



**Sea-Doo O2 Sensor Installation Kit**  
**RS15050-SK-O2**



**Applications:** Sea-Doo 1503 4-Tec, 1630 ACE, and 900 ACE engines

**Approximate Installation Time:** 5 hrs (Includes removal and replacement of exhaust manifold)

**Recommended Specialty Tools:**

OEM Service manual

**Part #**

N/A

**Required Materials:**

Upright Mill or Drill Press

Level

3/16" Drill Bit

3/4" Countersink Bit

**Part #**

N/A

N/A

N/A

N/A

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 \*\*\***



**RS15050-SK-O2 Sea-Doo O2 Sensor Installation Kit**

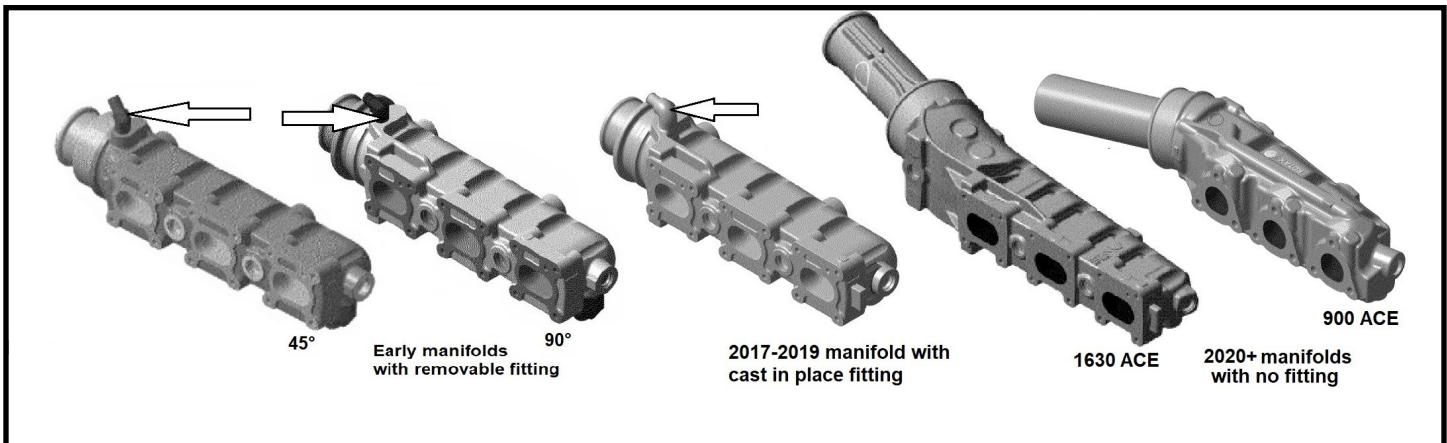
**COMPONENT LIST**

	QUANTITY	PART NUMBER	DESCRIPTION	COMMENTS
A	1	01180413	Drill Bit	
B	1	04993903	M18 x 1.5 HSS Met. Plug Tap	
C	1	RPS-5259SS	SS Plug	
D	1	CHA91591	18MM Crush Washer	

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@rivamotorsports.com](mailto:tech_support@rivamotorsports.com)

**Note: These instructions cover three different types of Sea-Doo exhaust manifolds. (Figure 1) Please be aware of the differences as described in the layout and machining sections of these instructions.**

Figure 1

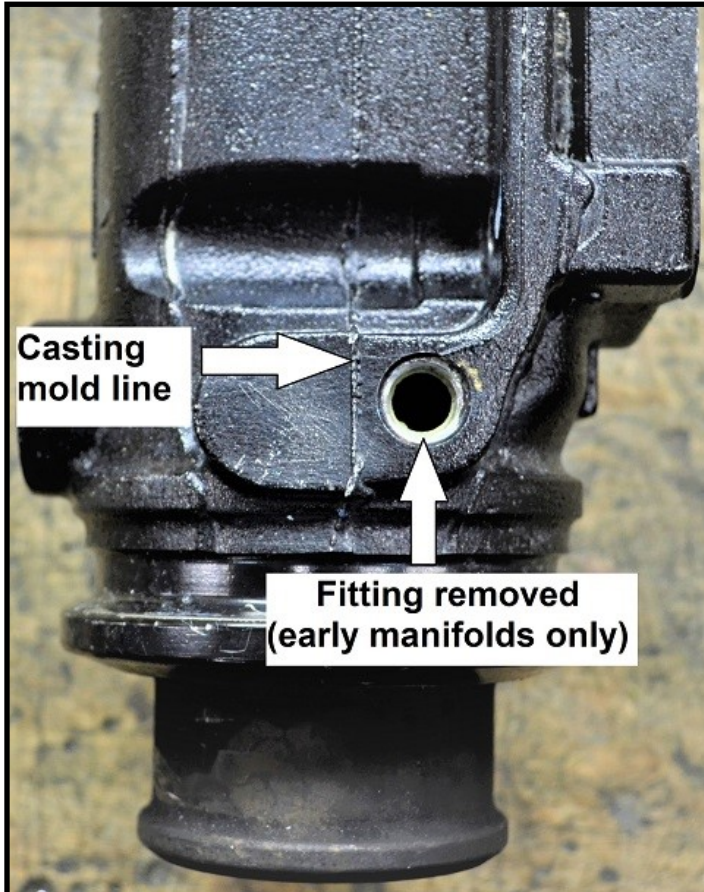


## - INSTALLATION INSTRUCTIONS -

Following steps outlined in OEM Service Manual remove exhaust manifold.

**Early models with removable fitting:** Remove 90-degree water bypass fitting from top of exhaust manifold. Cover opening left after removing fitting. (Figure 2)

Figure 2



Place exhaust manifold in a clamping device. Ensure manifold is level.

**All manifolds with removable or cast in place fitting:**

Using an end mill machine the boss beside cooling jacket fitting up to the casting mold line smooth and level. (Figure 3)

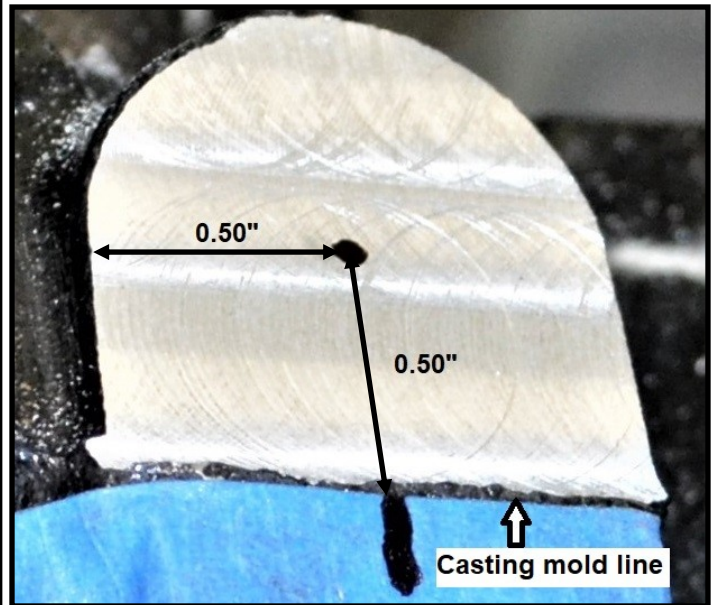
Figure 3



If an upright mill is not available files may be used. The manifold should still be clamped in a sturdy vice and level. Use a coarse file initially and smooth file to finish.

Once flat area is machined measure and mark location for a pilot hole. Measure 1/2" (12.7 mm) forward from rear of boss and 1/2" (12.7 mm) left from casting mold line. (Figure 4)

Figure 4

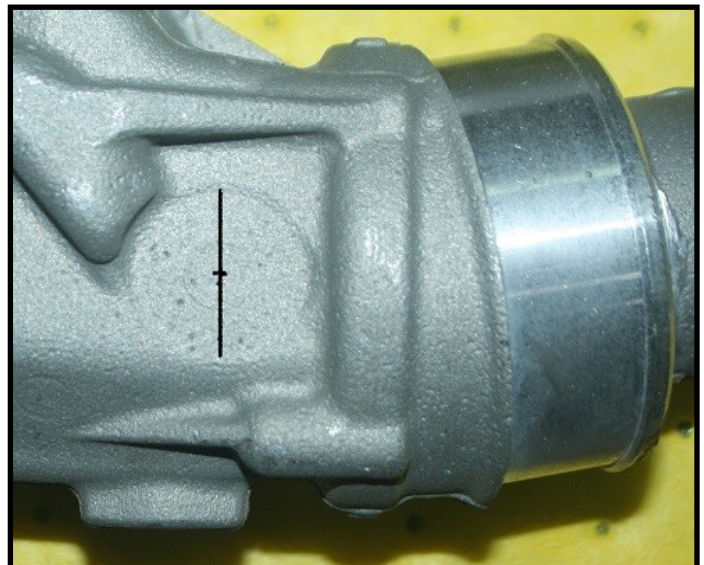


**2020+ Manifolds with no fitting:**

Locate round mold boss on manifold near outlet end.  
**Note: 2020+ 1630 ACE manifolds have 2 mold bosses. Either may be used.**

Locate center of mold boss. Draw a line across the boss through the approximate center. Measure halfway down the line and make a mark. (Figure 5)

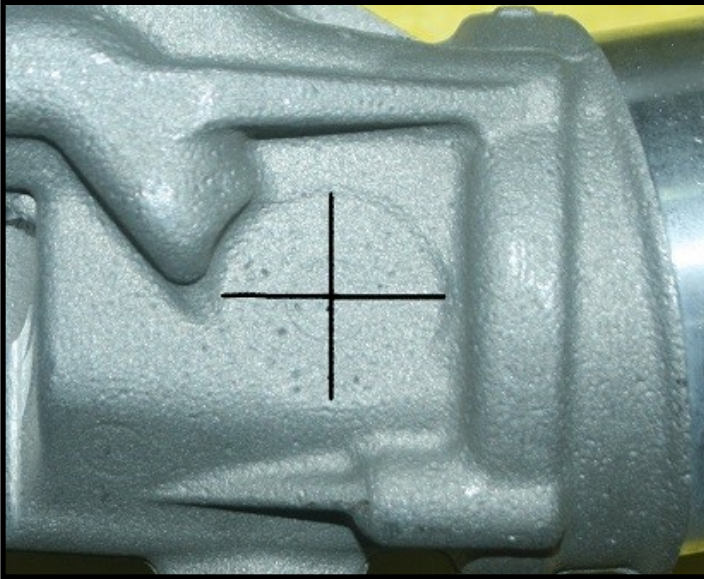
Figure 5



## - INSTALLATION INSTRUCTIONS -

Draw a second line across the boss through the mark at a right angle to the first line. (Figure 6)

Figure 6



Measure all four lines from the outside of the boss to the center. All four lines should be the same length. Adjust as needed. Mark the center of the boss for a pilot hole.

### **All manifold types:**

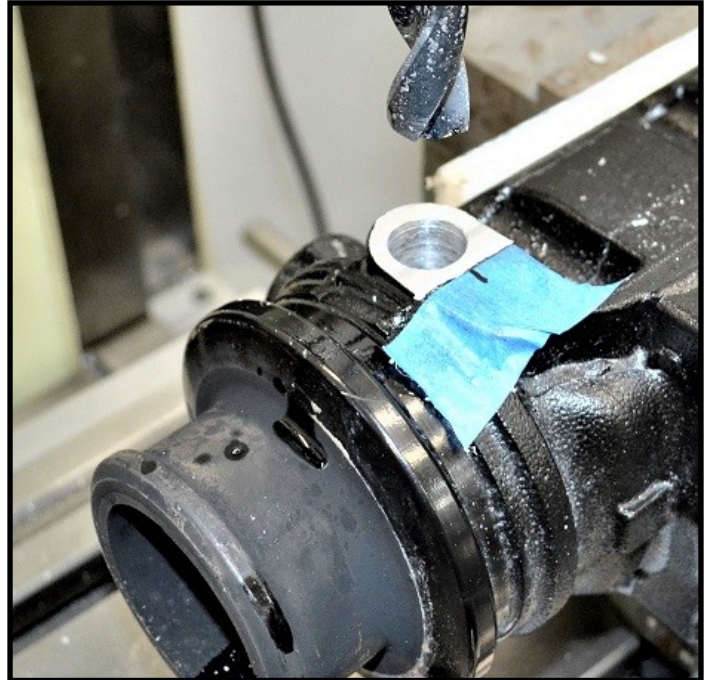
Using an upright mill or drill press and 3/16" drill bit, drill a pilot hole through manifold. Thoroughly clean afterwards. (Figure 7)

Figure 7



Using supplied drill bit, drill finish hole. Thoroughly clean afterwards. (Figure 8)

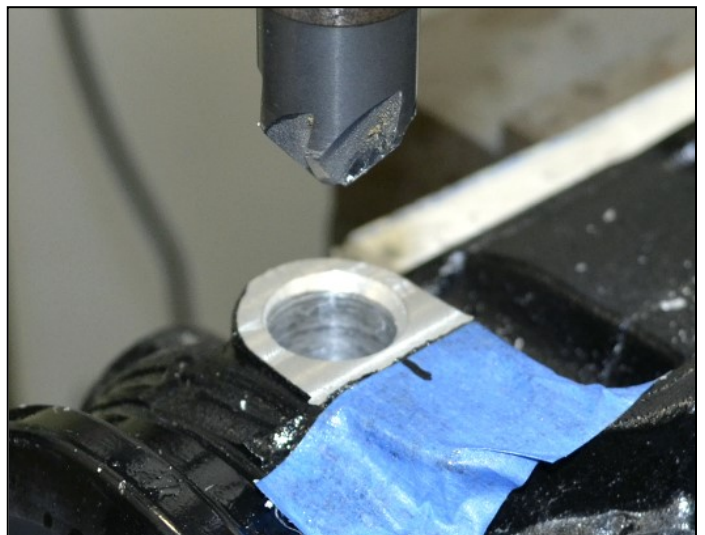
Figure 8



Using a counterbore, end mill, or similar machine a flat around hole perpendicular to the axis of the hole at least 1" in diameter.

Countersink with a 3/4" countersink bit. (Figure 9)

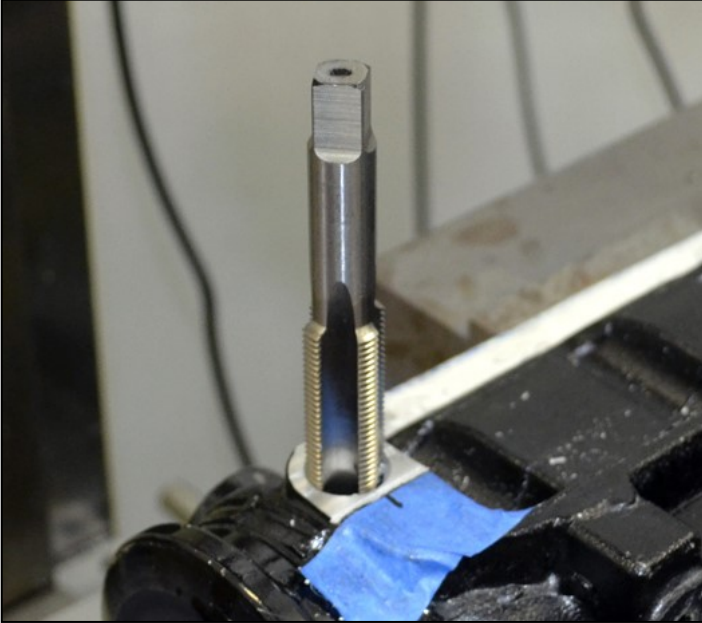
Figure 9



Cut threads into drilled hole using supplied tapping bit. Use care when tapping threads to ensure they are perfectly straight. **NOTE: Apply tapping fluid to bit and hole. For every 1/2 turn into hole reverse direction 1/4 turn to clear tap.** (Figure 10)

## - INSTALLATION INSTRUCTIONS -

Figure 10



Thoroughly clean manifold and tap.

Run tap through hole to ensure threads are clean.

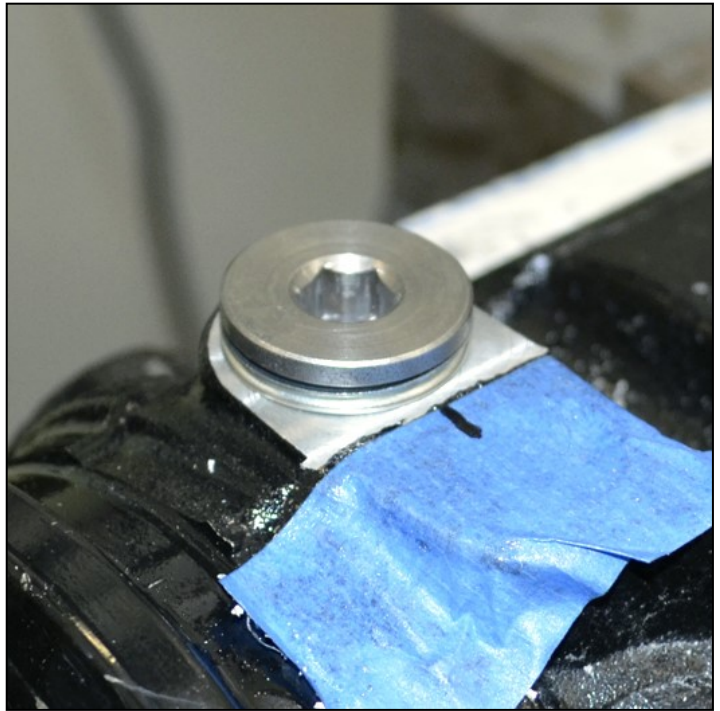
Thoroughly clean manifold.

When installing supplied block-off plug utilize supplied crush washer. Apply Loctite 518 to threads. Torque to 28 ft•lb / 38 N•m. (Figures 11-12)

Figure 11



Figure 12



**Early model manifolds with removable fitting:** Replace 90-degree water bypass fitting. **NOTE: Apply pipe thread sealant to threads.**

Replace exhaust manifold following steps outlined in OEM Service Manual.

Check bilge for tools, rags, etc. Run craft on a flush kit to check for proper operation.

## IMPORTANT

We recommend using your O2 sensor during testing only and that it be removed when the craft is not in use. The moist environment of the exhaust system can cause corrosion to build up on the O2 sensor resulting in false readings or failure.

***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@rivamotorsports.com](mailto:tech_support@rivamotorsports.com).

**Limited Warranty**

RIVA Sensor installation kits carry a 90 day limited warranty to the original purchaser. They are warranted to be free of defects in materials and workmanship under normal use and service. Customer modified components will be void of warranty. This warranty is limited to defects in the primary components only. Finish and/or wear marks in or on primary components are not covered under this warranty.

RIVA Racing's liability is expressly limited to the repair or replacement of the components contained within or associated with this kit. RIVA Racing agrees to repair or at RIVA's option, replace any defective unit without charge, if product is returned to RIVA Racing freight prepaid within the warranty period. Any equipment returned which, in RIVA's opinion, has been subjected to misuse, abuse, overheating or accident shall not be covered by this warranty.

RIVA Racing shall have no liability for special, incidental or consequential damages or injury to persons or property from any cause arising from the sale, installation or use of this product.

No other warranty, express or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose, applies. Various states do not allow for the limitation of incidental or consequential damages and therefore the above exclusion or limitation may not apply to you.

Warranty does not include the expenses related to freight or transportation of parts or compensation for any inconvenience or loss of use while being repaired. A copy of the original invoice and a Return Authorization Number (RA#) must accompany all warranty claims.

Warranted replacement parts will be returned freight collect.

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