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TERMS & CONDITIONS

Terms

Orders may be shipped Certified Check, VISA, MASTER CARD, AMERICAN EXPRESS, OR DISCOVER CARD. Minimum order is \$10.00.

Claims

Claims for damages in shipping, open or sealed, are to be made to freight forwarder. Claims for shortages must be made directly to Strange Oval within 5 days of receipt.

Returns

Special order parts are non-returnable. No returns will be accepted without prior authorization. This is accomplished by calling Strange Oval for an authorization number. Returns must be new or in new condition. Any return that has been installed or is in used condition will not receive credit. All returns are subject to a 20% handling charge (minimum \$10) and all return freight must be prepaid.

Pricing

Prices are subject to change without notice.

Strange Oval Parts & Services Warranty

Strange Oval reserves the right to make changes in design and to add to or improve on its product without incurring any obligation to install the same on products previously manufactured.

Purchasers using Strange Oval racing components and equipment, any and all inventory services, purchasers acknowledge that due to the differing conditions and circumstances under which all equipment and parts are installed and used, purchasers are not relying on Strange Oval Co. skill or judgment to select or furnish the proper part or equipment. Purchasers expressly affirm they are relying upon their own skill or judgment to select and purchase suitable goods.



BUILT STRANGE

Made in the USA......All American, All The Time.

Strange Oval is a newer division of Strange Engineering; a company whose been manufacturing drivetrain and related components for the highest competition categories in the NHRA & IHRA since 1965. Strange Engineering is also a major manufacturer of high performance driveline and suspension components to the drag racing and high performance street and track markets. With decades of manufacturing, design & engineering innovation, quality & customer service experience, Strange Oval was established in 2012 as envisioned by owner Jeff Stange. We are committed to servicing the circle track market with the same innovation, motivation & dedication that has defined us for over 50 years.

Don't just race.....Race Strange!

Strange Wrap-Axle Technology

(Racing's Best Kept Secret)

While left & right side axles are almost always different lengths they are normally the same diameters; this inherently gives the right side axle a lower spring rate - it will twist more under torque simply because it's longer length as compared to the left side axle.

Since left side axle does not "wrap-up" (or twist) as much as the right side the car has a tendency to steer right or "push" on initial acceleration because the left rear tire sees the power first due to its higher spring rate. By using a smaller axle diameter yet different left and right side axle diameters, with the Wrap-Axle technology, you can equalize this axle torque steer reaction both under acceleration or deceleration.

Utilizing different and reduced axle diameters, based on axle lengths and motor torque, the Strange Oval Wrap Axle Technology can be further used to specifically tune the chassis to turn left under acceleration simply by splitting the left and right rear axle diameters further apart – much like tire stagger. You may actually find that you can remove some of your tire stagger and let the axles compensate for that stagger reduction. You can also enhance forward-drive by letting the axles twist (wrap) more which will slow the tire from breaking traction as quickly as compared with standard diameter axles.

In effect, the Strange Oval Wrap Axles can be used as a precise tuning device without having any effect on existing cross weight, spring rates, anti-roll bar, ride height or tire pressure.



Irange Ova



Thru-Hardened (Hy-Tuf) Axles

Strange Oval Axles are utilized by many of the top teams in all divisions of NASCAR, Lucas Oil and the Craftsman World of Outlaws Dirt Late Model Series as well as all top touring divisions running both on pavement and dirt.

- Nickel-Chrome-Molly alloy offers uncompromising yield and tensile strength and fatigue properties
- Proprietary process and vertical heating controls distortion and uniform axle thru-hardness
- · CNC hobbed splines tightly controls tolerances for even torque transfer and increased spline life
- Generous transition fillet radii essential for the reduction of stress risers
- · Additional attention to non-aggressive machining to impart a minimum amount of residual stress
- Shot peening along with stress relieving, provides the application of residual compressive stress and combats torsional and bending tendencies
- Isotropic super-finishing (REM) reduces spline wear, lowers operating temperatures and minimizes micro stress risers

Axle Length Range: 25.50" to 39.50" Diameter Range: Gun Drilled = 1.080" to 1.200"

Solid = .0940" to 1.165"

Gun Drilled Axles

Is a precise machining process where the core of axle is removed leaving a 0.578" hole through the entire length of the axle. This is mainly to reduce weight yet Strange Oval uses this process to influence the torsional (twist) characteristics of the axle as well as other performance benefits

Solid Axles

A solid axle is considerably stronger than an equivalent diameter axle which is gun-drilled. Where a solid axle is required by rules, Strange Oval offers reduced diameter solid axle that perform the same as gun-drilled axle. Strange Oval is able to reduce the solid axle diameter, retain the axle strength and have the same torsional performance characteristics as the gun-drilled axle but better suited for the lower horsepower cars where solid axles may be required

Custom made axles available. Call Strange Oval at 1-800-653-1099 for details.





Axle Diameter Recommended Combinations

Forward Bite:

Using the smallest axle diameter acceptable (based on HP) we're going for the maximum and safest axle twist allowable. This axle wrap makes it more difficult for the tire to break traction on acceleration, whether it's on corner exit or on restarts. This diameter combination maximizes the axles contribution to forward drive.

The Strange Oval axle material & design is meant to twist all day without any damaging effect on the axle.

Most Throttle Turn (a bit loose on exit):

This option is our maximum recommended offset between the left & right side axle diameters to allow for "on throttle rear steer" like that of adding tire stagger. The greater the diameter split between the left & right axles, the more "loose" the effect is "on throttle". Forward bite is slightly reduced to a degree (from the Forward Bite option), but the axle diameters here still remain much thinner than standard axles sold, which will allow for axle "wrap-up" and increased forward bite over any standard diameter axles regardless. You may actually find that you can remove some tire stagger (up to 1") - the axles compensate as though you never removed it

Some Forward Bite & Throttle Turn:

Here, we utilize axle diameters that will provide a bit of both of the first 2 options (Forward Bite & Throttle Turn). We use smaller diameters overall with a slight split between left & right side axle diameters. This option best captures a bit of axle wrap (Forward Bite) with the thinner overall axle diameters & throttle turn (the tire stagger effect) that comes with different left-to-right axle diameters. It is the most commonly used axle combination.

DIRT MODIFIEDS IMCA, UMP, USMTS, RENEGADE

	A-Mod	B-Mod	Sport Mod	UMP	USMTS	RENEGADE
Typical HP	<i>575</i>	450	<i>375</i>	700	750	750
Typical Rear-End	QC or 9" Ford	9" Ford	9" Ford	ОС	ас	ОС
Typical Axle Lengths	OC = 30.50/30.50 9" Ford = 28.50/32.50 All Gun-Drilled	9" Ford = 28.50/32.50 All Gun-Drilled	9" Ford = 28.50/32.50 Solid Axle by Rule	Varies All Gun-Drilled	Varies All Gun-Drilled	Varies All Gun-Drilled
OPTIONS						
Forward Bite	L = 1.080" GD R = 1.110" GD	L=1.080" GD R=1.100" GD	L=.940" Solid R=.960" Solid	L=1.100" GD R=1.115" GD	L=1.115" GD R=1.130" GD	L=1.115" GD R=1.130" GD
Most Throttle Turn (bit loose on exit)	L = 1.080" GD R = 1.145" GD	L = 1.080" GD R = 1.145" GD	L = .940" Solid R = 1.130" Solid	L=1.100" GD R=1.165" GD	L = 1.115" GD R = 1.165" GD	L=1.115" GD R=1.165" GD
Some Forward Bite & Throttle Turn	L = 1.080" GD R = 1.130" GD	L = 1.080" GD R = 1.130" GD	L=.960" Solid R=1.115" Solid	L= 1.115" GD R= 1.145" GD	L = 1.115" GD R = 1.145" GD	L=1.115" GD R=1.145" GD

Best suited track type: Dry-Slick
Best suited track type: Heavy or Tacky

DIRT LATE MODEL

Open Motor	Crate Motor
	(& Steel Head)

Typical HP	800+	375/450
Typical Rear-End	<i>ac</i>	ас
Typical Axle Lengths	LR=32" to 34" RR=32.00 to 37.00 All Gun-Drilled	LR=32" to 34" RR=32.00 to 37.00 All Gun-Drilled
OPTIONS		
Forward Bite	L=1.130" GD R=1.180" GD	L=1.115" GD R=1.145" GD
Most Throttle Turn (bit loose on exit)	L = 1.130" GD R = 1.200" GD	L=1.115" GD R=1.165" GD
Some Forward Bite & Throttle Turn	L = 1.145" GD R = 1.200" GD	Best to use #1 or #2

Best suited track type: Dry-slick Best suited track type: Heavy or tacky

Best suited track type: Starts heavy or tacky getting more dry-slick through the night

PAVEMENT LATE MODEL

Super	Crate/ Pro/
Late Model	Late Model

Typical HP	<i>600</i> +	400+
Typical Rear-End	<i>ac</i>	ОС
Typical Axle Lengths	LR=32" to 34" RR=36.00 to 41.00 All Gun-Drilled	LR=32" to 34" RR=34.00 to 41.00 All Gun-Drilled
OPTIONS		
Forward Bite	L=1.130" GD R=1.165" GD	L=1.115" GD R=1.145" GD
Most Throttle Turn (bit loose on exit)	L = 1.115" GD R = 1.180" GD	L = 1.115" GD R = 1.165" GD
Some Forward Bite & Throttle Turn	L=1.130" GD R=1.180" GD	L = 1.130" GD R = 1.165" GD

Best suited track type: Slick & Flat

Best suited track type: Flat tight turns (Paper-clip layout) Best suited track type: Slick & banked or slightly banked

PAVEMENT MODIFIED

Whelen	Crate Motor
Tour Type	(2 Brl. SK)

Typical HP	700	475
Typical Rear-End	<i>ac</i>	ас
Typical Axle Lengths	LR=32" to 34" RR=34.00 to 36.00 All Gun-Drilled	LR=32" to 34" RR=34.00 to 36.00 All Gun-Drilled
OPTIONS		
Forward Bite	L=1.115" GD R=1.130" GD	L=1.115" GD R=1.130" GD
Most Throttle Turn (bit loose on exit)	L=1.115" GD R=1.180" GD	L = 1.115" GD R = 1.165" GD
Some Forward Bite & Throttle Turn	L = 1.130" GD R = 1.165" GD	L = 1.130" GD R = 1.145" GD

Big Block

Best suited track type: Slick & Flat

Best suited track type: Flat tight turns (Paper-clip layout) Best suited track type: Slick & banked or slightly banked

NORTHEAST DIRT MODIFIED

Small Block

L = 1.115'' GD

R = 1.165'' GD

L = 1.130'' GD

R = 1.165''GD

Sport Mod.

Please Inquire

Please Inquire

			(2 Brl.)
Typical HP	<i>800</i> +	600+	<i>350</i> +
Typical Rear-End	ас	ОС	9" Ford
Typical Axle Lengths	LR=25.50 to 27.50 RR=33.00 to 34.25 All Gun-Drilled	LR=25.50 to 27.50 RR=33.00 to 34.25 All Gun-Drilled	LR=25.50 to 27.50 RR=33.00 to 34.25 Possible "solid" axle rule
OPTIONS			
Forward Bite	L=1.115" GD R=1.165" GD	L=1.115" GD R=1.145" GD	L=1.115" R=1.130"

Best suited track type: Dry-slick

Most Throttle Turn

(bit loose on exit)

Some Forward Bite

& Throttle Turn

Best suited track type: Heavy or tacky

L = 1.115'' GD

R = 1.180'' GD

L = 1.130'' GD

R=1.180" GD

DRIVE PLATES

Modified & Late Model

ADW500, ADW550 & ADW800 (shown below)

- Billet Aluminum Construction
 Aircraft quality, lightweight, high strength
- Pressed-In Steel Spline Insert
 For increased wear resistance and long spline life
- Flanged Steel Sleeve Mounting Hole Bushings
 Resist distortion and provide longer service life
- Mill Scalloped
 To reduce weight



ADW500 5-Bolt Wide-5 Non-cambered ADW800 8-Bolt Wide-5 Non-cambered ADW550
SMART Hub
Wide-5
Non-cambered
(Northeast DIRT Modified only)

ADW570 (shown below)

- For 5-on-5" and 5 X 4.75" Bolt Circle Hubs
- IMCA, UMP & Renegade Dirt Modifieds
- Billet Aluminum Construction
 Aircraft quality, lightweight, high strength
- Pressed-in Steel Spline Insert
 For increased wear resistance and long spline life
- 1.8 lbs Lighter than Steel Drive Plate



ADW570 5 X 4.75" & 5 X 5" Hubs Non-cambered

CAMBERED DRIVE PLATES

Modified & Late Model

ADW520, ADW820 & ADW530 (shown below)

- Camber Allows for up to 2°
 For use with all standard straight splined axles
- Steel Billet Housing Construction Lightweight, high strength, & durable
- Steel Spline Insert
 For increased wear resistance and long
 spline life
- Mill Scalloped
 To reduce weight

- Zinc Plated Protects against corrosion
- Rubber O-rings on Housing & Cap
 To ensure axle grease retention



ADW520 Wide 5, 5-Lug Cambered Late Model



ADW820 Wide 5, 8-lug Cambered, Late Model

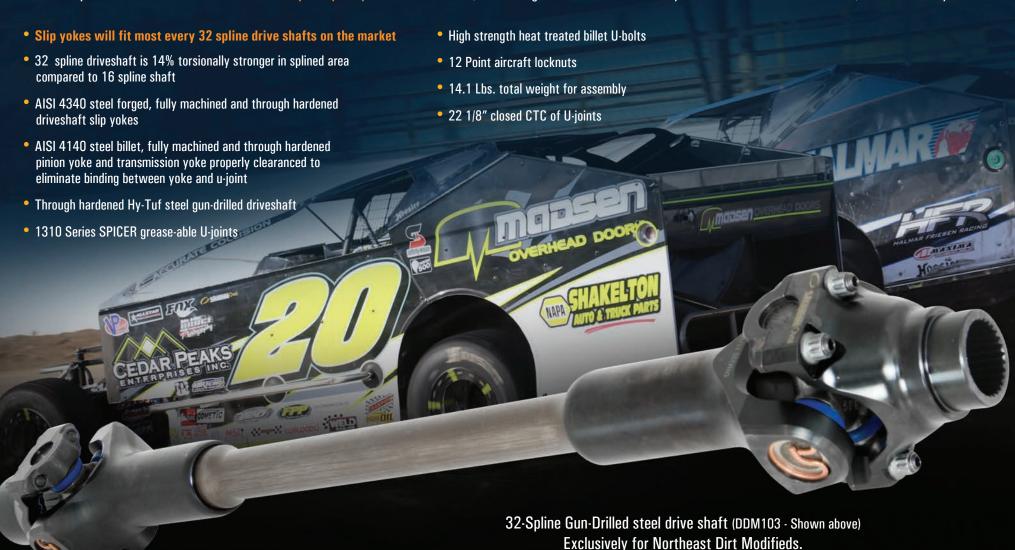


ADW530 5-on-5 Hub, 5-lug Cambered, Asphalt Late Model

DRIVE SHAFTS & YOKES

Complete Drive Shaft Assembly for Northeast Dirt Modified (Big Block, Small Block, Sportsman, Crate)

Now available with a re-greasable 1310 U-joint. Strange Oval's driveshaft for the Northeast modifieds has been running on cars for over 3 years and has no vibration even at idle. Bulletproof construction that retrofits with any 32-spline yokes on the market, the Strange Oval drive shaft offers years of serviceable life. Fits TEO, Bicknell or Troyer.



(See next page for individual components)

DRIVE SHAFTS & YOKES

Complete Drive Shaft Assembly for Northeast Dirt Modified (Big Block, Small Block, Sportsman, Crate)



DDM10332 SPLINE Gun-Drilled DRIVESHAFT - Shaft Only (shown above)

U1644 1310 U-JOINT (Re-lube 5-153X)

Re-Greasable U-Joint w/Steel "Under Cap" shims (NOT plastic)

U1612HD U-BOLT STRAP KIT Custom Billet Machined Straps - For Strange Oval Pinion & OC Yokes CANNOT BE OVER TIGHTENED (Not inter-changeable with other yokes)

1310 U-joint Complete Driveshaft Assembly (DDM10332) (Exclusively for Northeast Modifieds.)

TORSION BARS

Northeast Dirt Modifieds & Sprint Car Gun-Drilled & Solid

Strange Oval bars have 1" of bearing surface on each end of the bar. All other brands have 2" – that's 2 additional inches of bearing surface that we eliminate (overall) that we use to increase the bar's effective length. Our effective length is 24" (our Sprint car bars have a 23" effective length) while all others are 22". We also increase our bar's 0.D. (Gun-drilled bars only) to compensate for the bar rate vs. increased effective length. This further increases the strength of the bar. The effective length provides a more reactive, durable and stronger bar that retains its original rate over a longer period of time.

Many torsion bars are made from 4340 or a lesser grade steel....NOT OURS! Strange Oval uses aircraft chrome vanadium steel which offers superior yield strength, fatigue properties, and impact strength. We use this proprietary aircraft steel which is high in carbon and Vanadium content. The high carbon content allows for increased hardness/ strength and the Vanadium alloys have a higher Shear Modulus and elongation. Bottom-line.....this enables the bar to be stressed to a much higher point (20%-30%) as compared to the common use of 4340 steel and also contributes greatly to bar memory without any ride-height change.

Superior material allows for unmatched bar hardness (Rc60 surface/Rc50 core), which equals superior strength, consistency and dependability. Strange Oval bars have a hardness of Rc60 surface and Rc50 inner core. The next closest competitor bar is Rc52 surface & Rc46 inner core. So what does that mean? As the bar twists, the harder and stronger the bar material is AND the longer the bar will last without permanently yielding which means Increased bar LIFE.....period!

At Strange Oval....we're raising the bar!!!

PRE-TWISTING Torsion Bar Service for Solid and Gun-Drilled

Strange Oval will now pre-twist torsion bars under controlled conditions. We cycle the bar to achieve a bar "set" and then twist the bar to a controlled range identical to the operational level of the bar on the car. We also release the bar naturally on its return, again to simulate as it's used on the car. Under this controlled process, this will increase the bars yield strength adding to its longevity and eliminating time when scaling the car. A nominal charge of \$20 is added to the cost of the torsion bar for the pre-twisting Service.

TORSION BARS

Northeast Dirt Modifieds & Sprint Car Gun-Drilled & Solid

29" Gun-Drilled Bars for Big Blocks, 358's, Sport and Crate Modifieds - (7/16" center hole)

29" Solid Bars for Big Blocks, 358's, Sport and Crate Modifieds - (Standard diameter rates)

 SEA09002900
 1 1/8" Spline Bar, 900 Solid Bar Rate, 29.00" Lgth.

 SEA09252900
 1 1/8" Spline Bar, 925 Solid Bar Rate, 29.00" Lgth.

 SEA09502900
 1 1/8" Spline Bar, 950 Solid Bar Rate, 29.00" Lgth.

 SEA09752900
 1 1/8" Spline Bar, 975 Solid Bar Rate, 29.00" Lgth.



30" Gun-Drilled Bars for Sprint Cars - (3/4" center hole)

 SEE10403000
 1 1/8" Spline Bar, 1.040" Dia. = .975" Equiv. , 30.00" Lgth.

 SEE10463000
 1 1/8" Spline Bar, 1.046" Dia. = .987" Equiv. , 30.00" Lgth.

 SEE10603000
 1 1/8" Spline Bar, 1.060" Dia. = 1.00" Equiv. , 30.00" Lgth.

 SEE10753000
 1 1/8" Spline Bar, 1.075" Dia. = 1.015" Equiv. , 30.00" Lgth.

 SEE10853000
 1 1/8" Spline Bar, 1.085" Dia. = 1.25" Equiv. , 30.00" Lgth.



NASCAR AXLES

Solid, Crowned Splined NASCAR Style Axles

NASCAR, K&N EAST & WEST, ARCA

	*Monster Cup	NASCAR Xfinity	Camping World Truck	K&N East & West	ARCA
Typical HP	<i>850</i>	750	750	650	700
Typical Axle Lengths	LR=27.75"/RR=32.00" Solid Axles Only	LR = 27.75"/RR = 32.00" Solid Axles Only	LR=27.25"/RR=31.50" Solid Axles Only	LR=26.75"/RR=32.00" LR=27.25"/RR=31.50" Solid Axles Only	LR=26.75"/RR=31.50" LR=27.25"/RR=32.00" Solid Axles Only
OPTIONS					
Standard Diameters	L = 1.220" Solid R = 1.220" Solid	L = 1.220" Solid R = 1.220" Solid	L = 1.220" Solid R = 1.220" Solid	L = 1.220" Solid R = 1.220" Solid	L = 1.220" Solid R = 1.220" Solid
Equal Response Diameters	L = 1.160" Solid R = 1.220" Solid	L=1.160" Solid R=1.220" Solid	L = 1.160" Solid R = 1.220" Solid	L=1.160" Solid R=1.220" Solid	L = 1.160" Solid R = 1.220" Solid
Staggered Diameters	n/a n/a	n/a n/a	L = 1.145" Solid R = 1.220" Solid	L=1.145" Solid R=1.220" Solid	L = 1.145" Solid R = 1.220" Solid

* Strange Oval provides axles for the NASCAR Monster Cup Series with both a straight and crowned outer splines



NASCAR DRIVE PLATES

Monster Cup, Xfinity, Camping World Truck, ARCA, K&N East & West

- Nickel Chromium Molybdenum Steel
 For excellent hardenability, strength and toughness
- FEA (Finite Element Analysis) Analyzed Lightweight scalloped and pocketed design
- Marquenching Heat-Treat Processing Reduces internal stresses and stress cracks
- Electro-Polished Surface Enhances Efficiency
 For reducing friction, wear and operating temperature on the spline flanks

- Broached Splines
 Promote consistent fit and misalignment angle
- Black Oxide Over Electro-Polishing For corrosion resistance
- Drive Plate #ADC100 can accept up to 2 degrees* of camber
- Drive Plate #ADC102 can accept up to 3.5 degrees* of camber
- Drive Plate #ADC104 can accept up to 4.0 degrees of camber



ADC100 Camber to 2° with crowned splined axles

ADC102
Camber to 3.5° with crowned splined axles



ADC104
Camber to 4° with
straight or crowned splined axles

PINION RETAINERS

Monster Cup, Xfinity, Camping World Truck, ARCA, K&N East & West

With a weight savings of up to 1 \% lbs. as compared to the standard "Daytona" cast iron pinion retainers, Strange Oval produces 2 variations of billet steel pinion retainers. While lighter in weight, our pinion retainers maintain a lower axial and radial deflection rate improvement of 20% over the cast iron counterpart. By reducing pinion deflection, the Strange Oval pinion retainers improve gear life (available with or without lubrication feed line).

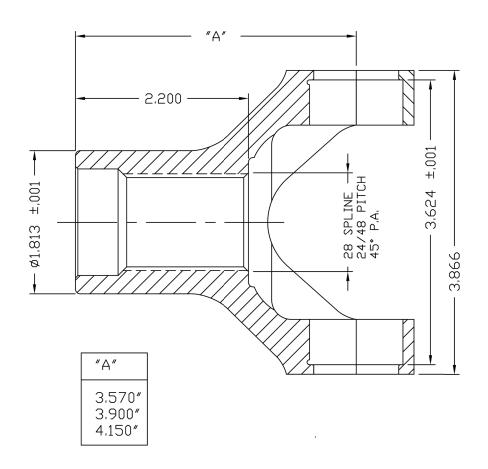


- Heat treated, fully machined, billet chromoly steel construction
- Improved rigidity and lighter weight than the popular Daytona pinion retainer
- NASCAR approved
- Iron shed (ISP105) support available for enhanced gear mesh oiling



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NASCAR YOKES



Available in 3.570", 3.900", and 4.150" overall lengths. (See "A" on print above)



- AISI/SAE 4340 nickel-chromium-molybdenum aircraft quality steel
 - Through hardened for optimized strength & toughness
- ullet Extensive mill profiling & pocketing
 - Lightweight rigid design
- Integral doweled billet u-joint caps
 - Precise located fit
- \bullet U-joint bores machined with caps in place
 - Promotes even clamp load on u-joint
- Broached spline post heat treat
 - Provides precise, accurate and consistent fit
- ARP 12 point cap bolts
- Cap bolt safety wire provisions

PRIVATE LABEL BUILDER AXLES

Modified & Late Model

Car Builder Axles are manufactured to the builders specifications and can be made to any length and diameter. Builder axles are made using the Strange Oval proprietary manufacturing processes and are laser etched with the car builders name and logo and are exclusive to the builder. Car builders can offer a very high quality yet economical axle to provide with your standard "build" cars that is entirely made here in the U.S.A.





Axle Diameter Recommendations

	Forward Bite			Car Type:				
	Most Throttle Turn (Loose on exit)							
	Some Forward E	Bite & Throttle Turn						
		Diame	eter	Length			Diameter	Length
Left Rear	Part #				LR Tuner Option	Part #		
Right Rear	Part #		ш		RR Tuner Option	Part #	и	
Drive Plate	Part #	Non-cambered						
		Cambered						

Notes

