

# AVENGER™

The Avenger plate concept was derived from the 45 degree Magnum and 45 degree Invader skate plates of the late 70's early 80's. Over the last few years a lot of emphasis has been placed on strong light weight products for speed and derby. In the 80's we developed the single action Magnum speed plate for this purpose, produced in both aluminum and magnesium, this plate was very light and very strong. Recently we have seen a greater awareness for this style plate; we saw it fitting to redesign it using modern technology and what we came up with was the Avenger. Using a computer aided design program every inch of this plate was designed for a purpose; specific wall thickness, heights, lengths, angles, and material were all chosen for their unique properties. The avenger will be produced in both aluminum and magnesium and both will come standard with the new DA45 truck. The Avenger aluminum will be painted black and the magnesium plate will be painted white. All the superior track hugging agility you have come to expect from the DA45 action in a new lightweight skate.

The Avenger plate features some never before seen design elements. Some of the features that make this plate different from all the rest are expressed below:

**Hollow kingpin:** Specially designed kingpin for this plate only. 30% lighter than a traditional kingpin using hardened prime grade steel. The specially designed kingpin will only fit on the Avenger and will come pre-installed.

**Hollow center:** Hollowed out center section to save weight. Along with the hollow center we raised the height to increase the rigidity length wise. When compared to the Invader plate the weight savings will be greater with the larger sizes but you can expect a significant decrease in weight when compared to the standard Invader plate.

**Aluminum alloy / Magnesium alloy\*:** Unique weight saving techniques have allowed us to cut the aluminum Avenger by 12% when compared to the standard Invader plate. Magnesium alloy being even lighter we were able to save an additional 15%, this is a total of 27% from the standard Invader.

**Shortened front end:** For those who want to get aggressive with their short forward mounts can now do so with plenty of room to spare so the plate will not hang over the front of your boot. The Avenger is optimized for the short forward set up but a standard mount is still possible.

**DA45 trucks:** New DA45 truck. Same basic design but optimized for the fixed kingpin. Truck is slightly slimmer than the original version.

## Specifications:

\*\*Weights complete (g):

Size	Avenger Mg	Avenger Al	Invader
0	378	438	483
1	382	445	495
2	386	451	507
3	389	458	519
4	393	464	531
5	396	471	544
6	399	478	557

Wheel base (center of axle to center of axle):

Size	Axle to Axle (mm)
0	130
1	140
2	150
3	160
4	170
5	180
6	190

Parts:

<u>Product</u>	<u>Weight (g)</u>
DA45 Truck (Truck and axle only 8mm)	124
Hollow Kingpin	18
Harry Stud Kingpin	26

Short Forward size chart (based on standard shoe size):

<u>Boot size</u>	<u>Plate size</u>
4	0
5, 6	1
7	2
8, 9	3
10, 11	4
12, 13	5
14	6

## Pivot adjustment:

Ball pivots screws are not factory adjusted. Always adjust the ball pivot screws so that the ball pivot just touches the bottom of the hardened pivot cup. The Ball pivot tolerances should be checked regularly once installed. If the ball pivot does not touch the pivot cup you will be able to press down on the truck assembly and feel or see a slight movement of the ball pivot into and out of the cup. Adjust the ball pivot screw until the pressure applied to the truck no longer results in this movement. When satisfied that ball pivot is resting with slight tension in the pivot cup, secure the nut firmly against the truck housing. It is critical that this lock nut be tight at all times to ensure proper skating action. Be sure to inspect your pivot pin action often and make adjustments as needed.

## Cushions:

The DA45 truck is very unique when compared to other trucks on the market. Due to its extreme angle it must use a special set of cushions, one "standard" and one "conical" cushion. We developed a special urethane with 4 different hardness levels to fine tune the action of your skate.

Blue – 72A

Yellow – 79A

Purple – 85A

Red – 93A

It is important to constantly inspect your cushions to ensure they are properly adjusted. DO NOT over adjust or under adjust your trucks, this can compromise the structural integrity of the components that make up the skate.

\*Percentages are expressed as an average and may not be exact.

\*\*Weights are shown as one (1) plate with complete DA45 trucks, toe stops, kingpins, and parts.  
All numbers are approximates and may vary slightly due to manufacturing limitations.