DIGITALLY ENCODED SECURITY SYSTEM

GENERAL

The Digitally Encoded Security System (DESS) features an anti-start protection against unauthorized use of the watercraft.

The following components are specially designed for this system : Multi-Purpose Electronic Module (MPEM), safety lanyard cap and safety lanyard switch.

The safety lanyard cap has a magnet and a ROM chip. The chip has a unique digital code.

The DESS circuitry in the watercraft MPEM is activated at the factory. Therefore, a safety lanyard must be programmed to start the engine.

NOTE : Actually, it is the memory of the MPEM which is programmed to recognize the digital code of the safety lanyard cap. This is achieved with the MPEM programmer (P / N 295 000 127). Refer to its guide to program a safety lanyard.

The system is quite flexible. Up to eight safety lanyards may be programmed in the memory of the watercraft MPEM. They can also be erased.

NOTE : If desired, a safety lanyard can be used on any watercraft equipped with the DESS.

The memory of the MPEM is permanent. If the battery is disconnected, no information is lost.

The memory of the MPEM has also two self-diagnostic modes.

When ordering a new MPEM from the regular parts channel, the DESS circuitry will not be activated. If desired, it can be activated with the MPEM programmer.

NOTE : If the DESS circuitry of the watercraft MPEM is not activated, engine can be started with any safety lanyard. Once the DESS circuitry is activated, it is not possible to deactivate it. A safety lanyard must be programmed to start the engine.

Basic Self-Diagnostic Mode

It is self-activated when the safety lanyard is being installed on the watercraft switch. It gives immediate monitoring. Some codes may occur only when pressing the start / stop button. Refer to the following chart.

SIGNAL	CAUSE	REMEDY
2 short beeps (while installing safety lanyard on watercraft switch)	• Everything is correct with the safety lanyard (good contact and right lanyard cap).	• Engine can be started normally.
1 long beep (while installing safety lanyard on watercraft switch or when pressing start/stop button in some cases)	• Bad connection between saafety lanyard cap and switch.	• Push and turn the safety lanyard on the switch until 2 short beeps are heard to indicate the system is ready to allow engine starting.
	• Wrong safety lanyard.	• Use the safety lanyard that has been programmed for the watercraft.If it does not work, check safety lanyard condition with the programmer. Replace safety lanyard if reported defective. If it still does not work, enable more detail about the failure.
	• Salt water in safety lanyard cap.	• Clean safety lanyard cap to remove salt water.
	• Improper operation of MPEM or defective wiring harness.	• Enable advanced diagnostic mode to obtain more detail about the failure.
4 long beeps (while installing safety lanyard on watercraft switch)	• Watercraft MPEM can not communicate with the DC-CDI module (XP model only)	• Check fuse on relay located in the conventional electrical box. • Check connector between MPEM and DC-CDI modules.
8 short beeps	• Defective MPEM (memory)	• Replace MPEM
Continuous beep	• Engine overheating.	• Refer to TROUBLESHOOTING 03-00.

Advanced Self-Diagnostic Mode

It needs to be enabled manually. Proceed as follows :

1. Remove safety lanyard from watercraft switch.
2. Press 5 times on the watercraft start / stop button.

NOTE : 1 short beep and 1 long beep must be heard. They validate beginning of diagnostic mode.

3. Install safety lanyard on watercraft switch.
4. Press the watercraft start / stop button again.

NOTE : If everything is correct, engine will start. Otherwise, refer to the following chart.

SIGNAL	CAUSE	REMEDY
No beep	• Engine actually starts.	• Everything is correct.
1 long and 1 short beeps	• No safety lanyard has ever been programmed in watercraft MPEM.	• Use programmer and program a safety lanyard. This code can occur only when you receive a new MPEM from the factory and no key has ever been programmed.
2 short beeps	• MPEM can not read the digital code of the safety lanyardcap or the magnet is defective. • Mixed wires at safety lanyard switch connectors or bad connections.	• Check safety lanyard cap condition with the MPEM programmer. Replace safety lanyard if reported defective. • Check switch wiring harness.
2 long beeps	• Wrong safety lanyard or bad connection of the DESS wires.	• Use the safety lanyard that has been programmed for the atercraft. If the problem is not resolved, check safety lanyard cap condition with the MPEM programmer. Replace safety lanyard if reported defective.
3 short beeps	• Wiring harness of DESS switch is grounded or there is a short circuit.	• Check wiring harness and safety lanyard switch.

If you need to listen again the coded beeps, remove safety lanyard and repeat the procedure to activate the diagnostic mode.

If there is more than one problem, the MPEM will send only one error code. When the problem is solved, the MPEM will send a second code and so on until all problems are resolved.