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| **Summary Report**  | Project: **canoe**Vessel: **canoe**  |  |
| 13-May-2013  |
|  |
| **Prepared by**  | **For**  |
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| **Vessel**  |

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|  Vessel type | **Displacement** | Length  [On WL] | **2.42**m |
|  Service | **Passenger/Pleasure** | Weight | **158**kg |
|  Water type | **Fresh** | Speed/power by | **Average hull** |
|  Propellers | **1** | Avg. hull mult | **0.900** |
|  Max. diameter | **150**mm |  |  |
|  Immersion | **250**mm |  |  |
|  Propeller style | **Open** |  |  |

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| **Engine**  |

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|  Model |  | Design power  [8  kW] | **100**% |
|  Manufacturer |  | Design RPM  [100] | **100**% |
|  Fuel type | **Diesel** | Parasitic loss | **0**kW |
|  Rated power | **8**kW | Gear efficiency | **0.970** |
|  Rated RPM | **100** |  |  |
|  Fuel rate | **0.0**l/hr |  |  |

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| **Sizing**  |

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|  Model |  | Calc. sizing for | **Top** |
|  Manufacturer |  | Design speed | **9.8**kts |
|  Series | **BSeries** | Blade area ratio  [Size] | **1.002** |
|  Blades | **4** | Diameter  [Size] | **150**mm |
|  Cup type | **None** | Pitch  [Size] | **137**mm |
|  Cup drop | **0**mm | Gear ratio  [Size] | **0.023** |
|  Propeller material | **Mn Bronze** | Calc'd max. speed | **9.8**kts |

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| **Analysis**  |

 |
| Speed[kts]  | EngineRPM  | Power[kW]  | Thrust[kN]  | Cavitation  | Strength  |
| **9.8**  (Top)**1.0**  (Cruise) | **10010** | **80** | **0.740.01** | **CheckOK** | **OKOK** |

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| **Utility**  |

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|  Shaft material | **No analysis** | Time at top  [9.8  kts] | **0**% |
|  Shear strength | **0.0**kPa | Time at cruise  [1.0  kts] | **0**% |
|  Safety factor | **5** | Hours/year | **0** |
|  Req'd min diam | **0**mm | Total annual fuel | **0**liter |
|   |  |  |  |
|  Cylinders | **0** |  |  |
|  Phase check |  |  |  |

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| **Notes**  |

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| This evaluation has been carefully prepared to meet professional standards. Since it is not possible to determine the accuracy of the provided data, the preparer of this report assumes no liability nor makes any performance guarantees of any kind. |

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| Report ID 20130513-1139 | HydroComp PropExpert 5.12.0067.31.666 |

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| **Technical Appendix**  | Project: **canoe**Vessel: **canoe**  |  |
| 13-May-2013  |
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| **Prepared by**  | **For**  |
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| **Vessel details   [Estimated]**  |

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|  Wake fraction | **0.180** |  |  |
|  Thrust deduction | **0.150** |  |  |
|  Rel-rot efficiency | **1.020** |  |  |
|  Shaft efficiency | **0.970** |  |  |

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| **Engine details   [User defined]**  |

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|    | RPM  | Power  [kW]  |
| 12345 | **101100908070** | **0101098** |

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|    | RPM  | Power  [kW]  |
| 678910 | **60402000** | **74100** |

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| **Propeller details**  |

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|  T factor | **1.000** |  |  |
|  P factor | **1.030** |  |  |
|  MWR | **0.000** |  |  |
|  BTF | **0.000** |  |  |

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| **Analysis details   [Propeller]**  |

 |
| Speed[kts]  | Cavitating[% of prop]  | Pressure[% of criteria]  | BAR[% of criteria]  | Tip speed[% of criteria]  | Propellerefficiency  |
| **9.8**  (Top)**1.0**  (Cruise) | **63** | **931** | **10021** | **636** | **0.3970.407** |

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| **Analysis details   [System]**  |

 |
| Speed[kts]  | PropellerRPM  | Systemefficiency  | Eng torque[kN-m]  | Fuel rate[l/hr]  | Slip  |
| **9.8**  (Top)**1.0**  (Cruise) | **4300426** | **0.4070.417** | **0.760.01** | **0.00.0** | **0.4860.471** |

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