



BRIGGS & STRATTON CORPORATION

130G32 OHV Horizontal Shaft Engine





Safety First!

- Always Wear Eye Protection
- Remove Spark Plug Wire From Spark Plug
- Drain Fuel Tank

Systematic Approach

- **Technicians need to take their time when disassembling an engine. This is not a race!**
- **Place parts in bin when they are removed.**
- **Put fasteners loosely back in bolt holes.**
- **Follow all instructions – If you have questions ASK!**

Note

When removing fasteners, place them to the side and then remove the part. After the part is removed thread the fastener back into the threaded hole it came out of. This will prevent you from losing fasteners and you will remember where they go when you put the engine back together.

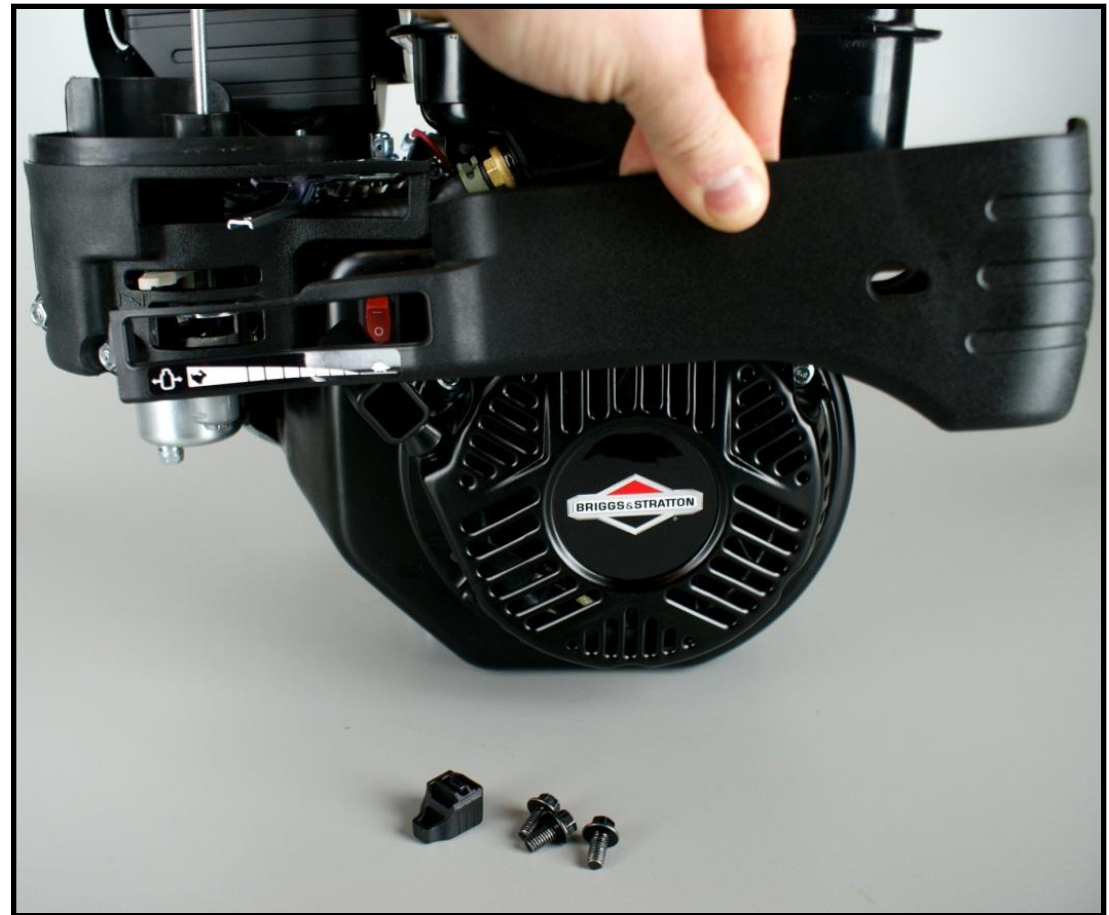
Remove Air Cleaner Cover and Filter

- Remove plastic wing nut and remove air filter cover
- Remove metal wing nut and remove the air filter



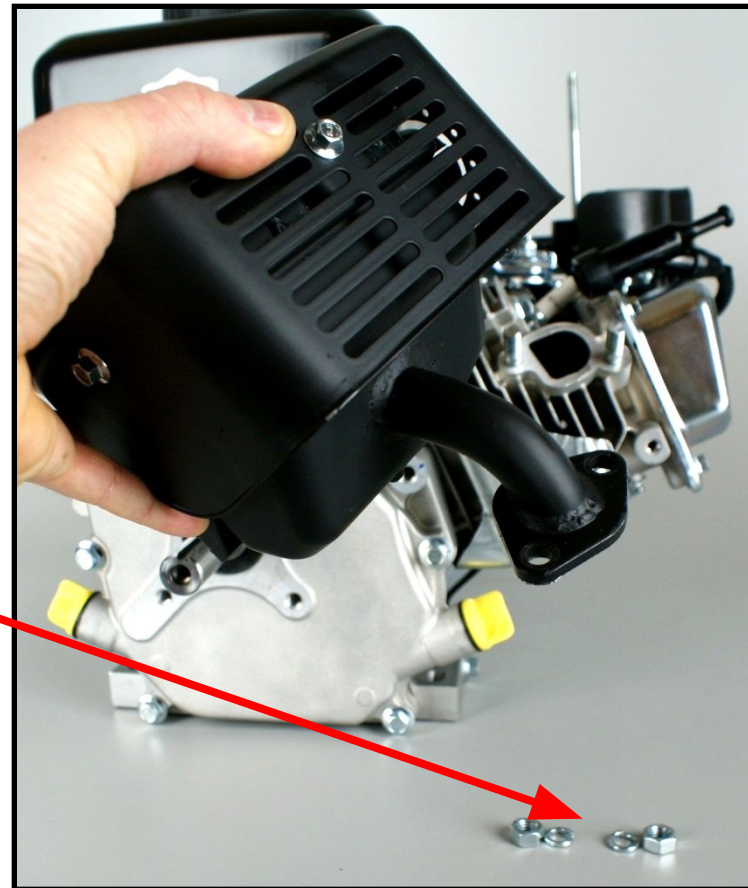
Remove Trim Panel

- Pull throttle lever knob off
- Remove 3, 8mm screws



Remove Muffler

- Use 13mm socket
- Watch for the two lock washers and don't lose them



Remove Spark Plug

- Use 5/8 in. spark plug socket



Remove Air Cleaner Backing Plate/Base

- Use 8 mm socket for top screw
- Use 10mm socket for nuts
- Disconnect breather tube at valve cover
- Inspect gasket for leaks or tears



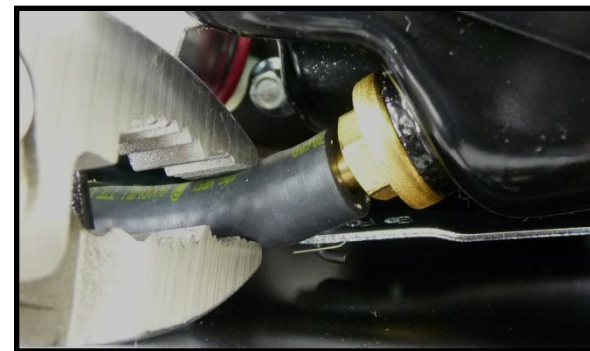
Instructor Signature



Instructor Signature

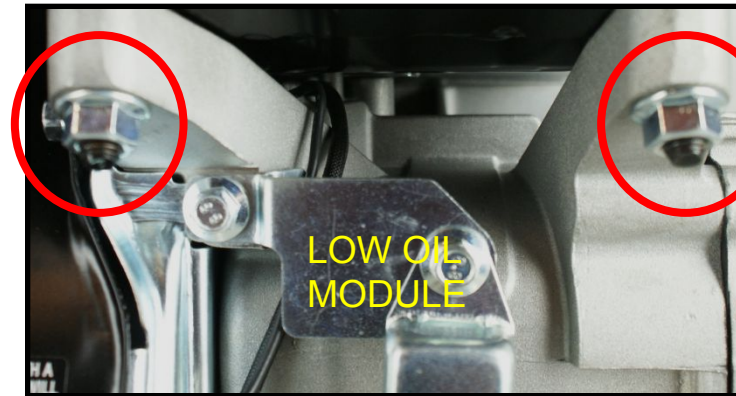
Disconnect Fuel Line

- Empty fuel tank
- Disconnect fuel line



Remove Fuel Tank Fasteners

- Use 12mm socket for 2 nuts above low oil module
- Use 8mm socket for screw just above sparkplug



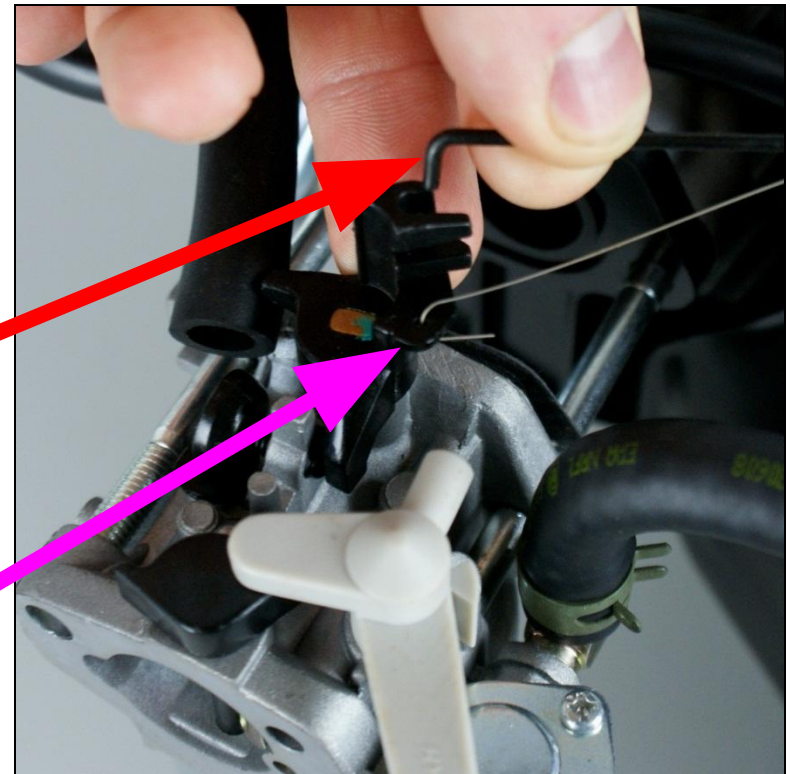
Remove Fuel Tank

- There may still be fuel in the fuel line. Watch for leaks when line is disconnected



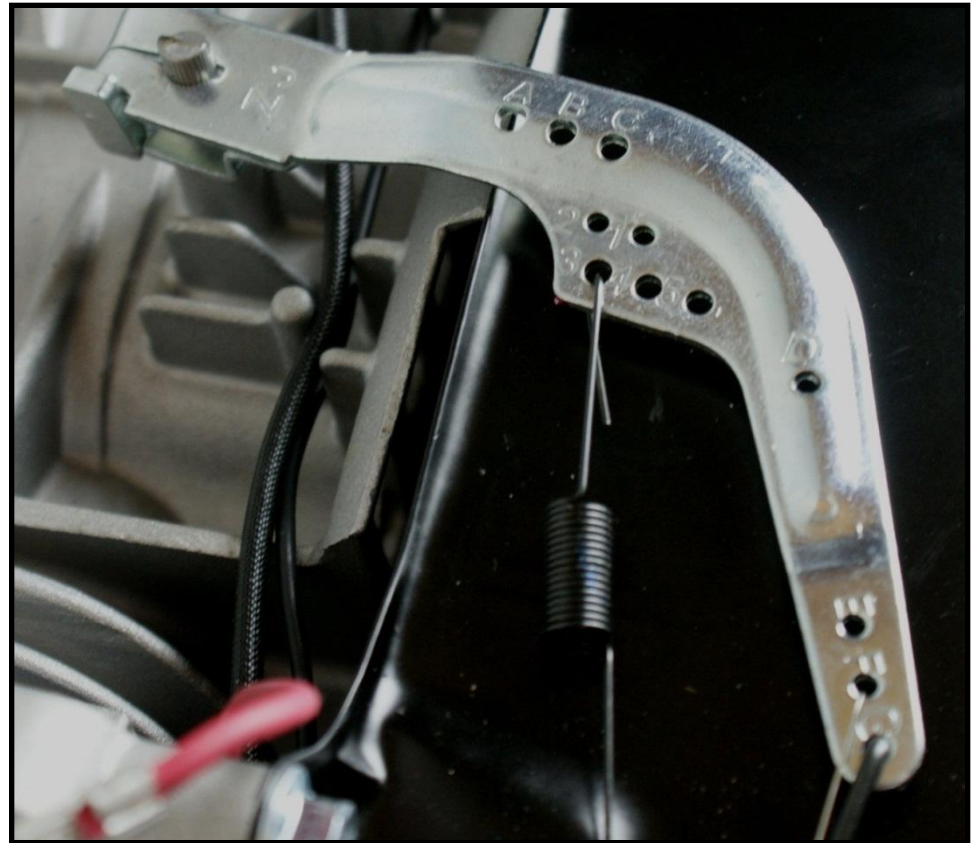
Remove Carburetor

- Slide carburetor along studs for an inch or two
- Pull upwards on governor link to disconnect
- Disconnect link spring
- Note fuel line routing



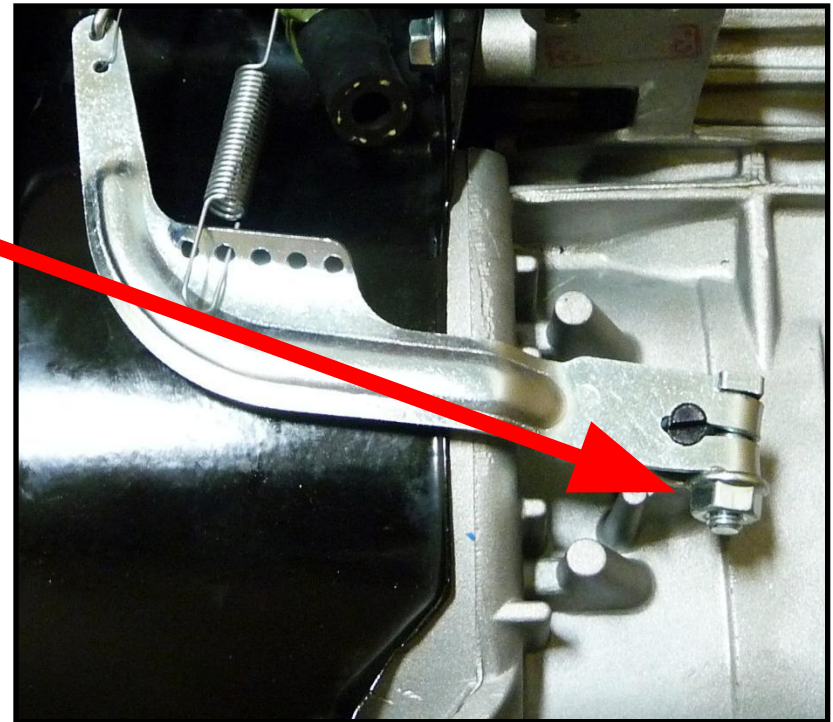
Identify Governor Parts

- **Insert a picture** of the governor mechanism, noting holes the linkage and springs are installed in and how they are oriented



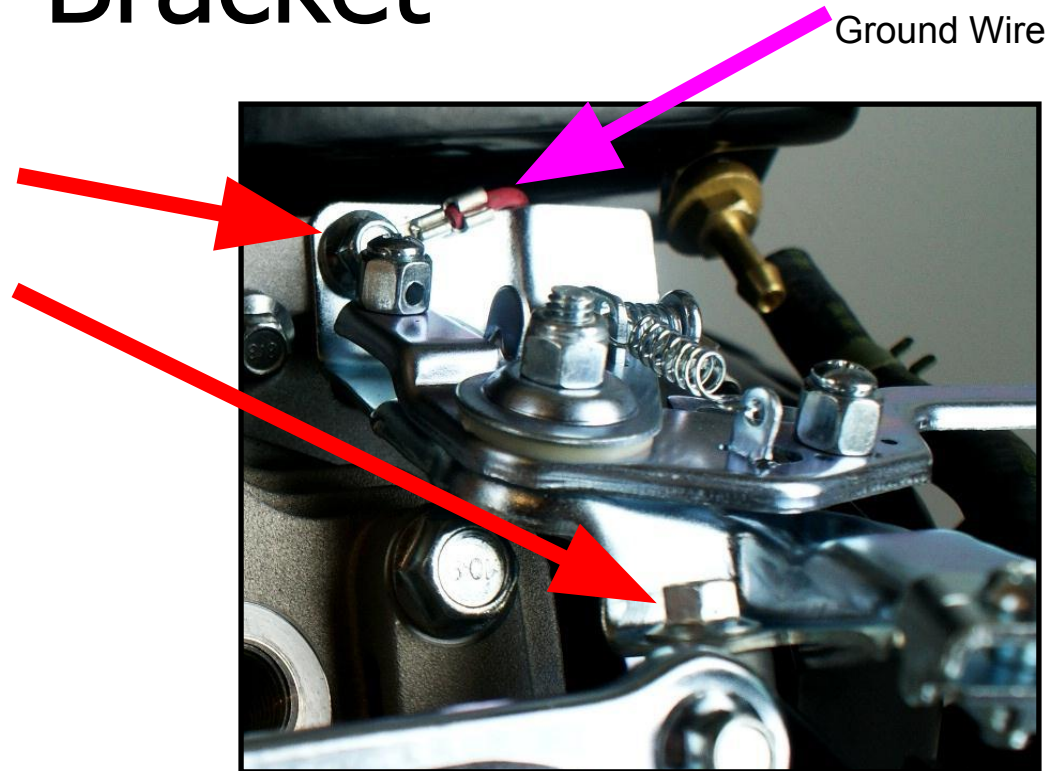
Remove Governor Control Lever

- Use a 10mm wrench
- Loosen pinch bolt nut, **but do not remove**
- Lift governor control lever off the governor shaft
- Disconnect governor spring and set aside



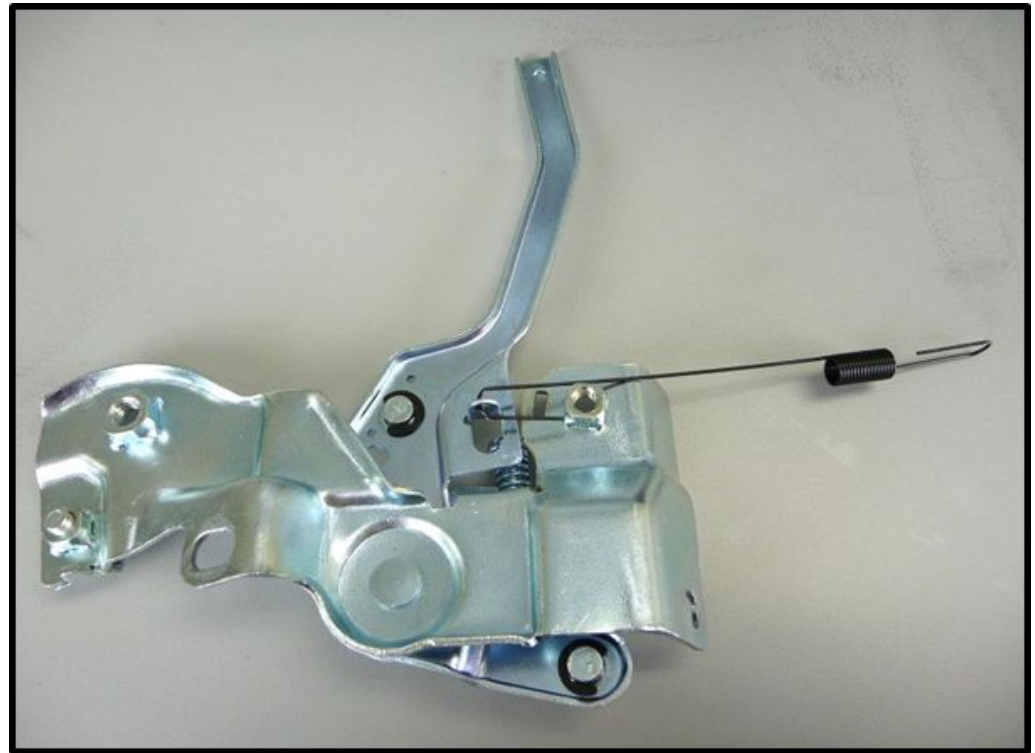
Remove Speed Control Bracket

- Remove 2 screws with 8mm socket
- Check screw lengths. One may be shorter than the other. **Note ground electrical connection on screw closest to where the gas tank was.**



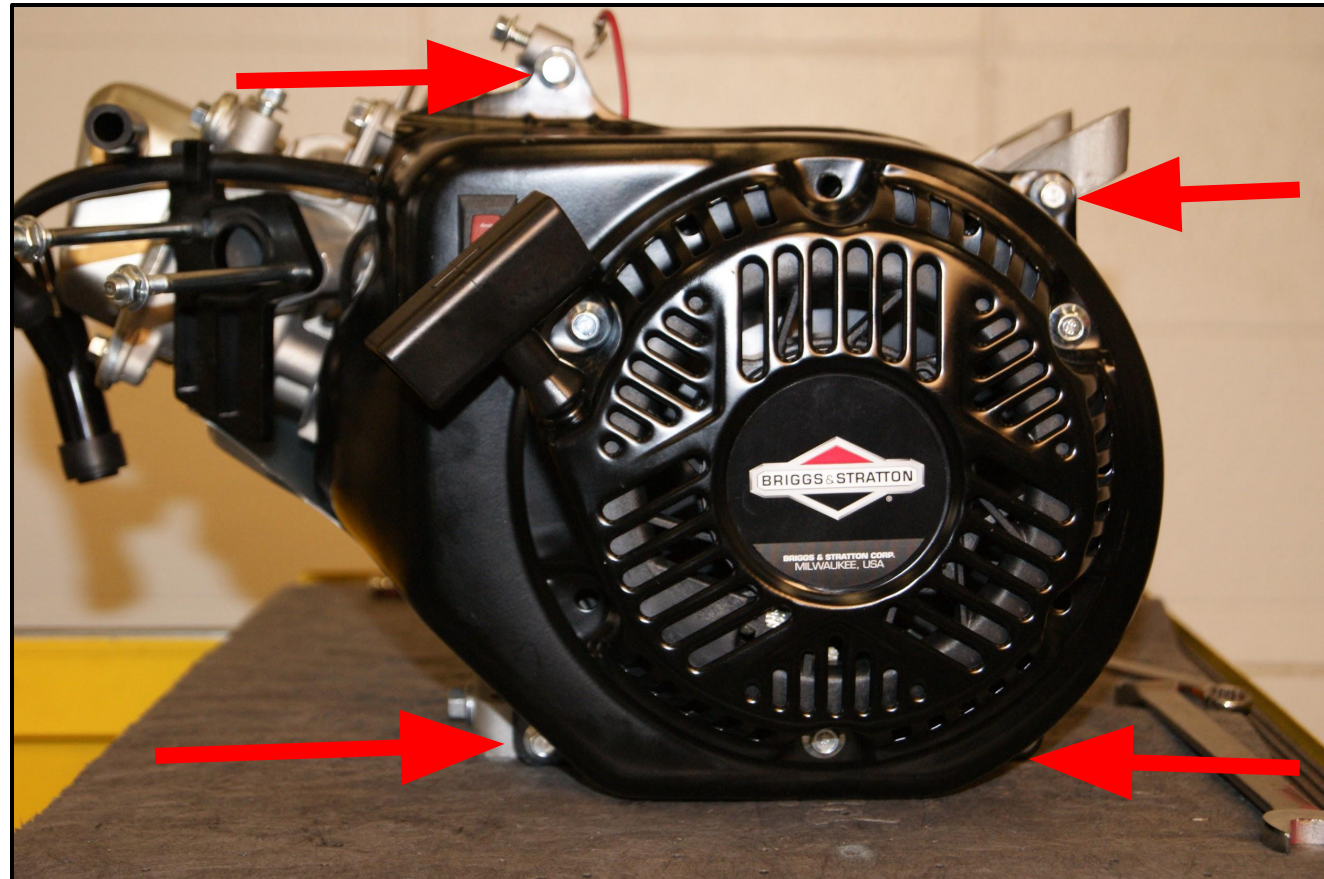
Disconnect Governor Spring

- Turn bracket over and disengage spring from tab



Remove Blower Housing

- Use 8mm socket and remove the **4** bolts

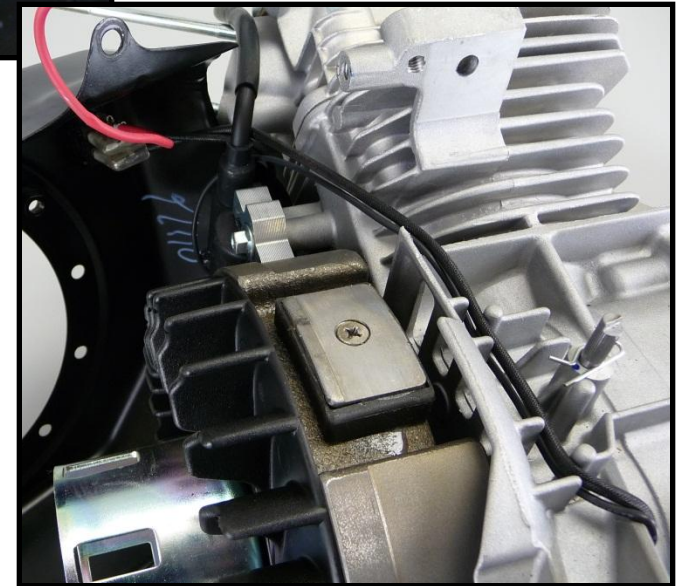
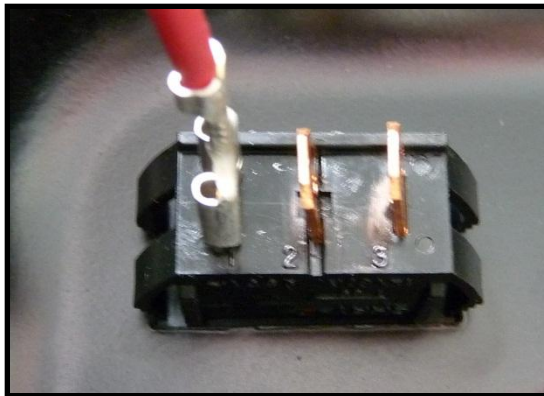
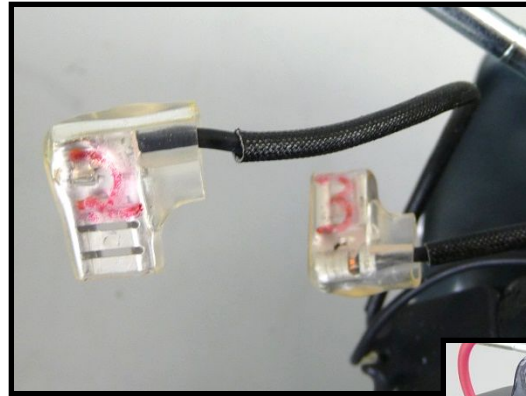
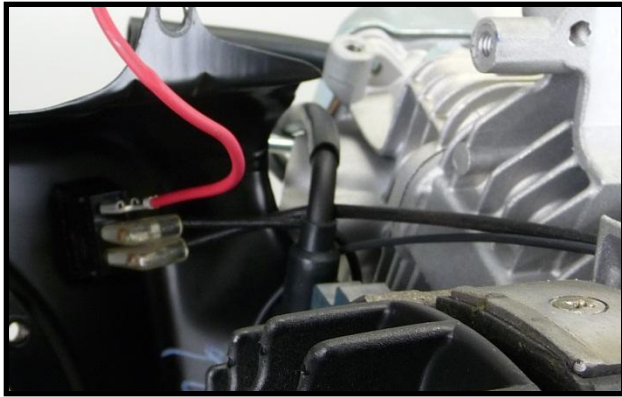


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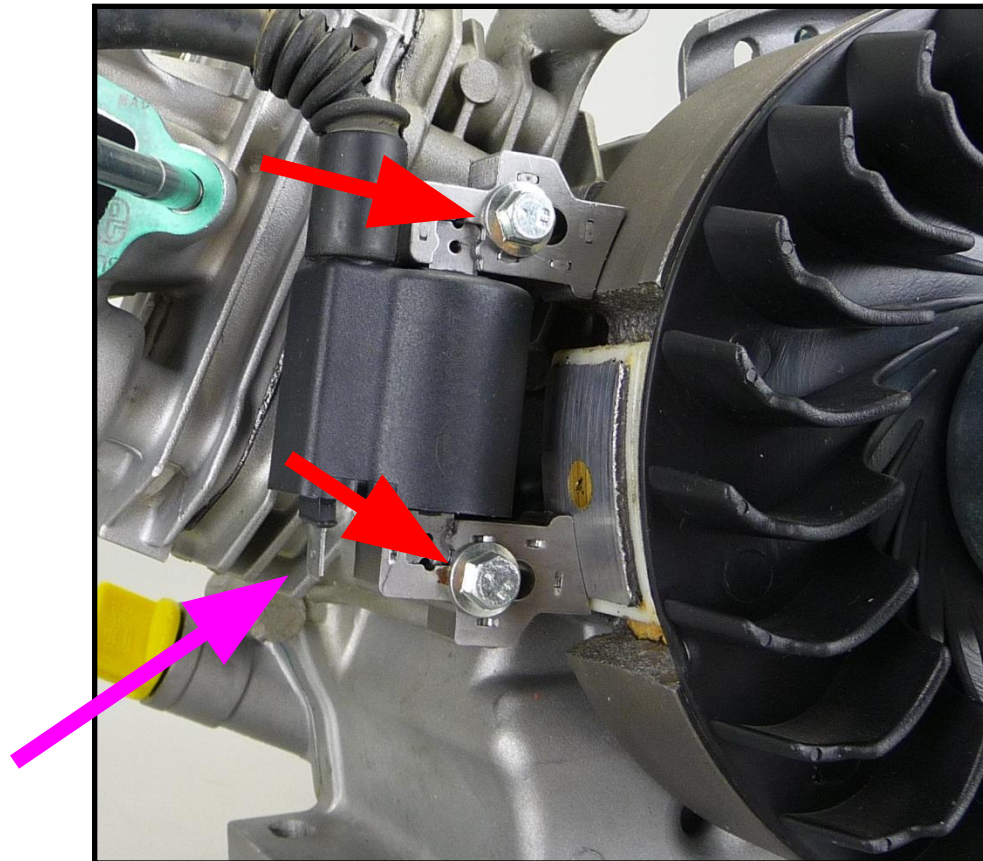
Instructor Signature

Disconnect Wiring from Switch



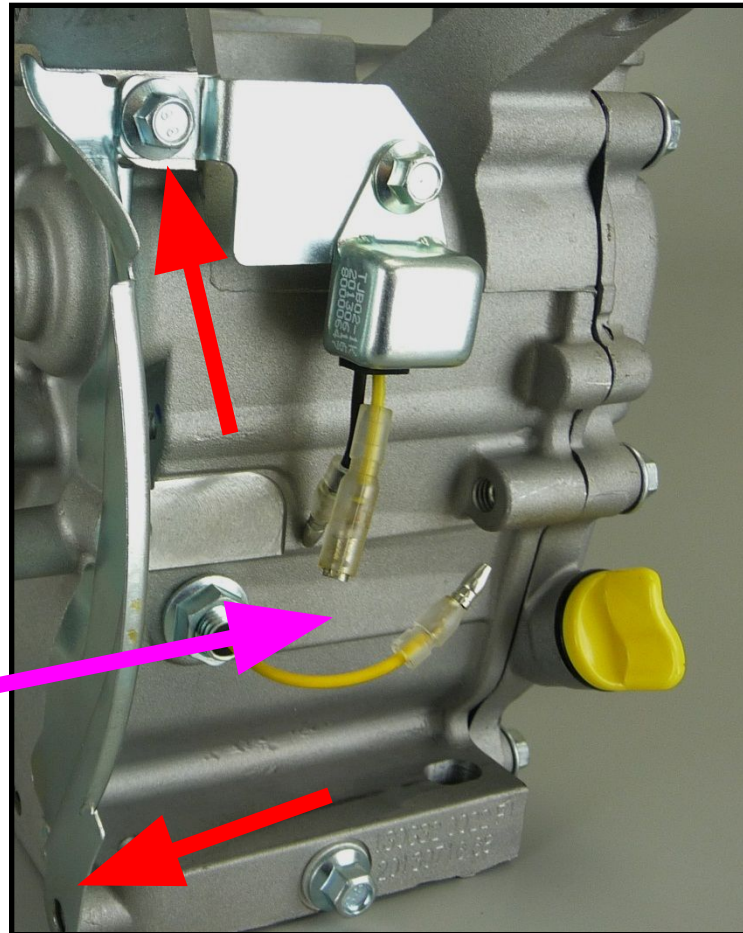
Remove Ignition Armature

- Use 8mm socket
- Before removing disconnect wiring from here



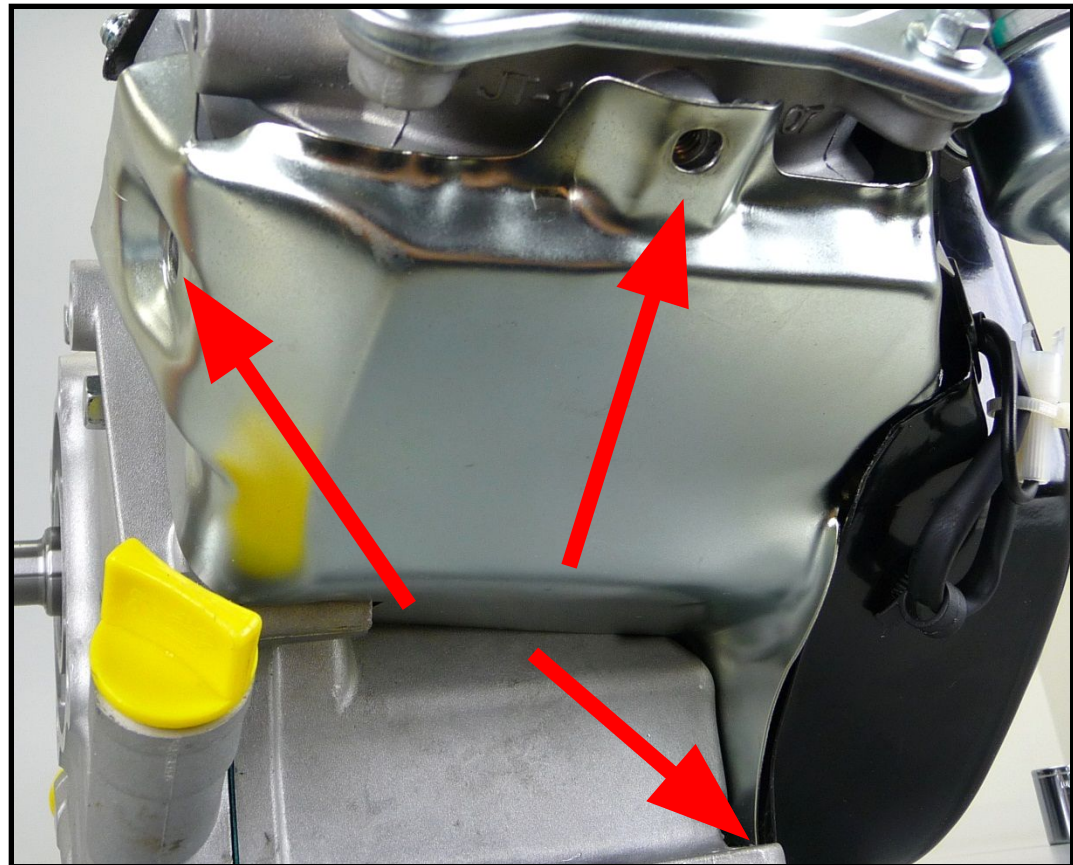
Remove Finger Guard

- Use 8mm socket
- If equipped with a low oil module as in the picture, this will also come off when the screw is removed.
- Disconnect yellow oil module wire



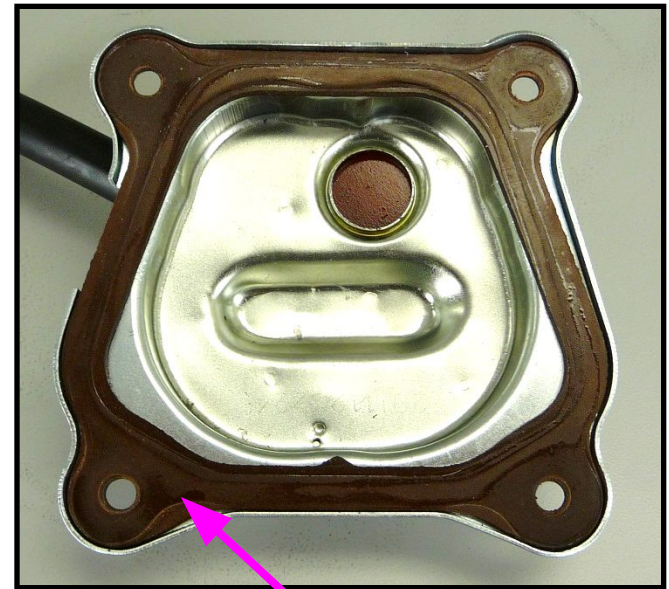
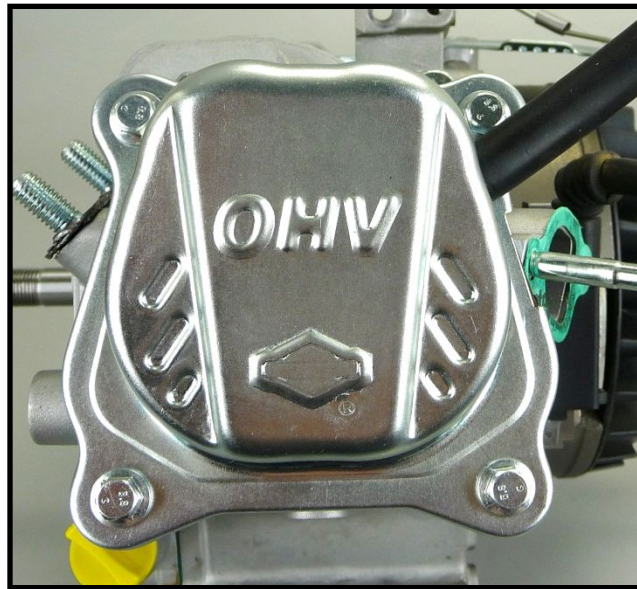
Remove Cylinder Air Guide

- Use 8mm Socket



Remove Valve Cover

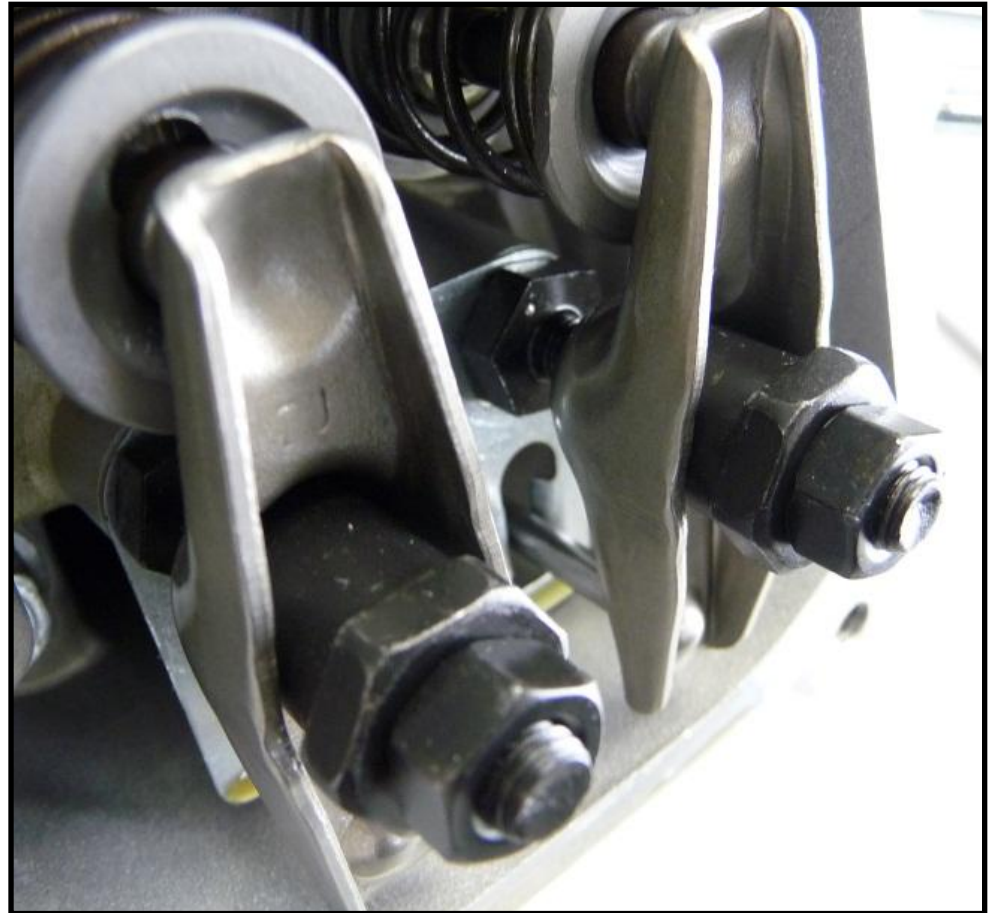
- Use 8mm socket
- Cover is also the breather



Watch for damage to gasket

Observe Valve Movement

- Turn the flywheel through all 4 strokes
- Observe movement of both valves
- **Set valves on the base circle of the cam (after the compression release)**



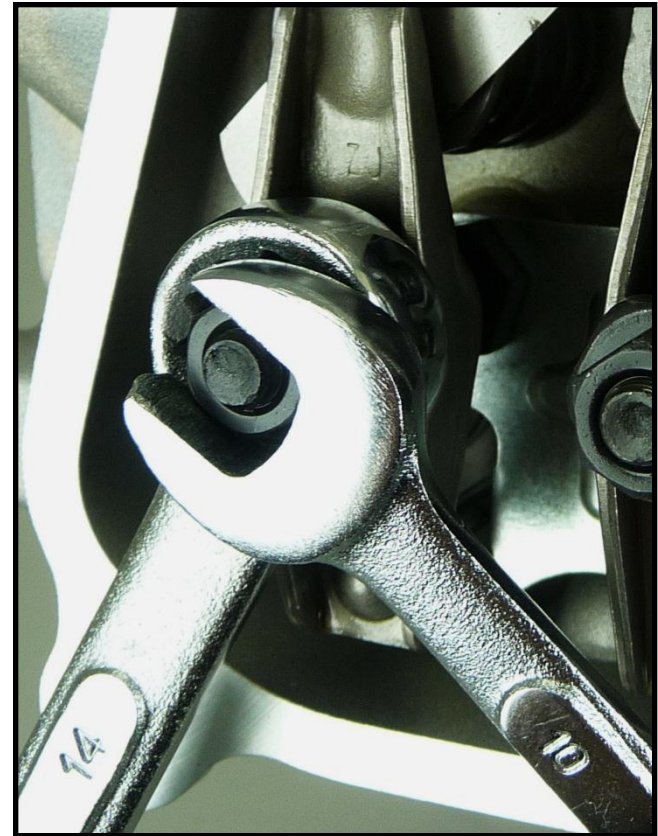
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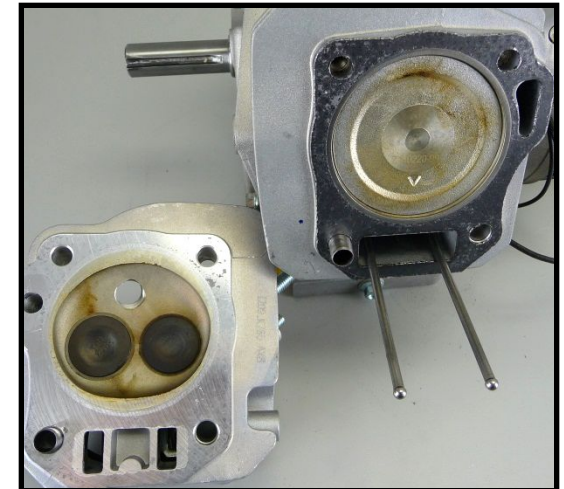
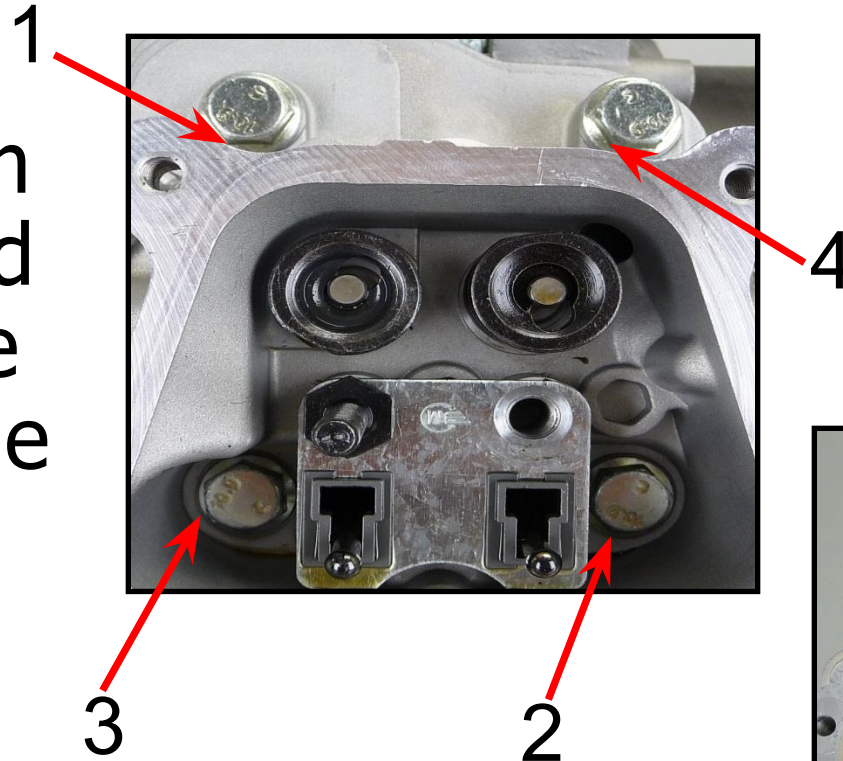
Loosen Rocker Arm and Jam Screw

- Use 14mm wrench and 10mm wrench
- Loosen 10mm nut then 14mm nut about 2 turns
- Turn both rocker arms to the side and **remove push rods**



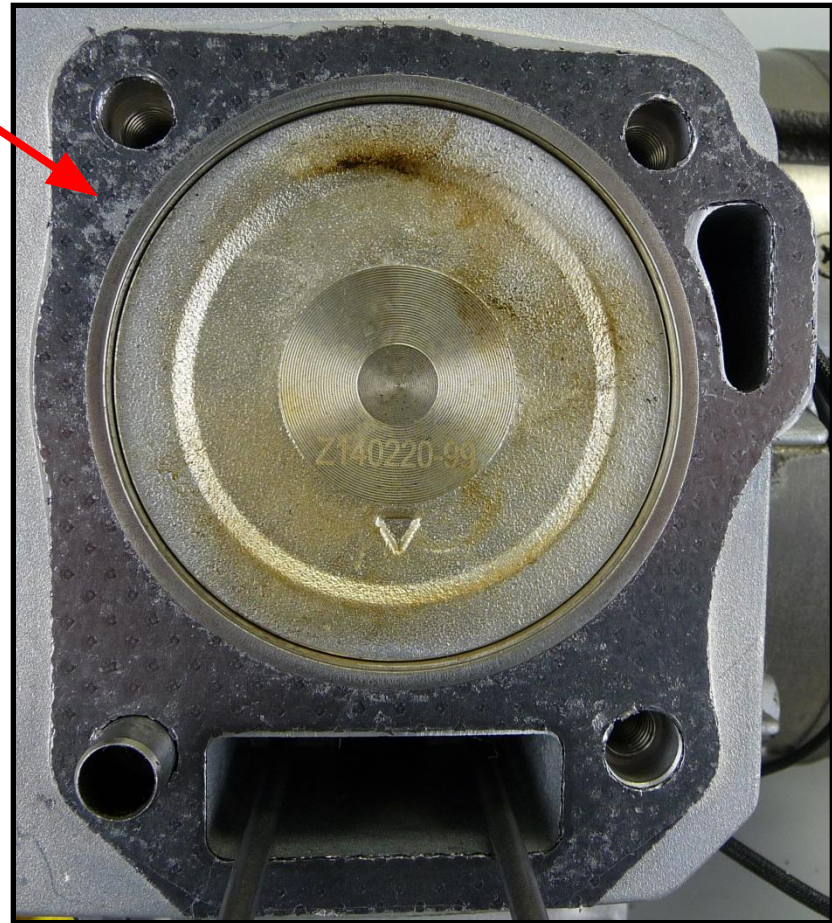
Remove Cylinder Head

- Use 12mm socket and loosen the bolts in the following order



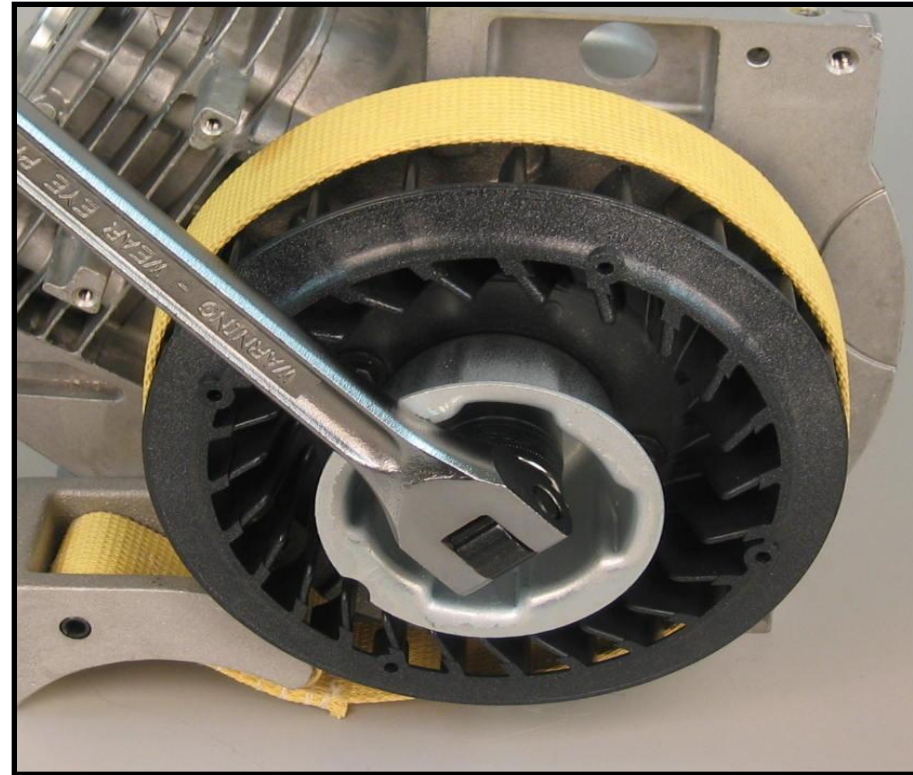
Piston Movement

- Remove the head gasket and place in a safe place where it will not get ruined
- Turn the flywheel and observe the piston movement in cylinder



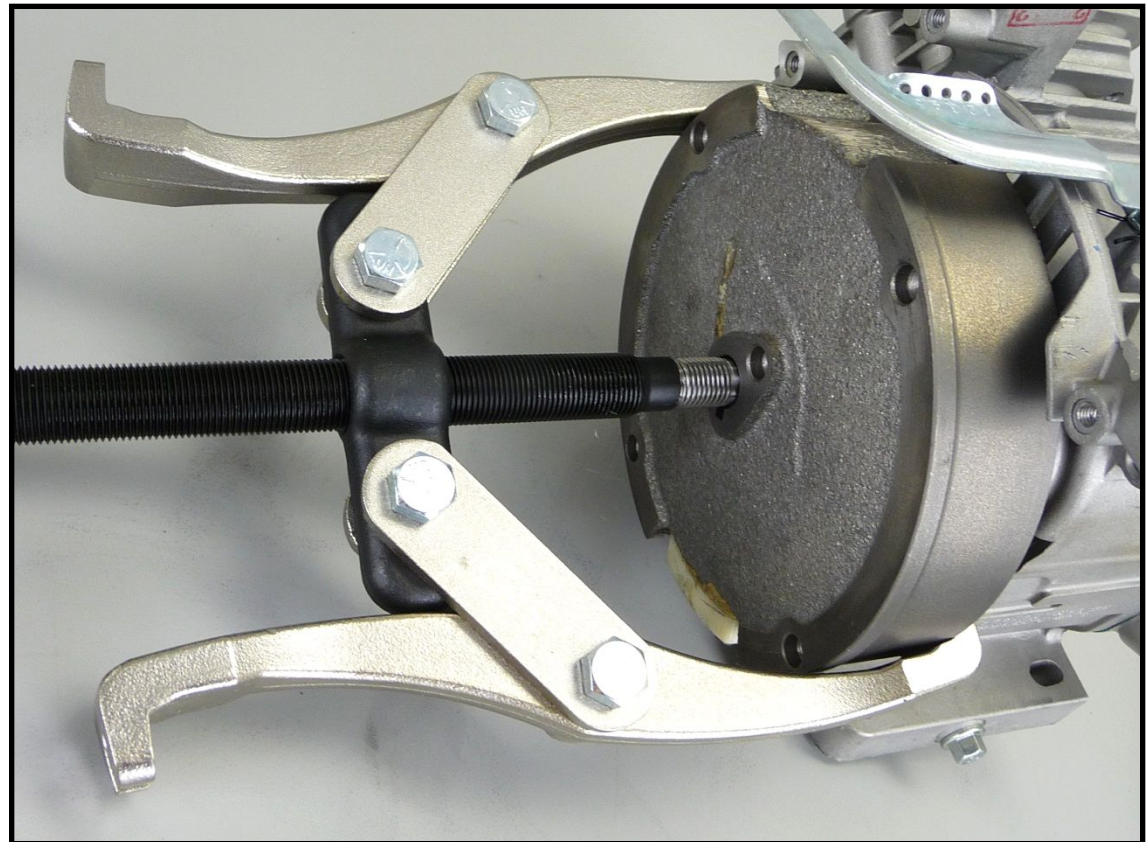
Remove Flywheel Nut

- Use 21 mm socket, breaker bar and strap wrench
- Lay handle of the strap wrench to the workbench facing the cylinder

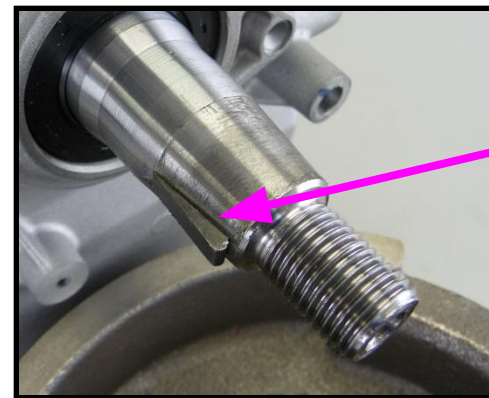
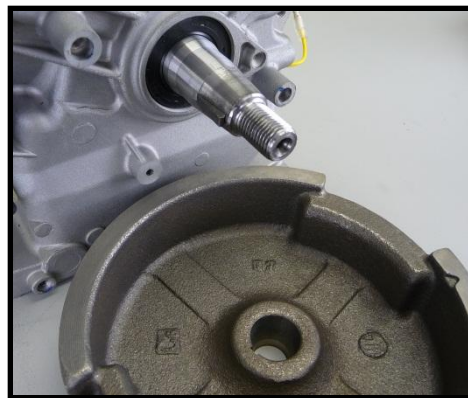


Remove Flywheel

- Use 8 or 9 inch Puller
- You need to have one partner hold on to the puller, while the other turns the screw on the puller



Flywheel Images



Key

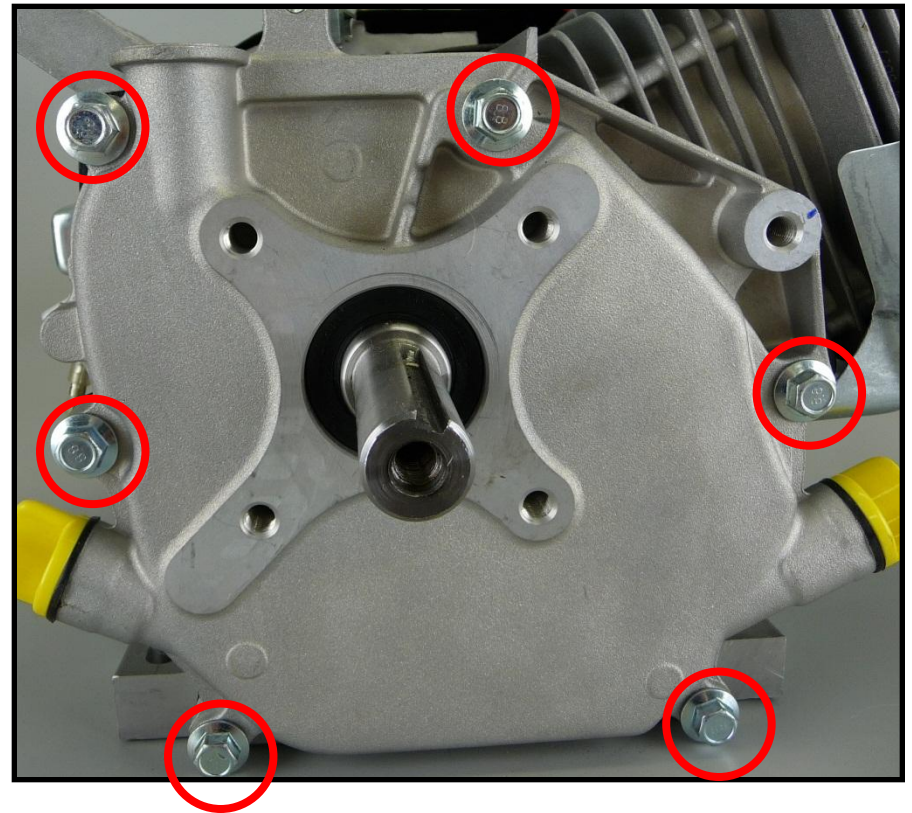
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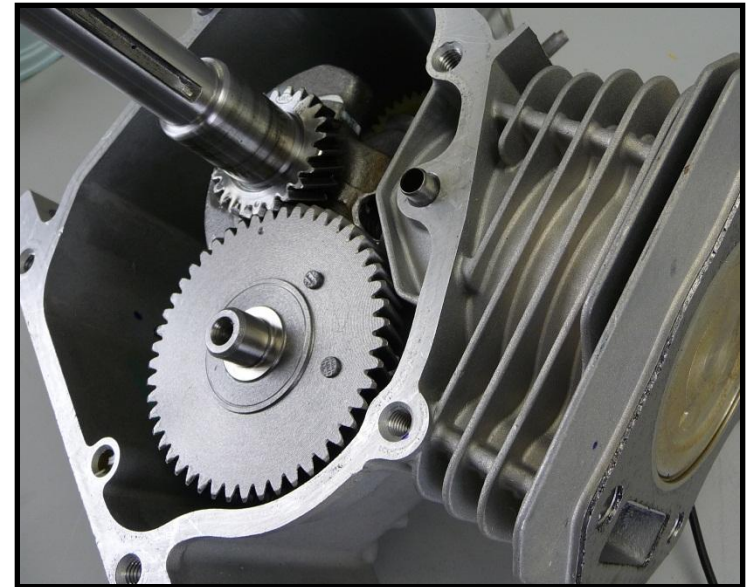
Remove Crankcase Cover

- Use 10 mm socket
- Case cover gasket might be damaged during removal
- Do not pry off cover – It will come off by hand



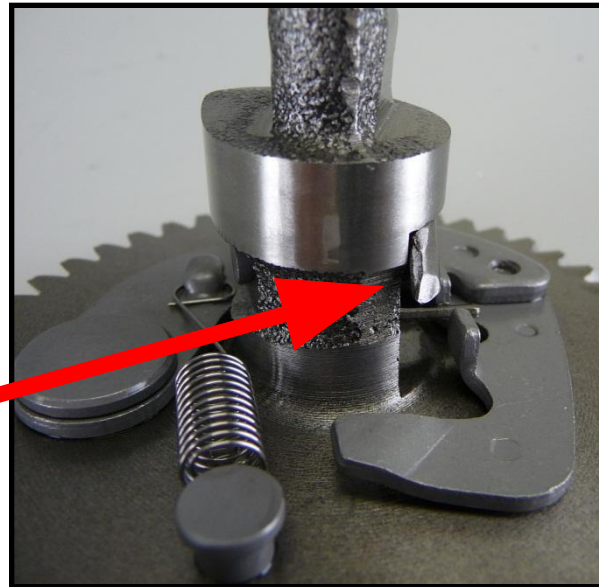
Inspect Cam Gear

- Timing marks of cam gear and crankshaft gear should align



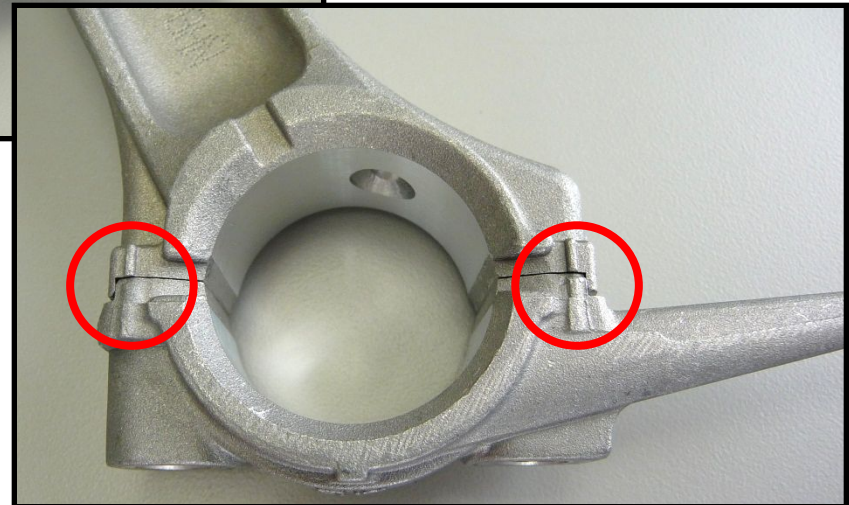
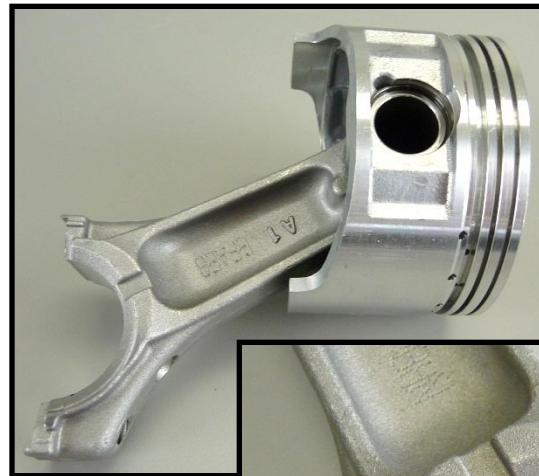
Remove Cam Gear and Tappets

- Tilt block
- Remove cam gear by hand
- Remove tappets by hand
- Note compression release



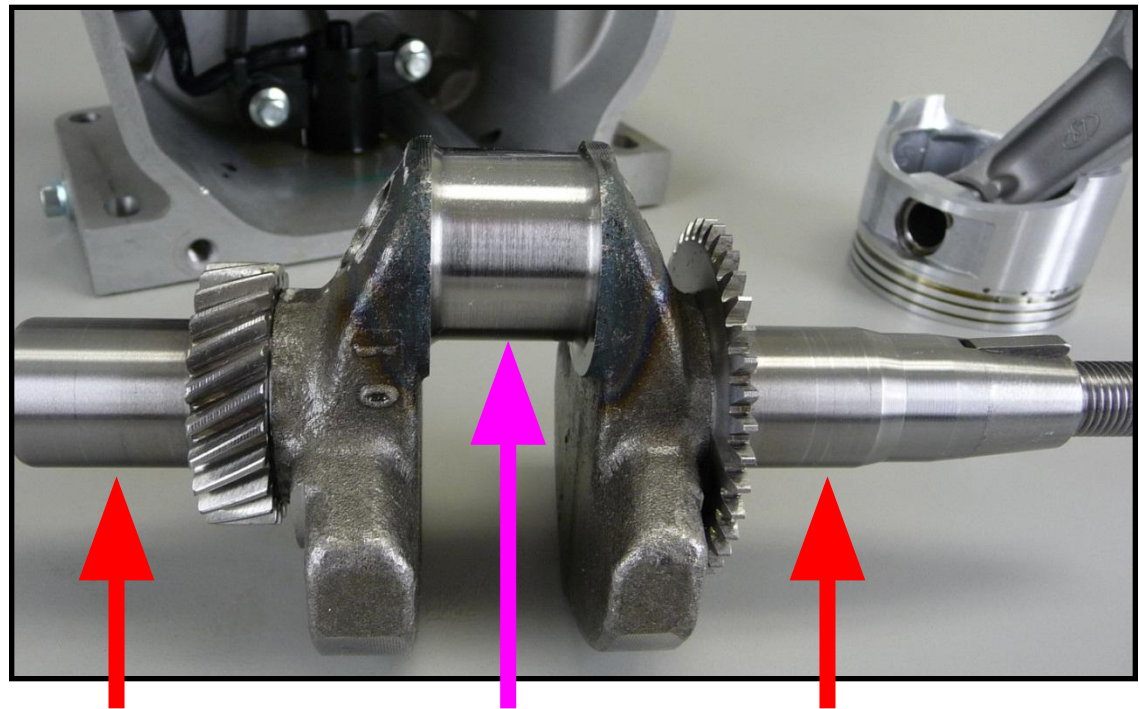
Remove Piston/Connecting Rod Assembly

- Use 10mm socket
- Piston and rod have alignment marks called "match marks"



Remove Crankshaft

- Pull out crankshaft by hand
- Use caution!
Do not scratch bearing surface in crankcase



Main Journal

Rod Journal

Main Journal

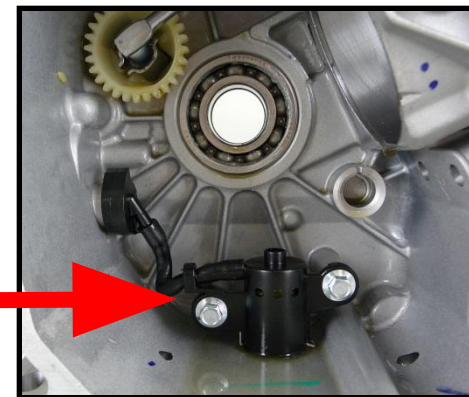
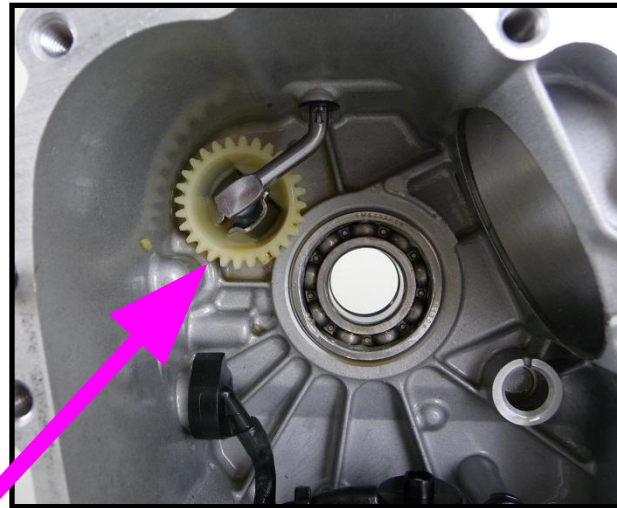
Instructor Signature



Instructor Signature

Discuss Crankcase

- Drain and wipe up any remaining oil in case and on all parts that come out of the crankcase
- Clean all gasket surfaces with gasket scraper
- Note governor gear and shaft and low oil sensor

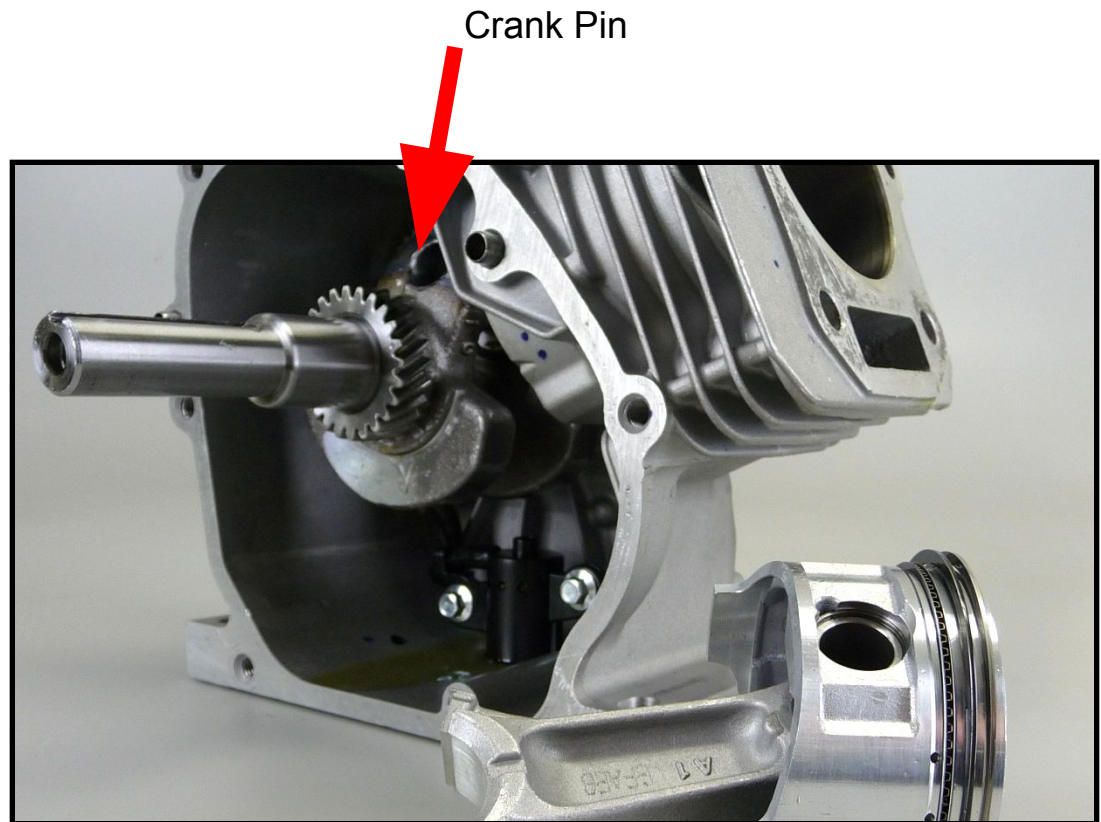


Reassembly

- This is a step-by-step reassembly process. It is not a race. Take your time when assembling the engine and listen for direction from the instructor
- Do not work ahead!
- **Fasteners must be torqued to the proper torque value**
- Special procedures will be explained and can be found in the assembly video

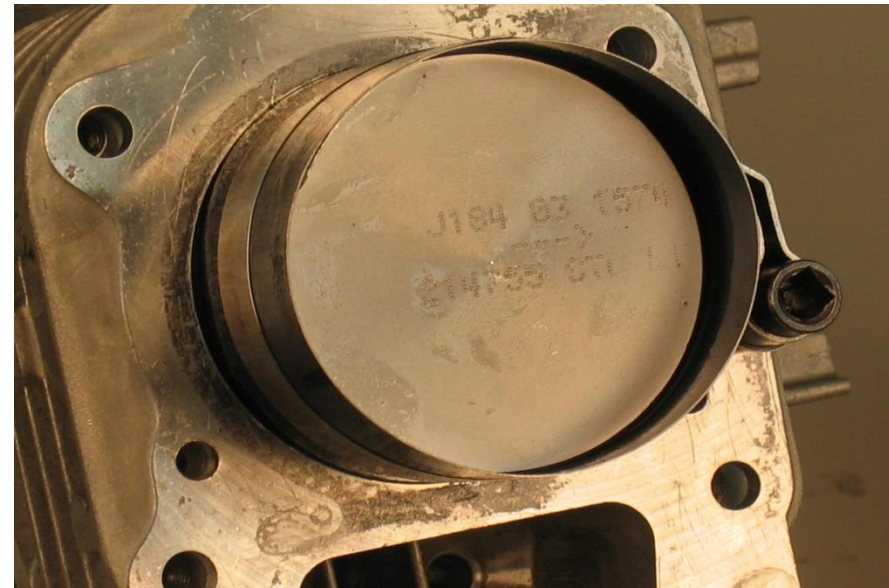
Install Crankshaft

- Lubricate governor gear
- Install crankshaft by hand into cylinder block
- Be careful not to damage bearing
- Position crank pin to 6-7 o'clock



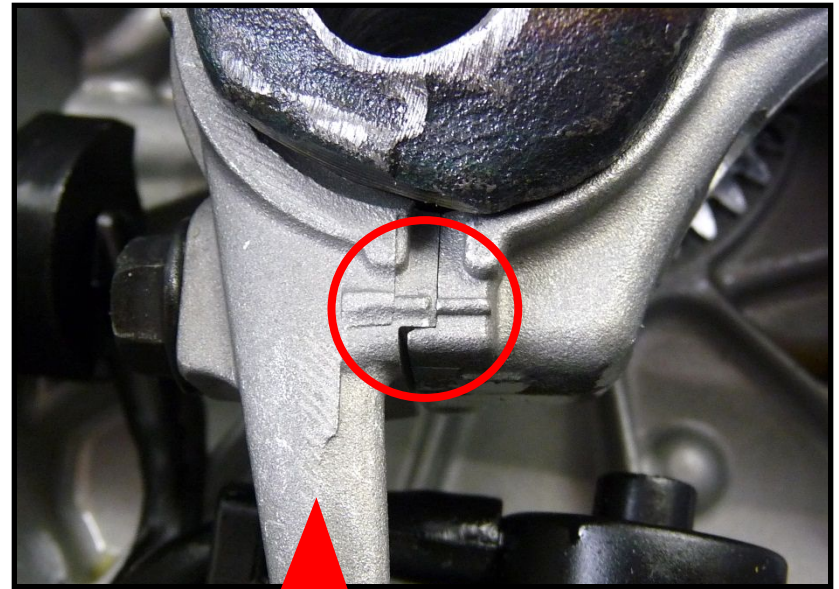
Install Piston Assembly

- Use a ring compressor to install the piston
- Coat piston skirt, cylinder bore, rings and ring compressor walls with oil
- Arrow on piston must face down
- DO NOT hammer or force piston assembly into block!



Attach Rod to Crankshaft

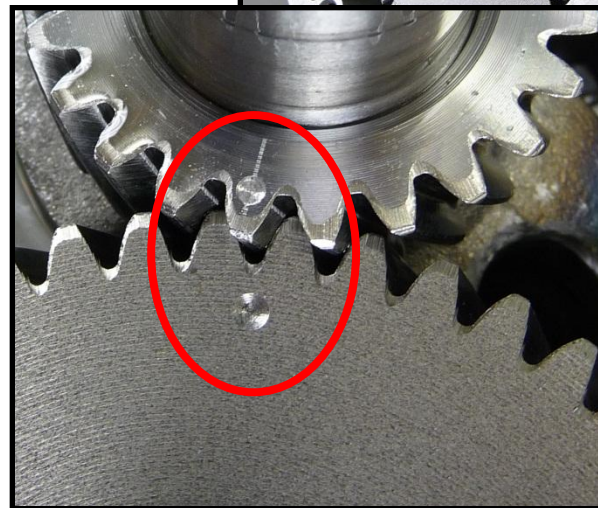
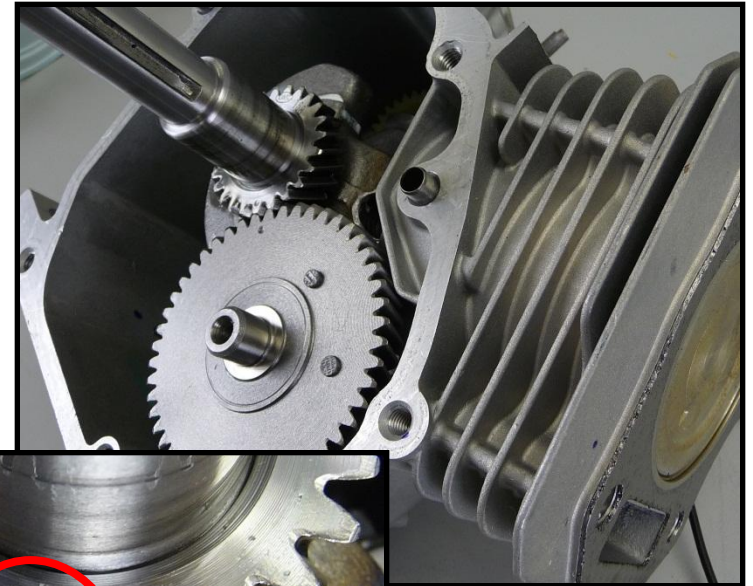
- Lubricate bearing surfaces
- Use 10mm socket
- Torque fasteners to **125 lbs in.**
- Make sure "match marks" align
- Rotate crankshaft and check for free movement



Oil Dipper should be facing bottom of crankcase

Install Cam Gear

- Install tappets
- Make sure timing marks of cam gear and crankshaft gear are aligned



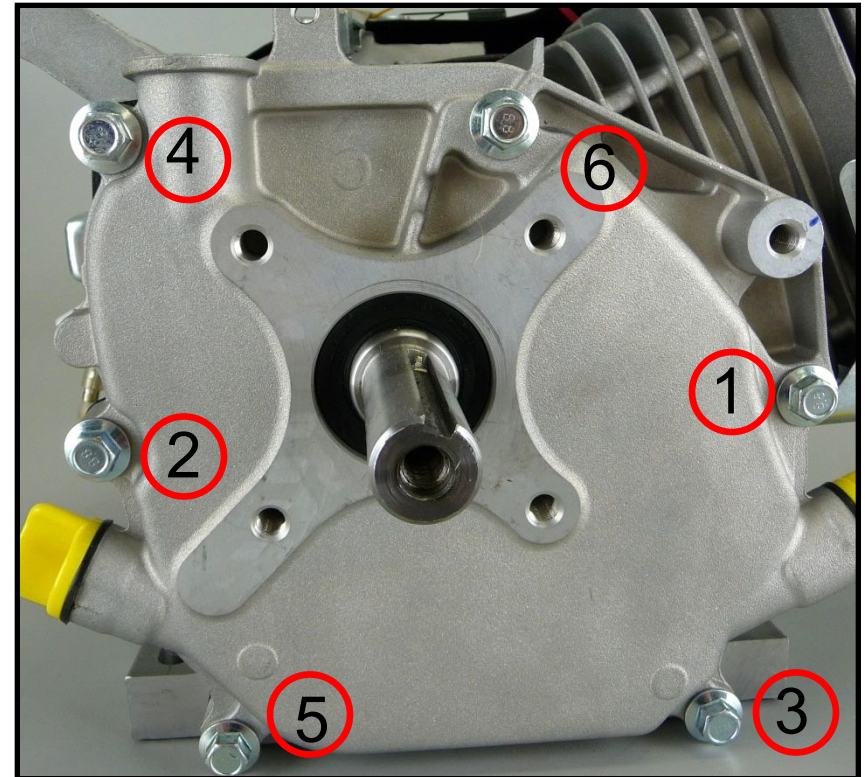
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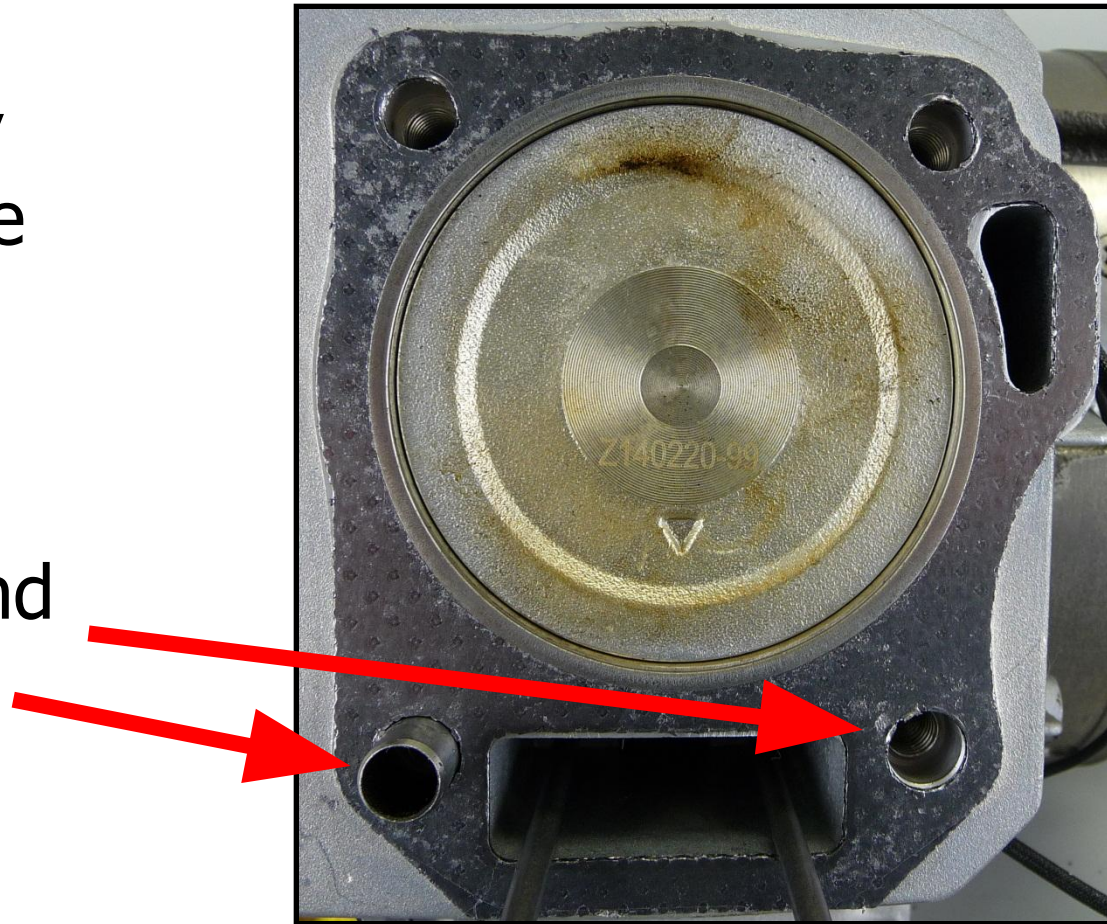
Install Crankcase Cover

- Lubricate cover bearing
- If difficult to install, check that gasket surfaces are parallel with each other
- Use 10 mm socket
- Torque fasteners in sequence to **200 lbs in.**



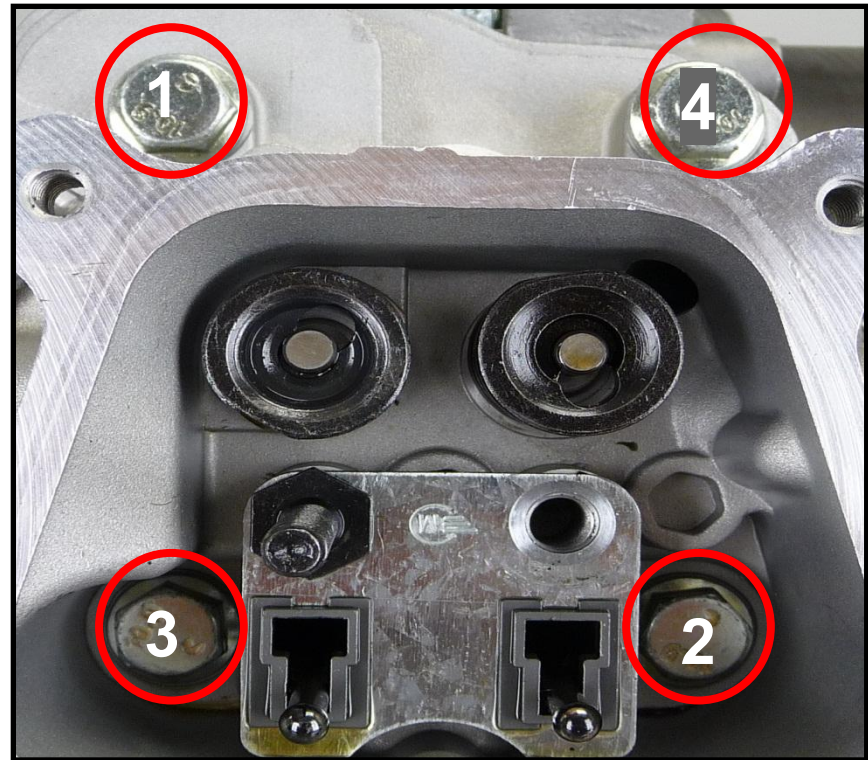
Install Head Gasket

- Gasket only goes on one way
- Note two, dowel pin locations and install



Install Cylinder Head and Pushrods

- Use a 12mm socket
- Step-Torque in sequence
75-150-200 lbs in.
- Install push rods in slots and put rocker arms over the top and loosely tighten the rocker arm nuts



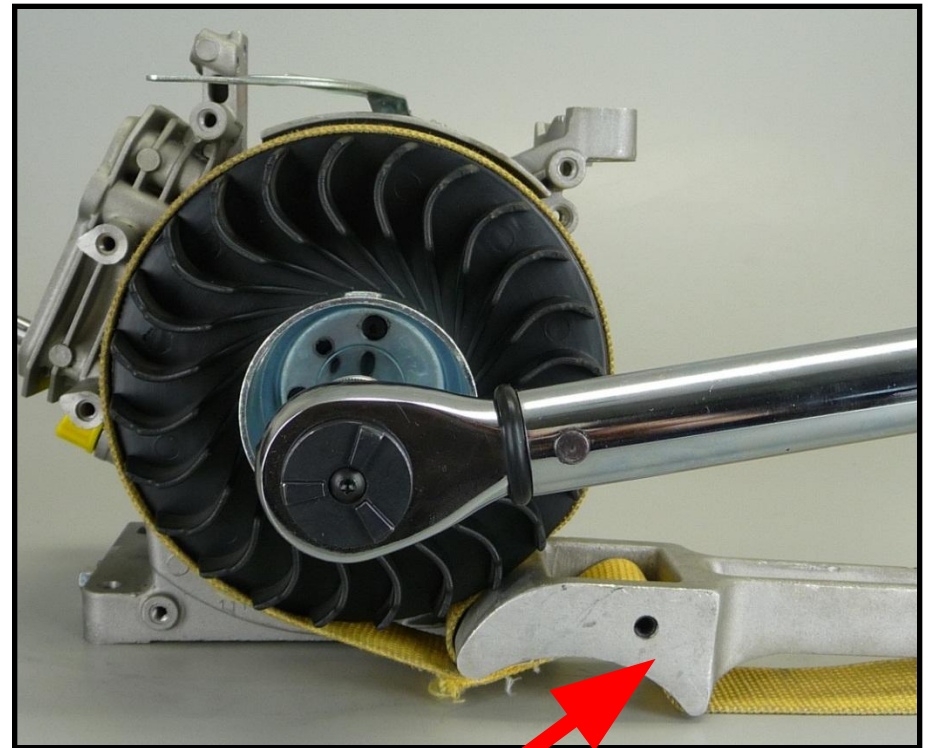
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Install Flywheel, Key, Starter Cup, Fan and Nut

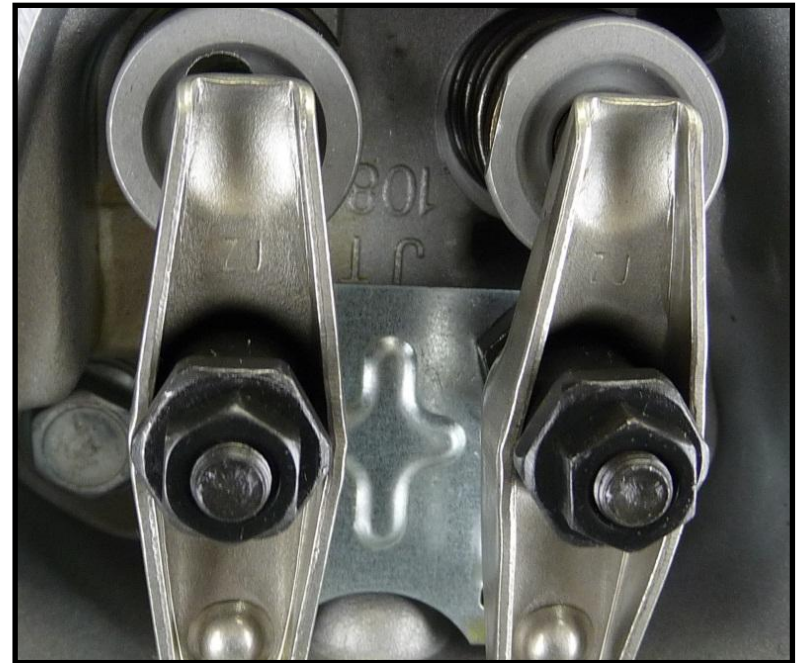
- Slide flywheel onto crankshaft along with fan blades, starter cup and nut
- Use strap wrench
- Use 21 mm socket
- Torque to **65 lbs ft.**



Note direction of handle

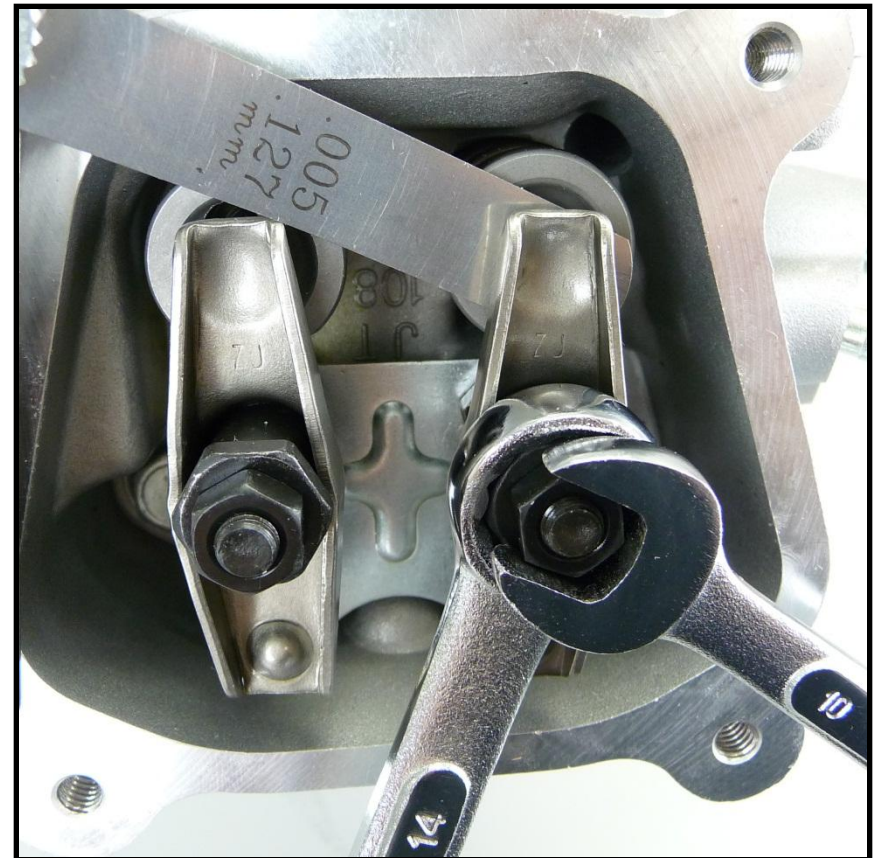
Level Rocker Arms

- Rotate engine until rocker arms are level and piston is past the compression release on the compression stroke



Adjust Valve Lash

- Piston needs to be at $\frac{1}{4}$ " past TDC which should have been done in the last step
- Make sure valve caps are installed on valve stems
- Intake valve .004-.006 in.
- Exhaust valve .006-.008 in.



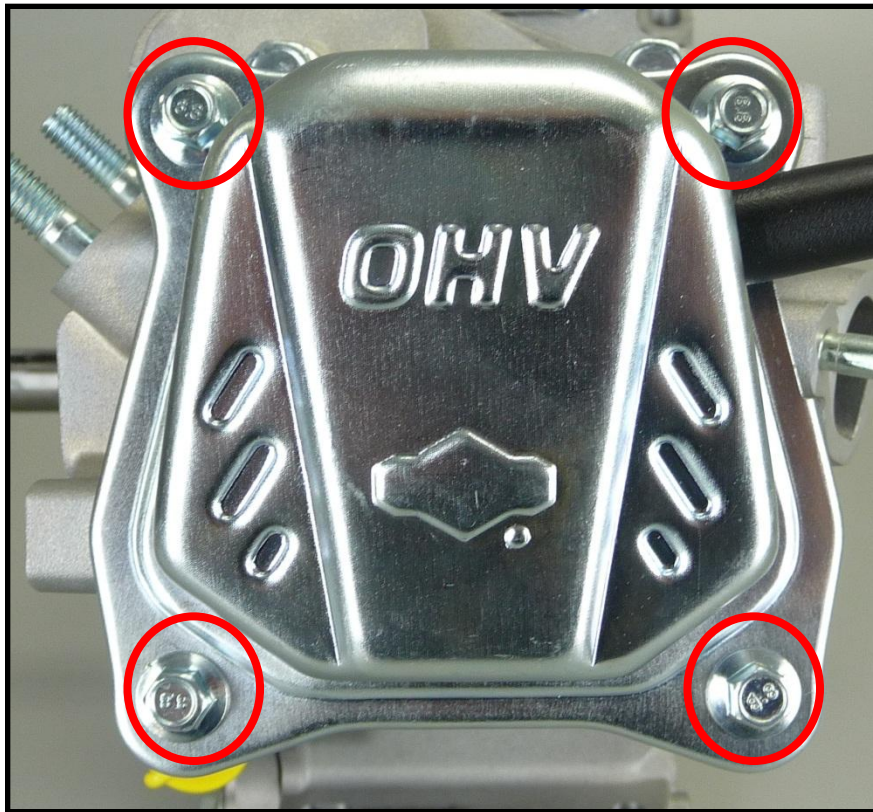
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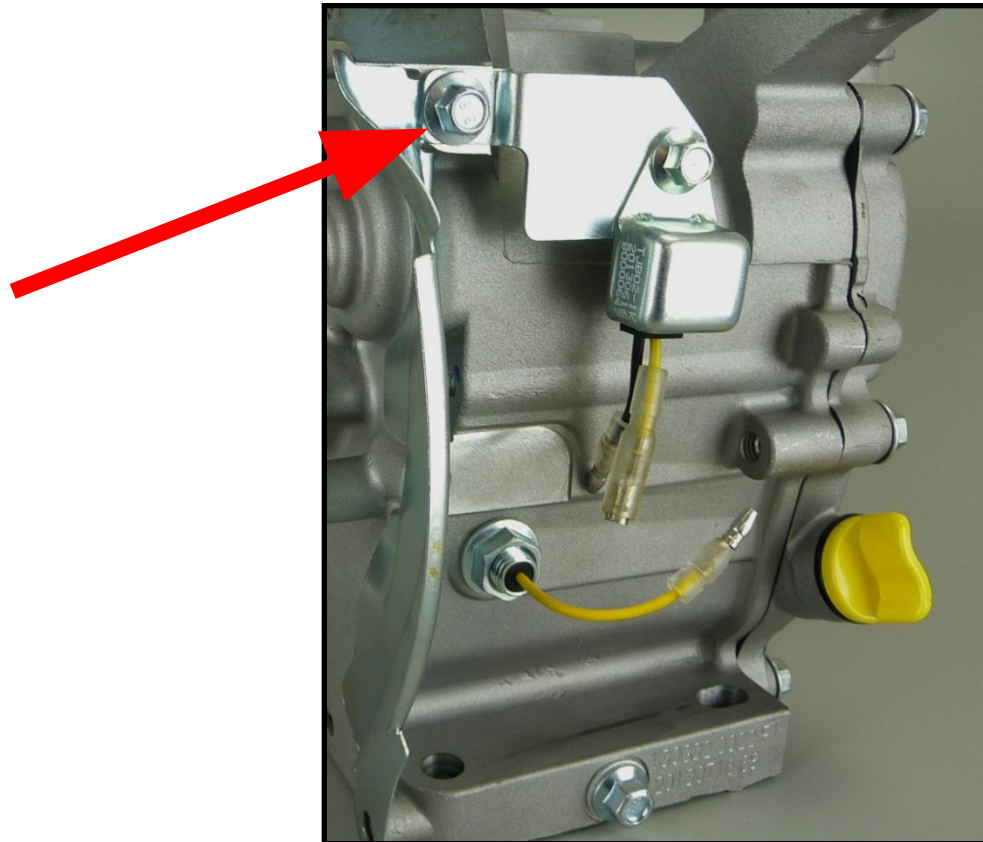
Install Valve Cover

- Check gasket
- Use 8mm socket
- Torque to **80 lbs in.**



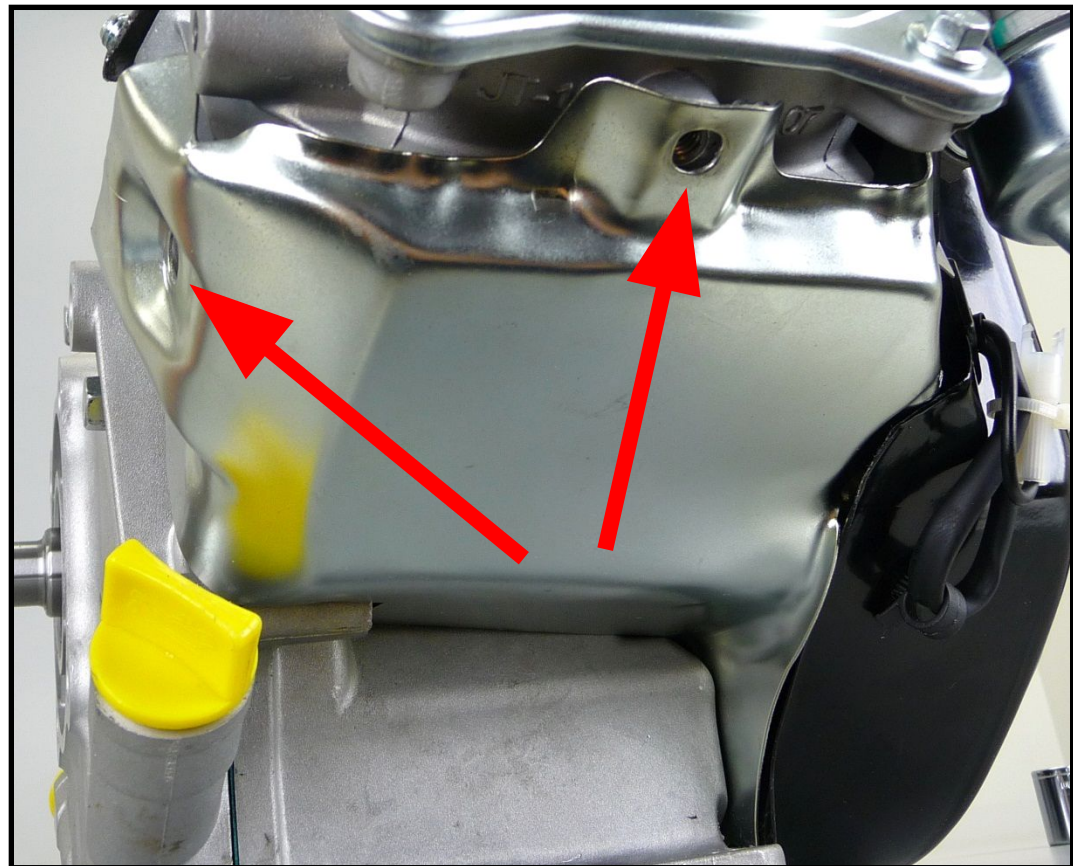
Install Finger Guard and Module

- Use 8mm socket
- Torque to 85 lbs in.



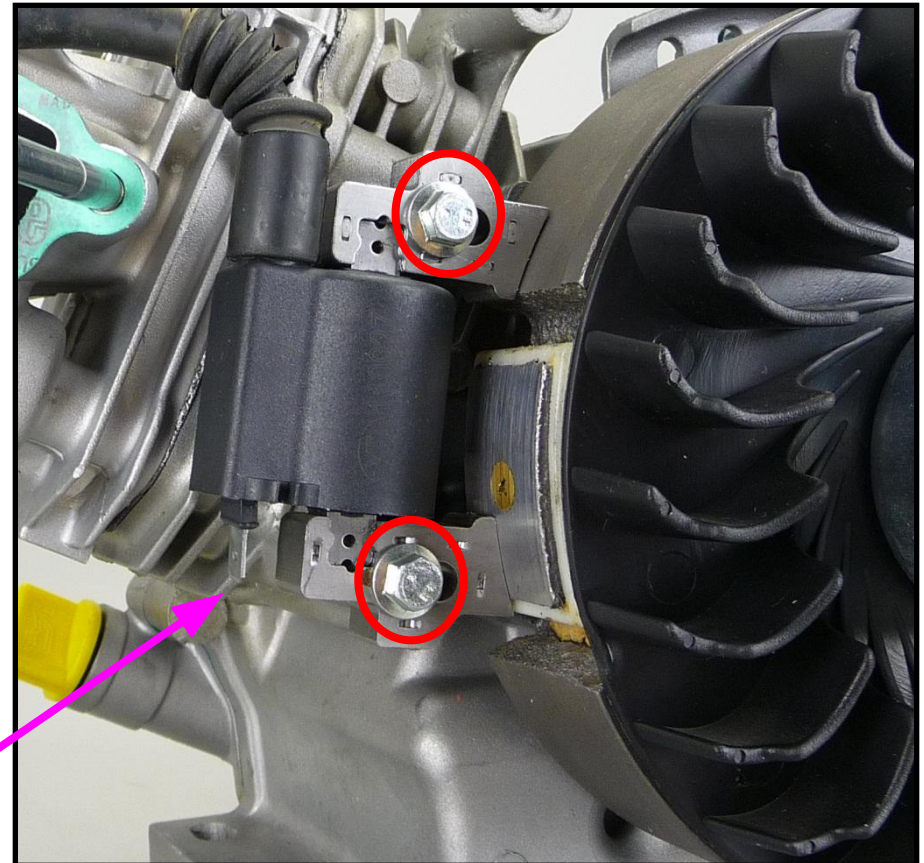
Install Cylinder Heat Shield

- Use 8mm socket
- Torque to **50 lbs in.**



Install Ignition Armature

- Verify proper armature orientation with plug wire facing up
- Use coil gap gauge to space it correctly (0.010")
- Use 8mm socket
- Torque to **95 lbs in.**
- Hook up black wire with two wires in it to the terminal



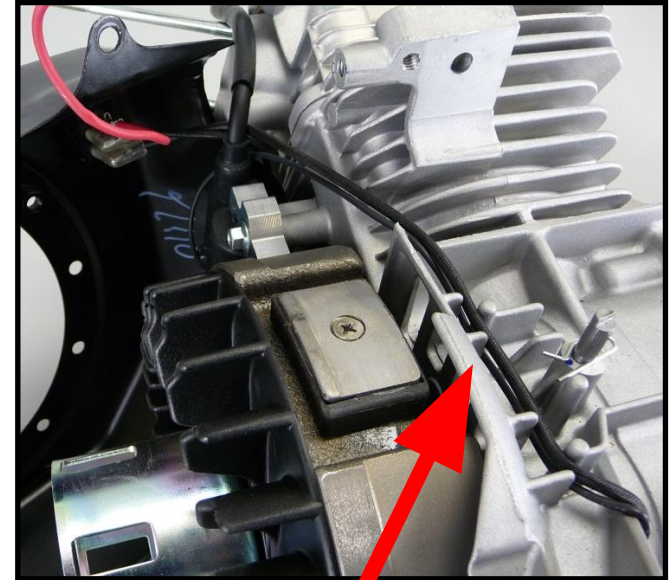
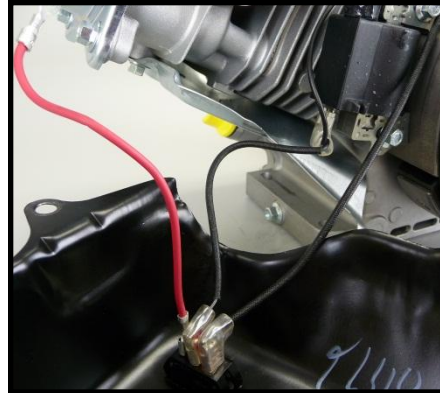
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Install Ignition Wiring in Blower Housing

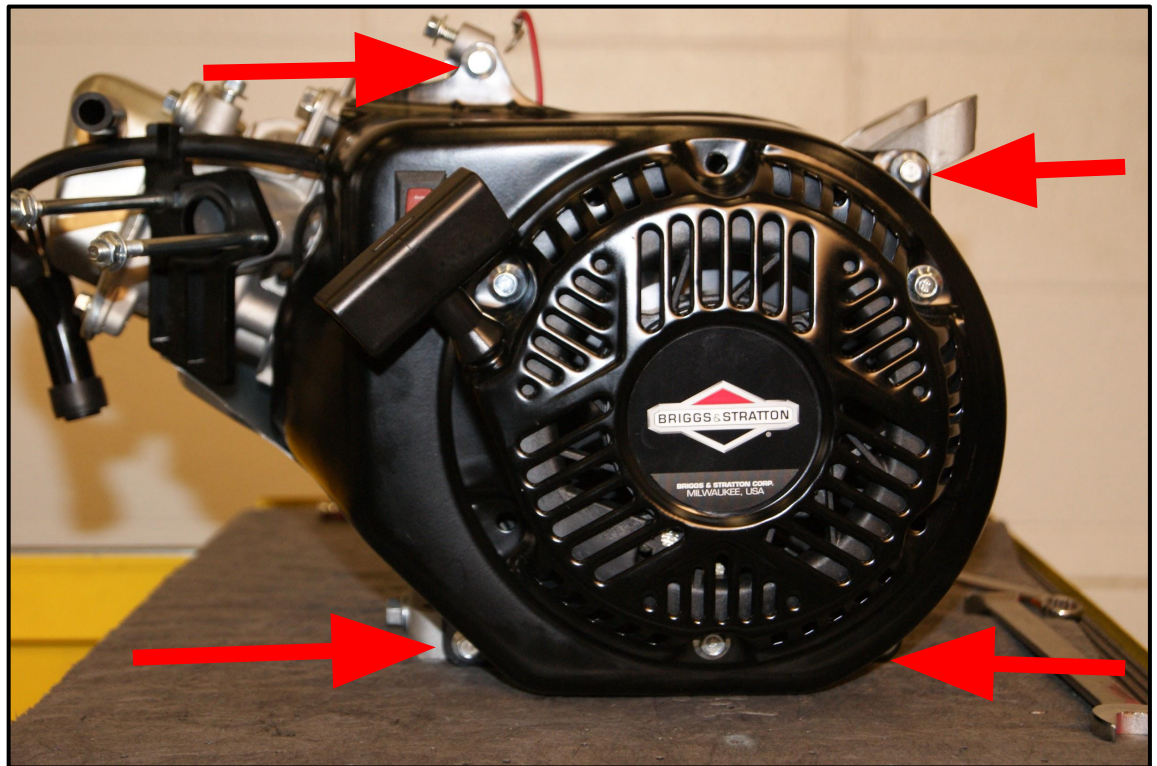
- Install wiring based on switch installed and your notes



Make sure wiring follows the path like shown above. If not a wire could get pinched and the engine will not start!

Install Blower Housing

- Use 8mm socket
- Torque to **85 lbs in.**



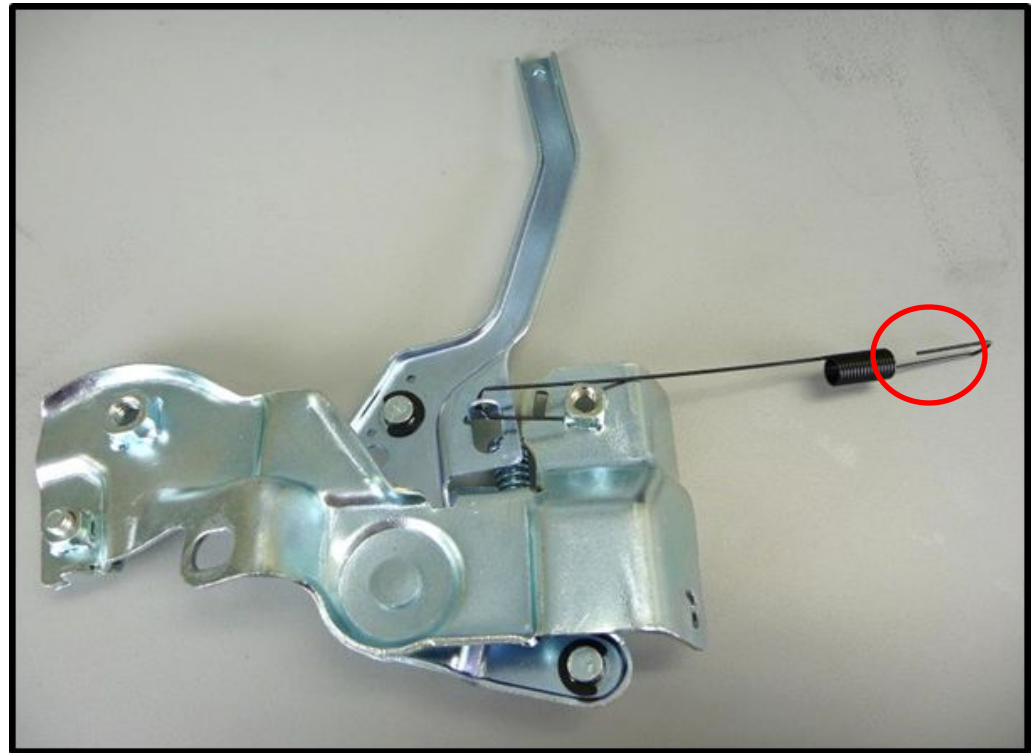
Install Spark Plug

- 5/8 in spark plug socket
- Torque to **180 lbs in.**
- Convert to lbs ft.
_____ lbs ft.



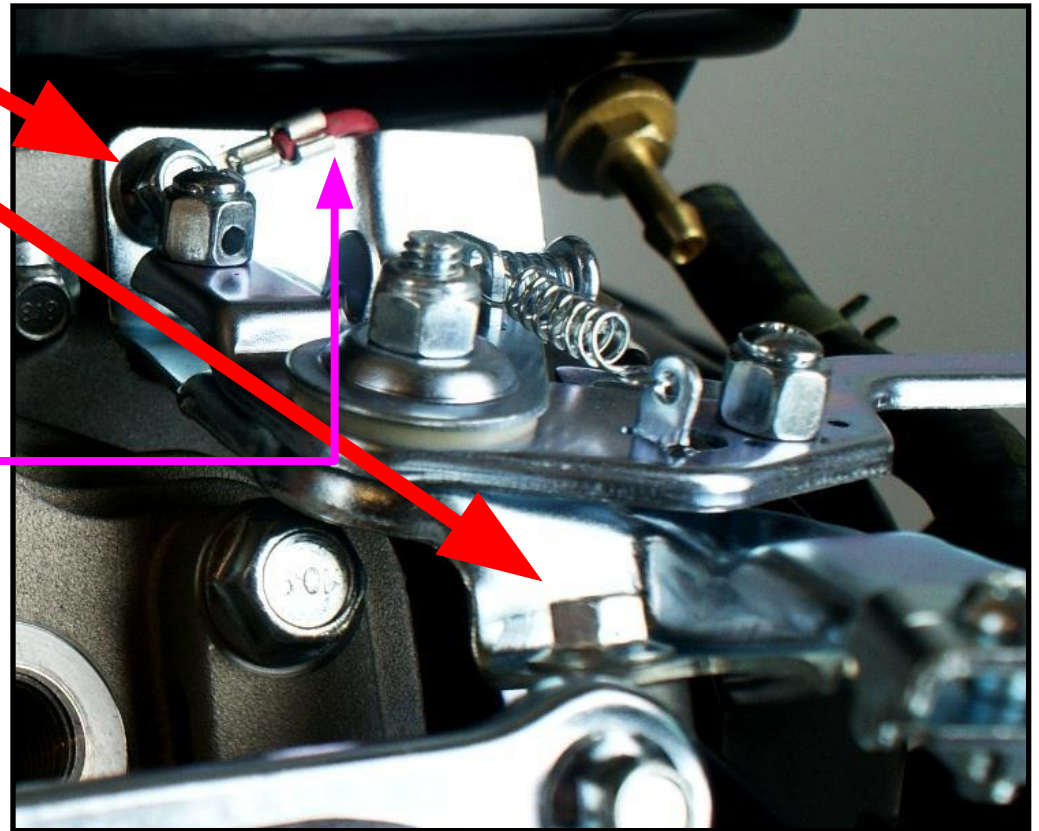
Reconnect Governor Spring

- Re-engage spring with tab
- Note orientation of the spring



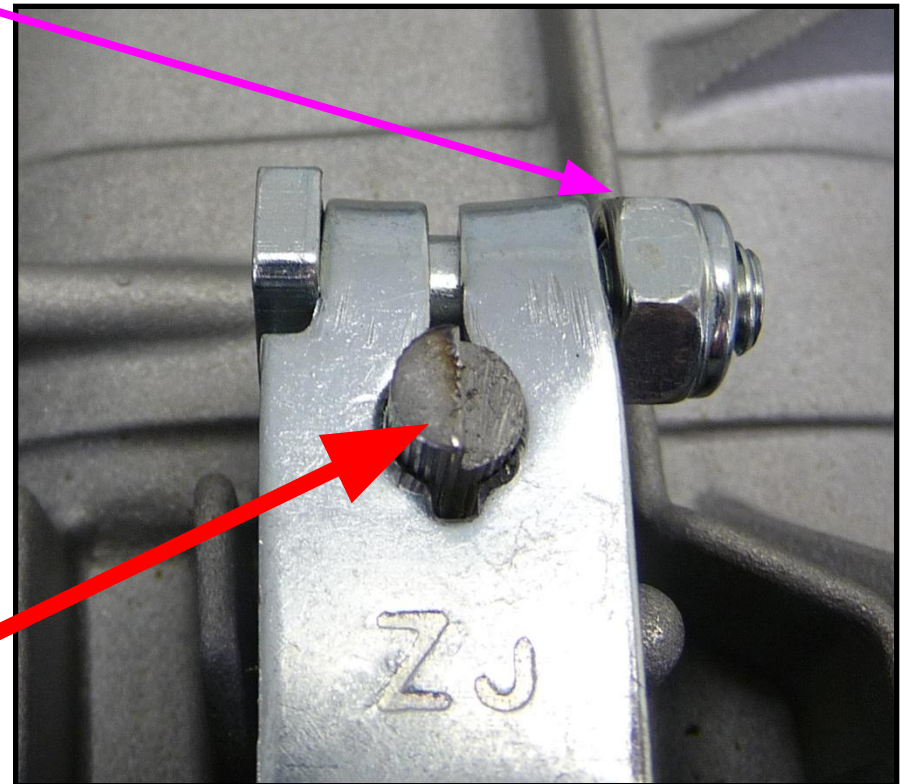
Mount Speed Control Bracket

- Install 2, 8mm screws
- Install longer screw nearest cylinder head
- Torque both to **85 lbs in.**
- Position red wire eye under screw



Install Governor Arm

- Back off the 10mm nut on the lever 1 to 2 turns
- Spread the slot at the end of the arm slightly
- Set the lever back on the governor shaft. Do not tighten nut



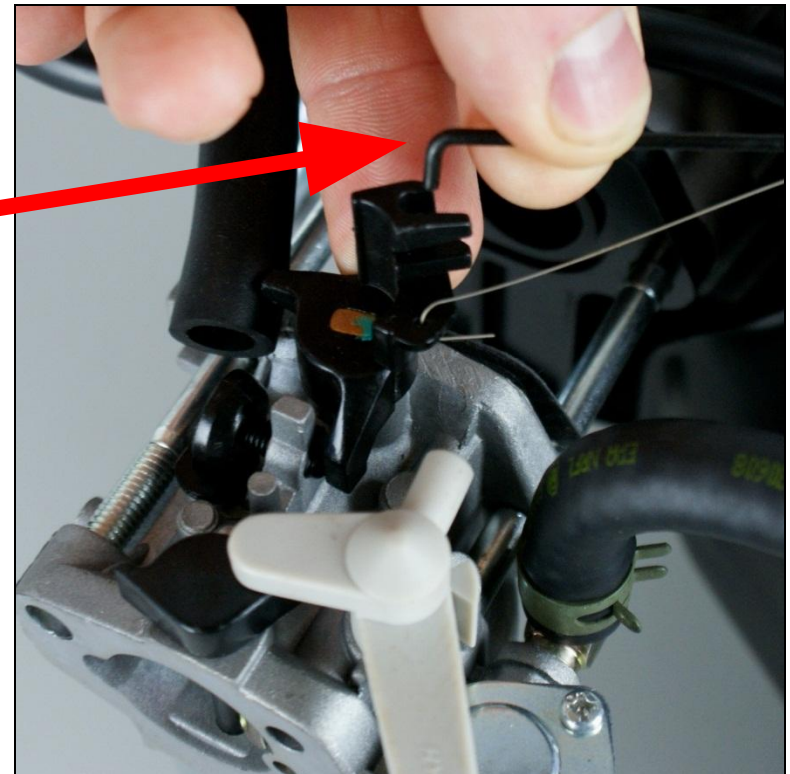
Attach Governor Springs and Link to Governor Lever

- Install governor spring, link and link spring



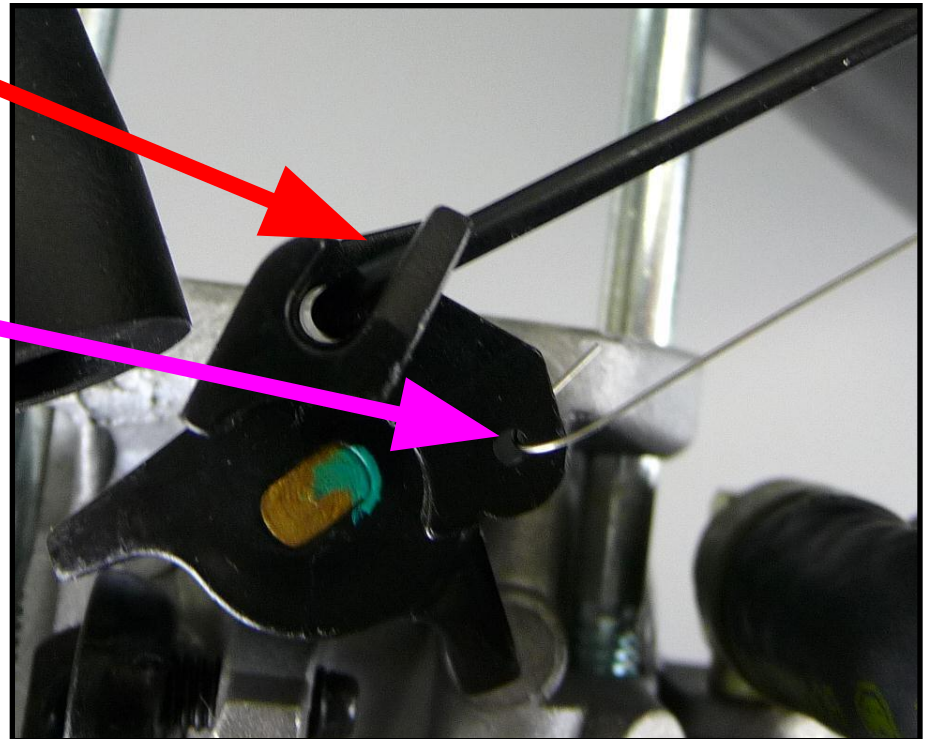
Install Carburetor

- Slide carburetor along studs until the governor link can be installed
- Check fuel line routing



Attach Governor Link and Link Spring to Governor Lever

- Install governor link and link spring to throttle shaft at carburetor



Instructor Signature



Instructor Signature

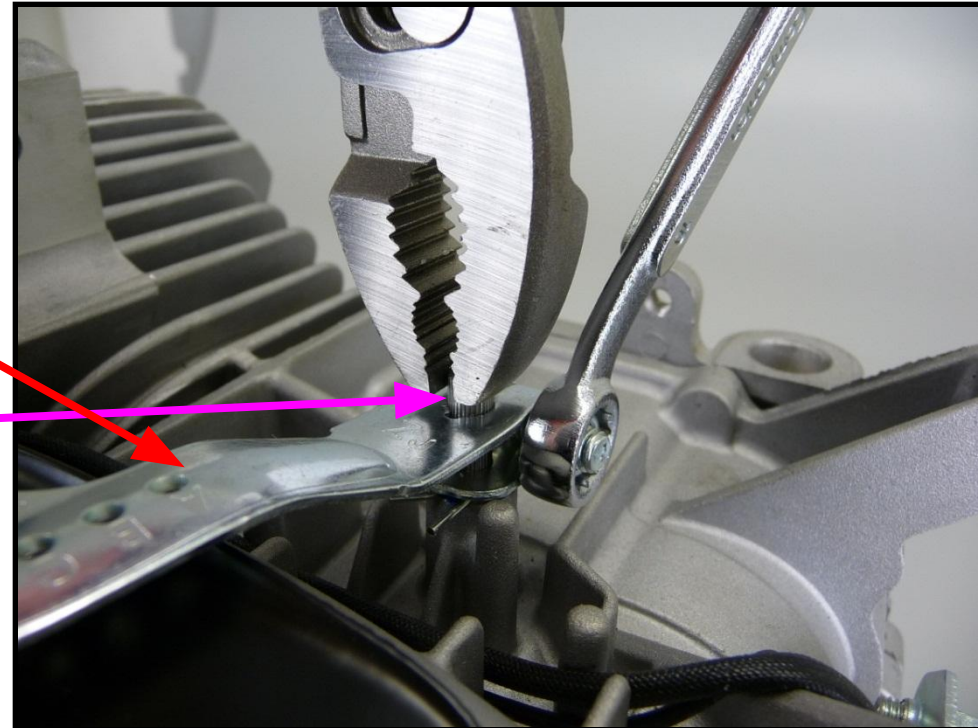
Install Air Cleaner Base

- Install gasket and air cleaner base
- Tighten nuts then screw
- Install screw – **50 lbs in.**
- Install nuts – **40 lbs in.**



Perform Static Governor Adjustment

- Rotate throttle plate from idle to wide open
- Watch rotation of governor lever on shaft
- Move throttle to fast
- Turn governor shaft in same direction
- Use 10mm socket
- Torque to **30 lbs in.**



Install Air Cleaner Cover and Filter

- Install round rubber gasket first if it is not already installed



Install Fuel Tank

- Use 12mm socket for 2 nuts above low oil module
-100 lbs in.
- Use 8mm socket for screw just above sparkplug
-85 lbs in.



Low Oil
Module

Connect Fuel Line

- Reinstall line to tank or carburetor
- Compress clamp and slide along line



Install Muffler

- Use 13mm socket
- Torque to **95 lbs in.**
- Make sure to put lock washers



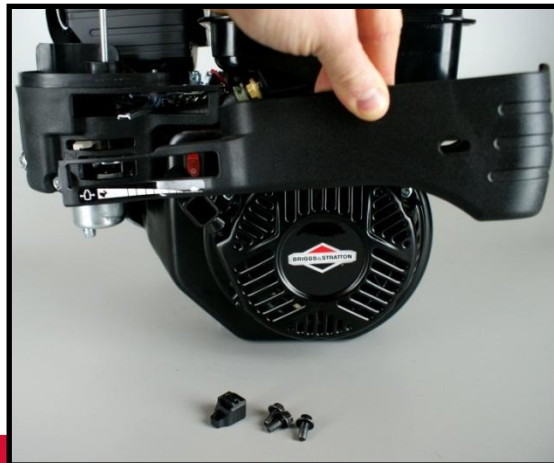
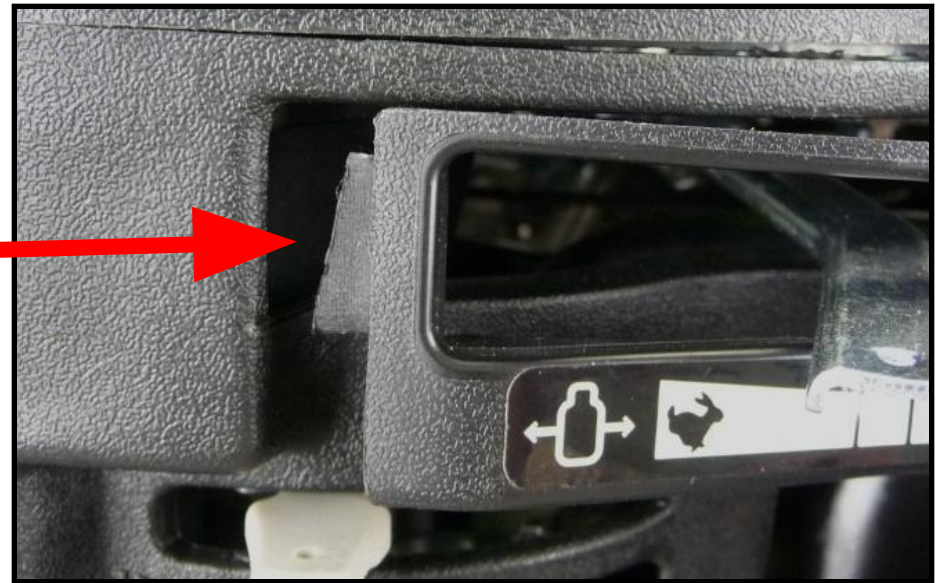
Instructor Signature



Instructor Signature

Install Trim Panel

- Engage tab on left side of panel with base
- Install 3, 8mm screws -**30 lbs in.**



Install Knob



Success!

- Do you have any extra parts?
- Do you have any questions?

