



REKLUSE[®]
RADIUS_x

REKLUSE MOTOR SPORTS

INSTALLATION GUIDE

Doc ID 191-6300
Revision 013017

OVERVIEW

- Read the separate included Safety Information document before operating the vehicle with the product installed.
- If you are performing the installation of this product for a customer or another person, instruct them to read the Safety Information document and the Installation and User Guide before operating the vehicle with the product.
- Read this entire document before performing any steps, so you will know what to expect.
- When reinstalling components, use the torque specifications found in your service manual. Torque values listed are valid as of the date shown in the document revision number above.
- Use clean, quality JASO MA or JASO MA2 certified oil

All OEM components will be reused except:

- This kit will replace all of the OEM frictions and drive plates with a Rekluse thin friction EXP clutch pack. The OEM pressure plate springs will also be replaced with high quality Rekluse springs.
- Inspection of OEM components is necessary during installation
- This product will take away cable free play at the clutch lever providing a direction connection to clutch modulation.

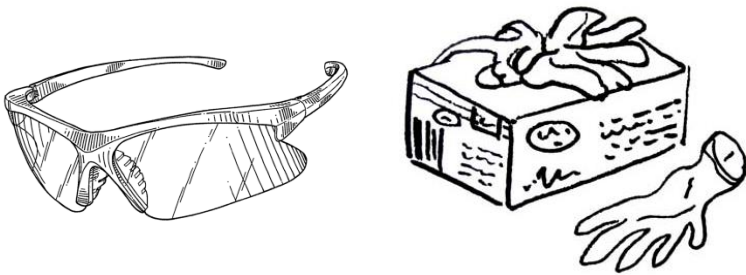
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INSIDE THIS DOCUMENT

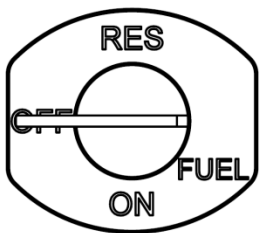
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INSTALLATION TIPS

- Protect eyes and skin – wear safety glasses and thin disposable work gloves.






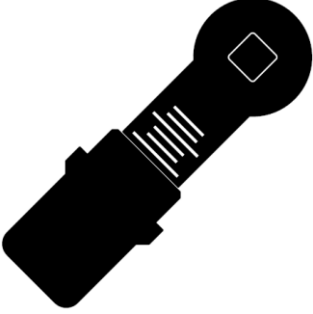


- Inspect your OEM cable for fraying and replace if needed.
- Work in a ventilated area.
- Turn the fuel petcock to “OFF.”



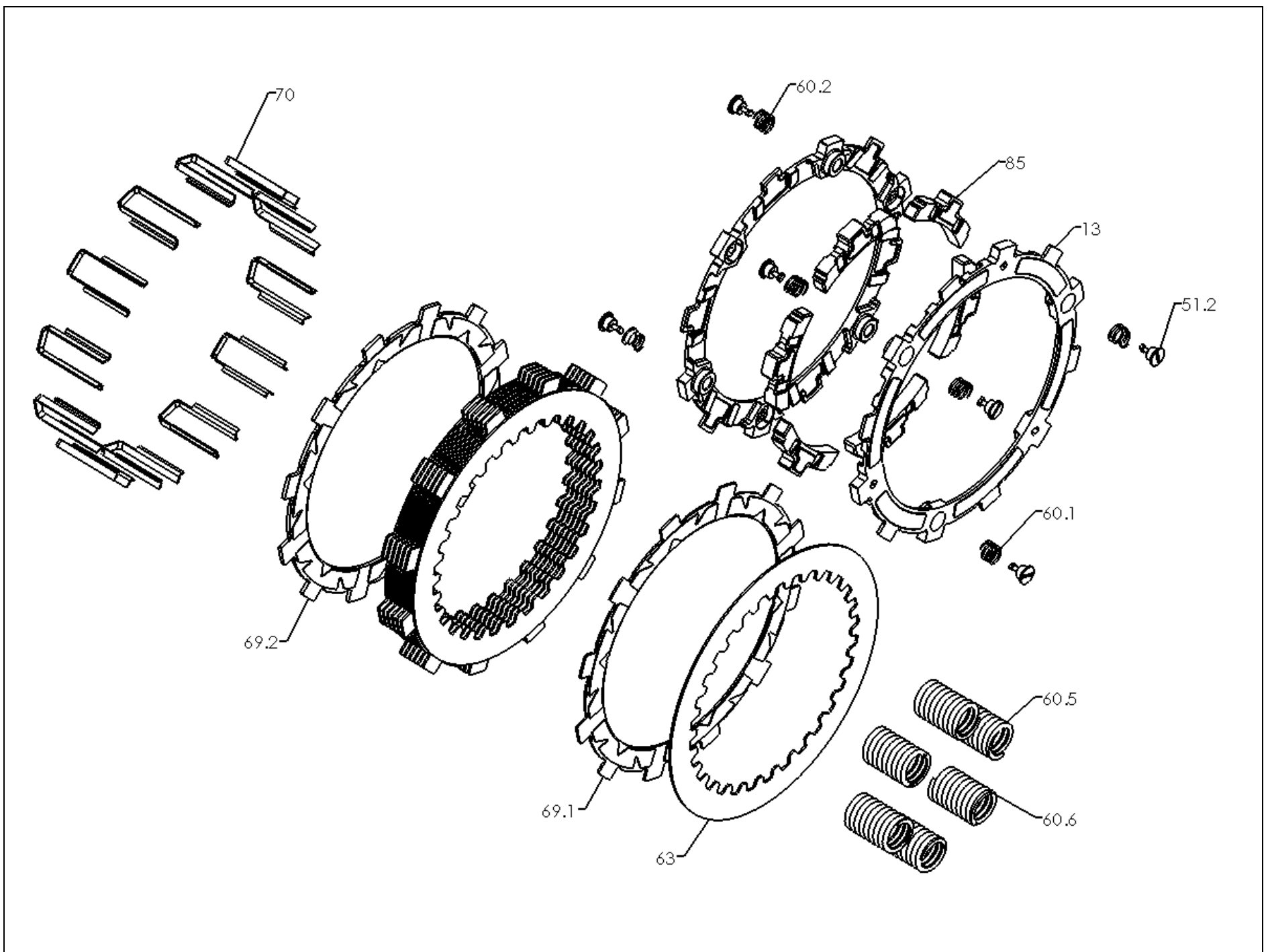
- During disassembly and installation lay the bike on its left side to avoid draining the oil. Do this by placing the handle bar on a center stand. Catch fuel that may drain from vent tubes.



TOOLS NEEDED

 10 mm	 8 mm		
10mm socket	8mm socket	Metric End Wrench Set	Torque wrench
			
Dental Pick	No Tools Required		

INCLUDED PARTS

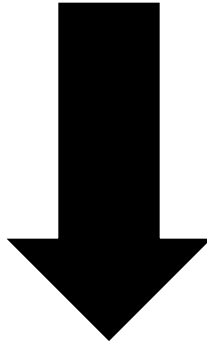


Item	Description	Qty.
13	EXP Base	2
51.2	Quarter Turn Pin	6
60.1	EXP Spring	3
60.2	EXP Spring	3
60.5	Pressure Plate Spring	*
60.6	Pressure Plate Spring	*
63	Drive Plate	*
69.1	Friction Disk	*
69.2	Friction Disk	*
70	Basket Sleeves	12
*Quantity varies depending on model		
Not Shown	Black FPG Rubber Band	1
Not Shown	EXP Spares	6
Not Shown	Quarter Turn Pin Spares	2
Not Shown	Throwout washer	*
Not Shown	Spacing Gasket	*
*Parts are only included in products when required. If your kit does not have these part then they are not necessary for installation		

INSTALLATION INSTRUCTIONS

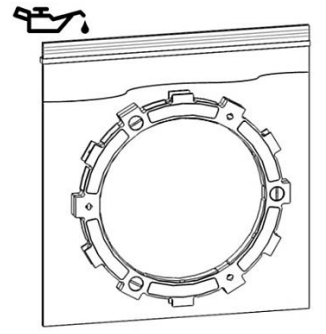
PRE-INSTALLATION ADJUSTMENTS

Adjust the in-line cable adjuster such that it is completely collapsed allowing for plenty of clutch lever slack.

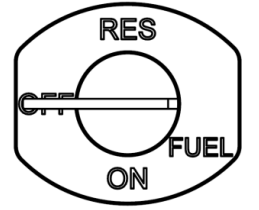


DISASSEMBLY AND INSTALLATION

1. Soak the EXP disk and Torqdrive friction disks in engine oil for 5 minutes.



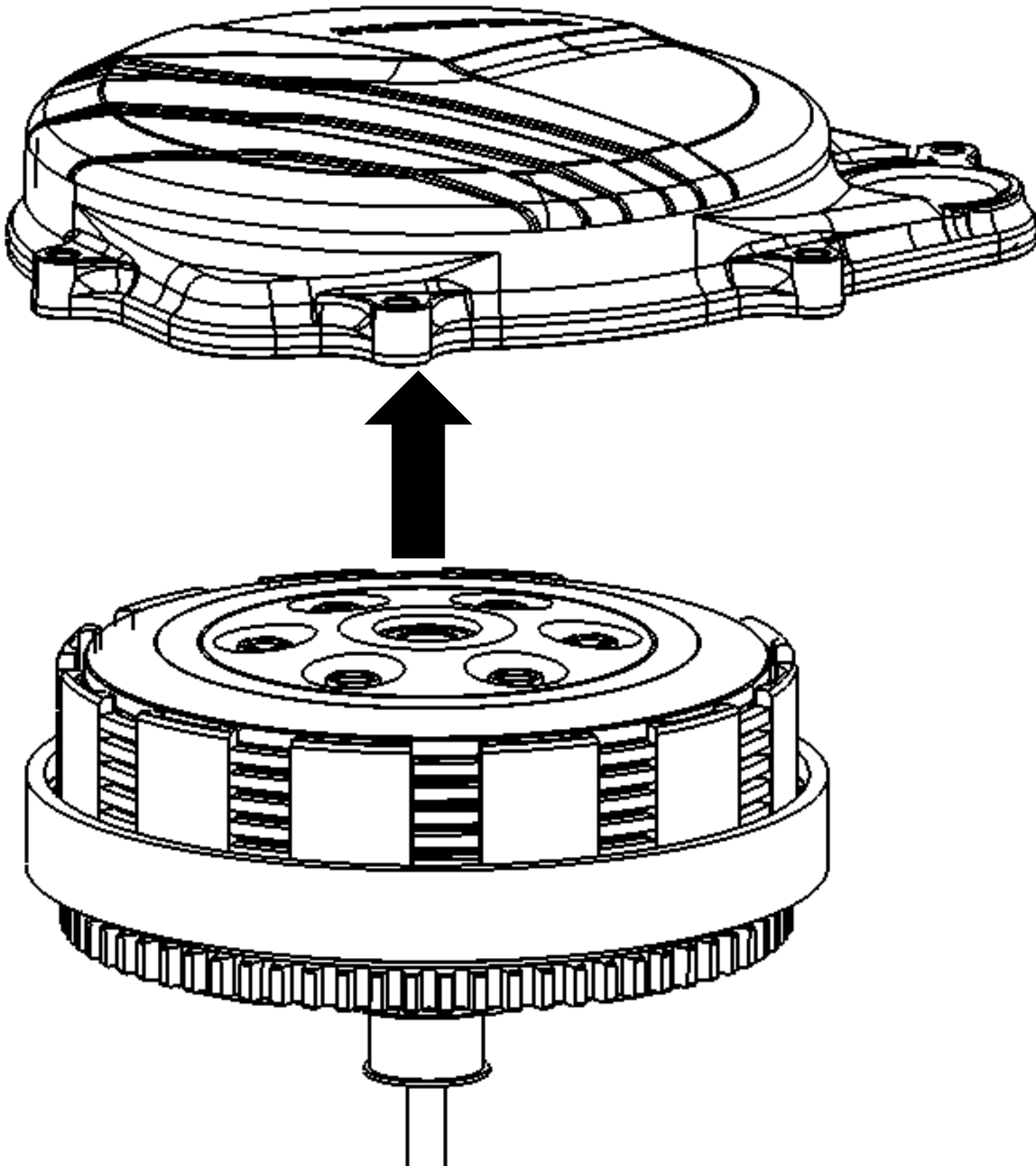
2. If your bike is carbureted, turn the fuel petcock to "OFF" and lay the bike on its left side.



3. Remove the OEM clutch cover



8 mm

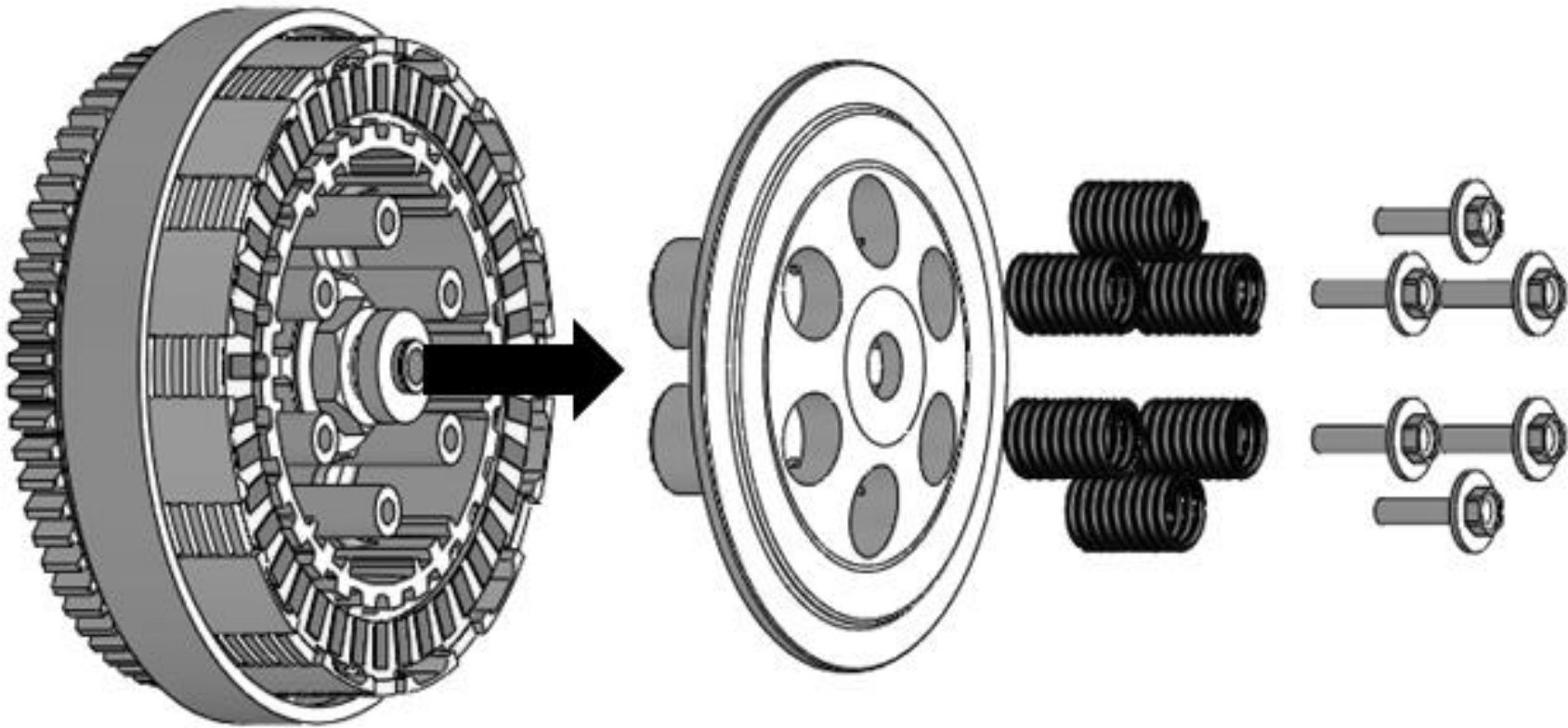


4. Remove the pressure plate screws along with the springs and pressure plate assembly.

NOTE: Throwout washers can stick to the back of the pressure plate. Be sure to reindex any throwout washers back onto the throwout.



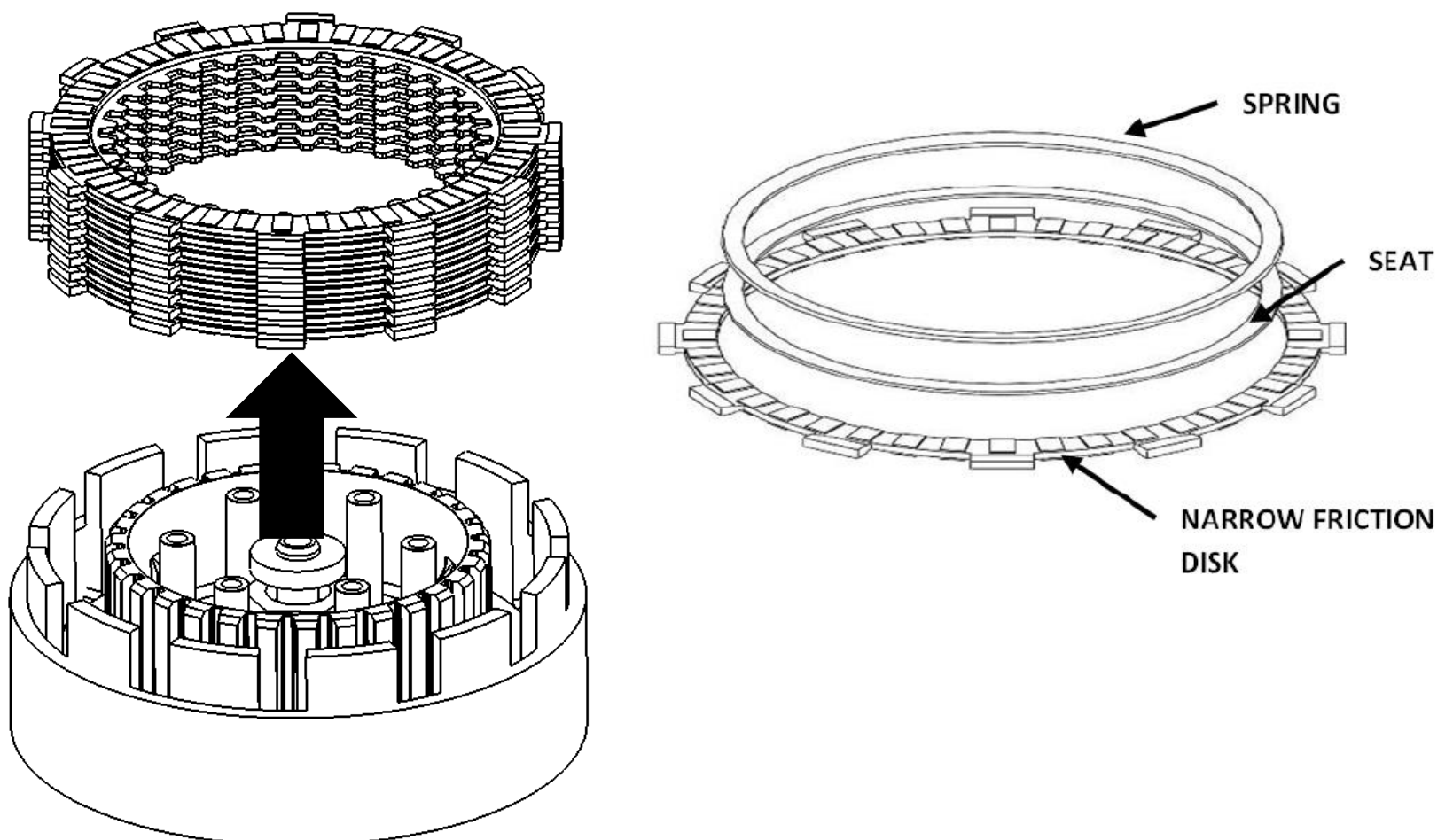
10 mm



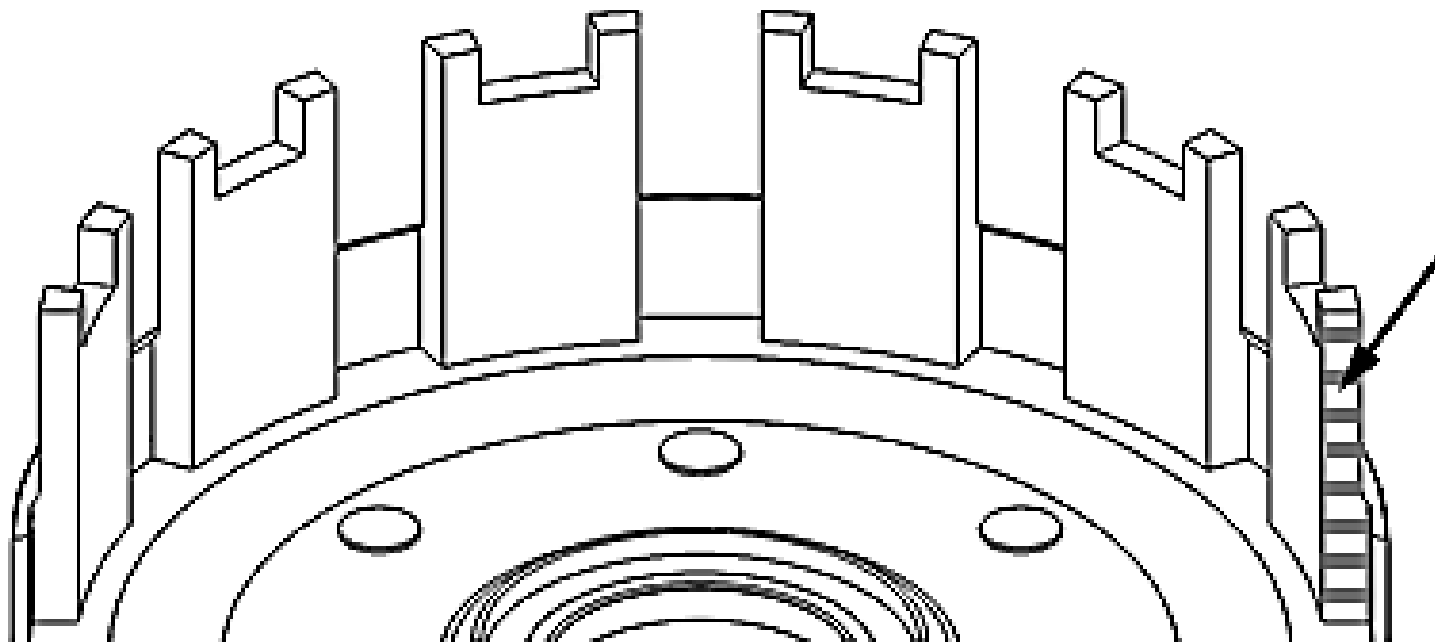
5. Remove and set aside the OEM clutch pack. (All Plates)

NOTICE

Some models have a clutch boss spring located in the bottom of the OEM friction pack. This consists of a spring, seat and narrow friction (shown below). If your bike is equipped with these parts remove them.



6. Inspect the basket for cushion slop or notching. If notched or worn, it is recommended to install a Rekluse Billet Clutch Basket (available for most models). See Read Me First for more inspection information. **Do not install sleeves or use product with a notched basket.**



INSPECT FOR
NOTCHING IN
TANG FACES

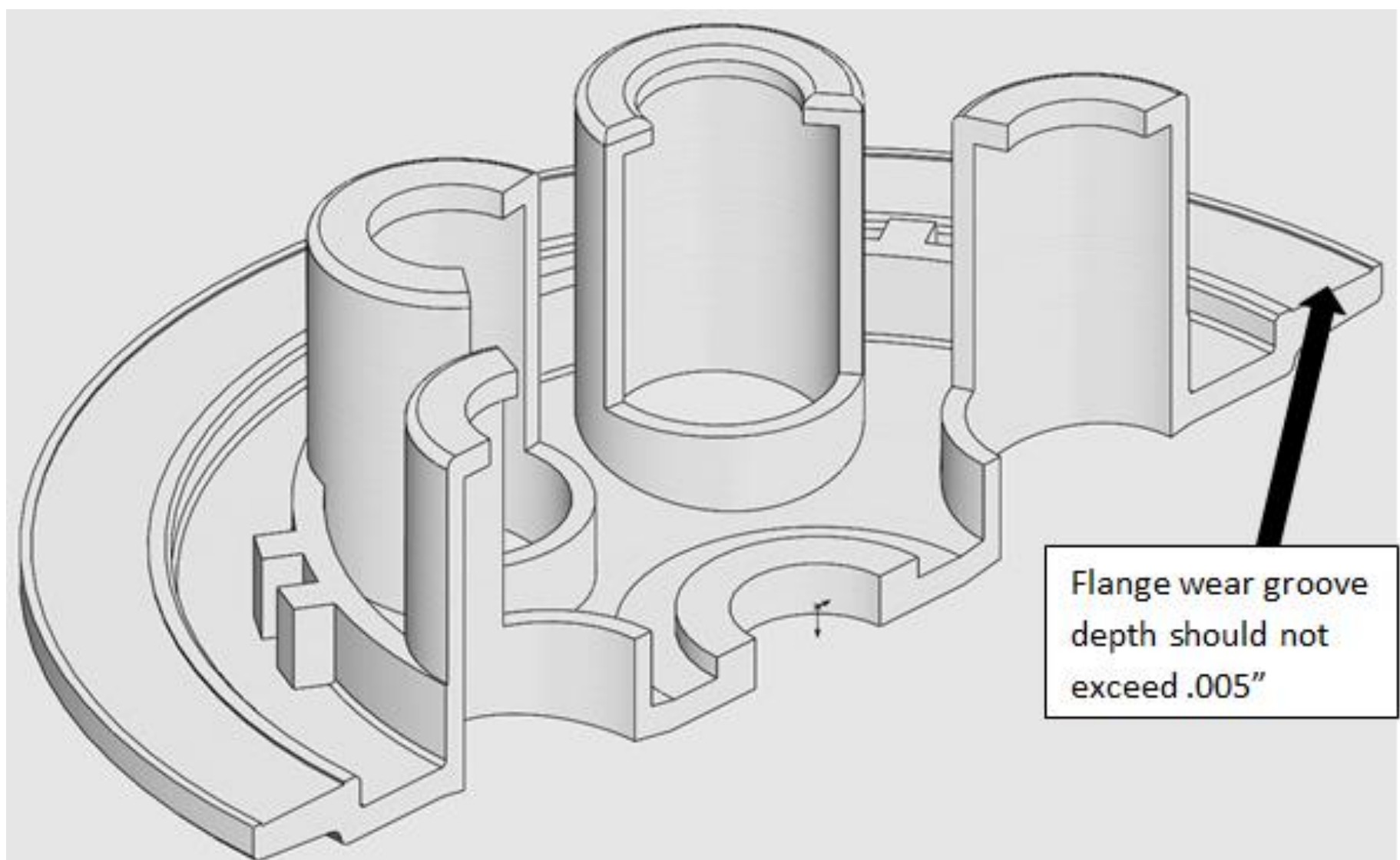
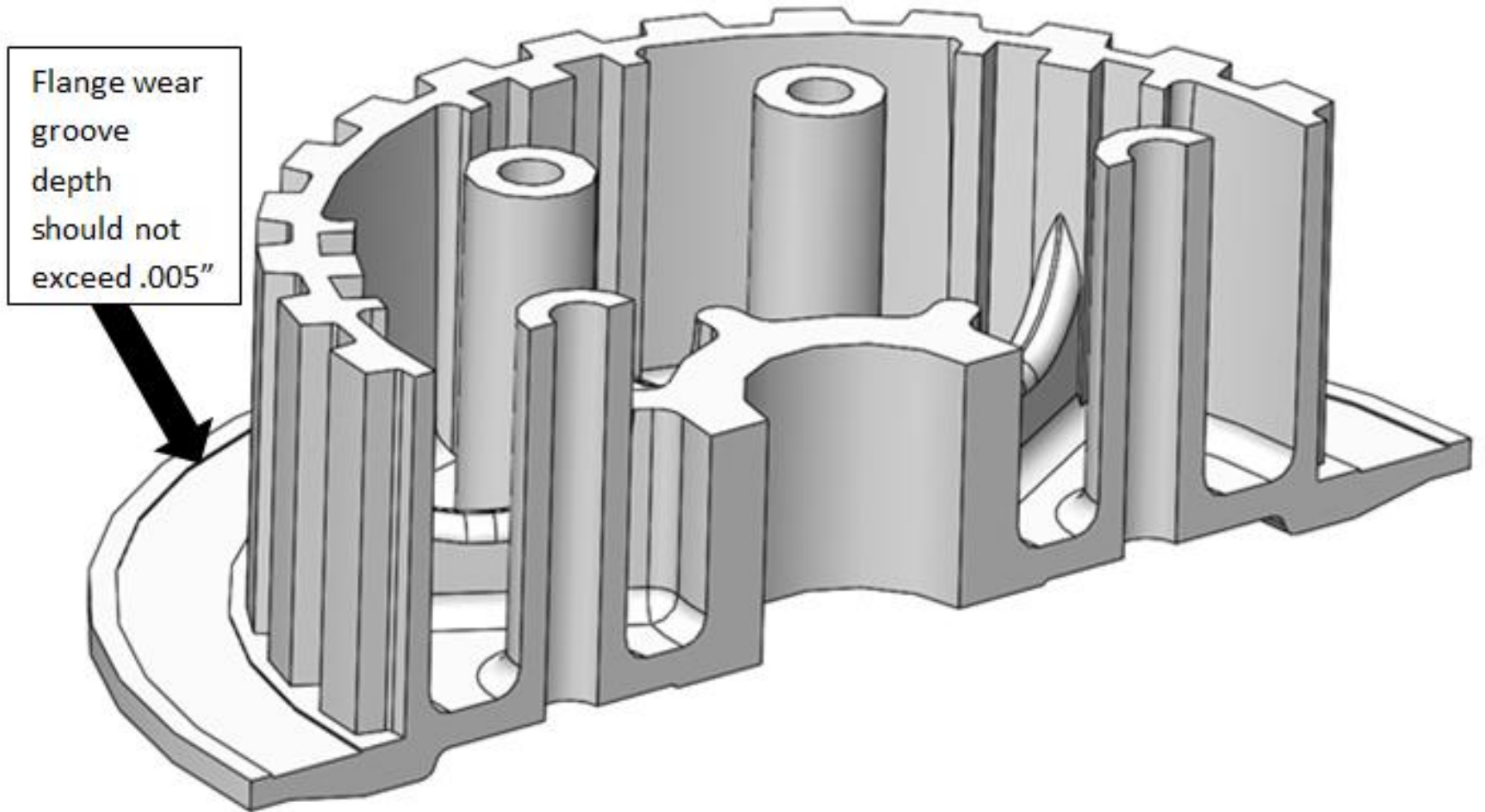
(REPLACE IF
NOTCHED)



⚠ WARNING

Failure to inspect the basket and replace if necessary could result in death, serious injury, and/or property damage

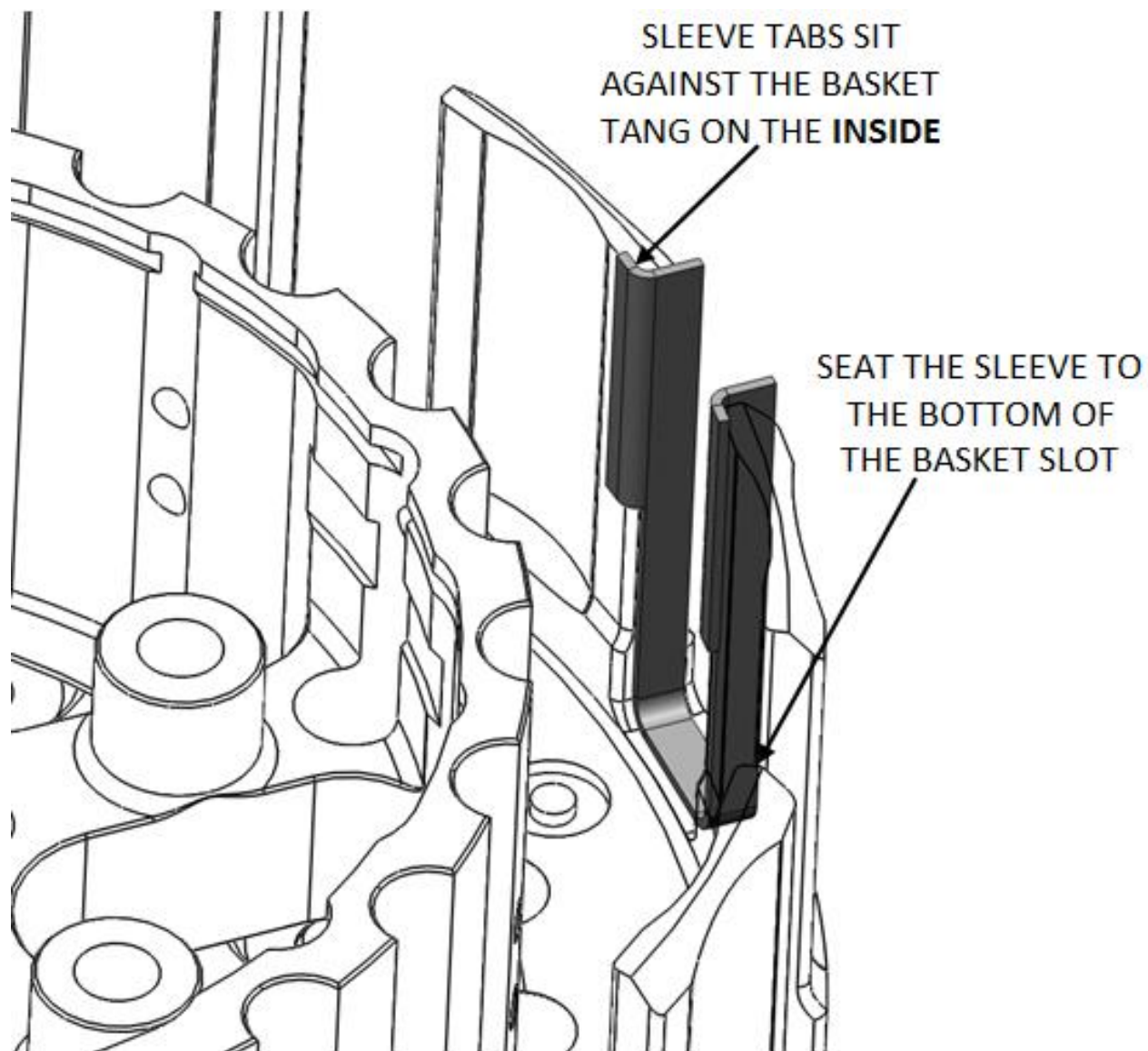
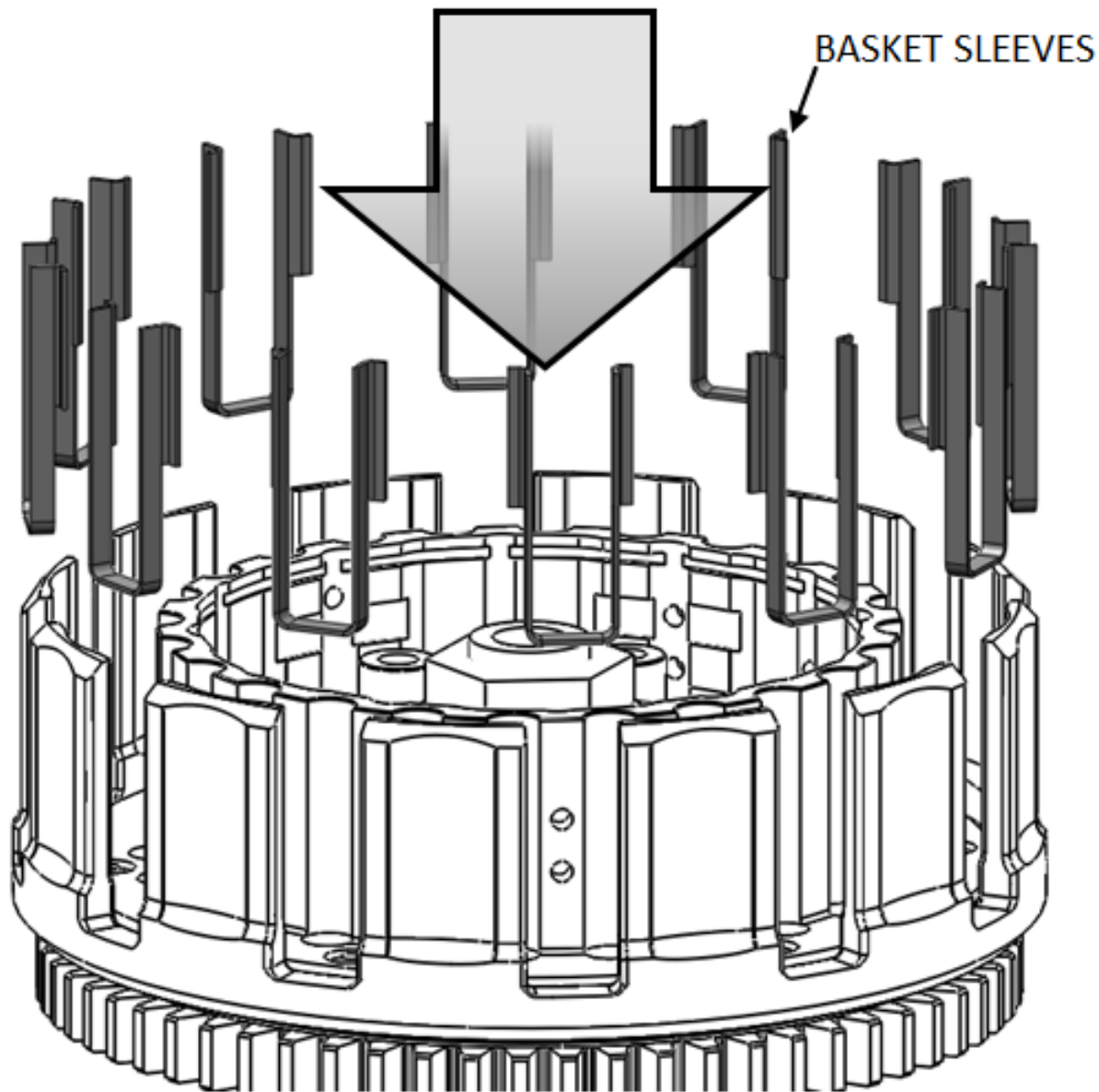
7. Inspect your OEM center hub and pressure plate flanges for excess wear. If wear is visible use a drop gauge to verify that the wear across the flange does not exceed .005" (.12mm).



⚠ WARNING

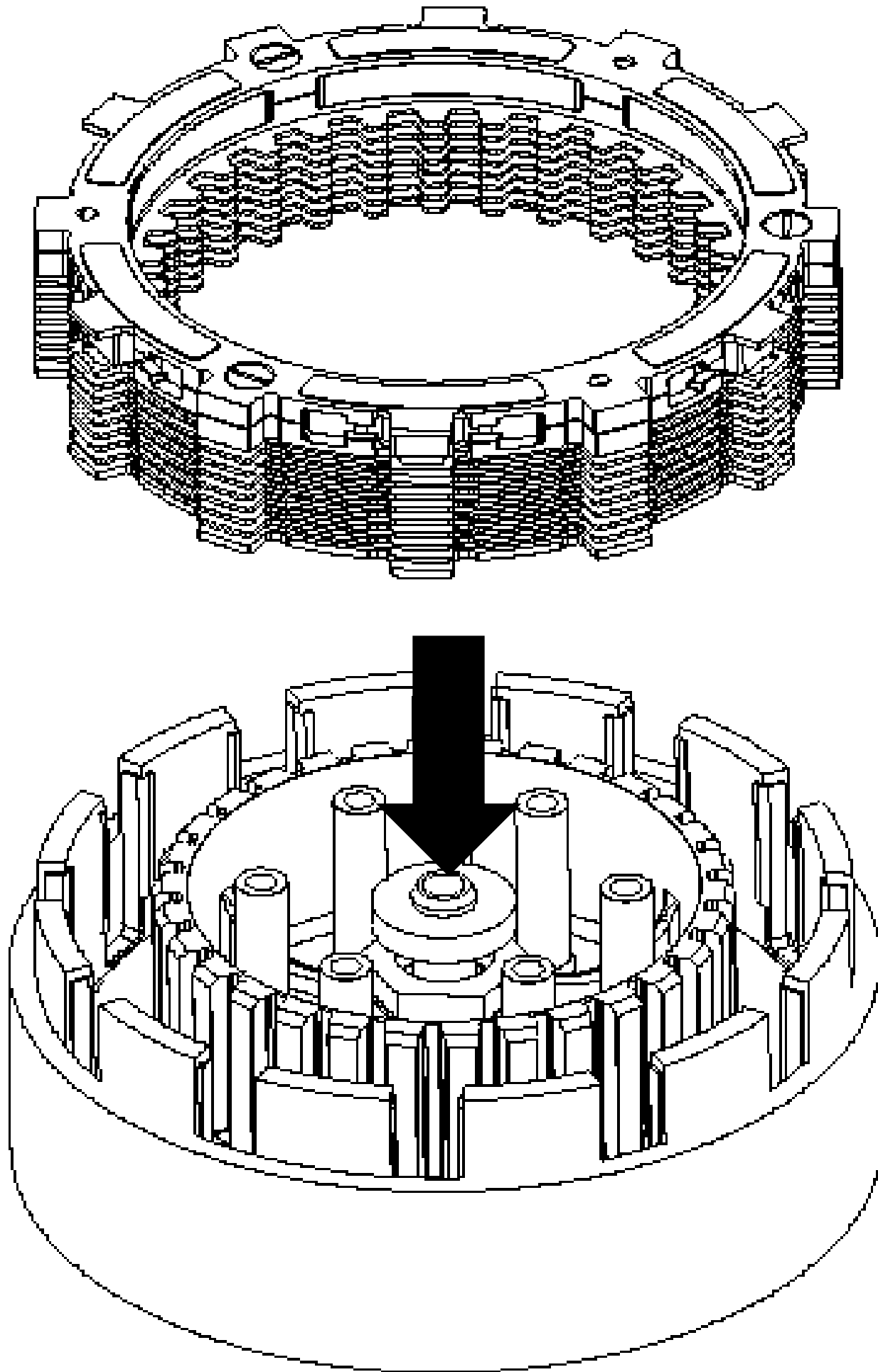
Failure to inspect the pressure plate and center hub and replace if necessary could result in death, serious injury, and/or property damage

8. Install the [#70] Rekluse basket sleeves in the orientation shown making sure they are seated in the basket slots.

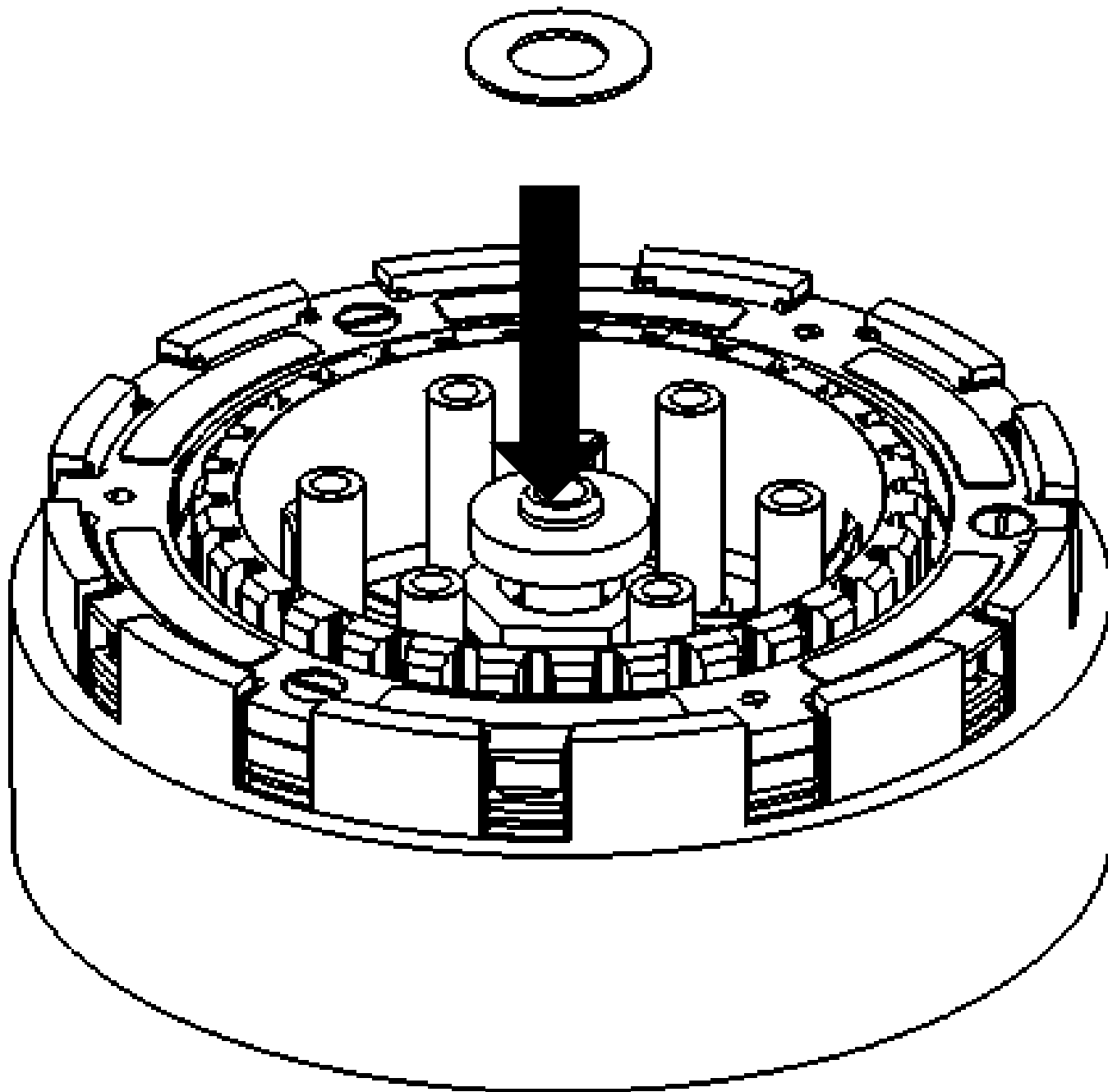


NOTE: When seated in the basket the sleeves may stick above or below the top of the basket.

9. Install the Rekluse clutch pack. **See setup sheet for proper clutch pack configuration as they vary depending on bike model.**



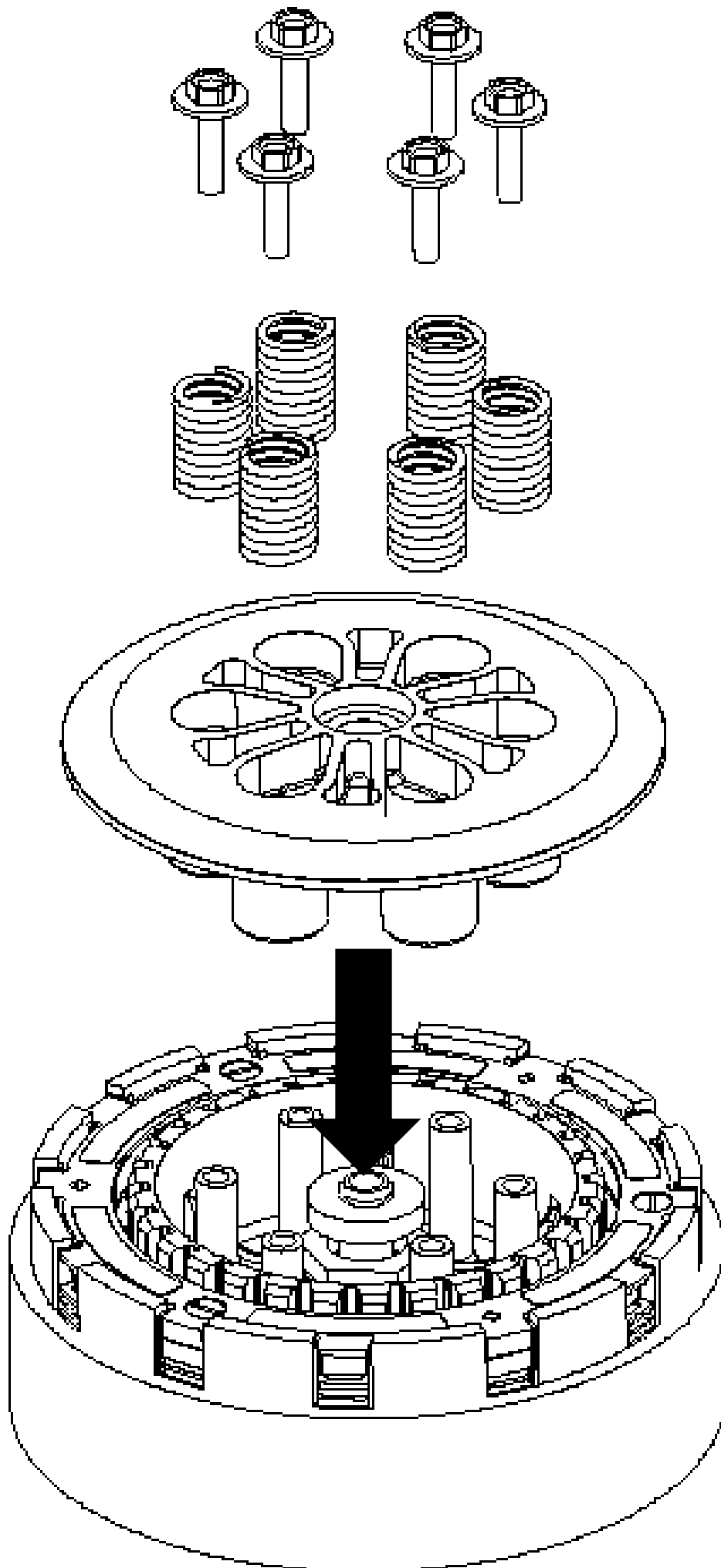
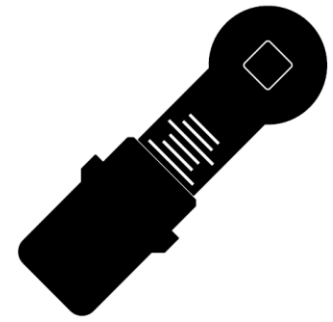
10. If your kit includes a Rekluse throwout spacing washer (see setup sheet), install it on top of your OEM throwout.



11. Reinstall your OEM pressure plate followed by the provided the Rekluse pressure plate springs, and the OEM pressure plate screws. Torque bolts to OEM specification.



10 mm

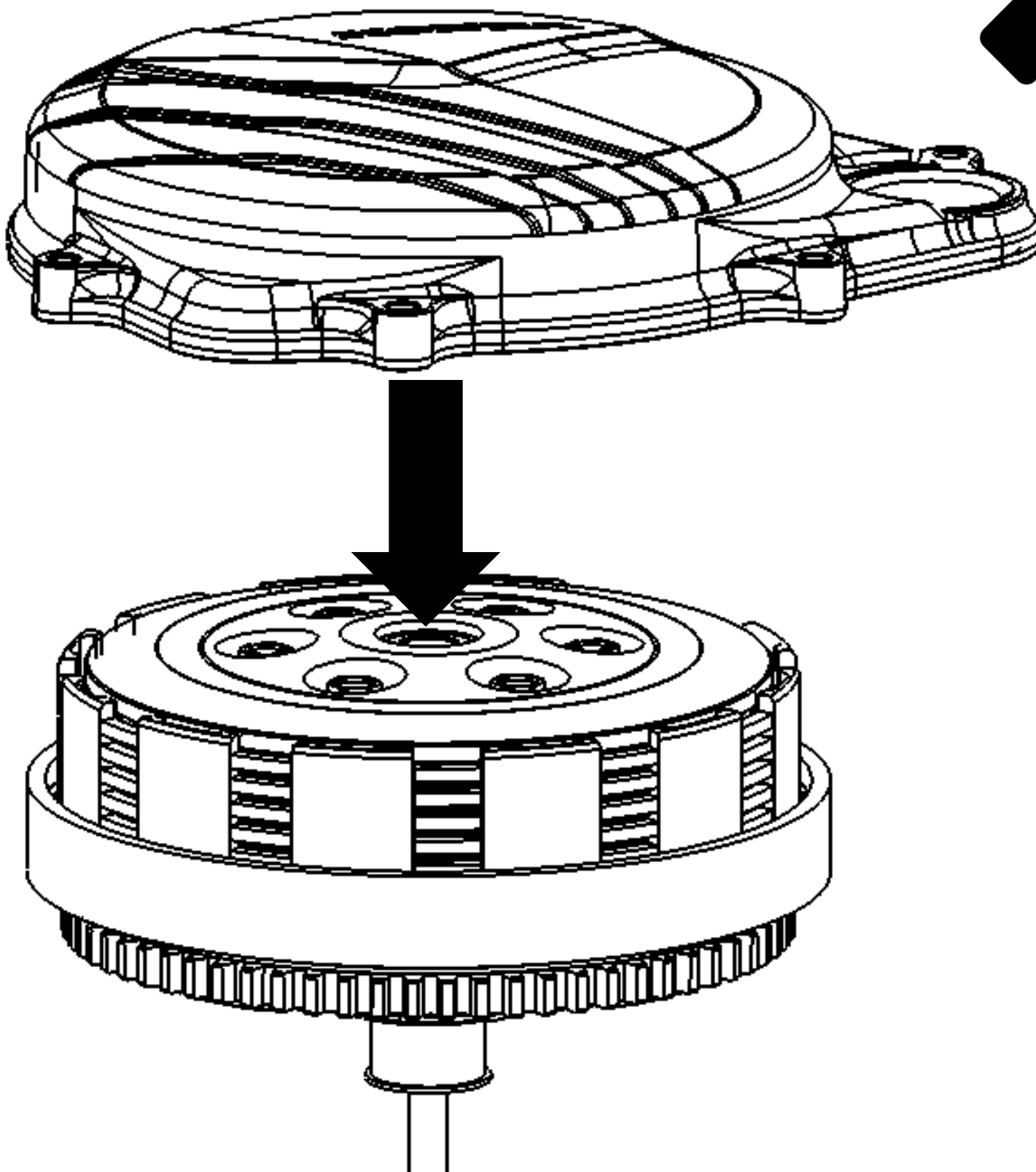
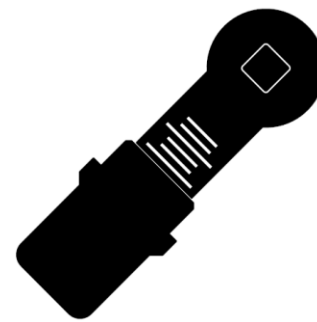


12. Reinstall your OEM clutch cover. Lightly tighten all of the cover bolts before full torque is applied. Torque Bolts to OEM specification.

NOTE: Most models require a clutch cover spacing gasket to achieve adequate clearance inside the clutch to the basket sleeves. If your kit includes a spacing gasket (see setup sheet), install it in place of the OEM gasket.



8 mm



SETTING THE INSTALLED GAP

The installed gap is critical for this product to function correctly. Follow these instructions carefully. The gap is set using tension in the cable.

NOTE: Kits for Honda CRF 450, CRF 250 and Yamaha YZ450F and YZ250F include a new perch adjuster bolt. Install the bolt and set the clutch lever to the desired reach point before setting the installed gap. These bolts will not be used on the CRF450RX, YZ450FX and YZ250FX .

13. Adjust the clutch cable so there is no free play between clutch lever and clutch perch; this means the clutch lever should be held in place against the perch and not move freely. If the clutch lever still moves freely, remove all of the clutch cable slack until the clutch lever does not move freely. Use the adjuster at the clutch perch or the in-line cable adjuster to remove all cable slack.

CHECKING FREE PLAY GAIN

14. “Free Play Gain” is the increase of lever free play as the RPMs increase. This movement is caused by the EXP disk expanding and lifting the pressure plate. For cable EXP with Torqdrive products there will be no free play in the lever when the bike is off or at low RPM. As the RPMs increase Free Play Gain will add free play at the lever.

There are 2 methods to check free play gain: rubber band method or hand method. First, use the rubber band method to understand the concept of free play gain. Then, become comfortable with the hand method so you can use it as the primary method to check free play gain in the future.

Make sure the transmission is in neutral when checking free play gain.



RUBBER BAND METHOD

15. We recommend that you use this method to find your initial “Free Play Gain” so you can see what it is. We recommend also checking it by hand as explained in the next step so you can check free play gain both ways.

Wrap the included rubber band around the outer end of the handlebar grip and attach to the ball end of the clutch lever. See the following three photos for an example.



HAND METHOD

16. Free play gain can also be checked by using your hand and holding light pressure on the lever. With the bike at idle, pull on the clutch lever lightly with a single finger so the lever free play is taken up, but the clutch is not disengaged. While continuing to apply light pressure, rev the engine to at least 5000 RPM. **The clutch lever should move in 1/8 - 1/4” (3.175mm – 6.35mm) under your finger pressure as you rev the engine.**

Note: If you are not getting the correct lever movement, see the “Free Play Gain Troubleshooting ” step below.

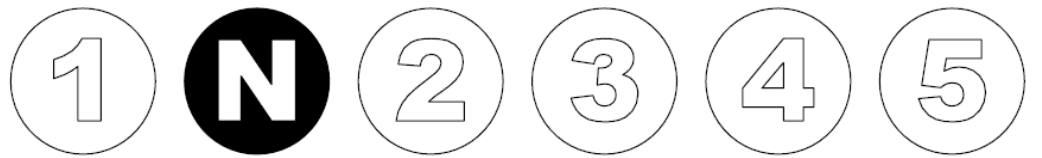
Free Play Gain Optimization

17. If free play gain is optimal, proceed to the BREAK-IN PROCEDURE. If free play gain is not optimal, use the in-line cable adjuster or perch adjuster to achieve the correct amount.
- **TOO MUCH FREE PLAY GAIN?** The installed gap is too small. Increase the length of the cable housing (extend the adjusters) until the correct amount of free play gain is achieved.
 - **NOT ENOUGH FREE PLAY GAIN?** The installed gap is too large. Reduce the length of the cable housing (collapse the adjusters) until the correct amount of free play gain is achieved.
 - **STILL HAVING TROUBLE?** Refer to the TROUBLESHOOTING GUIDE for more information.

BREAK-IN PROCEDURE

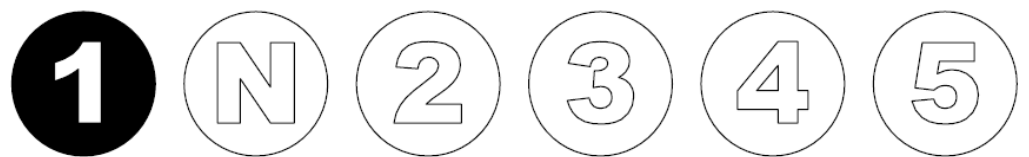
After desired free play gain is achieved, it is time to break in the EXP disk.

18. REV CYCLES: With the transmission in neutral and no pressure on the clutch lever, rev the engine to about 5000 rpm and let it return to idle. Perform 10 rev cycles.

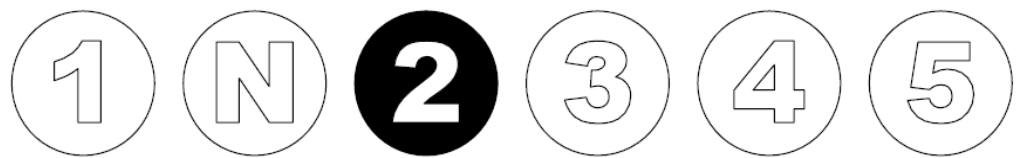


19. ROLL-ON STARTS: Pull in the clutch lever and click the transmission into first gear. Slowly release the clutch lever. The engine should stay running and the bike should have minimal forward creep. If the engine wants to stall or the creep is excessive, the idle may be too high or the installed gap may be too small. Make necessary adjustments before proceeding.

a. FIRST GEAR: Slowly roll on the throttle to begin moving. Accelerate to around 5000 rpm and come to a stop. Perform 5 first gear roll-on starts.



b. SECOND GEAR: Click the transmission into second gear and perform 5 roll-on starts.



20. Re-check free play gain and adjust if necessary.

IMPORTANT: Check Free Play Gain before every ride.

NOTE: Do not perform 3rd gear starts with this product. 3rd gear starts over time will burn up the clutch and decrease the performance of this product in a short amount of time.

MAINTENANCE

Maintenance Protocol (see setup sheet)	Maintenance Interval
Check and verify free play gain	Every ride
Inspect all clutch parts for excessive wear or heat. Replace as needed.	40 hours

TROUBLESHOOTING GUIDE

Free play gain is the visual representation of the installed gap in the clutch pack. As the EXP disk expands, it fills the installed gap and then pushes on the pressure plate to engage the clutch. This pressure plate movement is seen and felt at the lever when light finger pressure is applied during a rev cycle.

Free play gain should be fine-tuned in small increments using the clutch cable in-line adjuster and perch adjuster. After each cable adjustment, perform a few rev cycles in neutral with light pressure on the lever to re-check free play gain.

- **COLLAPSE THE CABLE HOUSING** to reduce cable tension, thus relaxing the throw out and decreasing the installed gap in the clutch – this will **INCREASE FREE PLAY GAIN**.
- **EXPAND THE CABLE HOUSING** to increase cable tension, thus pushing the throw out into the pressure plate and increasing the installed gap in the clutch – this will **REDUCE FREE PLAY GAIN**.

If the cable housing reaches the fully collapsed or fully expanded state and free play gain is still not optimal, the side case may need removed to make coarse adjustments with the throw out.

OPTIMIZING EXP ENGAGEMENT

For best performance, engine idle speed should be **slightly** adjusted to match the EXP engagement setting.

NOTE: Make sure Free Play Gain is optimal before adjusting idle speed.

With correct Free Play Gain and the bike in gear, the bike should move forward under slight opening of the throttle. If not, one of the following symptoms is likely:

- **HIGH IDLE** – the bike moves forward with the throttle fully closed. Solution: reduce idle RPM.
- **LOW IDLE** – the bike moves forward after engine RPM becomes noticeably higher than idle RPM. Solution: increase idle RPM.

Note: If a slight idle adjustment does not alleviate the problem refer to the EXP setup sheet for an additional tuning and EXP spring setting guide

Clutch Squeal and Chatter

Although it is harmless, some bike models may have “squeal” or “chatter” coming from the clutch at low RPM as it engages. Clutch squeal is caused by the clutch components vibrating as the clutch engages and can become more audible as the clutch gets hot. For bike models that tend to have clutch squeal or chatter here are some recommendations to reduce or eliminate it:

- Oil: Rekluse recommends that you have fresh, clean JASO-MA or JASO-MA2 rated oil for best clutch performance. Dirty or old oil can make the clutch more likely to squeal or chatter.

BUMP-STARTING INSTRUCTIONS

If your vehicle needs to be bump-started due to a dead battery or any other reason, follow the steps below to quickly bump-start your vehicle.

1. Use your perch adjuster to back tension off the cable until you have cable free play.
2. Bump start the vehicle. The clutch will function like a manual clutch at this point, but the clutch will not be fully over-rideable at high RPMs.
3. Once the vehicle is started, readjust the gap to set the installed gap.