

# **Rekluse Motor Sports**

## **The z-Start™ Clutch**

**05' YZ125**

### **Installation Guide**

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z-Start Revision 3.000  
RMS175 – 05 YZ 125

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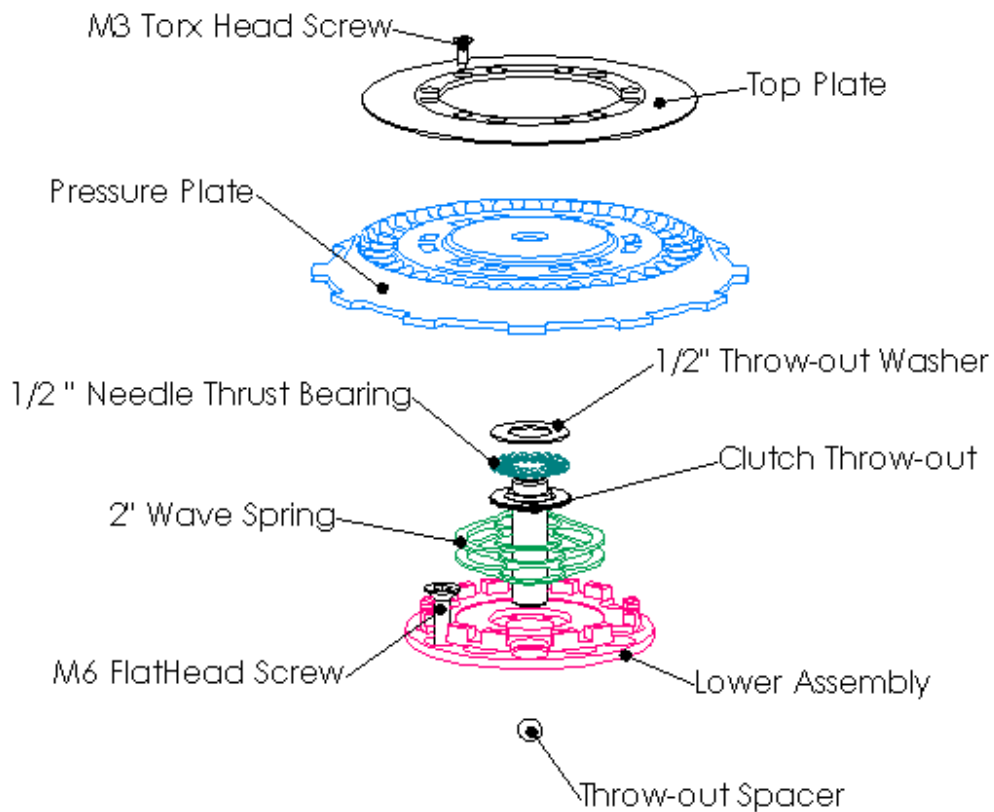
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## Required Tools

8mm socket	2 Sets of feeler gauges
10mm socket	Inch Pound Torque Wrench
4mm allen key socket	Torx T10 driver tip (included)
1/4 inch driver (for included Torx T10 driver tip)	Blue Loctite 243 (oil resistant)

## z-Start Overview



**Note:** The Lower Assembly is packaged underneath the Pressure Plate and held in place with two screws through the Top Plate.

**Note:** An internal Wave Spring is not necessary for this model.

## Included Parts for the z-Start Clutch

**Note:** spare screws, balls and shims may be included with your clutch

Top Plate	10 x M3 #10 torx screws
Pressure Plate	40 x 5/16" (7.94mm) balls
Lower Assembly	1 x .055 (1.4mm) Drive Plate – for finer adjustment
Clutch Throw-out	2 Clutch Cover Gasket
½" (12.7mm) Throw-out Needle Thrust Bearing	5 x M6 x 30mm Socket Cap Screw
½" (12.7mm) Flat Throw-out Thrust Washer	1 x M6 x 55mm Socket Cap Screw
5 x .047" (1.2mm) steel drive plates	1 x M6 x 70mm Socket Cap Screw
5 x M6 Flat Head Screws	

## Basic z-Start Clutch Operation

The z-Start Auto Clutch functions through centrifugal force. As engine RPM increases, the balls contained in the z-Start Pressure Plate travel up the ball ramps and push against the Top Plate. This action forces the Pressure Plate to engage the clutch pack.

## Installation Tips

In order for the z-Start Clutch to perform properly, it must be mounted properly.

- Measuring and maintaining the Installed Gap is **critical**. If the Installed Gap is too big the clutch will slip excessively and cause rapid clutch wear. If the Installed Gap is too small, the clutch will drag and cause engine stall.
- Recognize that the Pressure Plate travels along the tabs of the Lower Assembly as it engages and disengages. Anything preventing this travel will prevent full engagement and cause the clutch to slip excessively.
- If you will be installing the Rekluse *Perch Adjuster* as a manual override for your z-Start Clutch, it is critical to have the cable slack adjusted properly. First complete the installation of the z-Start Clutch using this manual and ensure proper installed gap. Then refer to the Rekluse *Perch Adjuster* manual to ensure proper cable slack adjustment.
- **Be very careful not to drop any screws, washers, balls, or springs into the crankcase opening!** It is surprisingly easy to drop a little screw or washer down into your crankcase. It is not always so easy to get it out. Make sure all parts going in and coming out are accounted for before you finish the installation. A strong magnetic probe can often be used to retrieve little parts if you happen to drop something in.

## Bike Preparation and Disassembly

1. Disconnect your clutch cable at your clutch lever.
2. Turn the gas petcock to the off position and route the gas cap vent tube into the air. When you lay the bike over on it's side, the gas in the bowl will drain out of the overflow tube. Be prepared to catch the gas in a suitable container to prevent a fire hazard.
3. Lay the motorcycle over on its left side. Remove the cotter pin on the back of the rear brake lever bolt and remove the bolt so you can rotate the rear brake lever away from the clutch cover.
4. Remove the clutch cover bolts with an 8mm socket and carefully remove the clutch cover.
5. Using a 10mm socket, remove the bolts holding the stock pressure plate to the inner clutch hub. Lift off the pressure plate and the clutch lifter assembly. The clutch lifter assembly consists of the **Clutch Throw-out**, a **bearing**, and a **washer**.

Stock Pressure plate, stock throw-out, 5 bolts, and 5 springs are not reinstalled.

**Note:** Make sure the stock throw-out ball spacer remains in the transmission output shaft.



## Clutch Pack Configuration

6. Exchange out 4 of the stock .062" drive plates and replace with 4 *Rekluse .047" (1.2mm)* drive plates. The additional *Rekluse .055" (1.4mm)* drive plate is used to compensate for clutch pack wear.

**Note:** At this point you will have 4 stock drive plates removed from you clutch pack.

**Warning:** The top of the clutch pack must be a **friction disk**.

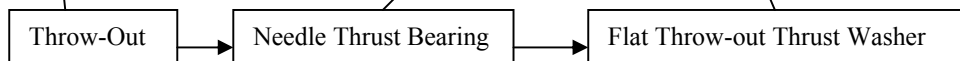
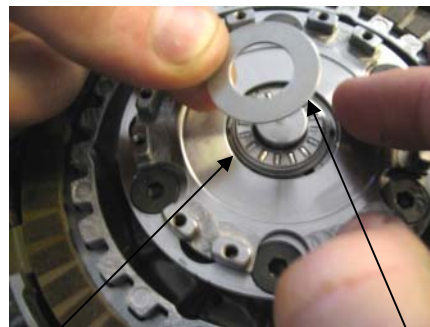
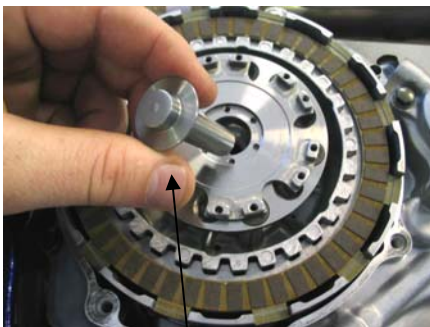
## Installing the Lower Assembly

7. Place the z-Start *Lower Assembly* over the 5 center clutch standoffs through the corresponding set of 5 countersunk holes in the z-Start *Lower Assembly*. There are 2 sets of 5 countersunk holes in the Lower Assembly—only one set will line up with the 5 center clutch standoffs.
8. Install the 5 M6 Flat Head Screws. **Apply a small amount of blue Loctite 243 to each screw** and torque to 96 inch pounds with a torque wrench. After the screws are torqued-down, check to insure the top part of the *Lower Assembly* spins freely.

## Assembling the Rekluse Throwout, Pressure Plate, and Top Plate

9. Guide the ***Rekluse Clutch throw-out*** into the hole in the transmission input shaft. Be sure that the stock spacer ball is in place.

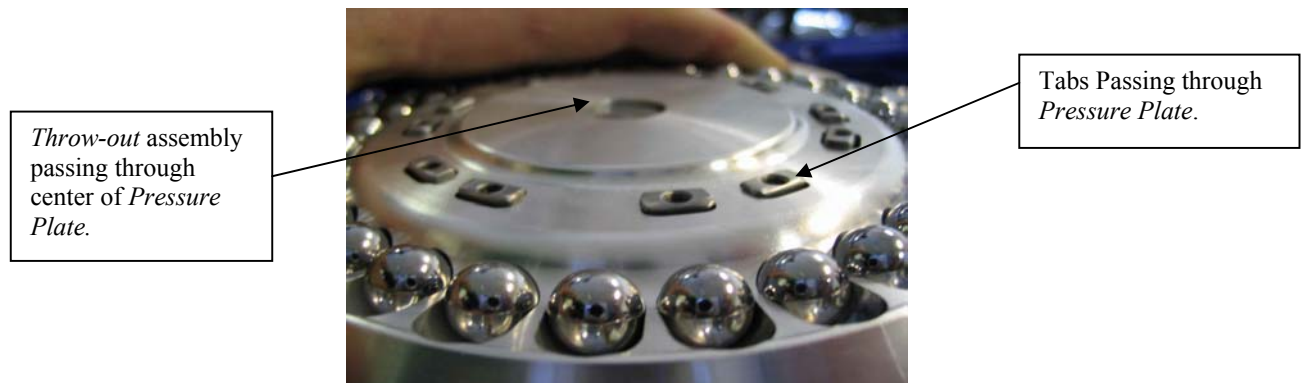
Place the  $\frac{1}{2}$ " *Needle Thrust Bearing* on top of the *Rekluse Throw-out* followed by the  $\frac{1}{2}$ " *Throw-out Thrust Washer*. **See following pictures.**



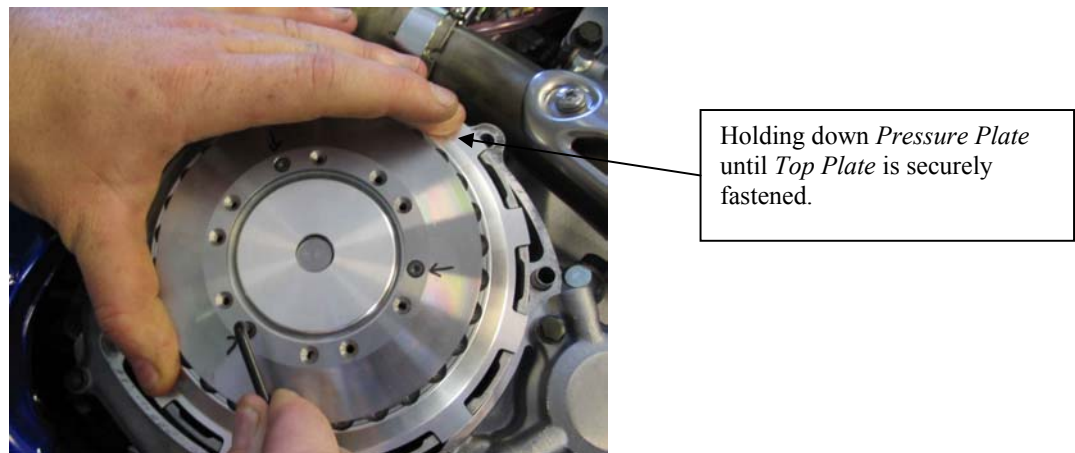
**Warning:** Perform the next step away from the bike to keep the balls from falling into the transmission.

10. Place a small amount of oil into the ball slots of the *Pressure Plate* and insert the 40 5/16" *Balls*.
11. Place the *Pressure Plate* with the 40 Balls in place over the z-Start *Lower Assembly*. Index the outer tabs of the *Pressure Plate* into the windows of the clutch basket. **The outer tabs of the *Pressure Plate* must rest in the same clutch basket windows that the outer tabs of the friction disks do.**

Also insure that the tabs of the *Lower Assembly* pass through the associated cut-outs in the *Pressure Plate*. Make sure the top of the *Rekluse Throw-out* assembly passes through the hole in the center of the z-Start *Pressure Plate*. **See following picture.**



12. While holding the *Pressure Plate* down place the *Top Plate* over the *Pressure Plate* and fasten it to the tabs of the *Lower Assembly* with three of the M3 screws, through the three marked holes in the *Top Plate*. Lightly tighten each screw using a 1/4 inch driver and the included Torx T10 driver tip. **See following picture.**



**Note:** You will have to overcome the z-Start *Wave Spring* and hold the *Pressure Plate* down until the 3 screws are securely fastened in order to tighten the *Top Plate* down properly.

## Determine the installed gap of the Z-Start

13. Measure the installed gap of the z-Start. Two sets of feeler gauges are required to measure the Installed Gap. The feeler gauges must be placed between the top most **friction disk** and the top-most **steel drive plate** in the clutch pack 180 degrees apart. **See following pictures.**

**Note:** Insert the 2 sets of feeler gauges directly across from one another (180 degrees apart) to avoid the clutch pack from rocking resulting in an inaccurate measurement. Find the thickest feeler gauge that still slides back and forth with slight resistance.



**The installed gap should be between .035" (0.89mm) and .045" (1.14mm).**

If the gap is correct, move on to the next step. If the installed gap measurement is off, then the installed gap needs to be adjusted due to manufacturing variances in the bike's center clutch.

If the measurement is **greater than .047"** replace one Rekluse .047" (1.2mm) drive plate with a stock .062" (1.6mm) drive plate. If the measurement is **less than .035"** replace one stock .062" (1.4mm) drive plate with a Rekluse .047" (1.2mm) drive plate.

**Note:** 1 x .055" Drive Plate is included to make finer wear adjustments between stock and Rekluse .047" drive plates.

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

## Final Installation Steps

**Note:** Use 243 Loctite (Blue, oil resistant) to secure all M3 Torx screws

14. Using a small amount of Blue Loctite 243, install the rest of the M3 torx head screws and torque to 10 inch/pounds. 10 inch-pounds requires a good crank with the included Torx T10 driver tip, but be careful not to bend the head of the T10 driver tip. Remove the three marked M3 screws, add Loctite, and tighten.
15. Using the provided replacement clutch cover bolts, re-install your clutch cover with the 2 included Rekluse *Clutch Cover Gaskets*. Hand-tighten each of the clutch cover bolts, then torque to 6 to 8 foot/pounds in 2 steps. The longer bolts compensate for spacing out the clutch cover with the 2 Rekluse Clutch cover Gaskets.

**Warning:** Both Rekluse gaskets must be used or considerable clutch damage will result.

16. Stand the bike up on a suitable stand and remove the ignition cover with an 8mm socket. Disconnect the stock clutch cable from the actuator arm and remove the stock clutch cable from the bike completely.
17. Following the stock clutch cable routing, install the included Rekluse clutch cable. Connect the Rekluse clutch cable to the actuator arm and re-install the ignition cover. As you route the cable up to the perch, guide the cable around the right side of the front number plate attachment bolt. **See following picture.**



Clutch Cable routed along right side of number plate bolt.

18. To install the the z-Start Perch Adjuster, proceed to the included z-Start Perch Adjuster Instructions

**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. See step 15. Clutch break-in re-measurement of the Installed Gap is necessary whenever new clutch plates are installed.

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