



\$4.95 US

# HEAVY HITTER & THUNDER SHIFT KITS

PATENTED

## Instruction & Tuning Manual

POLARIS



ARCTIC CAT



YAMAHA



COMET

### *Gets the power to the ground!*

## CONGRATULATIONS!

You have purchased the finest drive clutch kit ever built. Once you master these weights, you'll master your performance and you won't find another clutch kit that offers this level of performance for any amount of money.

Take the time to carefully read this manual for proper installation and tuning for maximum performance.

Your weights weigh

grams each

THUNDERPRODUCTS.COM

# CONGRATULATIONS

## THUNDER SHIFT KIT and HEAVY HITTER

Pat. #s 5,562,555 & 5,692,982

*Fast and easy tuning*

*Gets maximum power to the ground*

*Precision billet machined weights and fasteners*

Thunder Products did all the research and development in 1994 and 1995 on adjustable clutch weights. We patented the process in 1996, years before anyone else realized the tremendous benefits. The Thunder Shift Kit and Heavy Hitter drive clutch weights are the best value and offer the biggest performance gains in the industry for any amount of money. Our weights are the most copied products in the business.

## TECHNICAL ASSISTANCE

**READ ENTIRE MANUAL PRIOR TO CONTACTING US FOR TECHNICAL ASSISTANCE.**

**This will help us understand each other to solve your issue quicker and easier.**

## WARNING

Personal injury and damage to property can result from the improper installation of any product, including Thunder Shift and Heavy Hitter Kits. Installation of these kits should not be attempted unless you have thorough understanding of Variable Drive Transmissions, their repair, tuning and the mechanical experience and ability to perform installations. If you have any doubt, have a qualified dealership or repair facility install these components.

Our weight arms have been tested at speeds in excess of 18,000 RPM. We are not aware of any other private company that spin-tests their weights for safety. OEM clutches vary from each manufacturer and we cannot vouch for the strength of their stock units.

The necessary work and expertise to install different products varies. Instructions (where provided) are given to assist in installation only and are not a substitute for mechanical expertise in setting up racing snowmobiles or other vehicles. References to performance gains, reliability, ease of installation and tuning are based on our experiences as well as those of our customers. This is NOT a guarantee of similar performance in every installation. While we sell proven products, it is up to the individual to make the most of the products in their application.

Thunder Products shall not be held liable for any special, incidental, or consequential damages, including damage, loss of revenue, cost purchased, or use of these products.

## INTRODUCTION

### HEAVY HITTER and THUNDER SHIFT WEIGHTS

These two weights are similar in theory and performance but designed for sleds of different performance levels. The advantage of these weights is that they allow the rider to fine-tune the clutch by placing the mass in the weight where it will perform best. Stock weights vary greatly. HH and TSK weights are gram weight matched. They allow you to accurately move the mass (as fine as 0.4 grams) to the area where it will do the most good. The mass can be moved or changed with a simple twist of a wrench. HH and TSK weights come in different gram weights to fit most sleds. Their wide range of adjustments can be tuned for any type of modification or style of riding.

HH and TSK weights are manufactured from the finest materials available and bushed for reliable performance. Weights come in balanced gram weight sets and are supplied with a set of custom made fasteners for maximum adjustability.

### HEAVY HITTER and THUNDER SHIFT WEIGHTS

Today's engines are putting out more horsepower and torque than ever before. The adjustability of HH and TSK weights allow proper mass placement to harness this power. If your sled is stock now, HH and TSK weights will improve your performance. If you decide to have modifications done (such as pipes, porting, head work, reeds, etc.) the HH and TSK weights can be readjusted to match the new power output with no new parts to purchase. Better clutch efficiency is the secret to top performance. Get the power to the ground!

### HEAVY HITTER WEIGHTS

The ultimate in high performance clutch weights. Start with a set of HH that are 8 to 10 grams lighter than your current arms to take advantage of wide adjustability range. Build your base weight up to the approximate weight of your stock weight. The HH gives more belt squeeze on your drive belt at low end where the contact patch is smallest. This eliminates belt slip and gives powerful hole shots. The low end can be adjusted without removing the HH from your clutch. Adjustments to holes #2 and #3 will correct the rest of your powerband to the desired RPM. See the tuning section in this manual.

Heavy Hitter weights are available in base weights from 46 grams up to 97 grams. Over 20 grams can be added to these weights giving you options to well over 100 grams.

**CAUTION:** Allen set screws in hole #1 should be bottomed into hole. They may be double stacked but must have a minimum 1/4 inch of thread contact and be secured with thread locking compound. If last screw protrudes out of hole, be sure it DOES NOT contact any portion of the clutch.

**CAUTION:** Arctic Cat Service Department recommends red thread-locker on the small 8/32" Allen set screw that locks cam arm to pivot bolt on fixed pin clutches. Heat may be needed for removal of this screw.

# INTRODUCTION

## THUNDER SHIFT WEIGHTS

This is the weight that started the whole industry to move toward adjustable weights.

These high quality weights offer the same weight distribution options as the HH but are lighter to meet the needs of lower horsepower sleds. The lower base weight fits the small bore twins and most triples on the market. Adjustable for low, mid and top end, this weight is easily tuned to get the maximum performance from your sled.

TSK weights weigh approximately 38 grams and can have up to 18 grams added with the standard fastener package. Optional heavy metal tungsten washers weighing 3.4 grams or 5.3 grams can be added for more adjustment.

### ALWAYS or NEVER

**ALWAYS** make sure no threads are damaged in the weights or fasteners and that all fasteners are fully seated, torqued (40 in/lbs for brass or aluminum, 75 in/lbs for steel), and that SAF-T-LOK blue (or equivalent thread lock product) is used on each fastener.

**ALWAYS** use only genuine HH/TSK fasteners which are machined from billet stock and meet rigid requirements.

**ALWAYS** make sure that each weight arm has the same amount of weight added to it. The 3/8" aluminum and steel bolts look similar but the color is different. (Use a magnet to test, aluminum or stainless steel will not stick to a magnet).

**ALWAYS** make sure HH/TSK weights, fasteners, and washers DO NOT interfere with the spider assembly or other clutch parts after installation but before running machine. Also make sure the roller will not go past the end of the weight. Overdrive clutches travel further out on the weight.

**ALWAYS** inspect all clutch components frequently.

**NEVER** machine, drill, or grind on critical areas of your drive clutch. This has been outlawed by all racing organizations for safety reasons.

**NEVER** use any combination of washers that exceed .090" in total thickness.

**NEVER** install HH/TSK products in a clutch that has excess wear.











## HH / TSK SETUPS

We have many of the basic setups listed on our web site. All of the listed setups make the assumption that your machine is stock (zero modifications), in good running condition, with all of the proper settings (center-to-center distance and offset), including a good drive belt.

In the event you cannot find your exact model, you may be able to use one that is similar or use the directions that follow in this manual.



## HH & TSK PARTS

DO NOT mix and match different cam arms. Keep these instructions in a safe place for future reference. Only use genuine TSK and HH fasteners. These are not your typical hardware bolts and washers, these are precision machined matched gram weighted fasteners made from billet stock. Replacements can be ordered from us.


TS Qty	HH Qty	Description		Weight
3	3	Weight Arms		SEE MANUAL COVER
6	-	Brass Bolt - 1/2" head		5.8 grams
6	6	Steel Bolt - 7/16" head		4.2 grams
6	6	Steel Bolt - 3/8" head		2.6 grams
3	6	Aluminum Bolt - 3/8" head		.9 grams
15	12	Brass Washer Weight - .015 thick		.4 grams
9	6	Steel Washer Weight - .060 thick		1.4 grams
-	3	3/4 Socket Allen		3.3 grams
-	3	1/2 Socket Allen		2.1 grams
-	9	1/4 Socket Allen		.9 grams

### BIG BOY BRASS BOLTS - special order only

Heads can be ground or machined to meet your tuning requirements

Each	Big Boy Brass Bolt - 7/16" head		7.2 grams
Each	Big Boy Brass Bolt - 1/2" head		9.1 grams

### OPTIONAL HEAVY METAL WASHER KIT - special order only

Each	TSK500 Tungsten Washer Weight		3.4 grams
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## WHAT IS CLUTCHING?

**Take the time to understand this section. It is the basis for ALL clutching.**

Clutching is the art of making your machine run at the exact RPM (as indicated by the tachometer) where it produces maximum horsepower under full throttle conditions. The machine needs to be on the ground, not on a jack stand. The tachometer should read the correct RPMs regardless of miles per hour. Once you have achieved this, all conditions less than full throttle will fall into place and will be correct. This is exactly what all clutching is meant to accomplish. This is easy to do with Thunder Shift or Heavy Hitter clutch kits. (NOTE: The horsepower and RPM for each machine is available at your local dealer or on the internet.

Our kits allow you to adjust precisely where to place the correct weight so that the maximum horsepower in each range (low-end, mid-range, top-end - see page 10) can be achieved. On a stock machine once you are done adding weight, our clutch weight should weigh the same or slightly lower than the stock weights. this is due to the aggressive ramp profile of our weights.

# INITIAL SETUP AND INSTALLATION

- 1) Remove clutch weight arms per factory service manual.
- 2) Find out the specific weight in grams of your stock weight arm.
- 3) Duplicate this weight on your TSK or HH arm by using fastener weights listed in the parts list.

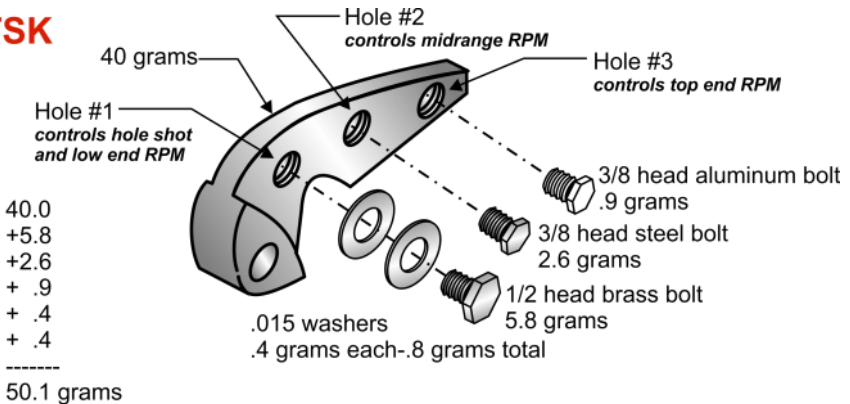
**EXAMPLE:** Lets say your stock weight is listed as a 50 gram weight and your TSK weight is 40 grams. Now add 8 to 10 grams to your stock weight. Don't be overly concerned about exact weight placement at this time. It's only a starting point. The exact weight placement will be easy to determine by watching the tachometer when you test run your machine. Your machine should run in most cases, slightly below the factory recommended RPM (approx. 100 RPM below peak). This corrects for tachometer error, which is usually a little high.

Look at the charts on page 8, 9 and 10. They will help you understand how to move the weight around to achieve the desired results.

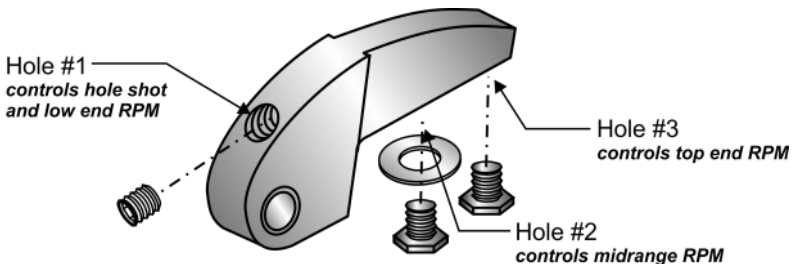
RPMs are controlled the same way in all clutches. Low end RPMs (hole #1), midrange RPMs (hole #2), and top end RPMs (hole #3) - see page 10.

**NOTE: ALL THREE WEIGHT ARMS MUST BE SET UP WITH EXACTLY THE SAME COMBINATION OF FASTENERS.** A notebook and pocket calculator are handy for tuning.

## TSK



## HH



## INITIAL SETUP AND INSTALLATION

- 4) Torque all fasteners to proper specs using an inch/pound torque wrench. Foot/pounds are not accurate enough. 40 in/lbs for brass or aluminum and 75 in/lbs for steel.
- 5) Install weight arm in clutch per factory instruction for your brand.
- 6) Test this setting and adjust as necessary (see charts on pages 8 and 9).
- 7) After determining correct weight placement, secure each fastener with SAF-T-LOK, Loctite 242 Blue or equivalent thread locking product, per instructions.
- 8) If fasteners don't remove easily, heat carefully with a torch and thread lock will release. Take care as bushing in weight can be damaged if too much heat is applied to weight. If bushing is damaged in any way, replacements are available.

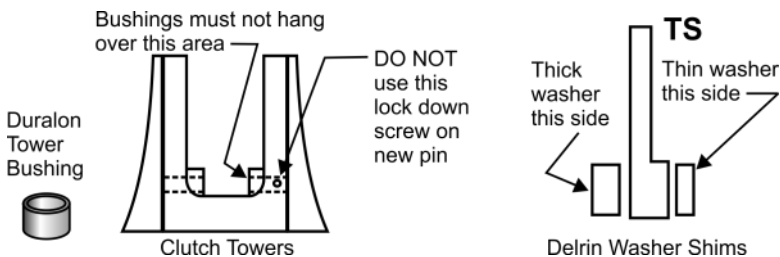
## TSK YAMAHA CLUTCH

**NOTE: HEAVY HITTERS ARE A DIRECT BOLT-IN PRODUCTS FOR THE YAMAHA CLUTCHES - NO MODIFICATION IS REQUIRED.**

### INSTALLING TSK250 IN YAMAHA CLUTCHES

The Yamaha YXR and YVX clutches use a larger weight pin in their standard weights. To use a Thunder Shift in these clutches, you must install tower bushings and a new weight pin. The original Yamaha weight pin cannot be used. To install the TS in the Yamaha clutch:

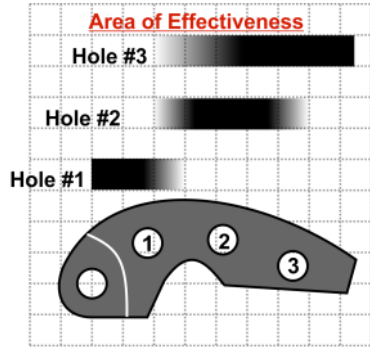
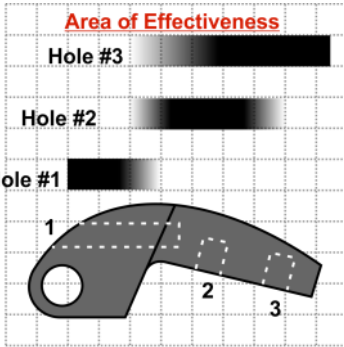
- 1) Remove standard Yamaha weight and pins.
- 2) Make sure the pin pivot holes in the clutch towers are clean and free of burrs. See figure below. You may clean the holes by rolling up a piece of 400 grit emery cloth and hand working this area.
- 3) Place Duralon tower bushings on the new pin bolt. Gently tap the bushing into place in the clutch tower using a small hammer.
- 4) Use the black Delrin washers provided to shim the weight into position. Side play should be minimal.
- 5) Install the weights using the pin bolts provided in kit.
- 6) DO NOT use the standard Yamaha lock-down screw on the new pivot pin.



# OPTIMUM SHIFT PATTERNS

## OPTIMUM SHIFT RPM

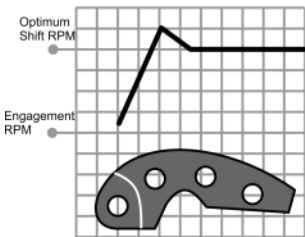
The TSK or HH is designed to adjust your weights so that your engine runs at the peak RPM of its power band. This is where the engine puts out its peak horsepower. This is called the Optimum Shift RPM. The following diagrams show how the TSK and HH follow this shift RPM and how you can correct the weight to follow this shift RPM precisely.



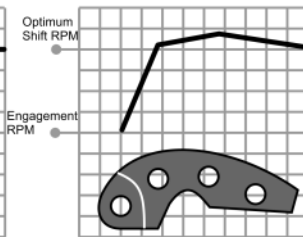
**HH** - The above chart shows the area of effectiveness for each hole.

**TS** - The above chart shows the area of effectiveness for each hole.

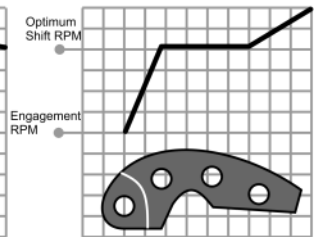
## The charts below represent both the TSK and HH.



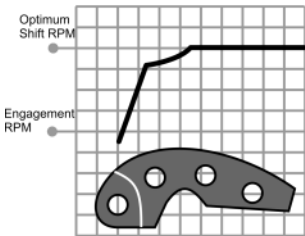
Too light at launch  
Add weight to hole #1



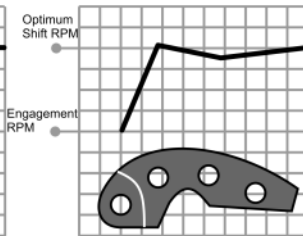
Too light in midrange  
Add weight to hole #2



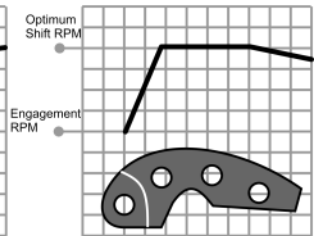
Too light at top end  
Add weight to hole #3



Too heavy at launch  
Subtract weight from hole #1



Too heavy in midrange  
Subtract weight from hole #2



Too heavy at top end  
Subtract weight from hole #3



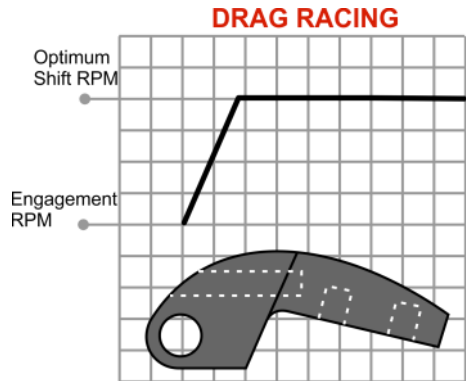
## OPTIMUM SHIFT PATTERNS

The real goal in clutching is to add weight in each range until the engine can no longer pull the weight. As soon as your RPMs drop too low, subtract the least weight possible to regain the correct RPMs. Do this in each range; low, mid, and top end.

Spending time to maximize your shifting in each position pays big dividends in performance gains.

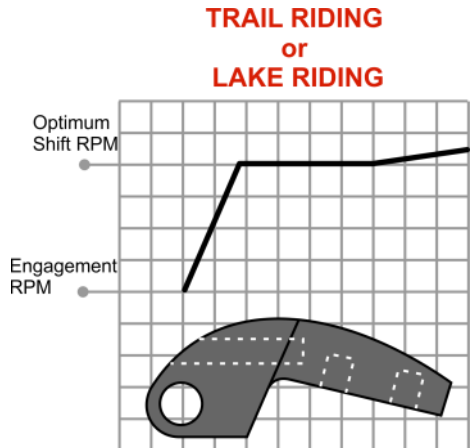
### DRAG RACING

Add weight to allow RPM to run at 100 to 200 below peak RPM recommended by manufacturer. This is where the peak torque is on most engines. Do this in each range of adjustment and you will be clutched to the torque side of the powerband instead of the horsepower RPM side. Torque pulls the load! Now you should be able to hit the throttle and RPM will go to correct RPM and stay there all the way to top speed. This type of setup will get you across the finish line first every time.



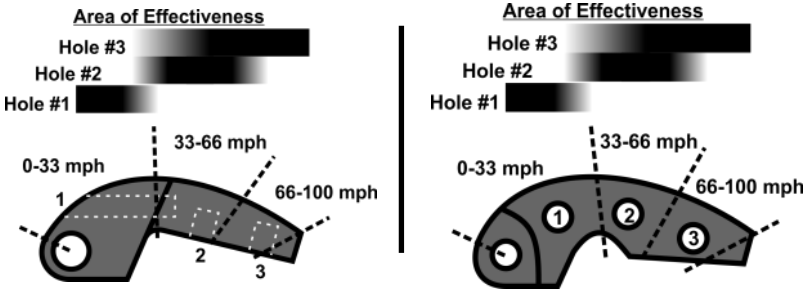
### AGGRESSIVE TRAIL AND LAKE RIDING

Here we let the engine follow the maximum horsepower RPM. This is the recommended RPM listed by the manufacturer as peak RPM. Load each range of adjustment as per instructions with the following exception: In hole #3 (tip of weight) let the RPMs rise slightly (about 100 to 150 RPM) above the rest of the shift curve. Allowing this for slight over-rev at top end will improve backshifting and turn those RPMs into mile per hour.



**Now that you know what to look for, we will get into the individual performance tuning instructions.**

# CLUTCH ADJUSTMENT



What do we mean when we say you must adjust your clutch to run the correct RPMs in low-range, mid-range, and top-end?

This means your shift pattern will look like one of the two shift patterns on page 9 depending on the one you select and tune for.

Here's how it works: Let's say top end on your machine is meant to be 100 MPH, meaning you are geared for 100 MPH. Simply divide your weight into imaginary thirds. The first third controls the RPMs for 0-33MPH, second third controls RPMs for 33-66MPH, and the final third controls RPMs for 66-100MPH.

You add or subtract weight to each section to make sure the engine RPMs are consistently at peak horsepower for each 1/3 range.

## TUNING

After adding a base weight setup and installing HH and TSK weights back into clutch, it is time to go to your test area and begin tuning the clutch to match your horsepower and weight. When making a test run, watch tach closely; it should stay at correct RPM from start to finish or slightly over-rev at top end. You will simply add weight to lower RPMs or subtract weight to raise RPMs in each range (low, mid, top end).

Starting with your baseline weight (step #3, installation section), tuners use one of the following methods:

1. Some like to work from the tip (hole #3) and get top end RPM correct first. When RPM is close to desired point, go to hole #2 and add as much weight as possible without dropping RPM below the desired point. A small change to hole #3 may be necessary to keep RPM steady as ranges tend to overlap one another. After getting hole #2 and #3 properly set, you can add as much weight to hole #1 as possibly to get desired hole shot.
2. Others start with the low end, then go to midrange, and finally top end adding or subtracting weight as necessary.

Either method works fine; use what is simplest for you. **Always use the maximum weight possible without dropping RPM below peak for maximum clutch efficiency.**

## TUNING

When adding weight to a particular hole, the clutch will upshift harder in that area and RPMs will tend to drop. If you subtract weight from a particular hole, the shift rate will be softer and RPMs will tend to rise.

In the event that you need more weight than the HH or TSK offers in standard kit, you may correct this in different ways: 1) Optional Heavy Metal Washer or Big Boy Brass Bolts are available (see parts list on page 5), 2) Use a softer primary spring, 3) adjust your secondary to a lighter preload, or 4) install a lower gear.

When you arrive at your final setting, be sure to place a drop of SAF-T-LOK blue, or Loctite 242 blue (or equivalent) on each threaded component.

### Drive Clutch Spring

If you want higher engagement, you will need a spring with more preload (higher first number - example: 120/280, go to 140/280). HH or TSK weights will need to be readjusted to match this new spring. Just dial in your RPM with your weights.

Thunder Products makes the best springs in the industry using chrome silicon wire and proprietary manufacturing process. Also, check out our Glide Washers. They allow the clutch spring to run free without binding on the spyder and clutch cover.

**This usually eliminates spring breakage.**

### Maintenance

DO NOT LUBRICATE the pivot of bushed weights. Run dry and inspect regularly for bushing wear and replace if necessary.

### Rapid Wear

This can be caused by a worn cover or moveable bushings or running at one steady throttle speed, turning too high RPM causing a harmonic resonance (usually associated with a modified motor), worn roller or weight bushings, out of balance clutch or crankshaft, or loading engine so heavy that undue stress on components shortens the life span.

### Gearing

Most sleds come geared too high. A drop of 1 tooth on top sprocket or adding 2-3 teeth

to bottom sprocket will help acceleration and not sacrifice much if any top end. Lower gearing will upshift harder (faster) and will act the same as adding weight to your shift arms.

### Driven Clutch

Think of the driven clutch as a belt tensioner that keeps the slack out of the drive belt so that the drive clutch can perform the shifting function. The driven clutch is torque sensing and determines if you're machine is going to upshift or backshift, depending on torque input from the track.

### Roller Driven Clutch

The TSK and HH weights are very compatible with roller secondary clutches. The only difference is that roller clutches may upshift faster on low end which tends to bog the engine. This can be cured by running hole #1 empty or very light, then adjusting hole #2 and #3 per instructions.

## TUNING

### Driven Clutch Springs

Springs in the driven clutch control the pressure the belt must overcome to upshift. Stiffer springs will increase RPM and speed up backshift. Too much spring pressure can cause poor top end and accelerated belt wear.

### Helix Angle

The best way to determine helix angle is to start with your stock helix. Tune your TSK or HH to the correct RPM in each range; low, mid, high. If you still have over-rev out of the hole (this happens with high HP, high torque machines) you may need a larger starting angle to pull the RPMs down. This can be either a radius cut (which has a steep initial angle and then goes back to a straight angle for the remainder of the shift pattern) or a progressive helix (which starts at a steeper angle and gradually tapers evenly to a smaller number).

Larger angles upshift faster which lowers RPM and smaller angles upshift slower which raises RPM. Smaller angles will backshift better and give more belt pressure. Smaller angles also improve torque sensing which improves traction. Steeper angles are rarely needed. Clutching to lower helix angles is the preferred method. Stock angles work fine the majority of the time.

## BE AWARE

Some companies will sell you a box full of parts; weights, springs, helixes. Their directions tell you to keep changing components until you get the desired results. Don't they know how to tune what they are selling you? Where is their instruction manual or tech support?

Other companies sell you a steep helix for the driven clutch to speed up the shift pattern, then tell you to slow the shift rate down with a stiffer spring to go with the helix. Hello?

Neither of these will give you near the performance gains for the money as a Thunder Shift or Heavy Hitter Kit will. We give you precise tuning instructions and tell you exactly how to adjust your clutch for optimum performance. No other company in the industry offers as detailed instructions or tech support on their performance items as Thunder Products.

## GENERAL TIPS

- 1) Before installing any clutch components make sure you use either a new or reconditioned clutch that has minimal wear on cover or moveable bushings.
- 2) Make sure drive belt is in good condition, center to center and offset adjustments are correct, and drive belt deflection is properly set.
- 3) Have your tachometer properly calibrated so you know exactly how it reads. Tachometers can be off 100 to 400 RPM which doesn't sound like much, but you can lose 3 - 8 horsepower or more with this type of error.
- 4) Know the correct RPM of your machine. This is where your machine makes the most horsepower. You will lose as much or more horsepower being over this RPM as being under. Controlling these RPM is the secret to maximum performance and the reason why Thunder Shift clutch products are unmatched when clutch tuning for all types of conditions.
- 5) Have your sled half full of gas. Remember, weight is horsepower. Fuel and oil are constantly changing; half capacity is best for tuning.
- 6) When making full throttle test runs, pay close attention to RPM. Make sure your test area is free of obstacles and has plenty of acceleration and shut down area.
- 7) Remember nothing beats solid, accurate testing. Keep notes of any changes made and conditions tests were performed under. A little work keeps you one step ahead of your competition.
- 8) Because you have read the tach while on board the sled and adjusted the clutch to this number, your body weight has become part of the tuning equation. This is called Weight Specific Clutching. If someone lighter or heavier than you rides your sled, it will over or under rev to some degree. If you throw all the weight you can without dropping desired RPM and can hold this RPM to top speed, this is the fastest your sled can possibly go regardless of who clutches it. **A prepackaged kit cannot approach Thunder Shift Kits or Heavy Hitters for accuracy.** The factories would have done this if it was that easy.
- 9) The HH and TSK clutch weight systems shift so smoothly and progressively with their straight line linear shift pattern that the performance is deceptive. Timed runs or a control sled will prove that "feel" doesn't mean power. This system may feel slower but is actually faster. Use of timing lights set up at intervals gives real world performance and the clock doesn't lie. The timing lights take rider's weight into consideration which the Dyno does not. Another method is to use another sled as a control sled. By not changing riders or settings on the control sled, any performance change will show up to give accurate test results.
- 10) Check our web site for updated baseline settings and other updates. We are constantly testing new sleds and will list basic model setups as we get to them. Go to [www.thunderproducts.com](http://www.thunderproducts.com) to see the latest performance products.

## OTHER PERFORMANCE PRODUCTS

### HEAVY HITTERS



**Fits: Arctic, Polaris, Yamaha, Team**

The ultimate in high performance clutch weights. Heavy Hitters are adjustable for low, mid, and top end. They give more belt squeeze on the drive belt. Made for big engines.

[Check price online](#)

### THUNDER SHIFT



**Fits: Arctic, Polaris, Yamaha, Team, Comet**

This is the original. Designed for lower horsepower sleds. Adjustable for low, mid and top end, this weight is easily tuned to get the maximum performance from your sled.

[Check price online](#)

### ARCTIC CLUTCH MAINTENANCE



**Fits: Arctic Cat**

Thunder Products offers clutch bushings, rollers, and pins to rebuild your Arctic drive clutch. These parts aren't available from your Arctic Cat dealer, but we have them in stock!

[Check price online](#)

### TPI 911 CLUTCH COVER



**Fits: Arctic, Polaris, Yamaha, Team**

Billet machined aircraft grade aluminum, the TPI 911 clutch cover adds rigidity to the clutch towers eliminating the normal flexing. A larger bearing surface offers superior clutch performance and longer clutch life. Comes with belt adjuster.

[Check price online](#)

### ABC KIT



**Fits: Arctic Cat**

The ABC kit with built-in belt adjuster, gives you a 400% increase in bearing contact on the clutch cover. This results in quicker and smoother up-shifting and back-shifting as well as longer clutch life.

[Check price online](#)

### TACHOMETER



**For all engines**

This small tachometer is easy to hook up and works on single to 8-cylinder motors. Measures up to 20,000 RPM and has an extremely accurate quartz function.

[Check price online](#)

## OTHER PERFORMANCE PRODUCTS

### TRA THUNDER SHIFT



**Fits: Ski-Doo**

Fully adjustable clutch weights for precision tuning ranging from 10 grams to 25 grams. Also available is a lightweight kit ranging from 4 grams to 18 grams.

[Check price online](#)

### TRA THUNDER SHIFT ARMS

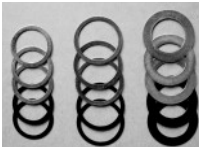


**Fits: Ski-Doo**

Drops right in. No grinding, cutting or drilling. Best of all you can still use your clicker adjustments for thousands of combinations. Machined from aircraft grade billet aluminum. They are five times stronger than stock arms - a must for big engines and superior performance!

[Check price online](#)

### GLIDE WASHERS



**Fits: Arctic, Polaris, Yamaha, Team**

Glide Washers are custom made with a baked-on lubricity coating. By placing a washer on each end of the spring, it can no longer bind on the spider or clutch cover. This frees up the spring to do its intended job and usually eliminates spring breakage.

[Check price online](#)

### TPI SPRINGS

#### DRIVE & DRIVEN CLUTCH SPRINGS



**Fits: Arctic, Polaris, Yamaha**

TPI Springs show improved performance through consistency of the product, superior memory and longer life cycles without fading.

[Check price online](#)

### DIAL-A-JET



**Improves fuel efficiency!**

**For all carbureted engines**

Accurate jetting in seconds. Works with any type of carburetor, stock or modified engines. Improves fuel efficiency and provides peak horsepower with instant throttle response. Delivers pre-atomized fuel to the engine; no moving parts or electronics to fail. Proven performance and reliability since the 1970s.

[Check price online](#)

### INTELAJET



**Improves fuel efficiency!**

**For all carbureted engines**

Quick and easy jetting on the fly. Intelajet has a broader range of fuel delivery from lean to rich (more settings). The fuel delivery module that mounts on the carburetor is smaller to accommodate tight clearance areas. The control unit mounts on the dash, looks neat, clean and high-tech.

[Check price online](#)

## OTHER PERFORMANCE PRODUCTS

These two products work great together!

### U.F.O.

#### Ultimate Flow Optimizer



**Fits: Mikuni Round Slide VM 32-24, 36-38, 40, 44mm**

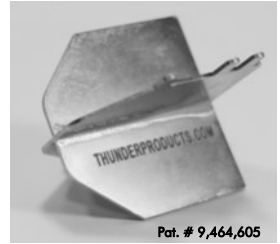
UFOs provide extended temperature and altitude range along with unmatched throttle response. Big low and midrange torque increase. See our website for details.

***Check price online***



### TORQUE WING

#### "Quad-Flow Torque Wing"



**Fits:**

**Mikuni VM32  
Mikuni VM34  
Mikuni VM36  
Mikuni VM38  
Mikuni VM40  
Mikuni VM44  
Mikuni TM38  
Mikuni TM40**

The Quad-Flow Torque Wing has horizontal and vertical air flow stabilizers which increases air flow, air speed, and fuel atomization, thereby increasing performance. Special pricing on multi-carb engines.

***Many more fitments available our web site. Check fitments and price online.***

Visit our website for more technical information, magazine articles and other great products!

**www.THUNDERPRODUCTS.com**



**100% Made in the U.S.A.**

Thunder Products, Inc., 21676 Deep Lake Road, Richmond, MN 56368 USA

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