



RACE APPLIED ENGINEERING

2010+ CAMARO

PRODUCT CATALOG

1.0



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## About PROVEN WICKED

### Background

Proven Wicked is driven by the passion of everything related to speed, performance, and engineering from classic American muscle cars to the high tech race cars of tomorrow. Our philosophy is to use that passion and combine it with our vast array of engineering expertise, retail sales experience, and aftermarket involvement to create the highest quality products possible by utilizing the best technology, testing to the highest standards, along with qualifying and appeasing our customers. Our initial offering will embrace the comeback of the muscle car and focus on the 2010 Camaro followed with offerings for C5/C6 Corvettes, 2005+ Mustangs, 2008+ Challengers, while continuing our roots in modernizing classic GM muscle cars like the Camaro and Chevelle.

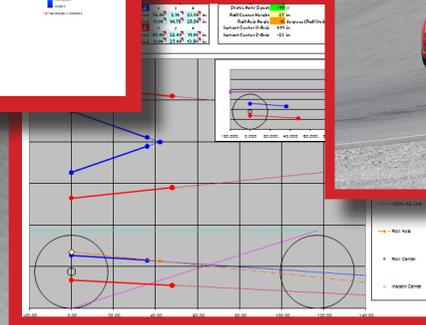
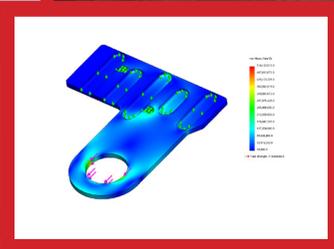
Unlike many of the sprouting "mom and pop" shops, our products are in a league of their own by being developed to the most stringent of engineering and industry standards backed with all necessary testing and analysis. With a seasoned Mechanical Engineer, Shane Wagner, operating as owner and chief engineer, we will ensure to use only the best available manufacturing methods, materials, and hardware to produce product that is stronger, lighter, more streamline, safer, temperature resistant, innovative, and most importantly more functional than the competition. The idea behind our parts is taking professional race car and aerospace inspired technology and standards and applying those engineering advantages to our product for dual duty street/track cars.

To accomplish this we are taking over 10 years of engineering experience with both the Big Three and top notch aftermarket and racing companies and applying what we've learned to guarantee superior products.

### Product Technology

The core of the business is how the product development process is carried through each phase to produce a quality uncompromised end result in the most effective manner. To do this several of the latest technologies are being brought together to create and maintain a cutting edge culture.

**RAPID PROTOTYPING • DURABILITY TESTING • ENGINEERING • CAD / FEA • MANUFACTURING • CONSULTING**



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# Switch-Blade Anti-Roll Bar

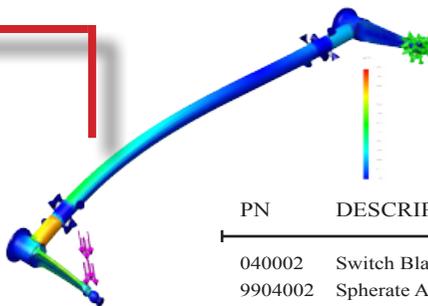
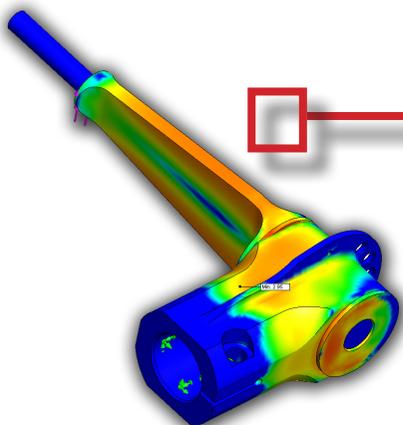
The Switch-Blade Anti-Roll Bar (ARB) is the ultimate tuning bar on the market. We have done extensive computer and track testing to provide an ARB that is unmatched by anyone. The unique blade design allows for 5 rate adjustments without changing the angle of the endlink and without having to break out the tools thanks to the quick release pins that retain the blade in the desired location.

The blade design is seen used in Formula 1 and many American Lemans race cars. The way it works is that the blade is the most stiff in the vertical position and gradually gets softer as it flattens out. This gives the largest range of adjustment for street to track only applications.

Another exclusive design is our Spherate pillow block mounts. They were designed to allow the sway bar to work to its full potential with the precision of a solid mount. We found with our stress analysis that the more rigid you make the mount the less you are using the center of the bar and adding stress to the outside only due to binding under load. The spherical balls not only locate the bar side to side, but also allow the bar to pivot inside the UHMW self lubricating housing when its under twist. These mounts are available separately and can be custom made for your sway bar diameter.

The bar itself was taken to the next step utilizing heatreated Hytuf material which is a harder and tougher material than the typical chromoly used by others and more resistant to fatigue or loss of rate over time. Its gun drilled and stepped down from the root radius of the splined ends. All aluminum parts are machined from billet 7075-T6 and hard anodized.

**NOTE:** Will not work with factory end links, but we do have a specific set of PRO-RIGID end links for this bar.



PN	DESCRIPTION	RETAIL
040002	Switch Blade Rear Sway Bar	1599.99
9904002	Spherate ARB Mounts (Pair)	249.99



ph. 702.530.5121

## PRO-RIGID Sway Bar End Links

We have seen bent front end links already when stiffer sway bars are used. So in order to make sure there is no deflection or loss in the effectiveness and predictability of your factory or beefy sway bars in all maneuver situations we decided to contribute with our own fix... Pro-RIGID End Links. Here are a few things to take note of when considering this upgrade for end links that we have found to be of importance:

\* The factory GM specification for the end links is to have a minimum of 52 degrees of total stud misalignment in the front and 50 degrees in the rear. The front is especially critical since the link is attached to the strut which turns with steering input. Most rod ends with a bolt through them will not even come close to this, for example, around 26-28 degrees on a standard M12 rod end.

\* The clocked relationship of the top ball joint to the bottom is also critical to be at the optimal location at ride height and wheels straight forward to allow enough travel misalignment of the ball joints in all bump, rebound, roll, and steering situations. The factory front end links are orientated 90 degrees apart. When you go to an adjustable end link it is easy to tighten the jam nuts when the rod ends are not perfectly centered and/or orientated correctly in relationship to each other at ride height, thus loosing critical misalignment travel and a lot of times causes binding in extreme turns. This can give resistance to steering until it either loosens or breaks.

\* We noticed the factory front end link, towards the top, is already extremely close to the strut with the small 10mm diameter rod. When using standard off the shelf rod ends, the adjuster sleeve and jam nut is right in this area and will very likely hit the strut flange in extreme conditions.

\* Under load we have seen the dinky factory end links bend and stress analysis has shown this as well. Stepping up to stiffer sway bars only increases this risk and the ineffectiveness of the end link to do its job.



Taking the above factors along with extensive physical and computer analysis into consideration, Proven Wicked has engineered our Pro-RIGID end links from scratch with these features:

\* We tooled up for custom 12mm XM style forged chromoly rod ends with injection molded teflon/kevlar liner, not off the shelf units. They are then outfitted with 12.9 grade high misalignment M10 studs requiring no modification to your car or new sway bars.

\* The misalignment in the joints match what the factory has so no chance of binding is possible.

\* Rod end studs include custom made locking flange u-nuts. These offer superior vibration and heat resistance over even nylon insert nuts. They also include two machined large washers to distribute the load evenly to the mounting surfaces.

\* Both custom rod ends are unique lengths. The front are extra long in order to package them in a way to easily clear the strut flange near the top. The rears are shorter to allow the use of two males with an adjustment collar for on car adjustments.

\* Another unique feature we incorporated was the use of a mil-spec locking keyway washer. This makes sure that the rods ends are always clocked in perfect relation with each other before you can lock down the jam nut. It also incorporates a safety wire tab to use in conjunction with the pre-drilled jam nuts.

\* The adjustment sleeve is machined from 7075-T6 billet aluminum and then Type III hard anodized dark red for corrosion resistance and tapped for left and right hand threads for on car adjustment. Gun drilled and ball end milled for optimized weight reduction.

PN	DESCRIPTION	RETAIL
Factory Replacement:		
030001	PRO-RIGID Sway Bar End Links - Front	199.99
040001	PRO-RIGID Sway Bar End Links - Rear	129.99
For use with Proven Wicked Switch-Blade Anti-Roll Bar		
040003	PRO-RIGID Sway Bar End Links - Rear	129.99
9904001	Replacement Rod Ends w/o Stud (Pair) - Rear*	29.99

\*For those that already have the factory replacement end links and want to convert

## Center Lock Hub Adapters

Finally a single nut hub kit that emulates what the pros use. Utilizes right and left hand 12-point nuts made from 7075-T6 Aluminum and hard anodized in a dark red luster. No more hokey safety wires or clips; we incorporated a plunger system that snaps into the caged crown of the nut to prevent it from loosening. Hub adapters and drive pins are machined from billet 4142HT Steel and nickel plated for the ultimate in strength and durability.

These bolt on to your existing hub over your rotor hat. They will increase the track width by 10mm (thickness of the flange). You will need to order custom wheels to accommodate. We suggest using HRE. Custom applications available. Contact us for more details.



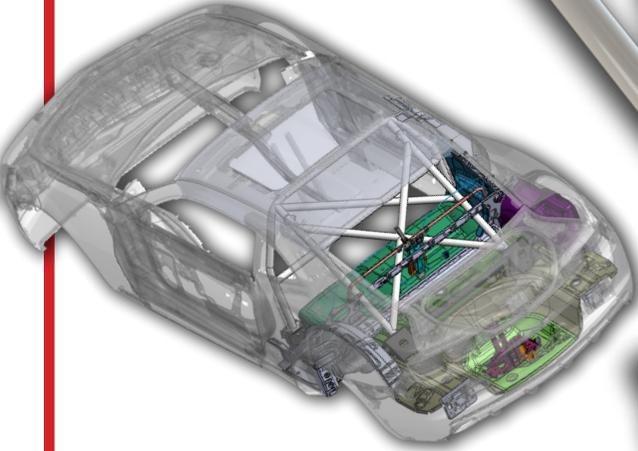
PN	DESCRIPTION	RETAIL
060001	Centerlock Hub Adapter Kit	CALL

Includes: (4) Nickel Plated Hub Adapters  
 (4) Right and Left hand 12 pt. Nuts  
 (4) Nut Retaining Plunger Assemblies  
 (20) Nickel Plated Drive Pins  
 (20) Threaded Hub Inserts

## 4-PT Bolt In Roll Cage

*This cage was completely designed using CAD software for precision fit and function. Our design utilizes two front bolt-in mounts and a rear weld is shock tower brace for the cage mounts. We have designed it so that the rear seat may remain in place if desired by folding it down for the rear down bar section to protrude into the truck.*

*It is constructed from 1 3/4" x 0.120" wall DOM steel tubing and 3/16" steel plate. It is completely tig welded and uses all high strength bolts. Powdercoating optional.*



PN	DESCRIPTION	RETAIL
020002	4-Point Bolt-in Roll Cage	CALL

## Tow Hook Eyes

Our robust front tow hook eyes are specifically CAD designed to have a perfect fit utilizing the front and rear bumpers. Comes complete with reinforcement doubler plate for the front, 12-pt ARP bolts and flexlock nuts, and "TOW" arrow decal. Cut and tumbled from 4140 HT steel to easily meet the demands of all sanctions and backed by FEA stress analysis. Clearance channels are machined in the rear toe eye to interlock with stiffening ribs on top of the factory bumper for added rigidity.

The eye holes are radiused to prevent any stress risers when used. Finished in a fitting red powdercoat.

### Installation:

**Front** - Versatile installation location can either exit between the lower driver side grill or on the top of the passenger side of the bumper through the fascia. If passenger upper mount location is desired, a slot must be cut in the fascia.

**Rear** - Installation location exits on driver side below reverse light. A slot must be cut in the fascia for tow hook eye to protrude from.

Drilling holes in factory steel crush bumper is required.



PN	DESCRIPTION	RETAIL
010001	Front Tow Hook Eye Kit	149.99
010002	Rear Tow Hook Eye Kit	159.99

## Steering Hub Adapter

If you are looking for a solution for replacing your factory steering wheel without permanent modifications, we have everything you need.

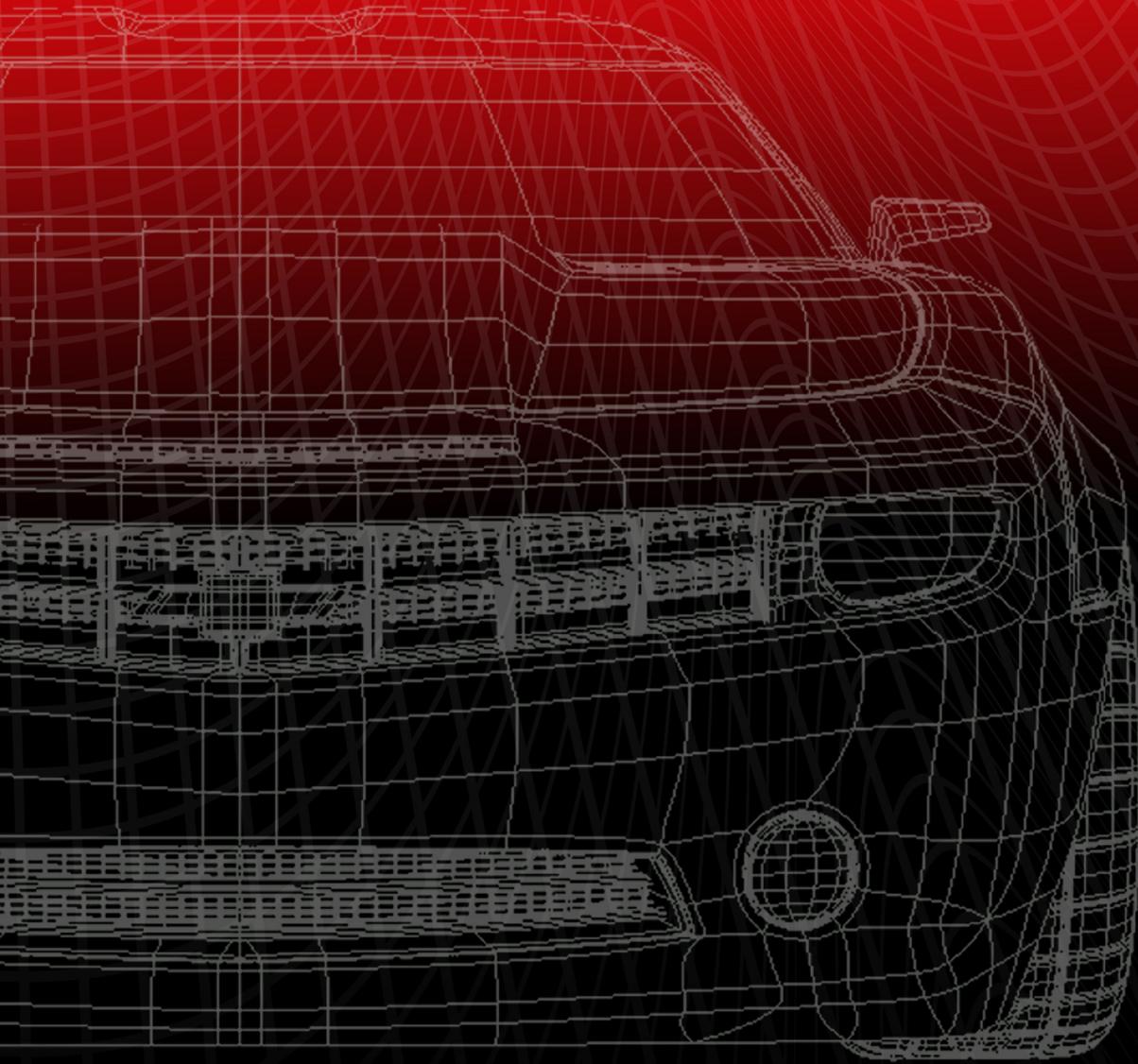
The new Camaro has a very unique steering wheel mounting system so no adapter has been commercially available until now. It accepts most standard 6 bolt steering wheels.

We also carry Sparco steering wheels and quick release hubs for the ultimate race setup



PN	DESCRIPTION	RETAIL
020001	Steering Hub Adapter	129.99
SPA-015R345MSN	Sparco 345 Steering Wheel, Suede	239.00
SPA--015R99GN	Sparco Quicik Release Hub	329.00

race applied engineering



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