

REKLUSE MOTOR SPORTS

The Rekluse Auto-Clutch Kit for BMW F650, F700, F800
Parallel Twins

INSTALLATION & USER'S GUIDE

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OVERVIEW

This kit replaces the OEM clutch pack with a Rekluse-designed clutch pack designed for optimal operation specific to your bike. None of your OEM clutch disks will be reused with the EXP product.

INSIDE THIS DOCUMENT

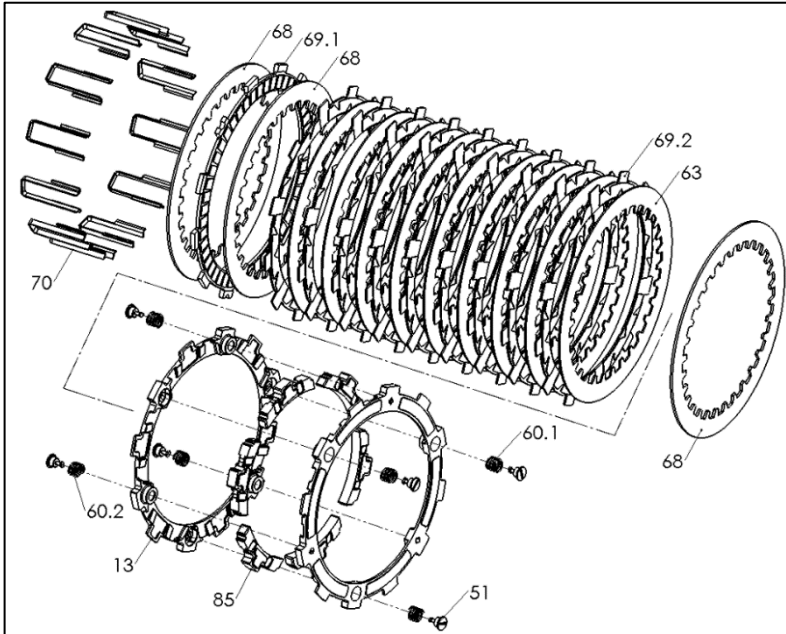
- INSTALLATION
- SETTING THE INSTALLED GAP
- CHECKING FREE PLAY GAIN
- BREAK-IN
- CLUTCH PACK ADJUSTMENT
- EXP TUNING OPTIONS & ENGAGEMENT SETTINGS
- MAINTENANCE

INSTALLATION TIPS

- Watch the “EXP Auto-Clutch Installation Video” by following this QR code or visiting rekluse.com/support/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.
- Use clean, quality JASO MA certified oil for motorcycle transmissions for best performance.
- When reinstalling components, use the torque specifications found in your OEM service manual.



INCLUDED PARTS



Item	Item Type	Qty
13	EXP Base *	2
14	Wedge Assembly *	6
51	Fastener - 1/4-Turn Pin *	6
60.X	EXP Adjustment Spring * (extra are included, see EXP tuning options)	6
63	Drive Plate, Thin (1mm)	9
68	Drive Plate, Thick (1.5mm)	3
69.1	Friction Disk, Thick	1
69.2	TorqDrive™ Friction Disk	9
70	Basket Lining Sleeve	12

* Denotes parts assembled as part of EXP disk assembly

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

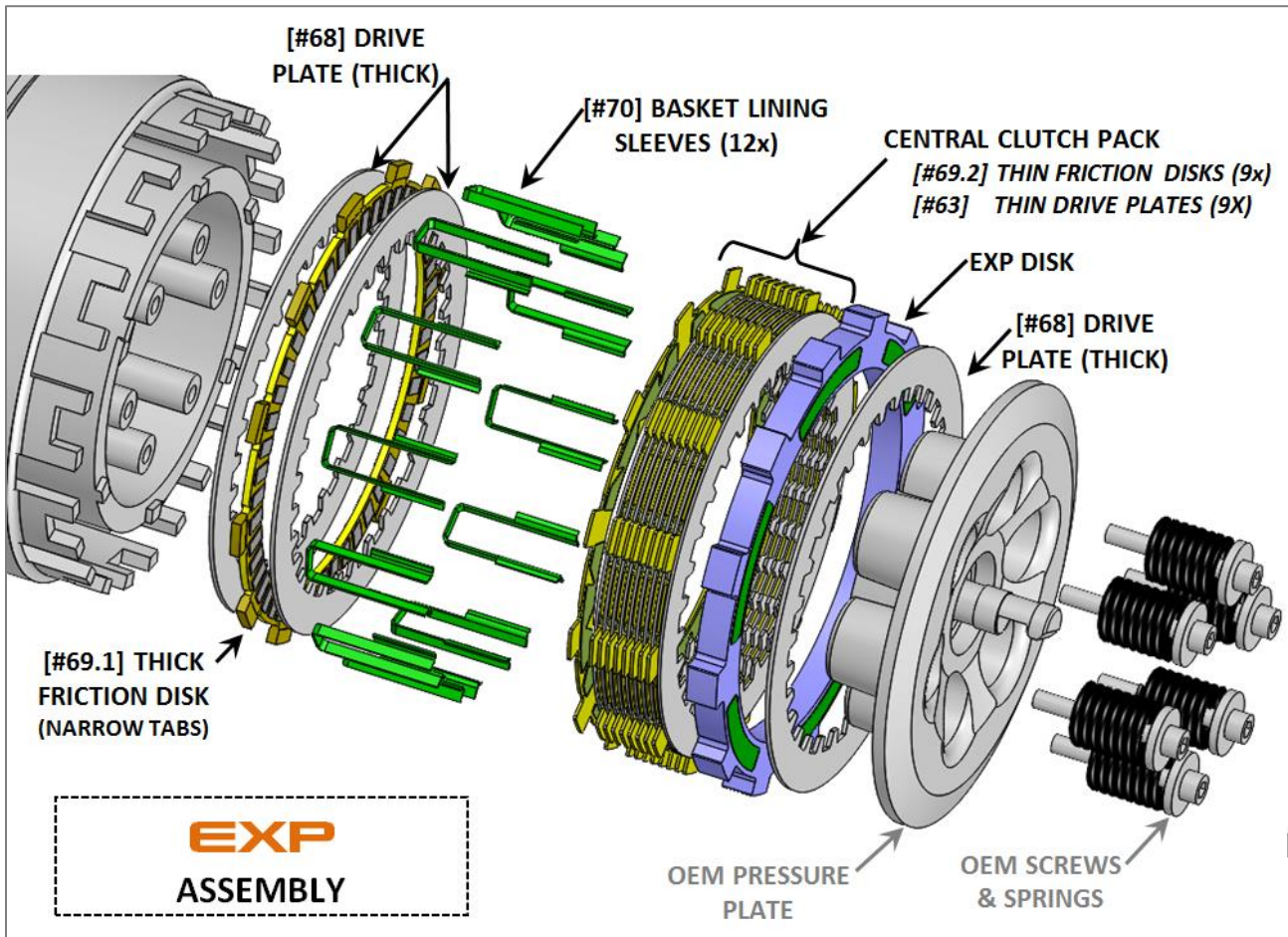
USE OF OTHER AFTERMARKET PRODUCTS

- Bikes with heavily modified engines for increased horsepower may require stiffer pressure plate springs which can be purchased separately from Rekluse.
- If your bike is equipped with an aftermarket clutch cable, you may find that the adjustment range in your cable is different than depicted in this manual.
- Bar risers may limit the travel necessary for your cable adjustment to achieve the necessary installed gap.
- 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 adjustment for installed gap.

TOOLS NEEDED

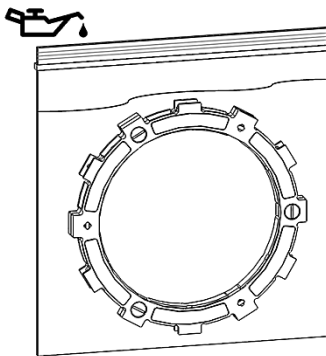
- 6, 8, & 24mm sockets
- 2x 13mm end wrenches
- Channel-Lock style pliers
- 2x Dental Pick Tools
- 5mm Allen key
- Torque wrench (in-lb, or N-m)
- T45 Torx bit

ASSEMBLY OVERVIEW



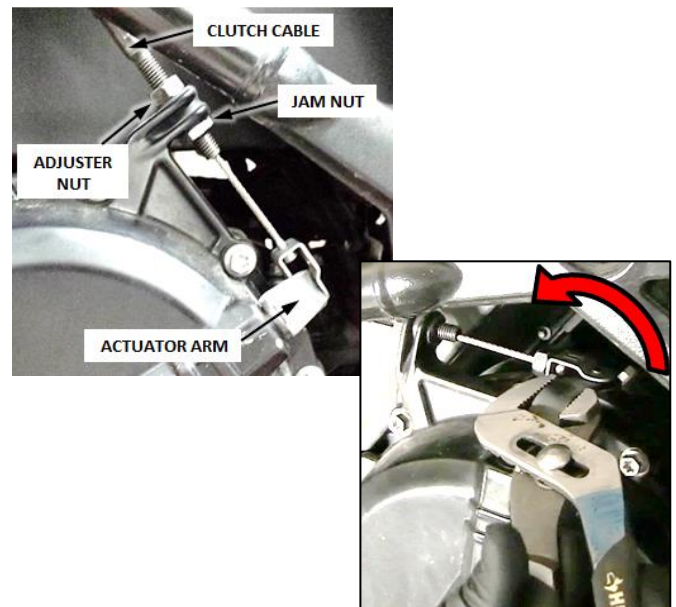
PREP & DISASSEMBLY

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



2. To avoid draining the oil, lay the motorcycle on its right side. Or, you can stand the bike vertically on its center stand and drain the oil.
3. Remove the left side kickstand bracket using a T45 Torx and the shift lever using a 6mm socket. Take care not to damage the electronics or wires that protrude from the kickstand bracket.

4. Loosen the jam nut and unthread it from the cable adjuster; then, use channel-lock style pliers to turn the actuator arm and detach the cable from the actuator arm and the clutch cover.



5. Detach the clutch cable from the clutch cover.

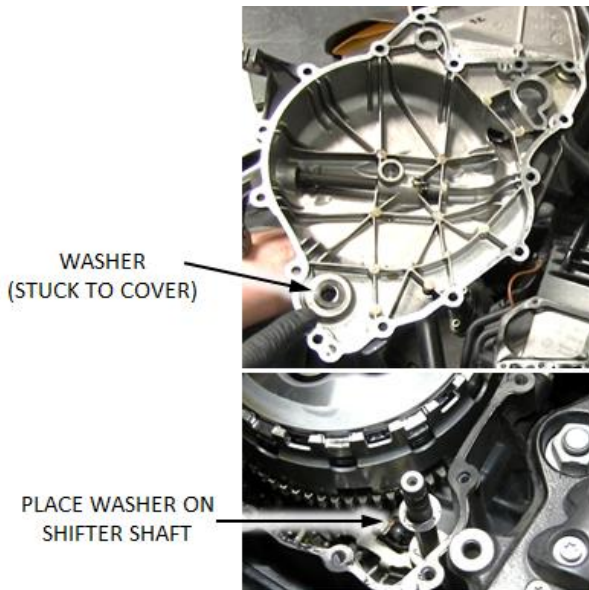


6. Remove the oil fill cap.

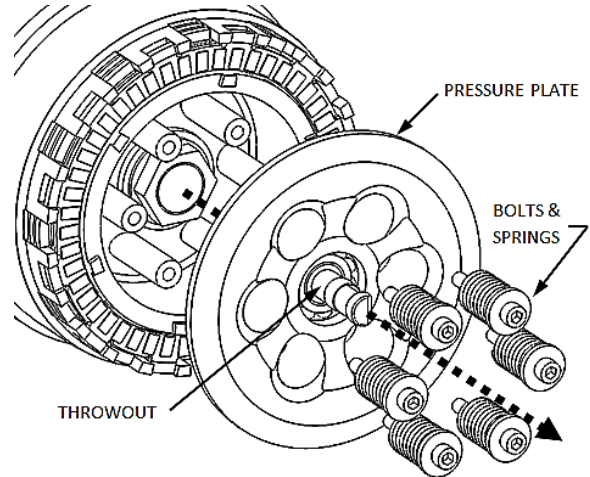


7. Remove the clutch cover bolts and clutch cover, taking care to not damage the cover gasket. Replace this gasket if it is torn or damaged.

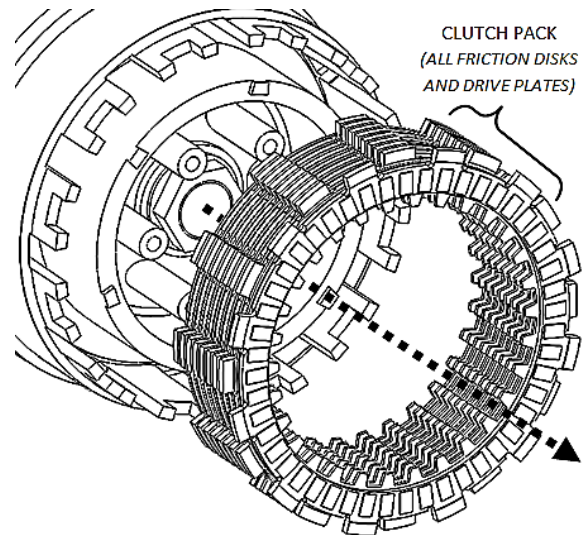
The washer on the shifter shaft may stick to the back of the clutch cover when removing it. Ensure that the washer is placed on the shifter shaft.



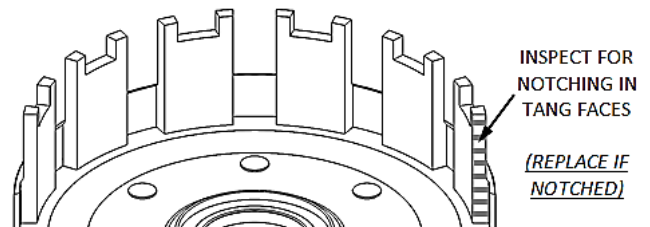
8. Remove the OEM pressure plate and throwout:



9. Remove the entire OEM clutch pack (all plates).



10. Inspect the basket for slop or notching on the tang faces. If notched or worn, it is important to replace with a new OEM basket before proceeding. **Do not install sleeves or use the Rekluse product with a notched basket.**



NOTICE

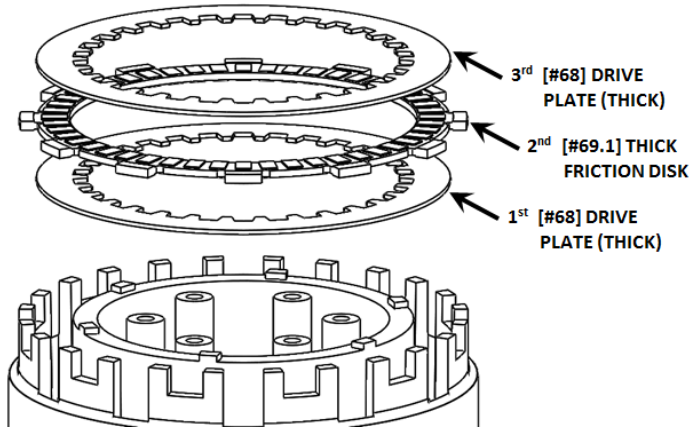
Failure to replace a notched-out basket can result in the severe damage to the basket lining sleeves.

INSTALLATION

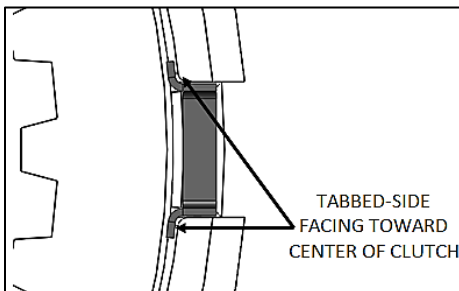
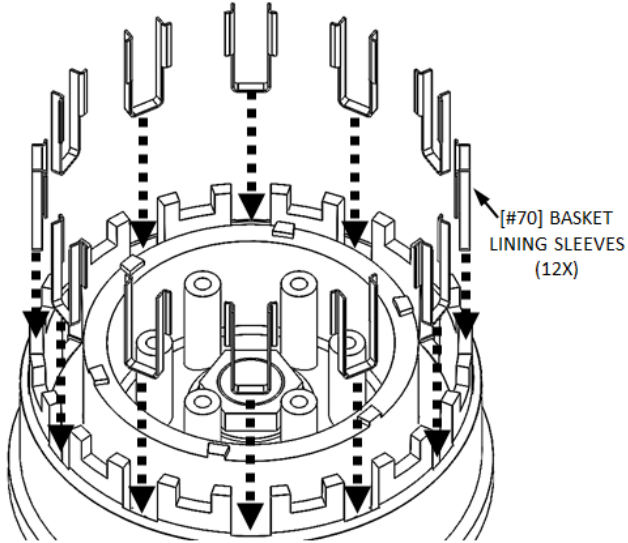
NOTE: In the OEM clutch, both the top and bottom friction disks have *slightly narrower tabs* than the other 7 friction disks.

The Rekluse-supplied thick friction disk [#69.1] also has this same narrow-tab feature so that it fits properly into the slots of the OEM basket.

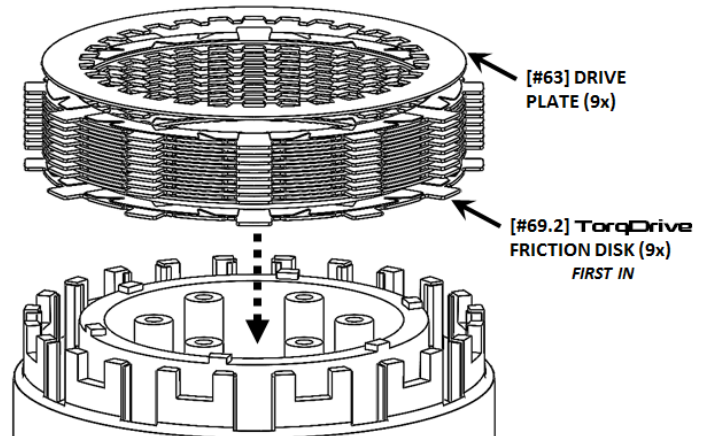
1. Install the first 3 clutch plates in the order shown.



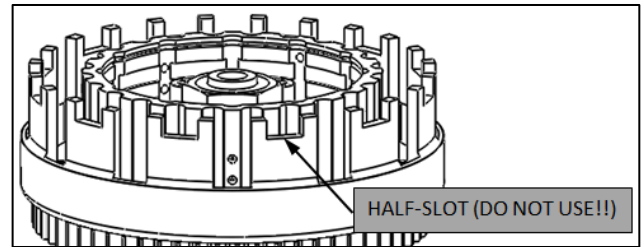
2. Install the 12x Basket Sleeves [#70] into the tang slots of the basket, pushing them down in until they contact the tabs of the first thick friction disk.



3. Install the central section of the Rekluse clutch pack as shown below, alternating thin friction disks [#69.2] with thin drive plates [#63].

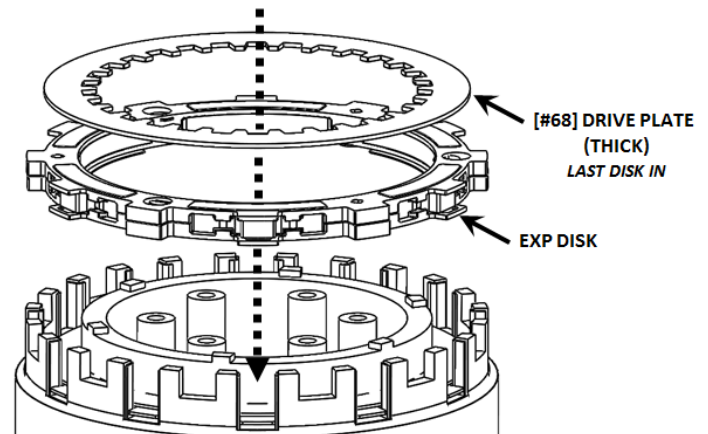


Use only the full tang slots. Never install any of the disks' tabs into the half-slots in the basket.

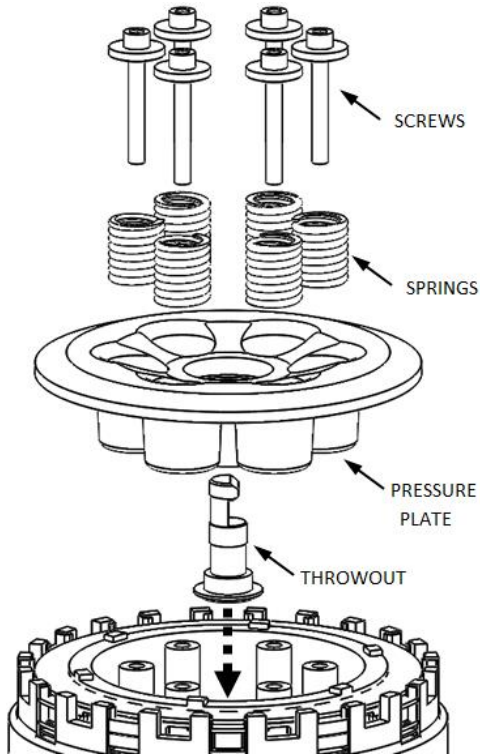


4. Install the Rekluse EXP disk followed by the last thick drive plate [#68].

The EXP disk is not directional. It can be installed in any orientation; just DO NOT install it into the basket half-slots!



11. Reinstall the OEM throwout and pressure plate, followed by the springs and screws.



12. Install a new clutch cover gasket followed by the clutch cover, ensuring that the throwout is aligned correctly with the actuator mechanism in the cover. Torque the bolts evenly in a star pattern.



13. Reinstall the left side kickstand bracket and the shift lever. Use Loctite 243 or equivalent thread-locking compound. Torque to OEM spec.

14. Reinstall the clutch cable to the clutch cover. Thread the jam nut onto the adjuster, but do not tighten it. It will be tightened after you set the free play gain.



15. Use the channel-lock pliers to reattach the clutch cable to the clutch cover and the actuator arm.

16. Stand the bike up, supporting it on its kickstand or center stand.

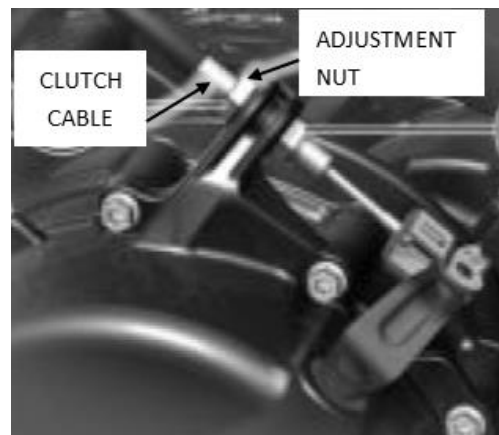
INSTALLED GAP SETTING

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.

17. Using the adjustment nut, adjust the clutch cable tight so that there is no free play between clutch lever and clutch perch.



CLUTCH LEVER STICKER

18. Install the provided warning label on the clutch lever so that the writing is visible to the rider as shown.



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.

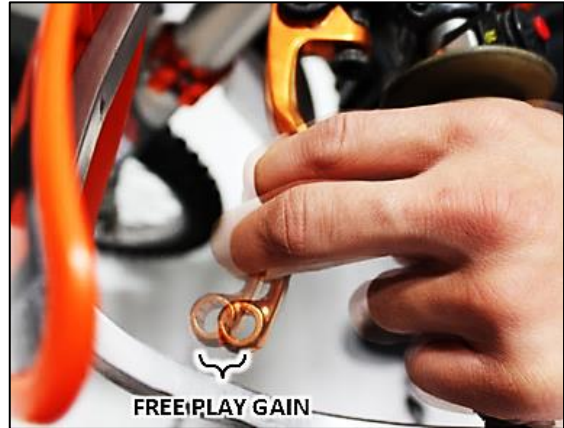
NOTE: Before performing this step please visit our website at rekluse.com/support to view the TECH VIDEO entitled "How to Check Free Play Gain".



"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 throwout 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.

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.



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.



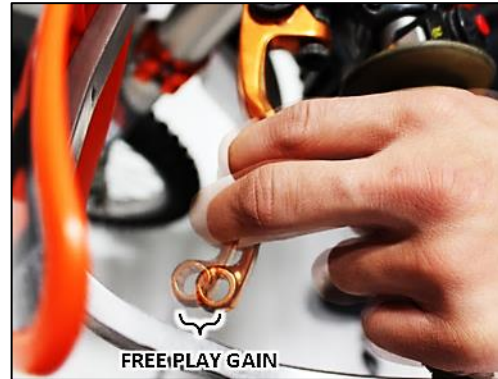
With the bike at idle in neutral, quickly blip (rev) the engine to at least 5,000 RPM and let it return to idle. **The clutch lever should move in about 1/8" (3mm) toward the handlebar as you rev the engine.**

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, 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!

FREE PLAY GAIN TROUBLESHOOTING

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

NOTE:

If you are unable to obtain the correct free play gain or you are nearly out of cable adjustment after performing the steps below, refer to the CLUTCH PACK ADJUSTMENT section.

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: TIGHTEN THE CABLE by turning the Adjuster Nut 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 tuning the Adjuster Nut to reduce the Installed Gap. It may be helpful to re-find the starting point.

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:** Rekluse recommends that you have fresh, clean JASO-MA rated oil 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.
- **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

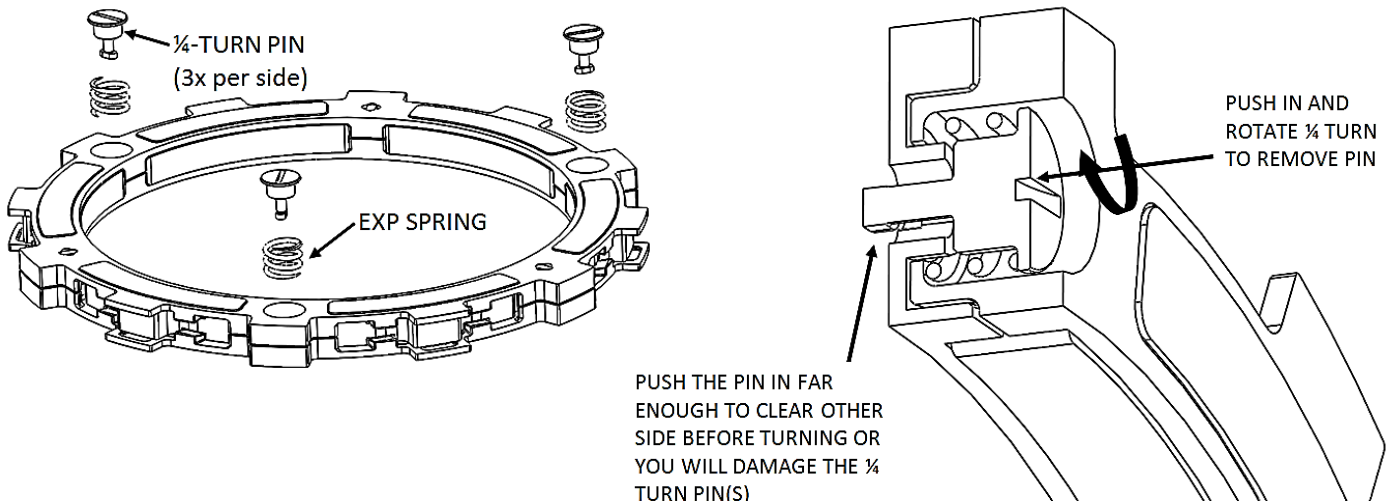
Included are spring options to tune the engagement RPM of the EXP friction disk. The EXP friction disk comes set with the recommended “Medium” setting from Rekluse. See the following chart for settings.

F650/700/800 Parallel Twin

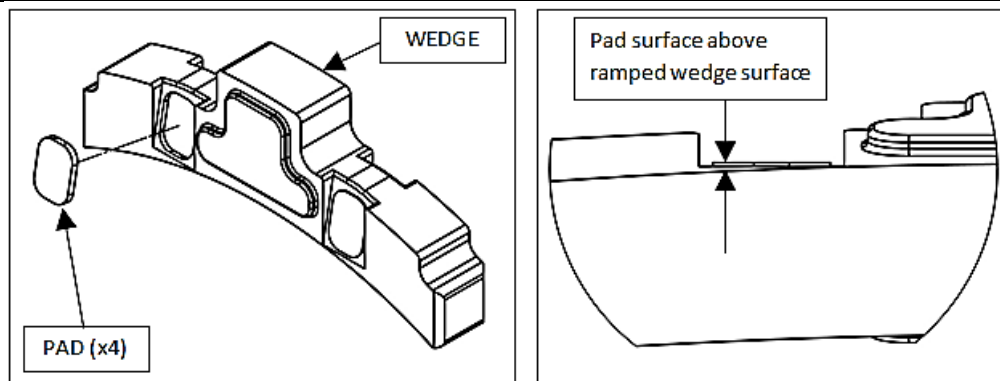
ENGAGEMENT SETTING	SPRING CONFIGURATION
Low	6 Red Springs
Medium	3 Red & 3 Blue Springs
High	6 Blue Springs

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 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.

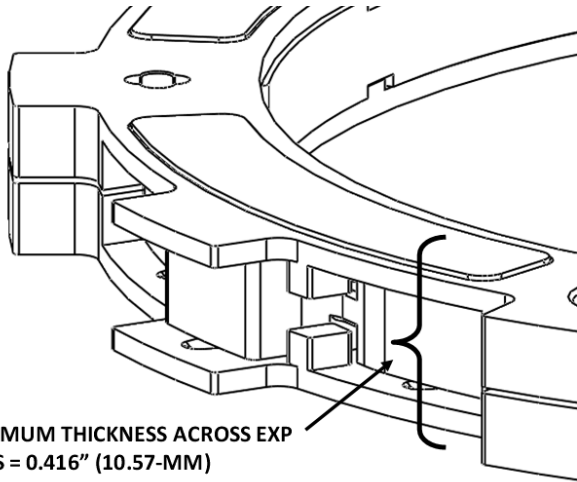


CAUTION: If you disassemble the EXP, bearing pads may fall out or be stuck to the ramp surfaces of the EXP bases. Take care to ensure all pads are correctly placed into wedge pockets using gentle pressure to avoid damage to the pad surfaces before reassembling the EXP. Properly seated pads will be secured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



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.



- 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.
 - o Rekluse **TorqDrive** friction disk [#69.2] minimum allowable thickness = **0.067" (1.73mm)**
 - o Rekluse thick friction disk [#69.1] minimum allowable thickness = **0.117" (2.97mm)**
- 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.

DISK INSPECTION

These are best viewed in color by downloading the PDF from rekluse.com/support

When inspecting the clutch pack, the following pictures can be used as reference:

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.



Normal Heat (Brownish) High Heat (Blue, Purple) 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.



Normal Friction Pad



Glazed Friction Pad

Repeat the break-in procedure anytime the friction disks or EXP bases or wedges are replaced.

Always soak new friction disks or EXP bases in oil for at least 5 minutes before installing

LEVER SAFETY STRAPS

This kit includes 2 Velcro-type straps to be used to secure both the clutch and front brake levers when the bike is parked. These are intended to reduce the risk of injury or damage that may occur from the bike rolling or launching unexpectedly with or without a rider on it. Use the straps to pull both levers as tight to the bar as possible as shown in the photos every time you park or leave the motorcycle. Refer to the Safety Information document for more information.

Brake Lever Strap: for use as a parking brake.



Clutch Lever Strap: to prevent unwanted launching.



Rekluse auto-clutch-equipped motorcycles may roll back or move suddenly and unexpectedly and cause riders to lose control.

An auto-clutch-equipped motorcycle will move in gear with the engine off because the clutch is only engaged when engine RPM is greater than the engagement threshold of the auto-clutch. Engine compression will not prevent motorcycles from moving while in gear.

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.

To avoid death, serious injury, and/or property damage:

- Use the included brake lever strap to secure the front brake lever to the handlebar as a parking brake.
- Use the included clutch lever strap when the motorcycle is parked to secure the clutch lever to the handle bar, thereby completely disengaging the clutch.

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