



REKLUSE[®]
EXP[™]

REKLUSE MOTOR SPORTS

The Rekluse EXP Clutch

INSTALLATION GUIDE

191-6030

Manual Revision: 031113

INSTALLATION TIPS

- Be sure to use proper eye protection
- Laying the bike on its left side makes it easier to work on the clutch and eliminates the need to drain the oil
 - Be sure to turn off the fuel, work in a ventilated area and be prepared to catch any fuel that may drain from vent tubes
- Check the clutch master cylinder cap for the proper clutch fluid to be used

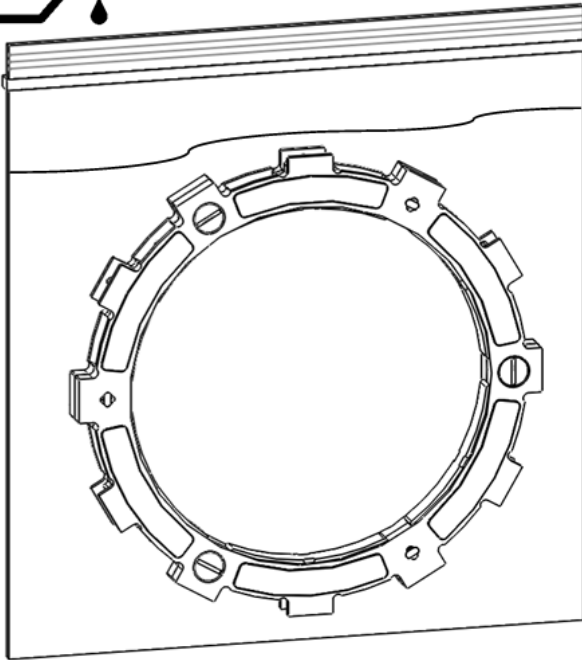
TOOLS NEEDED

- 8mm socket
- Torque wrench (inch-pounds or Newton-meters)
- 12mm wrench
- 8mm wrench
- Philips screwdriver
- Clutch Fluid
- 4mm Hex Key

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Rekluse Motor Sports, Inc.
12000 W. Franklin Rd.
Boise, Idaho 83709
208-426-0659
support@rekluse.com

BIKE PREP & DISASSEMBLY

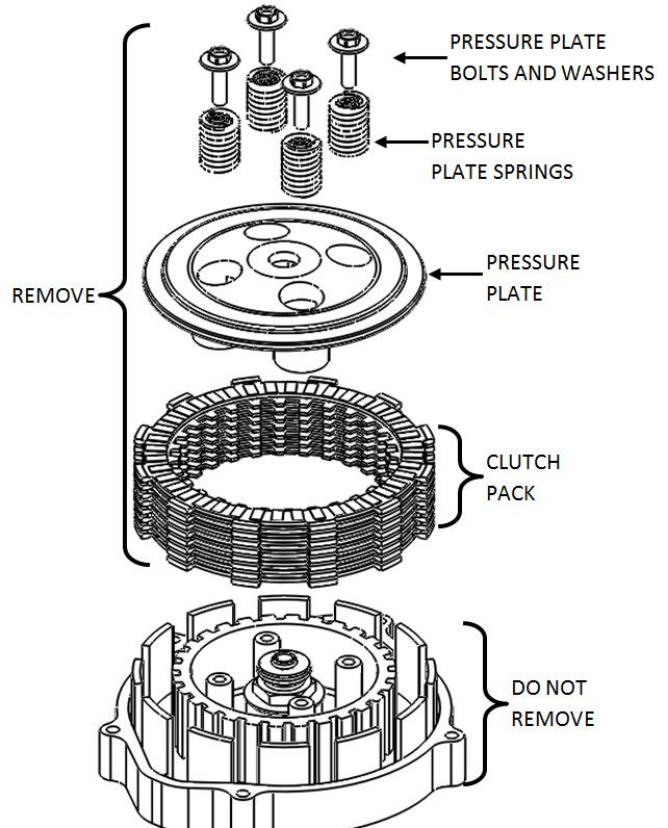
1. Soak the EXP disk in engine oil for 5 min.



2. Lay the bike on its left side. Catch any fuel that might drain in a suitable container. Remove the clutch cover.



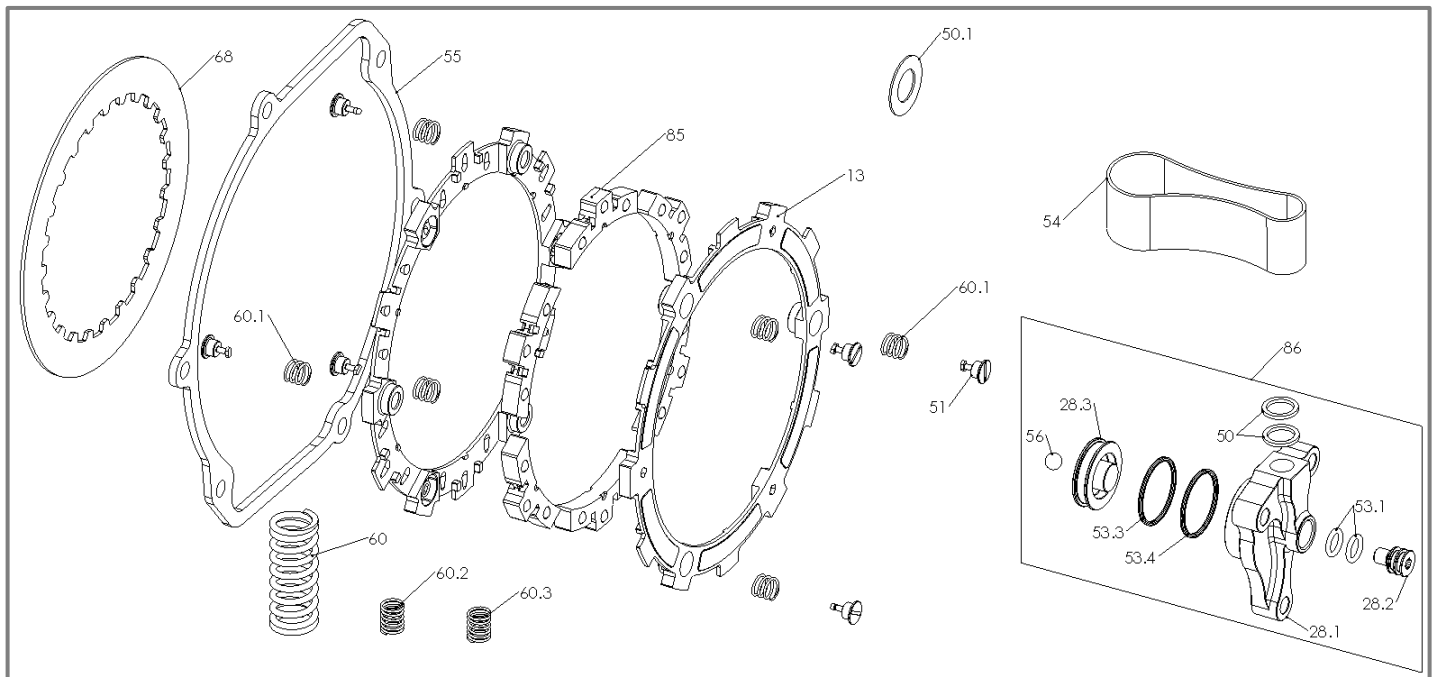
3. Remove the OEM clutch parts named in the following diagram.



NOTE:

Some of the OEM friction disks and OEM steel drive plates will be reused. See setup sheet for specific configuration.

INCLUDED PARTS

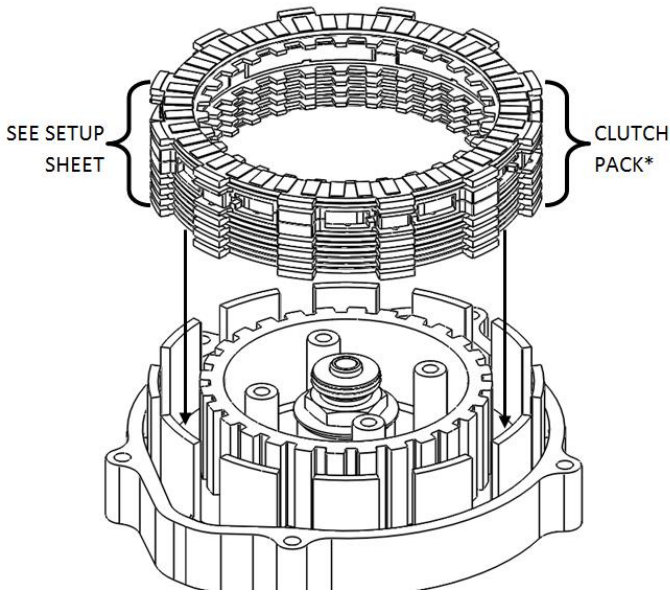


Item	Item Type	Qty
13	EXP Base *	2
50.1	Throw Out Spacer (FOR CERTAIN MODELS)	1
51	Fastener - 1/4-Turn Pin *	6
54	Free Play Gain Rubber Band	1
55	Clutch Cover Gasket (FOR 08-11 KTM 450/505 SXF/XC-F ONLY)	1
60	Pressure Plate Spring (See setup sheet)	-
60.X	EXP Adjustment Spring * (extra adjustment springs are included, see setup sheet)	6
68	Steel Drive Plate (FOR KTM 125/144/150 ONLY)	2
85	Wedge Assembly *	6
86	Adjustable Slave Cylinder Assembly (bleed tube included)	1

* Denotes parts assembled as part of EXP disk assembly

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

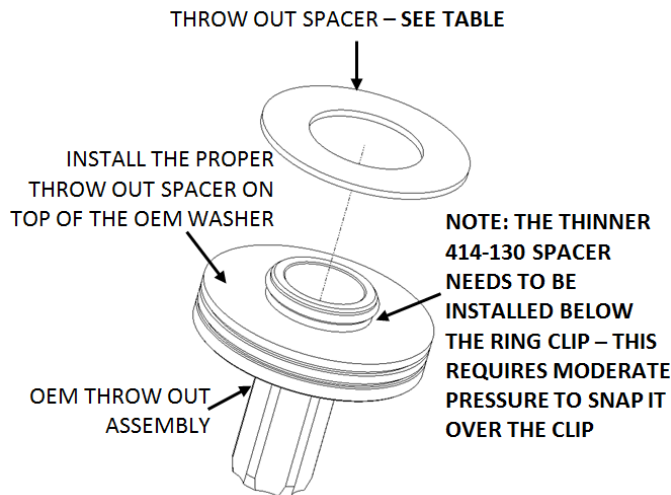
4. Install the clutch pack with the EXP. See setup sheet for specific configuration.



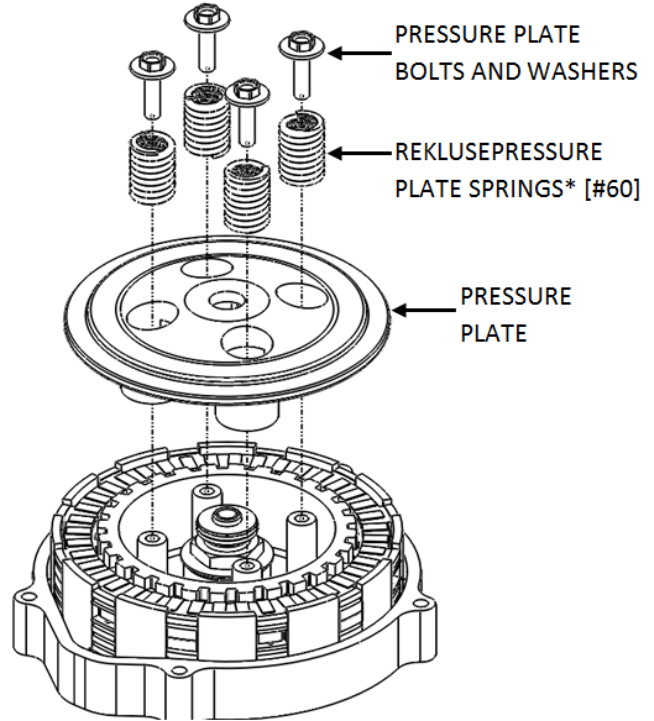
*Clutch pack representative only. See setup sheet for specific configuration.

5. For models listed in the table below **ONLY**, install the Rekluse supplied Throw Out Spacer [#50.1] onto the OEM throw out assembly.

Bike Model and Year	Throw Out Spacer
99-12 KTM 250/300 2-Stroke	414-141 (1.5mm thick)
08-11 KTM 450/505 SXF/XC-F	414-130 (0.75mm thick)
98-05 KTM 125-150	414-130 (0.75mm thick)
06+ KTM 125-150	414-141 (1.5mm thick)



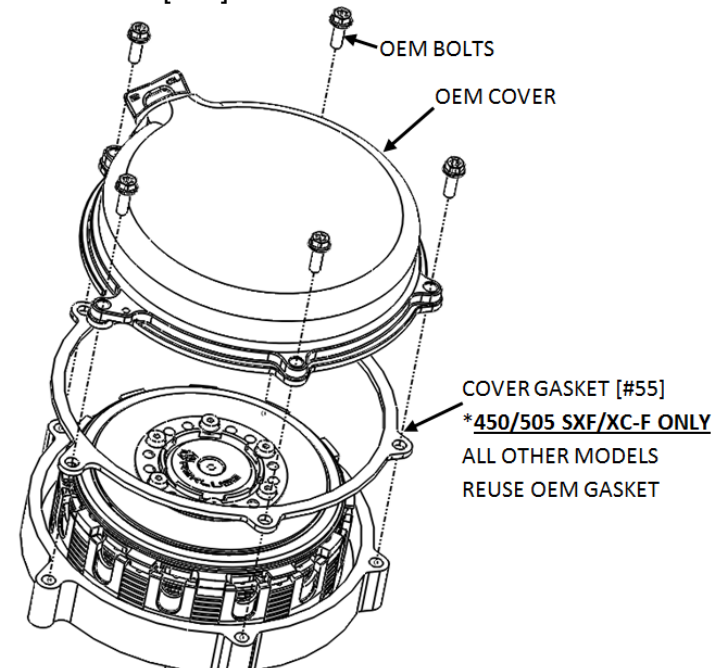
6. Install the OEM pressure plate, Rekluse pressure plate springs* [#60], and OEM pressure plate bolts and washers.



*See setup sheet for Rekluse pressure plate spring configuration.

7. Install the clutch cover and torque the cover bolts OEM specification.

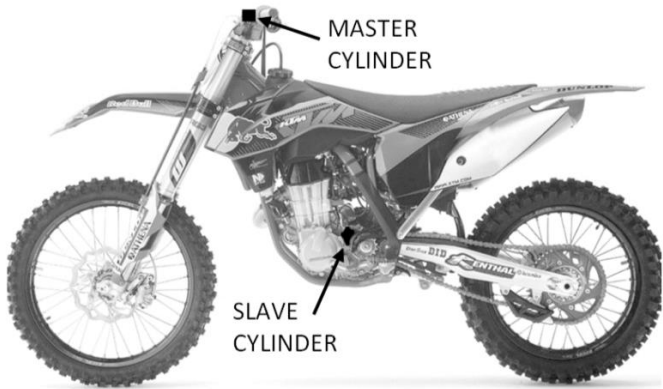
For KTM 450/505 SXF/XC-F models ONLY, install the Rekluse supplied thick Clutch Cover Gasket [#55].



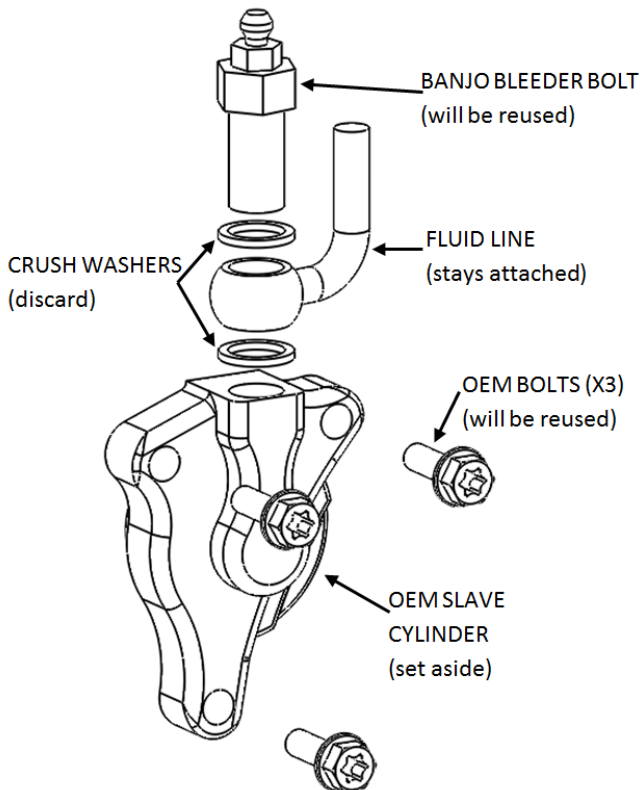
SLAVE CYLINDER INSTALLATION

Handle with care! During assembly there is a small ball bearing[#56] installed in the slave piston[#28.3] with a small amount of grease. When installing the Rekluse slave, make sure that the ball does not come loose.

- Stand the bike up and lean it on its kickstand or place it on a suitable bike stand.



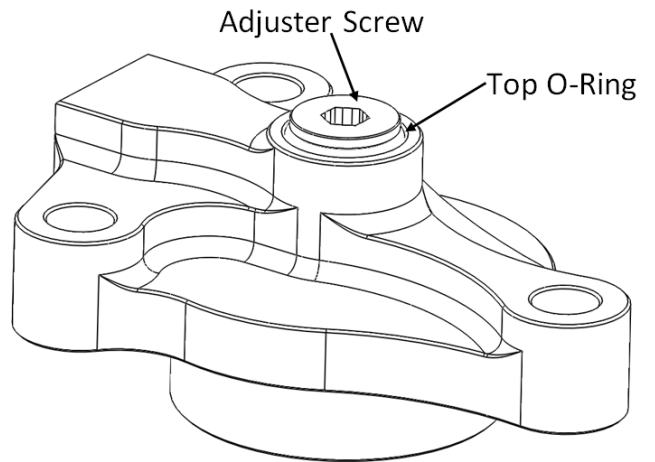
- Starting at the slave cylinder, remove the OEM parts named in the following diagram beginning with the banjo bolt.



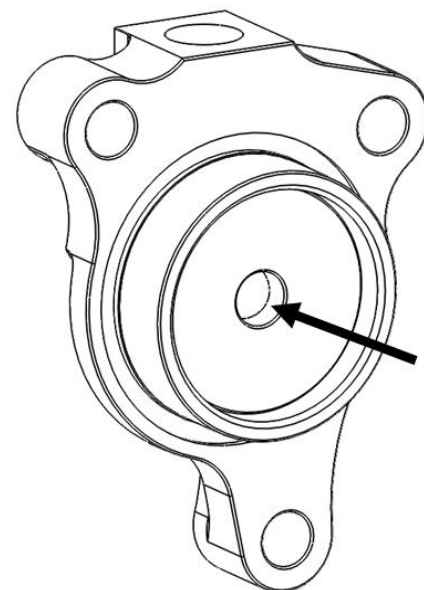
- Bleed the Rekluse slave cylinder by following the procedure below:

NOTE: Bleed the slave cylinder with it disconnected from the engine.

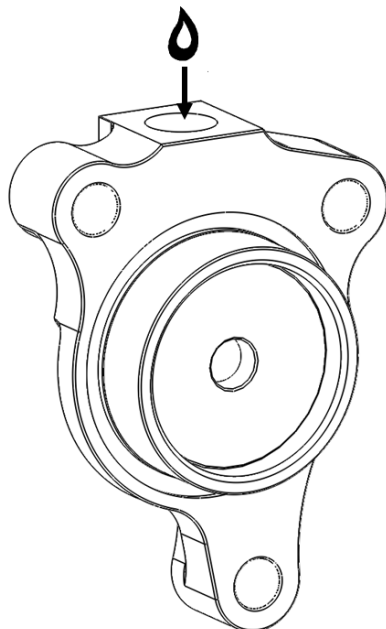
- Use a 4mm Allen key to make the top O-Ring[#53.1] visible on the adjuster screw[#28.2].



- Compress the piston[#28.3] until it bottoms out.



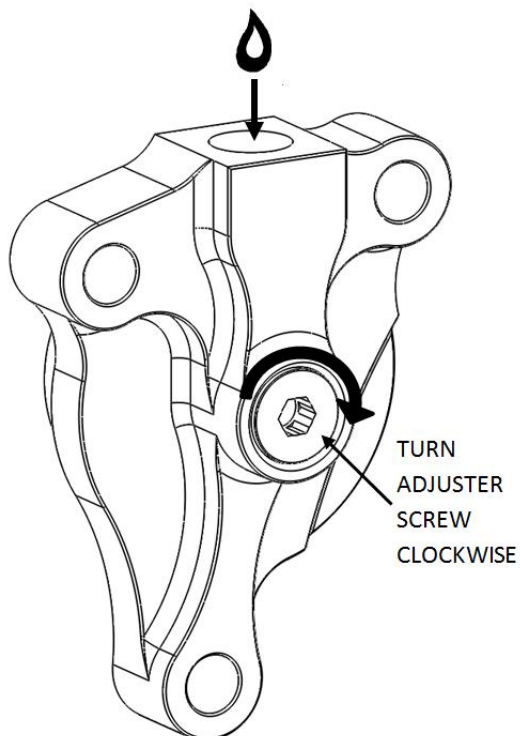
- c. Pour clutch fluid into the slave cylinder port. See note below.



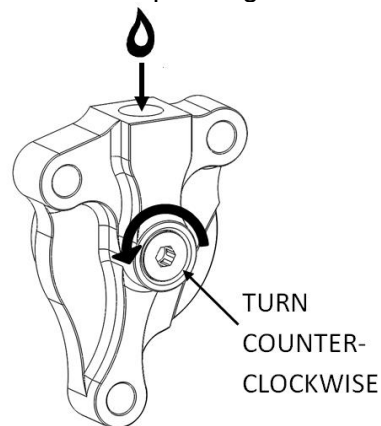
WARNING

Be sure to use the correct clutch fluid! Check the cap of the clutch master cylinder to determine which clutch fluid to use. Failure to use the correct fluid will result in seal damage and/or failure.

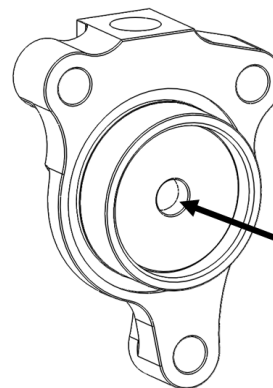
- d. Turn the adjuster screw clockwise until it bottoms, keeping the fluid topped off.



- e. Turn the adjuster screw back to the initial position with the top O-ring visible.

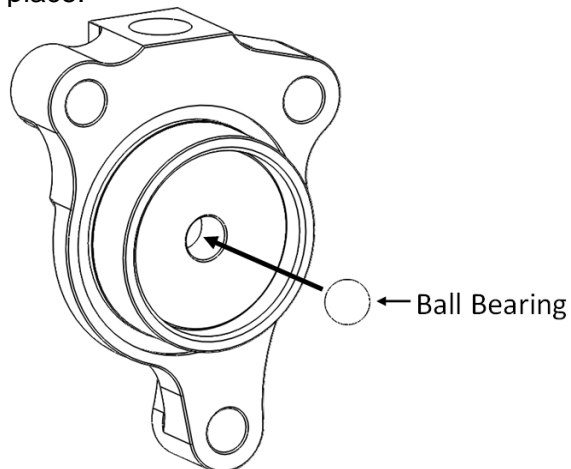


- f. Compress the piston until it bottoms out. Repeat the process until there is no longer air escaping from the top port when the piston is compressed.

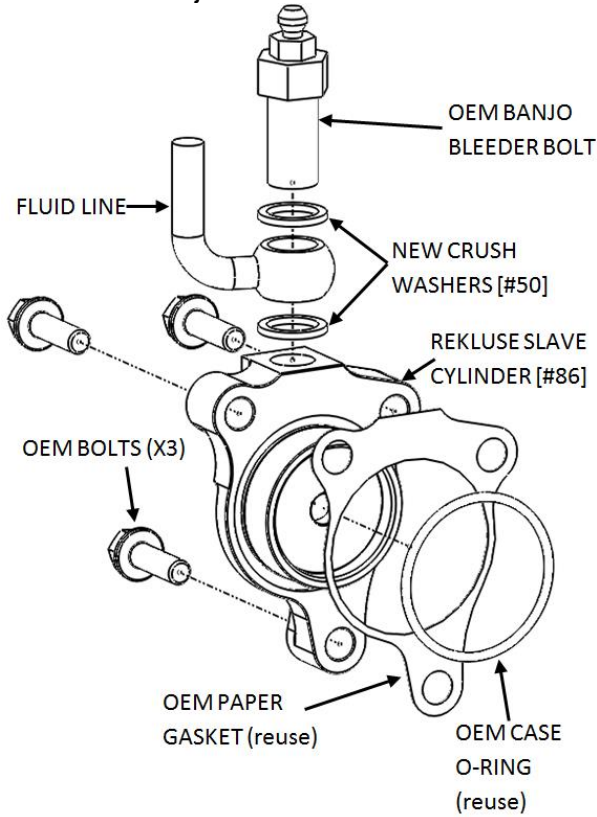


NOTE: When compressing the piston, fluid can shoot out from the slave cylinder port. Be sure to wear eye protection.

11. Check that the ball bearing[#56] is still in place.



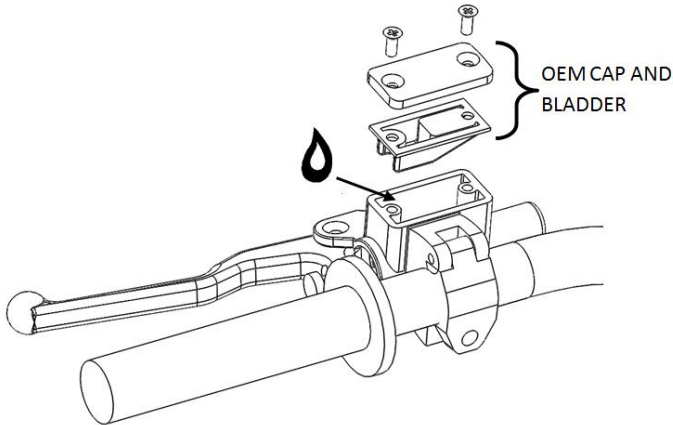
12. Install the Rekluse slave cylinder on the bike using the following parts ending with the banjo bolt. **For 99-05 KTM 250/300 2-stroke owners:** install the included clutch line and banjo bleeder bolt.



NOTE: Some models have a paper gasket and/or O-ring seal. Reuse them if OEM equipped.

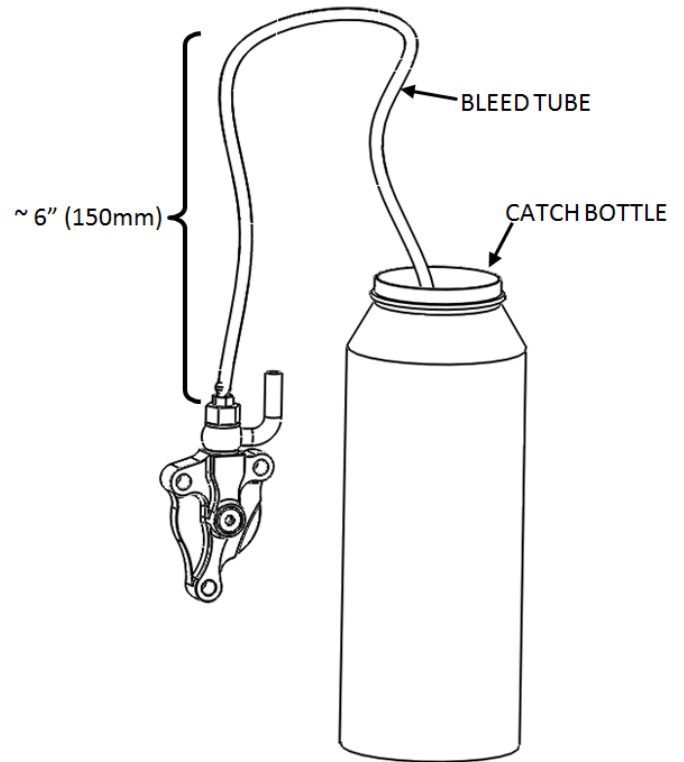
13. **Husaberg 390/450/570 FE/FX 09-12 Models:** See setup sheet for additional slave cylinder information.

14. Remove the cap and bladder from the clutch master cylinder and top off the clutch fluid.

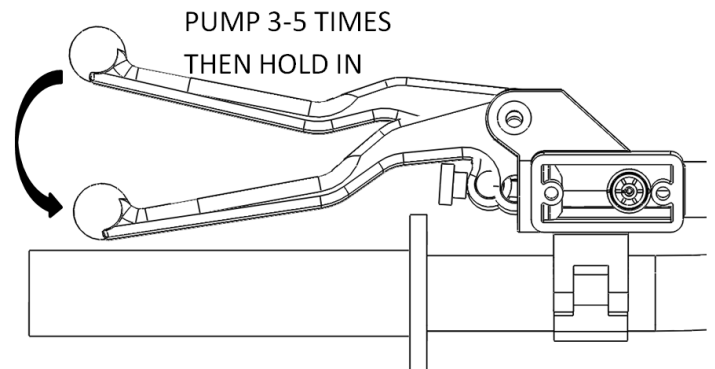


NOTE: If the clutch fluid was drained out of the clutch line the following bleeding procedure will not work. The system will need to be bled by pushing fluid from the slave cylinder up using a syringe. You can purchase one through Rekluse, part number 790-001.

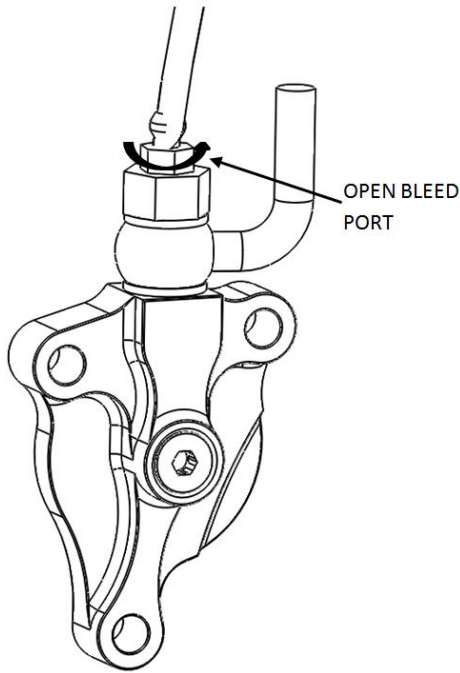
15. Attach the supplied bleed tube to port on top of the banjo bolt and loop it into a suitable catch bottle.



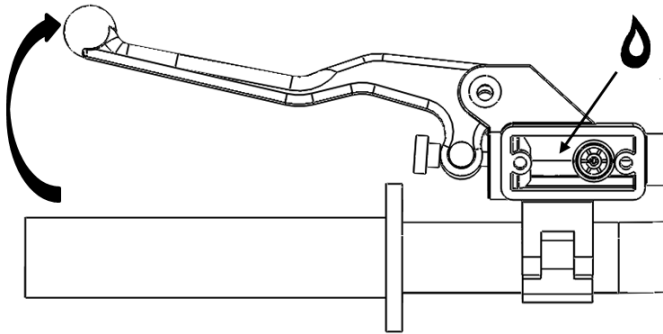
16. Pump the clutch lever 3-5 times then hold it against the bar/grip.



- Using an 8mm wrench, open the bleed port. Air and fluid should come out of the bleed tube. Tighten the bleed port.



- Slowly release the clutch lever and check the fluid level in the clutch master cylinder.



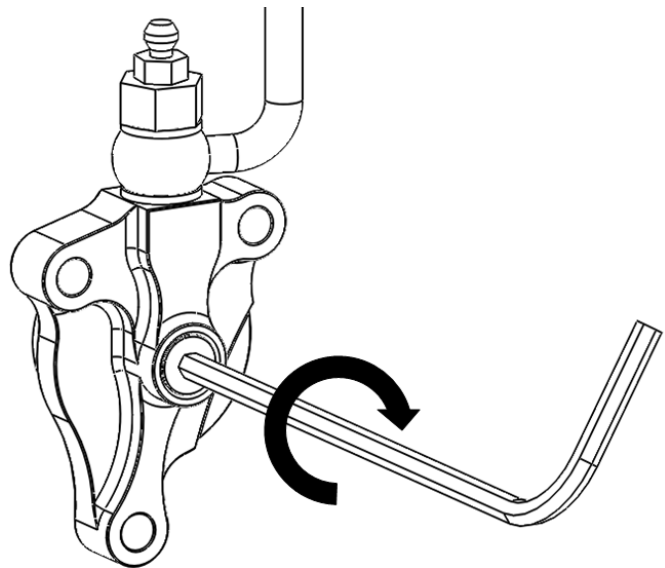
- Repeat the previous 3 bleeding steps until air no longer comes out of the bleed port.
- Check that the clutch lever functions properly and repeat bleeding procedure if necessary.
- Remove the bleed tube.

SETTING THE INSTALLED GAP

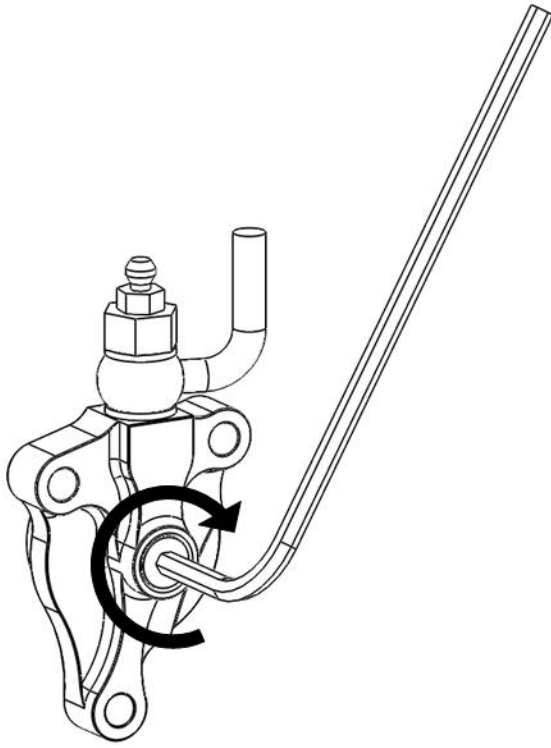
NOTE: The “Installed Gap” is the space between the pressure plate and the EXP disk created by the adjustment at the slave cylinder. This gap is what allows the clutch to spin freely until the desired RPM is reached for it to engage. This gap can be finely tuned for optimal performance (see “Free Play Gain Troubleshooting”) and, with this product, is externally tunable.

- Using the long end of a 4mm Allen key, turn the adjuster screw clockwise until it stops under moderate pressure. You are trying to feel for the point at which the throwout will start to lift the pressure plate. This is called your **starting point**.

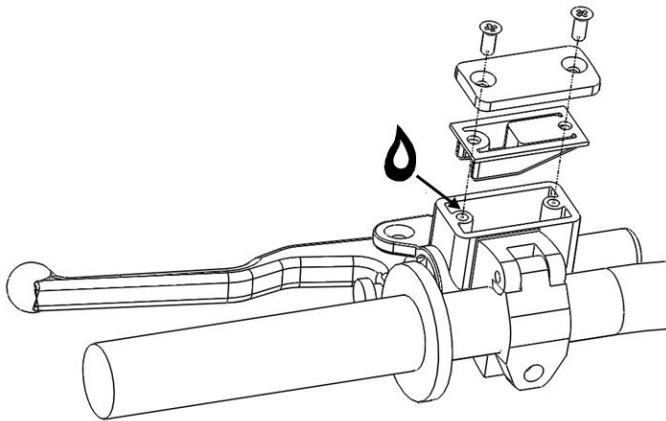
NOTE: It may take a few tries to find the point at which the system is bottomed out. You should feel a distinguishable change in turning effort at this point.



23. Once you have found the starting point, turn the adjuster clockwise 1 full turn plus 5 marks (or 1+5). This is a good **REFERENCE POINT**. Always make final adjustments according to your free play gain.



24. Top off the master cylinder with clutch fluid and reinstall the OEM cap and bladder.



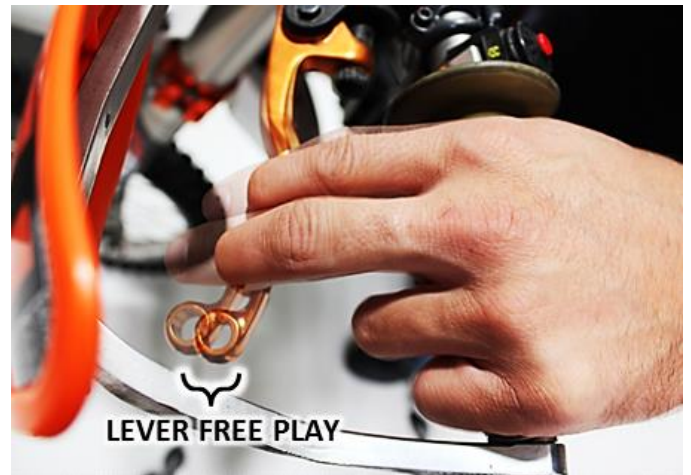
CHECKING “FREE PLAY GAIN”

WARNING

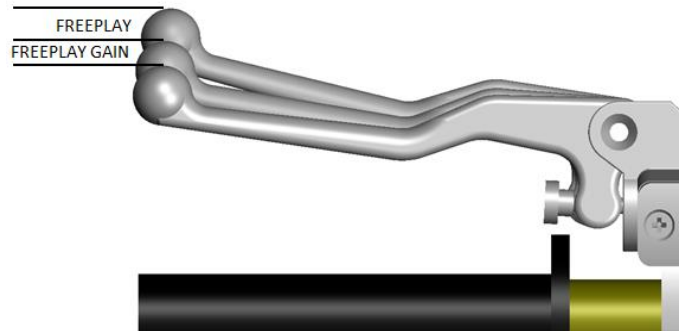
Always make sure that the bike is in NEUTRAL before checking Free Play Gain. Failure to do so may result in the bike lurching forward, and loss of control and/or injury may result.

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”.

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



“Free Play Gain” is the increase of lever free play as the auto-clutch engages. This happens when the RPM increase from idle through around 5000 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.



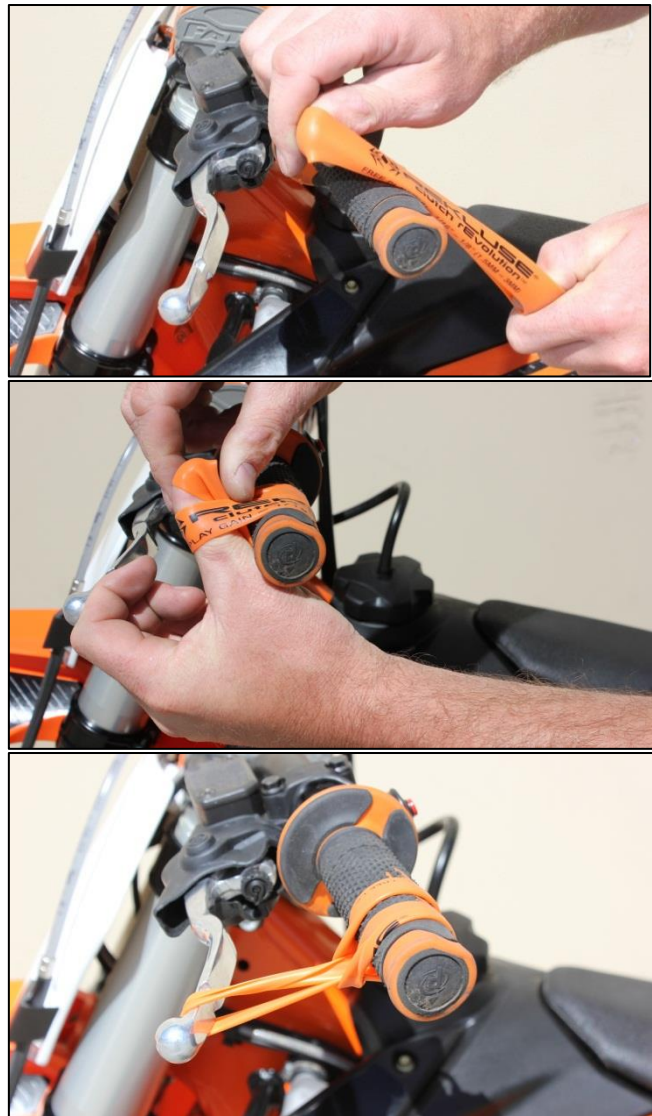
The following steps explain two ways to check Free Play Gain. One will use the rubber band that has been included in the clutch kit and one explains using your hand, which you will perform before every ride.

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

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. See the following three photos.

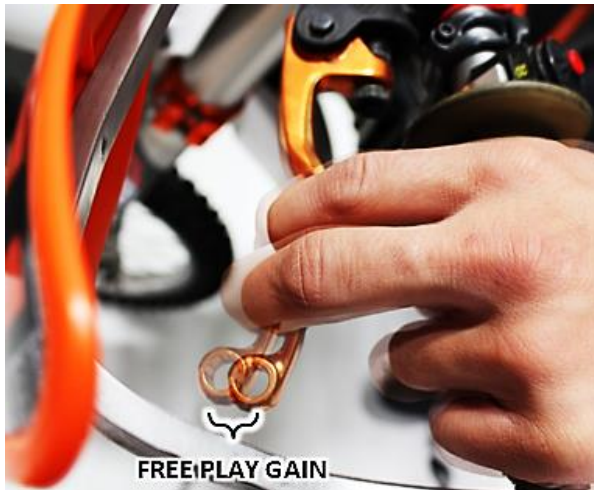


With the bike at idle in neutral, rev the engine to at least 5000 RPM. **The clutch lever should move in about 1/8" (3mm) toward the handlebar as you rev the engine.**

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 5000 RPM. **The clutch lever should move in 1/8" (3mm) under your finger pressure as you rev the engine.**



Free Play Gain Troubleshooting

Each adjustment should be done in small increments - one tick mark at a time.

After each adjustment, repeat the rev-cycle until optimal free play gain is achieved.

Symptom:

- Clutch lever moves in too far (too much free play gain)
- Clutch has excessive drag
- It is difficult to fully override the clutch with the lever

Answer: Installed Gap is too small

Solution: Turn the Adjuster Screw inwardly (clockwise) to increase the Installed Gap.

Symptom:

- Clutch lever does not move enough or does not move at all (too little free play gain)
- Clutch is slipping

Answer: Installed Gap is too large

Solution: Turn the Adjuster Screw outwardly (counter-clockwise) to reduce the Installed Gap. It may be helpful to re-find the starting point.

BREAK – IN

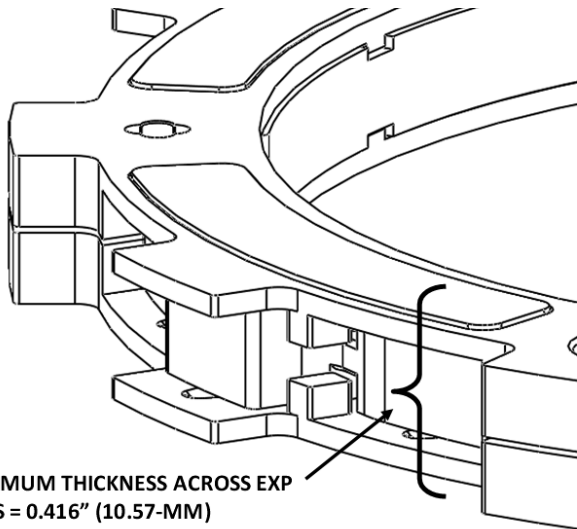
1. Rev cycles: Warm up the bike for 2-3 minutes. With the bike in neutral and your hand **off** of the clutch lever, rev the engine 20 times to at least 5000 RPM, letting the engine return to idle between each cycle. This allows the EXP to break in.
2. With the engine running, pull in the clutch lever and click the bike into gear. Slowly release the clutch lever. The bike should stay in place, perhaps with some forward creep. If the bike creeps too much, to the point of taking off or stalling, the idle may be too high or the installed gap may be too small (too much free play gain).
3. Once you have the bike idling with first gear engaged, slowly apply 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 1st and 2nd gear. In 1st gear, accelerate moderately to approximately 5000 RPMs and come to a stop—repeat this 20 times. Next, starting in 2nd gear, accelerate moderately to approximately 5000 RPMs then come to a stop—repeat this step 10 times.
4. Re-check free play gain at your clutch lever and adjust if necessary at this point. **Your clutch pack will expand as it gets hot** during normal riding, so it is a good idea to check your freeplay gain after your bike is warmed up before each ride.

WARNING: DO NOT RIDE WITHOUT SUFFICIENT FREE PLAY GAIN!

Checking free play gain is easy and takes less than a minute to perform. For optimum performance and longevity, check freeplay gain at the start of every ride or if ever you feel the clutch slipping.

MAINTENANCE

- Keep the adjustable slave cylinder clean and free of dirt and oil.
- Maintain and replace your chain at regular intervals as recommended by the manufacturer. A broken or sloppy chain could damage the adjustable slave cylinder and its ability to function properly.
- Maintain adequate free play gain, checking before every ride and adjusting if necessary.
- Inspect your clutch parts **every 40 hours** for signs of wear or excessive heat, and replace components as necessary.



CLUTCH SQUEAL AND CHATTER

Although it is harmless, some bike models may have “squeal” or “chatter” coming from the clutch at low RPM as it engages. Clutch squeal is caused by the clutch components vibrating as the clutch engages and can become more audible as the clutch gets hot. For bike models that tend to have clutch squeal or chatter here are some recommendations to reduce or eliminate it:

- **Oil:** 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.
- **Clutch Basket:** Available for some models, a Rekluse clutch basket will eliminate clutch squeal and chatter in most cases because it is precision machined from high quality material and includes long-life clutch dampers. A clutch basket that is damaged or has worn-out dampers tends to increase squeal or chatter.
- **Core EXP:** Upgrading to Core EXP gives you the option to run anti-squeal x-rings that will reduce or eliminate clutch chatter and squeal. Core EXP also has other benefits including increased oil flow and torque capacity, longer life billet parts and stock-like lever feel.

Changing the Installed Gap will **NOT** affect clutch squeal or chatter.