mercruiser
STERN DRIVES & INBOARDS

service bulletin

TO: SERVICE MANAGER ☐ TECHNICIANS ☐
PARTS MANAGER ☐

No. 97-17

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Engine ‘Dieseling’ or ‘Running-On’

Models

MCM 4 Cylinder, V6 and V8 with Carburetors.

Situation

Under certain conditions, carbureted engines may ‘run-on’ when the ignition key is turned off. Normally, it will take a combination of several of the following conditions to make the engine ‘run on’. These conditions include but are not limited to:

1. Type and formulation of gasoline available in the area.
2. Type of boat and its engine compartment ventilation system.
3. Outside air, inside engine compartment air and engine coolant temperatures.
4. How quickly the engine is shut off after running at cruising or higher RPMs.
5. How the boat and engine are operated.
6. Engine idle rpm set too high.
7. Wrong heat range spark plugs or spark plugs with deposits on them.
8. Deposits in combustion chamber.

Carbureted engines, unlike EFI, do not shut off the fuel supply to the engine when the ignition key is turned off. As the engine is coasting to a stop, air is still flowing through the carburetor into the manifold. This air flow can still draw fuel from the carburetor, through the intake manifold and into the combustion chamber. A hot spot in the combustion chamber will cause this fuel/air mixture to burn. The engine now ‘diesels’ or ‘runs on’ although the ignition system is not firing. EFI engines do not have this problem because the injectors do not inject fuel once the ignition key is turned off.

▲Suggestion to Minimize ‘Run On’

Items number 1 ,2 and 3 can correct or reduce most of these ‘run on’ problems. Letting any engine idle a minute or two before shutting it off is desirable. This helps the engine to normalize at idle rpm before being shut down.

1. Be sure engine idle mixture, idle rpm and ignition timing are correct. On 4 cylinder and V6 or V8 engines with Thunderbolt IV ignition, setting idle rpm as low as possible can help stop ‘run on’.
2. Adjust throttle cable barrel so that the carburetor’s throttle lever returns against the idle speed stop screw every time the remote control throttle lever is returned to neutral, idle.
3. Idle engine 1 to 1-1/2 minutes before turning key off after running at cruise or higher engine rpm.
4. Try a different brand of regular fuel or try some premium fuel.
5. Increase idle mixture by 1/8 turn ‘richer’.
6. Go to next colder heat range spark plugs.
7. V6 and V8 only: Install a 140 °F(60 °C) thermostat.

▲Available Colder Spark Plugs

Original Spark Plugs in the Engine:	Short Reach Spark Plug	Long Reach Spark Plug
	AC-MR43T	AC-MR43LTS
Replacement Colder Spark Plugs:	Short Reach Spark Plug	Long Reach Spark Plug
	AC-MR41T	AC-None
	NGK-None	NGK-TR6
	Champion-RV12YC	Champion-RS9YC
	OR	
	Champion-RV91MC	

NOTE: *Quicksilver does not stock these colder spark plugs. They will have to be ordered from a spark plug distributor.*