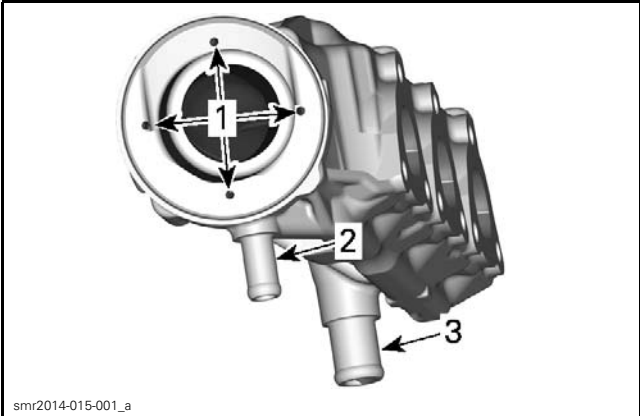
SYSTEM DESCRIPTION

The exhaust system is cooled by water provided by a pressurized area in the jet pump (open loop system).



EXHAUST SYSTEM

Water from the exhaust manifold jacket is directed to the exhaust internally.
Water exits exhaust manifold through holes to inject water in muffler.



EXHAUST MANIFOLD

- 1. Injection holes
- 2. Manifold outlet to jet pump support
- 3. Manifold inlet from jet pump support

Water from the muffler is evacuated through the exhaust outlet in transom area.

Exhaust System Technical Specifications

TYPE	Total Loss Cooling System (TLCS)
WATER FLOW	Flow from jet pump (no water pump)
TEMPERATURE CONTROL	Calibrated outlet fittings (no thermostat)
SYSTEM BLEEDING	Self-bleed type
SYSTEM DRAINING	Self-drain type

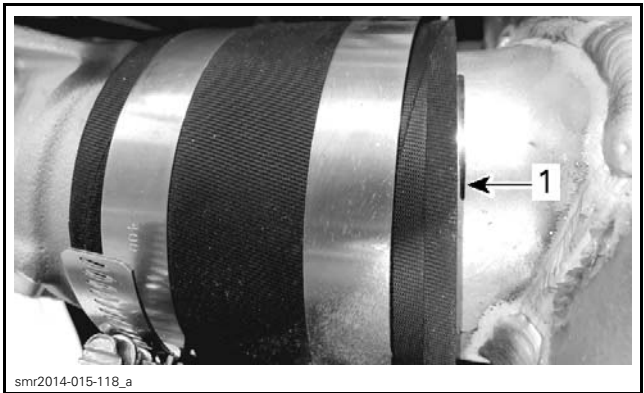
PROCEDURES

MUFFLER

CAUTION Certain components in the engine compartment may be very hot. Let exhaust system cool down prior to removing parts.

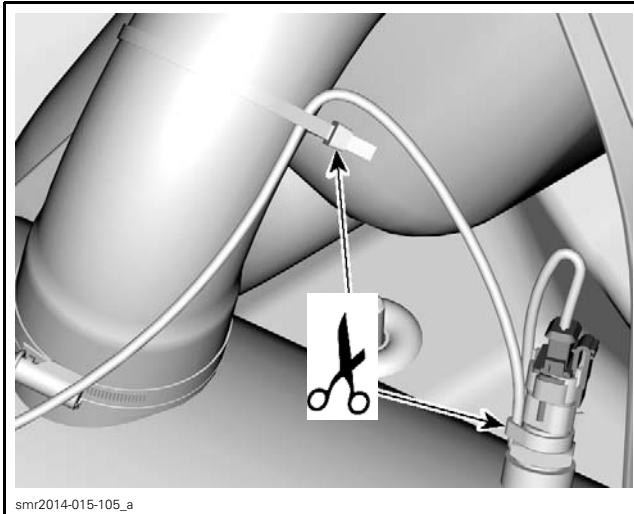
Muffler Removal

1. Remove central body. Refer to *BODY*.
2. Mark manifold to muffler hose location on muffler.

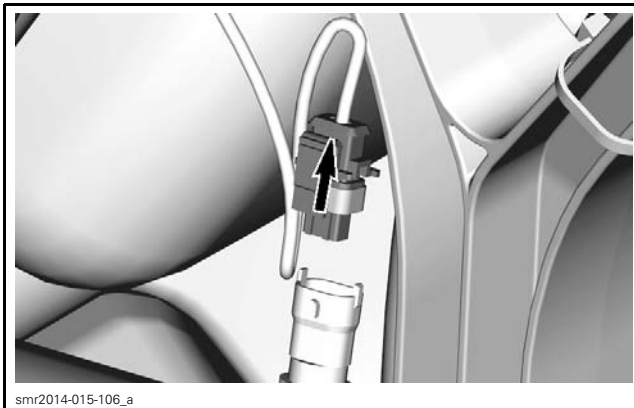


MANIFOLD TO MUFFLER EXHAUST HOSE - PORT SIDE VIEW
1. Mark

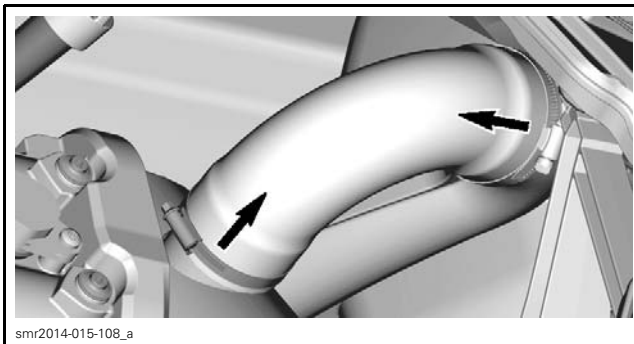
3. Follow image sequence.



MUFFLER TO RESONATOR EXHAUST HOSE

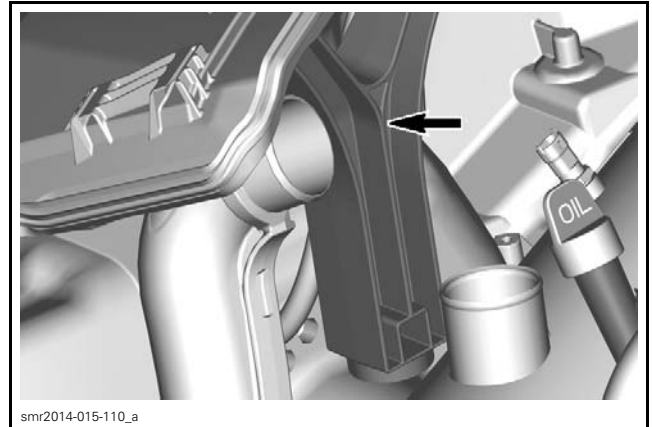


EGTS

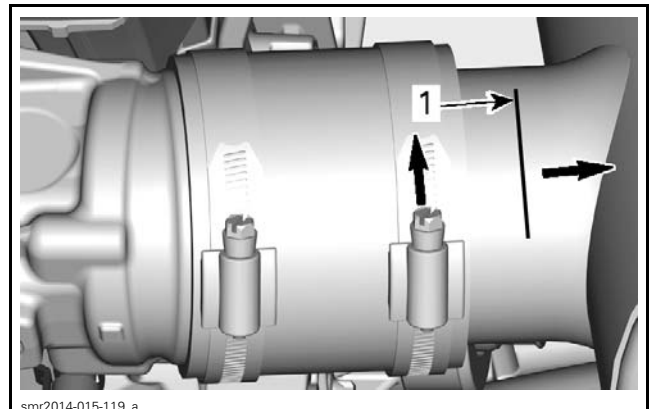


MUFFLER TO RESONATOR EXHAUST HOSE - FROM PORT SIDE VIEW

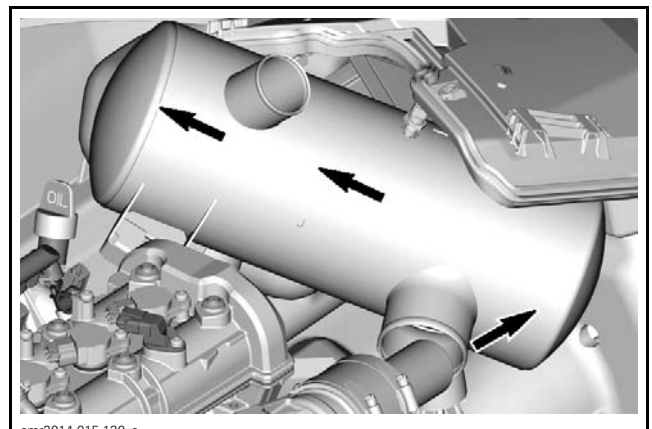
4. Move rear support backwards.



REAR SUPPORT MOVED TOWARDS REAR - STARBOARD SIDE VIEW



MANIFOLD TO MUFFLER EXHAUST HOSE - PORT SIDE VIEW
1. Mark



MUFFLER REMOVAL - PORT SIDE VIEW

Muffler Inspection

Check muffler for:

- Cracks
- Corrosion
- Other damages.

Check if exhaust hose is:

- Brittle
- Hard

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- Cracked
- Otherwise damaged.

Replace any defective part.

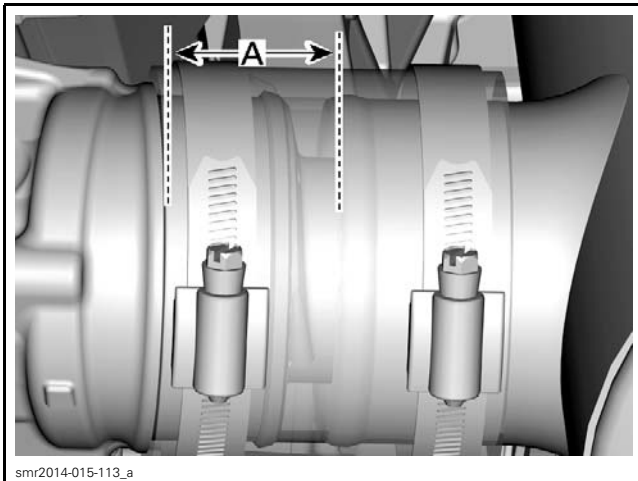
Muffler Installation

With a new muffler, install the EGTS sensor. Refer to *ELECTRONIC FUEL INJECTION (EFI)* subsection.

With a new muffler, mark muffler as per specification in step 1.

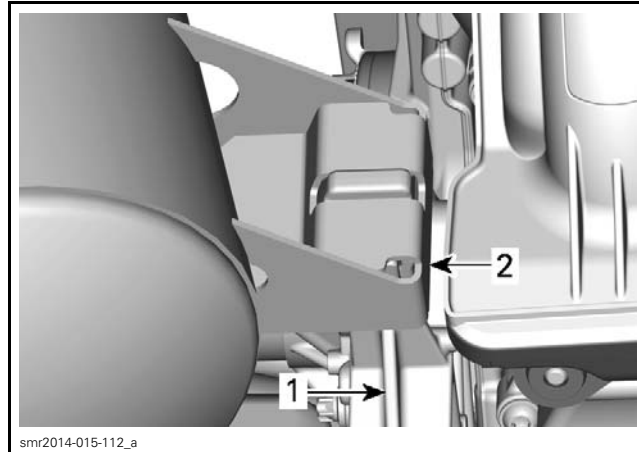
1. Ensure mark on muffler, inscribed during removal, provides correct engagement length into manifold to muffler exhaust hose.

NOTE: Because of manufacturing tolerances, the measurement must be taken as illustrated. From the muffler to the end of the hose.



MANIFOLD TO MUFFLER EXHAUST HOSE - PORT SIDE VIEW
A. Muffler engagement length 40 mm $\pm$ 2 mm (1.57 in $\pm$.08 in)

2. Install muffler.
3. Position muffler support on rear starboard engine mount.



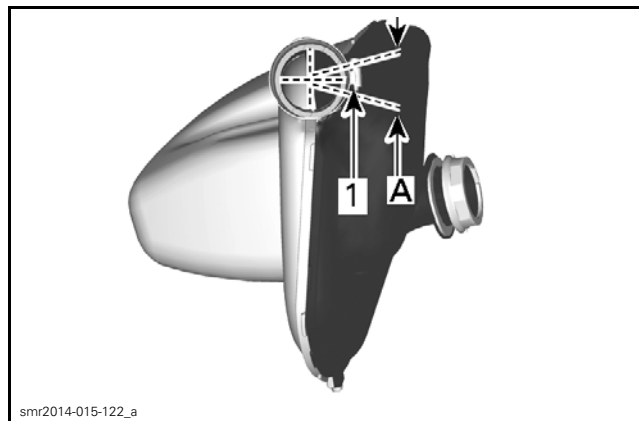
MUFFLER SUPPORT - STARBOARD SIDE VIEW

1. Rear starboard engine mount
2. Muffler support

NOTE: Ensure muffler support is properly seated on rear starboard engine mount.

Ensure manifold to muffler exhaust hose is aligned with mark on inscribed muffler.

4. Tighten fasteners as per exploded view.



SCREW CLAMP POSITION ON RESONATOR

1. Screw clamp
2. $0^\circ \pm 10^\circ$ ($\pm$)

5. Reposition rear support.
6. Install all other removed parts.
7. Test run the engine while supplying water to the exhaust system.
8. After installation, ensure there is no water or exhaust gas leak when engine is running.

NOTICE Never run engine without supplying water to the exhaust system when watercraft is out of water.

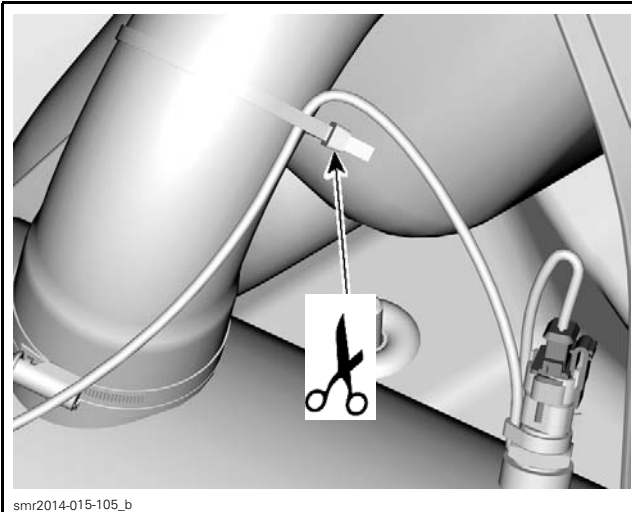
RESONATOR

Resonator Removal

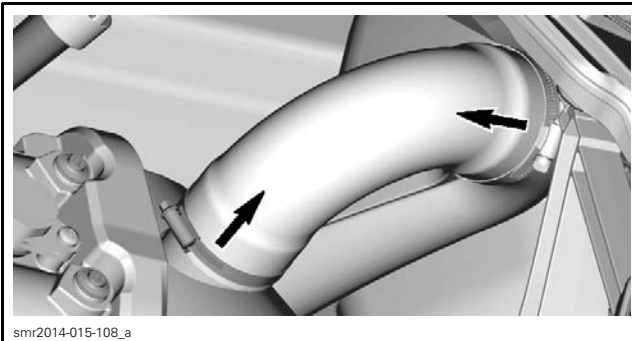
All models

1. Remove central body. Refer to *BODY*.

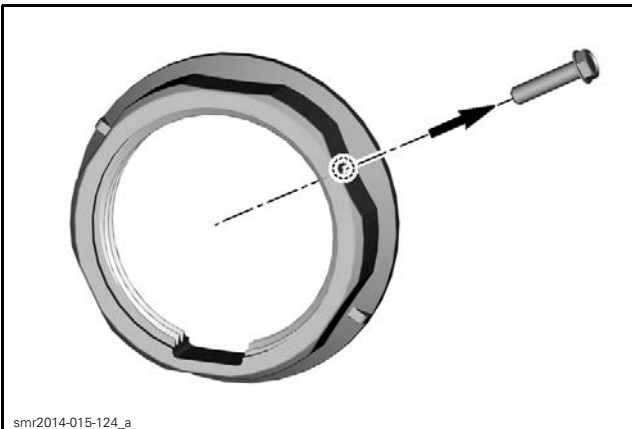
NOTE: Rear body removed for clarity.
2. Follow image sequence.



MUFFLER TO RESONATOR EXHAUST HOSE

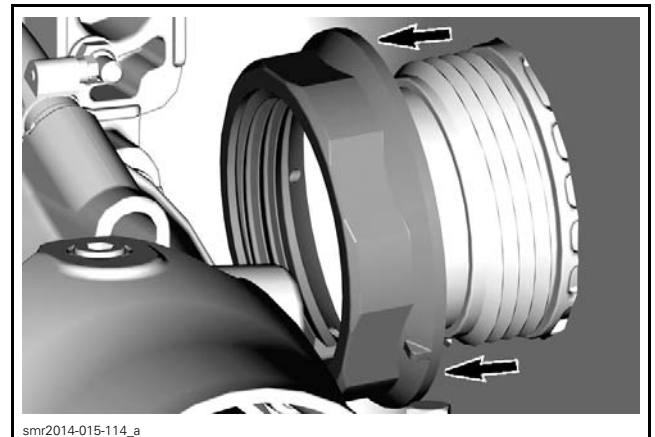
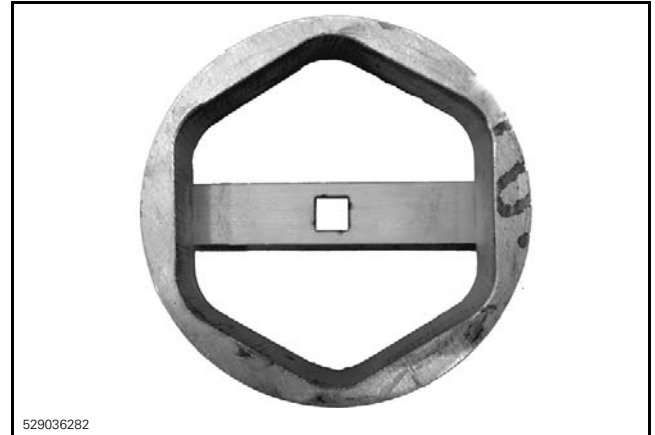


MUFFLER TO RESONATOR EXHAUST HOSE - FROM PORT SIDE VIEW

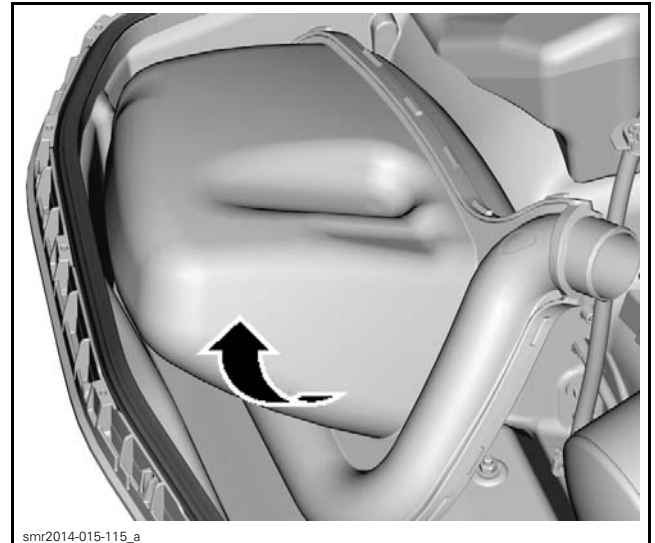


RESONATOR OUTLET NUT - OUTSIDE HULL

Use EXHAUST OUTLET SOCKET (P/N 529 036 282).

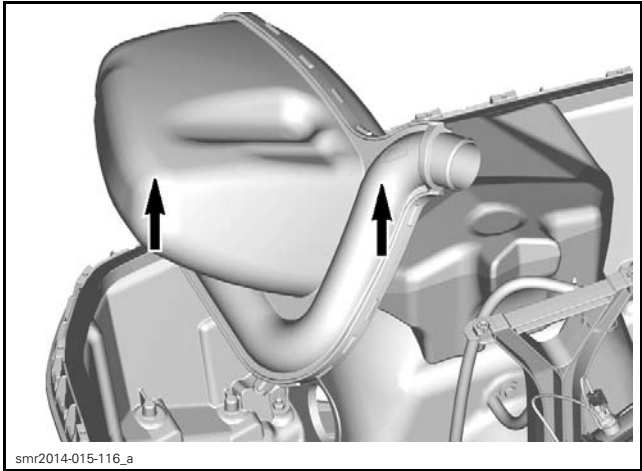


RESONATOR OUTLET NUT - OUTSIDE HULL

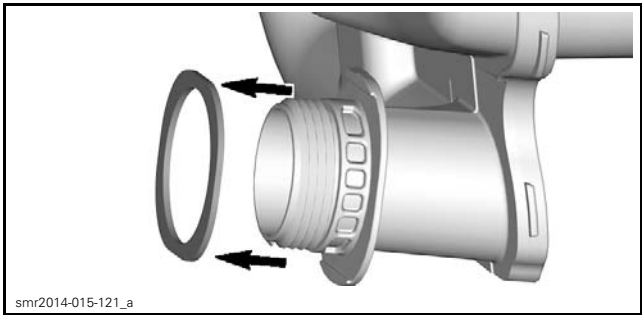


RESONATOR

Subsection XX (EXHAUST SYSTEM)



RESONATOR



RESONATOR GASKET

Gently scrape off sealant residues from resonator outlet.

Clean surfaces with isopropyl alcohol to eliminate grease, dust or any selant residue.

Resonator Inspection

Inspect parts condition paying attention for deformation, cracks or other damage. Check hoses. Replace any defective part.

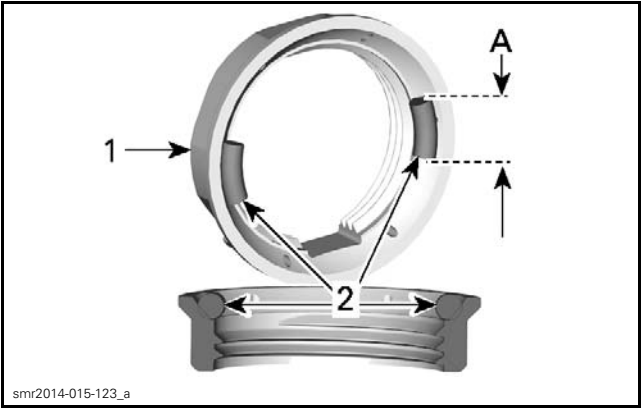
Resonator Installation

Install a new resonator gasket.

Installation is the reverse of the removal procedures. However, pay attention to the following if the screw does not line up with hole in the resonator outlet after properly torquing the resonator nut.

Apply two lines of LOCTITE 5900 (P/N 293 800 066) inside resonator outlet nut.

NOTE: Do not apply any sealant on resonator outlet nut threads.



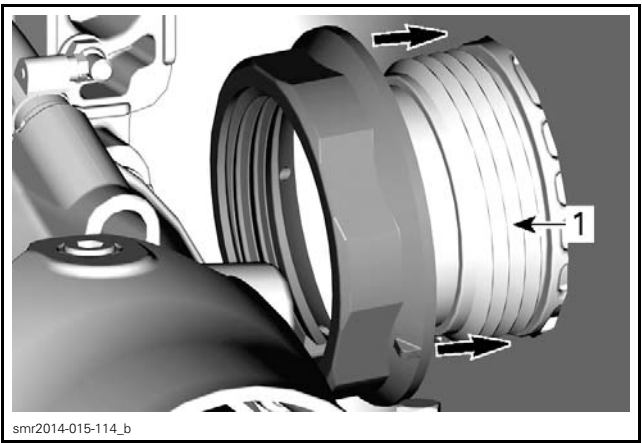
LOCTITE 5900 SEALANT APPLICATION

1. Resonator outlet nut

2. Loctite 5900

A. 20 mm (.8 in)

Use EXHAUST OUTLET SOCKET (P/N 529 036 282).



RESONATOR OUTLET

1. Resonator threads

TIGHTENING TORQUE	
Resonator outlet nut	27.5 N•m ± 2.5 N•m (20 lbf•ft ± 2 lbf•ft)

After installation, ensure there is no water or exhaust gas leak when the engine is running. Test run the engine while supplying water to the exhaust system.

NOTICE Never run engine without supplying water to the exhaust system when watercraft is out of water.

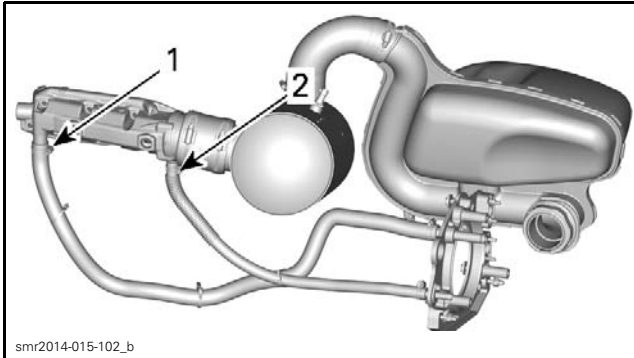
EXHAUST MANIFOLD

Exhaust Manifold Access

Remove central body. Refer to *BODY*.

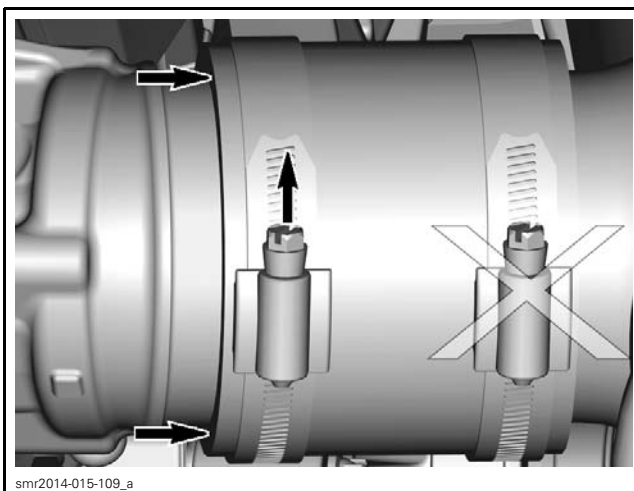
From exhaust manifold disconnect:

- Manifold inlet hose from jet pump support.
- Manifold outlet hose to jet pump support.



EXHAUST SYSTEM

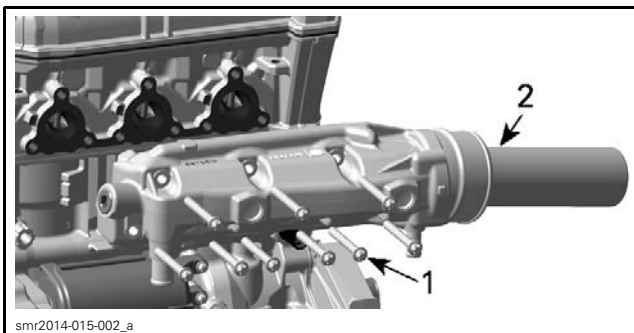
1. Manifold inlet hose from jet pump support
2. Manifold outlet hose to jet pump support



MANIFOLD TO MUFFLER EXHAUST HOSE - PORT SIDE VIEW

Exhaust Manifold Removal

Unscrew the exhaust manifold screws.
Remove the exhaust manifold.



1. Exhaust manifold screws
2. Exhaust manifold

Exhaust Manifold Inspection

Inspect exhaust manifold condition, pay attention for cracks or other damages.

Check contact surfaces and hose. Replace any defective part.

Inspect plane surfaces, ensure they are not warped.

NOTE: Small deformations can be corrected by grinding the surface with a fine sand paper. Lay the sand paper on a plane surface and rub part against oiled sand paper.

Clean all metal components in a solvent.

Check if the injection holes (4x) are not clogged.



1. Injection holes

Exhaust Manifold Installation

Installation is essentially the reverse of removal procedures. However, pay particular attention to the following.

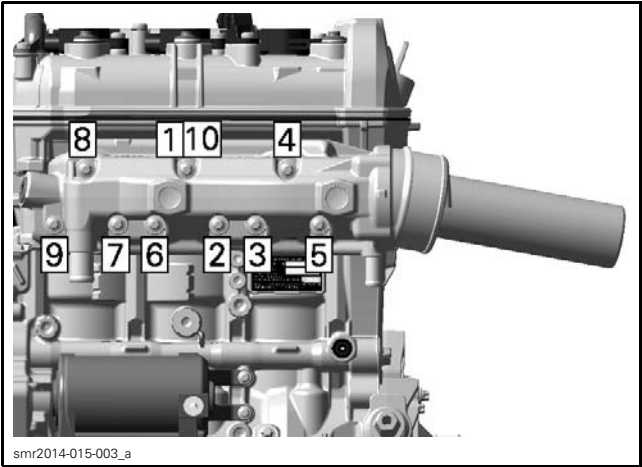
NOTE: There is no gasket between cylinder head and exhaust manifold.

Insert the exhaust manifold into the exhaust hose.

Install exhaust manifold screws as per sequence illustrated.

Tighten exhaust manifold screws to specification as per sequence illustrated.

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EXHAUST MANIFOLD TIGHTENING SEQUENCE

TIGHTENING TORQUE	
Exhaust manifold screws	23 N•m ± 3 N•m (17 lbf•ft ± 2 lbf•ft)

Install all removed parts.

After installation, test run the engine while supplying water to the flushing connector. Ensure there is no water or exhaust gas leakage when the engine is running.

NOTICE Never run engine without supplying water to the exhaust cooling system when boat is out of water.