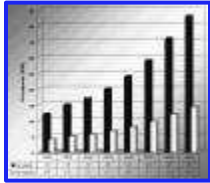


# Amphicar Horsepower Rating

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This chart is based on calculations extrapolated from the original factory-published 43 hp @ 4,500 rpm horsepower rating (SAE, at the crankshaft) for the Triumph Herald 1147 cc (70 cubic inch) engine



installed in all Amphicars during their manufacture. The figures are based on an average estimated coefficient of 0.85 for deriving horsepower per 500 rpm reduction in engine speed and a 3:1 reduction ratio of horsepower at the props to

arrive at the water horsepower. The coefficient of reduction used is a conservative average based on close examinations of several available dynamometer-measured power curves of 4 cylinder engines similar to the Triumph Herald unit. The power curve on the Triumph engine is fairly "flat", so these figures are probably not very far off the actual "theoretical" horsepower mark at any point. They do not, however, account for power loss through the drive train, which in regular land transmissions is about 20-25% on average. Hence, the figures below would probably need to be reduced an additional 20-25% to arrive at the ACTUAL horsepower figures at the wheels and props.

So what's the whole point of this exercise? It's certainly not for bragging rights, since we've all suspected that the power plant that pushes our Amphicars is probably the same unit that later found its way into the 'Tickle Me Elmo' doll. The point is that these figures enable Joe or Josephine Amphicar Owner who find themselves near a body of water that limits watercraft to under 10 hp to inform any Park Ranger that they may encounter, with real scientific corroboration and thereby a real sense of conviction, that "This Amphicar is rated in the water at a certain hp @ 3,500 rpm...Now where do I launch?" Fact is, even at a full shrieking 4,500 rpm the actual power at the props after accounting for power loss through the transmission is likely to be only between 10 and 11 horsepower anyhow...And who has ever cruised their Amphi in the drink at

such a sustained redlining wail? But these last points are based solely on conjecture, so for those who can use it here is the **Official Water Horsepower Statement** (*can we viewed and printed in the member-only documents*) from the Club concerning water horsepower based on verifiable numbers and solid physics to print out and tuck into the glove compartment for any over- officious Ranger Bob types. One day the Club may offer a suitable engine compartment sticker or rivet plate stating the same if enough Members express interest in having one.

By the way, David Chapman mentions that his own high-end engine speed achievable in the water was just 3,450 rpm for various reasons, which jibes within just 1½ percent of the 3,500 rpm used to reckon the official horsepower-in-the-water figure in the Club's printable **Official Water Horsepower Statement** (*can we viewed and printed in the member-only documents*). And with that, above is a chart to click on showing the whole "theoretical" range of land and water horsepower at various engine speeds.