

## How To Change The Oil

Courtesy of Todd Engle CC&D Member

I used Shell Rotella T Synthetic Oil. Shell has now changed the name to Rotella T-6.

Any oil will work just fine, just make sure that the oil is **NOT Energy Conserving**.

Our bikes have a wet clutch.

Energy Conserving oil will make it slip.

Check the donut symbol on the back of the bottle.



Here is a list of the different brand filters that will fit:

### Stock Filter Replacements

Yamaha Filter - 4X7-13440-90-00  
(replaces - 4X7-13440-01-00)  
Yamaha O-Ring - 93210-64297-00  
NAPA - PS4935 or PS4936  
Purolator - ML16804 or ML16805  
Fram - CH6004  
STP - SMO-5  
WIX - 24935 or 24936

### ORK (Oil Filter Relocation Kit) Filters

Purolator - ML16817  
Bosch - 3300  
K&N - KN-303 or KN-303C (Chrome)  
Napa Gold - 1358  
Fram - PH 6017A  
Wix - 51358  
STP - SDF 13  
Hastings - LF-113

The Fram CH6004 **DOES NOT** come with the correct o-ring.

NAPA and WIX are the same filter/o-ring sets.

NAPA PS4936 (WIX 24936) has the correct o-ring.

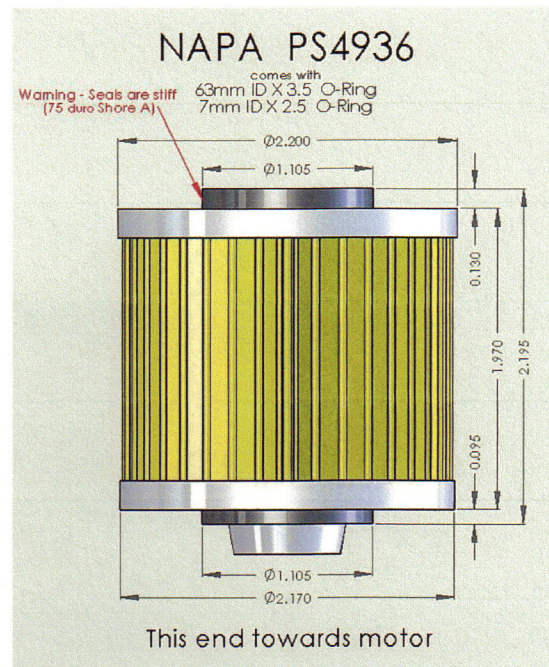
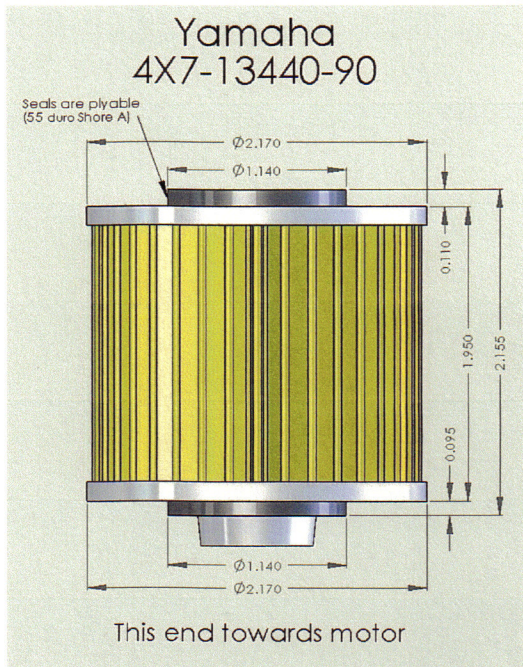
Do **not** attempt to use the small o-ring as a drain plug seal.

Since posting this, I tried to install the NAPA filter. The filter cover would not seat against the block. The rubber seals on the filter were hard. I replaced them with the seals from the old filter. (I also updated the images below)



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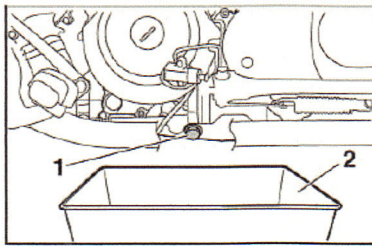


Ensure the bike is vertical and level. If you do not own a lift, make one.  
Two 24" 2x8, screw together, drill hole near one end so piece of rebar or prybar can rotate it.  
Drain the oil. Be prepared for a waterfall when removing the oil filter cover.

When removing the covers, keep track of each bolt location.  
There are 3 (or 4) different lengths of bolts.  
You do not need to remove the exhaust on a 650.  
(The bottom right bolt was hard to remove because of my aftermarket exhaust.)



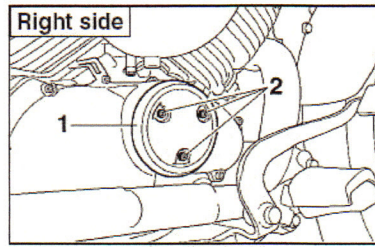
## PERIODIC MAINTENANCE AND MINOR REPAIR



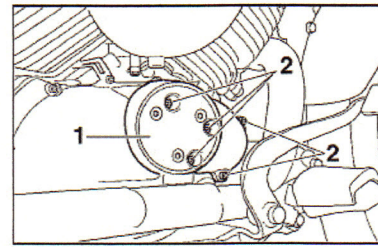
1. Engine oil drain bolt
2. Oil pan

**To change the engine oil (with or without oil filter element replacement)**

1. Start the engine, warm it up for several minutes, and then turn it off.
2. Place an oil pan under the engine to collect the used oil.
3. Remove the engine oil filler cap and drain bolt to drain the oil from the crankcase.



1. Oil filter element outer cover
2. Bolt (× 3)



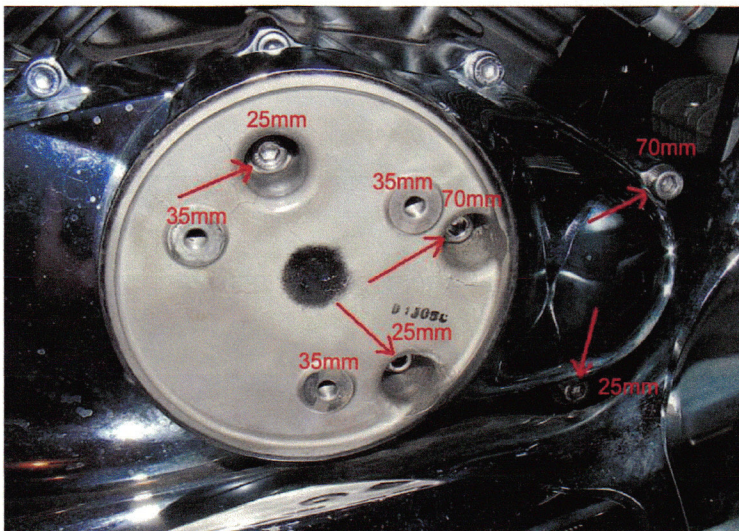
1. Oil filter element inner cover
2. Bolt (× 5)

**NOTE:**  
Skip steps 4–7 if the oil filter element is not being replaced.

4. Remove the outer and inner oil filter element covers by removing the bolts.

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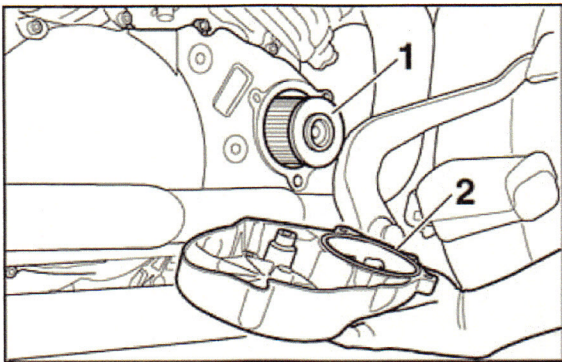
6-12



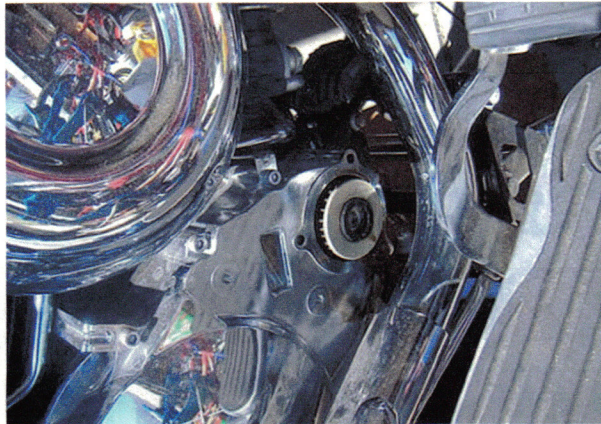
The oil filter hole goes toward the engine.

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- 1. Oil filter element
- 2. O-ring



This is very important: **Only tighten the cover screws finger tight!**

Over tightening the screws will strip the threads in the aluminum block.

Once the cover has made contact with the engine block, the o-ring cannot be compressed any further.

It cannot seal any better.

Fill the crankcase to the middle of the sight glass.

Over filling the crankcase is just as bad (or worse) than under filling.