



RIVA RACING

PERFORMANCE PRODUCTS & ACCESSORIES

Valve Train Upgrade Kit **PART# - RY19040-VTU-1**

APPLICATION(S): Yamaha FX-SHO, FZR & FZS

Please read the following completely prior to beginning installation.

A service manual is recommended when performing this installation. The following instructions were written based on using our Valve Compression Tool (Part# RY19040-VCT). This tool allows you to install our Valve Train Upgrade Kit without removing the cylinder head.

Required tools

RIVA Valve Compression Tool
Air Pressure Regulator
OEM Service Manual

Part#

RY19040-VCT
N/A
N/A

Recommended tools

Magnetic Pick-up Tool

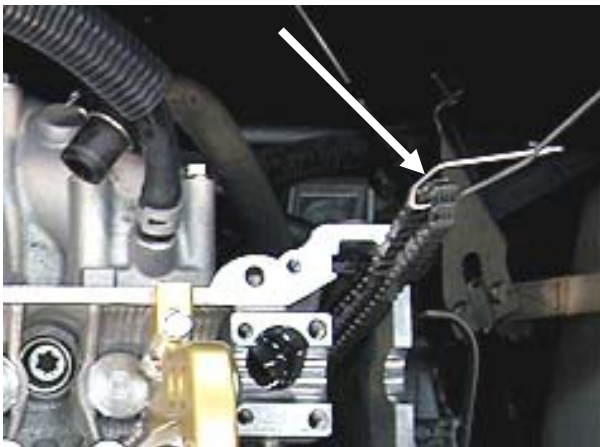
Part#

N/A

- INSTALLATION INSTRUCTIONS -

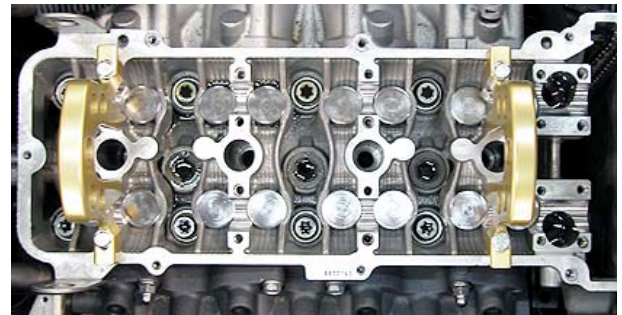
Follow steps outlined in your OEM Service Manual for removal of the following top end engine components: Valve Cover, Camshaft Caps, and Timing Chain Tensioner.

Carefully remove camshafts making sure to keep tension on timing chain so it does not fall off of crankshaft gear.



TIP: Using a coat hanger or heavy gauge welding rod wrap one end around left hand grip and the other through timing chain to keep adequate tension during tool installation.

Install compression rod supports (2) over front and rear spark plug holes using supplied hardware.



Use supplied hardware applicable to your brand watercraft to secure supports to cylinder head. **NOTE: Do not over tighten bolts.**

Remove spark plug and install supplied airline into spark plug receiver for cylinder being serviced.

Using a metered airline, pressurize cylinder to **80psi maximum**.

Remove bucket only from valve being serviced.

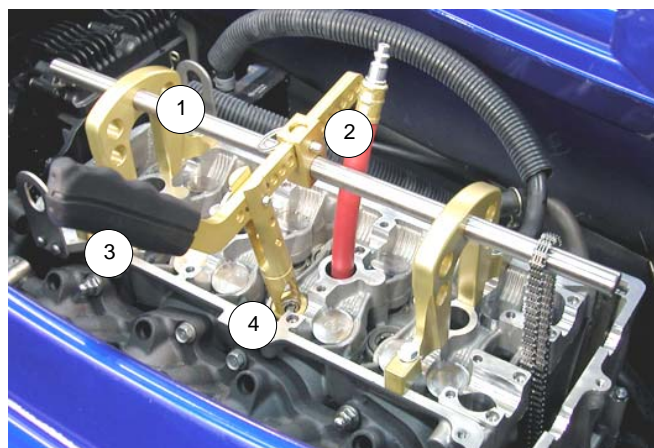


Use a magnet to remove bucket. Make contact at center. This will remove bucket shim at same time.



Flip bucket over to verify shim was removed with bucket. Do not lose shim!

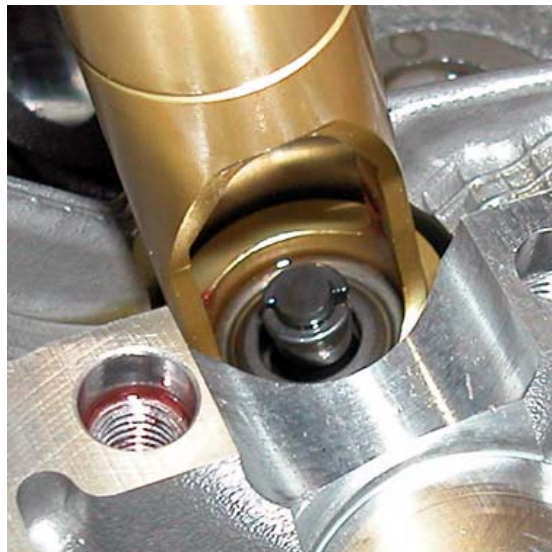
Install supplied stainless steel compression rod¹, compression arm receiver², compression arm³ and compression adapter⁴ onto supports.



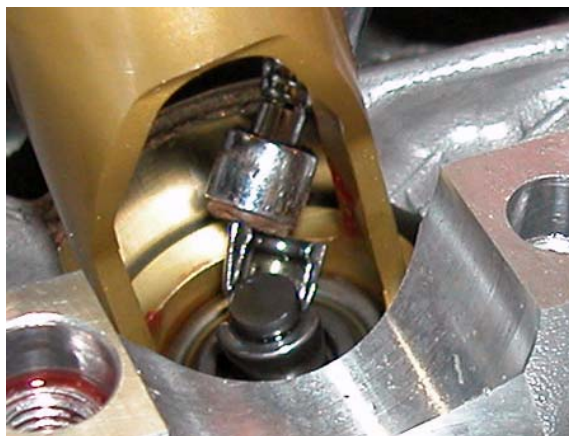
NOTE:

- Compression arm handle should be on same side of motor as valve being serviced.
- Secure arm to receiver at # 14. Secure cup rod to arm at # 8.
- Use supplied compression adapter applicable to your brand watercraft.
- Hang timing chain on end of compression rod.

Center cup over retainer. Apply pressure to handle on compression arm forcing retainer down until keepers are exposed.



Use a magnet to remove keepers.



Slowly relieve pressure on compression arm.

Flip compression arm handle up and over to access valve.

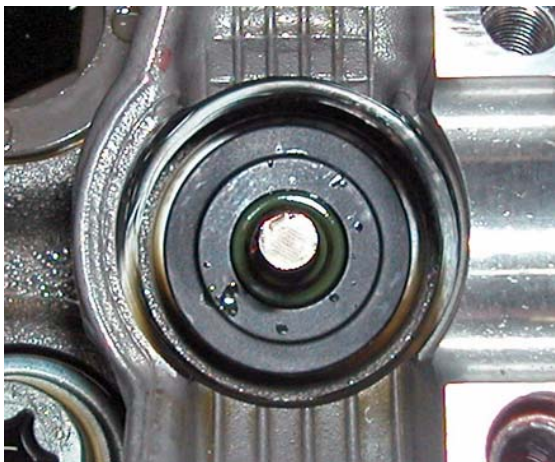
Remove stock retainer, stock valve spring(s) and stock base spacer.

Thoroughly clean supplied Valve Train Upgrade kit components with a non-residual cleaner.



RIVA Valve Train Upgrade Kit components

Install one base washer (profile side up) over valve stem and seat against cylinder head.



Install one spring set (inner & outer combined) over valve stem.

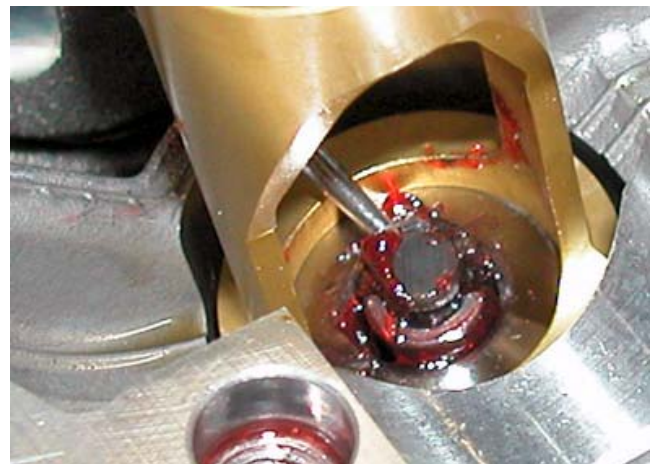
Apply grease to stock keepers and install into center of supplied valve retainer. Add more grease.



Place retainer on top of spring set (profile side towards spring set).

Flip compression arm handle over and center cup over retainer.

Center cup over retainer. Slowly apply pressure to handle on compression arm until keepers begin to move. Use a non-magnetic tool to guide keepers into place on valve stem.



Once keepers are properly seated on valve stem slowly relieve pressure on compression arm until retainer locks in place.

Slightly compress retainer several times to ensure keepers are properly locked into place.

Flip compression arm handle up and over to access valve.

Visually inspect to ensure retainer is properly locked in place.



If retainer does not appear to be locked in place repeat process.

Thoroughly clean stock bucket and shim. Do not remove grease from retainer.

Place shim in center of retainer (on top of keepers) number side up making sure it is seated evenly.

Replace bucket.

Repeat above steps for remaining valves working on only one at a time only. Move to next cylinder and repeat entire process.

Carefully follow steps outlined in your OEM Service Manual for replacement of the following top end engine components: Valve Cover, Camshaft Caps, and Timing Chain Tensioner.

***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.

Limited Warranty

RIVA Valve Train Upgrade Kits carry a 30-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.