

P/N 920394 Install Guide

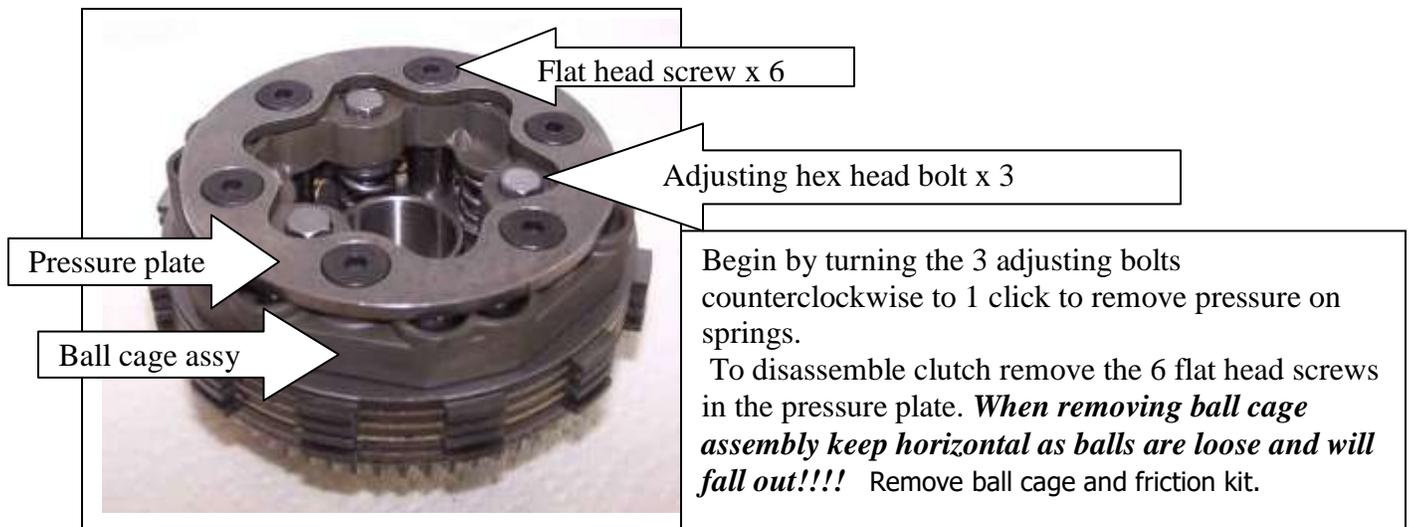
IRP Racing Spring Kit 2013-2022 KTM 50 SX HUSQVARNA TC50 2018-21

Contents: 6 x Heavy Duty Springs 3 x Retainers 6 x Washers

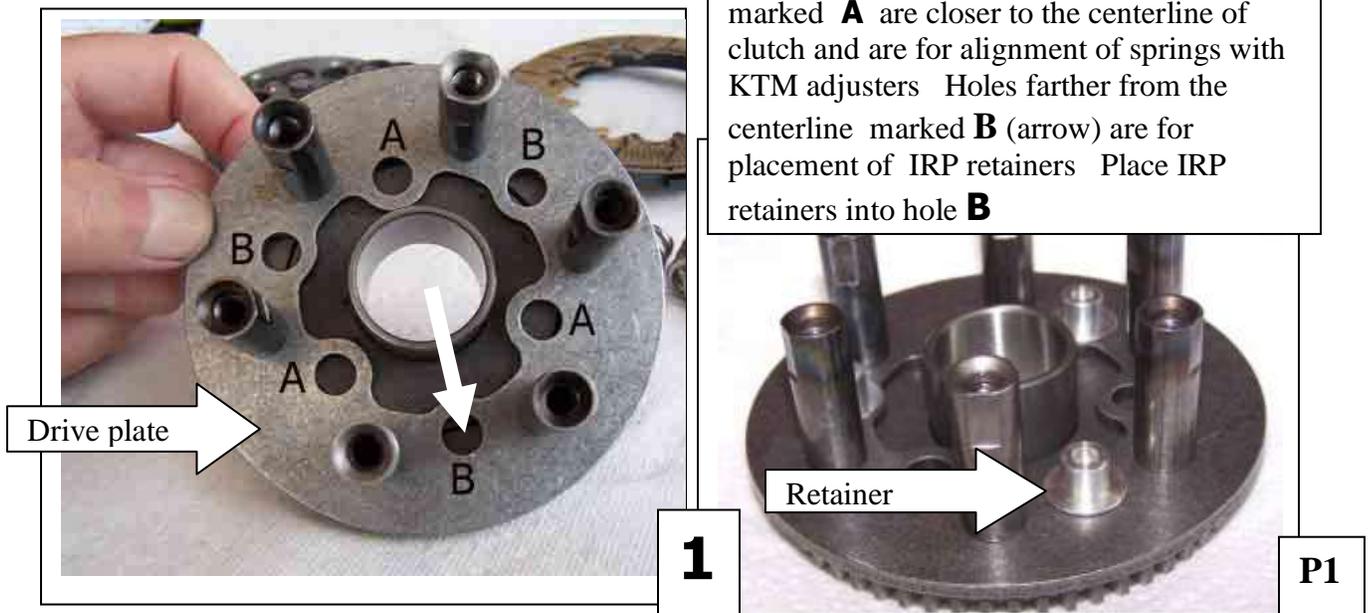
Foreword *For Video go to www.inturace.com*

The factory KTM clutch comes with six compression springs designed to provide resistance between the linear travel of the ball cage assembly and the drive plate where the friction disks and floaters are located. Only three of the six springs can have their resistance (pressure) adjusted through steel retainers attached to hex head bolts on the ball cage assembly. The three springs that can be adjusted absorb virtually all of the load and can be highly stressed resulting in erratic performance. The remaining three springs are non-adjustable and have only about 5 lbs preload and therefore do not help spread the load evenly. Hot spots and uneven wear of frictions can occur that affect performance.

IRP's upgrade kit includes six heavy duty springs and three special aluminum retainers to help all six springs spread the load for a more balanced role in obtaining correct stall speed. The retainers have a .032" flange designed to compress the matching IRP springs the equivalent of 2 clicks. IRP springs also are .025" taller for an addition 2 clicks preload and are made from stainless steel material with a spring rate 25% higher than stock springs for longevity and provide a wider range of adjustability.



Installation of IRP springs and retainers





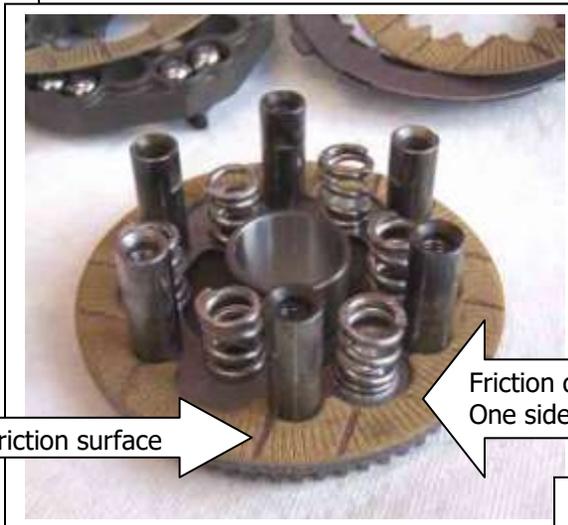
2

Step 2 Place springs over IRP retainers



3

Step 3 Place remaining 3 springs onto drive plate with springs centered on holes marked Asee step 1



4

Step 4 Install disk kit(5 friction disks 4 steel floaters)
 Note: there are two friction disks with friction material on one side only
 Install a **one sided friction disk** against drive plate with friction surface facing up as pictured
 Next install a steel floater...
 Next install a friction disk 2 sided
 Next install a steel floater
 Next install a friction disk 2 sided
 Next install a steel floater
 Next install a friction disk 2 sided
 Next install a steel floater
 Next install remaining one sided friction disk with friction surface facing floater ...
 See arrow below

Friction surface

Friction disk One sided

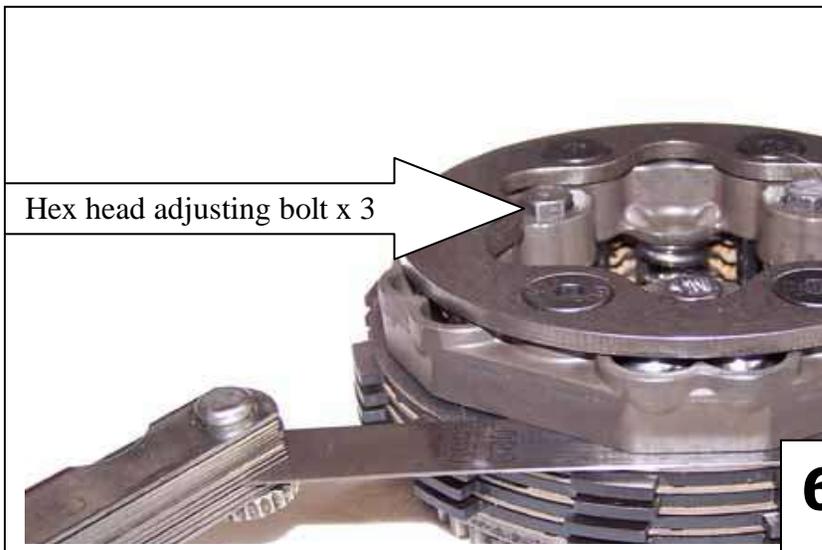
One sided friction disk





Step 5

Place ball cage assembly over fit bolts. Caution: the 3 adjuster bolts align with the springs on bolt circle A see Step 1



Step 6

Install Pressure Plate
Put a drop of blue locktite on screws and tighten to 12 Nm
Clutch should have .035" +/- .005" AIRGAP when assembled correctly with new disks

Clutch is now ready to install, don't forget to add clutch oil.

STALL SPEED

Stall speed is the RPM that the clutch locks up solid. In racing stall speed is often referred to "slipping" the clutch. Adjusting the clutch for more slip is actually raising the stall speed. Or when adjusting for less slip the stall speed of the clutch is lowered. The trick is to adjust the stall speed at peak torque of the engine.

The power band of the 50cc 2-cycle engine is very narrow therefore proper clutch adjustment is necessary for maximum performance. A clutch that locks-up below the power band will cause the engine to bog and performance will be sluggish. A clutch that locks up above the power band is (over slipping). A clutch that is over slipping will cause power to be wasted in the form of heat. Excessive heat may also destroy friction disks, warp clutch components or damage engine.

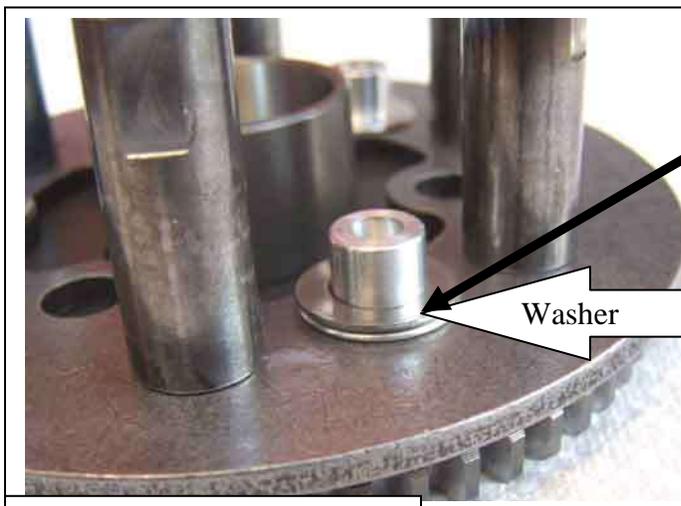
STALL SPEED ADJUSTMENT

A tachometer is mandatory for accurate measurement of stall speed. For best performance on stock engine we advise setting clutch stall speed at 9400 RPM +/- 100 RPM

Before making adjustment make sure the 3 hex head adjustment bolts are turned (counterclockwise) until they won't turn anymore. Then adjust each bolt 2 clicks clockwise.

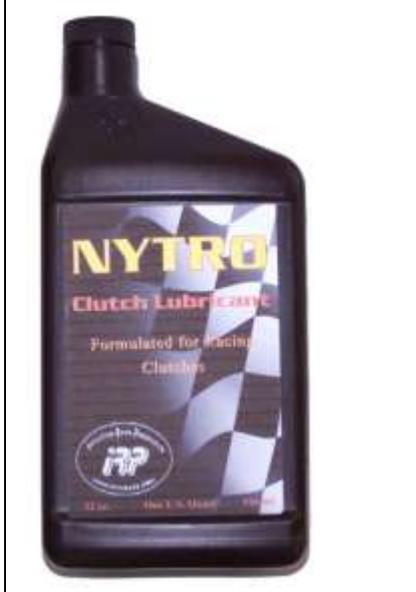
With adjustment of **2 clicks** begin the Stall Speed test. Make a stall speed test and if below 9400 then shut off engine and remove plug from cover and adjust the clutch again 1 click clockwise per each hex head adjustment bolt. Keep adjusting 1 click at a time per bolt until stall speed reaches 9400 RPM or the desired stall speed that matches your engine's torque curve. Each click of the bolt compresses the active springs .013" thereby increasing stall speed about 100 RPM.

Note: highly modified engines and / or aftermarket exhaust systems may require raising stall speed to 9800 to match torque curve. It may be necessary to add washer(s) onto the aluminum retainers to raise stall speed in addition to 4 clicks. See Picture below



Clutch must be disassembled to add washer(s) to each retainer
Washers not needed with 9400 Stall Speed of stock engine!

Washer



For easier cold starting , less drag and consistent performance consider IRP Clutch Lubricant
Engineered for use in stock as well as aftermarket MX clutches. Lightweight >10W
high flash point over 400°F
P/N 920898