

# REKLUSE



## REKLUSE MOTOR SPORTS

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The z-Start® Pro Clutch

## INSTALLATION GUIDE

### KTM LC4

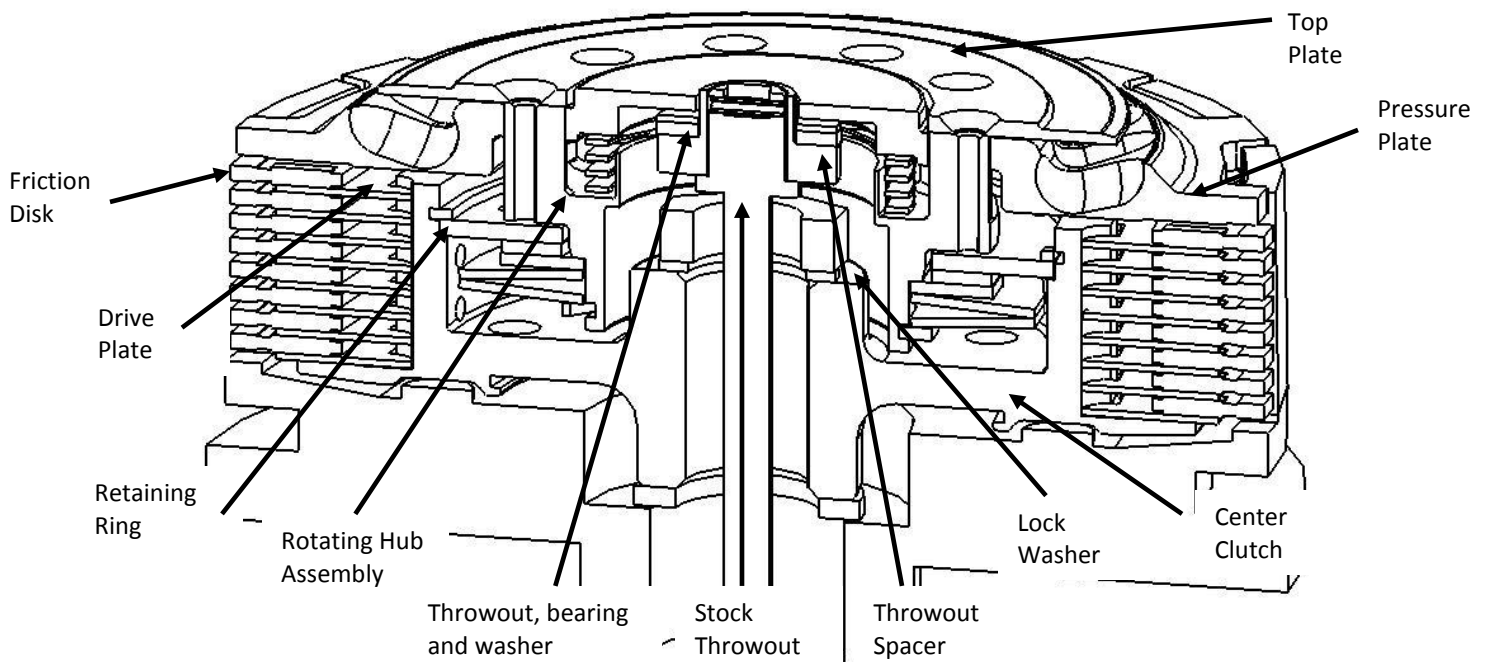
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## Z-START PRO CROSS-SECTION VIEW



## INCLUDED PARTS

### Item

- Top Plate
- Pressure Plate
- Rekluse Center Clutch w/ DP Retaining Washers
- Retaining Ring
- (8) RMS Measured Drive Plates
- (1) RMS 0.048" Drive Plate (Adjustment Plate)
- (1) RMS 0.065" Drive Plate (Adjustment Plate)
- Rotating Hub Assembly
- External Tab Lock Washer
- Rekluse Throw-out Spacer

### Item

- Needle Thrust Bearing
- Thrust Washer
- (27) 7/16" Tungsten Carbide Ball Bearings
- (10) M4x12 Torx Head Screws
- Wave Springs (see setup sheet)
- T-20 Torx Bit
- Blue Loctite 243
- Rekluse Wire Gauges
- '98-'02 Setup Kit
- Rekluse roll pin

## REQUIRED TOOLS

- 8mm socket
- 10mm socket
- 27mm or 30mm socket (for center clutch nut)
- T-20 Torx bit (supplied)
- Impact Wrench

## BIKE PREPARATION AND DISASSEMBLY

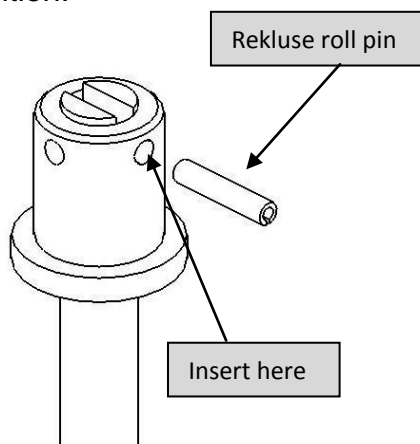
1. Shut off fuel at petcock. Lay bike on right side. **CAUTION:** fuel may drain from carburetor; place a suitable container beneath bike to catch fuel to prevent fire hazard.
2. Remove left side case cover being careful not to damage the gasket.

**NOTE:** It is not necessary to disconnect oil line. Simply rotate cover up and out of the way. If oil line **IS** disconnected, crush washers should be replaced.

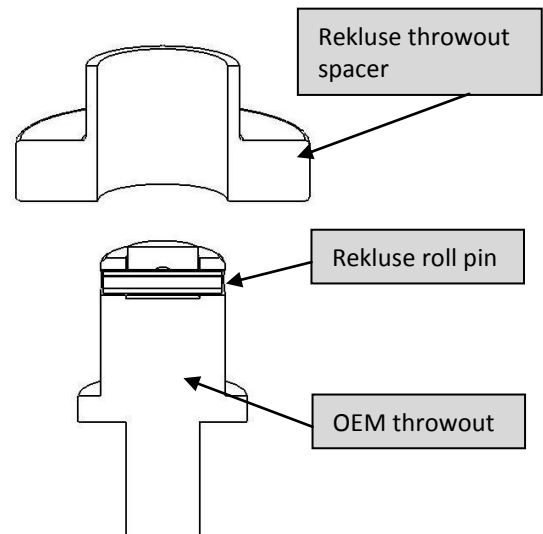
3. Remove bolts and springs from OEM pressure plate.

**WARNING:** Once pressure plate and springs are removed, there will no longer be pressure against the hydraulic system. **DO NOT** pull in clutch lever until z-Start Pro is completely installed or slave cylinder housing will be damaged and will need to be replaced.

4. Remove OEM pressure plate and OEM throw out, which will come out with the pressure plate.
5. Separate OEM throwout from OEM pressure plate. To do so, remove cotter pin while maintaining throwout set position.
6. Place Rekluse roll pin into slot in OEM throwout that cotter pin was removed from to keep the throwout's set position.



7. Slide Rekluse throwout spacer over OEM throwout to secure Rekluse roll pin and set aside.



8. Remove the clutch pack (friction disks and drive plates). Separate the friction disks from the pack as they will be re-installed.
9. Remove OEM o-ring at base of clutch pack. It is **NOT** re-installed.
10. Remove the OEM center clutch hub following the steps outlined in the vehicle manufacturer's service manual. Also, see the center clutch removal tip sheet for further assistance.
11. Retain OEM thrust washer located between OEM clutch basket and OEM center clutch hub.

**NOTE:** thrust washer may be stuck to bottom of OEM center clutch hub.

## INSTALLING THE Z-START PRO CENTER CLUTCH

12. Install the Rekluse Center Clutch with the OEM thrust washer behind it on top of the basket.
13. Install the included Rekluse external tab lock washer over the main-shaft on top of the Rekluse center clutch.
14. Bend middle tab down aligned with flat side of the Rekluse Center Clutch.
15. Torque the center clutch nut to the specified torque found in the manufacturer's service manual.

**WARNING: DO NOT** over-torque the center clutch nut.

16. Using a pair of adjustable pliers, bend remaining two tabs of external tab washer up against the nut securing it.

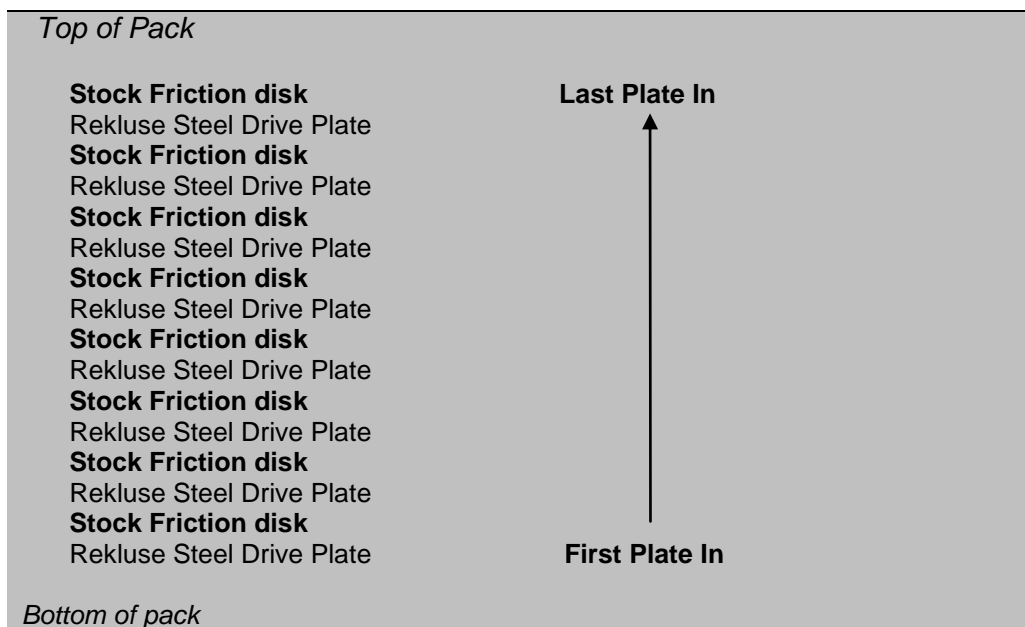


## INSTALLING THE CLUTCH PACK

17. The 8 Rekluse steel drive plates packaged with the Rekluse Center Clutch come pre-measured and are the 8 steel drive plates you will start with.

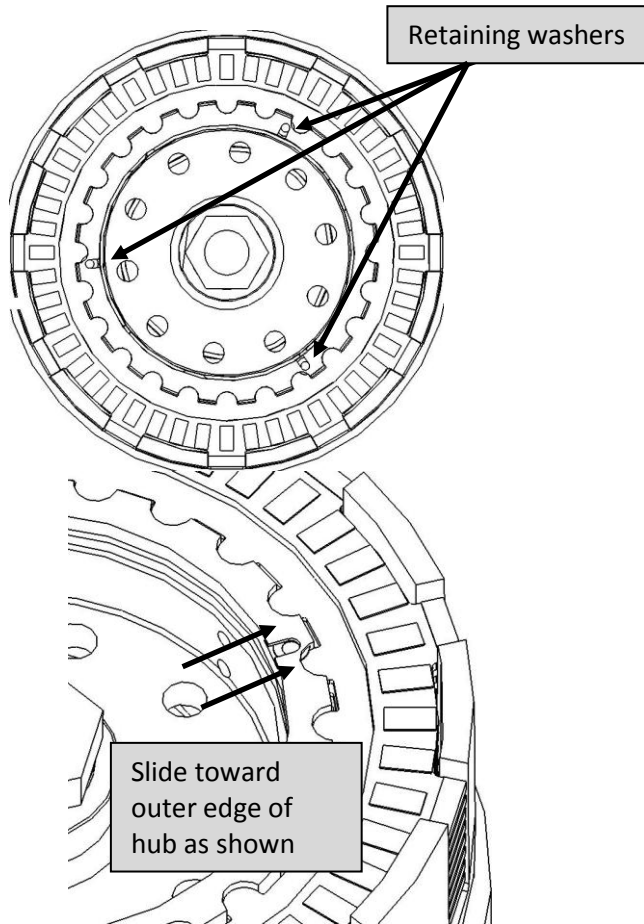
Install 1 Rekluse steel drive plate onto the Rekluse Center Clutch.

18. Install the stock friction disks with a Rekluse steel drive plate between each one. **See chart below for configuration.**

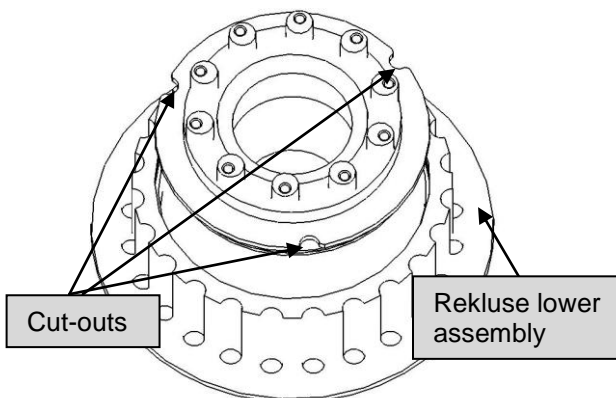


## INSTALLING THE Z-START PRO CLUTCH

19. Using a small screwdriver, slide the 3 retaining washers out to limit top drive plate travel. **See diagram below.**



20. Place lower assembly into Rekluse center clutch hub. You must align the three cut-outs in the lower assembly with the corresponding tabs in the center clutch. Note: some models only have two cut-outs.



21. Using a pair of mechanics gloves (the edges of the ring can be sharp and may cut you), install the retaining ring into the Rekluse Center Clutch ring groove.
22. You must ensure the retaining ring is snapped into the groove. Start the square end of the ring and thread the ring into the groove as shown, ensuring that the scalloped end of the ring is clockwise in relation to the square end.

**WARNING: Scalloped end of ring MUST be oriented as shown below.**



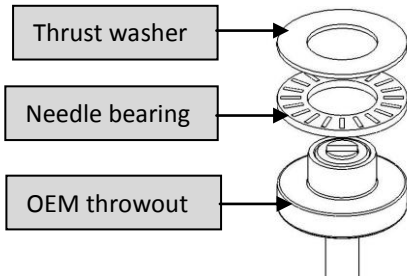
Threading retaining ring into groove



Use a screwdriver to ensure the ring is seated by sliding along the ring's inner diameter.

23. Install OEM clutch throw-out with Rekluse throwout spacer into the transmission shaft.
24. Place needle bearing on top of Rekluse throwout spacer.

25. Place thrust washer on top of needle bearing.

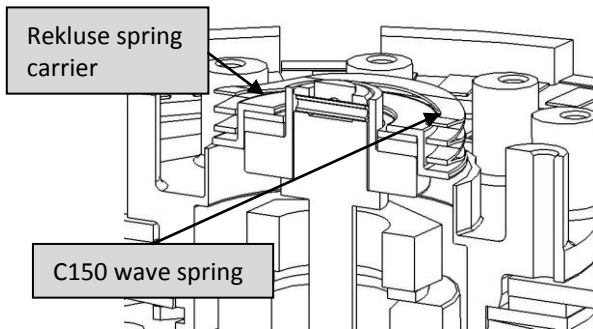


26. Read the Setup and Tuning Guide to determine desired spring setting.

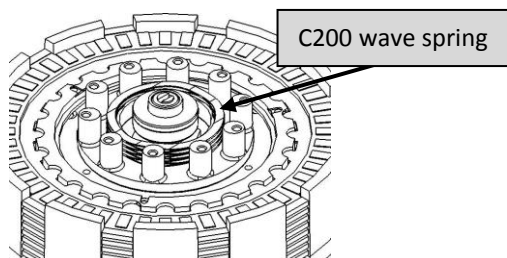
**NOTE:** '98-'02 models perform steps 27-28, then skip to 30. '03+ models skip steps 27-28.

27. **'98-'02 models only.** Install Rekluse spring carrier onto lower assembly. **See diagram below.**

28. **'98-'02 models only.** Install C150 wave spring (chosen based on your desired setup from the tuning sheet for your bike) onto the Rekluse spring carrier. **See diagram below.**



29. **'03+ models only.** Install C200 wave spring (chosen based on your desired setup from the tuning sheet for your bike) into the locating pocket of the lower assembly. **See diagram below.**

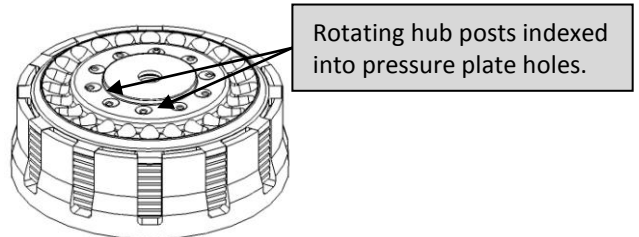


30. Place a small amount of oil into the ball grooves of the Rekluse Pressure Plate.

31. Away from the bike, install the balls into the pressure plate ball grooves. See Tuning Guide for desired configuration.

32. Place the Rekluse pressure plate, with balls, over the lower assembly. Line the 10 holes in the pressure plate up with the 10 rotating hub posts. Also, line the outer tabs of the pressure plate up with the basket slots. If your basket has 2 sets of slots, make sure you index the Rekluse pressure plate tabs into the main/deep slots.

33. Push and hold the pressure plate down, overcoming the wave spring and hydraulic clutch pressure, so the 10 rotating hub posts index into the 10 pressure plate holes.



34. While holding down the pressure plate so it is indexed with the basket and 10 rotating hub posts properly, place the Rekluse top plate over the Rekluse pressure plate and thread in 2 torx head screws 180° across from one another. Lightly tighten the 2 screws to secure the Rekluse top plate.



## DETERMINE THE INSTALLED GAP OF THE Z-START PRO CLUTCH

**Note:** Installed gap is measured using two no-go wire gauges. Therefore, if gauges **do not** slide between Rekluse pressure plate and **the pads** of the top friction disk, your **installed gap is correct**.

If gauges **do** slide between the Rekluse pressure plate and **the pads** of the top friction disk, you **need to adjust your installed gap** according to step 36.

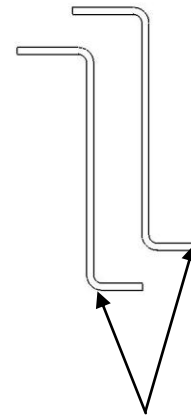
- 35.** Attempt to slide the shorter legs of the 2 included 0.050" *no-go* wire gauges **between the Rekluse pressure plate and the friction pads** of the top friction disk 180° apart.

If clutch pack wear exists, gauges will slide in with slight resistance. Do not force the gauges in, if the gauges **do not** slide in smoothly then the Installed Gap is good and you can move on to Step 37.

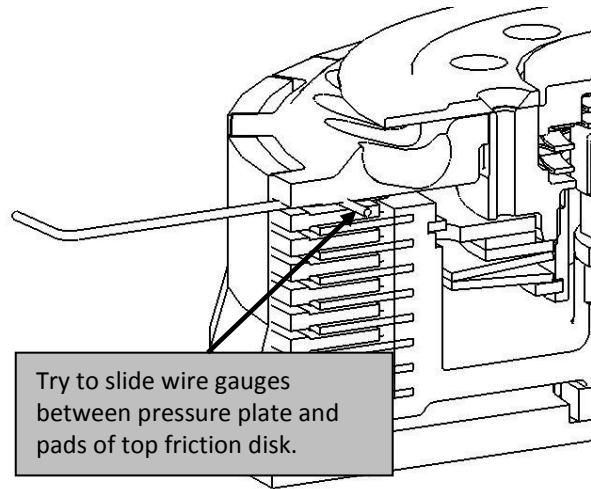
- 36.** If the wire gauges slide in smoothly, the clutch pack needs adjustment. Swap the 0.048" Rekluse adjustment drive plate for the top drive plate. Repeat step 35.

If the no-go Wire gauges still slide in, swap the 0.065" Rekluse adjustment drive plate for the 0.048" adjustment drive plate.

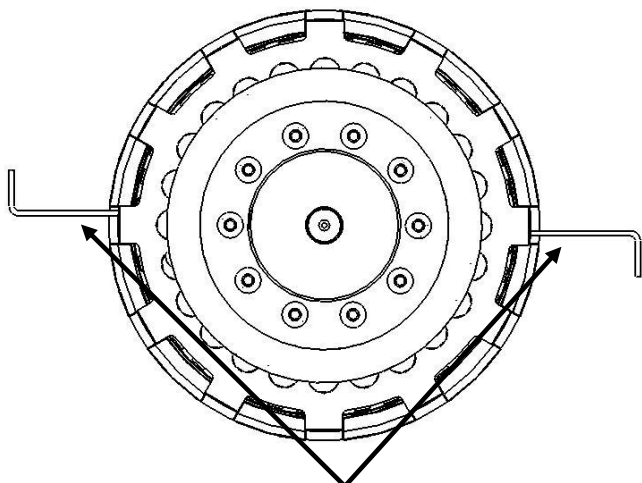
- 37.** Install the remaining 8 torx head screws using blue Loctite 243 and torque to 14 in-lbs.
- 38.** Remove the 2 screws originally installed without Loctite, apply Loctite and torque.
- 39.** Re-install the clutch cover. Lightly tighten all of the cover bolts before full torque is applied, or you may break the cover.



Use the small leg of wire gauges.



Try to slide wire gauges between pressure plate and pads of top friction disk.



Attempt to slide both gauges in 180° apart simultaneously

40. Re-install the kick starter and shift lever.

**Note:** Be sure to review the included Break-in and Maintenance Guide for clutch pack wear adjustments.

**WARNING:** After a 20 minute break-in period, the clutch plates will seat in and you must re-measure the Installed Gap to guarantee the Installed Gap is within the prescribed range—make drive plate adjustments if necessary. Clutch break-in re-measurement of the Installed Gap is necessary whenever new clutch plates are installed.

**'98-02 models:** It is **CRITICAL** that you perform the clutch cable slack setting steps outlined in Appendix B.

41. Refer to the “Safety Warnings” and “Break-in Tuning and Maintenance Guide” before operating the z-Start Pro clutch.

42. '98-'02 models only. See Appendix B, clutch cable slack adjustment.

## APPENDIX A – CENTER CLUTCH REMOVAL TIP SHEET

The following covers 3 methods for removing the OEM center clutch from your motorcycle or ATV. **At no time should you ever pry against the standoffs of the OEM center clutch because they are easily broken.**

**Note:** If your bike has an external tab lock washer, use a flat blade screwdriver to pry the tabs away from the nut. Next use a hammer and punch to lightly tap the tabs flat.

1. **Pneumatic or electric impact gun:**  
Place the bike in gear and remove the nut
2. **Clutch Holding Tool:**  
Example: Motion Pro # 08-0008  
Use the clutch holding tool to hold the center clutch while using a wrench to remove the center clutch nut.
3. **Holding the Rear Brake:**  
Place the bike in 4<sup>th</sup> or 5<sup>th</sup> gear (a higher gear gives you more mechanical advantage). Apply the rear brake firmly and hold firmly while using a wrench to remove the center clutch nut. A second set of hands is helpful.

## APPENDIX B - SETTING CLUTCH CABLE SLACK – '98-'02 ONLY

**IMPORTANT:** Cable slack adjustment is **critical**. The cable slack must be adjusted properly and maintained frequently. Failure to do so will result in clutch failure.

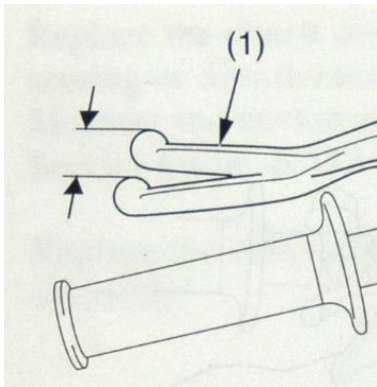
Adjusting cable slack is different with a z-Start Pro Clutch installed. Cable slack adjustment requires starting the motor in neutral and revving to a minimum of 4500 RPMs (approximately ½-throttle) while checking for lever free play. **There must be clutch lever free play while holding a minimum of 4500 RPMs.**

**If there is not enough cable slack, the clutch will slip excessively causing the clutch to fail.** Too much cable slack reduces the ability to disengage the clutch at higher RPMs.

**WARNING:** *Ensure the bike is in neutral* or it could lunge forward unexpectedly when revving the engine.

**Place the bike into neutral and start the engine.** While holding a minimum of 4500 RPMs, check for 1/2" (1cm) of play at the end of the clutch lever before you feel significant resistance. Adjust cable slack accordingly using stock cable slack adjuster(s).

In other words, when revving the engine, clutch lever free play should feel like stock.



**Tip:** Use one finger with light pull when checking for lever free play. This will make it easier to distinguish between the light resistance of the lever return spring and the significant resistance felt when disengaging the Rekluse pressure plate.

**Note:** Be sure to review the included Break-in and Maintenance Guide for clutch pack wear adjustments.

**WARNING:** After a 20 minute break-in period, the clutch plates will seat in and you must re-measure the Installed Gap to guarantee the Installed Gap is within the prescribed range—make drive plate adjustments if necessary. Clutch break-in re-measurement of the Installed Gap is necessary whenever new clutch plates are installed.

Refer to the “Safety Warnings” and “Break-in Tuning and Maintenance Guide” before operating the z-Start Pro clutch.