

Notes regarding KRX clutch assemblies/ noted problems

The KRX 1000 has been a great addition to the sport 4x4 Side by side world. There are, however, **some issues being observed with the primary clutch**. The clutch has been exhibiting what we would describe as pre-mature wear issues with the stock flyweights, rollers, and other parts resulting from those.

We have not only witnessed it here, but have had reports form many dealerships and owners. Some of the following pictures below are from qualified installers and dealers. **The following is our opinion** on some of the problems.

There is a distinct pattern being witnessed on the KRX 1000. There have also been many reports on line and in social media about these same wear problems. The primary concerns are around the **flyweight itself**, the **roller**, and the **grooves in the sheaves**. All of these items are related and one starts the other to wear more aggressively.

1) Flyweight roller surface wear (wavy/notched roller surface) The picture to the **right** is a stock flyweight with about 1000 miles. This one is minimal compared to some we have seen, but by 1000 miles, it seems, many can expect something like this. The picture **left** is a part of a set from a unit that has approximately 2200 Km



(1300 miles) on it. We expect that the worn surface could be caused by two separate reasons. We are of the opinion that the structure of the stock flyweight helps start the problems.

1) The factory flyweight is a somewhat soft cast material, that has some type of hard surface like Chromium on the top surface. We have found that hard coating to crumble off in short order on some of these. When that hard surface flakes and deteriorates, it

impregnates the surface of the primary roller with hard dust that makes the roller surface somewhat abrasive. The picture to the right shows the abrasive surface of the roller, and the chrome deteriorating on the flyweight from only less than 100 miles on our test unit.



2) Bushing inside the roller. Even **more important** and we feel could be one main root of the clutch problems...**the bushings inside the primary rollers seem to be failing prematurely**. This bushing we suspect is not sufficient for this roller application, as it starts to be hard to roll under pressure very soon. **When these bushing start to fail, they stop the roller from having fluid rolling motion**. When the roller does not have free, fluid roller action, it drags on the surface of the flyweight.

We feel that between the abrasive surface, and the rollers not moving freely, ...it could cause premature wear on the flyweights.....**any flyweights**.

When the mechanic first inspects the rollers, at first they sometimes feel fine, but you must remember, that the primary rollers are under extreme pressure when the flyweights are at high RPM. The roller must be perfectly fluid and rolling. So **when you inspect, press HARD on it. It must be perfectly smooth and fluid motion**. If it feels slightly stiff, gritty, or like metal on metal when you press hard the bushing inside is no longer usable. There is also a good chance that the pin it rolls on is also scarred and no longer the perfect polished finish. If the roller can not roll perfectly smooth, they will wear the flyweight surface and make scars and notches. ...**which could contribute to the other common problem reported by dealers...the grooves in the sheaves**.



3) Grooving in the sheaves of a CVT clutch can happen from various reasons, water, ...constant riding at low speeds in high range, super hard belts, etc. However, in this case we feel that the resulting wear in other parts of the clutch can also disrupt smooth shifting motion of the sheaves and belt, which could accelerate this grooving.

We have had plenty of correspondence with end users, dealers, etc, working on these vehicles. We have received plenty of statements, pictures, etc. There are pictures on line of the same results with stock clutch failing. We have pictures of stock weights, and even of our own weights that have worn what we consider to be premature, as well as pictures of other aftermarket weights with pre mature wear on the roller surface.

You will not have to research far to find more of the same. Check with some dealers that have sold a lot of units and serviced them. As soon as miles get up, the flyweights are worn. Also, if tested properly, they will see that the bushings in the primary rollers are not rolling free under pressure. Once that damage is done inside the rollers and pins, it has been done.

We have spent considerable time tuning the clutches in this vehicle in many different configurations of tire size, elevations, terrains, etc. Owners, dealers, etc. often look to our company to buy a clutch kit for different reasons. Some to re-calibrate the “rate of shift of the belt” for different sizes of tires, or a specific application. Others look to us for parts to refresh the clutch, or even just the worn stock weights they have. **Many shops have witnessed the improved performance with the kit, particularly with larger tires. They are aware of the problems but still want the product.** We will still supply the parts to those requesting them, however, the user must be made aware of the situation on this vehicle.

All of the above has lead us to the following statement.

There seems to be very well known issues that are repetitive on this vehicle with the primary clutch exhibiting premature wear. We feel the biggest culprit may be the bushings inside the primary rollers. If the rollers do not roll perfectly free when under pressure, the results will be the same no matter what flyweight is used.

The flyweights we use are of high quality steel and hardening process. They are well proven and we see high miles on other similar applications (other brands, factory race teams, and older less powerful Kawasaki models). We feel they are superior quality to the OEM weights in this application, but yet we have seen wear on this application in far less miles than on ANY other we have seen. The other apparent primary / roller problems contribute to premature wear, and thus we will not warranty any flyweight for wear on the surface that the roller rides on. There is no way to control how many miles are on the clutch when the weights are installed, there is no way to know the existing condition of the rollers (and pins) in the primary, or if they have already failed at least once before. The information we are seeing shows that it is fairly frequent at the dealers.

We have had customers that already ruined multiple weights and want to buy ours because they feel they will fix the problem of poor stock flyweights getting all notched.

....as much as the flyweights we sell are superior, the clutch could very likely fail again for more other reason explained above, and because of the wear inside other parts that has already taken place in the clutch.

It appears, that **at this time the tools and rollers are not available from Kawasaki to service the rollers (and the pins they roll on).** It may be worth continuing to check with your dealership to see if the clutch can be serviced properly in the future if you decide to use this product. The model is new for Kawasaki, and we hope for improvements in future factory replacement parts and model years.

There is nothing more we can do at this time to improve the function of the internal or existing parts of the factory drive clutch.

There is no warranty on the flyweights for roller surface wear

This paper will be inserted into every KRX clutch kit and should be read by both the installer and the owner/operator before use.

