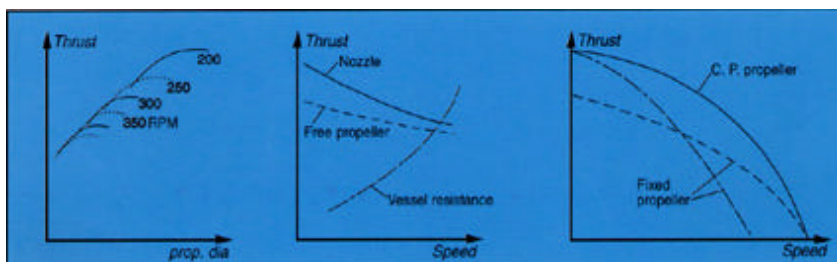


ADVANTAGES FOR A CPP SYSTEM



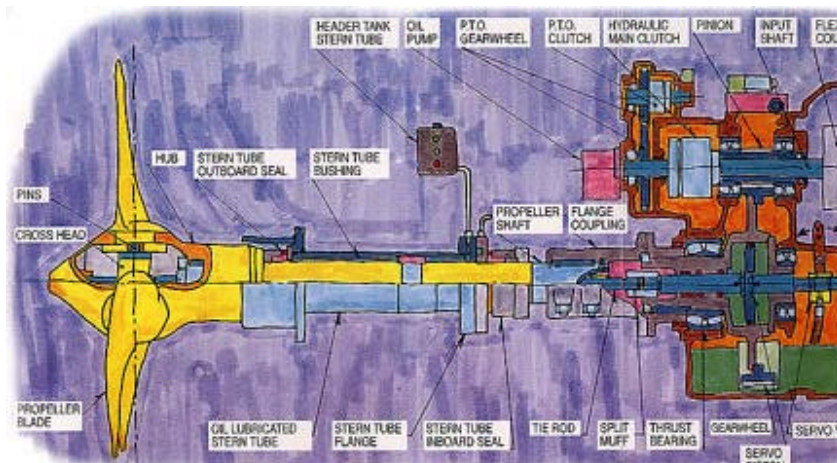
A fixed propeller designed for maximum speed can not give power at low speed. Conversely, a fixed propeller designed for power can not give maximum speed. A controllable pitch propeller, however, gives both maximum speed and maximum power.

It is always possible to achieve maximum engine efficiency regardless of the vessels employment. Maximum power can be taken from the engine without overloading by changing the pitch.

Even if the engine drives a winch or a shaft generator, the engine RPM can be kept constant ; the vessel speed is controlled by changing the pitch of the propeller.

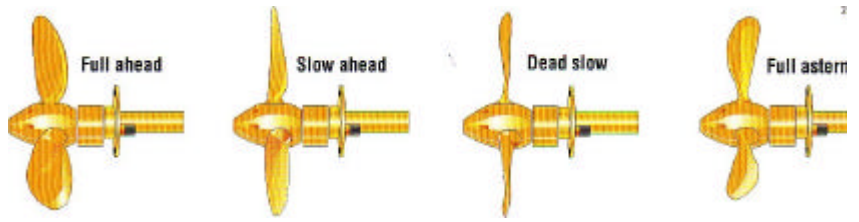
At lower than maximum vessel speed, fuel consumption can be considerably reduced by lowering the engine RPM while increasing the propeller pitch to maintain the required vessel speed. In this way overall efficiency of the propulsion system is optimised.

WORKING PRINCIPLES



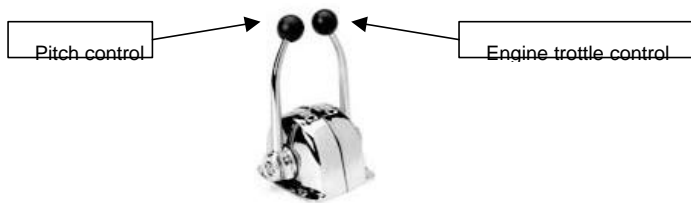
Actuation of the pitch is done through a mechanical connection from the blades to a hydraulic actuation system inside the gearbox (push-pull rod through the propeller shaft).

The propeller shaft do allways rotate in the clockwise direction (looking on the propell from the astern side). To change the running direction og the wessel, you simply adjust the pitch og the propeller. This system makes it also possibl to have excelent manouvering properties also at v low wessel speed, since the pitch is infinitely variable from full ahead to full astern.

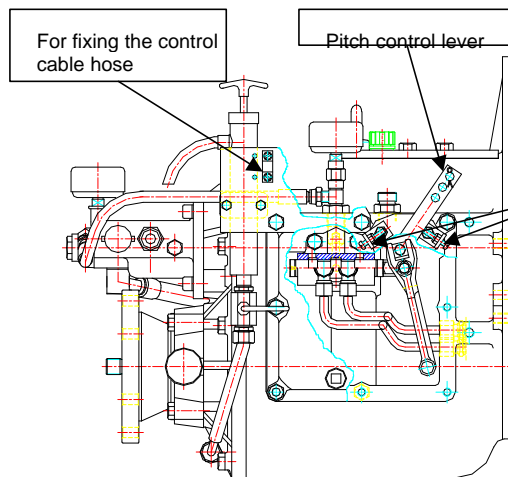


HOW TO INSTALL AND ADJUST THE SYSTEM

You will need 2 separate control cables; one for controlling the trottle on the engine, and one to control the pitch of the propeller.



The control cabel for pitch control shall be connected to the pitch control lever on the starboard side of the gearbox.



Adjust the cable so that the pitch control lever o gearbox are on top whe the pitch control lever o bridge are in the same position.

Adjust the stop-bolts according to max forwa /max backward level or the pich control lever or the gearbox.

The following oil pressures should be adjusted:

The clutch pressure: 25 bar
The servo pressure: HVP 45: 50-60 bar
HVP 65 and 83: 30-40 bar

Please note: Higher servo pressure gives higher temperatures in the gearbox.

HOW TO OPERATE

Starting the engine

Start the engine with the pitch control lever on bridge in the top (middle) position.

Connecting the clutch

Check that pitch control lever on bridge are in the top (middle) position. Connect the clutch by pushing the "clutch" switch at the instrument panel. When the clutch is connected, there will be indication light in the switch. Now the propeller are rotating.

Please note: Always idle speed when connecting and disconnecting the clutch.

Start manoeuvring

Slightly move the the pitch control lever on bridge forward or backward until required vessel speed are achieved. If the engine are overloaded (engine speed reduces), increase the throttle.

Economical running

To have the best fuel economy, make sure that the propeller pitch follow the torque curve of the engine. Example: Set the engine throttle to 2000 rpm. Increase the pitch until the engine start to get loaded (engine speed reduces slightly). Keep an eye on the colour of the exhaust and the exhaust temperature to avoid overload of the engine.

Disconnecting the clutch

Check that pitch control lever on bridge are in the top (middle) position. This is when the vessel not moving either forward or backward. Disconnect the clutch by pushing the "clutch" switch at the instrument panel. When the clutch is disconnected, the indication light in the switch will go out. Now the propeller stops rotating.

Please note: Always idle speed when connecting and disconnecting the clutch.