OWNER'S MANUAL

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SAFETY WARNINGS

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Because the z-Start z-Start Pro, or Core EXP will make your bike appear to be in neutral when in fact it is in gear, it can move suddenly and unexpectedly if the operator applies the throttle with the bike in gear. Do not apply excessive throttle to the bike until you are certain the transmission is in neutral. When putting the bike in gear, make sure the engine has reached idle speed and the brake is applied.

If your throttle sticks open, use the kill switch to stop the engine.

Downhill riding with a higher stall speed requires adjustments to your riding style. For example, coming over the top of a hill in first gear and slowing to the point that the z-Start, z-Start Pro, or Core EXP disengages the clutch, your motorcycle will now be "free-wheeling" down the hill. With a higher stall speed, engine speed engages the z-Start, z-Start Pro, or Core EXP clutch, not wheel speed. It may be possible to reach very high speeds coming down a hill in a very low gear. When throttle is applied, the z-Start, z- Start Pro, or Core EXP will engage suddenly. In this situation, severe compression braking could cause an accident or engine damage.

WARNING

Clutches are subject to fail during normal use. Clutch failure could cause the rear wheel of the motorcycle to lock up while the vehicle is in motion. Should this happen, it may cause the operator to lose control of the motorcycle causing property damage, personal injury, or loss of life. Always take appropriate safety precautions when riding your motorcycle, including, but not limited to, proper training to handle emergencies, proper safety gear, and proper motorcycle maintenance.

WARNING

Improper installation, service or maintenance of this product can cause injury or property damage. Read these directions thoroughly before installation. Only a trained and qualified mechanic should install this product. For assistance or additional information, please call Rekluse Motor Sports.

READ ME FIRST

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There are several crucial steps that must be understood and performed to ensure your Core EXP clutch will function properly. Failure to properly install, break-in and maintain your clutch components will result in premature wear or failure.

New Friction Disks Break-In Procedure

- DO NOT put in a new set of friction disks and go racing or for a long ride without breaking them in
  - Soak new friction disks in oil
  - Install new friction disks, set installed gap to 1 full turn
  - Perform short break-in ride on new friction disks
  - Reset installed gap to 1 full turn + 2 tick marks
  - Verify free play gain
- Break-in procedure is also required when installing new Core EXP clutch components
- If you race, break-in an extra friction disk set and keep it as a spare so you can swap in a fresh set of friction disks without performing break-in
- Read the maintenance guide for more information

Check for free play gain at the start of each ride

- Understand how to properly check for free play gain
  - Do not ride if you cannot verify free play gain
  - Clutch may seem to work fine but could be slipping excessively
- If you cannot detect free play gain, reset the installed gap

Tips for setting the installed gap

- For cable actuated bikes, be sure the clutch lever has some free play when finding the “starting point”
- Don’t forget to loosen the set screws before adjusting the installed gap with the pressure plate adjuster
  - re-tighten the set screws after adjustment
- Adjust the installed gap with the engine cold or after it has cooled for a 15 minutes with the cover off
  - If you must adjust the installed gap with the engine hot, set the installed gap to 1 full turn + 0 tick mark and reset the installed gap after the ride with the engine cold

Visit the Rekluse Core EXP Tech Web Site for More Information

Videos, tutorials and tips to help you get the most out of your Core EXP clutch: www.rekluse.com/core-exp-tech.

INSTALLATION GUIDE

Doc ID: 191-7700C
Doc Rev: 032511

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Overview

To complete the installation, you will be performing the following steps:

- Removal of your stock pressure plate, clutch pack and center clutch
- Installation of the Rekluse Core center clutch
- Installation of Rekluse drive plates with **7** friction plates from the stock clutch pack (you will leave out 1 or 2 stock frictions, depending on model)
- Installation of the Rekluse EXP friction disk
- Installation of the Rekluse EXP pressure plate and springs
- Setting the installed gap for break-in
- Performing clutch break-in
- Re-setting the installed gap after break-in
- Verifying proper free play gain

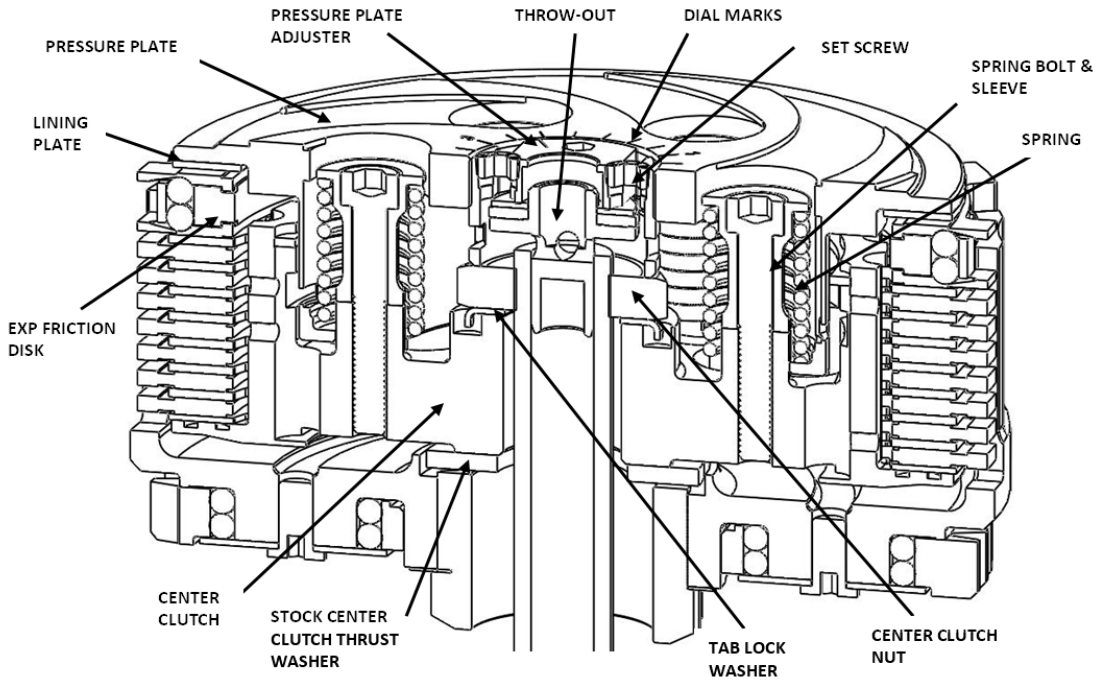
Installation Tips

- Be sure to use proper eye protection
- Laying the bike on it's side makes it easier to work on the clutch and eliminates the need to drain the oil
    - Be sure to turn off the gas, work in a ventilated area and be prepared to catch any gas that may drain from vent tubes
- An air or electric impact wrench works well to remove the center clutch nut
    - or place the bike in top gear and hold the rear brake while loosening the center clutch nut
- Channel-lock style pliers work best to bend the tabs of the lock washer up over the center clutch nut
- Read and understand the maintenance guide
- Read tuning options before installation to determine desired setting

Tools Needed

- 27mm, 29mm, or 30mm socket (for stock center clutch nut)
- 32mm (or 1-1/4") socket (for Rekluse center clutch nut)
- 5mm hex key (for Rekluse springs)
- 4mm (or 5/32") hex key (for set screws)
- Channel locks (to bend tabs of Rekluse tab lock washer)
- 8mm, 10mm socket (for removing clutch cover and stock springs)

Clutch Assembly Diagram



Installation Procedure

1. The EXP friction disk, steel drive plates, pressure plate and pressure plate adjuster come assembled together. When separating the parts be sure to leave the bottom steel drive plate on the center clutch.

For 450 class bikes, including 250+ 2-strokes the bottom plate packaged on the center clutch is the 0.040" (1-mm) thick one as shown in step 11.

2. Soak the friction pads of the EXP assembly and the lining plate in oil for at least 5 minutes.

3. *Cable actuated bikes only:* Adjust 5-8 turns of slack into the clutch cable at the clutch lever perch.

NOTE: Some bikes may also need the inline cable housing adjusters adjusted in as well.

4. Place the bike in 4th or 5th gear. If your bike is carbureted turn the fuel off.

5. Lay the motorcycle on its left side, if your bike is carbureted catch any gas that drains into a suitable container.

6. Remove the clutch cover.

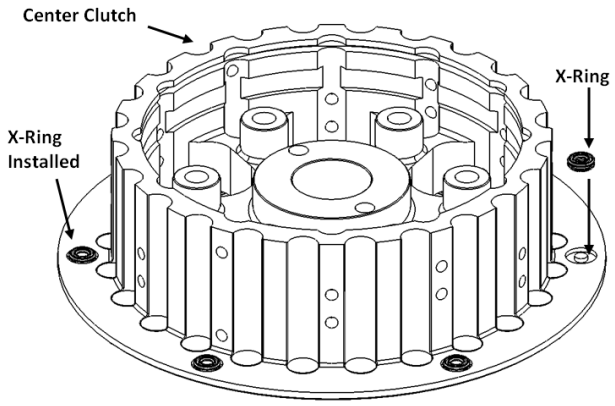
7. Remove the stock pressure plate bolts and springs, pressure plate, throw-out, center clutch and clutch pack.

NOTE: the stock center clutch thrust washer and throw-out, with needle bearing and flat washer, will be re-installed.

8. **OPTIONAL STEP:** Installing anti-squeal x-rings

For more information, see the User's Guide section about clutch squeal. If you are still unsure about installing the x-rings after reading the User's Guide, Rekluse recommends that you skip this step as they can be easily added later.

Install the 6 x-rings in the center clutch grooves (see picture below).



9. Install the Rekluse center clutch, with **stock center clutch thrust washer** behind it, onto the main shaft.

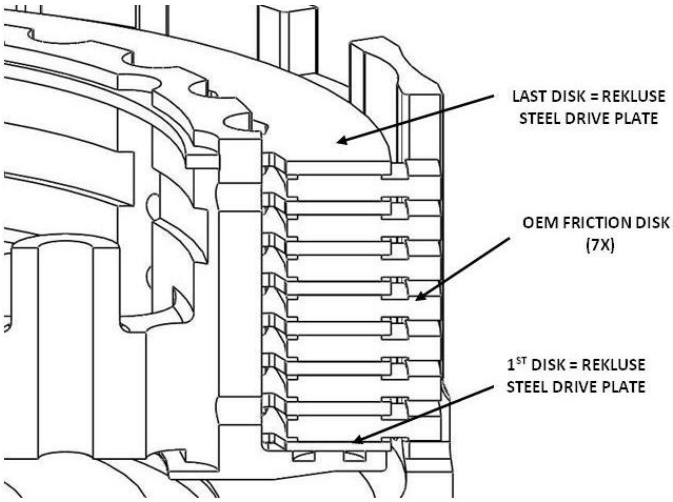
10. Install the Rekluse tab lock washer so the 2 pre-bent tabs index down into the 2 corresponding holes of the Rekluse center clutch.

11. Install the included Rekluse 32-mm center clutch nut. Torque the nut to the value specified in your motorcycle owner's manual—for most models 55-60 ft-lbs (80 N-m) is sufficient. Once tight, bend the tabs of the Rekluse tab lock washer up to secure the nut.

NOTE: With all models there should only be the Rekluse tab lock washer underneath the Rekluse 32-mm nut. Do not re-use any OEM washers underneath the Rekluse Nut.

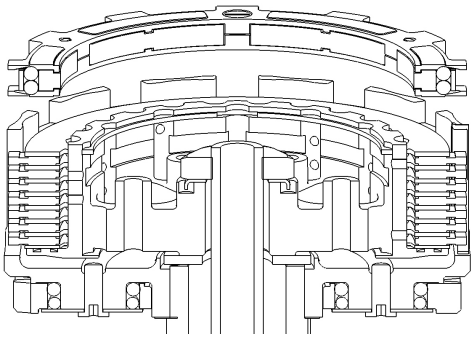
12. Configure clutch pack as shown below and install onto Rekluse center clutch. You will install **7 stock frictions** and **8 Rekluse drive plates starting and ending with a Rekluse drive plate**.

NOTE: 450 class bikes and 250+ 2-strokes: Install the .040" (1-mm) Rekluse drive plate first.



NOTE: Some models have a clutch boss spring in the OEM friction pack. This consists of two metal rings and one narrow friction disk. Do Not Re-install these with the Core EXP

13. Install the EXP friction disk (see below) against the top Rekluse drive plate.

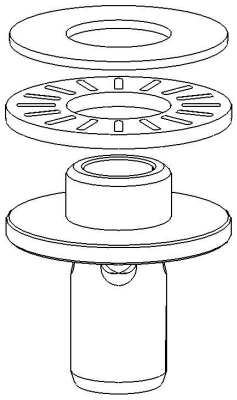


NOTE: Some **OEM Baskets** have "half slots" at the top of the basket tangs—with Rekluse products we require that ***all friction disks, including EXP disk, are seated into MAIN basket slots***.

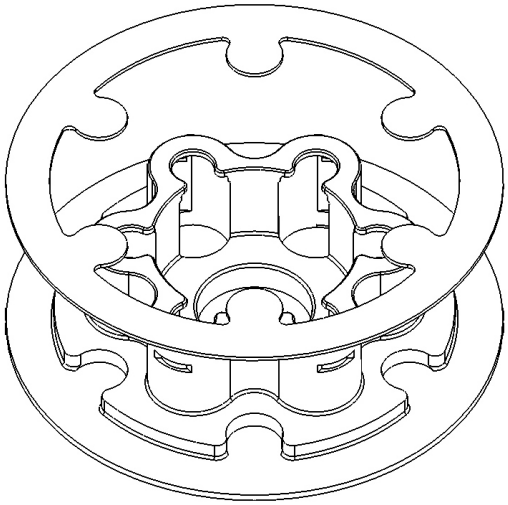
14. Install the stock throw-out, with needle bearing and flat washer on top, onto the throw-out rod.

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

NOTE: Husqvarna 450/510 and Gas Gas owners, refer to throw-out setup sheet included with the replacement throw-out assembly included in your kit.



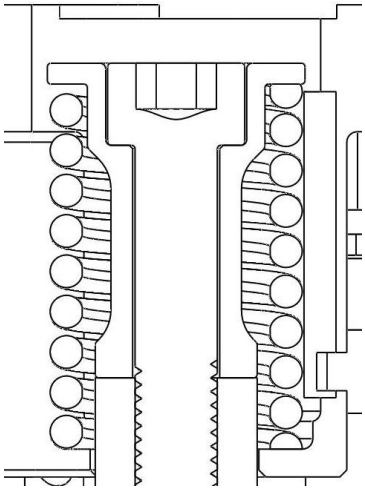
15. Place the lining plate onto the Rekluse pressure plate as shown below. Index the teeth of the lining plate into the corresponding recesses in the Rekluse pressure plate.



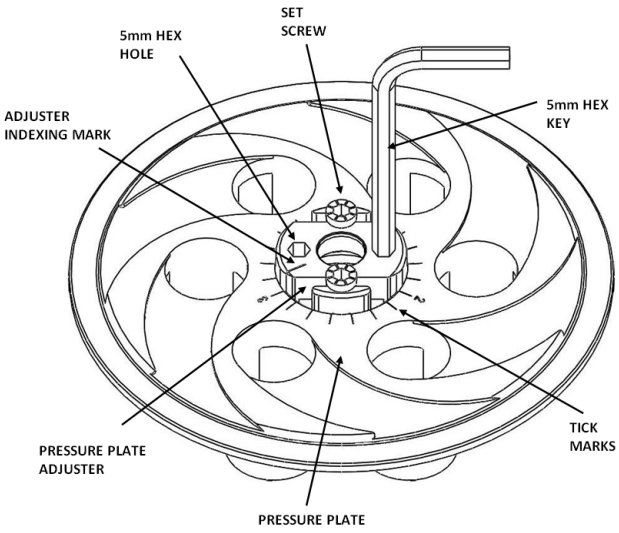
16. Install Rekluse pressure plate with lining plate onto the Rekluse center clutch. **Hold the pressure plate and lining plate together** while installing onto center clutch to ensure the lining plate teeth remained indexed into the pressure plate recesses.

17. Install the included Rekluse springs into the pockets of the pressure plate. Place the bolts and sleeves into the springs and thread each bolt in a couple of turns. Next, **rotate each spring one turn counter-clockwise to ensure the spring is properly located in its spring pocket** (see picture below).

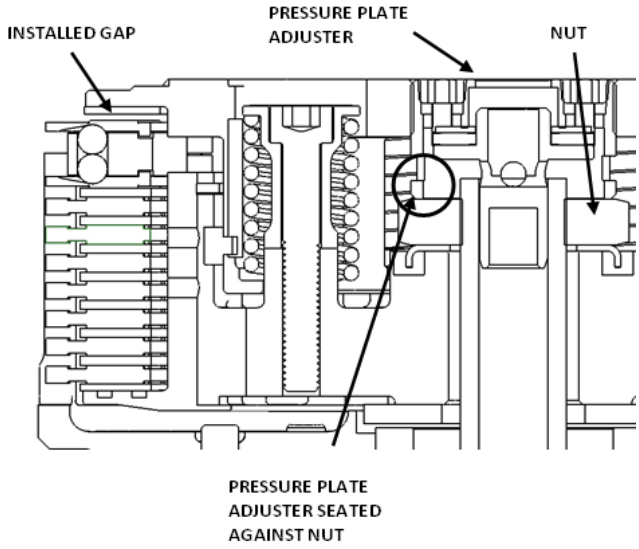
Torque each bolt to 9 ft-lbs (12 N-m).



BOTTOM OF SPRING LOCATED IN POCKET



NOTE: The pressure plate comes with the set screws and adjuster installed. For reference, if the set screws are ever removed, the knurled side should face up.



18. Apply oil to the threads of the pressure plate adjuster and pressure plate.

19. Insert the long end of a ***5-mm hex key*** into either of the two 5-mm hex holes in the pressure plate adjuster. **By hand**, turn the short end of the hex key clockwise to thread the pressure plate adjuster inward. **Using moderate pressure**, turn the adjuster in until it comes to a stop against the center clutch nut. Make note of where the mark on the adjuster lines up with the tick marks on the pressure plate. This is your **starting point.**

NOTE: To accurately find the starting point you should turn the short end of a standard 5mm hex. Using the long end, or a tool with too much leverage won't allow for proper feeling of the starting point.

On hydraulic models you will feel slight resistance as you thread the adjuster in due to the hydraulic pressure. Be sure your starting point is when the pressure plate adjuster stops on the center clutch nut.

20. *Cable actuated models only:* Check to **make sure there is lever free play**. If the clutch lever is tight, then adjust a few more turns of slack into the cable and repeat step 16.

21. Insert the short end of the 5-mm hex key into either of the two 5-mm hex holes in the pressure plate adjuster and turn the pressure plate adjuster in, clockwise, one full turn past the **starting point** you found in step 17. Use the tick marks to keep track of where you started.

NOTE: As the pressure plate gets raised by 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 tire to turn against.

22. Once the installed gap is set, use a 4-mm hex key to tighten the two set screws in the pressure plate adjuster to lock it into place. Tighten the screws evenly in 3-4 steps until the tops of the set screws are flush with or slightly below the top of the adjuster. Do not over-tighten the set screws or you may damage the threads in the pressure plate adjuster. It is not necessary to put thread locking compound onto the set screws.

23. Install the included Rekluse clutch cover re-using your OEM clutch cover gasket or o-ring.

See appendix A at the end of this manual for specific instructions for installing the Rekluse clutch cover.

NOTE: You must use the Rekluse clutch cover or you will damage the Core EXP Clutch

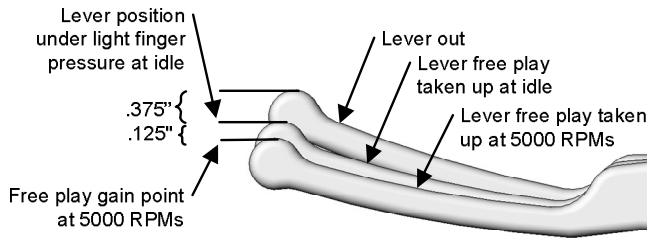
Set Clutch Lever Free Play and Check for Lever Free Play Gain

24. Adjust the clutch lever free play at the clutch perch according to your service manual or personal preference. You must have at least a slight amount of clutch lever free play just like the stock clutch.

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

With the bike at idle, pull on the clutch lever lightly with a single finger so the lever free play is taken up but the clutch is not disengaged. While continuing to apply light pressure, rev the engine to at least 5000 RPM. **The clutch lever should move in under your finger pressure slightly as you rev the engine.** This is known as free play gain.

Measured at the end of the clutch lever, the lever should move inward a minimum of 1/8" (3-mm) as the engine is revved.



See the User's Guide for more information about Free Play Gain.

If there is no lever free play gain, you will need to reset the installed gap as described in steps 16 through 20.

Clutch Break-In

25. 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 some forward creep or tension on the chain.

Once you have the bike idling with first gear engaged, slowly apply the throttle to begin moving. To break-in the clutch components it is best to perform some roll on starts, without using the clutch lever, in 2nd and 3rd gear. In 2nd gear, accelerate moderately to approximately 5000 RPM and come to a stop—repeat this 20 times. Next, starting in 3rd gear, accelerate moderately to approximately 5000 RPM then come to a stop—repeat this step 10 times.

Resetting Installed Gap After Break-In

26. After break-in, the installed gap must be reset due to the initial "seat-in" of the clutch components. Before resetting the installed gap, allow the clutch to cool for 20 minutes with the cover off.

Adjust 3-4 turns of slack into the clutch cable at the clutch perch. Remove the clutch cover and loosen the two locking set screws in the pressure plate adjuster. Using a 5-mm hex key, turn the pressure plate adjuster counter-clockwise until it is loose.

Follow steps 16 through 20 again to reset the installed gap, but reset to **1 full turn plus 2 tick marks** for the post break-in installed gap. This is the recommended Rekluse installed gap setting.

Be sure to tighten the two locking set screws in the pressure plate adjuster to lock it in place. Adjust the clutch lever free play as previously instructed.

Check for free play gain as described in step 20. With an installed gap of 1 turn + 2 tick marks, the free play gain should be approximately 1/8" (3-mm) measured at the end of the lever. If you cannot feel any free play gain in the lever you must reset the installed gap.

Read the included User Guide for more information about setup and maintenance of the Core EXP clutch

NOTE: Whenever installing new friction disks or a new EXP assembly, you must go through the break-in procedure as described in steps 23 and 24. Always soak new friction disks in oil prior to installing.

NOTE: Checking free play gain is simple and takes less than a minute to perform. For maximum friction disk life, take a moment to check for free-play gain at the start of every ride.

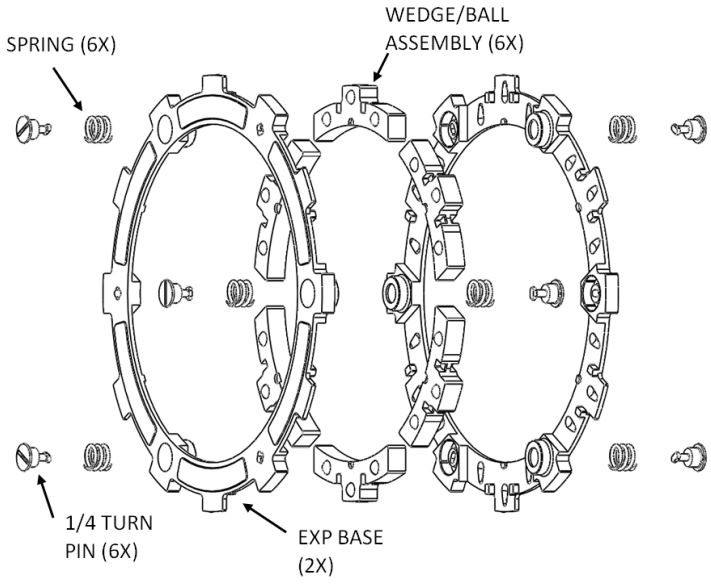
WARNING: DO NOT RIDE WITHOUT SUFFICIENT FREE PLAY GAIN. Your clutch may seem to operate ok but it is not getting full clamping force and may slip without you recognizing it. This can lead to premature failure of the clutch disks including the EXP friction disk.

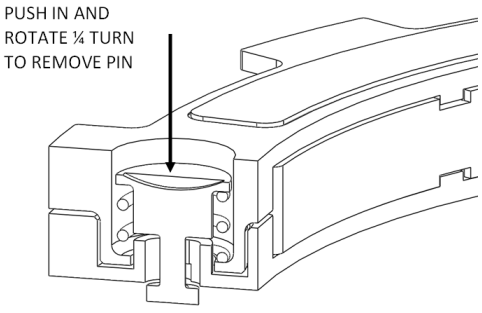
EXP Tuning

Adjusting the engine idle speed to match your engagement setting is important and greatly affects the overall feel of how the EXP friction 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.

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 friction disk over and repeat on the other side if necessary. To maintain even pressure, when using two different color spring sets, install one set of 3 on one side of the EXP and the remaining set of 3 on the other side.

The EXP friction disk comes set with the recommended "Medium" setting from Rekluse. See following table for spring setting options by product number.





Product Engagement Settings

Make	Bike Model	Product	Low Springs	Medium Springs	High Springs
Gas Gas	250/300	RMS-7700B	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF250R	RMS-7712B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Honda	CRF250X	RMS-7712B	6 Silver	3 Silver 3 Red	6 Red
Honda	CRF450R	RMS-7713B	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF450R	RMS-7714B	6 Red	3 Red 3 Blue	6 Blue
Honda	CRF250R	RMS-7716B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Honda	CRF450X	RMS-7719B	6 Red	3 Red 3 Blue	6 Blue
Husaberg	FE 390/450/570	RMS-7727B	6 Red	3 Red 3 Blue	6 Blue
KTM	450/505 SXF/XCF	RMS-7730B	6 Blue	3 Blue 3 Gold	6 Gold
KTM	400/450/530 EXC/XCR	RMS-7732B	3 Red 3 Blue	6 Blue	3 Blue 3 Gold
KTM	350 SXF/XCF	RMS-7735B	3 Silver 3 Red	6 Red	3 Red 3 Blue
KTM	250/300 SX/XC/XCW	RMS-7736B	6 Red	3 Red 3 Blue	6 Blue
KTM	250 SXF/XC-F/XCFW	RMS-7738B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Kawasaki	KX250F	RMS-7740B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Kawasaki	KX450F/KLX450F	RMS-7745B	6 Red	3 Red 3 Blue	6 Blue
Husqvarna	TC/TE 310	RMS-7755B	6 Silver	3 Silver 3 Red	6 Red
Husqvarna	TC/TXC/TE 250	RMS-7755B	6 Silver	3 Silver 3 Red	6 Red
Husqvarna	TC/TE 450/510	RMS-7756B	6 Red	3 Red 3 Blue	6 Blue
Kawasaki	KX250F	RMS-7761B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Suzuki	RMZ250	RMS-7761B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Suzuki	RMZ450	RMS-7764B	3 Red 3 Blue	6 Blue	3 Blue 3 Gold
Suzuki	RMZ250	RMS-7767B	6 Red	3 Red 3 Blue	6 Blue
Yamaha	YZ250	RMS-7770B	6 Red	3 Red 3 Blue	6 Blue
Yamaha	WR250F	RMS-7771B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Yamaha	YZ250F	RMS-7771B	3 Silver 3 Red	6 Red	3 Red 3 Blue
Yamaha	YZ450F	RMS-7773B	6 Blue	3 Blue 3 Gold	6 Gold
Yamaha	WR450F	RMS-7773B	6 Blue	3 Blue 3 Gold	6 Gold
Yamaha	YZ450F	RMS-7776B	6 Blue	3 Blue 3 Gold	6 Gold

Clutch Cover Installation Guide

Doc ID: 199-300
Manual Revision: 030311

Installation:

The Rekluse clutch cover provides clearance for all Rekluse clutch systems using either the OEM gasket or o-ring. If the OEM o-ring or gasket is damaged it should be replaced to guarantee proper sealing.

Some models require spacing or adjustment of the brake pedal to gain clearance of the cover. See model notes below for specific instructions.

Increased Oil Capacity:
The Rekluse clutch cover is slightly deeper than the stock cover, increasing the oil capacity of some models very slightly. If your motorcycle or ATV uses a dip-stick, sight glass or oil-level check bolt, continue to use the method described in the vehicle's owner's manual to fill to the proper oil level. If your vehicle's owner's manual only specifies an oil amount, add 10cc (10ml) additional oil to the amount specified in the manual.

Model Notes:

- **All Honda Models:**
  A length of o-ring cord is provided with your cover as the OEM o-ring occasionally does not fit back into the Rekluse or OEM cover after removal. Place a dab of grease into the o-ring groove in four spots to hold the o-ring cord in the groove. Lay o-ring into groove around cover. Trim o-ring so that you have minimal gap between mating ends of o-ring. Ensure that the gap in the o-ring cord is placed at the top-most (12 o' clock) position on the clutch cover.

- **KTM 400/450/505/530, Husaberg 390/450/570 FE, FX:**
  To provide adequate clearance between the cover and brake pedal tip, remove the OEM tip and replace it with the included Rekluse tip using the provided hardware and thread lock. Your pedal position will need to be lowered about ¼-inch (6-mm) to gain necessary cover clearance. The Rekluse tip is taller to allow for this. Refer to your owner's manual for instructions about properly adjusting brake pedal height.

- **KX250F/KX450F/KLX450F/YZ250 2 stroke:**
  To provide clearance between the cover and brake pedal, install included brake pedal spacer between frame and pedal in place of the thinner OEM spacer.

- **04-08 KX250F and 04-06 RMZ250:**
  You must use the included gasket with the Rekluse clutch cover to provide adequate clearance for the Core EXP clutch—failure to do so will result in clutch damage. You must also install the included brake pedal spacer.

USER'S GUIDE

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Overview

Thank you for purchasing the Rekluse Core EXP Clutch. We hope you enjoy the product as much as we enjoyed designing, testing and making the product.

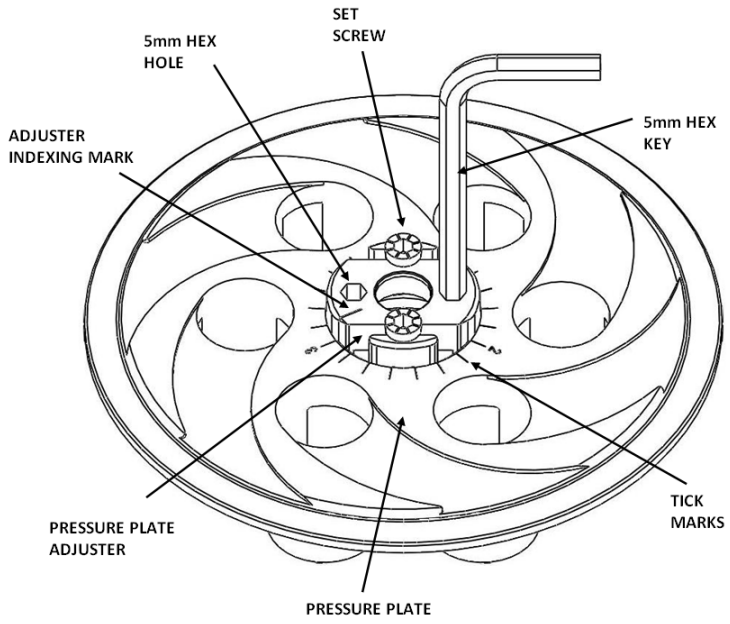
It is very important that you understand how to set your installed gap and check for a proper installed gap using the free play gain method. **Setting, breaking-in and re-setting the installed gap after installing new friction disks is CRUCIAL.** Failure to properly maintain your installed gap can result in premature wear or failure of your clutch.

Setting the Installed Gap

The installed gap allows the Core EXP clutch to automatically disengage the clutch at engine idle speed. The installed gap is set with the pressure plate adjuster. The pressure plate adjuster has two functions:

1. Lift and hold the pressure plate away from the clutch pack to create the installed gap
2. Provide a surface for the clutch throw-out to push against to manually disengage the clutch with the clutch lever

The pressure plate adjuster threads into the center of the pressure plate. Turning the pressure plate adjuster clockwise moves the pressure plate adjuster towards the center clutch nut. Continuing to turn the pressure plate adjuster clockwise after it makes contact with the center clutch nut will lift the pressure plate creating the installed gap.



If the clutch is cable-actuated, start by increasing the free play in the clutch lever at the clutch perch. The lever should come in freely at least half-way to the bar. No changes at the clutch lever are necessary for a hydraulic clutch.
Loosen the 2 set screws in the pressure plate adjuster that lock it in place. Insert the 5-mm hex key into either of the two 5-mm hex holes in the pressure plate adjuster and turn the pressure plate adjuster counter clockwise until it turns freely.

Insert the long end of the 5-mm hex key into either of the two 5-mm hex holes. Turn the short end of the hex key with your hand clockwise to thread the pressure plate adjuster inward. Turn the adjuster until it comes to a stop with moderate pressure. The object is not to turn the adjuster as hard as you possibly can but to get the pressure plate adjuster firmly seated against the center clutch nut. This is the **starting point**.

To set the installed gap, you will need to turn the pressure plate adjuster the specified amount past the starting point. Rekluse recommends an installed gap setting of 1 full turn + 2 tick marks. Refer to the section ***Installed Gap Options*** (page 8) for more information on installed gap settings.

After the installed gap is set, tighten the screws evenly in 3-4 steps until the tops of the set screws are flush with or slightly below the top of the adjuster. Do not over-tighten the set screws or you may damage the threads in the pressure plate adjuster. It is not necessary to put thread locking compound onto the set screws.

Setting the Installed Gap with a Hot Engine

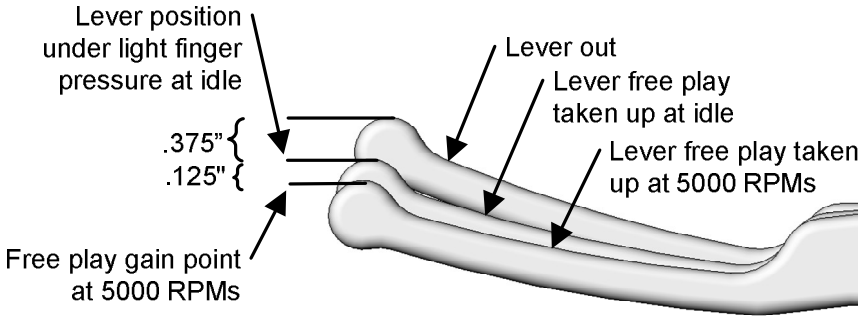
The **installed gap should be set with the engine cold**. If you need to reset your installed gap after riding, allow the clutch to cool with the clutch cover off for at least 20 minutes before setting the installed gap. If you must reset your installed gap with the engine hot, set the installed gap to 1 full turn + 0 tick mark. Be sure to reset the installed gap with the engine cold when you are able to.

If you are trying to “fine-tune” your installed gap setting, this can be done without waiting for the engine to cool. You may move the pressure plate adjuster in or out from the installed gap position it was set to cold. Be sure to keep track of your cold setting and any adjustments made hot so as not to exceed the recommended installed gap range (see ***Installed Gap Options*** page 8).

Checking the Installed Gap

The installed gap can be checked at any time by verifying the **free play gain**. Checking for free play gain at the start of each ride is quick, easy and ensures the clutch plates will become fully engaged under heavy load preventing premature wear or failure of the clutch plates.
Clutch lever free play gain is created when the EXP friction disk expands and lifts the pressure plate and pressure plate adjuster off the center clutch nut. By applying light pressure to the clutch lever with your finger, the throw-out will rest against the pressure plate. When the engine is revved, the EXP friction disk will expand and lift the pressure plate. With the light finger pressure on the lever, the throw-out will move outward, following the pressure plate, and the clutch lever will move inward slightly.

With the engine at idle, apply light inward pressure with your finger on the clutch lever; enough pressure to take up any slack but not enough to lift the pressure plate. While continuing to apply a light inward pressure on the clutch lever, rev the engine to at least 5000 RPM.



The clutch lever should move in slightly under light finger pressure as the engine revs. This movement is called **free play gain**. Free play gain is your indicator that the pressure plate is being lifted by the EXP friction disk, allowing the force of the clutch springs to be transferred to the clutch pack.

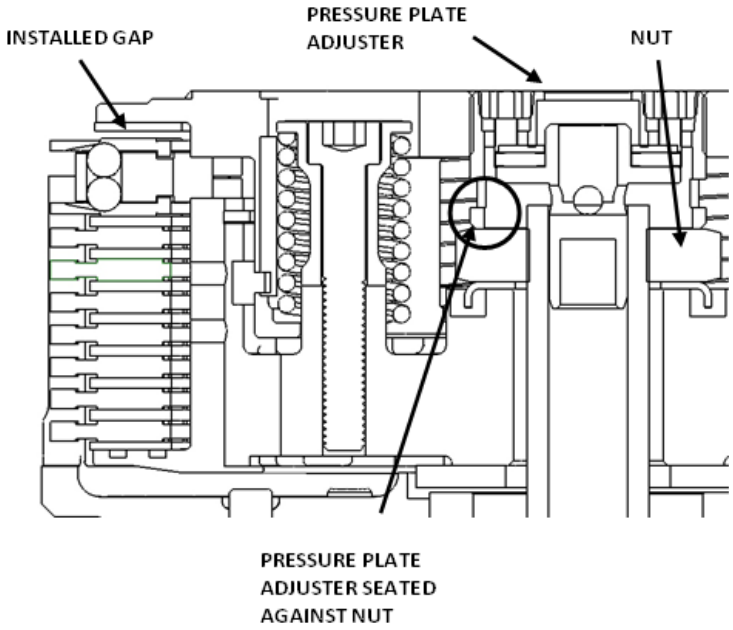
With the recommended installed gap setting and the engine at normal operating temperature, the **free play gain** when measured at the end of the lever should be approximately 1/8” (3mm). When the engine is very hot, there will be more free play gain.

IMPORTANT NOTE: if you ever suspect your clutch is slipping while riding, stop for a moment, put the bike in neutral and check for free play gain. If you cannot detect free play gain, stop and reset your installed gap.

If resetting your installed gap is not possible, ride gently to get the bike home by reducing acceleration and staying in lower gears with higher RPM. Try not to “lug” the engine as this puts a larger load on the clutch.

Understanding the Installed Gap

The installed gap is the distance between the Rekluse pressure plate and the clutch pack when the EXP friction disk is in a collapsed state at idle (automatically disengaged). The installed gap allows the clutch to automatically disengage when the engine comes down to idle speed and the EXP friction disk is in its collapsed state.



When the engine is at idle, the force of the pressure plate springs rests on the center clutch nut. As the engine is revved, the EXP friction disk expands, lifting the pressure plate. When the installed gap is set properly, the pressure plate is lifted a small amount, transferring the force of the pressure plate springs from the center clutch nut to the clutch pack.

If the clutch pack thickness shrinks, through wear or initial break-in of the friction disks and/or EXP components, the installed gap will grow. If the installed gap grows too far, the EXP friction disk will not be able to expand enough to lift the pressure plate and pressure plate adjuster completely off the center clutch nut and the spring pressure transferred to the clutch pack will be reduced. A reduction in spring pressure to the clutch pack will cause the clutch to slip, perhaps imperceptibly and possibly leading to a clutch pack failure.

The clutch pack will shrink most when a new set of friction disks is first installed or when the Core EXP components are new. When first installing the Core EXP components or new friction disks, the installed gap should be set to the break-in setting of 1 full turn. After the new components are broken in, **the installed gap must be reset**.

After break-in, Rekluse recommends the installed gap be set to 1 full turn + 2 tick marks.

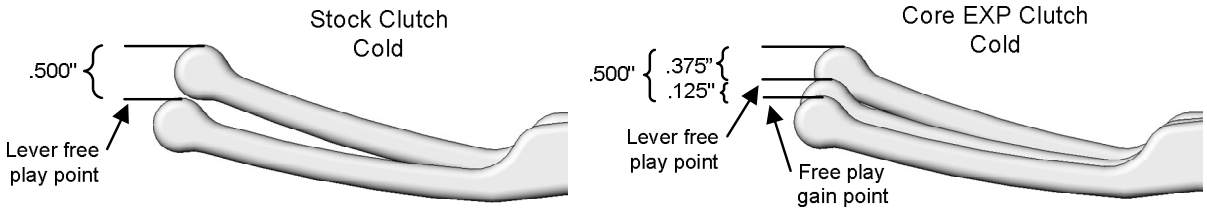
Clutch Lever Free Play vs. Free Play Gain

Clutch lever free play is the amount of free movement in the clutch lever before the clutch begins to disengage. For cable actuated clutches, lever free play is adjusted at the clutch perch.

Hydraulic clutches typically have a built-in amount of free play and the clutch lever position is typically set with an adjuster between the lever and the plunger.

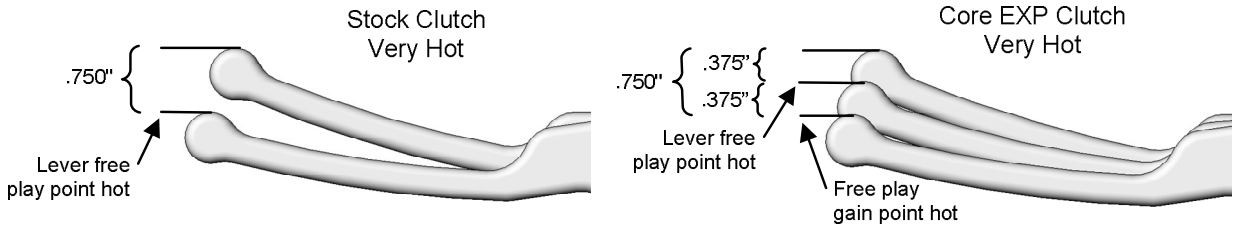
Free play gain is additional inward movement of the clutch lever caused by the EXP friction disk lifting the pressure plate slightly as the engine is revved. Free play gain can only be felt by applying light pressure on the clutch lever as the engine is revved from idle.
On a cable actuated clutch with Core EXP installed, the lever free play point should be moved out slightly to accommodate the free play gain. If you typically run .500” (12mm) of lever free play and your free play gain with Core EXP installed is .125” (3mm), then your lever free play should be set to .375” (9mm). In this way your clutch lever will be in a comfortable position while riding with the Core EXP clutch.

Because hydraulic clutches self-adjust, no change in lever position adjustment is typically necessary when Core EXP is installed. You will only feel free play gain if you apply light pressure on the clutch lever while the engine is revved from idle.



When a clutch gets very hot, thermal expansion causes the lever free play to increase. For a stock clutch, the increase in lever free play can be felt regardless of engine speed. For a Core EXP clutch, the increase in lever free play due to thermal expansion will only be felt when the engine is revved. Even when the engine is very hot, with a Core EXP clutch, the lever free play point will not change from its cold position when the engine is at idle. However the lever free play gain will increase as the engine is revved when the engine is hot.

When the clutch is very hot, the increase in lever free play due to thermal expansion will be the same for both the stock clutch and for the Core EXP clutch - when the engine is revved. When the engine is at idle and the clutch is very hot, a stock clutch will have an increase in lever free play, the Core EXP clutch will not.



If you typically get your stock cable-actuated clutch hot enough to require an adjustment of lever free play while riding, you will likely need to do the same with the Core EXP clutch. Just keep in

mind that the increase in free play will only be felt with the engine revved. Just like the stock clutch, **you must back out any lever free play adjustment made due to thermal expansion as the clutch cools back to normal temperature**.

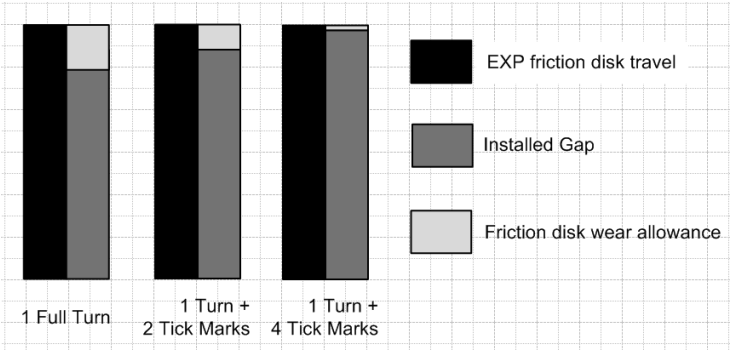
Installed Gap Options

Although Rekluse recommends an installed gap setting 1 full turn + 2 tick marks, there may be situations where you want to set your installed gap differently. The installed gap setting represents a trade-off between maintenance required for friction disk wear and the amount of clutch lever free play gain felt as the engine is revved.

By setting the installed gap smaller, for example 1 turn + 0 tick marks, the clutch has more room for wear before the installed gap needs to be reset. This reduces maintenance intervals and provides insurance against clutch plate failure during a long race situation if the clutch were to overheat and begin to wear rapidly.

The downside to a smaller installed gap is more free play gain at the clutch lever as the engine is revved. Riding with a finger on the clutch lever, you may notice the clutch lever moving in and out as the engine goes from idle speed to higher RPMs while riding.

Conversely, by setting the installed gap larger, for example 1 full turn + 4 tick marks, the clutch has less room for clutch plate wear before the installed gap needs to be reset. The benefit to this setting is that free play gain is minimized.



Pressure Plate Adjuster Setting	Free Play Gain	Notes
1 Turn + 0 Tick Mark	More	Less maintenance, better durability in long tough race situations, free play gain may be distracting during riding, especially if clutch gets very hot
1 Turn + 2 Tick Marks	Less	**Recommended setting**, good balance between durability/maintenance and free play gain
1 Turn + 4 Tick Marks	Very Little	Maximum setting, more maintenance, not well suited to long difficult races, difficult to detect free play gain

The minimum recommended installed gap setting is 1 turn + 0 tick marks and the maximum installed gap setting is 1 turn + 4 tick marks. Any installed gap setting between these two points is a valid setting.

Friction Plates and Wear

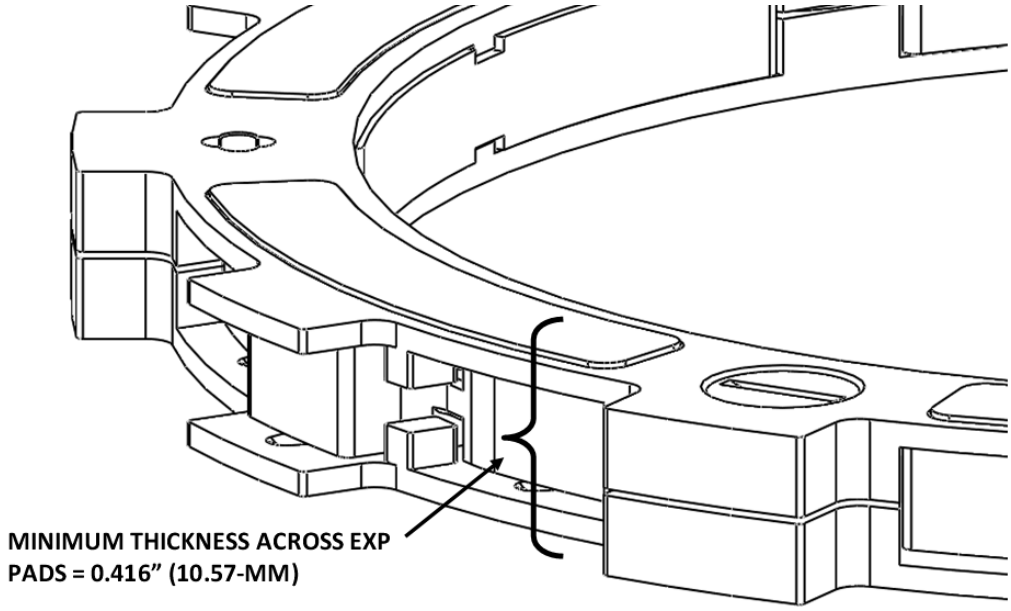
Modern friction plates have a remarkable ability to withstand hard use with little or no wear. However, some OEM and aftermarket friction plates trade-off an increase in wear for other benefits. To minimize maintenance and maximize the durability of your clutch, we recommend Rekluse friction plates when your clutch pack has worn. Rekluse friction plates are OEM quality or better and are designed for minimum wear under hard use: a perfect match for your Core EXP clutch.

When clutch plates are new, they will break-in and the clutch pack height will shrink substantially in the first 10-30 minutes of riding. Break-in of the clutch plates can continue much longer depending on use. **When clutch plates are new, the installed gap should be set to just 1 full turn**. After break-in, the **installed gap must be re-set**. Be prepared to reset your installed gap immediately following break-in and possibly again after the first one or two rides. The complete break-in procedure can be found in the Rekluse Core EXP *Installation Guide*.

The steel drive plates generally do not need to be replaced unless they become warped from excessive heat.

The EXP friction disk has friction pads bonded to it that may wear over time and need replacement. The friction pads can also be overheated requiring replacement.

The friction pads should be a greenish brown to dark brown color. If the friction pads are black in color, they have been overheated and the EXP bases must be replaced. The minimum height of the friction pads is 0.005” (0.127mm). The friction pad height can be measured by simply measuring the overall thickness of the EXP friction disk across the friction pads as shown below. The overall thickness measurement must be larger than 0.416” (10.57-mm)



Rekluse has a complete EXP replacement parts and replacement friction disks for most models. Contact Rekluse or your authorized Rekluse dealer for more information on replacement parts.

Spare Friction Disk Set

If you need to keep a spare set of friction disks ready for racing situations, pre break-in the friction disk set. Start by soaking the friction disks in oil for at least 20 minutes. Install the friction disks in the bike and perform a break-in ride. The best way to break in a set of friction disks is to allow them to slip moderately at low temperatures and low engine speeds. Slowly starting and stopping from second and third gear for 10 to 20 minutes is an ideal way to break-in the friction disks.

Clutch Squeal

In some bike models, the clutch may "squeal" at low RPM as the clutch engages. Clutch squeal is caused by the clutch components vibrating as the clutch engages. Although clutch squeal is harmless to the engine and clutch, it can be annoying to the rider. For bike models that tend to have clutch squeal, Rekluse provides x-rings to be installed at the base of the center clutch. The x-rings dampen the clutch vibrations to eliminate clutch squeal. However, x-rings will change the clutch lever modulation slightly; creating a softer initial modulation at the lever and increasing the lever travel to fully disengage the clutch. If any change in clutch lever modulation is undesirable, there are other options for eliminating clutch squeal.

There are many factors that can cause a clutch to squeal such as un-serviced oil, worn out friction disks, worn out clutch basket, and certain types of oil. Some bike models are more prone to clutch squeal than others. If you encounter clutch squeal, you may want to try changing the type of oil you are using first. Never use oil that is intended for use in an automobile as the oils do not have the additives necessary to protect your engine. Rekluse recommends the use of a high-quality, JASO-MA certified oil. The use of Shell Rotella T 15W40, which is JASO-MA certified, will often cure a squealing clutch.

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