INSTALLATION & USER'S GUIDE

CoreEXP Clutch for YZ65 & YZ85

Doc ID: 191-7772A
Revision: 110823

customerservice@rekluse.com

Table of Contents

OVERVIEW

This kit replaces OE (Original Equipment) or “stock” clutch parts with Rekluse high quality billet components designed specifically for your bike model. The following is a summary of what is replaced:

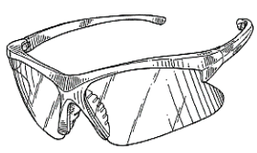
- This kit will replace all the OE drive plates with Rekluse steel drive plates and an EXP disk.
- The OE pressure plate springs are replaced with high quality Rekluse springs.
- OE inner hub and pressure plate components are replaced with Rekluse Core components.

USE OF 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.
- The Rekluse auto clutch has not been proven to be compatible with hydraulic conversion kits, as it is difficult to achieve the necessary installed-gap adjustment.

INSTALLATION TIPS

- Read the separate included Safety Information document before operating the vehicle with the product installed.
- Read this entire document before performing any steps.



- If you install 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 bike with the product.

- Protect eyes and skin – wear safety glasses and work gloves.
- Lay the motorcycle on its left side when replacing the clutch. This makes the clutch work easier and eliminates the need to drain the oil. Catch any fuel that may drain from the bike.
- Use the torque values listed in the instructions. Otherwise, use the torque specifications found in your OE service manual.
- 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.

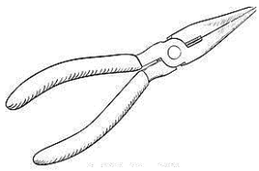
Replacement parts

Rekluse recommends replacing the clutch cover gasket any time the clutch cover is removed. Rekluse also recommends replacing the OE frictions if they are worn or burnt. These can be purchased from Rekluse or your dealer.

Part Numbers

- Yamaha clutch cover gasket: #5PA-15463-00-00
- Yamaha friction disks: #3XP-16321-00-00
- Rekluse friction disks: # 469-072

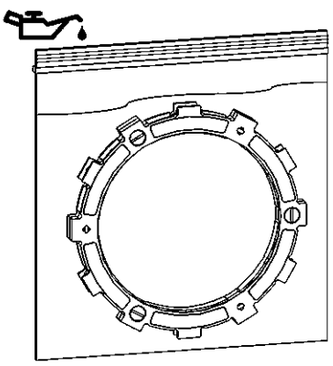
TOOLS

			
8 mm socket	10 mm socket	12 mm socket	19 mm Socket
			
2 Picks	Needle-nose pliers	Metric wrench set	Torque Wrench
			
5 mm Hex key	8 mm Hex key		

INCLUDED PARTS

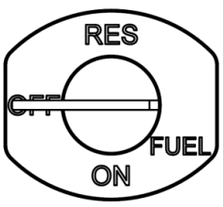
Visit www.rekluse.com/support for a full parts fiche illustration and part numbers.

DISASSEMBLE CLUTCH



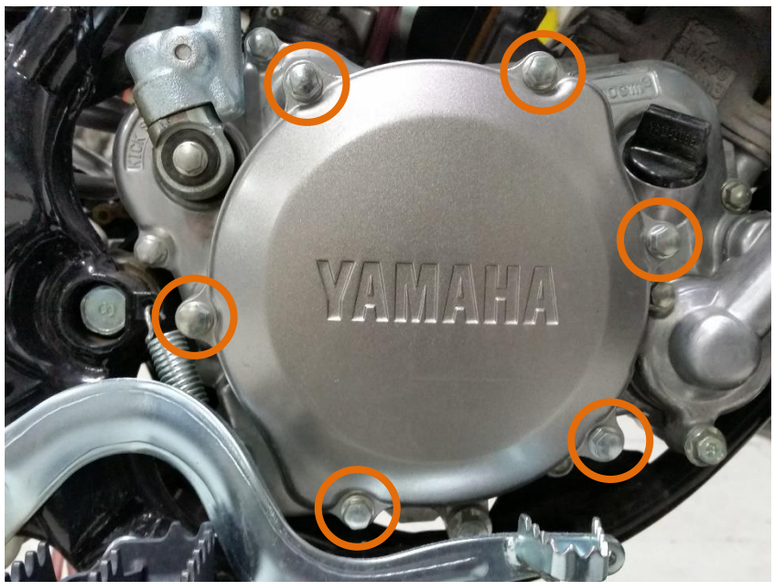
1. Soak the EXP disk in engine oil for 5 minutes. Make sure the EXP is coated on both sides.

2. If your bike is carbureted, turn the fuel petcock to “OFF.”



3. To avoid draining the oil, lay the bike on its left side. Catch any fuel that drains in a suitable container.

4. Using a socket, remove the clutch cover bolts.

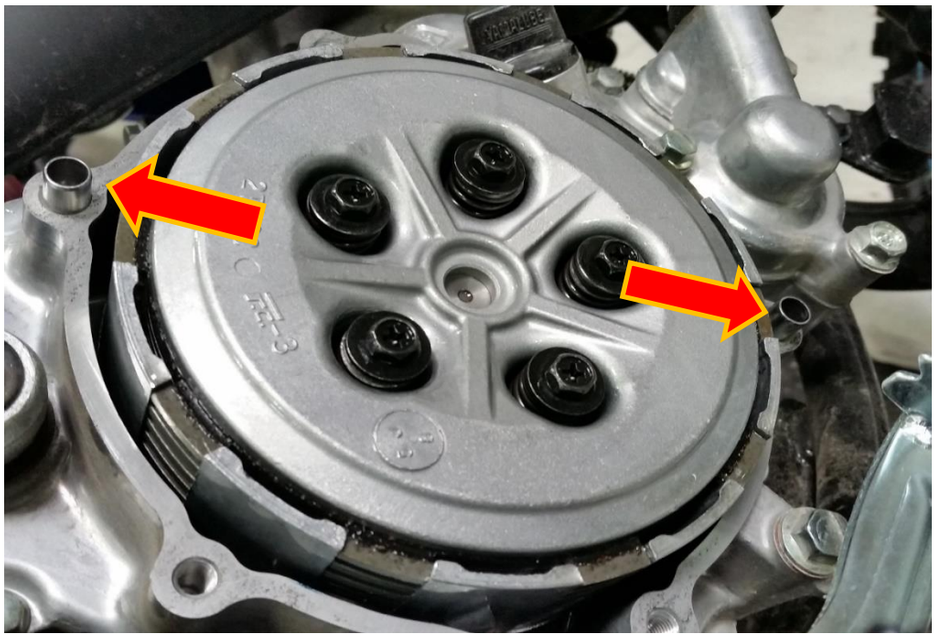


5. **CAREFULLY** remove the clutch cover to prevent damaging the clutch cover gasket or dropping the cover dowels into the engine.

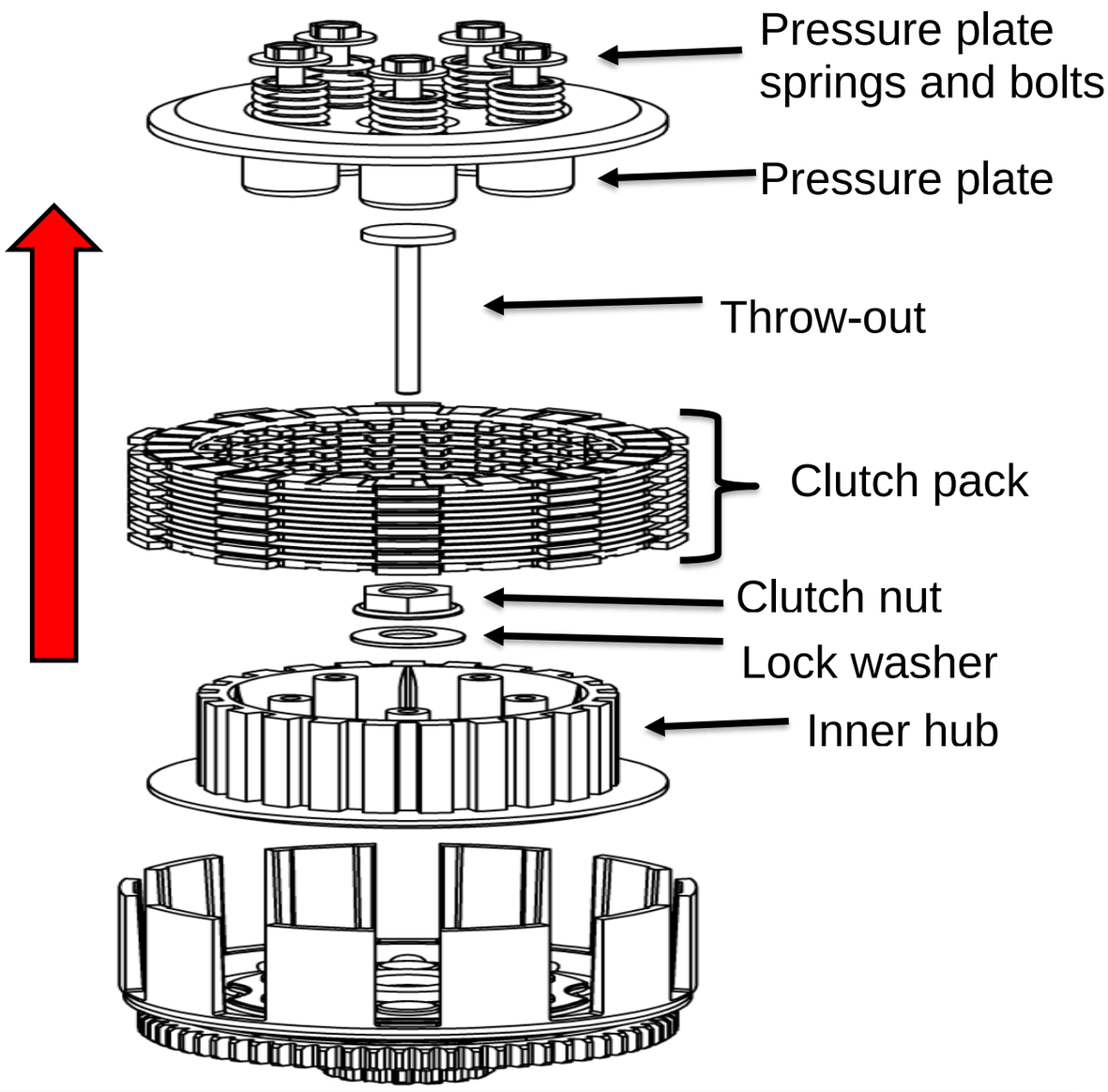
⚠CAUTION

The cover dowels are easily dropped when removing the cover. Take care to prevent losing or dropping the cover dowels into the engine. If a dowel is missing, check the backside of the clutch cover to see if it is wedged in the cover.

6. Remove the 2 clutch cover dowels and set them aside. They will be reused.

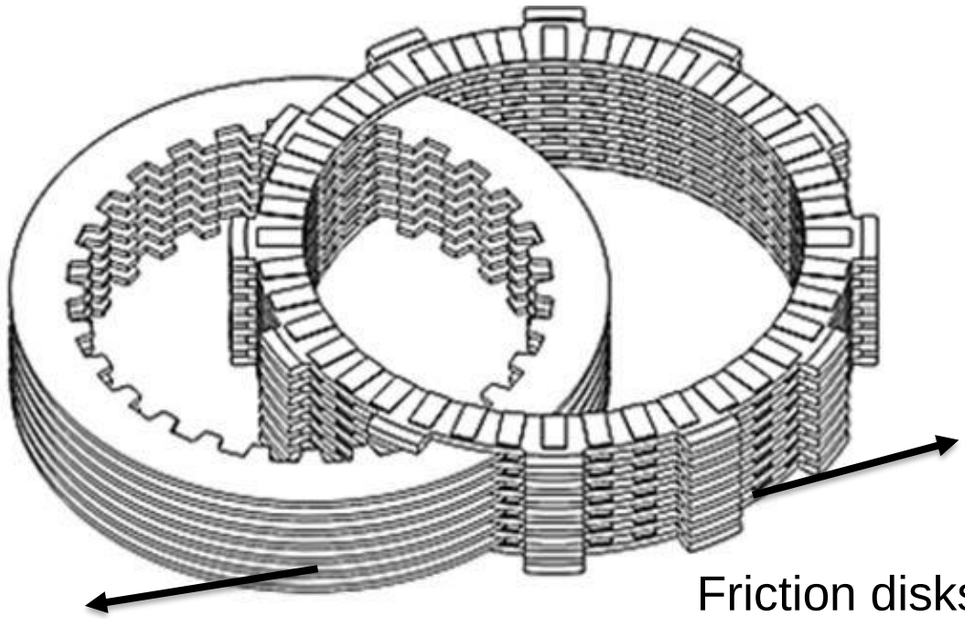


7. Remove the following OE clutch parts from the clutch basket.



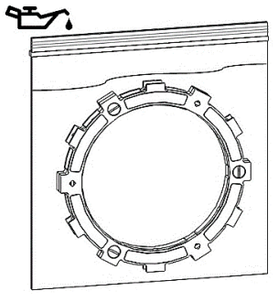
Note: *Check that the thrust washer is still on the main shaft and not stuck to the bottom of the center hub assembly. Missing the thrust washer will cause clutch performance issues.*

8. Separate the OE clutch pack. The OE frictions will be reused.

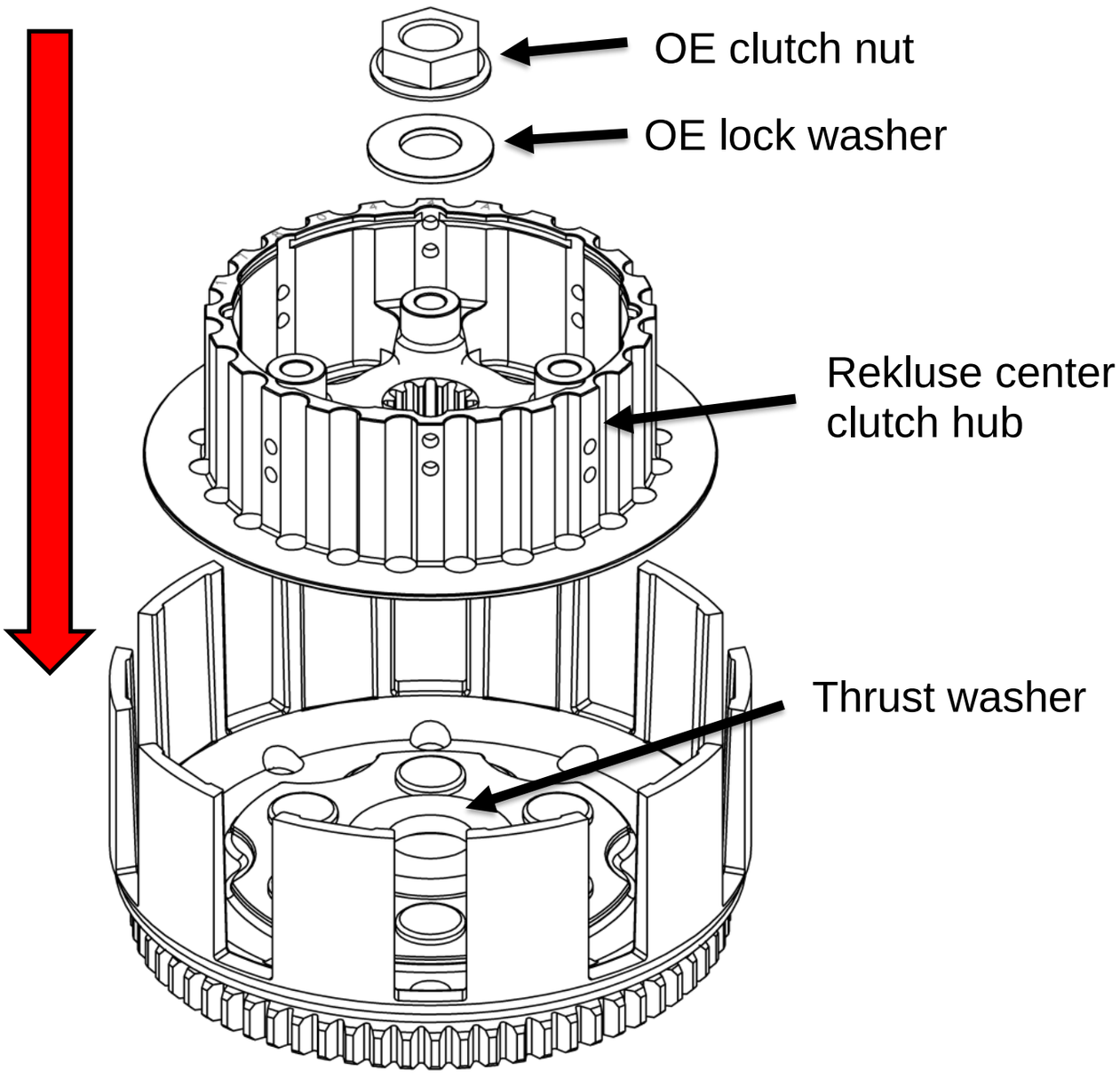


9. Inspect the friction disks. Replace the frictions if they are worn or burnt. Replacements can be purchased from Rekluse or from your dealer.

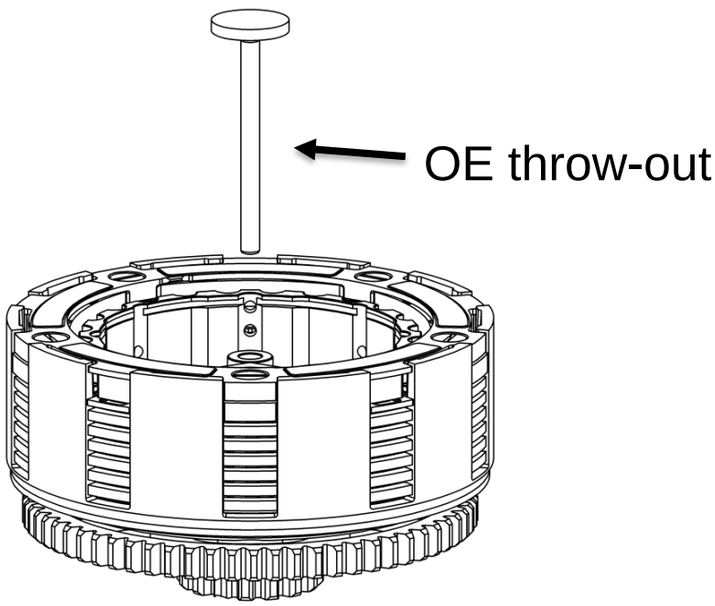
ASSEMBLE THE CLUTCH



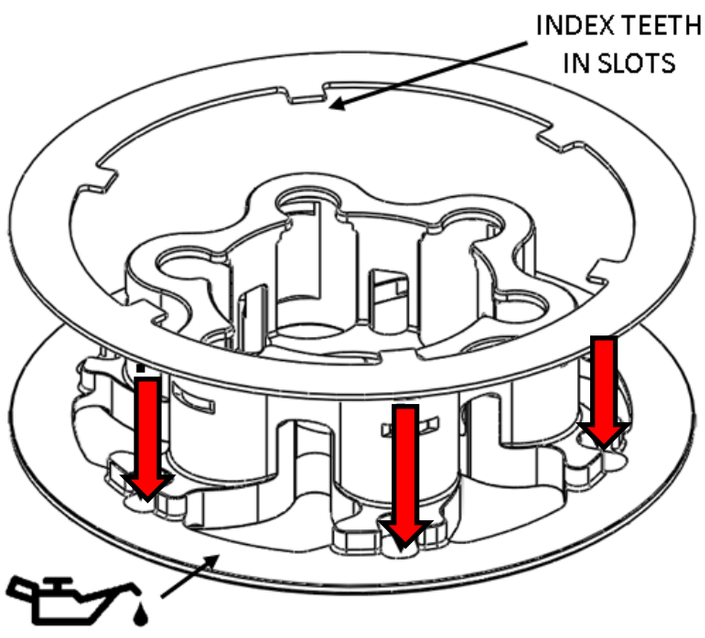
1. Soak the friction disks and EXP disk in new oil for at least 5 minutes. Make sure the EXP and friction disks are coated on both sides.
2. Double-check that the OE thrust washer is installed in the clutch basket. *If the washer is missing, check the underside of the OE center hub.*
3. Install the Rekluse center clutch hub.
4. Reinstall the OE lock washer, then reinstall the OE clutch nut.



5. Torque the nut to **40 ft-lb (55 N-m)**. **Do not over torque** or the clutch will drag and damage may occur.
6. Install the clutch pack starting with a Rekluse steel drive plate followed by an OE friction disk. **Refer to the Setup Sheet located at the back of the manual for reference.**
7. Install the EXP disk on top of the last steel drive plate.
8. Reinstall the OE throw-out.

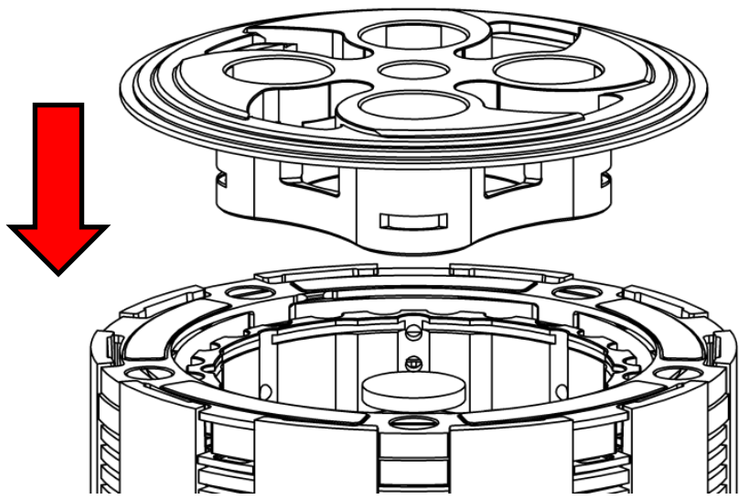


9. On a workbench, turn the Rekluse pressure plate over.
10. Install the lining plate onto the back of the pressure plate. Be sure the tabs of the lining plate index into the slots of the pressure plate.

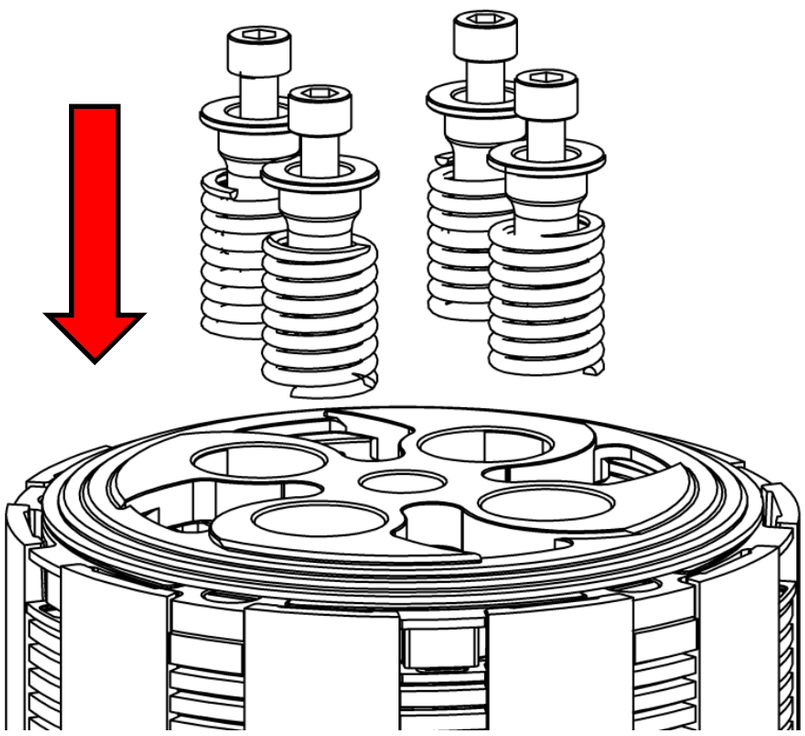


Note: *Adding a few drops of oil between the pressure plate and lining plate will help them stick together when installing them onto the clutch pack.*

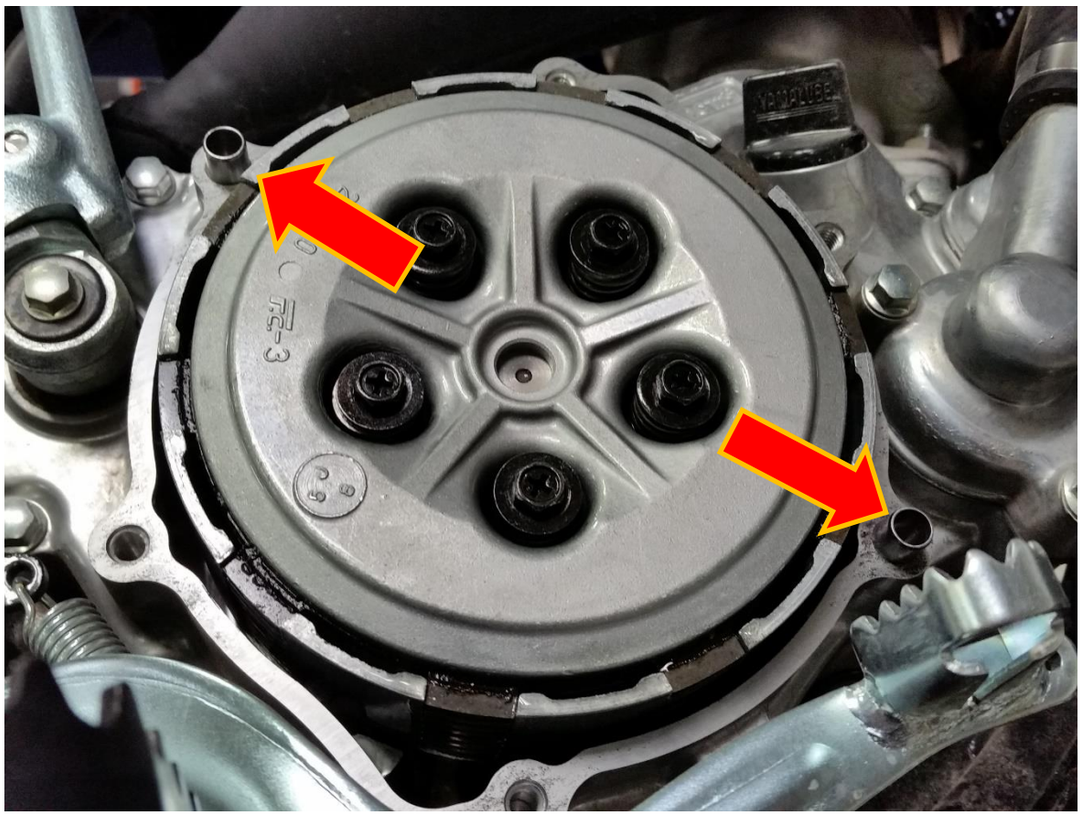
11. Install the pressure plate assembly onto the clutch pack.



12. Install the Rekluse pressure plate springs, then install the screw sleeves.
13. Install the Rekluse pressure plate screws, then torque the screws to **9 ft-lb (12 N-m)**.



14. Install the dowel pins into the engine case.



15. Install the OE clutch cover gasket (or install a new gasket) onto the Rekluse clutch cover.

16. Install the Rekluse clutch cover, then install the OE clutch cover bolts. *The two longer bolts are installed in the same location as the dowel pins.*

17. Torque the bolts to **7.2 ft-lb (10 N-m)**.

SET THE INSTALLED GAP AND CHECK FREE PLAY GAIN

Use the following steps to set the installed gap and check the Free Play Gain. Once the installed gap is set, you verify that it is correct by checking Free Play Gain. Setup, break-in, and rechecking the installed gap is CRUCIAL.

- The “installed gap” is the free space in the clutch pack when the EXP disk is disengaged (collapsed).
- This gap allows the clutch to spin freely until the engagement RPM is reached and the EXP disk expands to close the gap and apply pressure to the pressure plate, which in turn drives the motorcycle forward.
- The installed gap is what allows the auto function of the product to perform properly.

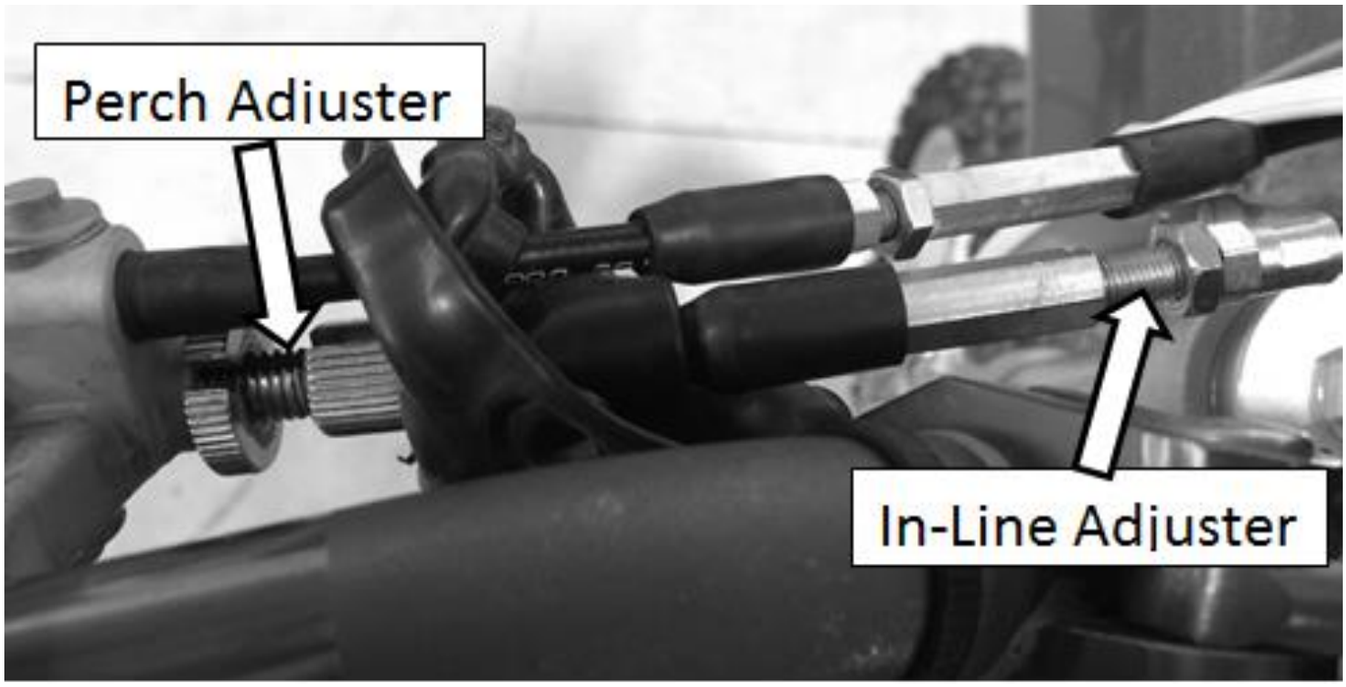
⚠WARNING

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

Setting the installed gap and checking Free Play Gain is a 4-step process. It is important to follow each step to ensure that your new clutch functions as designed.

Step 1: Find the starting point

1. Locate the perch and in-line cable adjusters for the clutch.
2. Set the perch adjustment about half-way out. This is your initial setting to adjust the install gap.



⚠CAUTION

Do not ride your bike without the adjusting the installed gap. You will not be able to disengage the clutch until you set the installed gap.

Step 2: Learn how to check Free Play Gain

If you are familiar with Free Play Gain, check for Free Play Gain then skip to Step 3 - “Break-in the new clutch.”

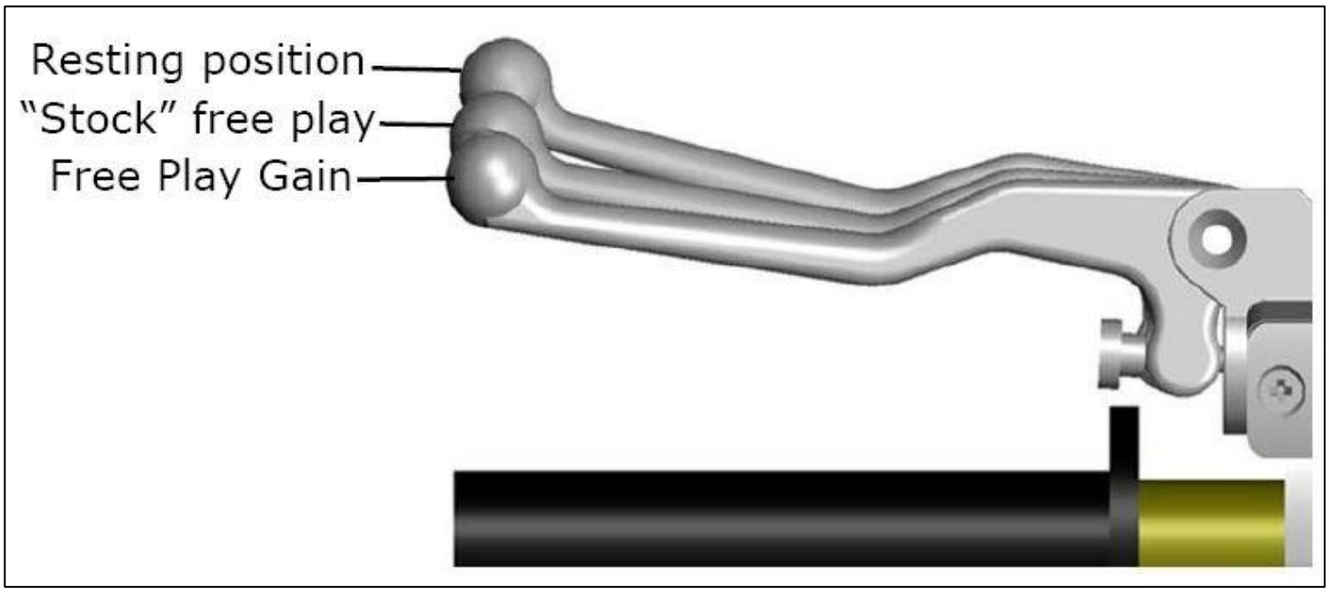
If Free Play Gain is new to you, follow the instructions below to help you learn this important step. You can also view the video entitled “How to Check Free Play Gain” on our website at www.rekluse.com/support/videos.

Free Play Gain is different from the “normal” free play (slack) you are used to with your stock clutch.

Free Play Gain happens when the engine's RPM increases from idle to above approximately 5,000 RPM and the EXP closes the installed gap. The amount of Free Play Gain you feel in the lever corresponds to the amount the pressure plate has been lifted by the EXP disk expansion.

Checking Free Play Gain allows you to externally monitor the installed gap so you can know when to make an adjustment if the installed gap is too large or too small.

The correct installed gap is verified by observing and feeling the increased free play movement in the clutch lever. This extra movement is called "Free Play Gain."



If there is too much Free Play Gain, the installed gap is too small. The bike may drag and stall because it has difficulty disengaging the clutch. It may also be difficult to shift. Too much Free Play Gain will not hurt the clutch, but it will negatively affect clutch performance.

With too little or no Free Play Gain, the installed gap is too large. This means when the EXP is fully expanded it does not lift the pressure plate. The clutch may slip and make the bike seem like it is losing power. The bike may not move forward even though the engine RPM increases as if the clutch lever is slightly pulled. Too little Free Play Gain will cause the clutch system to burn up.

Optimal Free Play Gain yields 1/8” to ¼” (3 mm-6 mm) of clutch lever movement, measured at the ball end of the lever. This measurement at the lever correlates to achieving the ideal installed gap.

Two Ways to Check for Free Play Gain

The following steps explain **2 ways** to check Free Play Gain. One way uses the rubber band Rekluse includes in the clutch kit, and one uses your hand. You can use either method to check for Free Play Gain.

Rekluse recommends that you begin with the rubber band method first to check for Free Play Gain and then learn the hand method. Check your Free Play Gain every time you ride.

⚠WARNING

BEFORE YOU BEGIN, 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.

The Rubber Band Method

Use the rubber band method for the initial set up. It can also be used before each ride until you feel comfortable checking the Free Play Gain using the hand method.

a) Before you begin, place the bike in **NEUTRAL**, start the engine and let it warm up for 2-3 minutes to idle down and warm the engine oil.

b) Stretch the included rubber band between your thumbs, then place the top end of the rubber band on the outer end of the left handlebar grip.

c) While holding the top end of the rubber band against the handlebar, stretch the band downward, then loop it through itself.

d) Pull the band through the loop, then attach it to the outside end of the clutch lever. This will take up the initial free play (slack) and put the lever in a position to detect the Free Play Gain.

e) While still in **NEUTRAL**, quickly rev the engine between 5,000-7,000 RPM (1/2 to ¾ throttle), then 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. This is your Free Play Gain.

Note: *It is very important the motor returns to idle before revving the engine again or Free Play Gain will not be correct.*

f) When the bike returns to idle, rest your hand across the clutch lever. Rev the engine again to 5,000-7,000 RPM so you can observe the movement while feeling for Free Play Gain with your hand.

g) If you are not getting the correct lever movement, see the “Adjust Free Play Gain” section to adjust the installed gap.

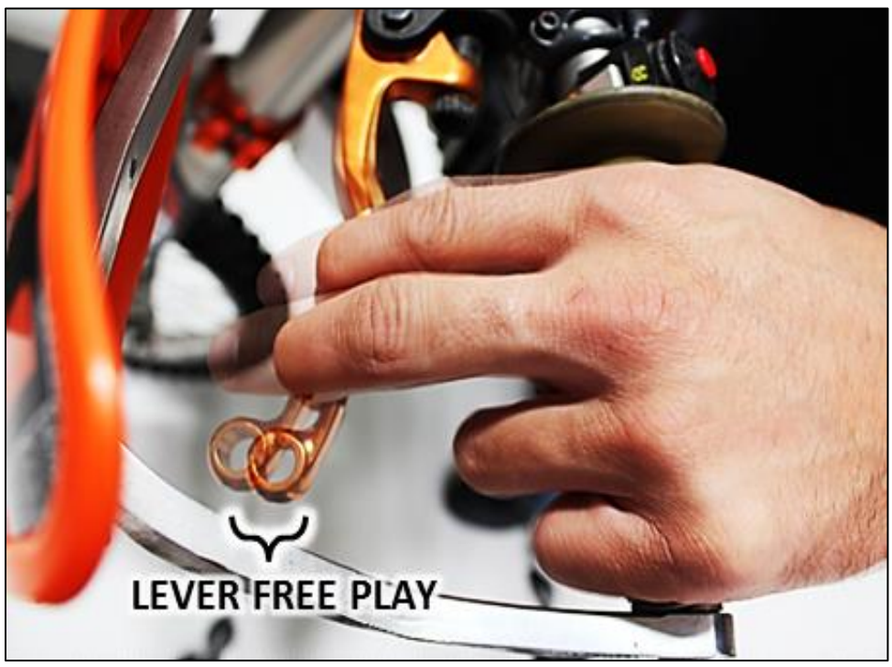
h) Once Free Play Gain is correct, continue with Step 3 to break-in the new clutch.

The Hand Method

Use the hand method to check Free Play Gain before the start of every ride for optimum performance and longevity of your new clutch.

a) Before you begin, place the bike in **NEUTRAL**, start the engine and let it warm up for 2-3 minutes to idle down and warm up the engine oil.

b) With the bike at idle, apply enough pressure to the clutch lever to take up the initial free play (slack) in the clutch lever. With this clutch kit installed, there will be NO lever free play, as the cable is always under tension.



c) While still in **NEUTRAL**, continue to apply light pressure and quickly rev the engine between 5,000-7,000 RPM (1/2 to ¾ throttle), then 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. This is your Free Play Gain.

d) When the bike returns to idle, rev the engine between 5,000-7,000 RPM a second time to feel the Free Play Gain again.

e) If you are not getting the correct lever movement, see the "Adjust Free Play Gain" section to adjust the installed gap.

f) Once Free Play Gain is correct, continue with Step 3 to break-in the new clutch.

Step 3: Break-in the new clutch

Once you install your new clutch, it is important to break it in. A series of roll-on starts are used to break in the clutch. Follow these procedures for breaking in your clutch and any time new friction disks, EXP bases, Teflon pads, or wedges are installed.

⚠WARNING

Failure to follow the break-in procedure and oil screen inspection process could cause motor oil delivery failure, which can result in motor failure, serious injury, or death.

Break-in Procedure	**Number of times**
Rev Cycles: 1. Place the bike in **NEUTRAL.**	10 rev cycles

2. With your hand **off** the clutch lever, rev the engine 10 times, being sure to let it **return to idle** between each rev cycle. 	
3. With the engine still running, pull in the clutch lever, then click the bike into 1st gear. Slowly release the clutch lever. The bike should stay in place or have a slight amount of forward creep.  4. With the bike idling in first gear, slowly apply throttle to begin moving. 5. Without using the clutch lever, accelerate moderately to approximately 5,000 RPM to fully lock up the clutch and come to a complete stop. Repeat 10 times. ***Note:*** *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.*	10 roll-on starts
6. Without using the clutch lever, start in 2nd gear, then accelerate moderately to approximately 5,000 RPM and come to a complete stop. Repeat 10 times. 	10 roll-on starts

7. Place the bike in **NEUTRAL** and recheck Free Play Gain. 8. Continue to step 4 to adjust the installed gap until the Free Play Gain of the clutch lever is 1/8” to ¼” (3 mm-6 mm).  ***Note:*** *Your clutch pack will expand with heat, so final adjustment to Free Play Gain should be made when the bike is warm. Remember not to ride without sufficient Free Play Gain.*	Recheck Free Play Gain and adjust the installed gap

⚠CAUTION

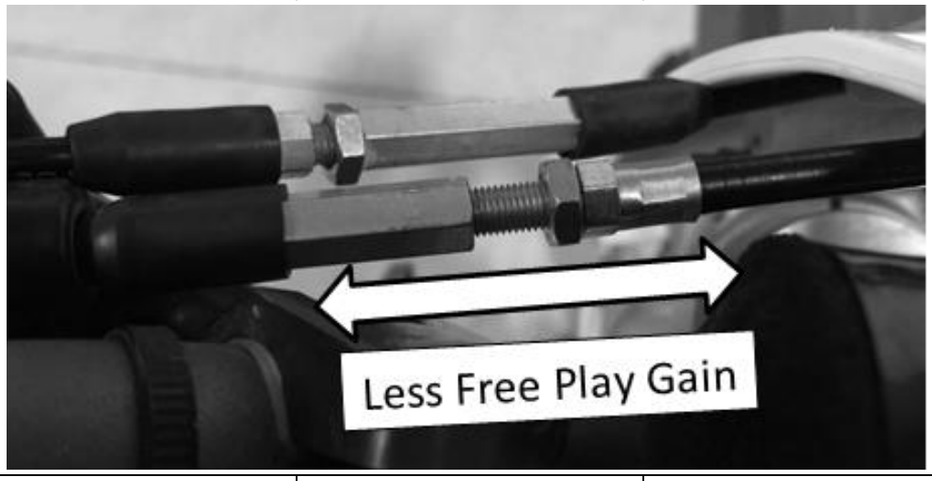
Do not perform 3rd gear starts with this product. Starting in 3rd gear will burn up the clutch and decrease the performance of this product in a short amount of time.

Step 4- Adjust FREE PLAY GAIN

Make each adjustment in small increments. After each adjustment, recheck Free Play Gain until you achieve the optimal 1/8” to ¼” (3 mm-6 mm) of clutch lever movement.

- Make adjustments using the front jam nut and perch adjuster to set the installed gap. When Free Play gain is correct, tighten the adjuster jam nuts to secure your cable adjustment setting.

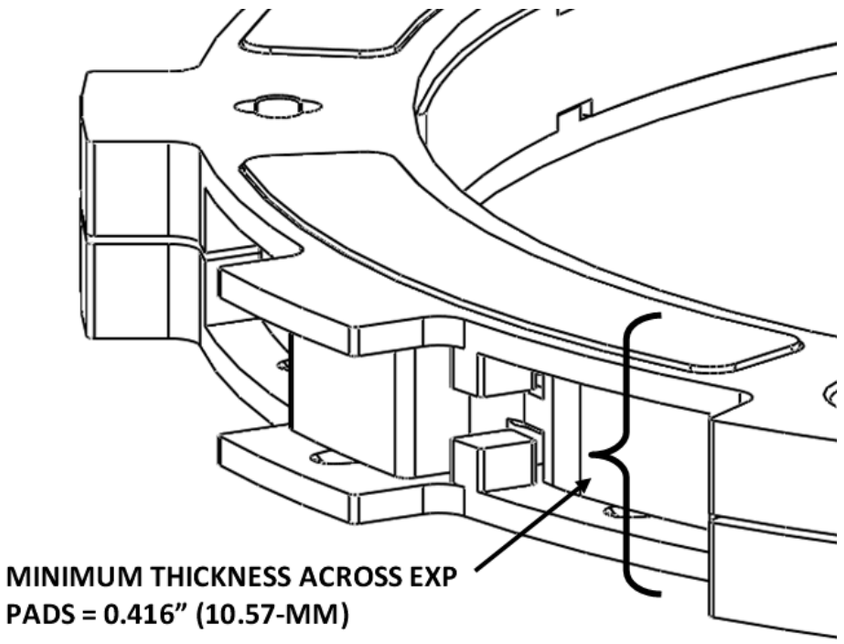
Symptom	Reason	Solution
• Clutch lever moves in too far (too much Free Play Gain) • Clutch has excessive drag or stalls. • It is difficult to fully override the clutch with the lever	Installed gap is too small	TIGHTEN THE CABLE by extending the in-line adjuster or perch adjuster to increase the Installed-Gap.
• Clutch lever only moves slightly or does not move at all (too little Free Play Gain) • Clutch slips • Bike seems to lose power	Installed gap is too large	LOOSEN THE CABLE by collapsing the in-line adjuster or perch adjuster to reduce the Installed-Gap.



MAINTENANCE

To keep your clutch performing at its best, perform regular maintenance on your bike and clutch.

- Keep up with regular oil changes as per the bike manufacturer's recommendations. Clutch performance and longevity depend on oil quality.
- Inspect all of your clutch parts for signs of wear or excessive heat and replace components as necessary. Clutch wear is dependent on the riders use.
- The OE spring ring can be optimized based on the wear and height of the clutch pack. See the attached Setup Sheet for the spring ring optimization table to adjust the spring ring.
- Measuring the clutch pack and/or the EXP disk can help determine if the components need replacing. See the **Setup Sheet at the back of the manual** for the specific clutch pack measurements.



- Inspect the dampers and replace them if you feel any movement between the two hubs. Refer to the section on inspecting the dampers for more information.

- Maintain adequate Free Play Gain. Check before every ride and adjust if necessary.
- Repeat the break-in procedure anytime you replace the EXP bases, Teflon pads, EXP wedges, or frictions disks. Always soak friction disks or EXP bases in oil for at least 5 minutes before installing.
- Replace friction disks if they measure below specifications listed on the attached Setup Sheet or if the disks are glazed and/or burnt.
- Replace the drive plates if they show signs of excessive heat.

Disk inspection examples

When inspecting the clutch pack, the following pictures can be used as a reference. **These are best viewed in color by viewing this install document from www.rekluse.com/support.**

Drive Plates – If the clutch pack is getting high amounts of heat, purple, blue, or black color can be seen on the drive plate teeth. See pictures below. Not all drive plates look the same and may look different than pictured.

Normal Heat

High Heat (Blue)

Excessive Heat (Black)

Friction Disks – Due to the dark color of the friction material, the friction disks will appear almost black as soon as they are put in oil. During inspection, look for glazing of the friction material. Glazing will appear shiny and feel like glass, even after oil is cleaned from the friction disk. Not all friction disks look the same and may look different than pictured.

Normal Friction

Glazed Friction

TROUBLESHOOTING

Performance issues

If you find yourself adjusting the slave cylinder to fix Free Play Gain or drag, the clutch disks might be worn. Excessive heat or clutch slip can cause premature clutch failure as well. Once extreme temperatures are reached, irreversible damage will occur.

- Inspect all of your clutch parts for signs of wear or excessive heat and replace components as necessary. Clutch wear is dependent on the riders use.
- Measuring the clutch pack and/or the EXP disk can help determine if the components need replacing. See the attached Setup Sheet for the specific clutch pack measurements.

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. Adjusting the installed gap will NOT affect clutch squeal or chatter.

For bike models that have clutch squeal or chatter here are some recommendations to reduce or eliminate it:

- For optimal clutch performance Rekluse recommends using fresh, clean oil that **meets JASO-MA** oil rating requirements. Dirty or old oil can make the clutch more likely to squeal or chatter.

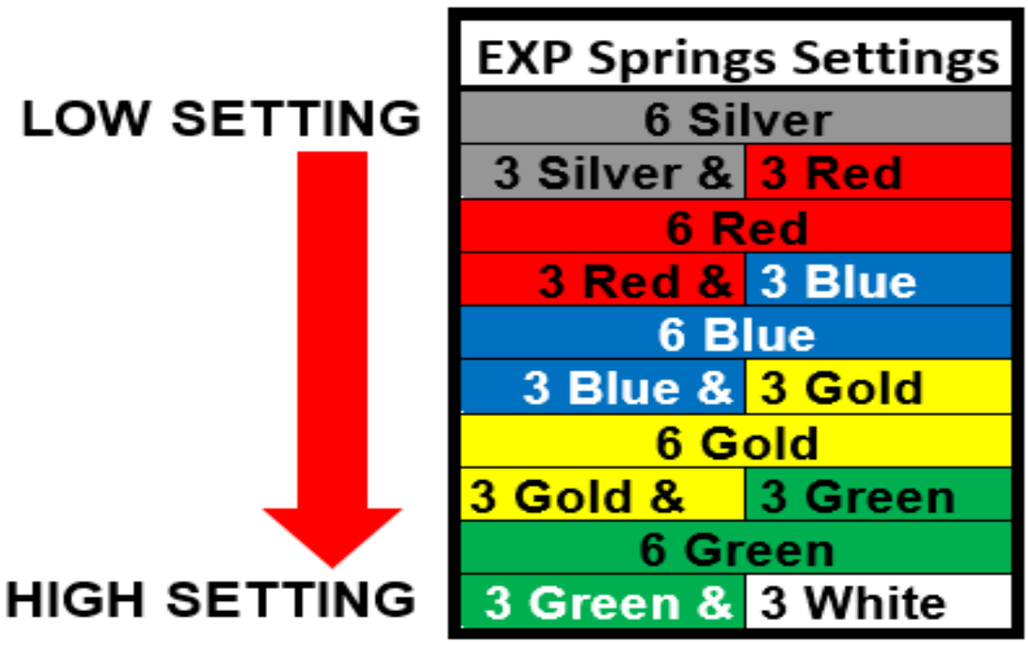
EXP TUNING OPTIONS

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.

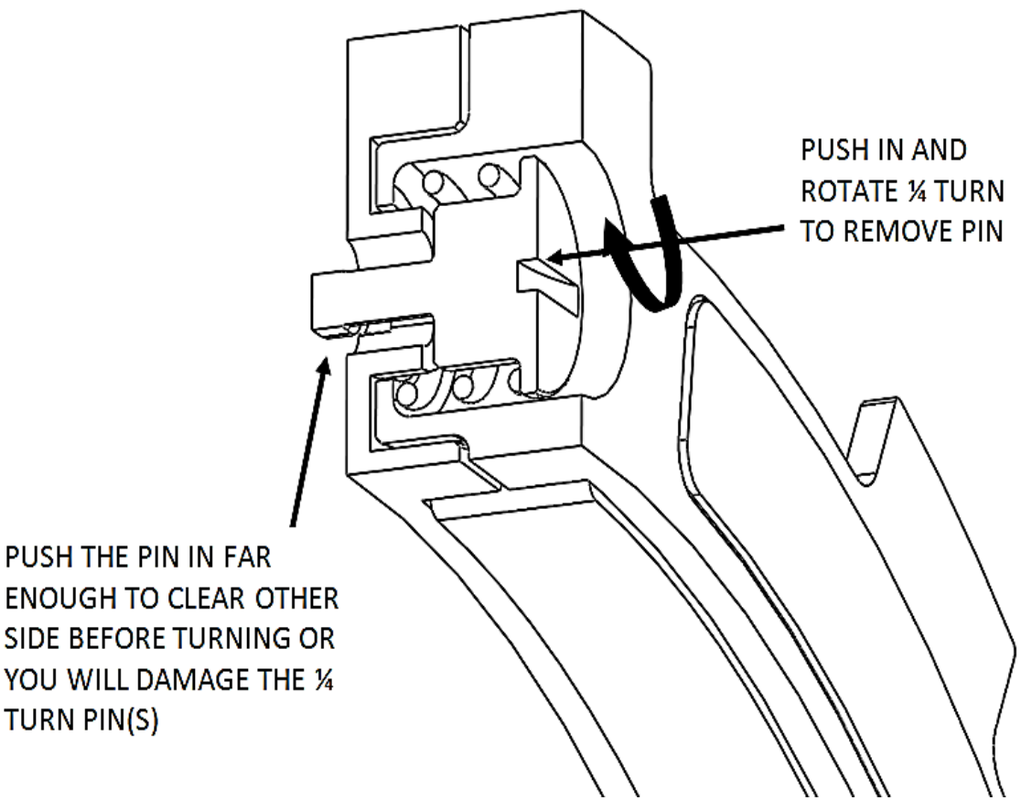
You can tune the engagement RPM of the EXP disk by changing the spring configuration. The EXP disk comes set with the recommended **“MEDIUM”** RPM engagement setting from Rekluse. Use the following steps to change the springs. It is **NOT necessary** to disassemble the EXP halves to change springs!

Configuration chart



Changing the springs

1. Using a flat-blade screwdriver, push the ¼ turn pin in far enough to clear the opposite side of the EXP to unlock the pin.
2. With the pin still pushed past the base, turn 90° to remove the pin and spring.

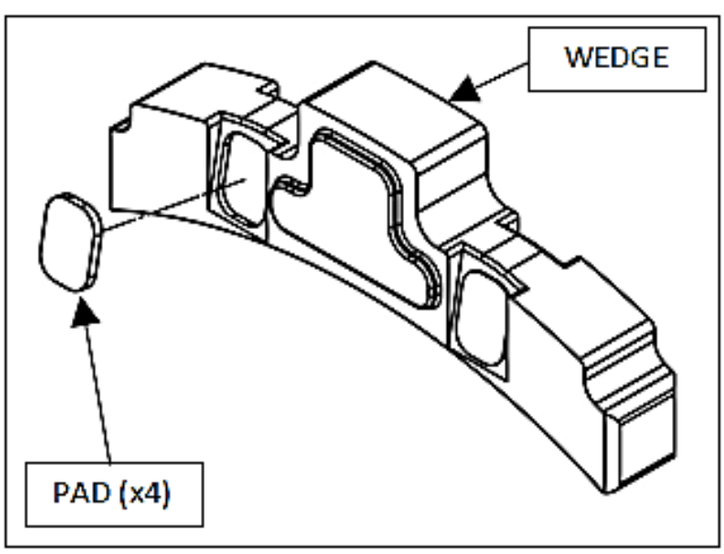


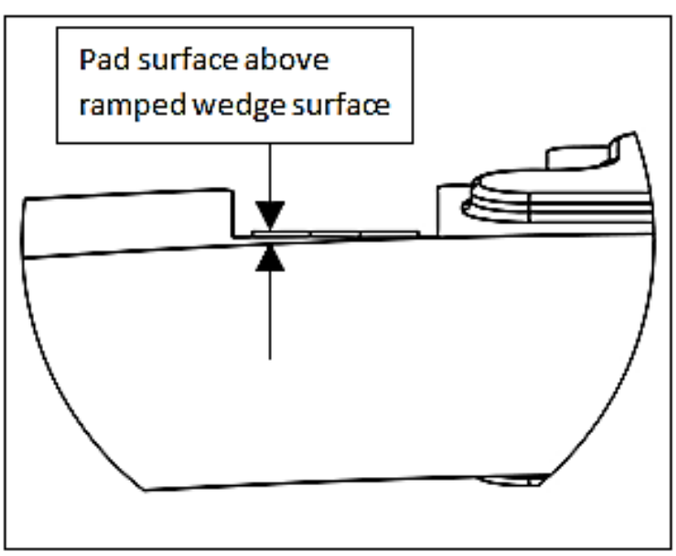
3. Remove the remaining 4 pins and springs of the EXP base.
4. Drop a new spring into the spring slot on the base, then add the ¼ turn pin.
5. Push the ¼ turn pin in far enough to clear the base, then turn 90° and release the pin. The pin should sit almost flush with the EXP base.
6. If you need to disassemble the EXP disk, you can watch the video on our website under Tech Tips at www.rekluse.com/support/videos/atv-mc-support-videos.

Note: *To maintain even pressure, when using two different color spring sets, alternate spring colors. Since there is an odd number of spring pockets, you will not be able to fully alternate.*

⚠CAUTION

If you disassemble the EXP, the Teflon 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.





BUMP-STARTING

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

1. Loosen the in-line adjuster or perch adjuster to collapse the gap until no resistance is felt.

2. Bump start the bike. The clutch will function like a manual clutch at this point, but the clutch will not be fully over-ridable at high RPMs.

3. Once the bike is started, readjust the installed gap.

NEED ADDITIONAL HELP?

Website
www.rekluse.com/support

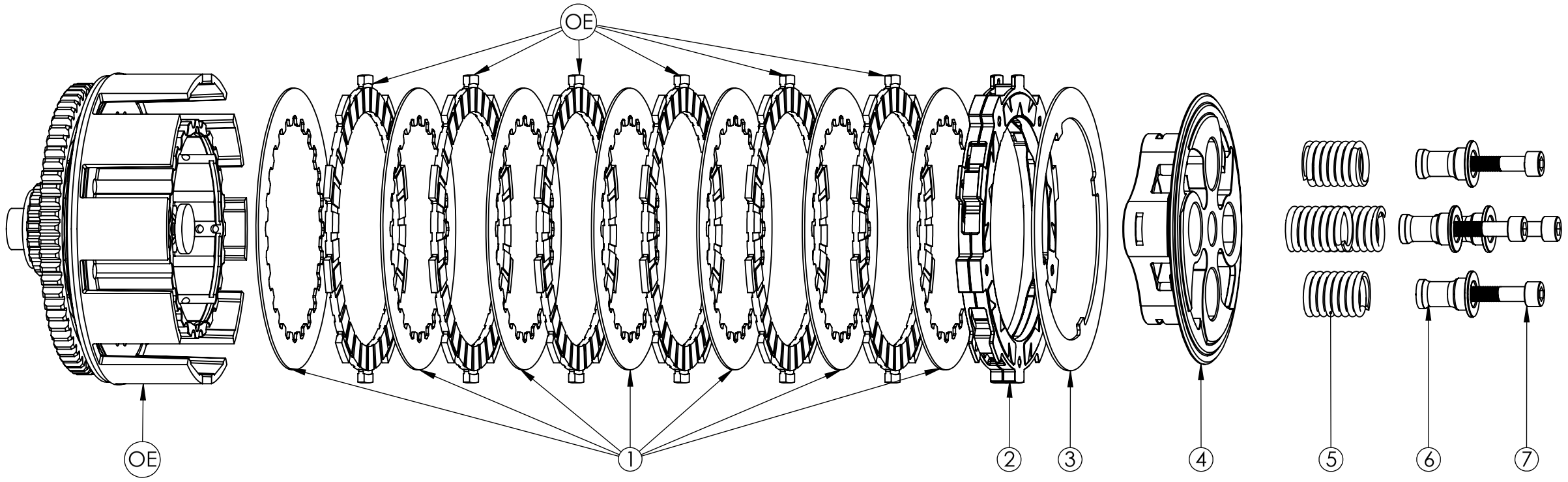
Phone
(208) 426-0659

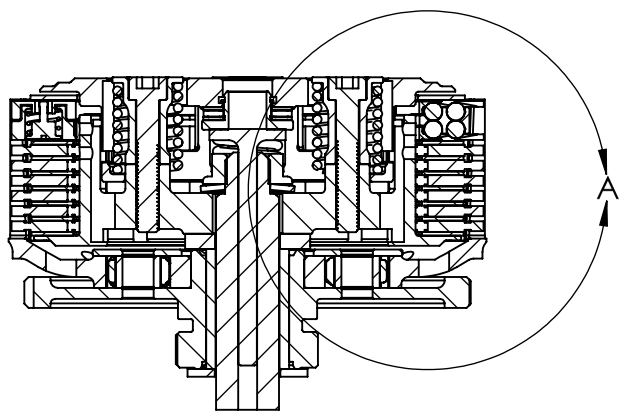
Monday thru Friday: 8 am – 5 pm Mountain Time

Email

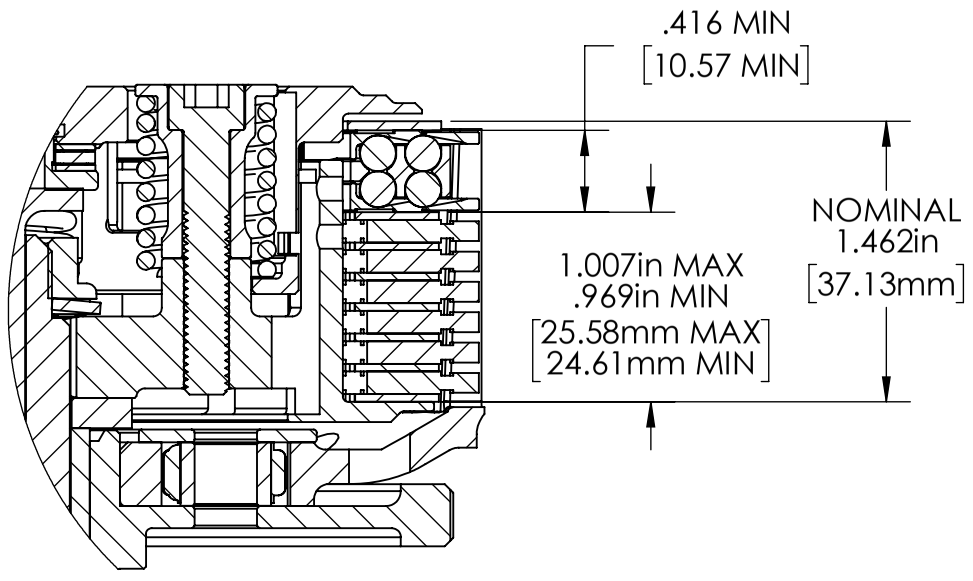
customerservice@rekluse.com

SETUP SHEET 198-8707072





CLUTCH PACK THICKNESS



SERVICE LIMITS

General Table		
COMPONENT	STANDARD	SERVICE LIMIT
EXP	.426-.446in 10.8-11.3mm	.416in 10.6mm

COMPONENTS

ITEM NO.	DESCRIPTION	QTY.
1	DRIVE PLATE 0.48" (1.2mm)	7
2	EXP DISC	1
3	PRESSURE PLATE LINING PLATE	1
4	PRESSURE PLATE ASSEMBLY	1
5	PRESSURE PLATE SPRINGS	4
6	SCREW SLEEVE	4
7	PRESSURE PLATE SCREW	4
OE	OE BASKET	1
OE	OE FRICTION DISC	7

REKLUSE MotorSports
12000 FRANKLIN RD
BOISE, IDAHO 83709
WWW.REKLUSE.COM
PH (208) 426-0659
FAX (208) 672-1318