



## **Explanation of Emergency Steering Options in Case of Steering Failure**

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## **EXPLANATION OF EMERGENCY STEERING OPTIONS IN CASE OF STEERING FAILURE**

The Electronic Command Steering (ECS) steering does have a means of fallback steering built in which can be used if a loss of steering has occurred. In simple terms, this involves applying voltage directly to the motor and manually operating the steering solenoid valve.

The operation is as follows:

1. Ensure the boat has been put into neutral and that engines are at idle.
2. Locate ECS power pack, usually positioned close to steering cylinder.
3. On the black control box of the power pack is a push button (circled in image 1), PRESS this and the electric motor will start up and run continuously, also the normal GREEN LED will change to RED.



4. With a small screwdriver or similar device, push into the end of the steering solenoid (which is also located on the power pack see image 2) to manually shift the valve either one way or the other. Opposite ends of the steering solenoid control the rudder in each direction. Note that with the power pack in this condition, the helm unit itself is not able to function.



5. It is advised that when the rudder is generally where it is required, the button is pressed again to stop the motor as heat build-up in the oil could occur in this condition if allowed to run for long periods, but the motor can be re-engaged at any time.

It is recommended that owners acquaint themselves with the function of this procedure, periodic operation every few months or so is advised to ensure it operates when required. Operation is straightforward with the simple push button to flip between the two states.

In addition to the main steering, most boats will be fitted with an autopilot. This can be considered as an alternative means of steering and apart from sharing a steering cylinder, is functionally independent of the ECS system. Therefore, the autopilot would normally still be able to be used.

Many boats will also be fitted with a manual bypass valve piped in across the steering cylinder (boat builder discretion). This valve is usually in the form of a lever valve with a 90 degree handle operation. Opening this valve will allow the steering cylinder and rudders to be moved by hand to a more desirable position. Sometimes this is accompanied by a mechanical tiller arm to provide greater leverage and/or convenience. Using this may enable steering at low speeds but steering loads will depend on boat speed. Alternatively it may be used to get rudders to dead ahead and locked off, where steering using the engine controls may be employed.