



# REKLUSE<sup>®</sup>

## CoreEXP<sup>™</sup>

## REKLUSE MOTOR SPORTS

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The Rekluse Core EXP Kit for Cable-Actuated ATVs

# INSTALLATION & USER'S GUIDE

Doc ID: 191-7703A

Doc Rev: 040919

## OVERVIEW

- This kit replaces the OEM 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 OEM friction disks will be reused, but all OEM steel drive plates will be replaced with Rekluse drive plates.

## OPTIONAL ADJUSTMENT METHOD

This kit includes an internal pressure plate adjuster to provide the necessary installed gap (see “Installed Gap Setting” section). Some riders may desire to set the installed gap and make adjustments via the clutch cable at the lever perch instead of internally. If this is desired, you can purchase a pressure plate plug for external adjustment from Rekluse.

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# INSIDE THIS DOCUMENT

- INSTALLATION
- SETTING THE INSTALLED GAP
- CHECKING FREE PLAY GAIN
- BREAK-IN
- MAINTENANCE
- EXP TUNING OPTIONS & ENGAGEMENT SETTINGS
- TROUBLESHOOTING GUIDE



## INSTALLATION TIPS

- Watch the “CORE EXP Auto-Clutch Installation Video” by following this QR code or visiting [rekluse.com/videos](https://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.
- Propping up the right-side of the ATV makes clutch work easier and eliminates the need to drain the oil. Be sure that this is performed safely and the ATV cannot slip or fall
- An air or electric impact wrench works well to remove the center clutch nut, or you can place the ATV 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.
- For optimal clutch performance Rekluse recommends using fresh, clean oil that meets JASO-MA oil rating requirements.
- 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.
- Reinstall the judder spring and seat with the new clutch to reduce chatter and squeal.

• **Note:** Installing the stock judder (boss) spring and seat is optional. 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.

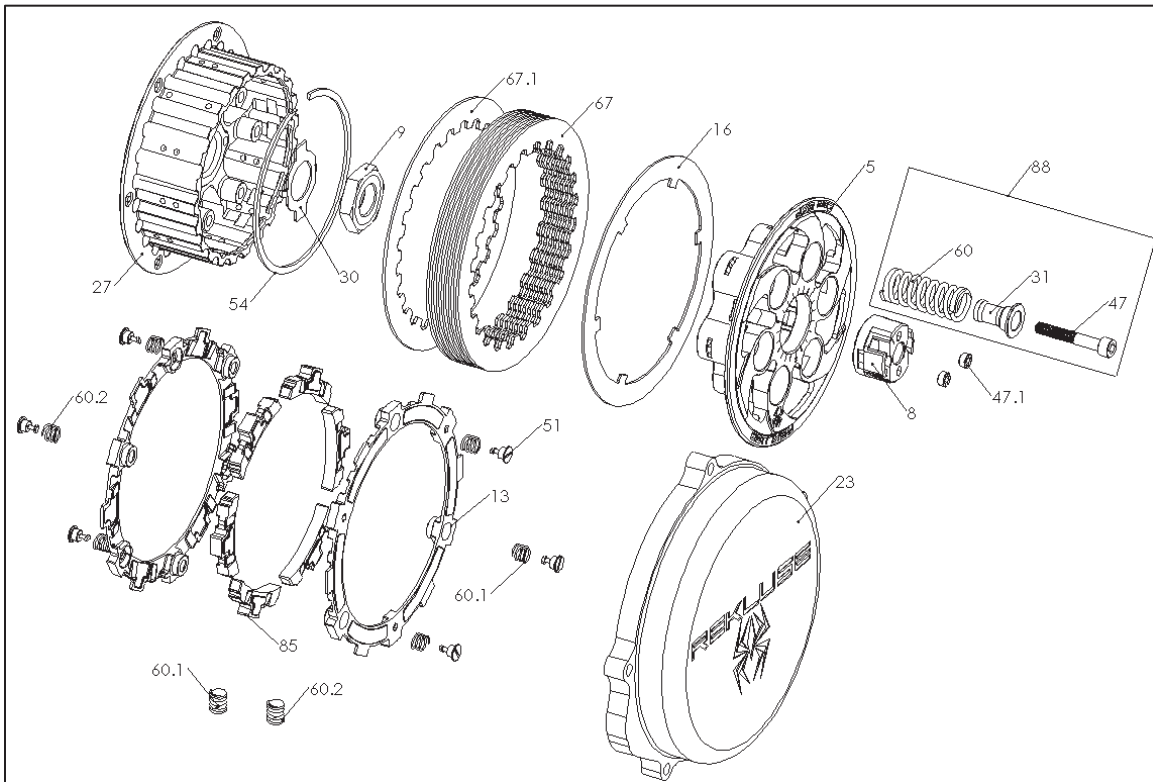
- **The Honda part numbers for both Honda and Kawasaki:**

- Judder Spring Seat: #22125-MBN-670
- Judder Spring: # 22402-MBN-670
- CL Friction Disk: #22201-MBN-670

## TOOLS NEEDED

- 8mm socket
- 1¼” or 32mm socket
- Various end wrenches
- 4mm & 5mm Allen keys
- Torque wrench (in-lb & ft-lb, or N-m)
- Channel-lock pliers
- Hydraulic clutch fluid

# INCLUDED PARTS



Item	Item Type	Qty
5	Pressure Plate	1
8	Pressure Plate Adjuster	1
9	Center Clutch Nut (requires 1¼" or 32mm socket tool)	1
13	EXP Base *	2
16	Steel Lining Plate	1
23	Clutch Cover	1
27	Center Clutch Hub	1
30	Lock-Tab Washer	1
31	Screw Sleeve	6
47	Fastener – M6 Screw (requires 5mm Allen tool)	6
47.1	Pipe Plug	2
51	Fastener - 1/4-Turn Pin *	6
54	Oil Retaining Ring	1
60	Pressure Plate Spring	6
60.X	EXP Adjustment Spring * (extra included, see last page for tuning options)	6
67	Steel Drive Plate (.060")	7
67.1	Steel Drive Plate (.040")	1
85	Wedge Assembly *	6
88	Core Clutch Spring Kit Assembly	1
Not Shown	Brake Pedal Spacer ( <i>only some models – see "Clutch Cover" section</i> )	1

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

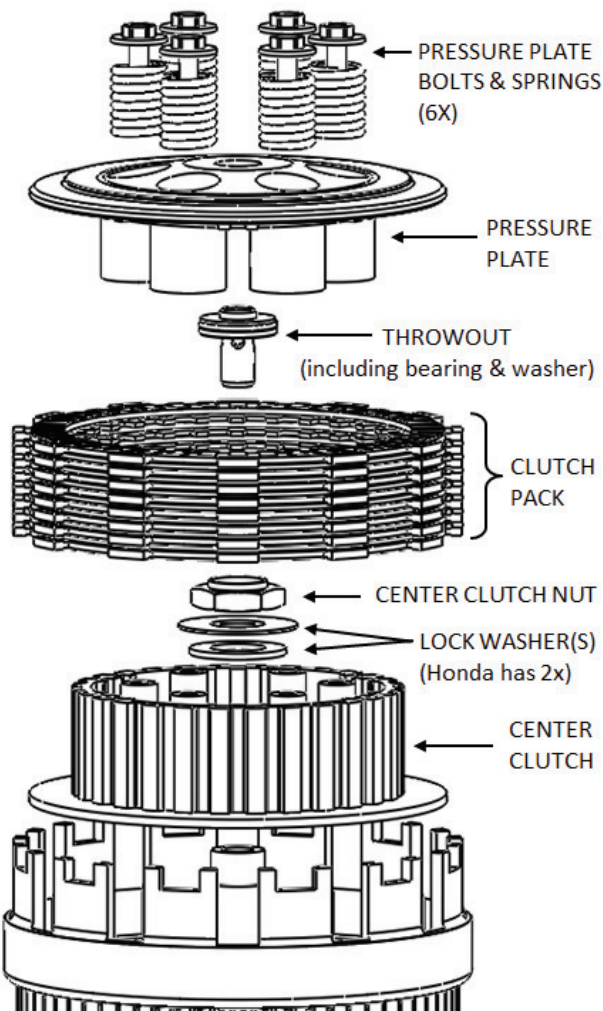
Visit [Rekluse.com/support](https://Rekluse.com/support) for a full parts fiche illustration and part numbers.

# PREP & DISASSEMBLY

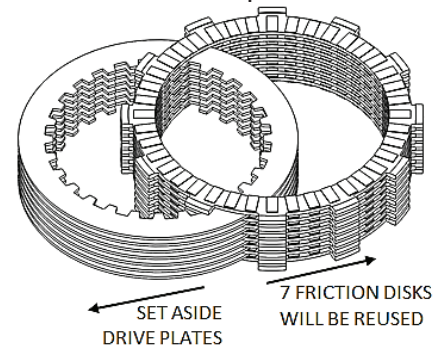
1. Prop up the right side of the ATV using bike stands or another similar method so the clutch cover can be removed without oil spillage. Catch any draining fuel in a suitable container.



2. Remove the clutch cover and the OEM parts named in the following diagram. Leave the basket installed.

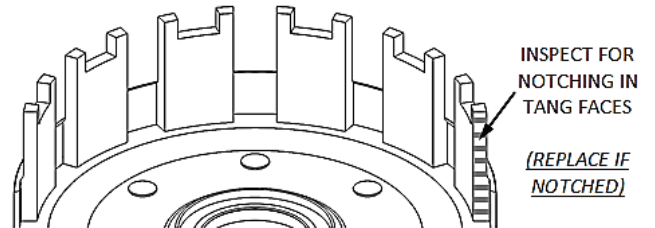


3. Separate the OEM clutch pack.

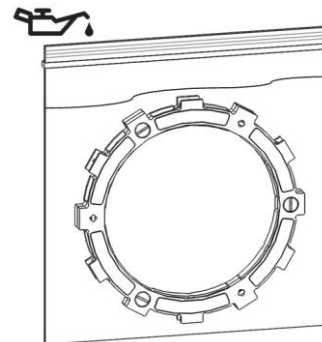


Inspect the friction disks for signs of heat or wear. Replace if they are burnt or worn. For most models, new friction disks can be purchased from Rekluse.

4. 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).

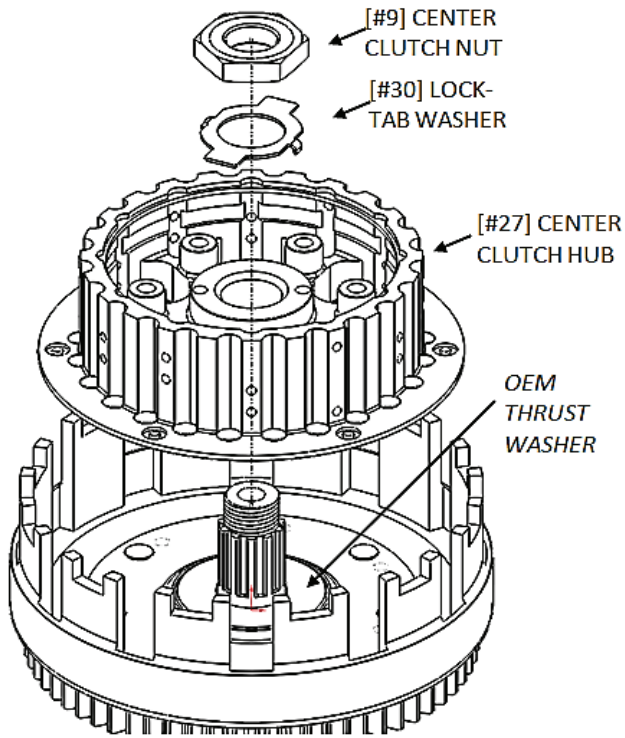


5. Soak the EXP disk in engine oil for 5 min.



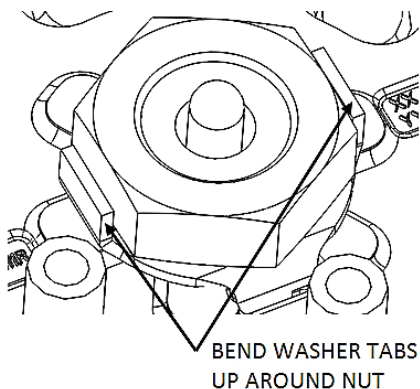
# HUB & CLUTCH PACK INSTALLATION

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



**NOTE:** If the OEM thrust washer is not in place, it is probably stuck to the backside of your OEM 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.



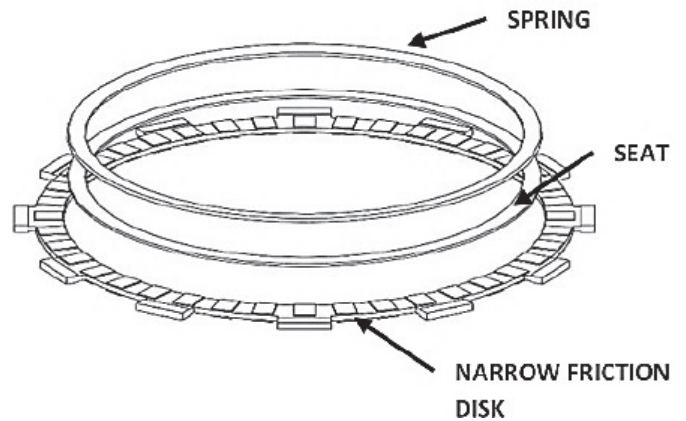
**NOTE:** Installing the judder (boss) spring will help reduce the clutch chatter and squeal during engagement. However, installing the stock judder spring and seat are optional. Skip to step 8 if you do not want to install the judder spring.

### CRF450 owners only:

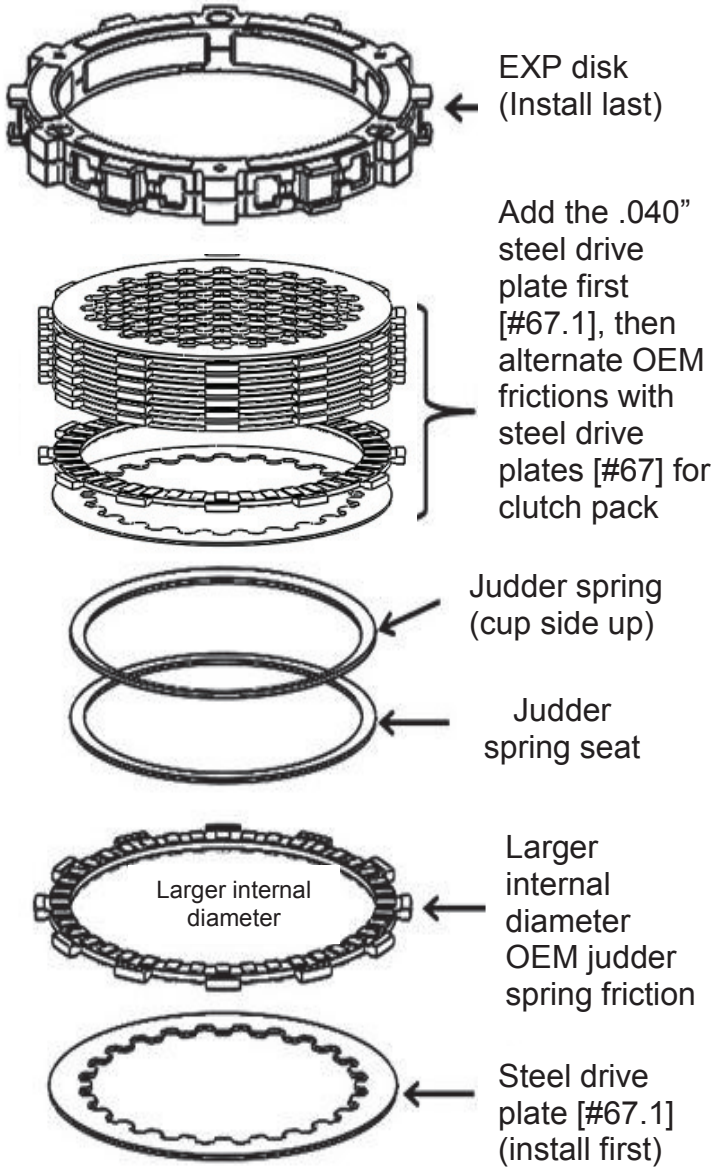
#### **Honda 450s - '09 or Newer:**

Install the first .040" steel drive plate, then reinstall your narrow OEM friction disk as the **bottom most friction**, with the OEM judder spring seat and judder (boss) spring oriented **cup side up**.

**Older Honda 450s, 450X, 2-stroke CR250R, and Kawasaki 450s:** The judder spring, seat, and friction can be added to the clutch pack to reduce/prevent clutch pack squeal and chatter. These parts are not required, but recommended.

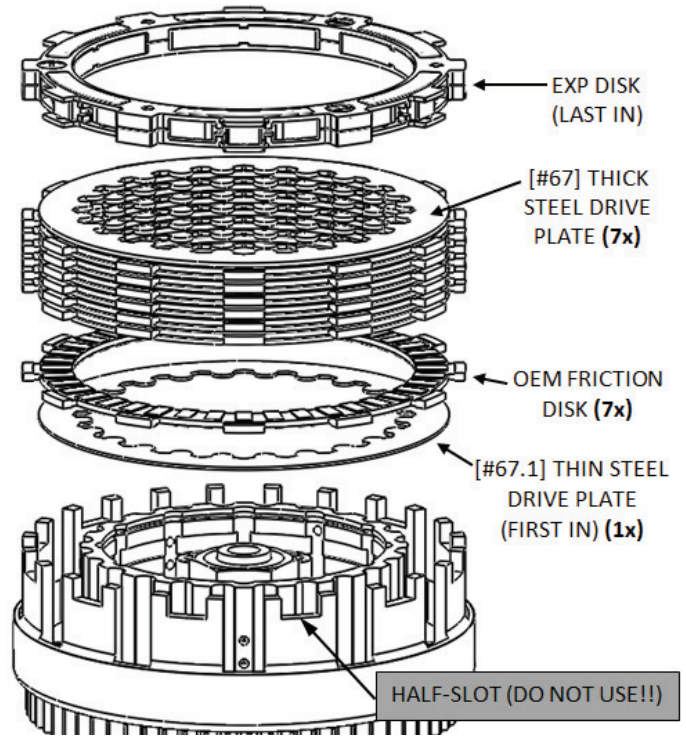


- If judder spring and seat are installed, assemble the clutch in the following order.

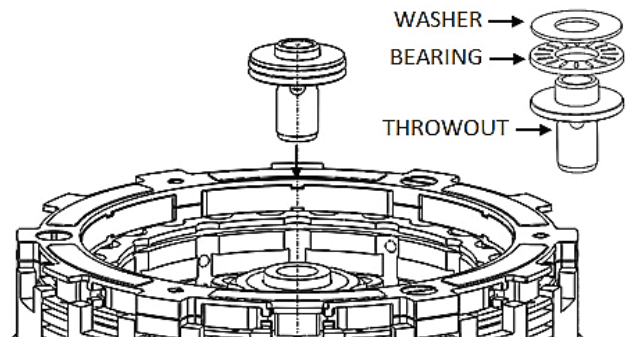


8. If not installing the judder spring, install the new clutch pack, starting with the thin drive plate [#67.1] and then alternating OEM friction disks with thick drive plates [#67].

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



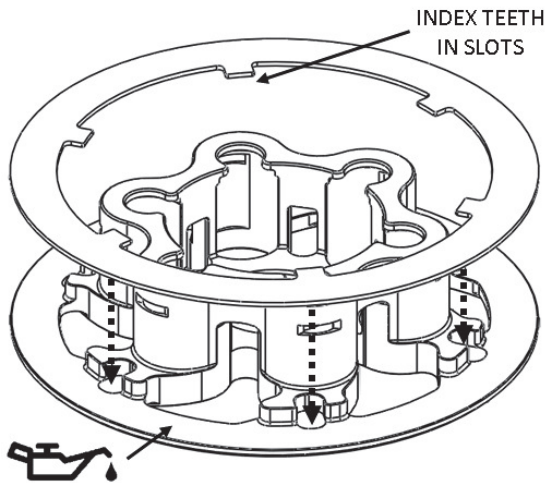
9. Reinstall the OEM throw-out assembly.



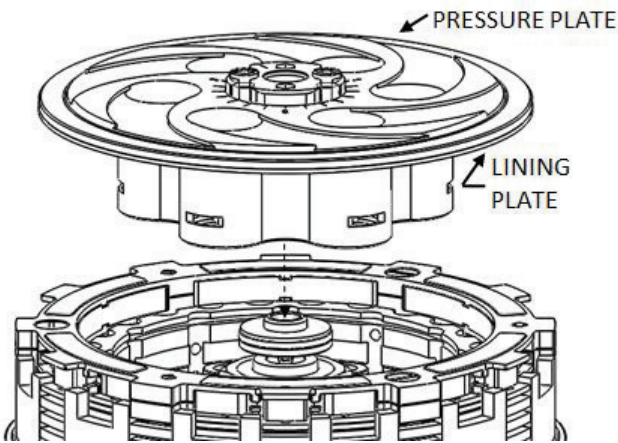
**NOTE:** If you are missing the top washer, it is probably stuck to the backside of your OEM pressure plate.

# PRESSURE PLATE INSTALLATION

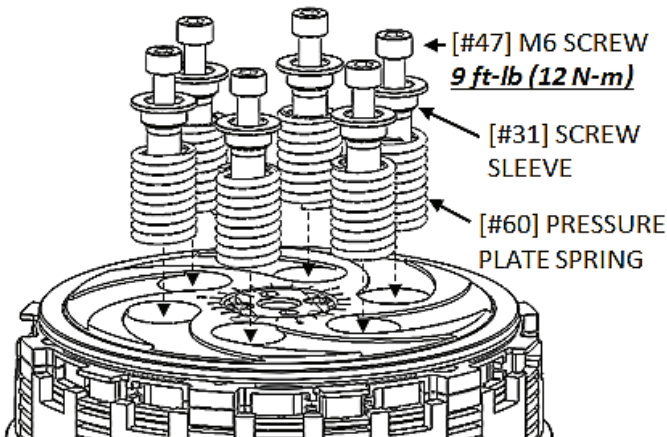
10. Place the Lining Plate [#16] onto the Rekluse Pressure Plate [#5]. Adding an oil film between them will help them stick together for ease of installation.



11. Install this pressure plate subassembly.

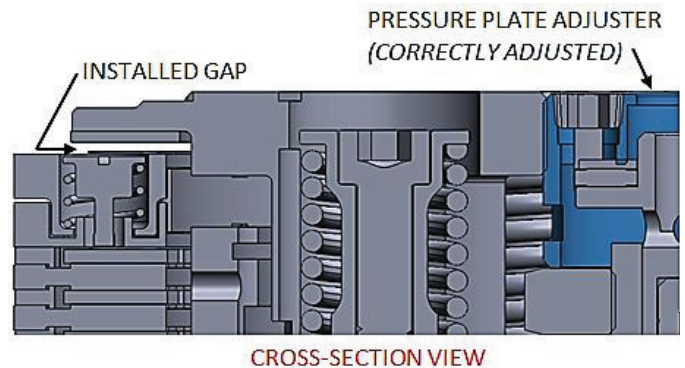


12. Install the pressure plate springs.



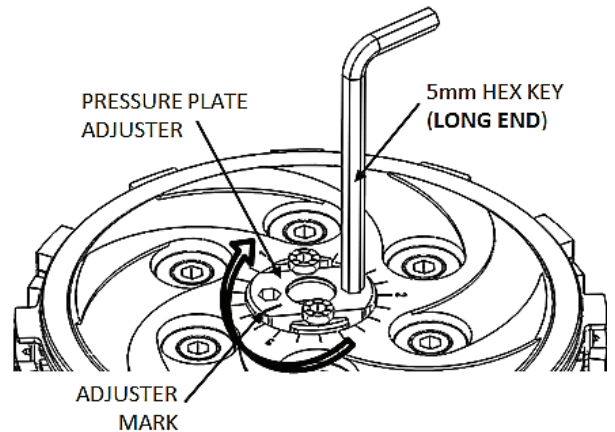
# INSTALLED GAP SETTING

**DEFINITION:** “Installed Gap” is the separation in the clutch pack created by the adjustment at the Pressure Plate Adjuster. This gap is what allows the clutch to spin freely until the desired RPM is reached for engagement; it must be set correctly for optimal performance.



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 until it comes to a stop against the center clutch nut.

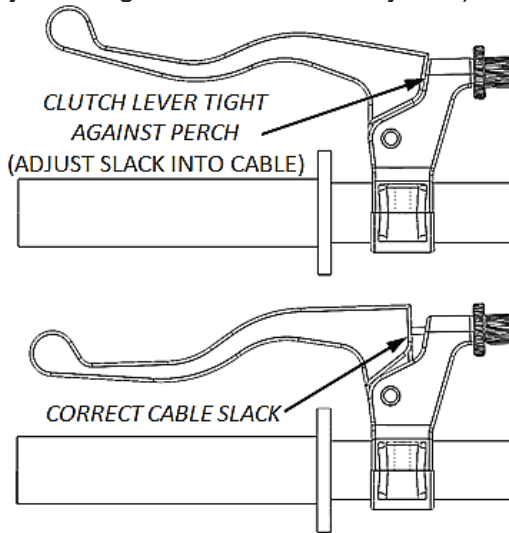
**NOTE:** The pressure plate comes with the set screws and adjuster installed. The set screws have a tapered thread, so if they are ever removed, ensure the knurled side faces up.



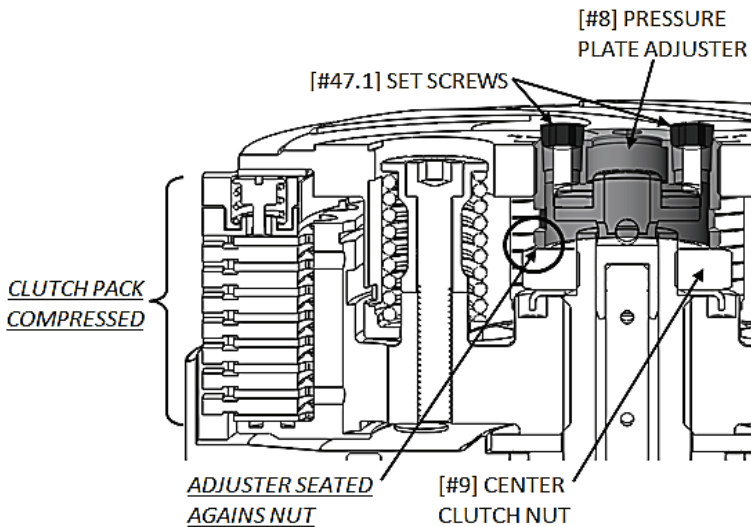
14. At this point, make a note of where the mark on the adjuster aligns with the tick marks on the pressure plate. This is your **starting point**.

**NOTE:** It may take a few tries to find the correct starting point. Keep trying until you feel the distinguishable change in turning effort.

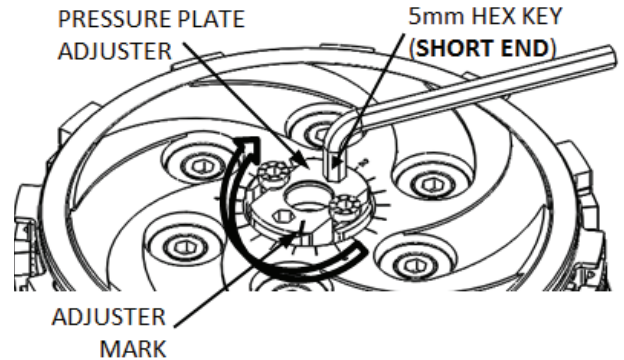
15. Check to **make sure there is clutch lever free play**. If the lever is tight against the perch, then adjust a few turns of slack into the cable and re-check your starting point. (If there is not enough adjustment at the perch, you may need to adjust using the in-line cable adjuster).



**NOTE:** The pressure plate adjuster should bottom out and lift against the center clutch nut, not the throw-out. Slack in the clutch cable ensures that you find the correct starting point.

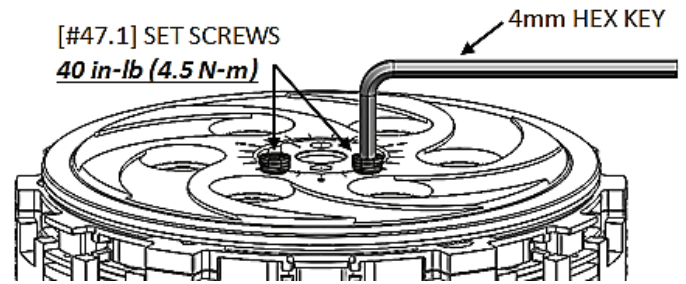


16. Now, insert the **short end** of the 5-mm hex key into the pressure plate adjuster, and turn it clockwise **one full turn plus 2 tick marks past the starting point** (aka "1+2").



**NOTE:** As you turn the adjuster, the clutch may slip and start to spin before you reach 1-full turn. With the bike in gear you can hold the rear brake to turn against.

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. The tops of the set screws should 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 OEM specification.

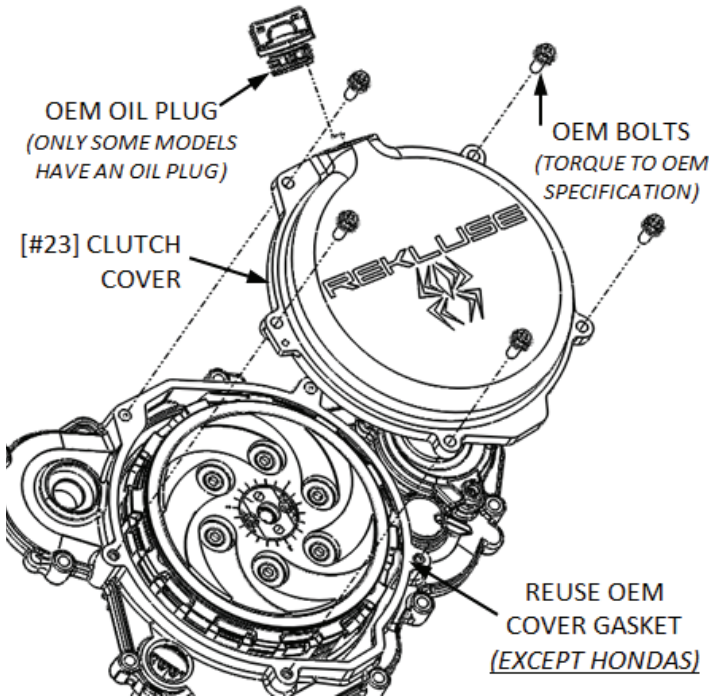




# CLUTCH COVER

**HONDA OWNERS:** See the model-specific notes in the next few steps before installing the Rekluse Clutch Cover or **damage may occur.**

19. Your new Core EXP clutch is taller than the OEM clutch, so the Rekluse Clutch Cover has been designed for clearance with all moving parts. You must use the Rekluse Clutch Cover or interference and clutch damage will occur.



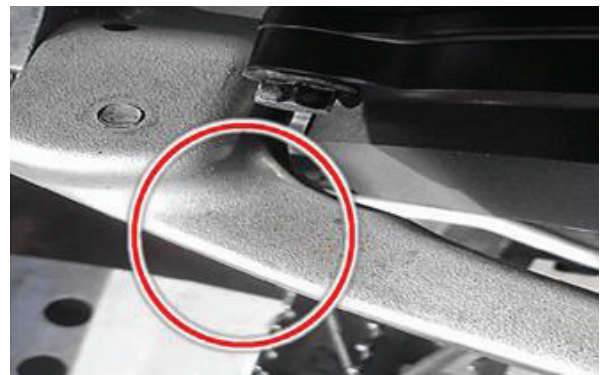
## Honda TRX450 ATV:

### All Models

1. To provide clearance between the cover and brake pedal, install the included brake pedal spacing washer between the frame and brake pedal.
2. A length of O-ring cord is provided with your cover, as the OEM O-ring occasionally does not fit into the Rekluse cover after removal. Place a dab of grease into the O-ring groove in four spots to hold the O-ring cord in place. Lay the O-ring into the groove around the cover and trim it so that the ends meet at the top (12 o' clock) of the clutch cover. *Optional: use some super glue to adhere the ends of the O-ring cord together once cut to length.*

### Kick-Start Models

**You must modify your kick-start lever to clear the clutch cover!** Interference will occur with your kick-start lever unless it is modified similar to the photos below. Be sure not to damage the structural integrity of the lever. Rekluse will not warrantee a damaged clutch cover or kick-start lever.



# CHECKING LEVER FREE PLAY GAIN

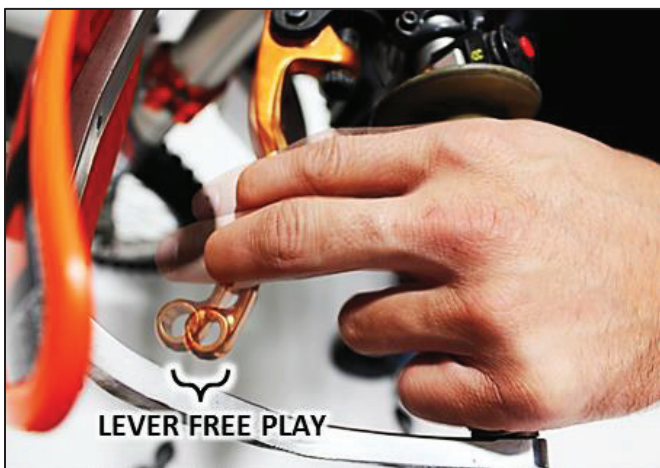
## WARNING

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

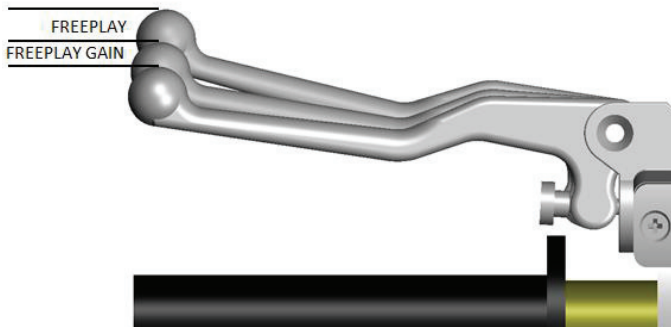
**NOTE:** Before performing this step, please visit our website at [rekluse.com/support](http://rekluse.com/support) to view the TECH VIDEO entitled “How to Check Free Play Gain”.



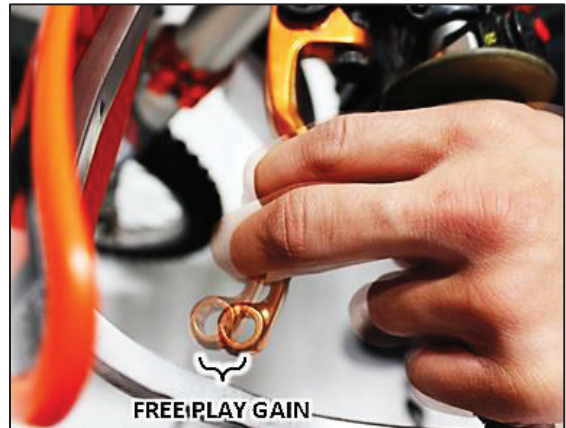
“Lever Free Play” is essentially the “slack” in the clutch lever before it starts actuating the clutch. Applying a light finger pressure will take up this slack.



“Free Play Gain” is the increase of lever free play as the auto-clutch engages. This happens when the RPM increase from idle through around 5,000 RPM. Free Play Gain is caused by the expansion of the EXP disk which lifts the pressure plate away from the throw-out assembly.



Optimal Free Play Gain yields **1/8” (3mm)** of clutch lever movement, measured at the end of the lever. This measurement at the lever correlates to achieving the ideal installed gap.



The following steps explain two ways to check Free Play Gain. One will use the rubber band that has been included in the clutch kit and one 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 Free Play Gain so you can see what it is. Then, check it by hand as well so that you can effectively and comfortably check free play 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.



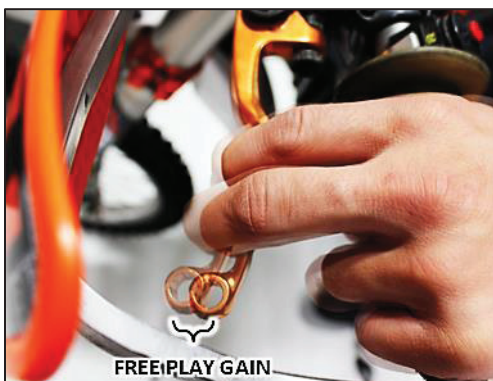


With the bike at idle in neutral, quickly blip (rev) the engine to at least 5,000 RPM and let it return to idle. **The clutch lever should move in about 1/8" (3mm) toward the handlebar as you rev the engine.**

**Note:** If you are not getting the correct lever movement, see the "Free Play Gain Troubleshooting Guide" on the next page.

#### Hand Method:

Free play 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 free play 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 FREE PLAY GAIN!

Checking free play 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.

# FREE PLAY GAIN

## TROUBLESHOOTING

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

### Symptom:

- Clutch lever moves in too far (too much free play 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 free play gain)
- Clutch is slipping

**Answer:** Installed Gap is too large

**Solution:** Turn the pressure plate adjuster outwardly (counterclockwise) 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 gets hot. For bike models that tend to have clutch squeal or chatter here are some recommendations to reduce or eliminate it:

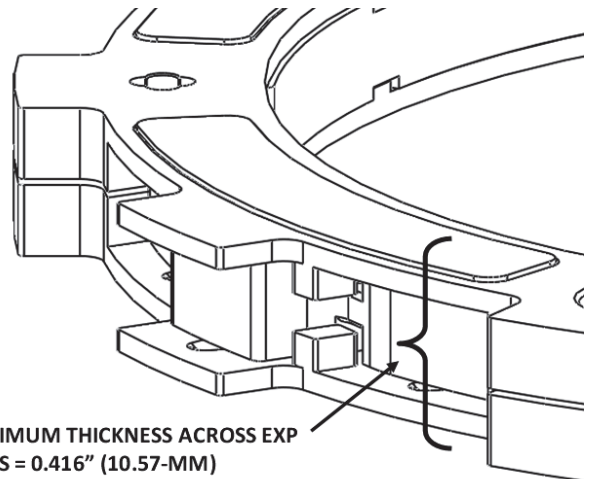
- **Oil:** For optimal clutch performance Rekluse recommends using fresh, clean oil that meets JASO-MA oil rating requirements. Rekluse offers Factory Formulated Oil™ developed specifically for Rekluse products. Rekluse Factory Formulated Oil is a perfect complement

to any OEM or aftermarket wet clutch. Visit [www.rekluse.com](http://www.rekluse.com) to learn more.

- **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.
- **Installed Gap:** Adjusting the Installed Gap will NOT affect clutch squeal or chatter

## MAINTENANCE

- Maintain adequate free play 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.

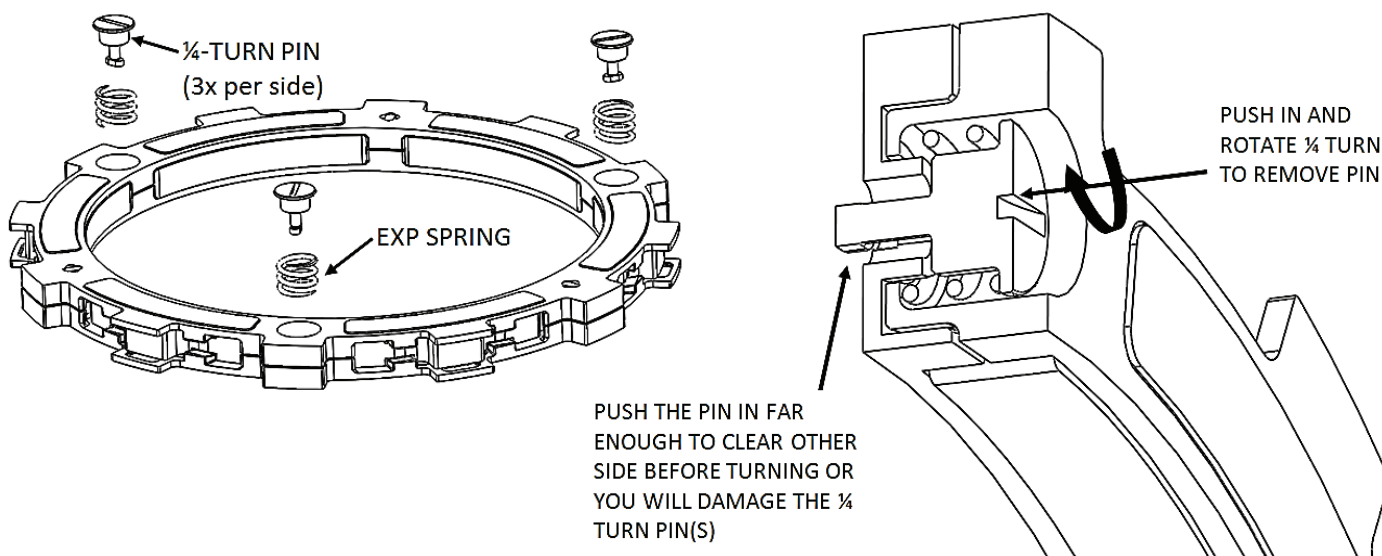
# EXP TUNING OPTIONS

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.

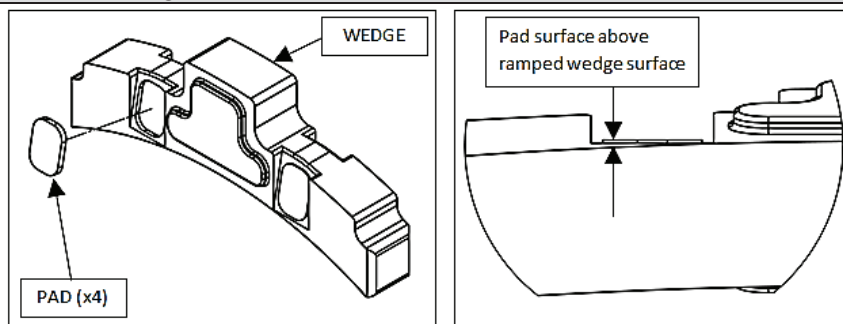
ENGAGEMENT SETTING	SPRING CONFIGURATION		
	Honda TRX450	Yamaha YFZ450	Kawasaki KFX450
Low	6 Red	6 Red	6 Red
Medium	3 Red & 3 Blue	3 Red & 3 Blue	3 Red & 3 Blue
High	6 Blue	6 Blue	6 Blue
Super High	3 Blue & 3 Gold	3 Blue & 3 Gold	3 Blue & 3 Gold

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.



## **NEED ADDITIONAL HELP?**

### **Website**

[www.rekluse.com/support](http://www.rekluse.com/support)

### **Frequently Asked Questions**

[www.rekluse.com/faq](http://www.rekluse.com/faq)

### **Support Videos**

[www.rekluse.com/support/videos](http://www.rekluse.com/support/videos)

### **Phone**

(208) 426-0659

### **Technical Support**

Contact Technical Support for questions related to product installation, tuning, and performance.

#### **Hours:**

Monday thru Friday: 8:00 a.m. - 5:00 p.m.

Mountain Time zone

Email: [tech@rekluse.com](mailto:tech@rekluse.com)

### **Customer Service**

Contact Customer Service for additional product information, orders, and returns.

#### **Hours:**

Monday thru Friday: 8:00 a.m. - 5:00 p.m.

Mountain Time zone

Email: [customerservice@rekluse.com](mailto:customerservice@rekluse.com)



## Auto Clutch TROUBLESHOOTING GUIDE

### Rekluse Troubleshooting Guide Terms

**Free Play Gain** – The additional movement of the clutch lever under slight pressure as the RPMs are raised from idle to approximately 5000 RPM. Free Play Gain should only be checked in neutral as per the instructions.

**Worn Friction Plates** – Will be thinner than the factory spec

**Overheated Friction Plates** – Sometimes referred to as glazed. Most of the time measure within spec, but the surface will look darker than new and the friction surface will be smooth like glass. The steel drive plates will also show signs of bluing or darkness

**Squeal** – Chirping noise under acceleration, or take off

**Chatter/Shutter** – Vibration or surge under acceleration as the clutch engages

**Drag** – When stopped or idling in gear, the bike will try pulling, or on a stand the wheel will spin

**Chain Slap** – Drag at idle, in gear, causing the chain to slap noisily against the swing arm

**Low RPM Slip** – Considered engagement slip and will make the initial clutch engagement soft

**High RPM Slip** – Occurs above half throttle while accelerating, as the engine RPMs raise little or no power is transmitted to the rear wheel resulting in a loss of forward drive causing excessive clutch heat

**\*Rekluse troubleshooting chart located on back of this page\***

**Note:** The “possible fixes” contained in the chart below are listed in the order of things to try first for each “symptom”

<b>Core EXP 3.0 &amp; EXP 3.0 Troubleshooting Chart</b>		
<b>Symptom</b>	<b>Possible Cause</b>	<b>Possible Fix</b>
Drag or Stalling	Clutch break-in	Complete the recommended clutch break-in
	Transmission oil	Change the oil if it's not a clean high quality JASO MA certified oil
	Excessive “Free Play Gain”	Re-adjust the installed gap and re-check “Free Play Gain”
	Center clutch nut too tight	Re-torque the center clutch nut if it is binding when spun in neutral
	EXP engagement adjustment	Change the EXP setting to a higher engagement setting
	Worn or glazed friction disks	Replace friction disks (Rekluse or OEM disks recommended)
Low RPM slip	No “Free Play Gain”	Re-adjust the installed gap and re-check “Free Play Gain”
	Modified motor	Replace wedges with a heavier set if slightly modified
		If running Core EXP - Replace the pressure plate springs with a heavier set if highly modified
		If running EXP – upgrading to Core EXP is recommended
	Worn or glazed friction disks	Replace friction disks (Rekluse or OEM disks recommended)
Tall Bike gearing	Replace wedges with a heavier set if the gearing is taller than stock	
High RPM slip	No “Free Play Gain”	Re-adjust the installed gap and re-check “Free Play Gain”
	Modified motor	If running Core EXP - Replace the pressure plate springs with a heavier set if highly modified
		If running EXP – upgrading to Core EXP is recommended
	Pressure plate springs	Be sure the Rekluse springs are being used
		Inspect the springs, if they are out of spec replace
Worn or glazed friction disks	Replace frictions disks (Rekluse or OEM disks recommended)	
Squeal or Chatter	Transmission oil	Change the oil if it's not clean high quality JASO MA certified oil. Over-used oil may cause squeal or chatter
	Clutch basket	Replace the basket and/or cushions if they are worn (Rekluse basket recommended if available for your model)
		The Rekluse basket is known to eliminate most squeal or chatter, even if no wear is present (Not available for all models)
No clutch override	Excessive “Free Play Gain”	Re-adjust the installed gap and re-check “Free Play Gain”
Chain Slap	Adjust idle	Adjust idle closer to the engagement point of the clutch so there is less delay in clutch engagement
	EXP engagement setting	Raise the EXP engagement setting and adjust the idle accordingly