

Frequently Asked Questions (ATVs/UTVs)

General Questions

[How can clutch components help my CVT equipped automatic ATV?](#)

The factories produce ATV's calibrated for a very broad range of use. Sometimes we find certain models to be very well calibrated, other times re-calibrating the CVT is the key to better belt life, acceleration or case specific applications such as big tires, racing, etc.

[What makes Dalton Pro different?](#)

At Dalton Industries, we design and manufacture our own helixes, flyweights, etc. Helixes have stainless steel spline hub, flyweights are CNC machined from billet steel, heat treated and designed specifically for each application. Dalton Pro springs are manufactured to OUR specifications and come with a lifetime warranty against breakage.

There is also no rule at Dalton that each clutch kit must contain "X" number of pieces. Some kits contain only a spring or two, others are changing all components. We do not believe in selling more components than necessary.

[How will a clutch kit affect speed?](#)

Very little. The **major** thing to remember when clutching ATV's is that changing clutch components changes the **rate of shift** on the CVT system during the "**clutching phase**". The clutching phase is when the belt travels from low ratio to high ratio (high ratio is when the belt is to the top of its travel on the front motor clutch). The goal is to control the shift RPM properly during this clutching phase. On most ATV's this "clutching phase" is over in a distance of approximately 500 - 800ft. This is very different from snowmobiles, where much taller gearing makes the clutching shiftout phase last up to ¼ mile.

On some ATV models, tuners often mistake "shift out RPM" for "after shift out RPM". Clutching changes the rate of shift.... But when the belt reaches the top of the primary (motor clutch) It is to the top. Clutching cannot add more gear ratio.

Proper kit selection is important on some models, as different calibrations can make the clutches stay "shifted out" in high ratio at different distances and are case specific for things like tire size, vehicle weight/use, etc. In some instances, a properly calibrated system that makes gains for oversized tires may lose a few mph when tires are switched back to stock without recalibrating the clutch. Some of our clutch kits are very flexible and work well for both. (See "ATV clutch kits" for individual kit descriptions).

[Is it OK to use "just springs" if your web page and kits say we should use a whole kit?](#)

Not in our opinion, or we would list it like the ones that we recommend using springs only. There are some times that testing tells us that a spring or springs only is all that is necessary. Our Polaris, Kawasaki, and Can Am pages will all show you examples of kits that only use springs. If the model you are interested in is not listed as "just springs" then it is not recommended to do so. This is not because we want you to spend more money, it may simply be that there are adverse effects from doing so, like higher belt temperatures, slippage in certain belt ratios, too high rpm in mid cruise, etc. If we do not list it as springs only it is probably better that you leave it stock if you do not choose to buy the proper kit.

[Will installing a clutch kit void my factory warranty?](#)

Many of our sales are to OEM dealers who realize that sometimes proper re-calibration of the clutches for certain applications is actually easier on clutches, belts, etc. However, you should **ALWAYS consult your Dealer** with respect to aftermarket products and warranty.

[Can I install a clutch kit myself?](#)

We recommend that all of our clutch kits are installed by factory trained personnel and/or service technicians that have experience with CVT transmission systems. There are Dealer instructions included in the kit that contain critical information of items like belt deflection, tolerances, etc. These professionals have the proper training and necessary tools to do the job properly and it is usually a quick and easy install for them to add at your next service interval.

[Will a Dalton Pro clutch kit still work if I have aftermarket bolt on items \(e. g. pipes/filters, etc\)?](#)

While most instances with snowmobiles and two stroke applications require different clutching (2 stroke pipes totally change engine powerband characteristics), most four stroke ATV's powerband is changed only a small amount from the addition of exhaust, oil filters, etc. Even when a nice hp gain (3 - 8hp) is achieved from simple bolt on's, the RPM band is not changed very much and quite often the same clutch kit will pull up to the slightly higher acquired RPM on its own from added hp.

[What about internal engine mods?](#)

Internal engine mods, like cylinder head porting, compression, big bores and especially camshafts of higher lift / long duration, can definitely change the engine characteristics and sometimes the clutching could be changed even further to optimize performance. Our clutch kits are designed around stock - mildly modded ATV's. Quite often when stepping into extensive engine mods, you may have to do your own field testing to optimize your clutching.

If we have had experience or feedback on engine mods to a particular model, it will be listed on "**More about my model?**"

[More About my Model?](#)

Please thoroughly read the text for your model on "ATV clutch kits" first as this is supplemental information. For your convenience, we have listed here some of the most FAQ's that are very **MODEL SPECIFIC**.

Model-Specific Questions

[POLARIS RZR 800 models What are the differences in the RZR side x side UTV's from model year to model year?](#)

With Polaris 800 RZR models they are similar, but they do have important differences.

- 2008, 2009 models had different secondary clutches and sometimes different primaries (one way bearings, etc), the "S" model in 09 still used the 08 secondary.
- 2010 model has a different secondary calibration again and required a different CVT tuning package.
- 2011 models come with the newer secondary like 2010, and different engine configurations, different fuel and ignition timing, and ECU programming. In 2011 all 800 engines are HO versions with higher rev limits on the regular non "S" version, and some other differences.

[POLARIS RZR 800 models Will one clutch kit fit the other models?](#)

Sometimes. The 08-09 models use one adjustable Dalton clutch kit part number DUV -P8RZ. This kit cannot be used on 2010, or 2011 models at all.

There are different adjustable kits for 2010 and 2011. The 2010 and 2011 kits could be used for each others application by adding/ordering a spring, and using flyweight hardware and components in a different configuration. The flyweight base set is the same in these two kits, but a few different pieces and a different "set up manual" would be required. If you were to move your clutch kit from a 2010 to a 2011, you would need to be specific and contact us.

[KAWASAKI TERYX RUV When do you need the optional lighter flyweights part number DPKA-1UR ?](#)

Mostly when using an engine kit that uses high rpm camshafts , particularly if the high rev cams are run in deep, dry sand conditions or hillshooting that needs to focus more on backshift than upshift on hardpack drag type situations. With engine kits that have high rev cams the lighter base weight allows more flexibility.

[KAWASAKI BRUTE FORCE 750 4x4 \(2008 and up\) How does the 2008 and newer version differ from previous 750 BF models?](#)

The 2008 and newer version has a totally new drive clutch, and the flyweights from previous versions will not fit and are different "gram" comparisons, etc. The new clutch has what are referred to as "wide" flyweights. These have a much wider bushing area.. There is more info specific to applications on our "Kawasaki" ATV page.

[KAWASAKI BRUTE FORCE 750 4x4 \(05-07\) Does the Brute 750 need a different secondary clutch spring?](#)

Our kits for older Prairie models do usually include a new secondary spring, however, on the 750 Brute Force model there is a totally different spring in the rear clutch from the factory. Our testing showed the new secondary spring to work satisfactory for most common trail applications and mid sized trail/mud tires up to 28", and all adjustments could be made in the primary clutch.

It has been noted that Dalton recommends using the stock flyweights on most of the common PRAIRIE applications. However,... a BRUTE FORCE 750 is NOT a PRAIRIE. It has different hp rating, different camshaft timing, different compression ratio, etc... and the engine has different requirements. Our testing has demonstrated that it is a distinctly different model than 650 / 700 Prairies. In contrast, the custom flyweights for this application are a key ingredient in our kit.

Note: There are other optional primary and secondary springs available on the "components & tools " page

[CAN AM OUTLANDER MODELS General](#)

There is a ton of info already on our [Can Am page](#) if you read it carefully. Some models require springs only, and that is because testing has proven the stock flyweights satisfactory for the applications listed there. On other models Flyweights or more complete re-calibration is required. If we list a more complete re-calibration it is because there were ADVERSE effects from using springs alone, of which may include :

- loss of speed, increase in belt temperature or slippage in certain belt ratios, etc.

[800 OUTLANDER/RENEGADE Does the installation of the clutch kit hurt top speed?](#)

No, not normally when set up according to instructions specifically to your tire size. That is not saying that in some cases the ATV will not be slower with larger tires. Most people are not really

prepared for the amount of losses in acceleration and speed from adding heavier tires, but it is the tires that lose the speed and acceleration. The clutch kit helps recover the losses.

[CAN AM 650 OUTLANDER Should I consider using the optional Yellow/Black secondary spring for my 650 Outlander?](#)

The regular DBO650 kit has some adjustability for tire size recalibration and works best as it is for all around trail use with most stock to 28" tire applications. Set it up as the instructions state for your specific tires.

If you were using 28-30" tires and do a fair bit of mudding, and you already have the DBO650 clutch kit, you could add the optional yellow/black secondary spring (Part# DPSS-Y/B) and then add the aluminum rivets from your DBO650 kit to go along with that and you would have an even better set up for mudding with those larger tires. A slight loss of efficiency for top speed may be there, but only slight (1-2 mph).

This would leave you with a more mud specific kit... that may be a bit more "revy" on trail cruising on hardpack... possibly costing you a slight bit of fuel efficiency for road/hardpack trail cruising with trail type tires.

[CAN AM 800 XMR MODEL Can we use the DBO800M kit on this model that comes with extreme tires from the factory?](#)

Yes, this kit will offer a better performance and belt grip on this model. For flyweight set up, use the guidelines in the DBO 800M instruction manual for the Renegade version, as this XMR has different components than other Outlander versions.

[CAN AM 800 XMR MODEL Can I still slip the belt on my XMR?](#)

You can. The extreme class of mud tires that come on a XMR are a very aggressive tire, and very large diameter. Proper clutch calibration will definitely help, but read the following carefully.

Some people who have gone through the paces, and added these extreme mud tires to older Outlander versions have learned the hard way a few of the facts of running these big tires. These large diameter tires put the final drive ratio very high, that means your belt/pulley system is working harder. This is like starting off in a higher gear. Can Am supplied this big tire XMR version from the factory, but unfortunately did not give very good instructions for use. When travelling at low speeds it is critical that you use low range. If you travel at low speeds in high range on this large tire version, the belt stays down in the small part of the primary motor clutch where there is little gripping surface, and the CVT system cannot shift down any lower to the proper belt ratio for these tires for low speed. The result is very high belt temperatures that will contribute to the later delamination of the belt.

Using low range effectively and proper clutch calibration to optimize that, will definitely help. It gets the belt in the correct ratio on the pulleys. When the belt is in the correct ratio there is less chance of slippage. Even with a clutch kit, it is very important that you get in low range well before you need it, and any time you are travelling at low speed.

[CAN AM 1000 ATV MODELS Will the same clutch kit fit the ATV 1000 and the Commander 1000 unit?](#)

No, the Commander 1000 uses compression spring on the secondary of the 2011, 2012 models, the ATV models of the 1000 all use torsion secondary. This, along with dry weight, gearing, etc means different flyweight calibrations in the front clutch, etc.

[CAN AM 1000 ATV MODELS I have some primary springs and parts from the 650/800 cc models. Will they fit?](#)

Yes, they will fit. You should, however, be aware that the effects on engagement will be very different. For example, the popular Dalton Green/Yellow primary spring engages higher than stock on a 800 Outlander. This same spring engages lower than stock on a 1000. Although the models seem similar, there are many differences in stock clutch calibration and the type of power delivery on the 1000cc unit in comparison to the 800 models. The flyweight curvatures and required location of mass is also different.

[CAN AM 1000 ATV MODELS I have the DBO1000R clutch kit on my 1000 Can Am ATV- should I add the optional Black /Violet secondary spring \(DPSS-B/V\) that is for extreme mud tires?](#)

This is a good question and one that we get a lot of. We have done a lot of testing with that application. There are some good questions regarding the use of the optional Black /violet secondary spring to the DBO100R clutch kit.

This spring is designed, as you know for 29.5 and larger tires. It is a nice improvement when using these big tires and that is what it is designed for. The instructions in the DBO1000R kit show how to set up and when you should use it. Sometimes people are in question if they should use it with 28's, and in most cases the answer is no. Many times it is not required and is not "better" to use it, in fact it is worse. CVT calibration is about balance and efficiency. The stock secondary spring in this unit is a torsional spring and it is not similar to 800cc models, etc. The supplied secondary (stock) that comes in the 1000 is well balanced to most applications for typical trail tires, and adjustments can be made for most of those by the use of the primary spring pressures and flyweight adjustments. Using this spring where it is not needed throws the system out of balance and creates negative effects like revving in mid too high, creeping shift pattern, poor fuel mileage... loss of speed, etc.

When you see some of our kits on our website, like the 800 Polaris Sportsman that only requires one spring... or the Yamaha Rhino where we suggest only changing the secondary spring (and not rollers that we stock and sell as individual items)... that is because test results show that balance and efficiency are there with minimal parts... on the other extreme... 400 outlander, our most expensive kit. In this one everything is changed... great balance achieved and lots of positive results... negative is the price but it is what it is.

... but all of it is based on one thing, test results, balance and efficiency.

[CAN AM 1000 ATV MODELS Here are a few rules of thumb regarding the DPSS-B/V and its use as an addition to the DBO1000R kit:](#)

- Probably best to forget what you know about 800 cc machines, this is not similar really, it is a different type of spring (torsion) and we built and tested some other prototypes that "looked" similar but acted very differently.
- for 29.5 plus and mud it is a definite plus.
- for 28 and smaller it is a definite plus to leave the stock spring in there for most applications..
- if you swap tires back and forth and sometimes to your stock or 26 or some 27's , etc... keep with the STOCK spring
- if you are one of those tires that are "on the bubble"... if you are on the bubble with respect to tires size consider application:
 - Mostly mud as primary use... go for it
 - mostly trail rider do not use it
 - if undecided and sitting on the fence because you are on bubble for tires and still trail a

lot... do not use it, just set the kit up like the instructions say and keep your stock secondary spring. This will be the best set up for you. The stock secondary has more back shift and resistance than a stock secondary on compression 800 models.

There are new brands of tires . Check size and weight. You also have to consider the real most common application. Here are a couple examples:

Example #1 - 28 highlifter outlaw radial... tested best with stock spring, ..but if mostly mud it would probably benefit... see #5 and consider it.

Example #2 - 28" Outlaw 2's... these have a deep lug and make it a very tall aggressive tire. You are obviously a mudder (I would hope if you put these on), so you would benefit in mud with it, But, again, consider your most frequent application. The clutch kit set up properly for 28 tires would be a much better all around set up if you trail a lot. If so I'd definitely stick with the instructions and the stock secondary spring, which is an excellent calibration and is way better than stock clutching with those tires... if what you primarily do is heavy mud and this is the important thing to you, then add it, and set it up like the instructions would show you for 29.5 tires.

[POLARIS SPORTSMAN 500 HO & SP 700 Which kit DBW or DPA?](#)

Both the cost effective nature and flexibility of the **DBW** kits for these models are what make them by FAR the most popular of our sportsman kits. These kits can be used with stock or oversized tires and have an engagement that is not much higher than stock. The most expensive component in a DBW kit is the Flyweights and those flyweights are common to the DP-A kits for corresponding model. A DBW kit can be changed to a DP-A kit by purchasing other components individually.

On both the DBW 500 and DBW 700, some customers prefer to remove the secondary spring that comes with the kit and use the stock one in the summer when they are running **STOCK or LIGHTER** 25" tires and actually gain a mph or two, then re-install our Black EBS spring in Spring and Fall when they run the big mud tires. But the most prefer the Black EBS spring to be installed all the time.

The **DPA kits** for these models have a higher engagement (approx. 400rpm) and are **ONLY** for use with the **stock or lighter 25" tires**. These kits are not for everybody, but some like a higher engagement for racing, etc. This kit benefits most from going to very lightweight aluminum wheels and lightweight tires (not larger than 25")

At more than 100lbs heavier than ATV's from other brands, the SPORTSMANS fare very well considering their size and weight and they are one of our favorites for comfort.

[YAMAHA 660 GRIZZLY Will this kit work on an older 600 Grizzly?](#)

Sorry, it is not intended for that engine configuration.

[YAMAHA 660 GRIZZLY Why do you not offer a kit for stock tire size?](#)

The DBW 660Y kit is a re-calibration kit for **oversized tires only**. It was designed to slow the initial upshift (the big tires make it geared too tall) and maintain a proper shift RPM for serious mud tires (26" and bigger).

When the 660 Grizz is in stock tire form, it is fairly well calibrated and we only produce kits that we feel have good value for dollar spent with us.

When the 660 Grizz has heavier / more aggressive 25" tires, we have seen somewhat better low end response by simply adding our DPSS - P/PK (Plain/Pink) secondary spring. It is a fairly cost effective mod that is seeming to become more popular.

Installing the DBW 660Y kit on a Grizz with stock tires results a loss of top speed on this type of system, as well as poor fuel economy. As stated earlier, intended use is only for **OVERSIZED TIRES**.

[YAMAHA 660 GRIZZLY Will this kit work at high altitude, like above 5000' elevation?](#)

Although the kit is intended for 0 - 2000', the same type of re-calibration that corrects for power loss from oversized tires, also helps compensate for altitude power loss. Some have reported to us that using our DBW 660Y at very high elevation with stock tires really helps. Individual situations may vary.

[YAMAHA 660 GRIZZLY What about Big Bore Grizzly's?](#)

We've had a few reports from owners of some 686 Grizzly Big Bores, claiming that leaving stock rollers in the front clutch works best for them, combined with our Plain/Pink secondary spring part# DPSS - P/PK in the rear pulley (This was with 26" tires). If we have opportunity to do extensive testing on this application ourselves, we will be sure to give an update.

[SUZUKI 700 AND 750 KING QUAD 4X4 MODELS What are the differences in the 700 and 750cc models, and the clutch kits for each?](#)

The 700 and 750 King Quads are very popular and very similar. Actually the newer 750 is advanced slightly in designs, but only actually a few CC's and a HP or two more, and test results are very close. The same kit can be used on each model. The newer DSK750C kit version has the "complete roller assemblies" so that you get a re-build at the same time and quicker installation. There is more descriptive detail on the Suzuki ATV page.

[SUZUKI 700 AND 750 KING QUAD 4X4 MODELS Is the spring provided in your DSK700 and 750 kits similar to stock or other aftermarket springs?](#)

The orange secondary spring (DPSS-O) in this kit was the result of multiple different prototype springs during our testing. All of them "looked" similar. Looks have nothing to do with spring design. Some people try to compare these secondary springs by pressure ratings. The springs used in this instance are "torsion" springs, and because part of the design of our springs involves torsion, the pressure ratings for comparison are irrelevant. It is stronger than stock and probably different from others as well.

[SUZUKI VINSON & 03 up ARCTIC CAT 500I Is the complete kit part # DSA500MT the only option you have for my model?](#)

Not really, the DSA500MT is a complete kit for oversized tires **ONLY**. A big tire calibration for these types of CVT systems (Variator/Roller type) like on the Suzuki's and Yamaha's are very case specific and are not intended for use with stock tires.

We also offer the DPSS - P/Y (Plain/Yellow) secondary spring as an individual item. We designed this secondary spring with a bit more torsional (twisting) force built into it, as well as slightly more side pressure force. It aids in belt life and bottom end response and is often used for work applications or with heavier 25" mud tires that do not require the complete DSA 500MT kit.

[SUZUKI VINSON & 03 up ARCTIC CAT 500I Is the DSA500MT also for use in the older version of the Arctic Cat 500?](#)

The older version Quadmaster and earlier Cat versions have the different camshafts/hp, etc. This kit will still help recover losses from adding bigger tires, but with a slight loss of top speed.

The new DMT500C version of this kit is now available which is the same kit but comes with new plastic outer roller covers already installed.

[SUZUKI VINSON & 03 up ARCTIC CAT 500I Can We use the same kit for CF MOTO 500?](#)

For import models CF Moto 500 you can **ONLY** use the **DMT500C** version, as the metal inserts are different sizing when used alone.

[KAWASAKI PRAIRIES / ARCTIC 650 4x4's / SUZUKI TWIN PEAKS How are these models different from each other?](#)

The PRAIRIE 650 4x4, 700 4x4 and TWIN PEAKS all share the same chassis. The Prairie 700 and Suzuki TWIN PEAKS 700 4x4 are essentially the same machine with different colors / cosmetics. The late production '03 650 Prairies have the newer version of clutches like the 700 models. The Arctic Cat 650 also has these more durable new clutches. The newer style front (motor) clutch can be identified by the inner (fixed) sheave that is closest to the engine. This inner sheave surface will have 2 tapered angles, rather than the older 650 Kawasaki versions with only 1 straight angle. Owner reports have indicated that the newer version of the secondary clutch is also more durable..

[KAWASAKI PRAIRIES / ARCTIC 650 4x4's / SUZUKI TWIN PEAKS How is the 04-06 Arctic 650 V-Twin different from Kawasaki Prairie?](#)

Many people assume that the AC650 is simply a 650 Prairie with independent. It does use the same powerplant , however, there are a few other differences. Aside from having an independent suspension system, it also has a heavier base weight, steel wheels and 26" radial tires. The BIGGEST difference is that Cat chose much taller final drive gearing. A 650 V-twin Cat will burn belts easier because it is not geared as low in low or high range as a Kawasaki. It has similar HP output but slightly lower from a different airbox design. This is obvious from the carburetor jetting which is leaner on this model (as a result of less air flow).

The differences are slight and depending on the operator, some greatly prefer the Arctic Cat model because of its comfortable ride and excellent ground clearance.

[KAWASAKI PRAIRIES / ARCTIC 650 4x4's / SUZUKI TWIN PEAKS Why are flyweights not included in Dalton's kits for the Prairies?](#)

When we were testing the V Force model, there was a distinctive need for a different flyweight design to optimize performance. During testing of the Prairies, we did not feel the same way. In fact for 90% of users on the 4x4 models, best results were achieved by using the stock flyweights and controlling shift patterns with only the use of spring rating. We do not see any future benefit for our company by selling expensive items that do not offer a good - price / benefit / performance balance.

[KAWASAKI PRAIRIES / ARCTIC 650 4x4's / SUZUKI TWIN PEAKS Are there any instances when DPK flyweights will benefit my Prairie?](#)

There are a couple of **case specific** instances where our DPK flyweights will benefit a 4x4 model.

The following set up has been purchased by some customers (who just wanted to test) and we have tried a couple of these applications ourselves:

- DPSS - P/PL (secondary spring from our prairie kit)
- DPPS - BL (blue primary spring)
- DPK 58 (flyweights - DP)

Essentially, this is our DKA 6570MT kit, plus the flyweights. This set up would be quick on the bottom but lose top speed on typical 4x4 application but it has proven to work well for the following applications:

- Sled pulling competition (and make the ATV as heavy as possible)
- Oversized tires at high altitude (above 4000)
- Stock tires above 7000'
- Extreme mud bog competition with large aggressive tires.
- 750 - 800cc Big Bore Kits if they use very long duration camshafts like the kits from FOUR STROKE TECH. In a 4x4 application, the setup is different when used on a V - Force Big Bore (see "V-Force" below).
- The above clutch set up works well in these very different situations for different reasons in each application.
- For sled pulling it gets sled moving early before the weight moves up on the drag, but the lighter tip weight of the DPK weights also backshift better when the bike loads down at the end of the pull.
- For oversized tires at elevation the lighter DPK 58 (stock are 60g with full tip) combined with the springs create RPM that is lost from altitude.
- In case of the FST Big Bore, the camshafts provided are of much longer duration and higher RPM's are required for peak performance.

We have provided the above information as a reference only. We do not intend to market specific kits for any of the multitude of specific situations related to extreme modification or racing of 4x4 models. We hope that this information is useful to you if you are considering such activities. We are frequently asked to recommend the perfect set up for this type of situations. Ultimately, if you decide to do modifications or the above activities that are outside of our packaged clutch kits, you must make the decisions yourself and order by part# to test for your specific application. Any change in tire size, hp, etc can change the perfect set up for your particular situation.

[KAWASAKI PRAIRIES / ARCTIC 650 4x4's / SUZUKI TWIN PEAKS Are DPK flyweights similar to stock or other flyweights?](#)

No. A common misconception is to only compare flyweights by grams. There is much more to flyweight construction / function than just grams of total mass. Things like curvature and distribution of mass can change the shift pattern and rpm of a flyweight as much as total mass. (See "ATV Clutch components")

- There is more info on DPK flyweights listed under V-Force questions.

[KFX 700 \(V-Force\) How will the DK 700V kit affect the V-Force, will it help top speed?](#)

The most common complaint we hear from KFX 700 riders is lack of top end, compared to some other race quads. Even though the V-Force has a huge weight disadvantage and it is shaft drive, etc, one of the biggest hold backs is gear ratio.

Clutch components can improve and change the "rate of shift" during the clutching phase (until the belt is to the top of its travel), but when the belt is at the top of its travel on its front clutch, it is to the top. And although changing clutch components alone can have some effect here (top end) they are minimal and clutch components are mostly effective during the clutching phase.

One of the problems faced here is that the clutching phase is over (belt is to the top of the primary clutch) on a V-Force in approximately 500 - 600 ft on hard pack surfaces.

The DK 700V kit will grip the belt better and provide increased acceleration on both stock or mildly modified (pipes, air mods, jetting) models but gains on top end are minimal for stock models. On properly piped and jetted models the clutching is more effective all the way through, as most dual systems and 2 into 1 pipes gain approximately 5 - 8 hp on this model. Even an extra mph or 2 is sometimes achieved as most of these systems help the V-Force to "like" a bit higher RPM after the shift out is complete and the bike starts to over rev past its normal peak hp rpm. (further gains can be achieved with the addition of our Billet overdrive clutch cover on piped applications)

[KFX 700 \(V-Force\) Can I just install a primary spring by itself? What spring is in the DK 700V kit?](#)

Our DK 700V kit uses our Blue primary spring. The engagement or stall RPM is only approximately 200 - 250 rpm higher than the stock spring and some is not that noticeable. Some more aggressive riders prefer higher engagement (the bike to rev up higher before it moves) but in general most prefer the blue. This kit also includes a set of our DPK flyweights.

Although some customers have chosen to simply install the primary spring by itself, our testing has shown much better results with the addition of DPK flyweights. The DPK flyweights were designed for this application and offer more initial belt clamping force than the stock 54g full tip weights, while still maintaining the proper shift RPM and making better use of the torque.

[KFX 700 \(V-Force\) Why no secondary spring?](#)

Although, we do have some secondary springs that we frequently use in Prairies, we prefer the stock one in the V-Force. Prairie 4x4 models are very different from V-Force models. Different camshaft timing, ignition timing, drive ratio, tire size, to name a few.

[KFX 700 \(V-Force\) Are there optional Primary springs?](#)

In general, most prefer the blue, as it allows for easier maneuverability in tight trails, etc. Some aggressive riders, drag racers, open sand dune applications and racers with a few extra mods prefer our Orange/Blue. The Orange/Blue (see website) has a higher engagement for race applications (about 4 - 500 RPM above stock engagement) as well as a bit more shift out (1 ¼ load rating) rpm.

Load Ratings	@2.5"	@1.25"
Blue	3	155
Orange / Blue	25	167

There are other spring choices but our testing has shown that engagement loads (2.5") higher than 30 lbs not to be favorable on this model. More shift out RPM is not always better. We have found that springs with a 1.25" load rating higher than 180lbs can actually hurt top end performance as the shift out phase occurs at a higher RPM than the hp peak of the engine.

- The above spring / load rating comparisons and their effects on performance are when used with our DPK flyweights.

[KFX 700 \(V-Force\) Are all flyweights the same?](#)

No, a common misconception is to simply compare flyweights by grams alone.

[KFX 700 \(V-Force\) What about more Engine Mods or Big Bore kits?](#)

We have done some testing on proper clutching for Big Bore kits on the V-Force.

[ARCTIC CAT 700 EFI 4X4 ATV models The Dalton Arctic ATV page lists some of them as "Suzuki Engine Models", all I know is my ATV is a Arctic Cat 700 EFI.4X4... is it Suzuki engine?](#)

Arctic Cat is partially owned by, and has a relationship with Suzuki. There are some shared components on certain models. There are also some 650 and 700 engines that are also "Arctic Engines". The Arctic built ones are known as "H-1" engines and/ or "Hemi". Look at your model or owners manual to confirm it is a H-1 or Arctic Hemi engine. The 650 and 700 H-1 engine most often use the DA 650HC kit, and the kits for the Suzuki engine version 700 EFI models are not applicable and do not fit. The term "700 EFI "can be confusing, please ask your dealer if you are uncertain.