

ABSTRACT

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.The SJP 01 tugboat continued to experience damage which resulted in the engine having to be changed because the engine continued to experience damage. Initially the ship used a 300x2 HP Nissan diesel engine with a B4-85 propeller type to a 600x2 HP engine with a B4-70 propeller type. Initially the speed of this tugboat was 10.5 knots using the B4-85 type propeller, each propeller providing 5.5 knots of power, but after replacing the 600x2 HP type engine using the B4-70 type propeller, it only got a speed of 12 knots after this, it only increased by 20 percent of each propeller provides 6knots of power. Logically, changing the engine from a 300 to a 600 hp engine will get a speed of 2 times or from 10.5 to 20 knots or at least 70%-80%. Therefore, the author recommends a propeller that provides maximum speed, namely the B4-40 type which provides a power of 17 knots, of which each propeller provides a power of around 8.5 knots.