

# Calibration Kit: CKTRK100S

Fits: Kawasaki Teryx KRX1000: Trail: 0-3000ft Elev. - Up To 35" Tires

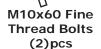
Adjustable Weight Kit Items

# Be Sure To Read ALL Instructions and Illustrations Before Beginning!

#### KIT ITEMS INCLUDED:

- Drive Spring White
- Driven Spring Navy Blue
- Drive Belt (included in kit)
- Weights (included in kit)
- Shim Kit (included in kit)
- Decals
- Installation Instructions

# John Olivery



# **TOOLS NEEDED:**

- Floor jack & safety stands
- Drive clutch puller (Call 855.743.3427 for proper tool for this kit)
- Driven clutch compression tool (Call 855.743.3427 for proper tool for this kit)
- Polaris Belt Removal Tool
- 3/8" metric socket set & 7/8" socket 1/2"
- 15mm socket Torx set Allen set

# White "Drive or Primary" Clutch Spring

Navy "Driven or Secondary" Clutch Spring

## NOTE:

- Make sure the year & model on instruction sheet matches the year & model of your vehicle.
- Do Not attempt this install w/o proper tools or damage to clutches & injury could occur.
- Do Not attempt this install if you are not qualified. Injury could occur.
- · Inspect Drive/Driven clutch faces before you install kit.

# • • • Installation • • •

Note: Before installation, you will need to lift the machine up onto jack stands or equivalent to relieve the pressure off the shock springs to move them.

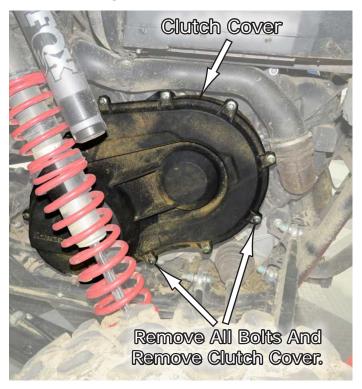
1. Removing the Lower Rear Shock Bolt may make it easier to remove Clutch Cover, but not required. See **Fig.1**.

(Note: Removing the Lower Rear Shock Bolt may make it easier to remove Clutch Cover, but not required)



Fig.1

2. Now remove the **Bolts** holding the Clutch Cover on and remove the cover by pulling straight out. See Fig.2a-2b.



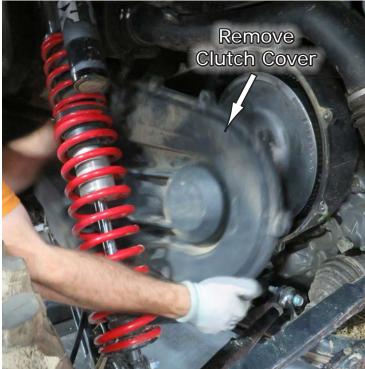


Fig.2a Fig.2b

3. After removing the Cover, you will need to remove the Metal Clutch Shroud. Do this by removing the three (3) bolts holding it on, then remove out of the way. See Fig.3a-b. Next you will be removing the belt.

**NOTE:** Before Taking Belt Off, take notes or pics of which direction the printing on the outside of the belt is facing. You will need to put it back on the with the printing facing the same direction.





Fig.3a Fig.3b REV-1\_CKTRK100S\_Rev-A 11-26-24 4. Next is to take the Belt off. To do this, you need to Loosen the Three (3) Bolt Locations on the front of the Secondary Clutch using the Two (2) M10 FineThread Bolts In your kit. By screwing them into the locations shown, this will relieve pressure of the clutch plates allowing the belt to loosen. Then remove the belt. See Fig.4.

#### • • • DRIVEN CLUTCH REMOVAL • • •

5. After the belt is taken off you can now remove the Secondary Clutch by removing the two M10 Bolts you just used to remove the belt, and the Center Retaining Bolt shown in Fig.5a. Then slide the clutch off the spindle as shown in Fig.5b.



Fig.4







Fig.5b

**6**. Now take the Secondary Clutch and set it on your Compression Tool so you can disassemble the clutch. Compress the clutch relieving the pressure, **Fig.6a**, so you can remove the Retaining Ring as shown in **Fig.6b-c**.



Fig.6a





Fig.6b Fig.6c 4

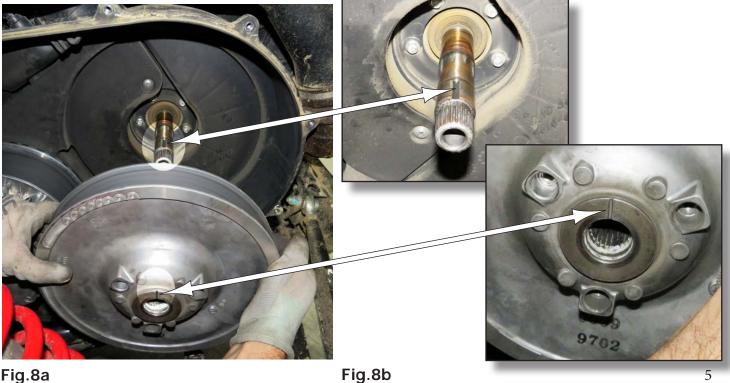
7. Remove the **Spring Cap** (Fig.6c) and **Factory Spring** as shown in **Fig.7a**. Then install your new **Navy Blue Spring** provided in your kit as shown in **Fig.7b**.





Fig.7a Fig.7b

**8**. After the spring is on, replace the spring cap and compress the assembly together to re-install the **Retaining Ring**, back to where you started. Then put the outer sheave on top the assembly and slide it back onto the spline. **NOTE**: Make sure you line up the keyway in the spline to the groove on the outer sheave to slide onto spline correctly. See **Fig.8a-b**.



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9. After sliding the **Driven** Clutch back onto the spline, insert two (2) bolts into the clutch to hold in place but do not tighten down as you will need to reinstall the belt before doing that later in the steps ahead. See Fig.9.



Fig.9



**NOTE:** Up to this step, the installation process is the same for all versions and options that you can choose from when ordering your kit. The next section will show a table of different combinations or choices you can make when ordering this kit. It shows which of the Springs you will use in the Driven Clutch and how many of the magnet weights you will need to install in the Flyweights, all provided in your kit. You will just look for the combination of choices you chose when ordering your kit and apply what the table says to your specific choices. You will look for the Terrain, what Tire Size and Elevation you chose.

> The section after the table is an example of the Part number with various options chosen showing what Spring(s) are being used as well as the "P" number which determines the number of magnet weights you will insert in each weight seat location of the Flyweight.

#### **OPTIONS TABLE**

2020-2024 Kawasaki KRX 1000

	Terrain	Tire Size	Elevation	Weight Set-up				Drive Spring	Driven Spring	RPM
				Hole1	Hole2	Hole3	Hole4	Drive spring	Driven spring	KEW
	Trail	30"-32"	0-3000'	0	2	1	1	White	Stock	7800-8000
	Trail	30"-32"	0-3000'	1	3	2	2	White	Stock	7500-7700
H	Trail	33"-35"	0-3000'	0	2	0	1	White	Blue	7800-8000
	Trail	33"-35"	0-3000'	1	3	2	2	White	Blue	7500-7700
	Mud	30"-32"	0-3000'	1	1	1	1	White	Stock	7800-8000
	Mud	33"-35"	0-3000'	1	1	0	1	White	Blue	7800-8000

Listed RPM reference is prior to full shift out ~50mph

If machine is tuned or otherwise making more power than stock, it may be necessary to add weight to bring rpm back down. Recommended to start with 1 additional magnet in hole 3.

Do not exceed 3 magnets per hole.

Recommended Settings for Elevation					
3000'-6000'	Subtract 1 magnet from hole 3. If already empty, add 1 to hole 3, subtract 1 from hole 4				
6000'+	Subtract 1 magnet from hole 4.				

Recommended Settings for Gear Reduction							
Actual Tire Size	Gear Reduction	Corresponding Set-up Tire Size					
33"-35"	15-30%	30"-32"					
36"-40"	15%	33"-35"					
36"-40"	30-45%	30"-32"					
40"-44"	30%	33"-35"					
40"-44"	45-70%	30"-32"					

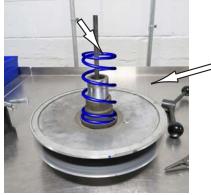
Take your actual tires size that you have in the "Actual Tire" column, match the % of reduction in the middle section that you have, then substitute the tire size in the "Corresponding" column in the same row as your actual tire size to make your choices for correct set-up above.

# Examples of choices and how it affects the Springs and Magnet Weights used in your kit.

FOR MODEL: CKTRK100S: Using 33"-35" Tires @ 0-3k ft. Elevation - Trail Ride

7. Remove Factory Spring and replace with your "Navy" Spring provided in your kit. Be sure to put on the Spring Cap & Retaining Ring from your Factory Spring.







Use Navy Spring

Fig.7a Fig.7b

\* Your Specific Weight Set-up Number For This Kit (Navy Spring) is: PO201T.

Write down the number associated with the color spring you will use as you will need it to reference how to load your weights with the magnets in the following steps, if they are not already preloaded.

NOTE: There is more detail on these weights and what is needed on Page 10.

## • • • DRIVE CLUTCH REMOVAL • • •

10. Now switch to the "Drive Clutch". Before removing, notice the Arrows that align up the clutch assembly as shown in Fig.10a. This is how these parts should be put back together when reassembling for proper alignment and fit. See Fig.10a. Then remove the Retaining Nut holding the clutch to the spindle as shown in Fig.10b. Once the bolt is removed, the clutch assembly can be removed by rocking the sheaves and pulling outward and off.





Fig.10a Fig.10b

11. Now place the **Drive Clutch** onto a **Compression Tool** and tighten down the tool holding the clutch cover Lid in place. Now loosen the **(8) Hex Bolts** from the lid as shown in **Fig.11a**, slowly back off the Compression Tool relieving the spring pressure. Then remove the **Lid** and **Factory Spring** as shown in **Fig.11b**.





**Fig.11a Fig.11b** 8

- **Note:** After cover has been removed, now is a good time to scuff up the sheaves with a Scotch-Brite Pad and clean them from all debris before reinstalling back onto your machine since you have access to them.
- 12. Now to install your new weights. First remove the Snap Ring from one of the weight pins as shown in Fig.12a-b. Keep this as you will reuse it. Then pull the pin out from the opposite side and remove the factory weight as shown in Fig.12c. Then install your new REV-1 weight back in it's place and slide the pin back in, Fig.12d, and replace the Snap Ring to complete the installation of the weight, Fig.12e. Repeat these procedures for the remaining weights.





Fig.12a

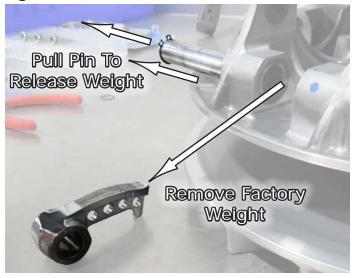


Fig.12b



Fig.12c

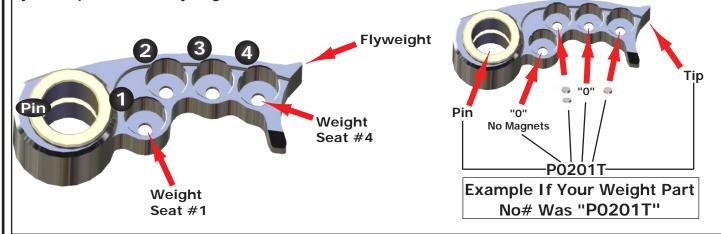


Fig.12d

SEE PAGE 10 FOR CORRECT COUNT AND PLACEMENT OF MAGNETS BEFORE INSTALLING NEW WEIGHTS BACK INTO THE CLUTCH!

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NOTE: After all Flyweights have been removed, you will need to load them with the correct count of magnets in each seat location determined by the number associated with the model number of your kit, or per the options you chose. This number is the one you would have written down in the previous steps. This "P" number tells you how many magnet weights to insert in each seat location. The illustration below gives you an example of this "P" number and how it indicates how many magnets you will place in each flyweight seat location.



# **MAGNET WEIGHT SAFETY**

These magnets have a very strong magnetic force and special care should be taken handling them during adjusting, adding or storing them. Allowing them to rapidly slam together may cause them to shatter sending metal fragments towards you causing possible bodily injury. Always wear proper eye protection when handling them just in case. See below.

- \* **Storage:** Keep magnets in plastic bag, if possible, to prevent attraction of magnetic debris.
- \* Work Area: Make sure work area is clean and free of metal debris.
- \* **Handling:** When adding or removing magnets from the weight seats, use an Allen wrench to push magnets out of the seat, from the bottom, by inserting the Allen wrench thru the hole in the bottom of the seats. See above illustration. Also use an Allen wrench to Install magnets by letting them down slowly into the Weight Seat as to keep them from slamming together.

#### MAGNETIC ADJUSTABLE WEIGHT BASICS

These weights may or may not come pre-loaded in your kit. However, if changes are made to the machine such as tire size or elevation cargo etc., this kit will allow you to make adjustments without replacing the weights in most situations. Here are some suggestions:

- The hole Closest to the Pin will have a greater affect with Low RPM belt squeeze and RPM.
- The Center Hole will have the greatest affect on Midrange RPM and belt squeeze.
- The hole Farthest from the Pin will have the most affect on Top RPM and belt squeeze.
- ALL WEIGHTS MUST BE LOADED IDENTICALLY TO ENSURE PROPER CLUTCH BALANCE!

If adjustment to the RPM is needed, generally we adjust by adding or subtracting from the Middle Weight Seat as the Seat closest to the Pin is usually close to full. The Middle Seat will be a smaller adjustment to the Top RPM whereas the Seat closest to the Tip will have a larger adjustment. So, more RPM is needed if using larger tires or higher elevation, whereas lower RPM is needed if using smaller tires and or lower elevation.

**13**. After loading the magnets into your Flyweights and installing them all back into the clutch, now install the new White **Spring** provided in your kit as shown in Fig.13.



14. Now place the Lid back on top and install the clutch assembly back onto your compressor tool to compress the unit together and tighten down all Lid Bolts using Blue Thread Locker to hold in place. See Fig.14a-b.



Fig.13



NOTE: Apply a small amount of Blue Loctite to all 8 bolts.



Fig.14b Fig.14a 11 11-26-24

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**15**. Now install the **Drive Clutch** back onto the machine.

Then switching to the **Driven Clutch**, install the sheaves back on using the **M10 Fine Thread** bolts as before to keep the plates separated, then install the **Center Retaining Bolt** as shown in **Fig.15**, but do not tighten, just thread it in a little bit for now.



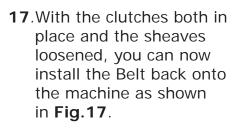




Fig.15



Fig.16



**Fig.17** 

**18**.Once the belt is on both clutches, take your hand and spin the Driven Clutch around several times quickly until the belt seats firmly down into the clutch sheaves. You will notice a difference when spinning it quickly and can tell when it is seated by the way it starts to turn more smoothly. See Fig.18.



Fig.18



19. After the Belt is seated in the Sheaves, now tighten the three (3) Driven Clutch Bolts to current Factory Torque Specifications, Fig. 19a, and the Center Retaining Bolt torqued to 100ft.lbs. Then, install the Drive Clutch Retaining Nut and torque it to 170ft.lbs in order to hold! Then reinstall the Drive Clutch Shroud back over the Drive Clutch and secure the bolts. See Fig. 19b.



IMPORTANT: Drive Clutch Nut MUST Be Torqued to 170ft.lbs. to Hold!





**Fig.19a Fig.19b** 13

20. Now replace the clutch cover and bolts and secure all bolts. See Fig. 20a-b.

Be sure to read the rest of this manual as it has important information you will need to know.





Fig.20a Fig.20b

- After verifying that all items have been properly installed & torqued, start engine. Engagement should be at 1800 after initial engagement.
- \* Top rpm should be **7500-8000rpm** under full throttle, normal operating conditions.

**CAUTION**: When clutches are fully shifted through the shift cycle, RPM can go up to **8500rpm** at top speed!

**TECHNICAL NOTE**: A wide open throttle Top RPM less than 7200rpm could result in unwanted backshift due to it being on the wrong side of the torque curve.

POSSIBLE ISSUE! Checking Transmission Alignment: Start unit without cover on. Shift between gears. If it is hard to shift, proceed to FIX2 install instructions. FIX2 kit (included in your kit) will only adjust alignment if the drive belt is touching the outer drive clutch sheave. If there are no hard-shifting issues, then it is OK to install clutch cover.

21. Once all the above checks out, now replace cover and the exit air breather hose, shock and shock guard etc.

NOTE: Re-torque drive clutch/driven clutch bolts to proper Polaris specs after 100 miles of operation. Failure to do so could cause future damage to clutches or injury to operator.

# **TECH TIPS:**

- 1. Drain water out of clutch cover after washing unit or driving thru deep water before operating as this could cause a flat spot/damage belt and wear the drive clutch causing a clutch face groove/damage.
- 2. Clean clutches at least once a season for normal maintenance.
- 3. Under Severe conditions such as MUD BOG riding/racing, clean clutches daily.
- 4. Do not install partial kit as kit was designed to work correctly using all enclosed items.
- 5. Do not mix other company's parts with kit as this could cause damage/improper operation.

Torque Specs: Companies change specs, so verify any & all bolt tightening specs by checking with your Polaris Dealer, Service Manual, Owners Manual or Polaris Industries.

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