



REKLUSE[®]
CoreEXP[™]

REKLUSE MOTOR SPORTS

The Rekluse Core EXP Kit for Kawasaki KX80/85/100

INSTALLATION & USER'S GUIDE

Doc ID: 191-7742A

Doc Rev: 041019

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.

RESOURCES

- Thoroughly read and understand the **Safety Information** document for this product before installing
- Videos related to this product can be viewed online at rekluse.com
- A detailed parts fiche can be found online at rekluse.com/support.

INSIDE THIS DOCUMENT

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

USE OF OTHER AFTERMARKET PRODUCTS

- If your bike is equipped with an aftermarket clutch cable, or your OEM cable is old or has stretched, you may find that the adjustment range in your cable is different than depicted in this manual.
- If you prefer the use of an aftermarket clutch lever and/or perch, especially the adjustable variety, note that:
 - Some aftermarket lever/perch combos claim “Lighter Lever Pull” which correlates to less lift of the pressure plate (the mechanical advantage is increased, so the distance the pressure plate lifts must decrease). This may have an adverse effect by producing more clutch drag or harder shifts. The lever may be lighter, but you will have to pull the lever in farther to disengage the clutch.
 - Some aftermarket lever/perch combos may provide lever “free play” if desirable.
- This product has not been proven to be compatible with hydraulic conversion kits, as it is difficult to achieve the necessary installed-gap adjustment.

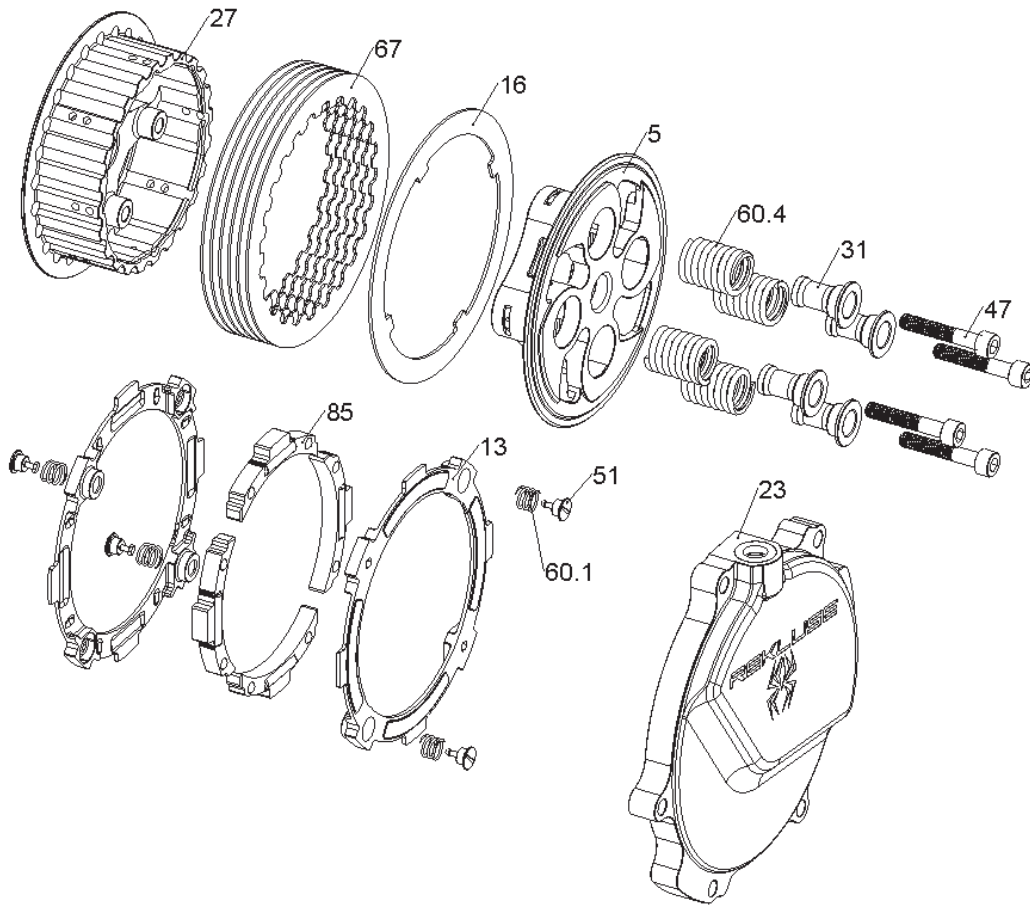
INSTALLATION TIPS

- Watch the “CORE EXP Auto-Clutch Installation Video” by visiting our website at rekluse.com/videos.
- Read this entire document before performing any steps, so you will know what to expect.
- Be sure to wear proper eye protection.
- It is recommended to replace the clutch cover gasket any time the clutch cover is removed.
- Laying the bike on its side allows for easy clutch access and eliminates the need to drain 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 to learn more.
- When reinstalling components, use the torque specifications found in your OEM service manual

TOOLS NEEDED

- 8, 10, and 12mm Sockets and/or T-Wrenches
- 2x Dental Pick Tools
- Needle-Nose Pliers
- 24mm Socket
- 8 & 10mm End Wrenches
- Funnel
- 6mm end wrench or Phillips screwdriver
- 5mm and 8mm Hex Keys

INCLUDED PARTS

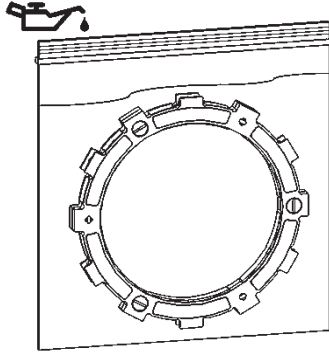


Item	Item Type	Qty
5	Pressure Plate	1
13	EXP Base *	2
16	Steel Lining Plate	1
23	Clutch Cover	1
27	Center Clutch Hub	1
31	Screw Sleeve	4
47	Fastener – M6 Screw (requires 5mm Hex tool)	4
51	Fastener – 1/4 Turn Pin*	6
60.1,60.2	EXP Adjustment Spring* (extra included, see tuning chart)	8
60.4	Pressure Plate Springs	4
67	Steel Drive Plate	6
85	Wedge Assembly*	4

* Denotes parts assembled as part of EXP disk assembly

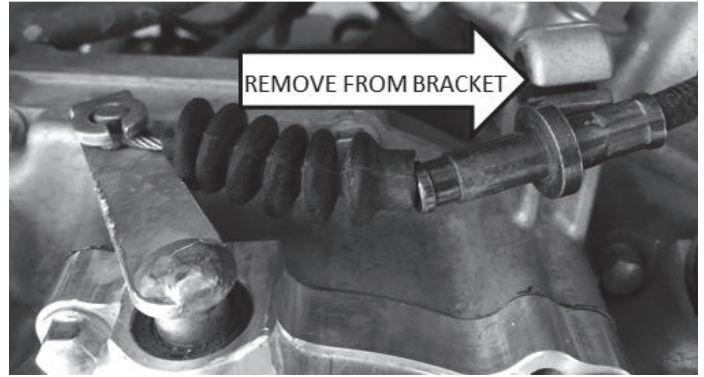
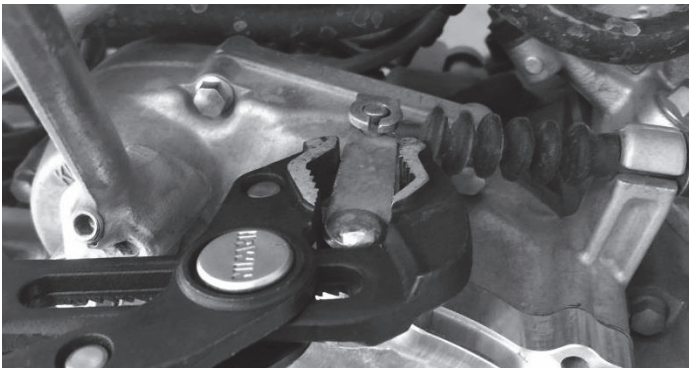
PREP & DISASSEMBLY

1. Soak the EXP disk and Rekluse friction disks in new engine oil for at least 5 minutes.



2. Place the bike in 5th gear. This will help later in the installation.

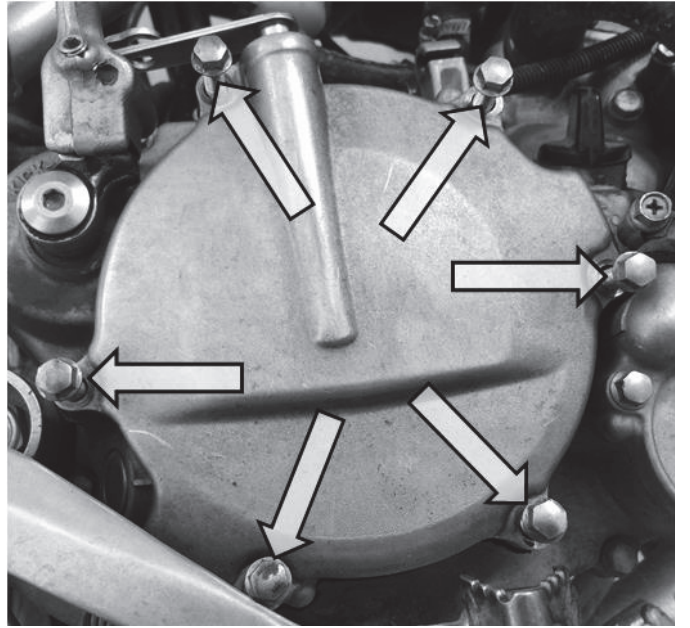
3. Using channel-lock pliers, detach the cable from the actuator arm. Start by pulling the cable sleeve out of its mount, and then take the cable out of the actuator arm.



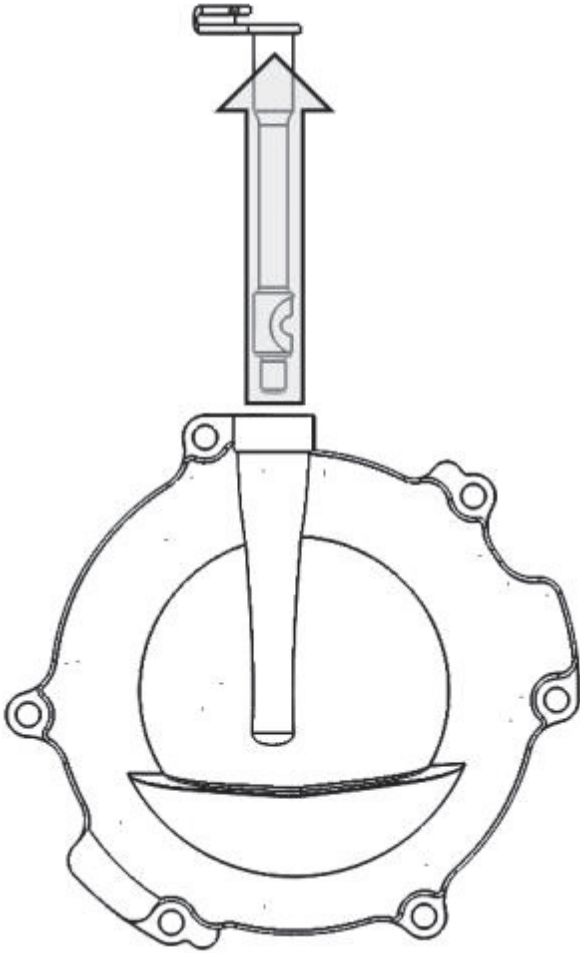
4. To avoid draining the oil, you can lay the motorcycle on its left side. Otherwise, stand the bike vertically on a center stand and drain the oil. Catch any fuel that drains.



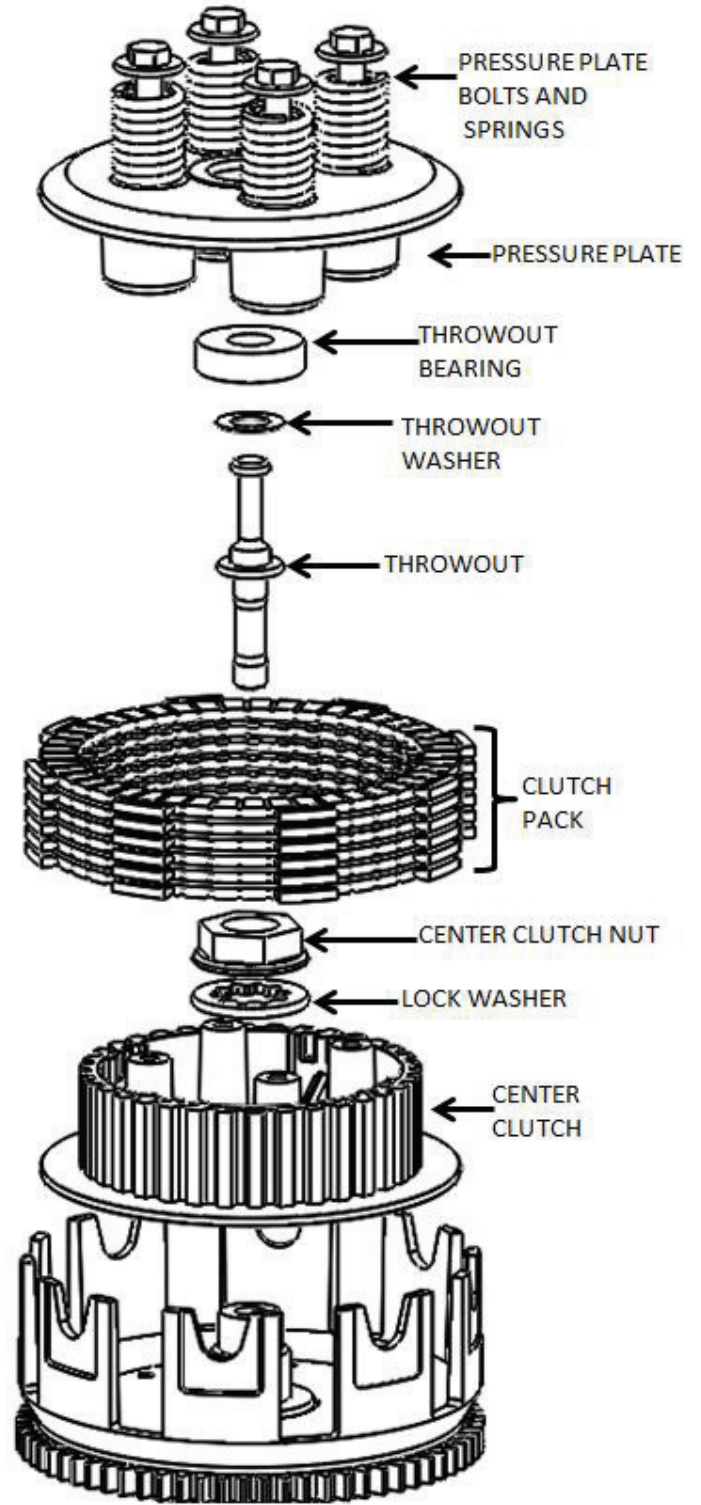
5. Remove the clutch cover bolts and clutch cover, taking care to not damage the cover gasket. Rotate the actuator arm counter-clockwise while removing the cover.



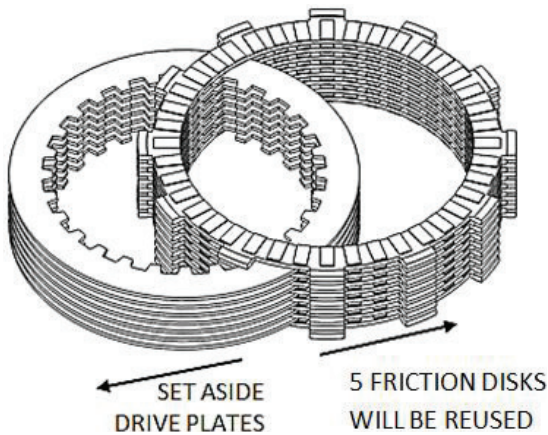
6. Remove the actuator arm from the OEM cover.



7. Remove the OEM clutch parts named in the following diagram. Leave the basket installed.



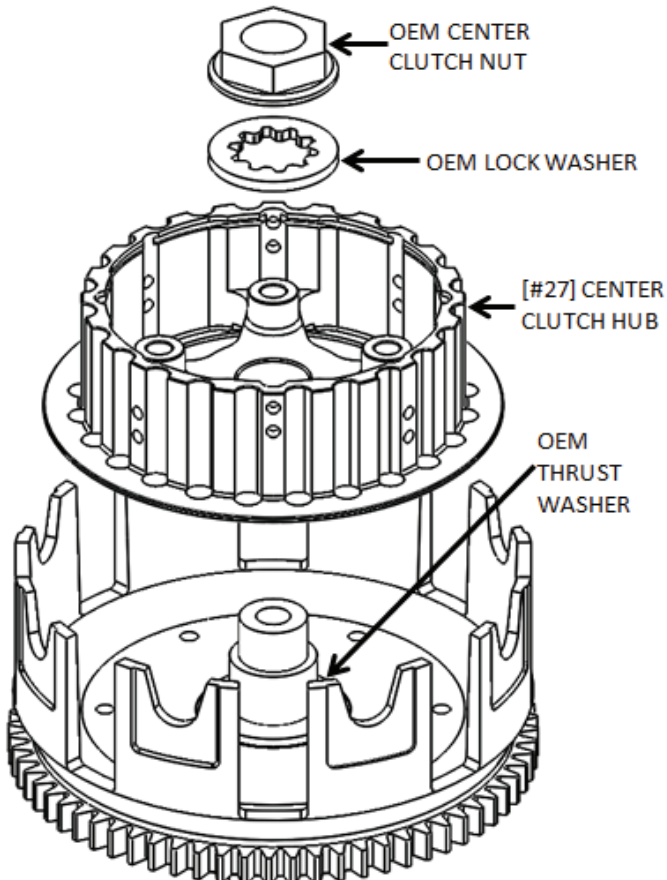
8. Separate the OEM clutch pack.



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.

INSTALLATION

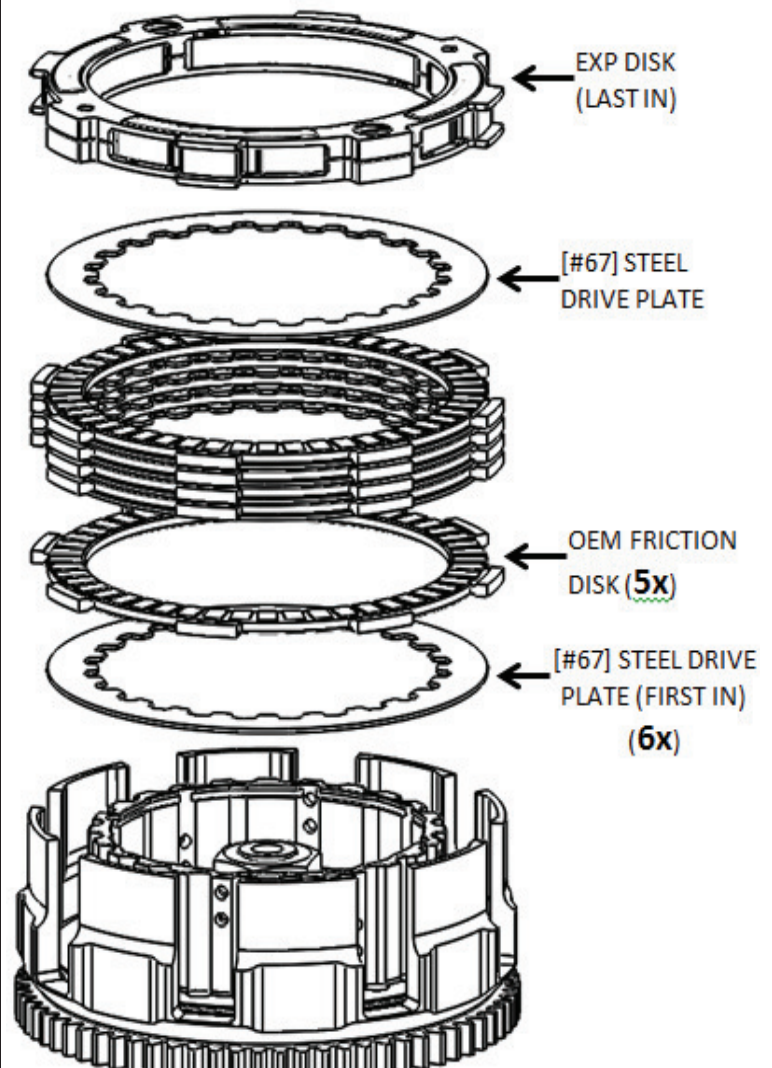
9. Install the new center clutch hub with OEM lock washer, washer, and nut on top of the OEM thrust washer.



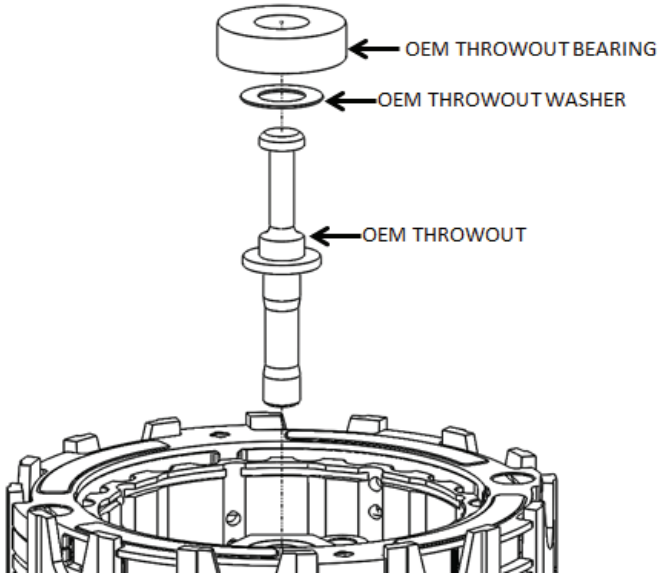
NOTE: If the OEM thrust washer is not in place, it is probably stuck to the backside of your OEM center clutch hub.

10. Torque the nut to 40 ft-lb (55 N-m). **DO NOT OVER TORQUE**, or the clutch will drag and damage may occur.

11. Install the new clutch pack, starting with a steel drive plate and then alternating OEM friction disks with steel drive plates. The EXP disk goes in last on top of the final steel drive plate.

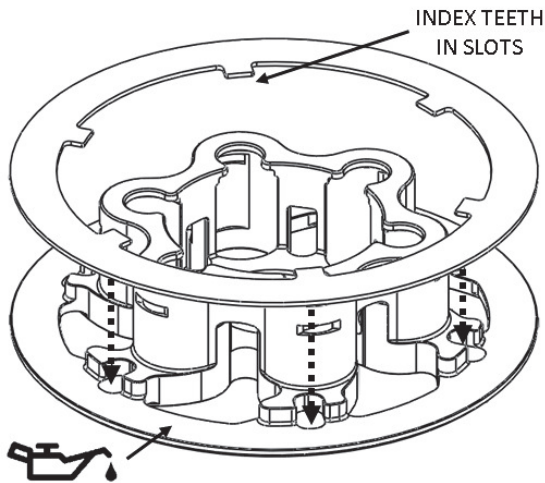


12. Reinstall the OEM throw-out, throw-out washer, and throw-out bearing.

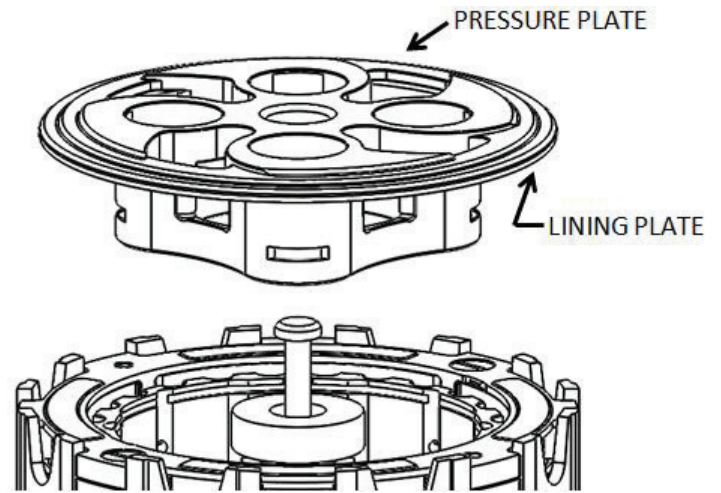


NOTE: The hole in the throw-out bearing is bigger than the throw-out so it “floats” on the throw-out. The bearing will seat in when it has pressure from the pressure plate.

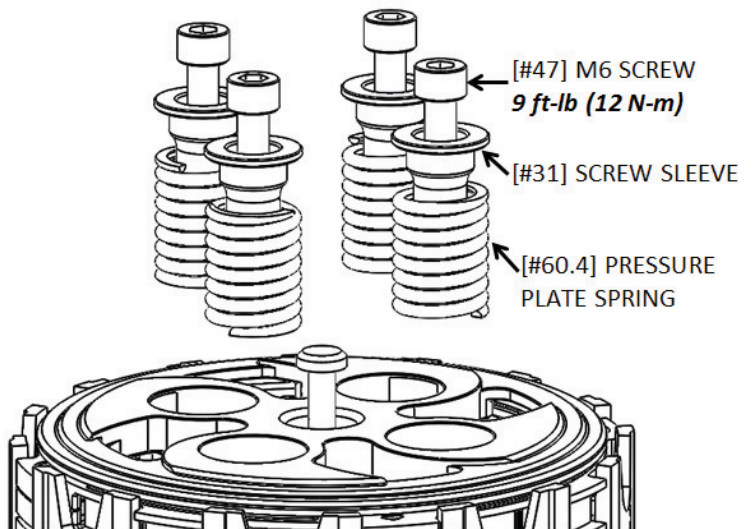
13. Place the Lining Plate onto the Rekluse Pressure Plate. Adding an oil film between them will help them stick together for ease of installation.



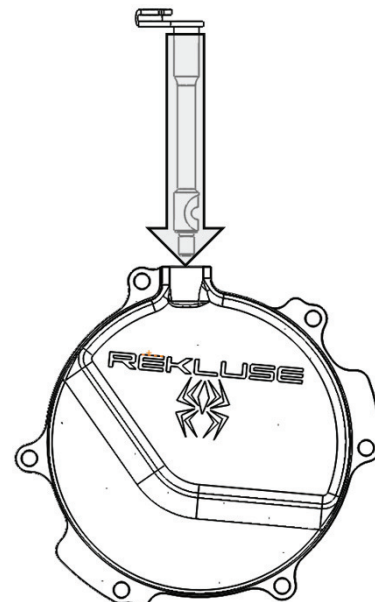
14. Install the pressure plate and lining plate assembly.



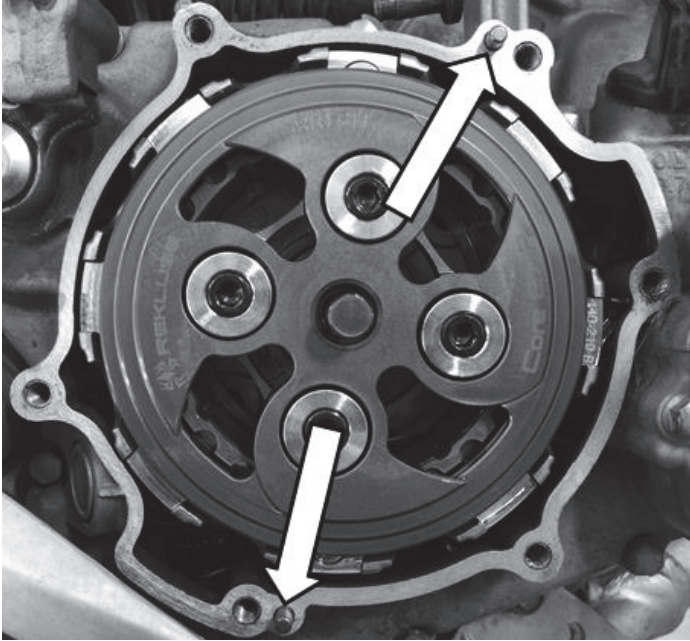
15. Install the pressure plate springs, torquing the screws to 9 ft-lb (12 N-m).



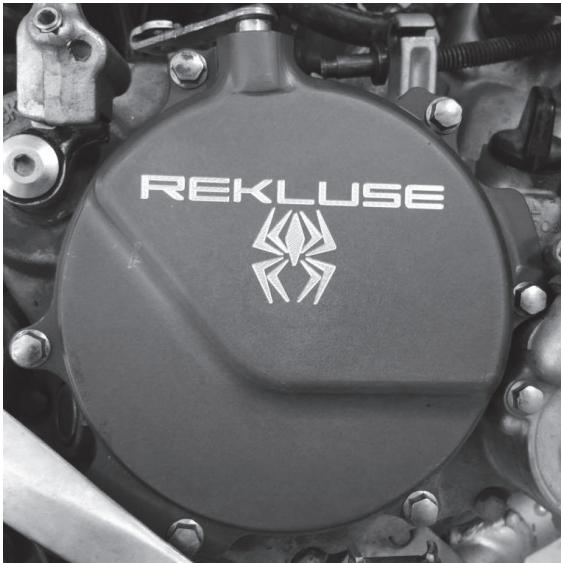
16. Install the OEM actuator arm into the Rekluse clutch cover.



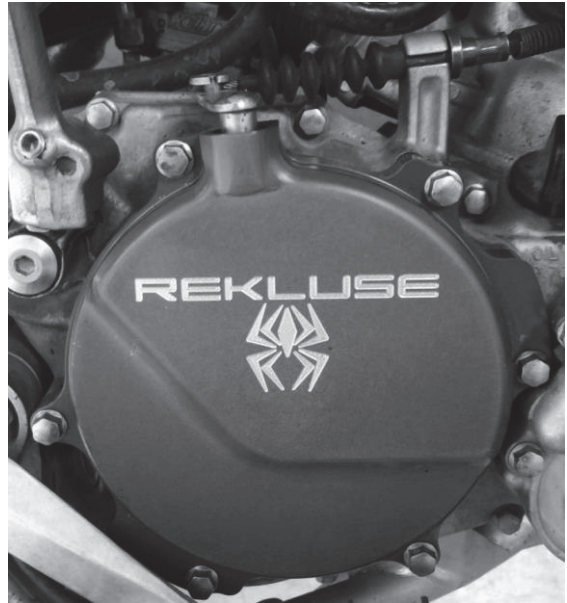
17. Transfer the pins from the OEM clutch cover into the engine case.



18. Install the Rekluse clutch cover, reusing the OEM gasket, and torque bolts to OEM specifications.



19. Reattach the clutch cable to the OEM actuator arm. There will be tension on the cable when installed.



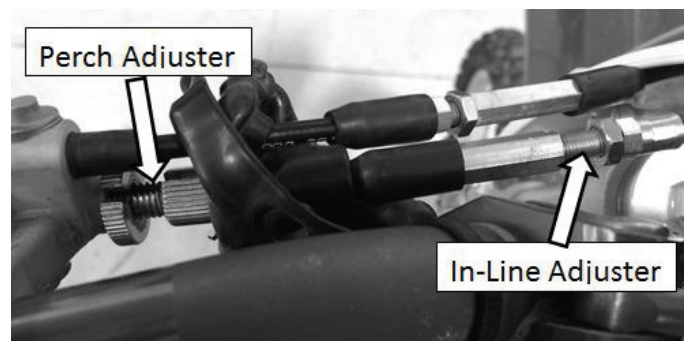
INSTALLED-GAP SETTING

DEFINITION: “Installed-Gap” is the separation in the clutch pack created by the tension adjusted into the clutch cable. 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.

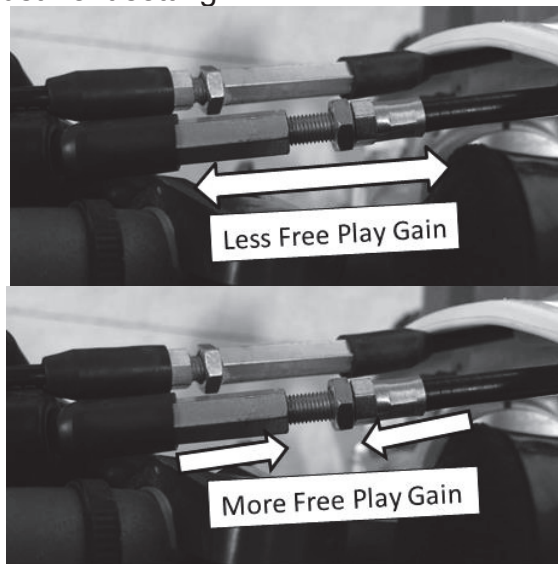
NOTICE

Failure to check and verify Free Play Gain can cause failure or damage to this product. Setting the correct gap is critical for clutch performance.

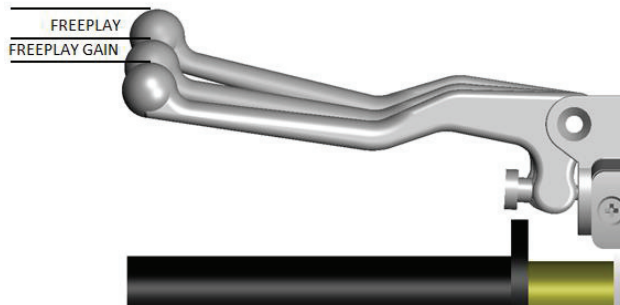
20. Locate the perch and in-line cable adjusters for the clutch. Set the perch adjustment so that it is about half-way out. The perch adjustment can be used while riding to adjust if necessary. The in-line adjuster will now be used to set the initial setting.



21. In the next section, you will make adjustments using the front jam nut and perch adjuster to set the desired Installed-Gap based on the lever Free Play Gain. Once this is established and everything functions well, you will tighten the adjuster jam nuts to secure your cable adjustment setting.



“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 half-throttle (4,500 RPM). Free Play Gain is caused by the expansion of the EXP disk which lifts the pressure plate away from the throw-out assembly.

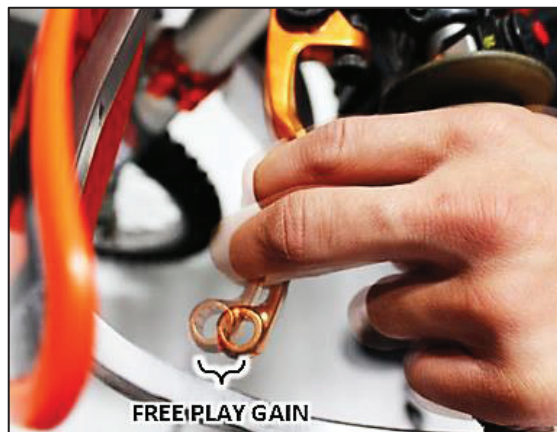
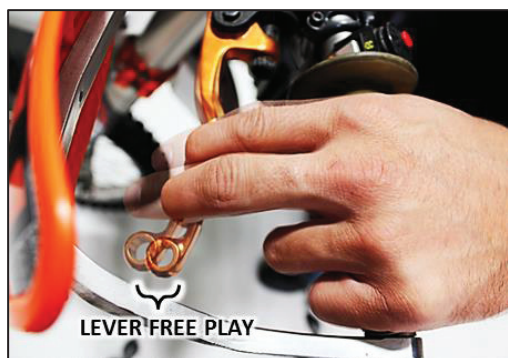


Optimal Free Play Gain yields **1/8” (3mm)** of clutch lever movement, measured at the end of the lever. This measurement at the lever correlates to achieving the ideal installed-gap.

CHECKING FREE PLAY GAIN

NOTE: Before performing this step, please visit our website at 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. *With this clutch kit installed, there will be NO lever free play, as the cable is always under tension.*



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.

NOTICE

Failure to check and verify Free Play Gain can cause failure or damage to this product. Setting the correct gap is critical for clutch performance.

WARNING

Verify 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.

A Rekluse auto-clutch can make your motorcycle appear to be in neutral when in gear, even when the engine is running and clutch lever released.

Motorcycles equipped with a Rekluse auto-clutch can move suddenly and unexpectedly and cause riders to lose control.

To avoid death, serious injury, and/or property damage, always sit on the motorcycle to start it.

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 half-throttle (~4,500 RPM) and let it return to idle. **The end of 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 half-throttle. **The clutch lever should move in 1/8" (3mm) under your finger pressure as you rev the engine and the auto-clutch engages.**



FREE PLAY GAIN

TROUBLESHOOTING

Each adjustment should be done in small increments. After each adjustment, repeat the rev-cycle until optimal Free Play Gain is achieved.

Symptoms:

- 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: TIGHTEN THE CABLE by extending the in-line adjuster or perch adjuster 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: LOOSEN THE CABLE by collapsing the in-line adjuster or perch adjuster to reduce the Installed-Gap.

BREAK – IN

Follow these procedures for a new installation and any time new friction disks, 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 4,500 RPMs and come to a stop—repeat this 5 times. Next, starting in 2nd gear, accelerate moderately to approximately half-throttle then come to a stop—repeat this 5 times.
4. Now that the EXP is broken-in and the clutch is warm, re-check Free Play Gain at your clutch lever and adjust if necessary. 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 Free Play Gain when the bike is warm at the start of every ride.

NO FREE PLAY GAIN MEANS THE CLUTCH WILL SLIP!

CLUTCH NOISE & DRAG

Noise:

Although it is harmless, some bikes 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 bikes 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 to learn more. 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.

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

Drag:

Now that your clutch has more friction disks and therefore surfaces than stock, the clutch may drag more than stock, and possibly may drag more noticeably more when cold. If this occurs, warm the bike up by allowing it to idle for a few minutes before riding.

EXP TUNING OPTIONS

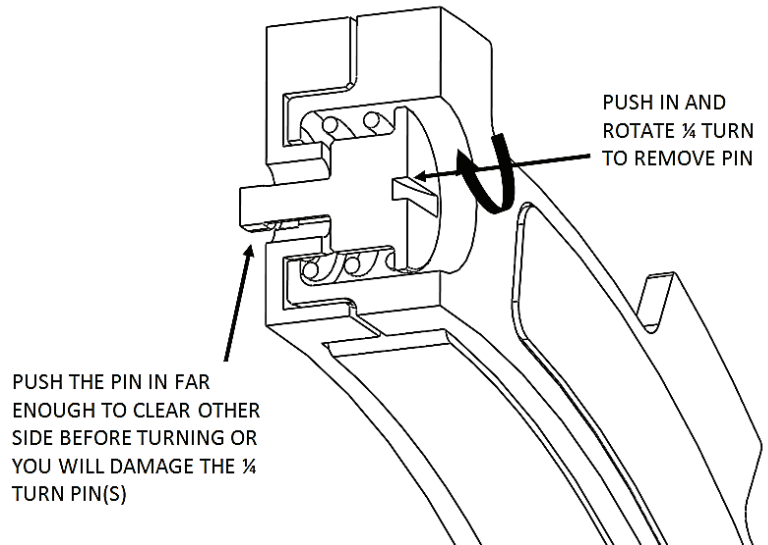
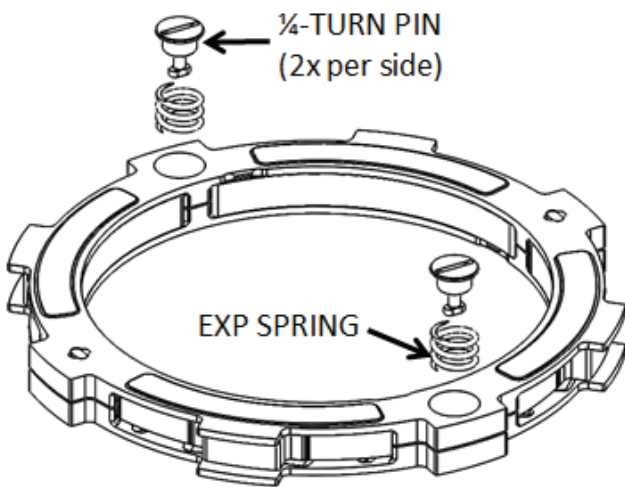
Included are spring options to tune the engagement RPM of the EXP friction disk. The EXP friction disk comes set with the recommended “**Medium**” setting from Rekluse. See the following chart for settings.

KX 80/85/100:

ENGAGEMENT SETTING	EXP SPRING CONFIGURATION
Low	2 Silver and 2 Steel Springs
Medium	4 Silver Springs
High	2 Silver and 2 Red Springs

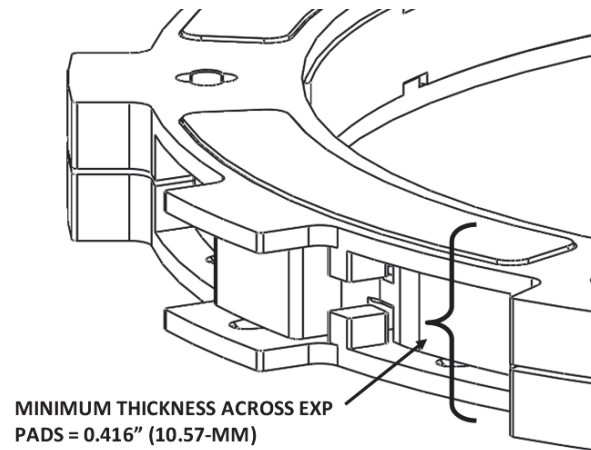
Adjusting the engine idle speed to match your engagement setting is important and greatly affects the overall feel of how the EXP disk engages. To prevent freewheeling and maximize engine braking, set the idle so there is a slight amount of drag while the bike is idling in gear and warmed up. The idle 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 2 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 2 on one side of the EXP and the remaining color set of 2 on the other side.



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 **as per OEM intervals** for signs of wear or excessive heat, and replace components as necessary.



- If you find yourself making frequent cable adjustments to fix Free Play Gain, drag, or performance, it is likely time to replace worn clutch disks. Measure your friction disks and replace as necessary as per your OEM manual.
Excessive heat or clutch slip can cause premature clutch failure. Once extreme temperatures are reached, irreversible damage will occur. Inspect your clutch plates; if the friction disks look burnt or glazed, or the drive plates are warped, it is best to replace the entire clutch pack.
- 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.

NEED ADDITIONAL HELP?

Website

www.rekluse.com/support

Frequently Asked Questions

www.rekluse.com/faq

Support Videos

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

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





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”

Core EXP 3.0 & EXP 3.0 Troubleshooting Chart		
Symptom	Possible Cause	Possible Fix
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