



Sea-Doo Rocker Arm Upgrade Kit

RS19220-RAUK



Applications: 2004~23 1503/1630 4-TEC Engines

Approximate Installation Time:

3.0 hours

Recommended Specialty Tools:	Part #
Impact Star Socket	RS09531
Calibrated Torque Wrench	N/A
Camshaft Locking Tool	529035839

Required Materials:	Part #
XPS 4T Synthetic Motor Oil	9779134

Your kit was inspected and verified before being carefully packaged by our staff. Please check package contents before beginning assembly. If you have a question about missing or damaged items please contact RIVA Technical Support directly at (954) 247-0705 or by e-mail at tech_support@rivaracing.com.

GET THE LATEST UPDATES!

Prior to installation, go to the RIVA Racing online Instruction Library to download the latest version of these instructions:

<https://rivaracing.com/instructions>

We strongly recommend the use of a service manual to familiarize yourself with the various components and procedures involved with this installation. Please note that some of the original hardware removed in the disassembly process will be used in the installation process. These instructions have been written in step-by-step format and refer to illustrations. Read through instructions entirely before performing installation. Please follow these step-by-step instructions and illustrations carefully.

***** ALLOW ENGINE TO COOL COMPLETELY BEFORE PERFORMING INSTALLATION *****

***** NO SMOKING *** NO SMOKING *** NO SMOKING *****

Caution: Whenever using electric or battery operated tools inside the hull be sure it is well ventilated and no fumes are present. Failure to do so could result in a fire, or explosion and serious personal injury or death.

This kit is not intended for use on pollution controlled vehicles. Installation on pollution controlled vehicles may constitute a violation of state or local statutes.

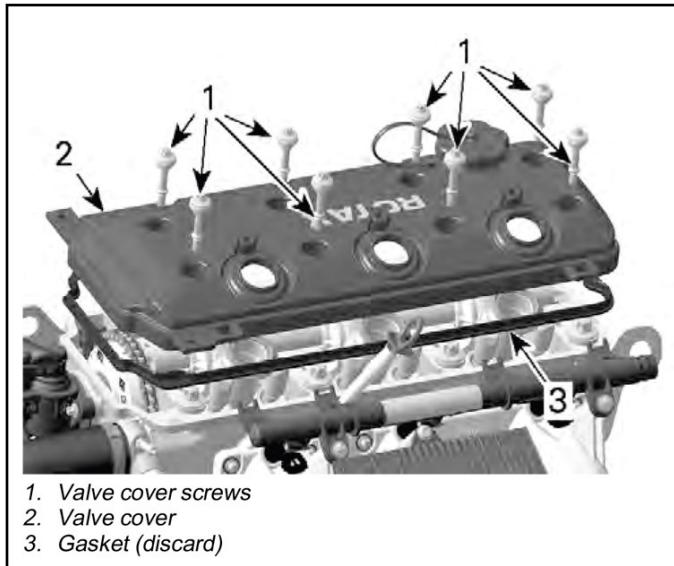
- INSTALLATION INSTRUCTIONS -

Remove engine service cover (13 Torx screws) on applicable models.

Remove D.E.S.S. lanyard and disconnect battery cables.
NOTE: Negative (black) first. Positive (red) second.

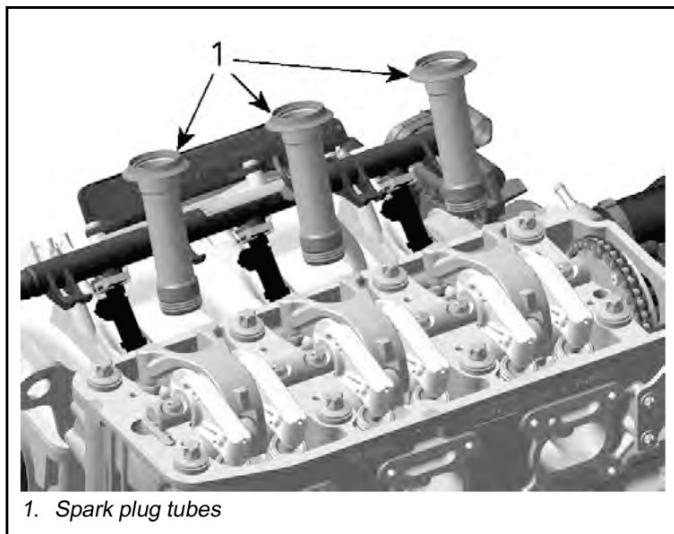
Remove ignition coils (spark plug caps).

Remove Torx bolts (8) securing valve cover to cylinder head.



Remove valve cover. **NOTE:** BRP recommends replacing valve cover gasket. Inspect and act accordingly if any signs of degradation, deformation or damage are present.

Remove spark plug tubes (3).



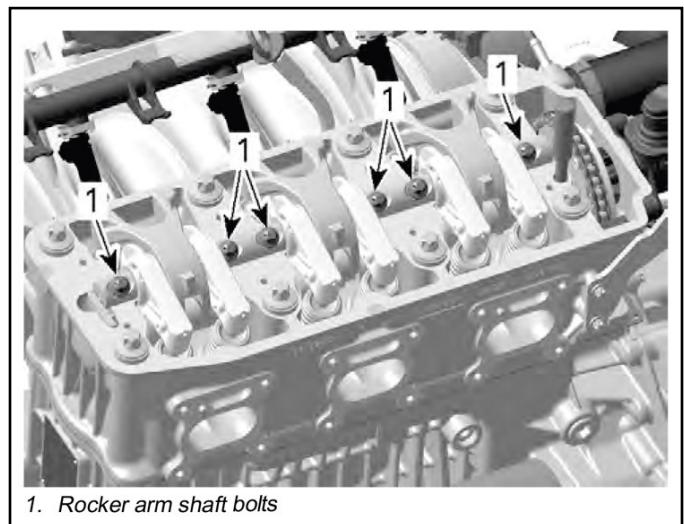
Install camshaft locking tool.



NOTE: Before continuing, it is extremely important that your work area is clean and free of any foreign debris. It is equally important that care is taken when performing the following steps so as not to mar or damage the finish of the rocker arm shaft and rocker arms.
Wear clean latex or rubber gloves.

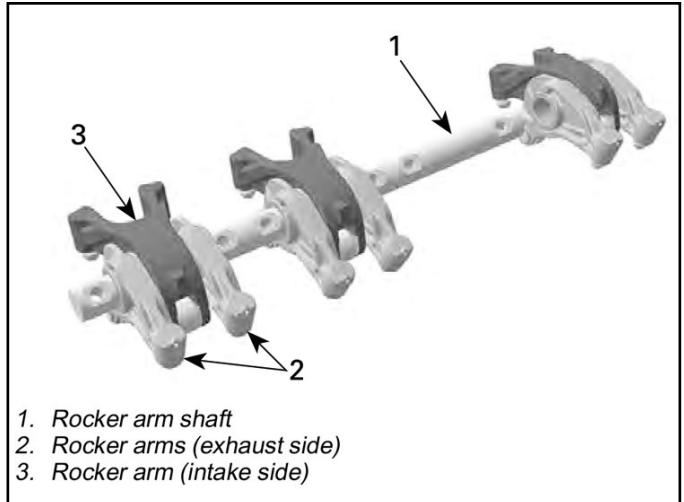


Remove rocker arm shaft assembly and discard bolts (6).
NOTE: Before removing rocker arm shaft, note orientation for reference when replacing with supplied rocker arm shaft.



Cover exposed engine internals with a clean rag.

Carefully remove rocker arms from rocker arm shaft. Retain Intake Rocker Arms. Discard Exhaust Rocker Arms and Rocker Arm Shaft.



- INSTALLATION INSTRUCTIONS -

Thoroughly clean intake rocker arms with a non-residual cleaner and inspect carefully.

1. Inspect each rocker arm for cracks and scored friction surfaces. If found, replace rocker arm assembly.
2. Check rocker arm rollers for free movement, wear and excessive radial play. Replace rocker arm assembly as necessary.
3. Measure rocker arm inside diameter. If diameter is out of specification, replace rocker arm assembly.

Rocker Arm Inside Diameter

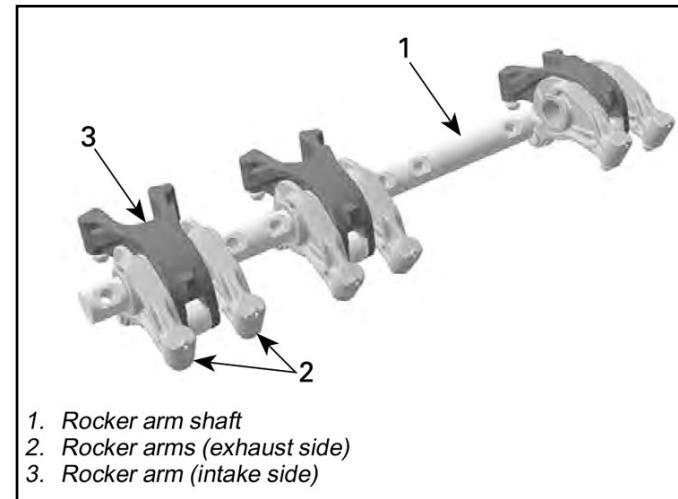
New	20.007 to 20.020 mm (.7877 to .7882 in)
Service Limit	20.050 mm (.7894 in)

4. Press hydraulic lifter with your thumb. If hydraulic lifter can be fully pressed in, replace rocker arm. Lifter must rotate freely in rocker arm bore. Otherwise, replace rocker arm.

Thoroughly clean supplied rocker arm shaft and exhaust rocker arms with a non-residual cleaner.

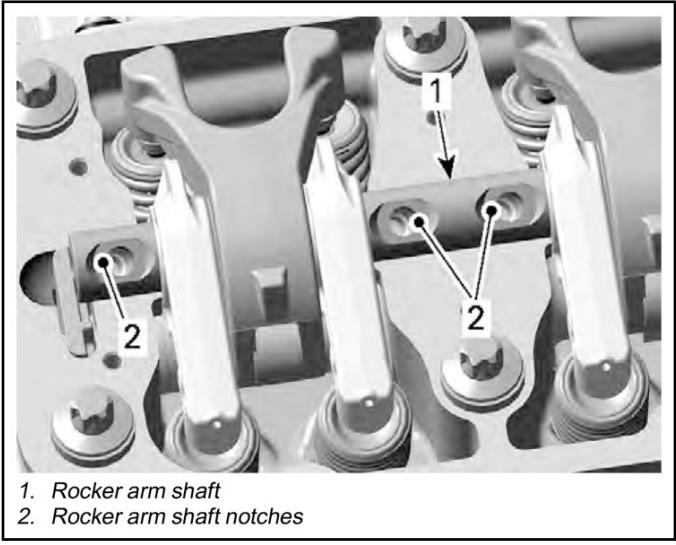
Apply XPS 4T oil to supplied rocker arm shaft, inner friction surface of intake rocker arms and supplied exhaust rocker arms and to hydraulic lifters.

Carefully install rocker arms onto rocker arm shaft. **NOTE: Reference orientation of discarded rocker arm shaft for proper installation of rocker arms.**



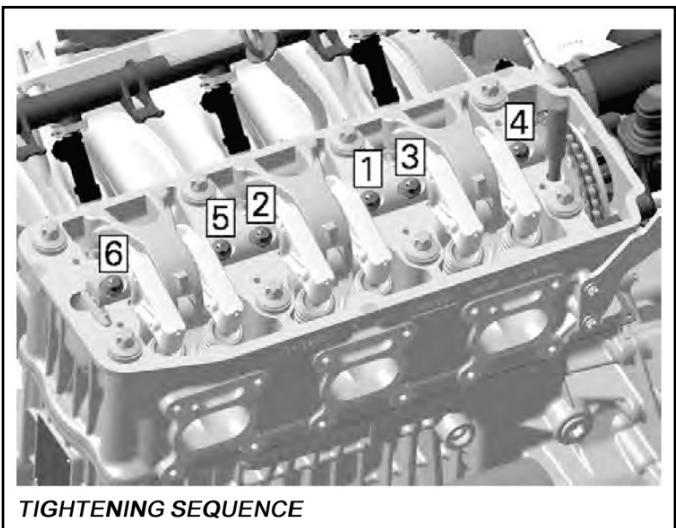
Apply XPS 4T oil to surfaces on cylinder head where rocker arm shaft will be installed.

Carefully install rocker arm assembly. **NOTE: Rocker arm shaft assembly can only be installed one way. Ensure rocker arms are placed over correct valves.**



Secure rocker arm shaft using supplied bolts. **NOTE: DO NOT USE ORIGINAL BOLTS. DO NOT APPLY THREAD LOCK to bolts.**

Reference illustration and chart below for proper torque sequence.



Tightening Torque		
	Step A	20 ± 2 Nm (15 ± 1 lbf·ft)
Rocker arm shaft bolts	Step B	Additional 90° ± 5°

- INSTALLATION INSTRUCTIONS -

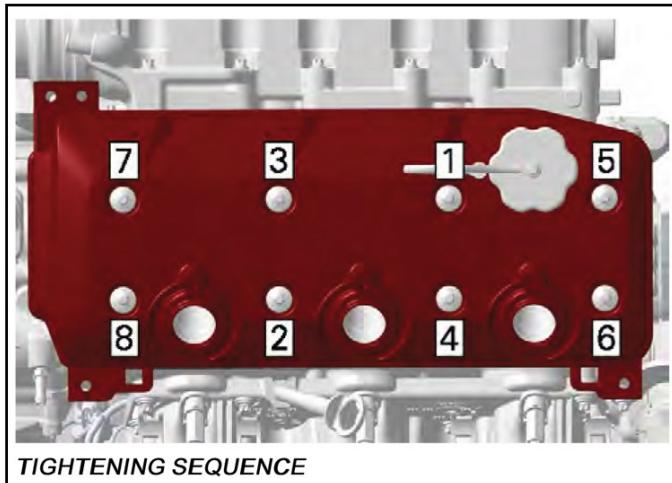
Remove camshaft locking tool.

Install spark plug tubes. **NOTE: Apply XPS 4T oil to seals.**

Clean outer edge of cylinder head and underside of valve cover.

Install valve cover making sure sealing ring is properly seated. **NOTE: Install new valve cover sealing ring if required. DO NOT APPLY THREAD LOCK to bolts.**

Reference illustration and chart below for proper torque sequence.



Tightening Torque			
Valve cover bolts	Step A (screws 1 to 8)	9 ± 1 Nm (80 ± 9 lbf-in)	
	Step B (screws 1 to 4)	9 ± 1 Nm (80 ± 9 lbf-in)	

Clean top of valve cover.

Install ignition coils (spark plug caps).

Reconnect battery cables. **NOTE: Positive (red) first. Negative (black) second.**

Check bilge for rags, tools etc.

Run craft on a flush hose to check for proper operation.

Replace engine service cover (13 Torx screws) on applicable models.

Replace seat(s).

Remember, the water belongs to everyone.

Please ride responsibly and respect the environment!

Technical Support

For answers to questions regarding installation or trouble shooting RIVA Performance Products contact:

RIVA Technical Support directly at (954) 247-0705 or by e-mail at tech_support@rivaracing.com.

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