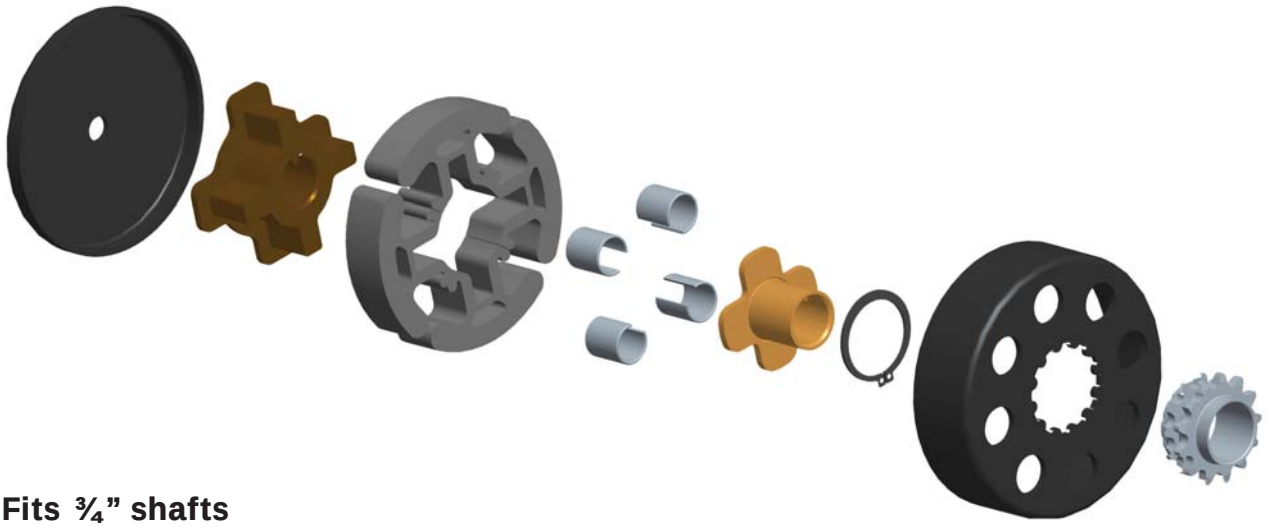
INFERNO™

KART RACING CLUTCH CATALOG

Hilliard

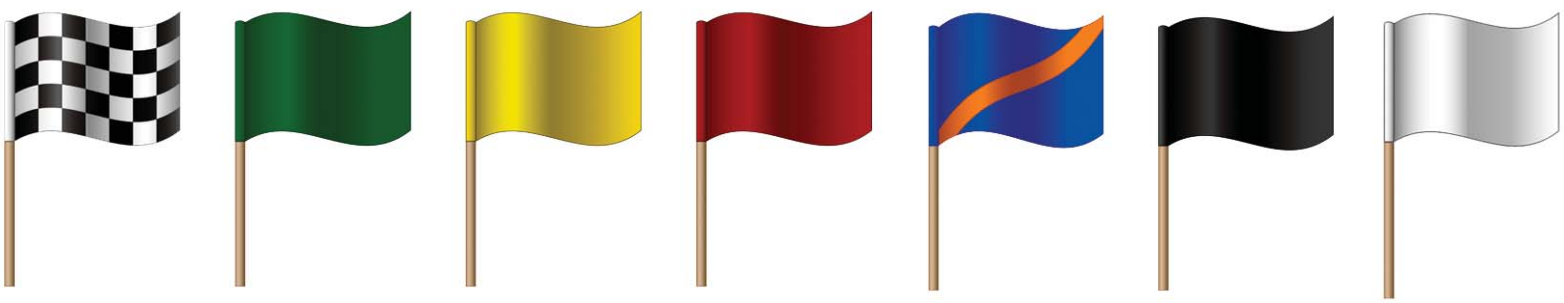
INFERNO *FURY* Racing Clutch

Patent # 6,857,515



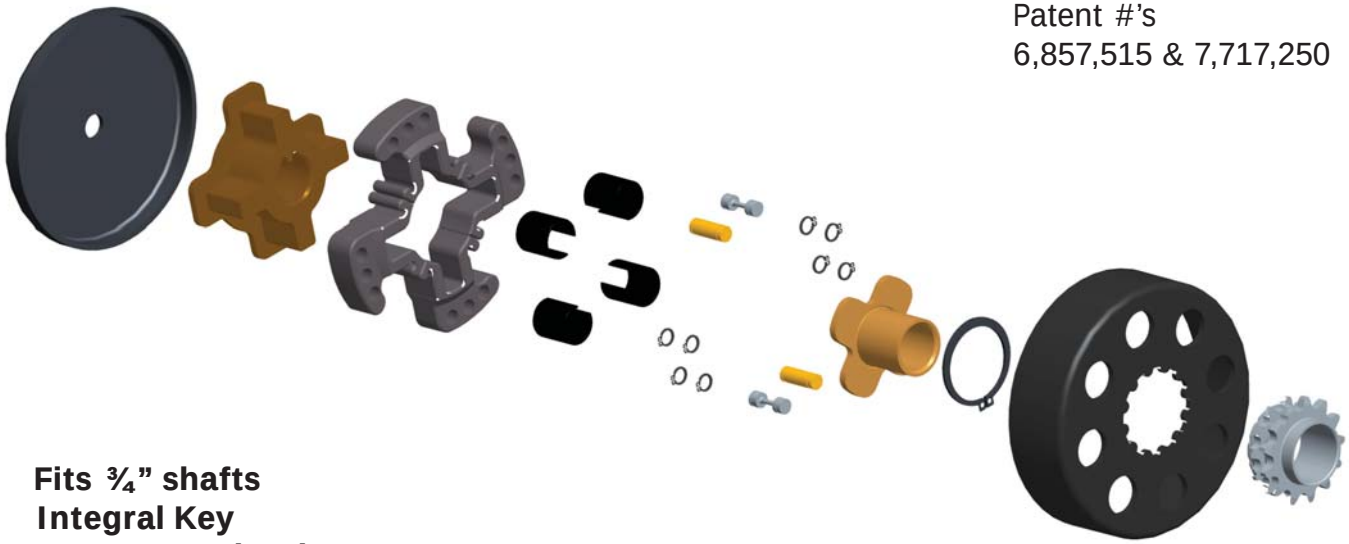
Fits ¾" shafts
Integral Key
Heat Treated Hub
Stamped Racing Drum
Machined Steel Sprockets
2 piece design
Easy changes without chain removal
Track tunable
Quick changing spring design
Oil impregnated Bushing
Interchangeable sprockets
Thermodynamically Designed
Tunability at a competitive price
Longer Life

Quick change spring sets mean less time in the pits and more time on the track!



INFERNO *BLAZE* Tunable Racing Clutch

Patent #'s
6,857,515 & 7,717,250



Fits ¾" shafts
Integral Key
Heat Treated Hub
Stamped Racing Drum
Machined Steel Sprockets
2 piece design
Easy changes without chain removal
Unlimited track tunability
Quick changing spring design
Oil impregnated Bushing
Interchangeable sprockets
Thermodynamically Designed
Tunability at a competitive price
Longer Life

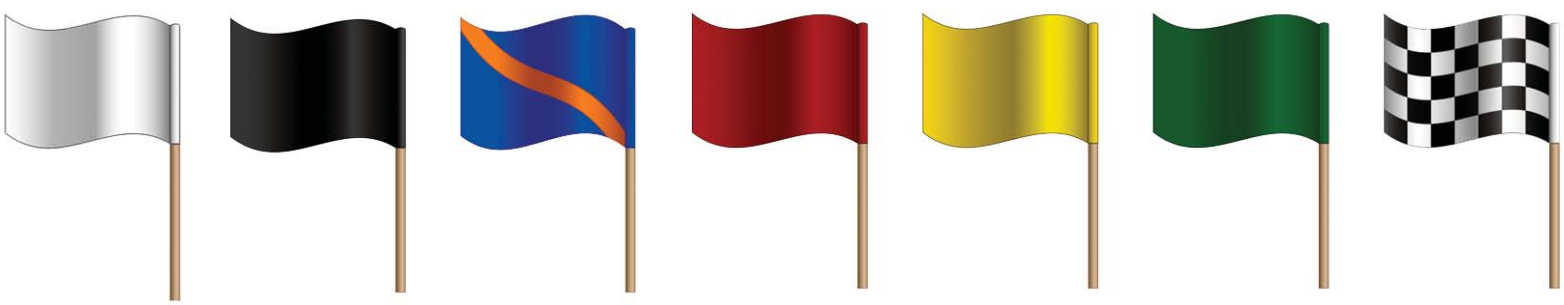
Insert Weights

Allow for multiple shoe weights
Different engagement RPM's
Alters Torque capacity

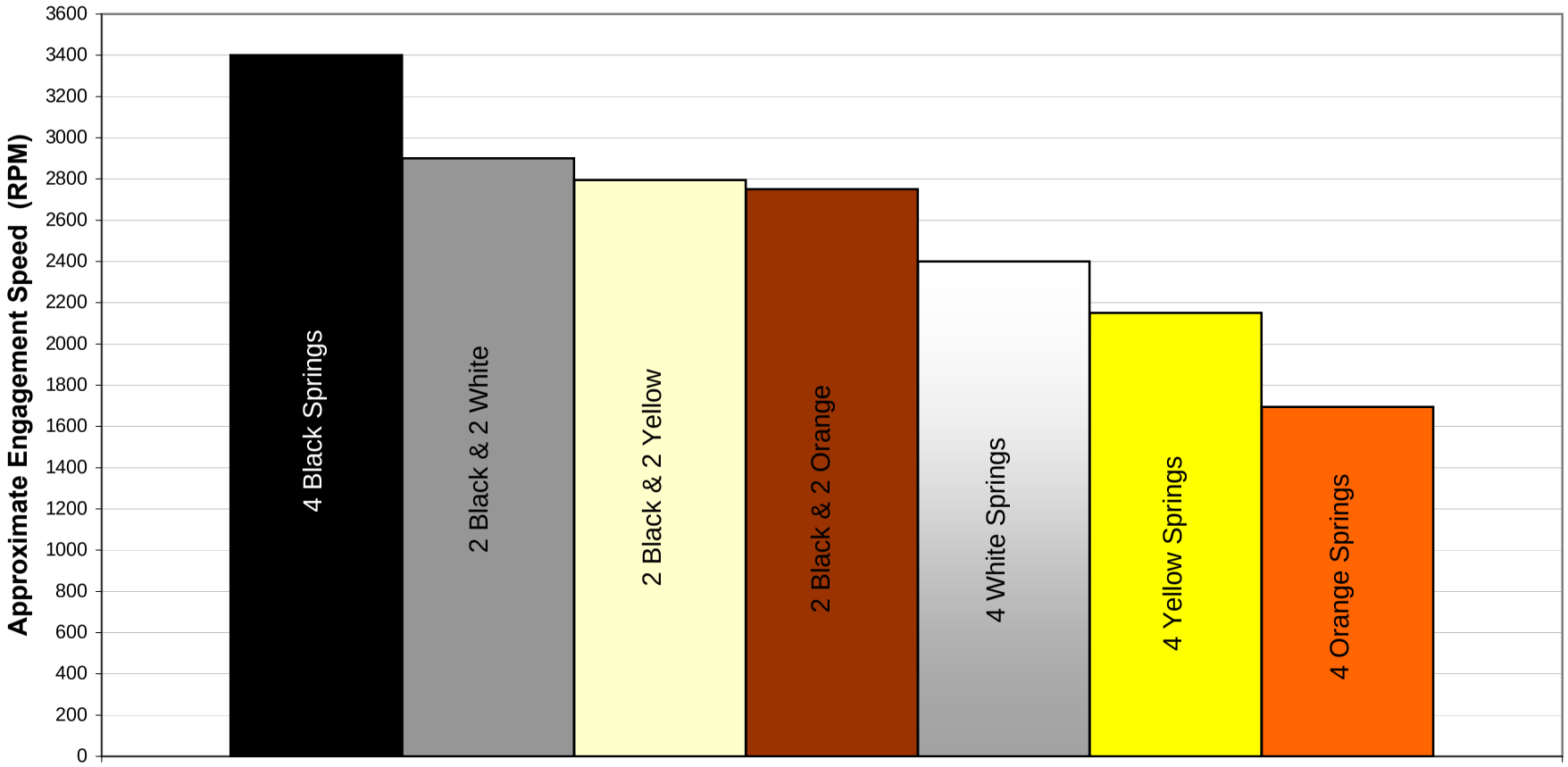
Shoe Configuration

Leading Shoe – Maximum torque (Less slip)
Combination – Average Torque (Average Slip)
Trailing Shoe – Less Torque (More slip)

Different size weights offer infinite tuning possibilities!

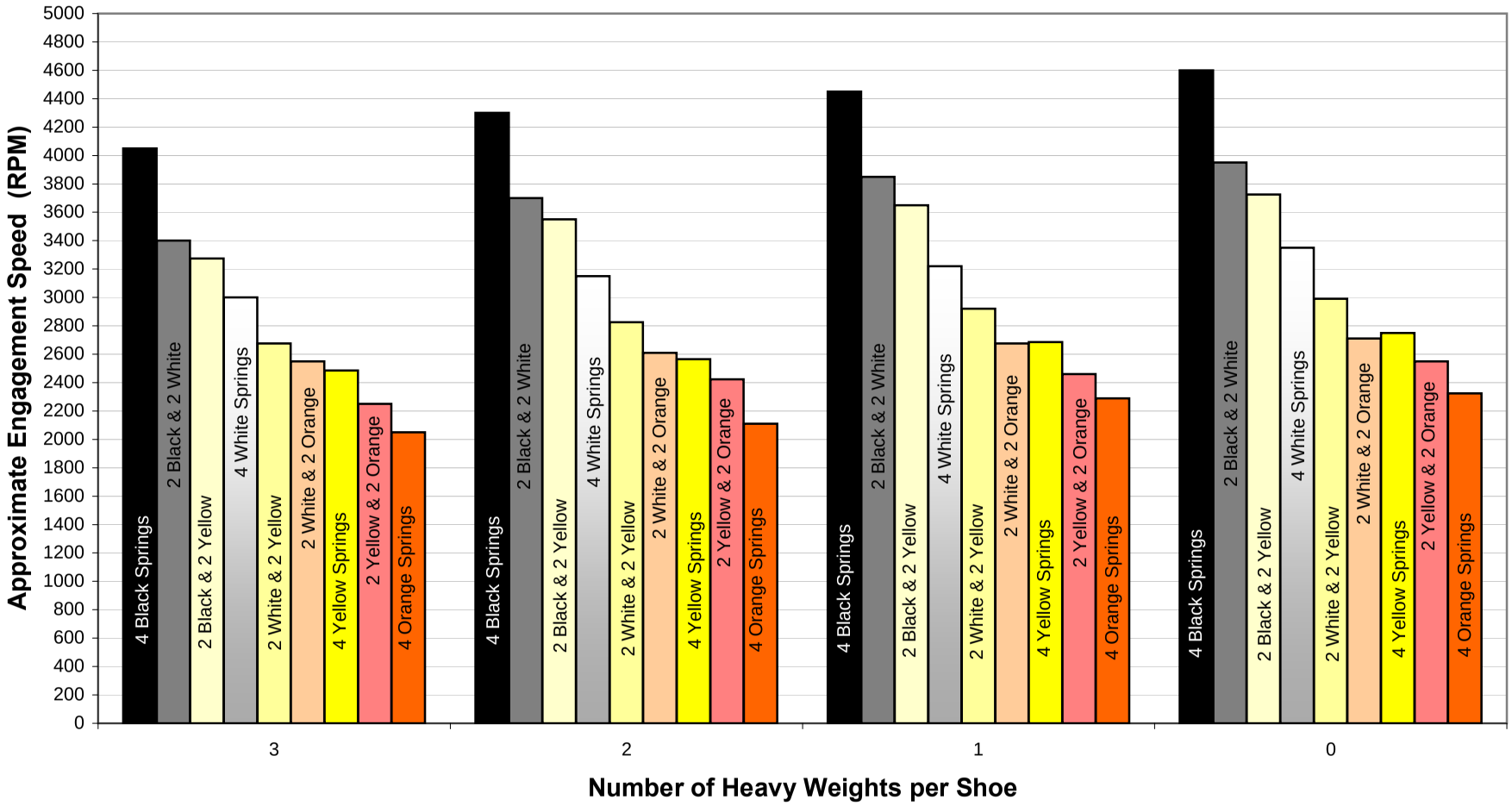


HILLIARD INFERNO - FURY / FLURRY
Engagement Speeds



* Engagement speed is defined as the speed at which the shoes first touch the drum. (NOT LOCK UP SPEED)

HILLIARD INFERNO - BLAZE / BLIZZARD
Engagement Speeds Vs. Number of Heavy Weights per Shoe



* Engagement speed is defined as the speed at which the shoes first touch the drum. (NOT LOCK UP SPEED)

INFERNO

FURY
FLURRY

INSTALLATION and MAINTENANCE Instructions

PATENTED RACING CLUTCH ** PAT. NUMBER 6,857,515 **

These instructions cover both the Fury Kart racing clutch and the Flurry Snowmobile racing clutch. The difference between the two models is the drum. The kart racing drums have holes for air flow and heat dissipation. The snowmobile racing clutch uses a solid drum that prevents excessive chain lubrication from entering the clutch. The parts are interchangeable between the designs.

This clutch is a two (2) piece mechanism. There is a potential that if the clutch is not assembled or installed properly that serious injury can occur. It is VERY important that you follow all the directions for proper clutch installation. Visit www.infernoclutch.com for more information.

For best results, perform the following weekly maintenance

1. **Drum & Sprocket:** This area will get contaminated with oil, dirt, and other debris over time. Spray some WD-40 on a rag and wipe the inside of the drum. Wipe out as much dirt and debris as possible. The area where the drum and the shoes make contact is the heart of the clutch. A nice, clean, smooth surface provides the best consistency from race to race. Do not clean the drum with acetone, starting fluid, or carburetor cleaner. These cleaning fluids will remove all of the oil and will cause the clutch to become aggressive during engagement. A small amount of oil residue will give a more consistent coefficient of friction and longer clutch life. If the drum is galled and not smooth then you can sand the inside of the drum with fine sandpaper. Clean the drum I.D. with WD-40 after sanding.
2. **Shoes:** Spray some WD-40 on a rag and clean the outside of the shoe. Do not clean the shoes with acetone, starting fluid, or carburetor cleaner. These cleaning fluids will remove all of the oil and will cause the clutch to become aggressive during engagement. A small amount of oil residue will give a more consistent coefficient of friction and longer clutch life.
3. **Bushing:** Spray some WD-40 on a rag and clean the outside of the bushing. Apply one small drop of oil to the outside of the bushing. We recommend a lightweight oil. Do NOT use grease, never-seize, or lubricants containing Teflon. Do NOT excessively lubricate the bushing. Excessive lubricant will end up inside the drum. Only a small drop is needed. Centrifugal force and heat will cause some oil to come out of the pores of the bushing and it automatically lubricates the bushing during operation. Do NOT clean the bushing with acetone, starting fluid, or carburetor cleaner. The bushing is oil impregnated at the factory and these cleaning fluids will dissolve all of the oil out of the pores of the bushing. Do NOT put the bushing on a rag, paper, cardboard, or other porous surface because the oil will wick out of the bushing. The bushing must be wrapped in plastic or placed in a plastic bag for storage.

Following these instructions will give you long life and the best performance out of the clutch.

CLUTCH ASSEMBLY:

Shoe Installation:

- **Shoes are to be placed on the driving lugs of the hub (See illustration on page 4).**
- **Shoes should fit loosely on these lugs, and be able to slide freely on them.**

Spring Installation:

- **Use External Snap Ring Pliers to spread the springs apart for easy installation. DO NOT stretch the springs any further than necessary for installation.**
- **If mismatching springs, make sure similar springs are opposite one another in the assembly. keeping the clutch balanced. (see tuning section)**

Sprocket Installation:

- **Insert the sprocket into the drum.**
- **Using external snap ring pliers, place the bowed snap ring into the groove on the sprocket. Because the snap ring is bowed there are two sides. Make sure the side marked "A" in the following picture is away from the drum. Side "B" is toward the drum. The bowed snap ring keeps the sprocket tight in the drum.**

Bushing:

- **Oil the bushing with one small drop of lightweight oil. Wipe off excess oil before installing into the sprocket. The bushing is installed from the inside of the drum. The ears of the bushing will be inside the drum when properly installed (See illustration on page 4).**

Clutch Installation: **Inboard mounting (sprocket closest to the engine) is recommended unless using a small sprocket that requires outboard mounting.**

- **Slide the ¾" I.D., 1-1/8" O.D. washer (part # 8444-22-009) onto the crankshaft until it hits the shoulder. This washer is used because some engines have a small shoulder or large radius on the shoulder that is not large enough in diameter to retain the sprocket.**
- **Slide the bushing/sprocket/drum assembly onto the engine shaft. You will have to line up the key in the bushing with the keyway on the engine shaft.**
- **Slide on the hub/shoe/spring assembly on the engine shaft. The key in the hub will need to be lined up with the keyway on the crankshaft to get the clutch to slide on completely. Make sure the shoes and springs are inside the drum and the cover is toward the outside of the clutch. You should be able to read the warning information on the face of the cover when it is assembled properly (see illustration on page 4). The shoes should be fully enclosed under the drum when installed properly. Please contact your clutch dealer if you are not sure if it is assembled correctly. Improper assembly can cause serious injury or death.**
- **The crankshaft should be approximately 1/32" longer than the clutch assembly. This will make sure the clutch has some free end play to move. You must not clamp tight against the clutch with the bolt and retaining washer or the bronze bushing will fail (Note: If you are using the Bully conversion kit, you can clamp tight against the clutch because the bronze bushing is not used with the conversion kit). After the bolt and retaining washer is tight you should be able to move the clutch hub back and forth 1/32" (about the thickness of a business card). If the gap is too large, then remove the clutch and place appropriate spacers (part # 8444-22-009 can be purchased as needed) on the engine shaft, and re-install the clutch following the same instructions. If the clutch is longer than the shaft then remove the bolt and retaining washer and place the necessary amount of 5/16" washers on the bolt so the retaining washer will clamp the 5/16" washers against the face of the shaft instead of the hub. These washers need to fit inside the I.D. of the hub and are meant to create a gap between the clutch retaining washer and the hub.**
- **Recheck your measurement for end play. You do not want to have the clutch clamped tight , nor do you want too much room for it to move. This step is critical, and needs to be confirmed.**

****IMPROPER INSTALLATION/ASSEMBLY CAN RESULT IN SERIOUS INJURY****

For any additional support visit www.infernoclutch.com or contact your dealer.

INFERNO TUNING :

**** The most important tuning tip is to keep the clutch BALANCED****

Heavier springs = higher engagement speed **Weaker Springs = lower engagement.**

****Springs Available from Heaviest to Lightest****
****Speeds are listed as the point at which the shoes touch the drum, NOT LOCK UP RPM****

Black – 8443-35-006-A – 3000 RPM
White – 8443-35-005-A – 2300 RPM
Yellow – 8443-35-004-A - 2000 RPM
Orange – 8443-35-003-A – 1800 RPM
Red – 8443-35-002-A – 1200 RPM
Green – 8443-35-009-A – 830 RPM

Visit www.infernoclutch.com to download the complete engagement speed chart.

1. **Springs can be alternated. For example, reading around the clutch, white black white black, or any combination of colors. Keep balance in mind. As long as the springs that are opposite one another are of the same color, balance is retained.**

2. **All of the components within this clutch interchange with the Blaze/Blizzard racing clutch. The Blaze and Blizzard racing clutches contain shoes that are tunable by adding/removing weights and by orienting in a leading/trailing shoe rotation. You can purchase the adjustable shoes for use in this clutch if you would like to upgrade your clutch with the unlimited tuning capability of the Blaze/Blizzard racing clutches.**

3. **Follow the recommended weekly maintenance for the best performance and longevity of this clutch.**

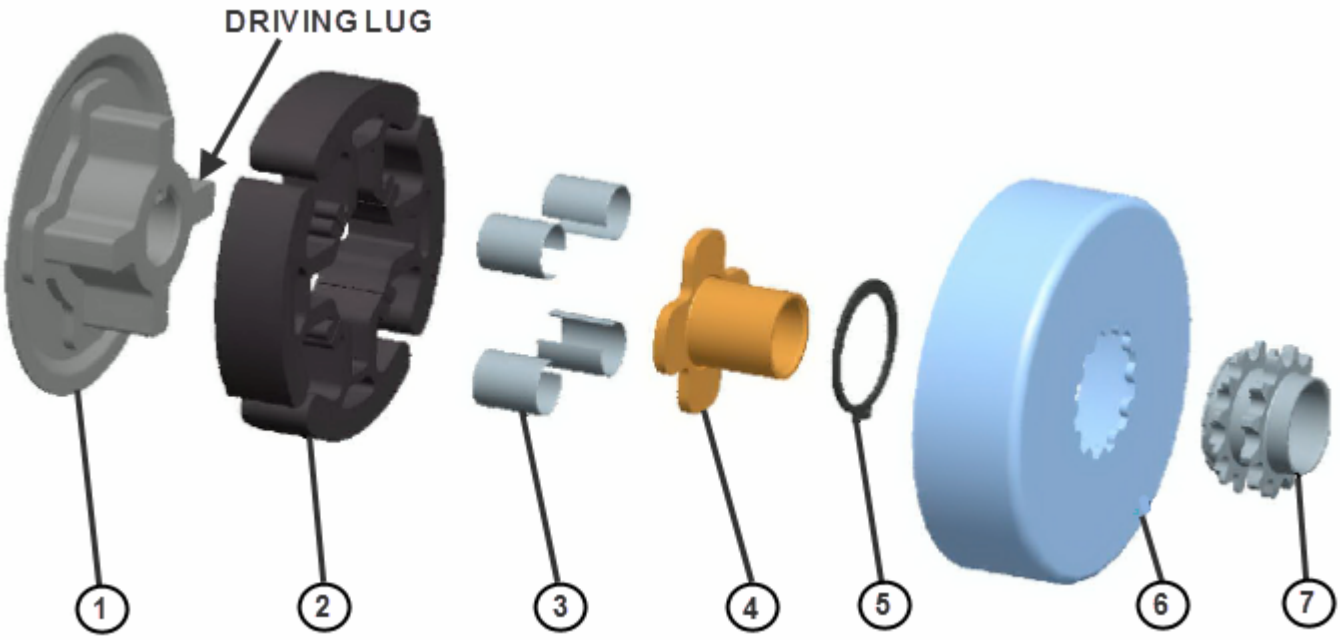
4. **Please contact your dealer with any questions that you have regarding installation or maintenance.**

Hilliard

EXTREME DUTY

INFERNO

RACING CLUTCHES



FURY / FLURRY		
Ref #	**PART No.**	**DESCRIPTION**
1	8444-23-089	3/4" HEAT TREATED HUB w/GUARD
2	8444-31-007-C	STEAM TREATED SHOE
3	8443-35-002-A	RED SPRING (1200 RPM)
	8443-35-003-A	ORANGE SPRING (1800 RPM)
	8443-35-004-A	YELLOW SPRING (2000 RPM)
	8443-35-005-A	WHITE SPRING (2300 RPM)
	8443-35-006-A	BLACK SPRING (3000 RPM)
	8443-35-009-A	GREEN SPRING (830 RPM)
4	8444-15-002-B	BUSHING 3/4 (SHORT)
5	1279-01-136-T	BOWED SNAP RING
6	8444-13-100	STAMPED DRUM w/o HOLES (SHOWN)
	8444-13-099	STAMPED DRUM with HOLES
	8444-9U-024	BULLY CONVERSION KIT
7	8444-47-XXX	SPROCKET
	#35 CHAIN	11-23 TEETH AVAILABLE
	#219 CHAIN	16-22 TEETH AVAILABLE
8	8444-22-009	WASHER (NOT SHOWN)

INFERNO

BLAZE
BLIZZARD

INSTALLATION and MAINTENANCE Instructions

PATENTED RACING CLUTCH ** PAT. NUMBERS 6,857,515 AND 7,717,250 **

These instructions cover both the Blaze Kart racing clutch and the Blizzard Snowmobile racing clutch. The difference between the two models is the drum. The kart racing drums have holes for air flow and heat dissipation. The snowmobile racing clutch uses a solid drum that prevents excessive chain lubrication from entering the clutch. The parts are interchangeable between the designs.

This clutch is a two (2) piece mechanism. There is a potential that if the clutch is not assembled or installed properly that serious injury can occur. It is VERY important that you follow all the directions for proper clutch installation. Visit www.infernoclutch.com for more information.

For best results, perform the following weekly maintenance

1. **Drum & Sprocket:** This area will get contaminated with oil, dirt, and other debris over time. Spray some WD-40 on a rag and wipe the inside of the drum. Wipe out as much dirt and debris as possible. The area where the drum and the shoes make contact is the heart of the clutch. A nice, clean, smooth surface provides the best consistency from race to race. Do not clean the drum with acetone, starting fluid, or carburetor cleaner. These cleaning fluids will remove all of the oil and will cause the clutch to become aggressive during engagement. A small amount of oil residue will give a more consistent coefficient of friction and longer clutch life. If the drum is galled and not smooth then you can sand the inside of the drum with fine sandpaper. Clean the drum I.D. with WD-40 after sanding.
2. **Shoes:** Spray some WD-40 on a rag and clean the outside of the shoe. Do not clean the shoes with acetone, starting fluid, or carburetor cleaner. These cleaning fluids will remove all of the oil and will cause the clutch to become aggressive during engagement. A small amount of oil residue will give a more consistent coefficient of friction and longer clutch life.
3. **Bushing:** Spray some WD-40 on a rag and clean the outside of the bushing. Apply one small drop of oil to the outside of the bushing. We recommend light-weight oil. Do NOT use grease, never-seize, or lubricants containing Teflon. Do NOT excessively lubricate the bushing. Excessive lubricant will end up inside the drum. Only a small drop is needed. Centrifugal force and heat will cause some oil to come out of the pores of the bushing and it automatically lubricates the bushing during operation. Do NOT clean the bushing with acetone, starting fluid, or carburetor cleaner. The bushing is oil impregnated at the factory and these cleaning fluids will dissolve all of the oil out of the pores of the bushing. Do NOT put the bushing on a rag, paper, cardboard, or other porous surface because the oil will wick out of the bushing. The bushing must be wrapped in plastic or placed in a plastic bag for storage.

Following these instructions will give you long life and the best performance out of the clutch.

CLUTCH ASSEMBLY:

Insert Weights:

- These are optional, and not required for the clutch operation. The snap rings that retain the weight are easily overstressed and damaged. **NEVER RE-USE THE SNAP RINGS**. Once removed, discard, and replace with new.

Shoe Installation:

- Shoes are to be placed on the driving lugs of the hub (See Illustration on page 4).
- Shoes should fit loosely on these lugs, and be able to slide freely on them.

Spring Installation:

- Use External Snap Ring Pliers to spread the springs apart for easy installation. DO NOT stretch the springs any further than necessary for installation.
- If mismatching springs, make sure similar springs are opposite one another in the assembly. Keep balance in mind (see tuning section).

Sprocket Installation:

- Insert the sprocket into the drum.
- Using external snap ring pliers, place the bowed snap ring into the groove on the sprocket. Because the snap ring is bowed there are two sides. Make sure the side marked "A" in the following picture is away from the drum. Side "B" is toward the drum. The bowed snap ring keeps the sprocket tight in the drum.

Side "A"

Side ""B"

Bushing:

- Oil the bushing with one small drop of lightweight oil. Wipe off excess oil before installing into the sprocket. The bushing is installed from the inside of the drum. The ears of the bushing will be inside the drum when properly installed (See illustration on page 4).

Clutch Installation: Inboard mounting (sprocket closest to the engine) is recommended unless using a small sprocket that requires outboard mounting.

- Slide the ¾" I.D., 1-1/8" O.D. washer (part # 8444-22-009) onto the crankshaft until it hits the shoulder. This washer is used because some engines have a small shoulder or large radius on the shoulder that is not large enough in diameter to retain the sprocket.
- Slide the bushing/sprocket/drum assembly onto the engine shaft. You will have to line up the key in the bushing with the keyway on the engine shaft.
- Slide on the hub/shoe/spring assembly on the engine shaft. The key in the hub will need to be lined up with the keyway on the crankshaft to get the clutch to slide on completely. Make sure the shoes and springs are inside the drum and the cover is toward the outside of the clutch. You should be able to read the warning information on the face of the cover when it is assembled properly (see illustration on page 4). The shoes should be fully enclosed under the drum when installed properly. Please contact your clutch dealer if you are not sure if it is assembled correctly. Improper assembly can cause serious injury or death.
- The crankshaft should be approximately 1/32" longer than the clutch assembly. This will make sure the clutch has some free end play to move. You must not clamp tight against the clutch with the bolt and retaining washer or the bronze bushing will fail (Note: If you are using the Bully conversion kit, you can clamp tight against the clutch because the bronze bushing is not used with the conversion kit). After the bolt and retaining washer is tight you should be able to move the clutch hub back and forth 1/32" (about the thickness of a business card). If the gap is too large, then remove the clutch and place appropriate spacers (part # 8444-22-009 can be purchased as needed) on the engine shaft, and re-install the clutch following the same instructions. If the clutch is longer than the shaft then remove the bolt and retaining washer and place the necessary amount of 5/16" washers on the bolt so the retaining washer will clamp the 5/16" washers against the face of the shaft instead of the hub. These washers need to fit inside the I.D. of the hub and are meant to create a gap between the clutch retaining washer and the hub.
- Recheck your measurement for end play. You do not want to have the clutch clamped tight, nor do you want too much room for it to move. This step is critical, and needs to be confirmed.

****IMPROPER INSTALLATION/ASSEMBLY CAN RESULT IN SERIOUS INJURY****

For any additional support visit www.infernoclutch.com or contact your dealer.

INFERNO TUNING:

Balancing is the most important feature to keep in mind. If you change the weight of one shoe, then the shoe that is opposite it (180 degrees apart) MUST also be the same weight. Opposing shoes must run the same orientation as well. If you have a leading shoe then the shoe that is opposite it (180 degrees apart) MUST be in a leading shoe orientation as well.

Heavier Springs = higher engagement speed Weaker Springs = lower engagement speed

****Springs Available from Heaviest to Lightest****
****Speeds are listed as the point at which the shoes touch the drum, NOT LOCK UP RPM****

- **Black – 8443-35-006-A – 4200 RPM *Sold Separately**
- **White – 8443-35-005-A – 3300 RPM**
- **Yellow – 8443-35-004-A - 2850 RPM**
- **Orange – 8443-35-003-A – 2400 RPM**
- **Red – 8443-35-002-A – 2000 RPM *Sold Separately**
- **Green – 8443-35-009-A – 1250 RPM*Sold Separately**

Note: Speeds shown are a Blaze/Blizzard shoe with no added weight.

- **Springs can be alternated. For example, reading around the clutch, white black white black, or any combination of colors. Keep balance in mind. As long as the springs that are opposite one another are of the same color, balance is retained.**
- **Visit www.infernoclutch.com and download the complete engagement speed chart.**

Insert Weights for tuning torque, engagement, and configuration.

- **These are optional, and not required for the clutch operation.**
- **The more weight that is added to the shoe, the lower the engagement.**
- **The more weight that is added to the shoe, the higher the torque capacity.**
- **The placement of the weights allows engagement properties to change. Moving the weights from one end to the other will affect the configuration, making it more leading or more trailing, or making it more center balanced.**
- **NEVER REUSE THE SNAP RINGS. Once removed, discard, and replace with new.**

Shoe Orientation is also tunable and changes the engagement characteristics of the clutch.

- **Shoes with a mass in front of the driving lug (the 4 lugs on the hub that drives the shoes), with respect to the direction of rotation are called leading shoes.**
- **Leading shoes self energize and carry more torque with very little slip. Leading shoes often stay engaged with the engine back very close to the engagement speed before releasing. (More on and off, with little slip.)**
- **Shoes with a mass behind the driving lug (the 4 lugs on the hub that drives the shoes), with respect to the direction of rotation are called trailing shoes.**
- **Leading and trailing shoes can be mixed. You can run 2 leading shoes, with 2 trailing shoes as long as they are opposite each other. This is called the "X" pattern.**

Recommended Initial Setup:

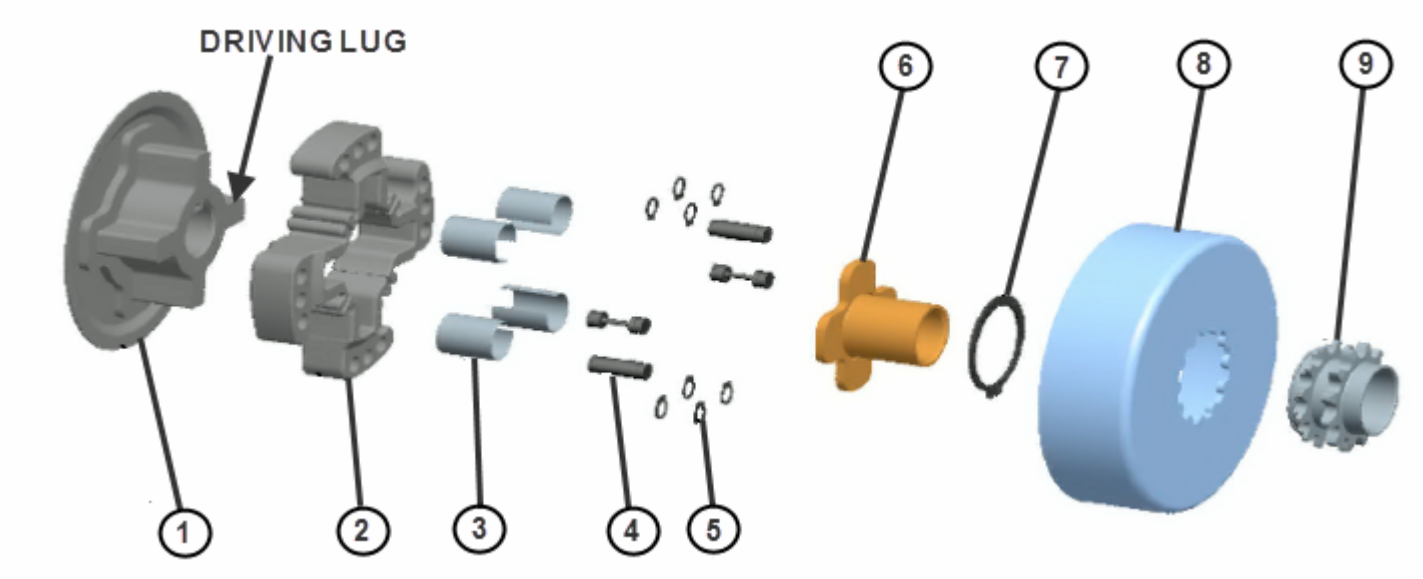
As you can see the Blaze and Blizzard racing clutches have a wide range of tuning ability. A suggested starting point is to put your shoes in a leading orientation, add the heavy weight to the tip of each shoe, add the light weight to the middle position of each shoe, and then install (4) yellow springs. This setup will be a good starting point for the majority of racers. This will start to engage around 2700 rpm. After you test your setup you then can adjust the clutch to your specific needs. Add or remove weight, change the springs, change to a trailing orientation, or a combination of the adjustments.

Hilliard

EXTREME DUTY

INFERNO

RACING CLUTCHES



BLAZE / BLIZZARD

Ref #	PART No.	DESCRIPTION
1	8444-23-089	3/4" HEAT TREATED HUB w/GUARD
2	8444-31-009	TUNABLE RACING SHOE
3	8443-35-002-A	RED SPRING (1950 RPM)
	8443-35-003-A	ORANGE SPRING (2300 RPM)
	8443-35-004-A	YELLOW SPRING (2800 RPM)
	8443-35-005-A	WHITE SPRING (3275 RPM)
	8443-35-006-A	BLACK SPRING (4325 RPM)
	8443-35-009-A	GREEN SPRING (1225 RPM)
4	8444-22-005	HEAVY WEIGHT
	8444-22-006	LIGHT WEIGHT
5	1279-01-033-T	WEIGHT SNAP RING
6	8444-15-002-B	BUSHING 3/4 (SHORT)
7	1279-01-136-T	BOWED SNAP RING
8	8444-13-100	STAMPED DRUM w/o HOLES (SHOWN)
	8444-13-099	STAMPED DRUM with HOLES
	8444-9U-024	BULLY CONVERSION KIT
9	8444-47-XXX	SPROCKET
	#35 CHAIN	11-23 TEETH AVAILABLE
	#219 CHAIN	16-22 TEETH AVAILABLE
10	8444-22-009	WASHER (NOT SHOWN)

INFERNO KART RACING CLUTCHES

FURY RACING CLUTCH		Suggested Retail Price Without Sprocket
CLUTCH PART NUMBER		
LD4S-FURY		$59.99
SPROCKET NOT INCLUDED, 3/4" BORE HUB W/COVER, RACING DRUM, 4 BLACK SPRINGS, 4 WHITE SPRINGS, SPROCKET SNAP RING, AND OIL IMPREGNATED RACING BUSHING		

BLAZE RACING CLUTCH		Suggested Retail Price Without Sprocket
CLUTCH PART NUMBER		
LD4S-BLAZE		$89.99
SPROCKET NOT INCLUDED, 3/4" BORE HUB W/COVER, RACING DRUM 4 WHITE SPRINGS, 4 YELLOW SPRINGS, 4 ORANGE SPRINGS, 4 LIGHT WEIGHTS, 4 HEAVY WEIGHTS, 24 SNAP RINGS, SPROCKET SNAP RING, AND OIL IMPREGNATED RACING BUSHING		

INFERNO KART RACING CLUTCH PARTS LIST

PART No.	DESCRIPTION	Suggested Retail Price Each
8444-9U-001	BLAZE SERVICE KIT INCLUDES 4 WHITE, 4YELLOW, 4 ORANGE SPRINGS, 4 LIGHT WEIGHTS, 4 HEAVY WEIGHTS, 24 SNAP RINGS, BUSHING	$32.00
8444-9U-002	FURY SERVICE KIT INCLUDES 4 WHITE & 4 BLACK SPRINGS, BUSHING	$20.00
8444-9U-003	BLAZE TUNING KIT INCLUDES 4 GREEN, 4 ORANGE, 4 YELLOW, 4 WHITE, 4 BLACK SPRINGS, 8 LIGHT WEIGHTS, 8 HEAVY WEIGHTS, 36 SNAP RINGS	$60.00
1279-01-033-T	WEIGHT SNAP RING (BLAZE)	$0.20
8444-22-005 8444-22-006	HEAVY WEIGHT (BLAZE) LIGHT WEIGHT (BLAZE)	$2.50
1279-01-136-T	BOWED SNAP RING (FOR SPROCKET)	$0.75
8443-35-002-A	RED SPRING	$2.50
8443-35-003-A	ORANGE SPRING	
8443-35-004-A	YELLOW SPRING	
8443-35-005-A	WHITE SPRING	
8443-35-006-A	BLACK SPRING	
8443-35-009-A	GREEN SPRING	
8444-15-002-B	BUSHING 3/4" BORE (OIL IMPREGNATED RACING BUSHING)	$9.00
8444-22-009	HUB SPACER 3/4" I.D. X 1 1/16 O.D. X .040 THK	$0.75
8444-9U-024	BULLY CONVERSION KIT INCLUDES SPACER, BEARING RACE, HUB SPACER, STAMPED MACHINED RACING DRUM, & INSTRUCTIONS	$35.00
8444-9U-026 8444-9U-027	9 TOOTH #35 CHAIN ARENA SPROCKET KIT 10 TOOTH #35 CHAIN ARENA SPROCKET KIT KITS INCLUDE: SPROCKET W/ BEARING, STOP SPACER, SHOULDER BOLT, & INSTRUCTIONS	$50.00

****INFORMATION AND PRICING SUBJECT TO CHANGE WITHOUT NOTICE****

WWW.INFERNOCLUTCH.COM

INFERNO KART RACING CLUTCHES

INFERNO KART RACING CLUTCH PARTS LIST

PART No.	DESCRIPTION	Suggested Retail Price Each
8444-13-099	INFERNO KART RACING STAMPED HOUSING (STANDARD)	$20.00
8444-13-166	INFERNO KART RACING STAMPED HOUSING (BULLY)	
8444-13-100	INFERNO SNOW RACING STAMPED HOUSING (NO HOLES)	
8444-14-001	BEARING RACE H.T. (USED IN BULLY CONVERSION KIT)	$8.50
8443-21-001-A	HUB SPACER - 3/4" X 2 1/4" (USED IN BULLY CONVERSION KIT)	$1.50
8444-22-011	STOP SPACER FOR 9T & 10 ARENA SPROCKET KITS	$6.00
8444-23-089	3/4" HEAT TREATED HUB (NEW PRODUCTION INCLUDES GUARD AND RETAINING RING)	$16.00
8444-31-007-C	STEAM TREATED SHOE (FURY)	$3.50
8444-31-009	TUNABLE RACING SHOE (BLAZE)	$5.00
8444-47-087 8444-47-088	9 TOOTH #35 CHAIN ARENA SPROCKET W/ BEARING 10 TOOTH #35 CHAIN ARENA SPROCKET W/ BEARING REPLACEMENT SPROCKET ONLY. REQUIRES SHOULDER BOLT & STOP SPACER OR PURCHASE 9T OR 10T KIT.	$40.00
8444-47-058	11 TOOTH #35 CHAIN W/SPECIAL BUSHING & THRUST WASHER	$40.00
8444-47-045	12 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	$22.00
8444-47-038	13 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-039	14 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-040	15 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-041	16 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-042	17 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-043	18 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-044	19 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-059	20 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	$30.00
8444-47-060	21 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-061	22 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-062	23 TOOTH #35 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-049	16 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	$22.00
8444-47-050	17 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-051	18 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-052	19 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	$30.00
8444-47-053	20 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-054	21 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	
8444-47-055	22 TOOTH #219 CHAIN (MACHINED STEEL SPROCKET)	
8444-93-001	SHOULDER BOLT FOR 9T & 10 ARENA SPROCKET KITS	$20.00

****INFORMATION AND PRICING SUBJECT TO CHANGE WITHOUT NOTICE****

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GEAR RATIO CHART

	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
53	5.89	5.30	4.82	4.42	4.08	3.79	3.53	3.31	3.12	2.94	2.79	2.65	2.52	2.41	2.30
54	6.00	5.40	4.91	4.50	4.15	3.86	3.60	3.38	3.18	3.00	2.84	2.70	2.57	2.45	2.35
55	6.11	5.50	5.00	4.58	4.23	3.93	3.67	3.44	3.24	3.06	2.89	2.75	2.62	2.50	2.39
56	6.22	5.60	5.09	4.67	4.31	4.00	3.73	3.50	3.29	3.11	2.95	2.80	2.67	2.55	2.43
57	6.33	5.70	5.18	4.75	4.38	4.07	3.80	3.56	3.35	3.17	3.00	2.85	2.71	2.59	2.48
58	6.44	5.80	5.27	4.83	4.46	4.14	3.87	3.63	3.41	3.22	3.05	2.90	2.76	2.64	2.52
59	6.56	5.90	5.36	4.92	4.54	4.21	3.93	3.69	3.47	3.28	3.11	2.95	2.81	2.68	2.57
60	6.67	6.00	5.45	5.00	4.62	4.29	4.00	3.75	3.53	3.33	3.16	3.00	2.86	2.73	2.61
61	6.78	6.10	5.55	5.08	4.69	4.36	4.07	3.81	3.59	3.39	3.21	3.05	2.90	2.77	2.65
62	6.89	6.20	5.64	5.17	4.77	4.43	4.13	3.88	3.65	3.44	3.26	3.10	2.95	2.82	2.70
63	7.00	6.30	5.73	5.25	4.85	4.50	4.20	3.94	3.71	3.50	3.32	3.15	3.00	2.86	2.74
64	7.11	6.40	5.82	5.33	4.92	4.57	4.27	4.00	3.76	3.56	3.37	3.20	3.05	2.91	2.78
65	7.22	6.50	5.91	5.42	5.00	4.64	4.33	4.06	3.82	3.61	3.42	3.25	3.10	2.95	2.83
66	7.33	6.60	6.00	5.50	5.08	4.71	4.40	4.13	3.88	3.67	3.47	3.30	3.14	3.00	2.87
67	7.44	6.70	6.09	5.58	5.15	4.79	4.47	4.19	3.94	3.72	3.53	3.35	3.19	3.05	2.91
68	7.56	6.80	6.18	5.67	5.23	4.86	4.53	4.25	4.00	3.78	3.58	3.40	3.24	3.09	2.96
69	7.67	6.90	6.27	5.75	5.31	4.93	4.60	4.31	4.06	3.83	3.63	3.45	3.29	3.14	3.00
70	7.78	7.00	6.36	5.83	5.38	5.00	4.67	4.38	4.12	3.89	3.68	3.50	3.33	3.18	3.04
71	7.89	7.10	6.45	5.92	5.46	5.07	4.73	4.44	4.18	3.94	3.74	3.55	3.38	3.23	3.09
72	8.00	7.20	6.55	6.00	5.54	5.14	4.80	4.50	4.24	4.00	3.79	3.60	3.43	3.27	3.13
73	8.11	7.30	6.64	6.08	5.62	5.21	4.87	4.56	4.29	4.06	3.84	3.65	3.48	3.32	3.17
74	8.22	7.40	6.73	6.17	5.69	5.29	4.93	4.63	4.35	4.11	3.89	3.70	3.52	3.36	3.22
75	8.33	7.50	6.82	6.25	5.77	5.36	5.00	4.69	4.41	4.17	3.95	3.75	3.57	3.41	3.26
76	8.44	7.60	6.91	6.33	5.85	5.43	5.07	4.75	4.47	4.22	4.00	3.80	3.62	3.45	3.30
77	8.56	7.70	7.00	6.42	5.92	5.50	5.13	4.81	4.53	4.28	4.05	3.85	3.67	3.50	3.35
78	8.67	7.80	7.09	6.50	6.00	5.57	5.20	4.88	4.59	4.33	4.11	3.90	3.71	3.55	3.39
79	8.78	7.90	7.18	6.58	6.08	5.64	5.27	4.94	4.65	4.39	4.16	3.95	3.76	3.59	3.43
80	8.89	8.00	7.27	6.67	6.15	5.71	5.33	5.00	4.71	4.44	4.21	4.00	3.81	3.64	3.48

THE HILLIARD CORPORATION
100 WEST 4TH STREET
ELMIRA, NEW YORK 14902-1504

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