REKLUSE MOTOR SPORTS

The Rekluse CoreEXP Kit for Cable-Actuated Motorcycles

INSTALLATION & USER'S GUIDE

Doc ID: 191-7712A
Doc Rev: 120117

OVERVIEW

- This kit replaces the OE (Original Equipment, or "stock") core clutch components including the center clutch hub and pressure plate with high-quality billet components designed for optimal operation specific to your bike.
- Most of the OE friction disks will be reused, but all OE steel drive plates will be replaced with Rekluse drive plates.

INSIDE THIS DOCUMENT

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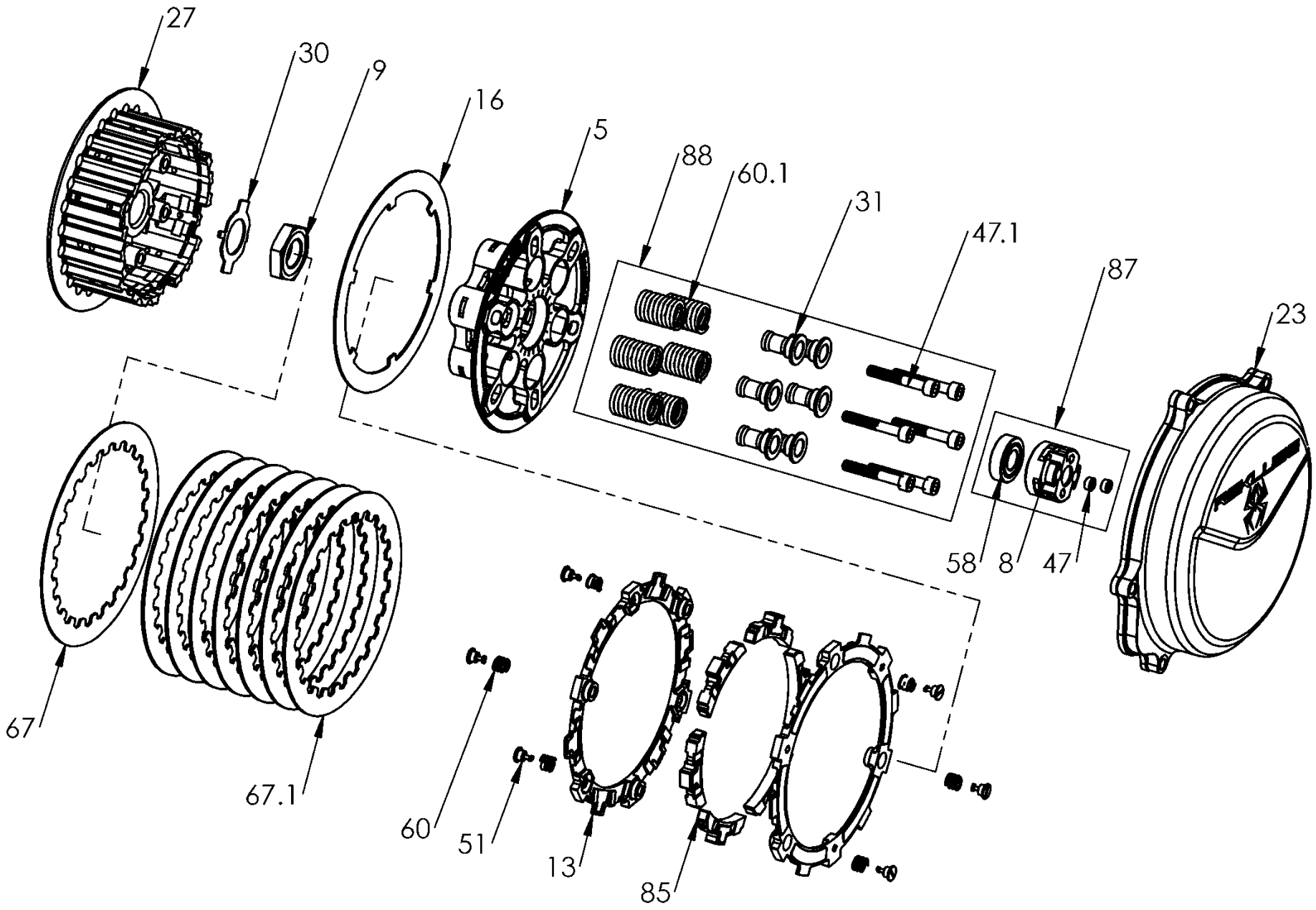
INCLUDED PARTS



Item	Item Type	Qty
5	Pressure Plate	1
9	Center Clutch Nut (requires 1¼in or 32mm socket & torque wrench)	1
13	EXP Base *	2
16	Steel Lining Plate	1
23	Clutch Cover	1
27	Center Clutch Hub	1
30	Lock-Tab Washer	1
47	Set Screws for Pressure Plate Adjuster	2
51	Fastener - 1/4-Turn Pin * (extra included)	6
60	EXP Adjustment Spring * (extra included, see last page for tuning options)	6
67	Thin Steel Drive Plate - .040” [1.0mm] thick	1
67.1	Steel Drive Plate - .060” [1.5mm] thick	7
85	Wedge Assembly *	6
87	Pressure Plate Adjuster Assembly	1
88	Core Clutch Spring Kit Assembly	1
not shown	O-ring cord for use a clutch cover seal (only on some models)	1

* Denotes parts assembled as a component of the EXP disk assembly

Visit rekluse.com/support for a full parts fiche illustration and part numbers.

INSTALLATION TIPS

- Watch the “CORE EXP Auto-Clutch Installation Video” by following this QR code or visiting rekluse.com/videos.
- Read this entire document before performing any steps, so you will know what to expect.
- Be sure to use proper eye protection.
- Laying the bike on its side makes clutch work easier and eliminates the need to drain the oil.
- An air or electric impact wrench works well to remove the center clutch nut, or you can place the bike in top gear and hold the rear brake while loosening the center clutch nut with a socket.
- Channel-lock pliers work best to bend the tabs of the washer up over the center clutch nut.
- Use clean, quality JASO-MA or JASO-MA2 certified oil for best performance.
- Bikes with taller gearing or modified engines with increased horsepower may require heavier wedges and/or stiffer pressure plate springs which can be purchased separately from Rekluse.

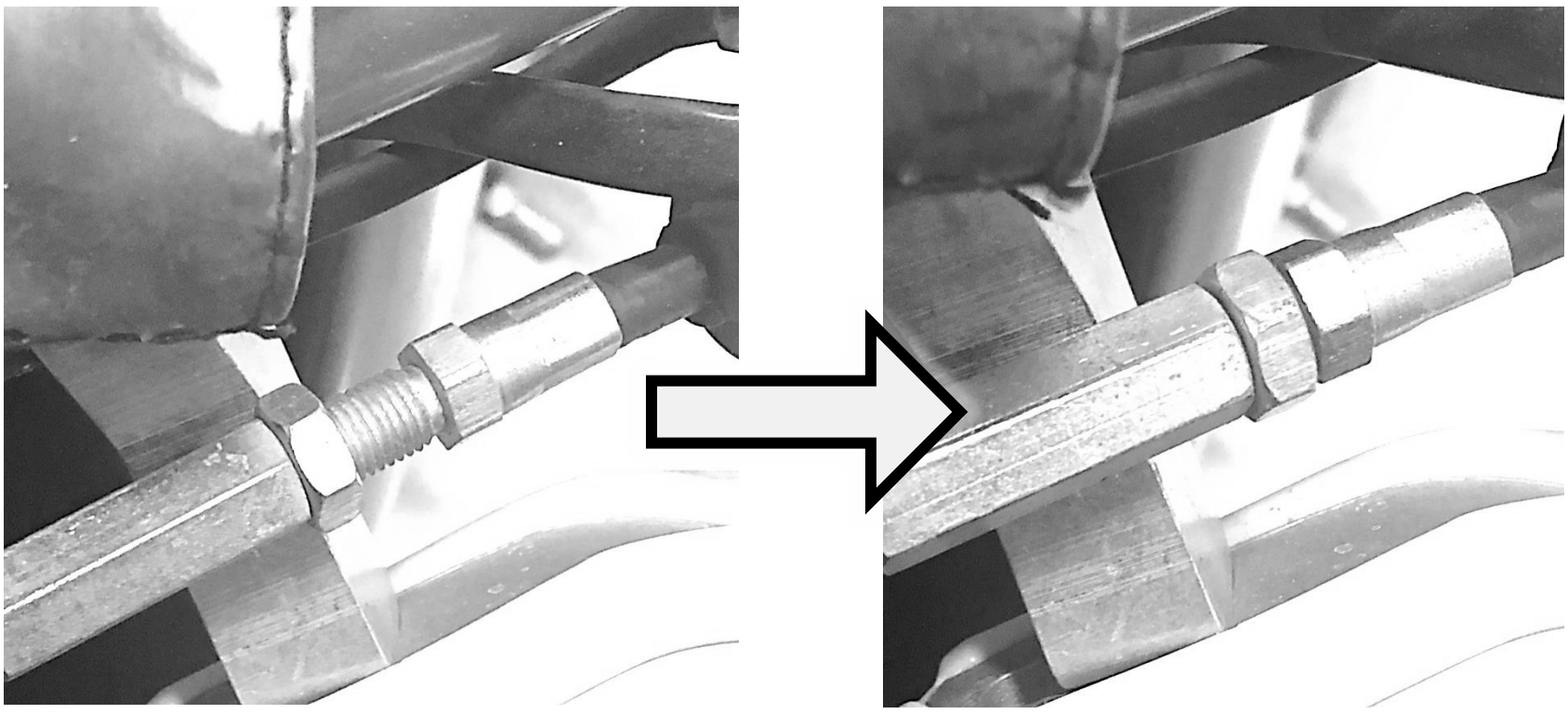
- **Note:** Rekluse recommends installing the stock judder (boss) spring and seat to reduce clutch noise. However, this option is not available for all models. If your bike did not come with a stock judder spring, it can be purchased separately from a Honda dealer. Rekluse recommends installing the judder spring, seat, and friction on Honda 450s, 450X, and 2-stroke CR250R. This part will also fit the Kawasaki 450s.
- **The Honda part numbers for both Honda and Kawasaki:**
- Judder Spring Seat: #22125-MBN-670
- Judder Spring: # 22402-MBN-670
- CL Friction Disk: #22201-MBN-670

TOOLS NEEDED

- Metric socket set (at least 8mm & 10mm)
- 1¼” or 32mm socket
- Various end wrenches
- 4mm & 5mm Allen keys
- Torque wrench (in-lb & ft-lb, or N-m)
- Channel-lock pliers

PRE-INSTALLATION CABLE ADJUSTMENT

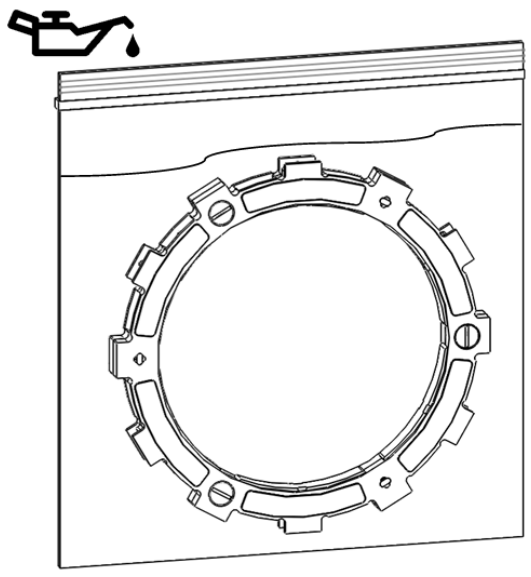
Adjust the in-line cable adjuster such that it is completely collapsed allowing for plenty of clutch lever slack.



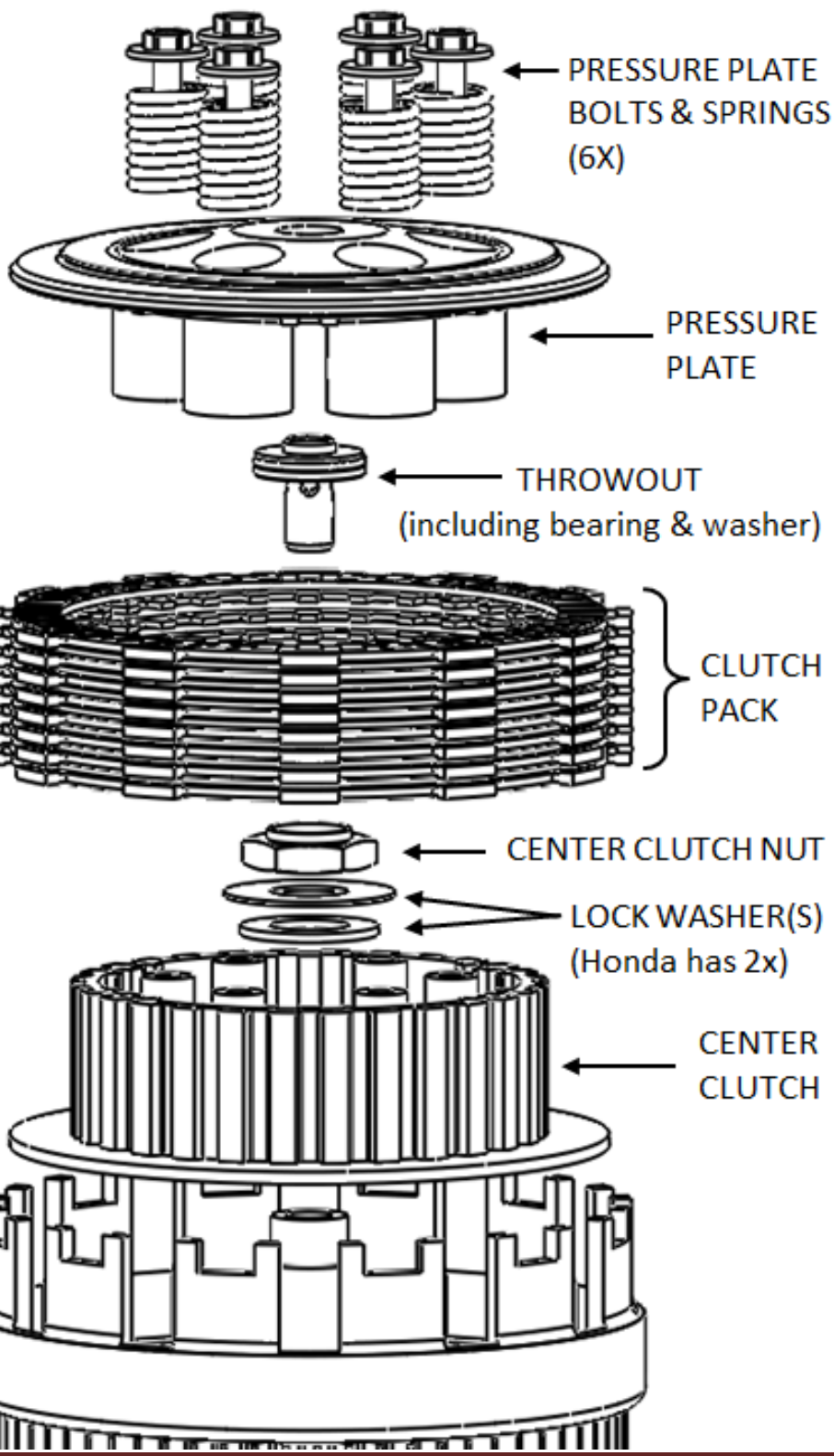
PREP & DISASSEMBLY

1. Lay the bike on its left side. Catch any fuel that might drain in a suitable container. Remove the clutch cover.

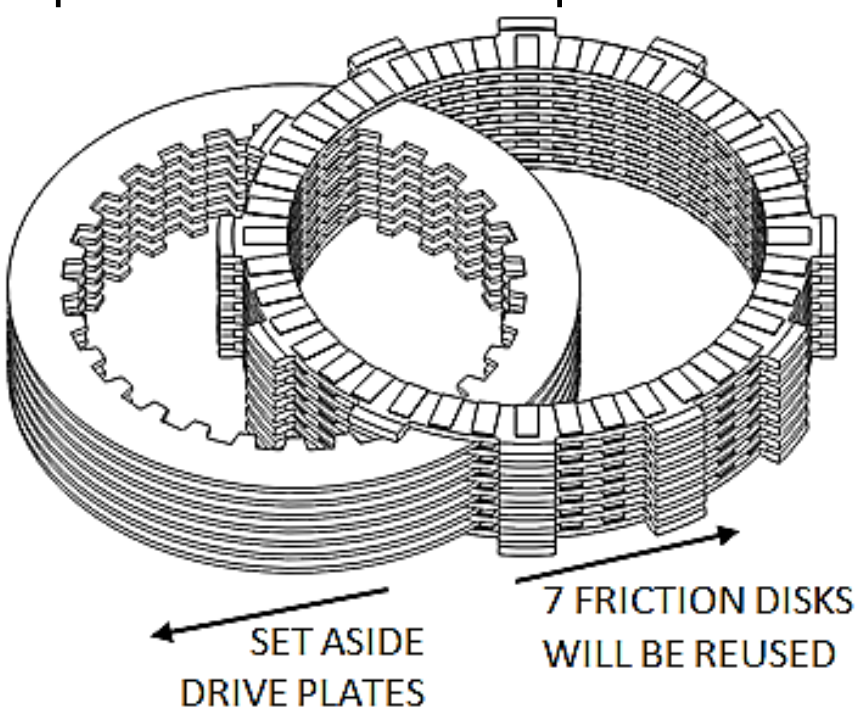
2. Soak the EXP disk in engine oil for 5 min.



3. Remove the OE clutch parts named in the following diagram. Leave the basket installed.

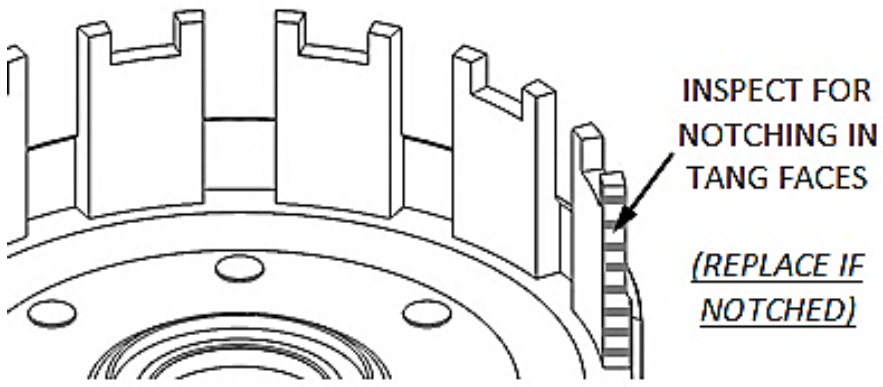


4. Separate the OE clutch pack.



Inspect the friction disks for signs of heat or wear. Replace if they are burnt or worn. For most models, new friction disks can be purchased from Rekluse.

5. 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).



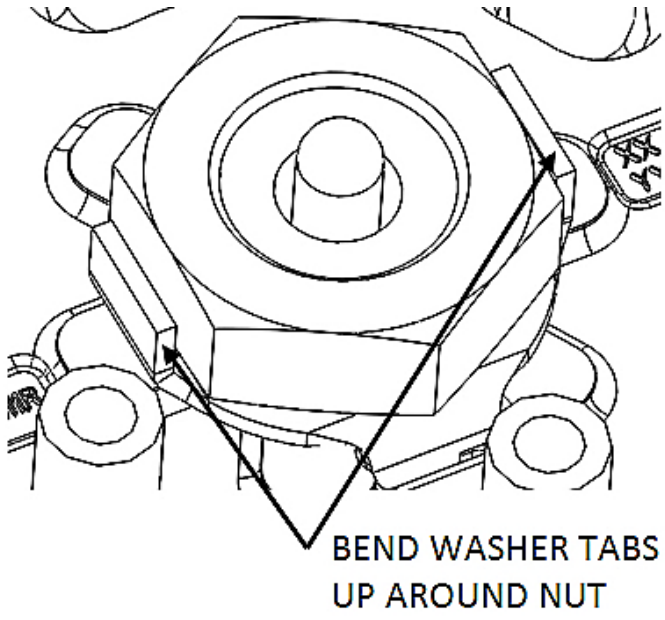
HUB & CLUTCH PACK INSTALLATION

6. Install the new center clutch hub, washer, and nut on top of the OE thrust washer. You **must** use the nut provided, as it is specifically sized for contact with the pressure plate adjuster.

NOTE: Only use the supplied lock tab washer under the Rekluse center nut when installing the Hub.

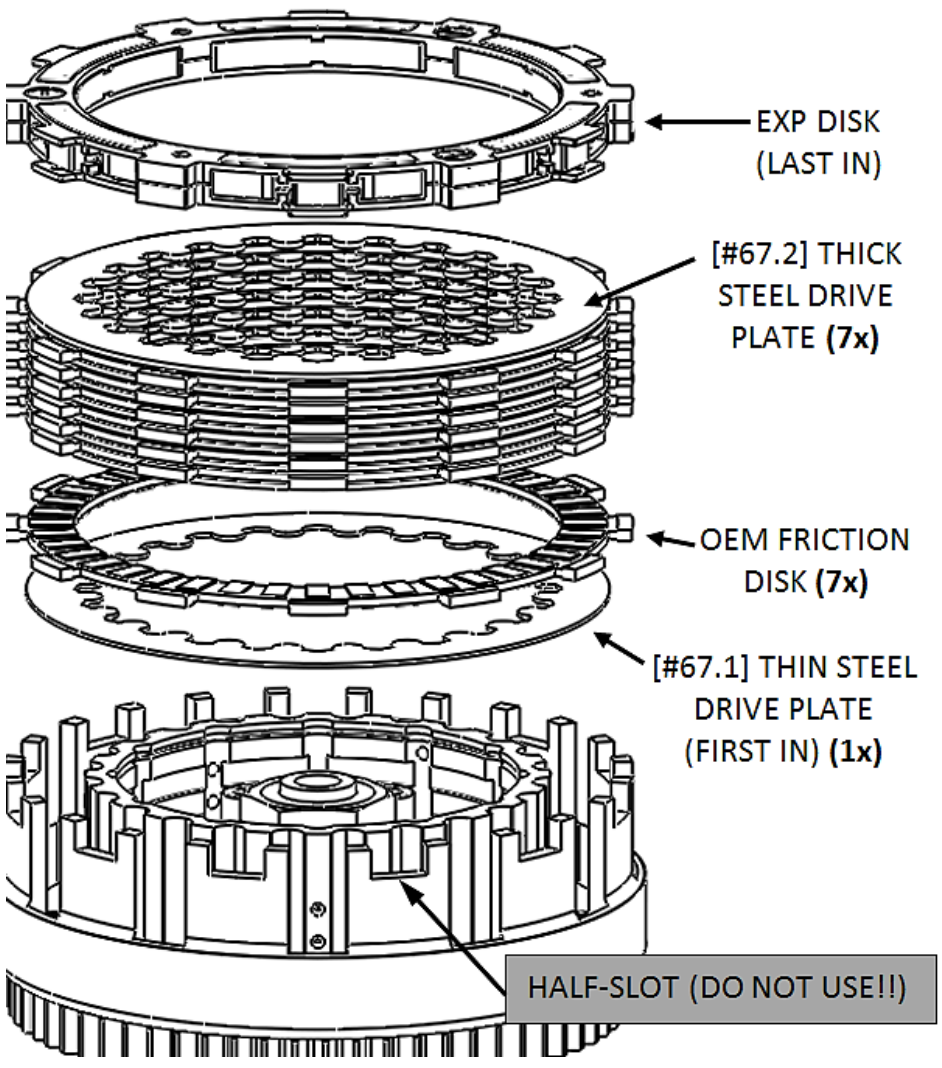
NOTE: If the OE thrust washer is not in place, it is probably stuck to the backside of your OE center clutch hub.

7. Torque the nut to 50 ft-lb (70 N-m), then bend both tabs up. **DO NOT OVER TORQUE,** or the clutch will drag and damage may occur.

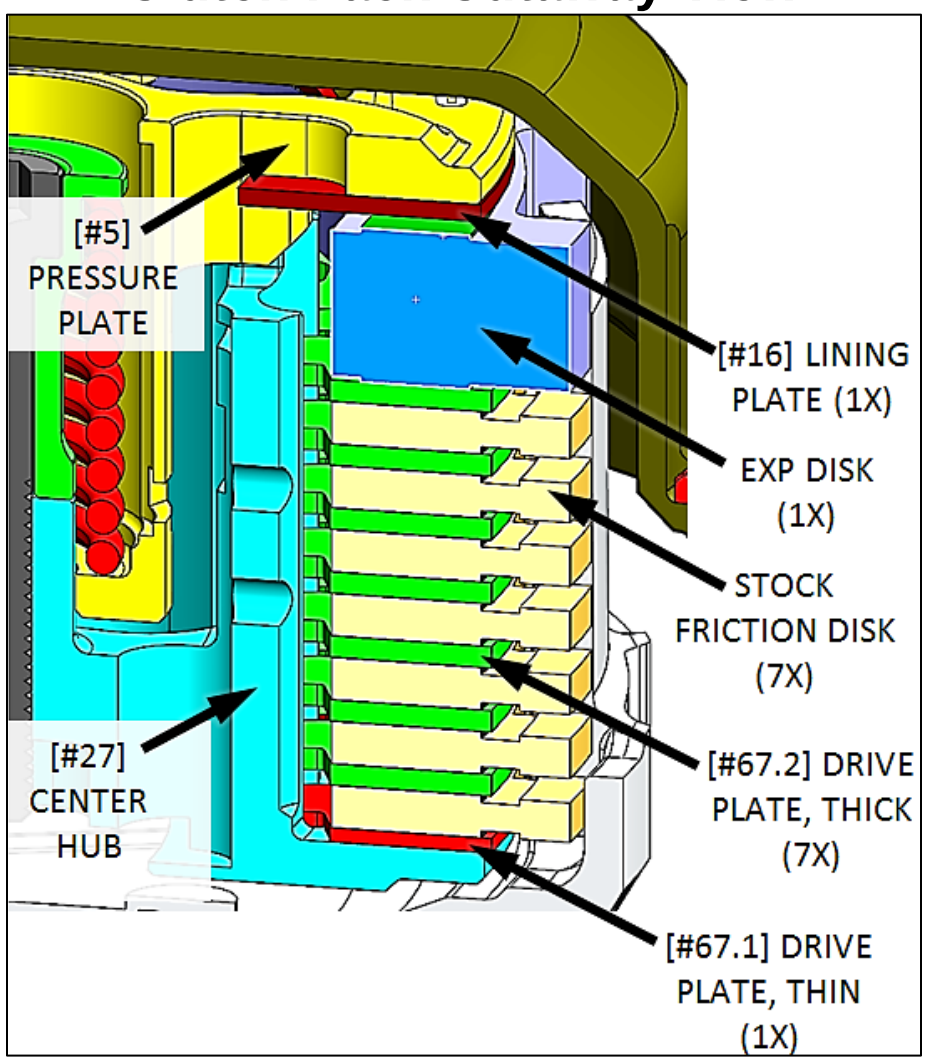


8. Install the new clutch pack, starting with the thin drive plate [#67.1] and then alternating OE friction disks with the thick drive plates [#67.2].

NOTE: Some OE Baskets have “half-slots” at the top of the basket tangs. Rekluse products require that ***all friction disks, including the EXP disk, are seated into the MAIN (deeper) basket slots***.



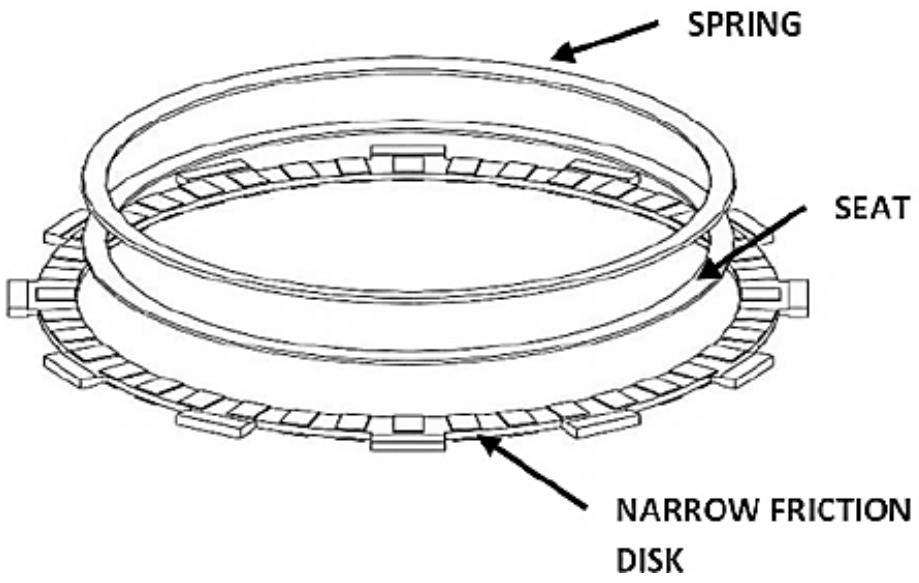
Clutch Pack Cutaway View



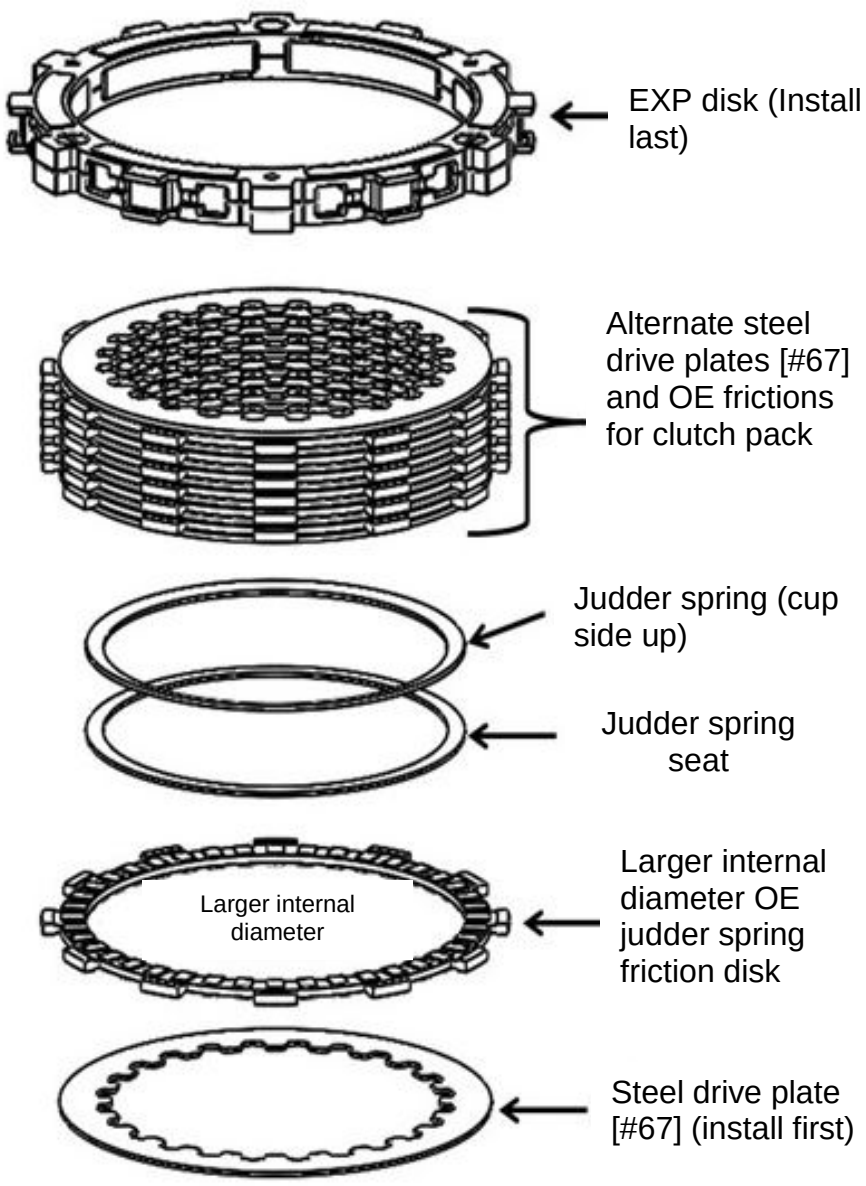
<u>CRF450 owners only:</u>

Honda 450s - ’09 or Newer:
Install the first .040” steel drive plate, then reinstall your narrow OE friction disk as the **bottom most friction,** with the OE judder spring seat and judder (boss) spring oriented **cup side up**.

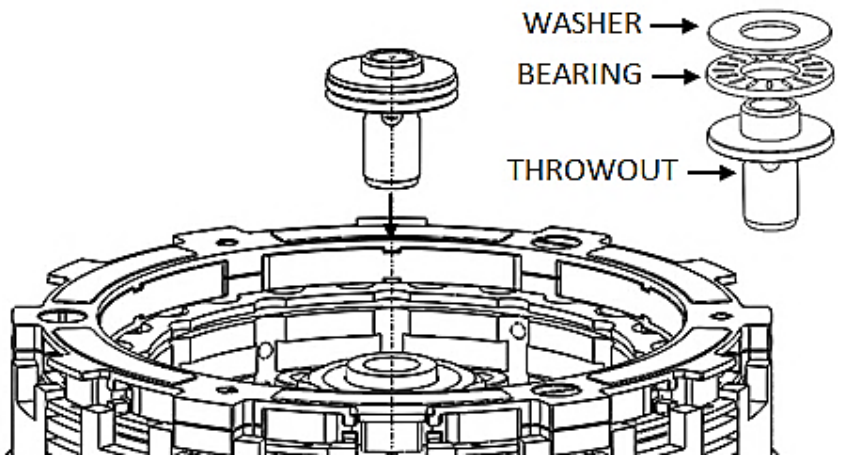
Older Honda 450s, 450X, 2-stroke CR250R, and Kawasaki 450s:
Rekluse recommends installing the judder spring, seat, and friction to the clutch pack to reduce/prevent clutch pack squeal and chatter during engagement. These can be purchased from your local dealer.



If judder spring and seat are installed, assemble the clutch in the following order.



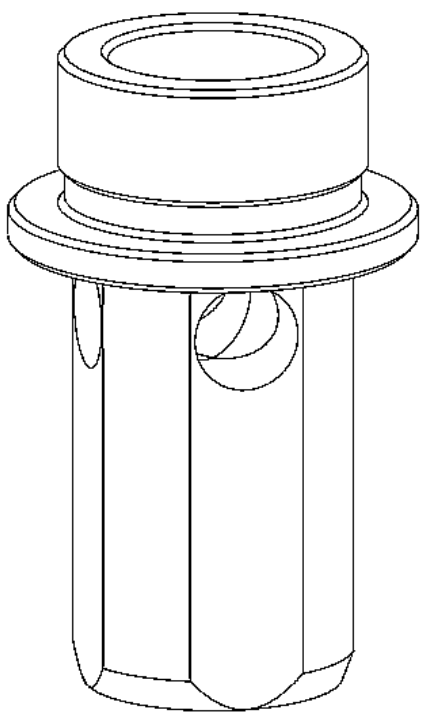
9. Reinstall the OE throw-out assembly.



NOTE: If you are missing the top washer, it is probably stuck to the backside of your OE pressure plate.

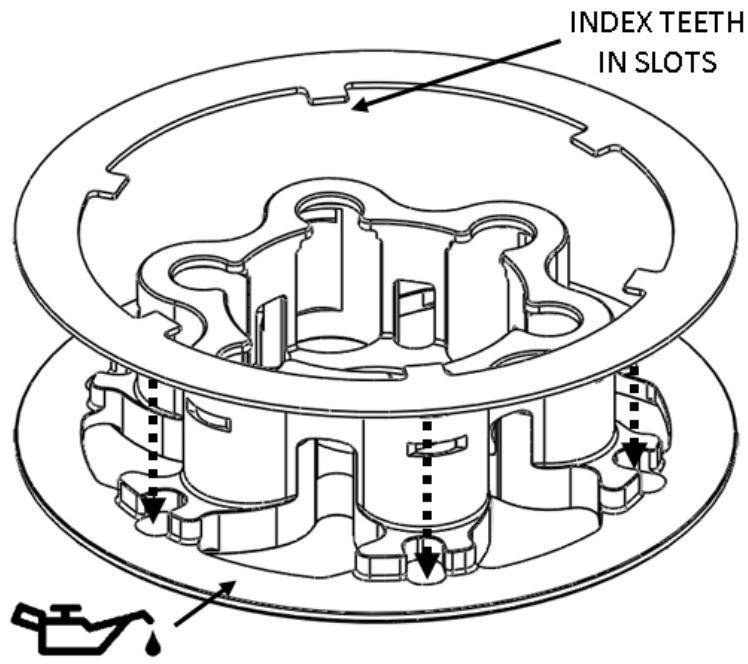
***2017 or newer Honda 450 Owners*:**

Your throw-out is just one piece, with no washer or bearing. The bearing is contained within the pressure plate adjuster/plug, where it has been preassembled.

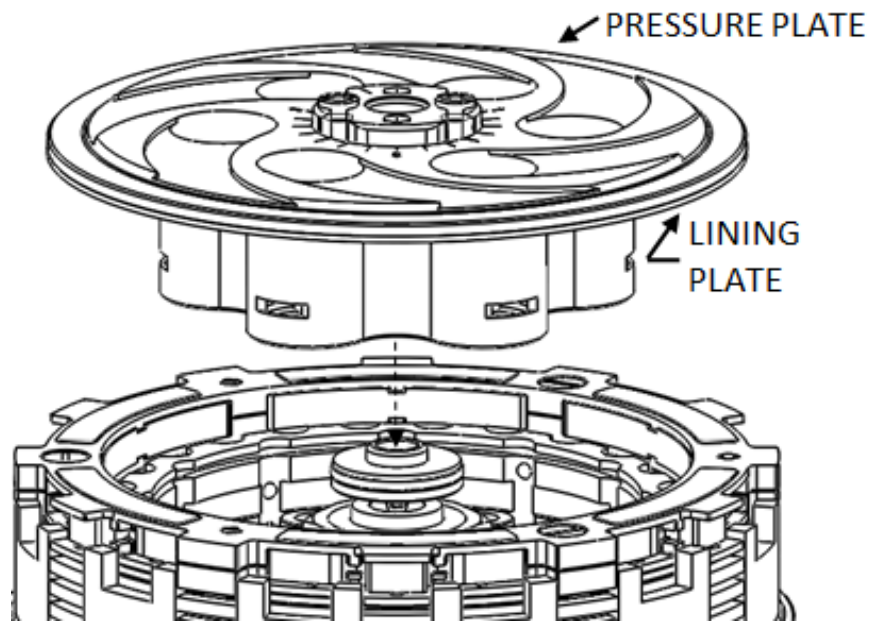


PRESSURE PLATE INSTALLATION

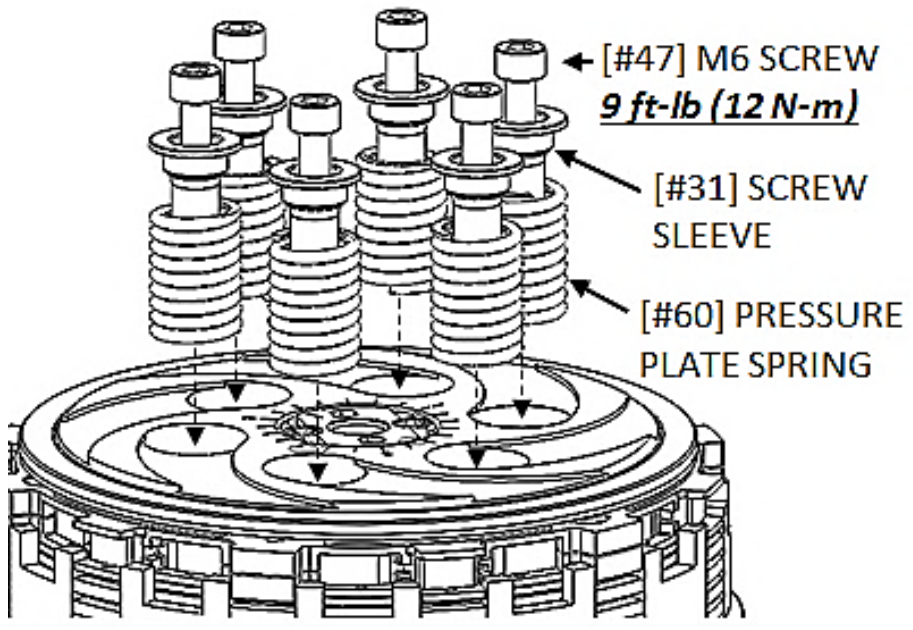
10. Place the Lining Plate [#16] onto the Rekluse Pressure Plate [#5]. Adding a film of oil with a finger between the two parts will help them stick together for ease of installation in the following step.



11. Install this pressure plate subassembly.

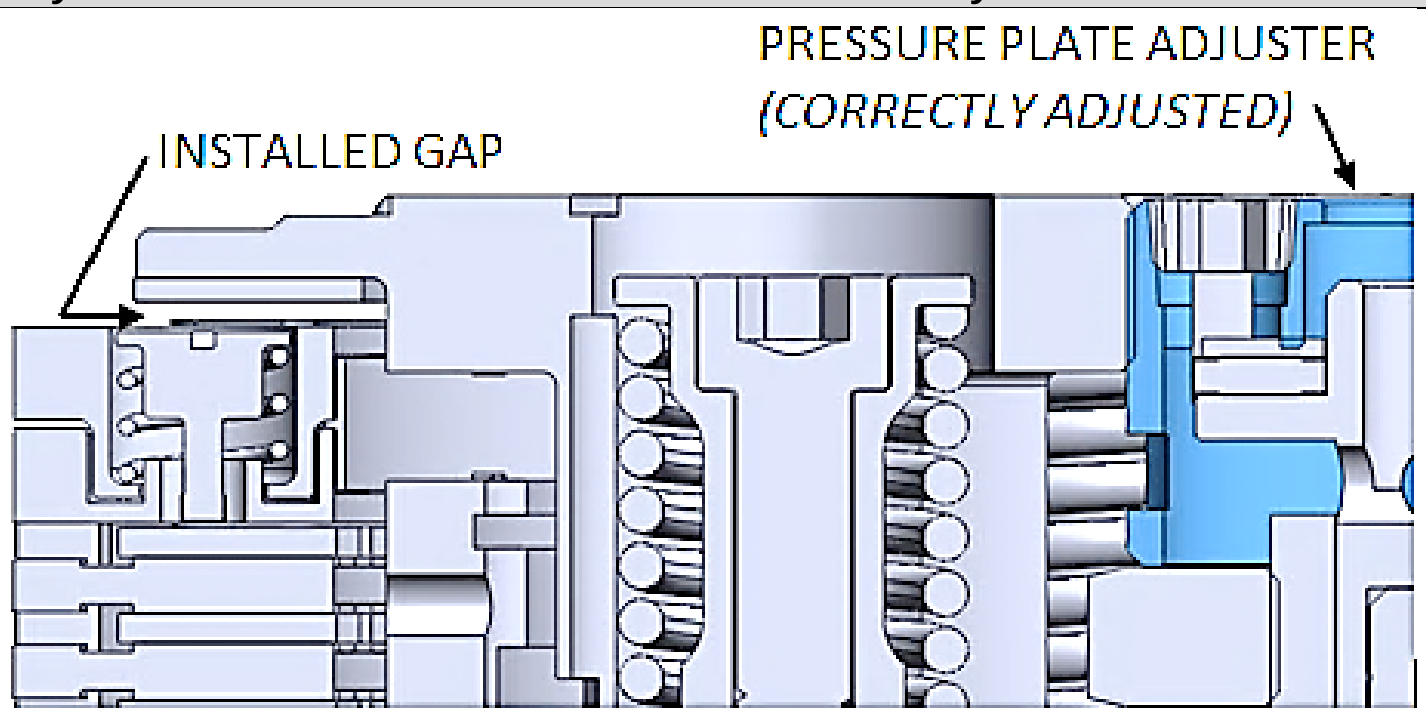


12. Install the pressure plate springs.



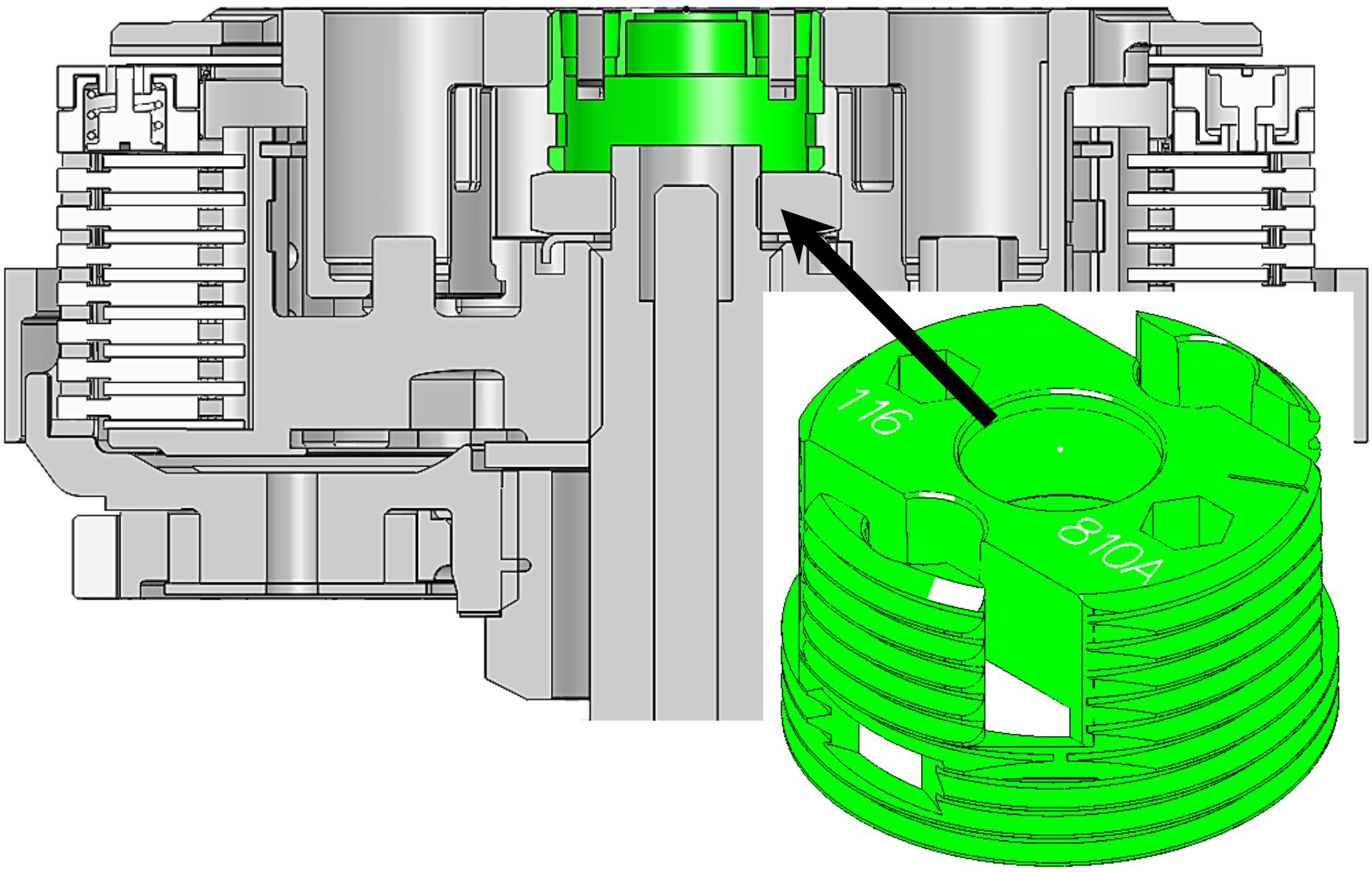
SETTING THE INSTALLED GAP

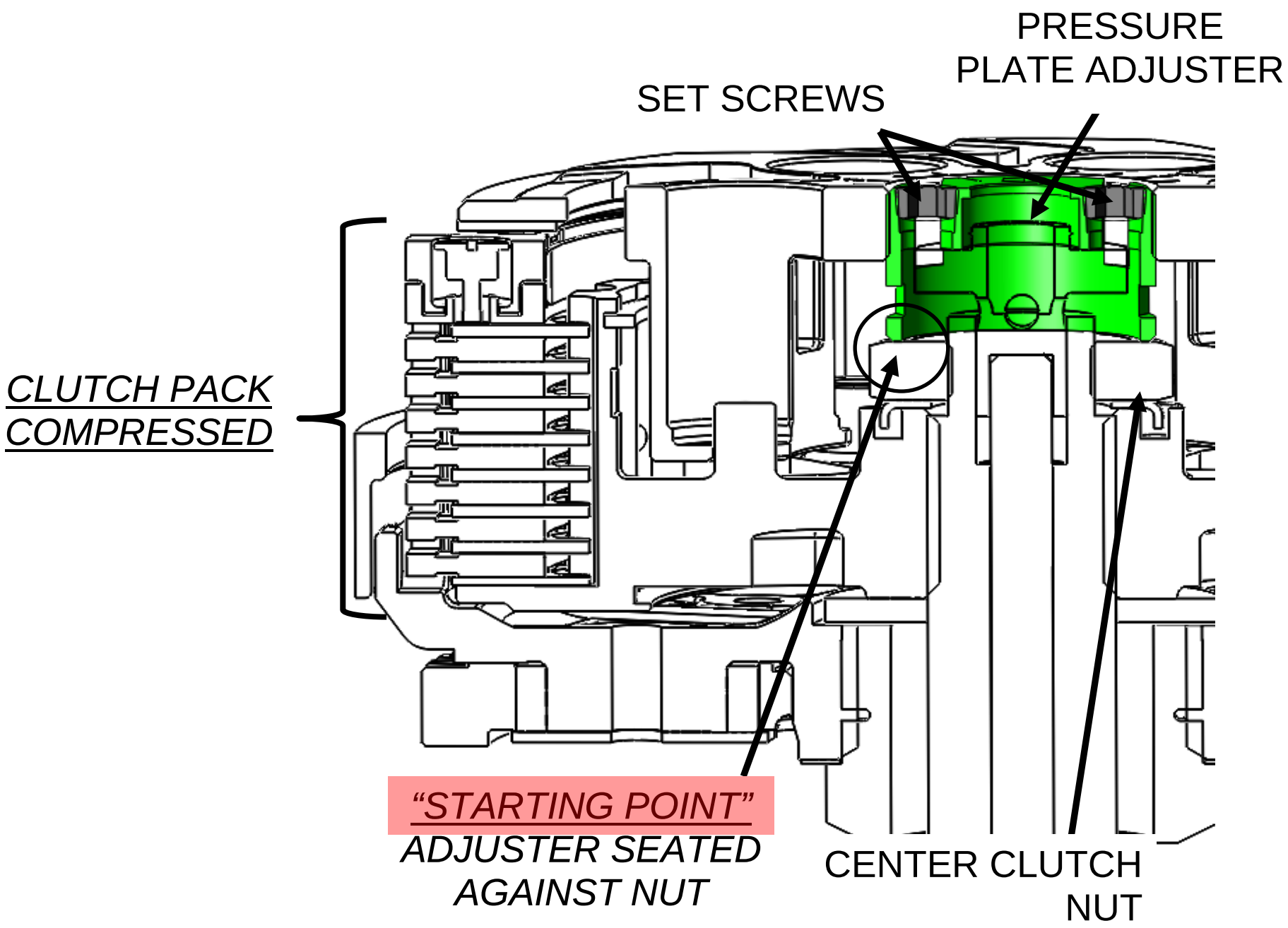
DEFINITION: “Installed Gap” is the separation in the clutch pack created by the adjustment at the Pressure Plate Adjuster [#87]. This gap is what allows the clutch to spin freely until the desired RPM is reached for engagement; it must be set accurately for the auto-clutch to function correctly.



CROSS-SECTION VIEW

PRESSURE PLATE ADJUSTER OVERVIEW

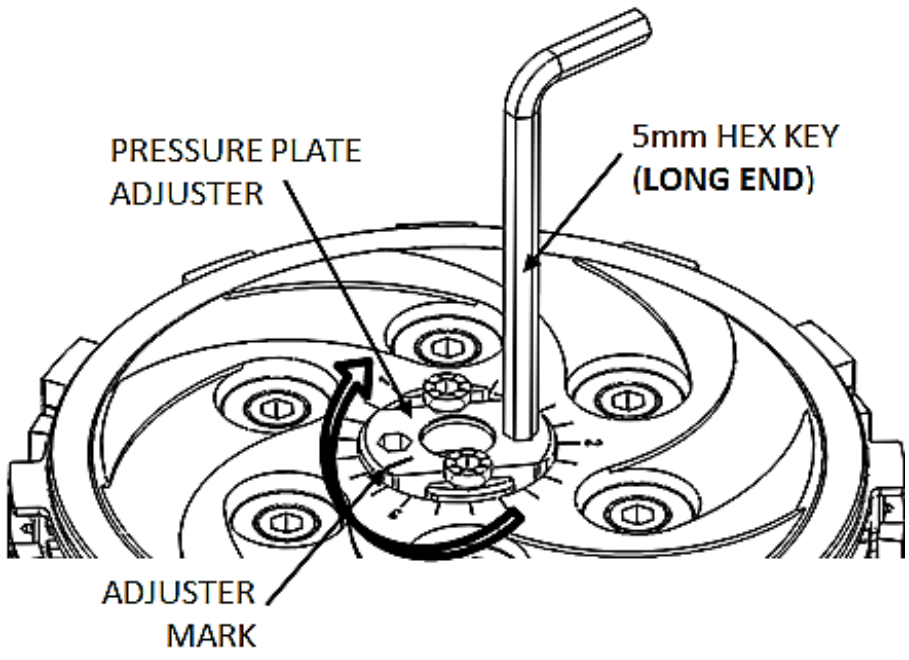




SETTING THE INSTALLED GAP:

13. Insert the **long end** of a 5-mm hex key into one of the two hex holes in the Pressure Plate Adjuster. By hand, **gently** thread the Pressure Plate Adjuster inward (clockwise) until it comes to a stop against the center clutch nut.

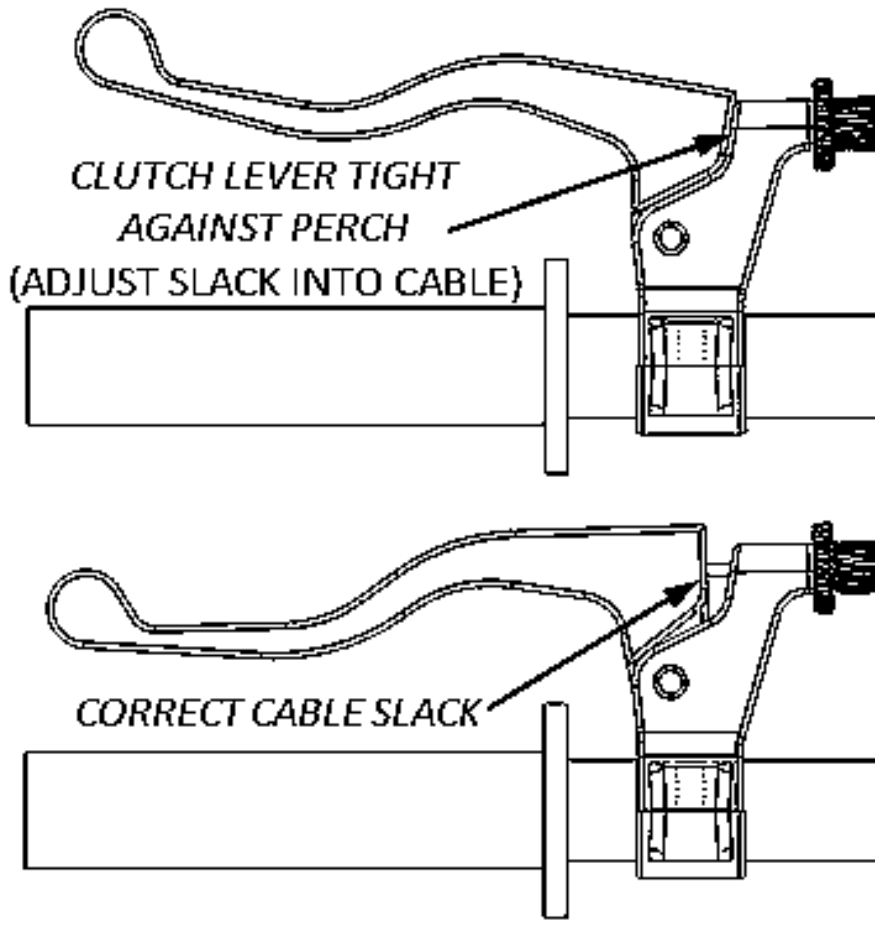
NOTE: The Pressure Plate Adjuster [#8] comes preassembled with two Set Screws [#47.1] installed in it. These set screws have a tapered thread, so if they are ever removed, ensure that the knurled end faces out when reinstalled.



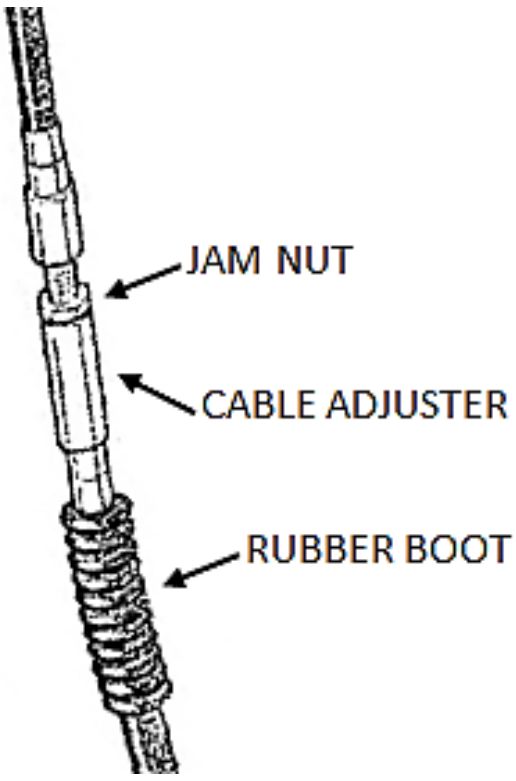
14. At this point, make a note of where the tick mark on the Adjuster aligns with the tick marks on the Pressure Plate. This is what's called the **STARTING POINT.**

NOTE: It may take a few tries to find the correct starting point. Keep trying until you feel the distinguishable change in turning effort that occurs when the adjuster contacts the center nut.

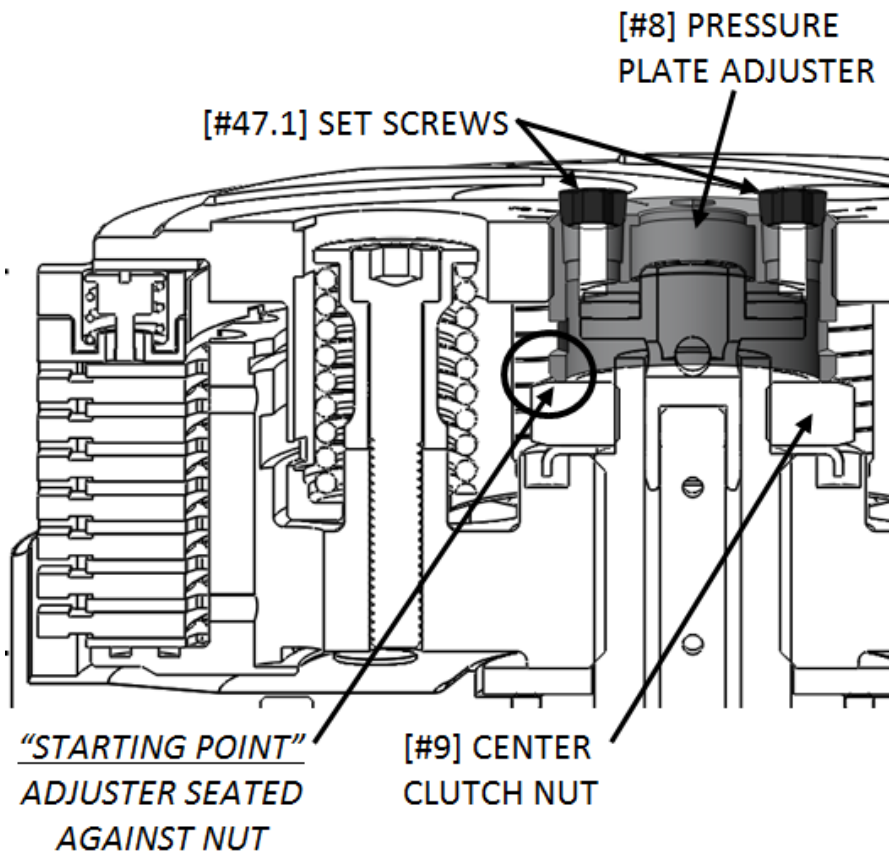
15. Check to **make sure there is freeplay at the clutch lever / cable**. If the lever is tight against the perch, then adjust a few turns of slack into the cable and re-check your starting point.



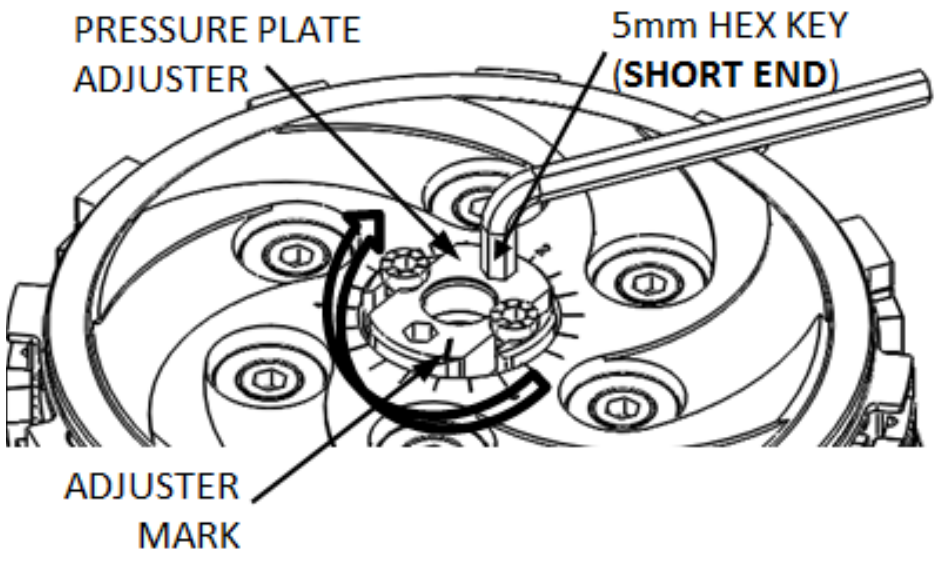
If there is not enough adjustment at the lever perch, you may need to make further adjustment using the in-line cable adjuster.



NOTE: The Pressure Plate Adjuster should bottom out and lift against the center clutch nut, not the throwout. Slack in the clutch cable ensures that you'll find the correct starting point, not a false one.

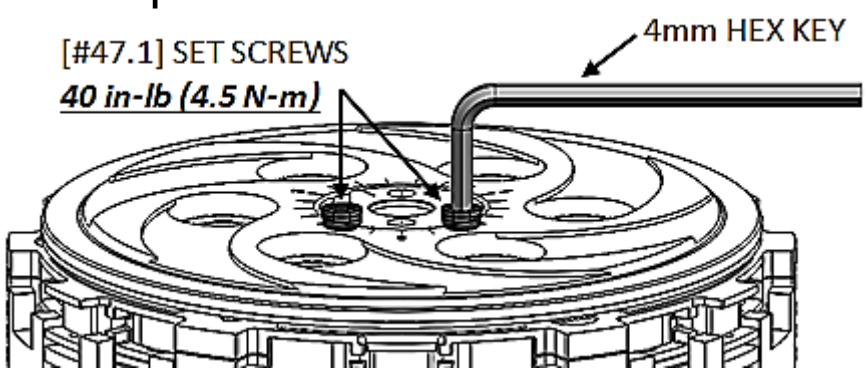


16. Now, insert the **short end** of the 5-mm hex key into the pressure plate adjuster, and turn it clockwise **one full turn plus 2 tick marks past the starting point** (aka "1+2").

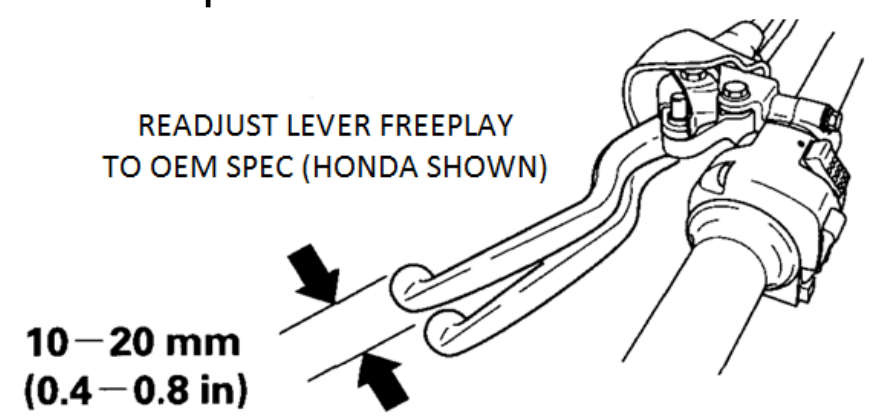


NOTE: As you turn the adjuster, the clutch may slip and start to spin before you reach 1-full turn. Placing the bike in gear and holding the rear brake or tire will provide leverage to prevent clutch spin while adjusting.

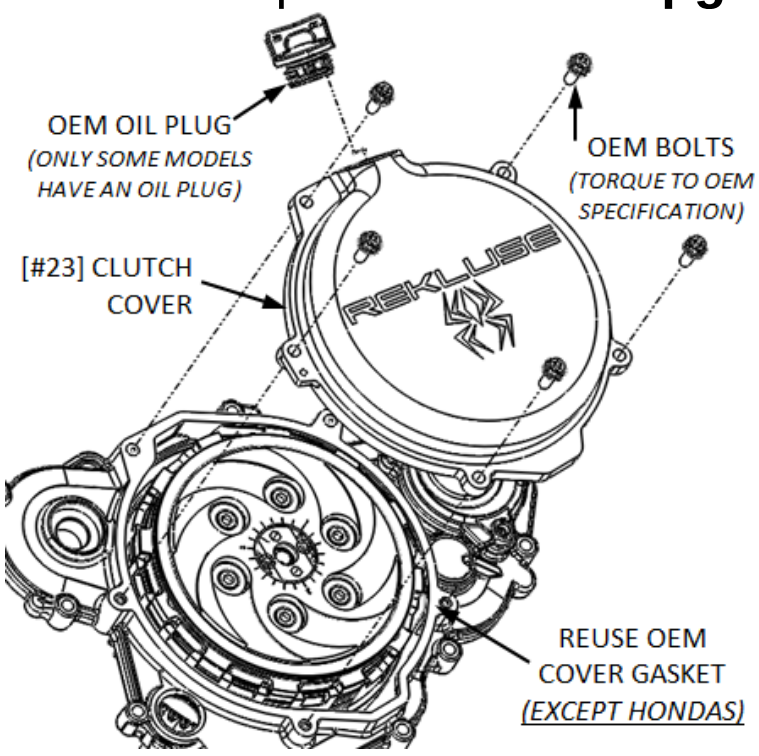
17. Once the installed gap is set, use a 4-mm hex key to tighten the two locking Set Screws in the pressure plate adjuster to lock it into place. Tighten the screws evenly in 3-4 steps to 40in-lb. The tops of the set screws should be flush or slightly below flush with the top of the adjuster when torqued correctly. It is **not** necessary to put thread locking compound onto the set screws.



18. Now that your gap adjustment is set, readjust the clutch lever freeplay to OE specification. This is usually ~1/2" of movement at the end of the lever, and it ensures that cable tension is not interfering with clutch performance.



19. Install the Rekluse clutch cover. See model-specific notes on **pg 14**.



CLUTCH COVER INSTALLATION

Your new CoreEXP clutch is wider than the stock clutch, so the Rekluse Clutch Cover has been designed for clearance with all the moving parts. You ***must*** use the Rekluse Clutch Cover provided or interference and engine damage will occur.

MODEL-SPECIFIC CLUTCH COVER NOTES:

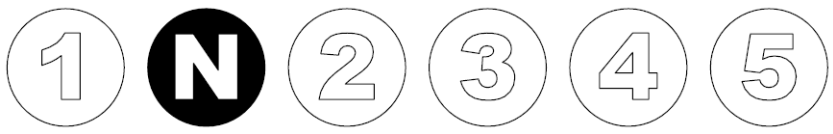
- **Honda**
  Optional: reuse OE gasket or use included O-ring cord. Make sure the ends of the cord are cut to length to meet at the top of the clutch cover. It can be helpful to super-glue the ends of the cord to prevent leaks. Install the stock timing plug into the Rekluse clutch cover if applicable.

- **Kawasaki KX250F, KX450F, KLX450F (all years), & Yamaha YZ450F (‘10+), YZ250 2-stroke (‘99-‘14)**
  To provide clearance between the cover and brake pedal, install the included thin brake pedal spacer (part number 184-170) between the frame and pedal in place of the OE spacer. Use Loctite to secure the brake pedal bolt upon reassembly.

- **Yamaha YZ250 2 stroke 2015**
  To provide clearance between the cover and brake pedal, install the included thick brake pedal spacer (part number 180-089) between the frame and pedal in place of the OE spacer. Use Loctite to secure the brake pedal bolt upon reassembly.

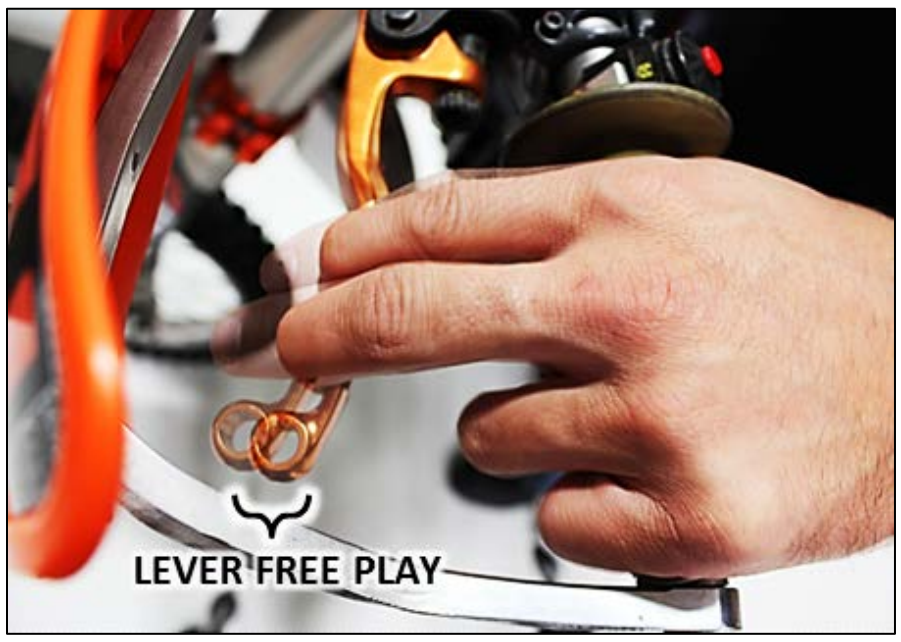
CHECKING LEVER FREEPLAY GAIN

WARNING
Always make sure that the bike is in NEUTRAL before checking Freeplay Gain. Failure to do so may result in the bike lurching forward, and loss of control and/or injury may result.

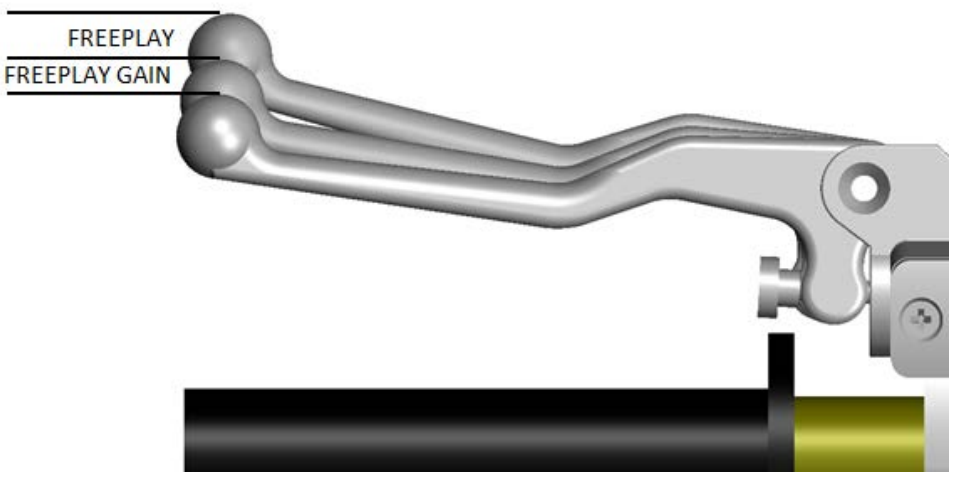


NOTE: Before performing this step, please visit our website at **rekluse.com/support** to view the TECH VIDEO entitled **“How to Check Freeplay Gain”.**

“Lever Freeplay” is essentially the “slack” in the clutch lever before it starts actuating the clutch. Applying a light finger pressure will take up this slack.



“Freeplay Gain” is the increase of lever freeplay as the auto-clutch engages. This happens when the RPM increase from idle through around 5,000 RPM with either configuration. Freeplay Gain is caused by the expansion of the EXP disk which lifts the pressure plate away from the throwout assembly.



Optimal Freeplay Gain yields ~**1/8" (3mm)** of clutch lever movement, measured at the ball end of the lever. This measurement at the lever correlates to achieving the ideal installed gap, so you will use the Freeplay Gain measurement to accurately set the installed gap.

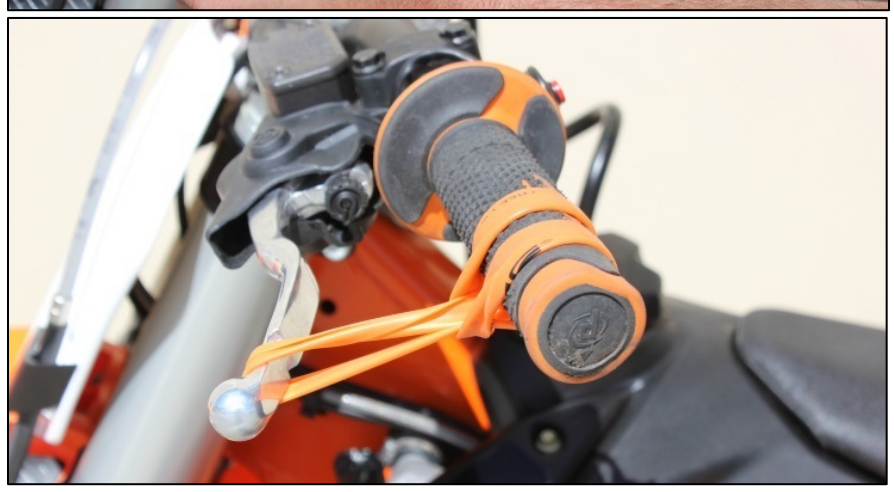
The following steps explain two ways to check Freeplay Gain. One will use the rubber band that has been included in the clutch kit and the other explains using your hand, which you will perform *before every ride*.

Place the bike in neutral, start the engine, and let it warm up for 2-3 minutes.

RUBBER BAND METHOD:

It is recommended that you use this method first to find your Freeplay Gain so you can see what it is. Then, check it by hand as well so you can effectively check freeplay gain every time you ride.

Wrap the included rubber band around the outer end of the handlebar grip and attach it to the ball end of the clutch lever.



With the bike at idle in neutral, quickly blip (rev) the engine to at least 5,000 RPM and let it return to idle. **The clutch lever should move in about 1/8" (3mm) toward the handlebar as you rev the engine.**

NOTE: If you are not getting the correct lever movement, see the "FREEPLAY GAIN OPTIMIZATION" section on the following pages.

HAND METHOD:

Freeplay Gain should also be checked using your hand, as you will check it by hand before every ride. With the bike at idle, apply enough pressure to the lever to take up the initial freeplay (slack) shown in the photos on the previous page. While continuing to apply light pressure, rev the engine to at least 5,000 RPM. **The clutch lever should move in ~1/8" (3mm) under your finger pressure as you rev the engine and the auto-clutch engages.**

BREAK – IN

Follow these procedures for a new installation and any time new friction disks or EXP bases or wedges are installed.

1. Rev cycles: Warm up the bike for 2-3 minutes. With the bike in neutral and your hand **off** of the clutch lever, rev the engine 10 times, being sure to let it **return to idle** between each rev cycle.

2. With the engine running, pull in the clutch lever and click the bike into gear. Slowly release the clutch lever. The bike should stay in place, perhaps with a slight amount of forward creep.

3. Now that the bike is idling in first gear, slowly apply throttle to begin moving. To break in the clutch components, perform the following roll-on starts in 1st and 2nd gear without using the clutch lever: In 1st gear, accelerate moderately to approximately 5,000 RPMs and come to a stop—repeat this 5 times. Next, starting in 2nd gear, accelerate moderately to approximately 5,000 RPMs then come to a stop—repeat this 5 times.

4. Now that the EXP is broken-in and the clutch is warm, recheck freeplay gain and make any final adjustments. Your clutch pack will expand with heat, so final adjustments should be made when the bike is warm. Now you are ready to ride!

WARNING: DO NOT RIDE WITHOUT SUFFICIENT FREEPLAY GAIN!

Checking freeplay gain is easy and takes less than a minute to perform. For optimum performance and longevity, check freeplay gain when the bike is warm at the start of every ride.

FREEPLAY GAIN OPTIMIZATION

Each correction at the pressure plate adjuster should be done in small increments - one tick mark at a time. After each adjustment, repeat the rev-cycle until optimal freeplay gain is achieved.

NOTE: Be sure to re-torque the set screws once optimal freeplay gain is confirmed.

Symptom:

- Clutch lever moves in too far (too much freeplay gain)
- Clutch has excessive drag
- It is difficult to fully override the clutch with the lever

Answer: Installed Gap is too small

Solution: Adjust the pressure plate adjuster inward (clockwise) to increase the Installed Gap.

Symptom:

- Clutch lever does not move enough or does not move at all (too little freeplay gain)
- Clutch is slipping

Answer: Installed Gap is too large

Solution: Turn the pressure plate adjuster outwardly (counter-clockwise) to reduce the Installed Gap. It may be helpful to re-find the starting point.

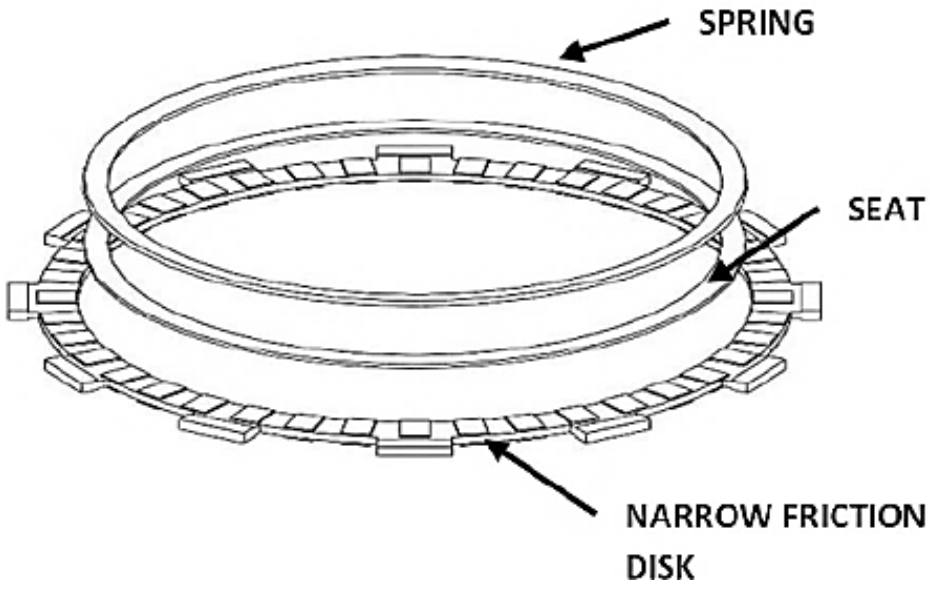
CLUTCH NOISE

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/engine gets hot. For bikes that tend to have clutch squeal or chatter here are some recommendations to help reduce or eliminate it:

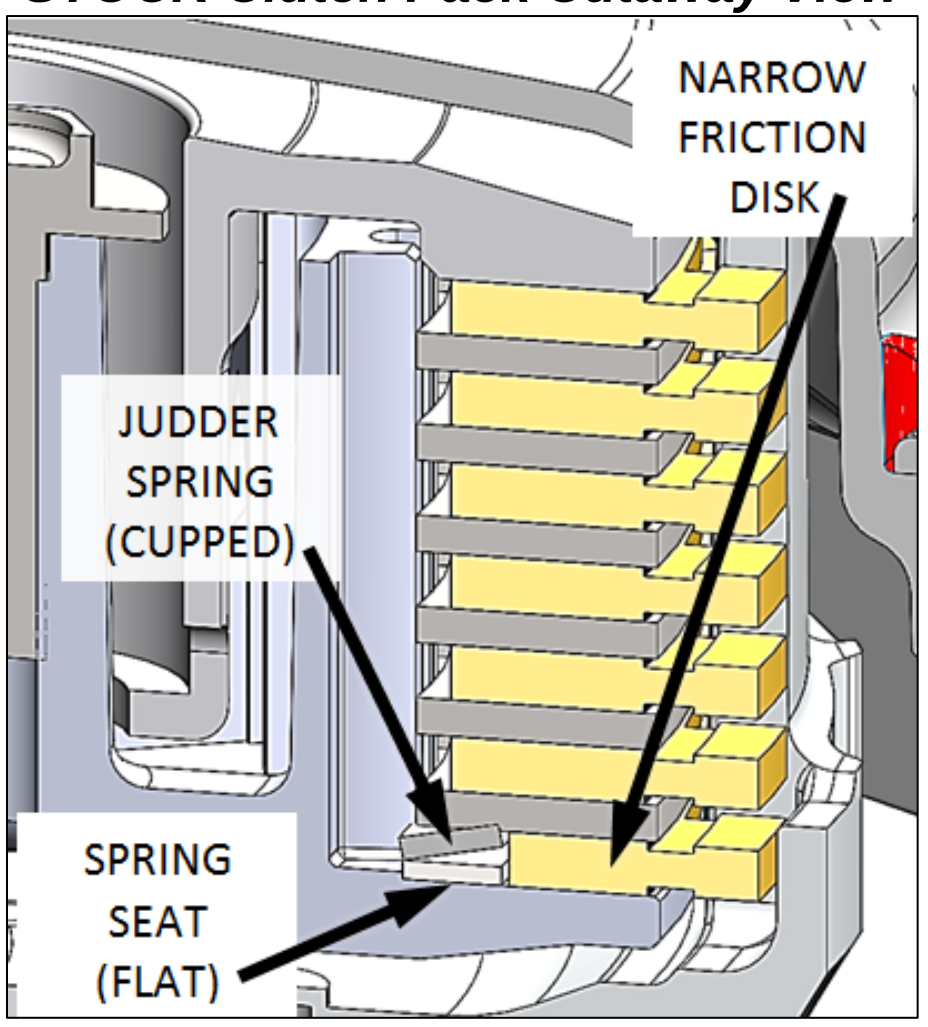
- **Oil**: Rekluse recommends that you have fresh, clean JASO-MA or JASO-MA2 rated oils for best clutch performance. Dirty or old oil can make the clutch more likely to squeal or chatter. Some heavy-duty oil stabilizers or other additives have been known to reduce noise and make shifting smoother. Be sure that any additives you might use are approved for use in wet-clutch motorcycles.

- **Clutch Basket**: Available for some models, a Rekluse Clutch Basket will eliminate clutch squeal and chatter in most cases because it is precision machined from high quality material and includes long-life clutch dampers. A clutch basket that is damaged or has worn-out dampers tends to increase clutch noise.

- **Judder Spring:** Some stock models’ clutches contain a judder (boss) spring and seat plate, both housed within a narrow friction disk at the bottom of the clutch pack (shown opposite). Together, these parts put a small amount of spring preload on the clutch pack, which helps to reduce clutch chatter/squeal during engagement.
If your bike is equipped with these parts, the spring and seat can either be omitted or reused with the Rekluse auto-clutch. If reused, they may help to reduce clutch noise, but might also make the clutch lever feel more vague, widening the modulation and/or introducing more clutch drag.



STOCK Clutch Pack Cutaway View



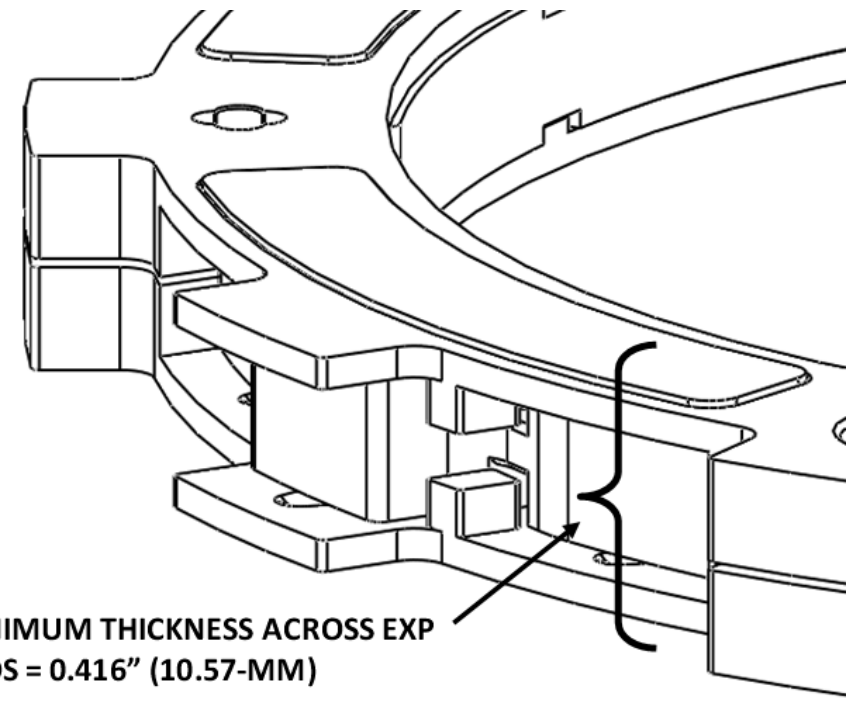
- **Installed Gap:** Adjustments of the Installed Gap or cable tension will **NOT** affect clutch squeal or chatter.

MAINTENANCE

- Maintain adequate freeplay gain, checking before every ride and adjusting if necessary.

- Keep up with regular oil changes as per the bike manufacturer's recommendations. Clutch function and longevity depends on oil quality.

- Inspect all of your clutch parts **every 40 hours** for signs of wear or excessive heat, and replace components as necessary.



- Repeat the break-in procedure anytime the friction disks or EXP bases or wedges are replaced. Always soak friction disks or EXP bases in oil for at least 5 minutes before installing.

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.

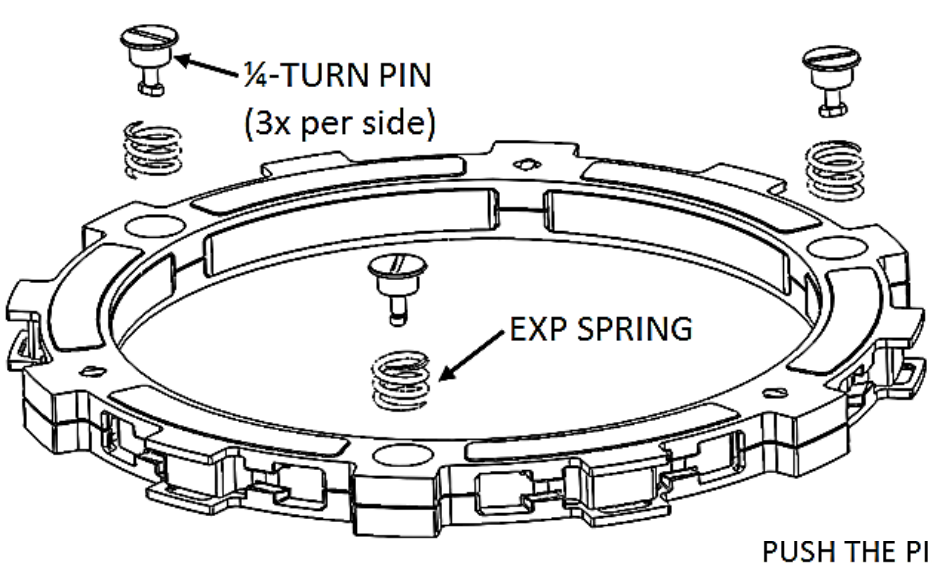
a) Lay the bike on its left side, and remove the clutch cover.
b) Using your 4mm & 5mm hex key tools back the pressure plate adjuster off to the **STARTING POINT** referred to in the installation instructions.
c) Tighten the adjuster's set screws.
d) Ensure proper cable/lever freeplay.
e) Bump start the bike. The clutch will function like a manual clutch at this point, but the clutch will not be fully over-rideable at high RPM.
f) Ride cautiously to safety, no farther than absolutely necessary.
g) Readjust the pressure plate adjuster to set the installed gap using the instructions.

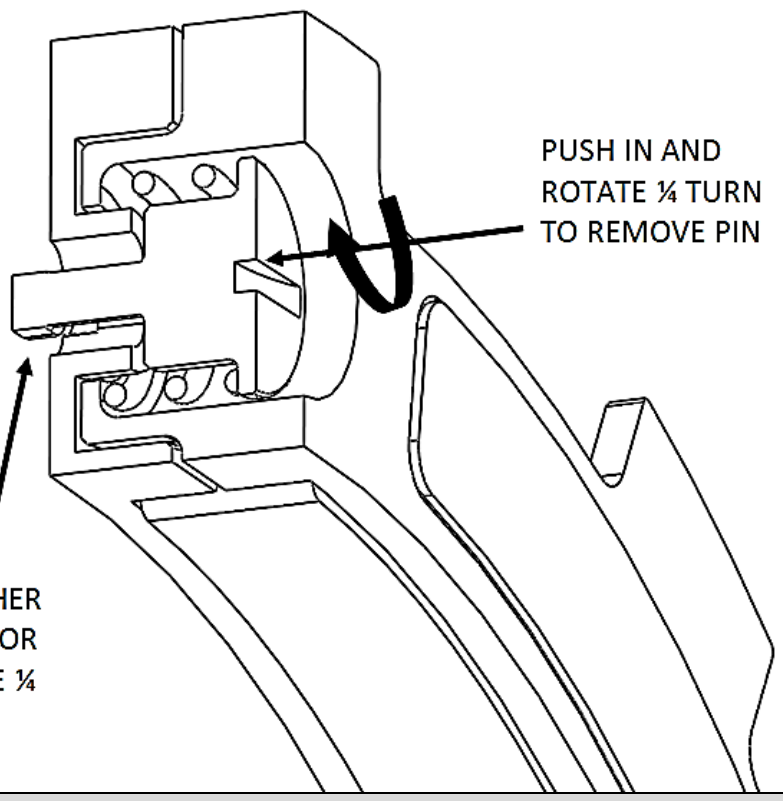
EXP TUNING OPTIONS

Included are spring options to tune the engagement RPM of the EXP disk. The EXP disk comes set with the recommended **“Medium”** setting from Rekluse. See chart on next page for setting options.

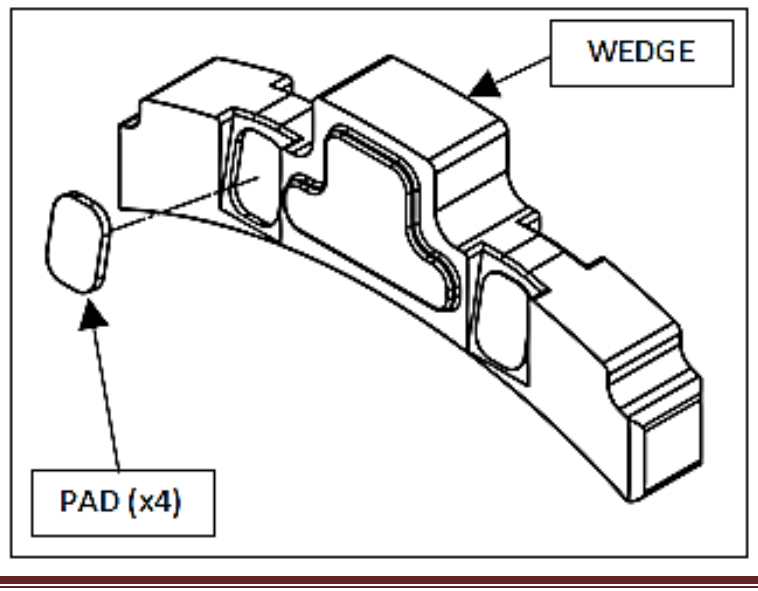
Adjusting the engine idle speed to match your engagement setting is important and greatly affects the overall feel of how the EXP disk engages. To prevent freewheeling and maximize engine braking, set the idle so there is a slight amount of drag while the bike is idling in gear and warmed up. The idle should not be so high as to move the bike forward in gear with the throttle closed. However, with a small opening of the throttle the bike should move forward.

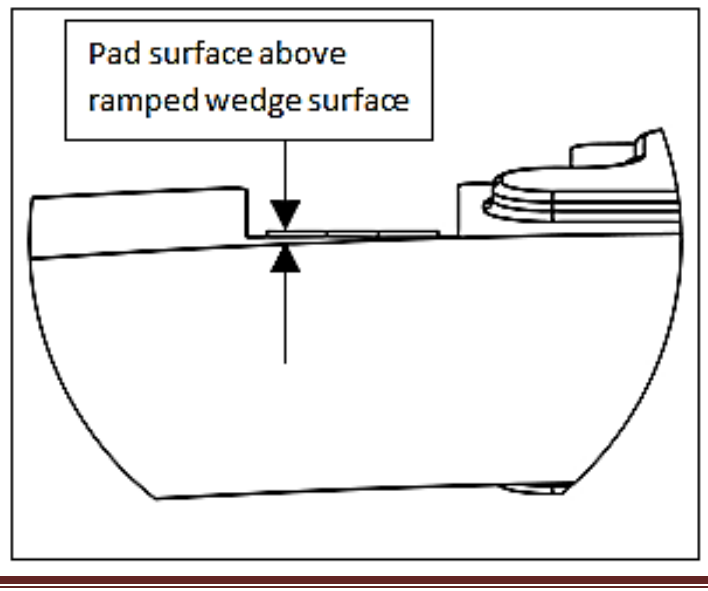
It is **NOT necessary** to disassemble the EXP halves to change springs! To change springs, remove 3 of the ¼-turn pins from one side of the EXP, replace springs, and re-install ¼-turn pins. Next, flip the EXP disk over and repeat on the other side if necessary. To maintain even pressure when using two different color spring sets, install one color set of 3 on one side of the EXP and the remaining color set of 3 on the other side.





CAUTION: If you disassemble the EXP, bearing pads may fall out or be stuck to the ramp surfaces of the EXP bases. Take care to ensure all pads are correctly placed into wedge pockets using gentle pressure to avoid damage to the pad surfaces before reassembling the EXP. Properly seated pads will be secured in place once the EXP is reassembled. Operating the clutch without the pads in place will cause part damage or failure.





EXP ENGAGEMENT SETTINGS BY PRODUCT

Make	Bike Model	Product	Low Springs	Medium Springs	High Springs
GasGas	250/300	RMS-7700	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF450R / CRF450RX	RMS-7709	3 Blue 3 Gold	6 Gold	3 Gold 3 Green
Honda	CRF450R	RMS-7710	6 Red	3 Red 3 Blue	6 Blue
Honda	CR250R	RMS-7711	6 Red	3 Red 3 Blue	6 Blue
Honda	CR250R	RMS-7720	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF250R	RMS-7712	3 Silver 3 Red	6 Red	3 Red 3 Blue
Honda	CRF250X	RMS-7712	6 Silver	3 Silver 3 Red	6 Red
Honda	CRF450R	RMS-7713	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF450R	RMS-7714	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF250R	RMS-7716	3 Silver 3 Red	6 Red	3 Red 3 Blue
Honda	CRF450X	RMS-7719	6 Red	3 Red 3 Blue	6 Blue
Beta	250/300	RMS-7721	6 Red	3 Red 3 Blue	6 Blue
Beta	350/400/450/498/520	RMS-7723	6 Red	3 Red 3 Blue	6 Blue
Sherco	250/300	RMS-7724	6 Silver	3 Silver 3 Red	6 Red
Husaberg	FE 390/450/570	RMS-7727	6 Red	3 Red 3 Blue	6 Blue
KTM	450/505 SXF/XCF	RMS-7730	6 Blue	3 Blue 3 Gold	6 Gold
KTM	400/450/530 EXC/XCR	RMS-7732	3 Red 3 Blue	6 Blue	3 Blue 3 Gold
KTM	250/300 SX/XC/XCW	RMS-7736	6 Red	3 Red 3 Blue	6 Blue
KTM	125/144/150/200	RMS-7737	6 Silver	3 Silver 3 Red	6 Red
KTM	250 SXF/XC-F/XCFW	RMS-7738	3 Silver 3 Red	6 Red	3 Red 3 Blue
Kawasaki	KX250F	RMS-7740	3 Silver 3 Red	6 Red	3 Red 3 Blue
Kawasaki	KX450F / KLX450F	RMS-7745	6 Red	3 Red 3 Blue	6 Blue
Husqvarna	TC/TE 310	RMS-7755	6 Silver	3 Silver 3 Red	6 Red
Husqvarna	TC/TXC/TE 250	RMS-7755	6 Silver	3 Silver 3 Red	6 Red
Husqvarna	TC/TE 450/510	RMS-7756	6 Red	3 Red 3 Blue	6 Blue
Suzuki	RMZ450	RMS-7764	3 Red 3 Blue	6 Blue	3 Blue 3 Gold
Suzuki	RMZ250	RMS-7767	6 Red	3 Red 3 Blue	6 Blue
Yamaha	YZ250	RMS-7770	6 Red	3 Red 3 Blue	6 Blue
Yamaha	YZ250F / WR250F	RMS-7771	3 Silver 3 Red	6 Red	3 Red 3 Blue
Yamaha	YZ450F / WR450F	RMS-7773	6 Blue	3 Blue 3 Gold	6 Gold
Yamaha	YZ450F	RMS-7776	6 Blue	3 Blue 3 Gold	6 Gold
Yamaha	YZ450FX / WR450F	RMS-7776	3 Blue 3 Red	6 Blue	3 Blue 3 Gold
Yamaha	YZ250F / WR250F / YZ250FX	RMS-7778	3 Steel 3 Silver	6 Silver	3 Silver 3 Red

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