

## Speedbird Oceanis Engine Management



### Start Up Sequence

THROTTLE IDLE (in Neutral)

- ON – Switch on top right depress switch
- GLOW - Depress maximum 15 seconds when cold
- START - Depress Start Switch – release once engine starts

Check Coolant Water Flow

### Shut Down Sequence

THROTTLE IDLE (in Neutral)

STOP - Depress switch

CONFIRM ENGINE STOPS

OFF - Depress Off Switch

For extended periods at low power see shut down sequence later on in notes.

### En-route / Underway

Under sail with Engine off

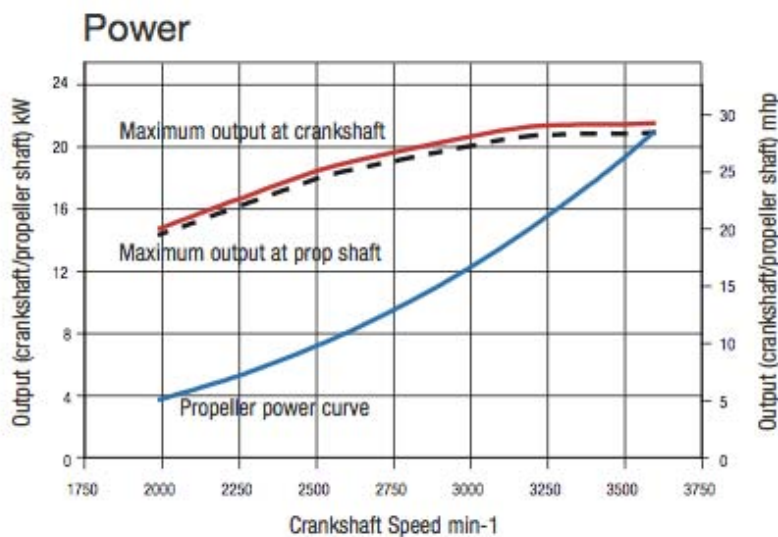
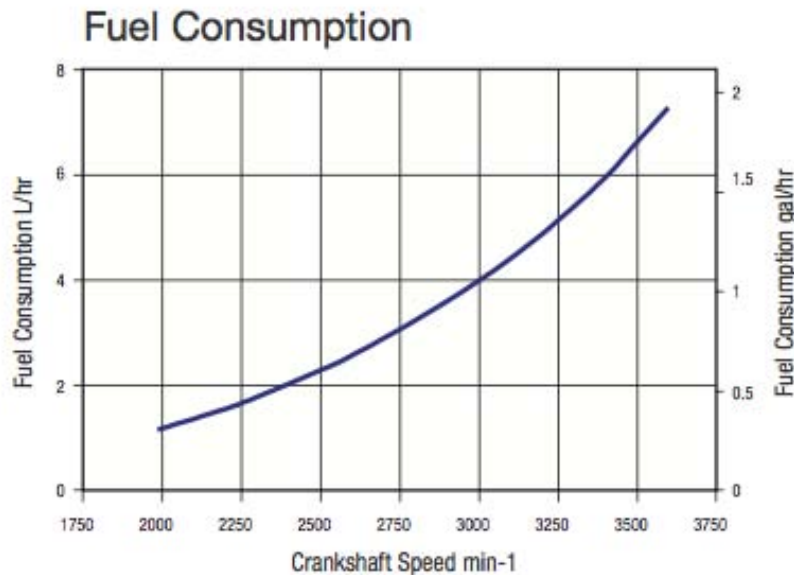
DO NOT LEAVE IN REVERSE GEAR – LEAVE IN NEUTRAL

If Gear remains stuck in reverse either because it was left in reverse or for some other reason, do not try and force throttle setting into neutral or forward. START ENGINE IN REVERSE and once started put throttle lever into Neutral / Forward

## GENERAL

If on an extended cruise, change the RPM every 1 or 2 hours.

As with any diesel engine use the full throttle range regularly. Fixed RPM operation causes the rings to embed themselves into a fixed groove and as soon as the RPM is increased the piston rods expand and then try and operate outside the “embedded groove” and results in added wear and an ultimate performance degradation.



The YM series engines are designed to be operated at maximum throttle (3600 rpm) for less than 5% of total engine time (30 minutes out of every 10 hours) and cruising speed (3400 rpm or less) for less than 90% of total engine time (9 hours out of every 10 hours).

When operating the engine at low speed for long periods of time, race the engine once every 2 hours. Race the engine with the clutch in NEUTRAL, accelerate from the low-speed position to the high-speed position and repeat this process about five times. This cleans out carbon from the cylinders and the fuel injection valves.

*NOTICE: Neglecting to race the engine will result in poor exhaust color and reduce engine performance.*

Periodically operate the engine near maximum speed while underway. This will generate higher exhaust temperatures, which will help clean out hard carbon deposits, maintain engine performance and prolong the life of the engine.

## SHUTTING DOWN THE ENGINE

*NOTICE: NEVER stop engine abruptly during operation. Yanmar recommends that when shutting the engine down, allow the engine to run, without load, for 5 minutes. This will allow the engine components that operate at high temperatures, such as the exhaust system, to cool slightly before the engine is shut down.*

1. Reduce engine speed to low idle and put remote control handle in NEUTRAL.
2. Accelerate from low speed to high speed and repeat five times. This will clean out the carbon from the cylinders and the fuel injection nozzles.
3. Allow engine to run at low speed (approximately 1000 rpm) without load for 5 minutes. *NOTICE: Continue to hold the STOP button in until the engine is completely stopped. If the button is released before the engine has completely stopped, it may restart. If the engine does not shut down, see Emergency Shutdown on page 41 .*

## New Engine Break-In

As with all reciprocating engines, the way the engine is operated during its first 50 hours of operation plays a significant role in determining how long it will last and how well the engine will perform over its lifetime.

A new Yanmar diesel engine must be operated at suitable speeds and power settings during the break-in period to allow the sliding parts, such as piston rings, to break in properly and to stabilize engine combustion.

During the break-in period, the engine coolant temperature gauge should be monitored. The temperature should be between 71° and 87°C (160° and 190°F).

During the first 10 hours of operation, the engine should be operated at maximum rpm minus 400 to 500 rpm (approximately 60 to 70% of load) most of the time. This will ensure the sliding parts break in properly.

*NOTICE: During this period, avoid operating at maximum engine speed and load to avoid damaging or scoring sliding parts.*

Do not operate the engine at low idle or at low speed and light load for more than 30 minutes at a time. Since unburned fuel and engine oil will adhere to the piston rings when operating at low speeds for long periods, this will interfere with proper movement of the rings and the diesel fuel consumption may increase. Low idle speed does not allow break-in of sliding parts.

If operating the engine at low speed and light load, you must race the engine to clean the carbon from the cylinders and the fuel injection valve.

Perform this procedure in open waters:

- With the clutch in NEUTRAL, accelerate from the low-speed position to the high-speed position briefly.
- Repeat this process five times.

Once past the initial 10 hours until 50 hours, the engine should be used over its full operating range, with special emphasis on running at relatively high power settings. This is not the time for an extended cruise at idle or low speed. The boat should be operated at maximum speed minus 400 rpm most of the time (approximately 70% load), with a 10 minute run at maximum minus 200 rpm (approximately 80% load) every 30 minutes and a 4 to 5 minute period of operation at WOT (wide open throttle) once every 30 minutes. During this period be sure not to operate the engine at low speed and light load for more than 30 minutes. If operating engine at low speed and light load is necessary, race the engine after low idle operation.

To complete engine break-in, perform *After Initial 50 Hours maintenance procedures* on page 56.