

6. To return to “no troll” operation
  - a. Move trolling valve control lever to detented “no troll” position.
  - b. Resume “normal” no troll operations.

**NOTE:** Moving the trolling valve control lever to the “no troll” position while engine speed is at the high limit for trolling operations will cause an abrupt change in propeller (and vessel) speed. Reducing engine speed to idle before selecting “no troll” will result in a smoother transition to “no troll” operation.

### **WARNING**

Assure that the trolling valve cable control system is adjusted properly. The trolling valve control lever on the transmission must be in the detented no troll position when the control at the operator’s station is moved into the “no troll” position. Failure to do so could result in inadequate response to power and/or direction changes, endangering personnel and equipment.

## 3.7 Windmilling/Backdriving and Towing

“Backdriving” occurs when an engine is shut down and the propeller shaft is being “driven” by the flow of water across the propeller. This is sometimes referred to as “windmilling.” The propeller shaft is rotating components in the marine transmission. Locking the propeller shaft in place will prevent backdriving.

Situations where backdriving may occur:

- Vessel being towed for any reason.
- Multiple-transmission vessel with one or more engines shut down while under way.
- Sailboat under way with auxiliary engine shut down.
- Vessel tied up or docked in heavy current.

Most current Twin Disc production marine transmissions (with the exceptions that follow) can be backdriven in the situations listed. Vessel speed under all towing or backdriving conditions must not exceed the normal propulsion speed of the vessel.

### **⚠ WARNING**

**Do not exceed normal vessel speed during backdriving. Oil sump temperature must not exceed 100°C. Damage will occur to internal components. If oil temperature increases to 100°C, reduce temperature either by reducing backdriving speed, or supplying additional cooling with water flow or by idling the engine.**

The following backdriving (towing) options are applicable to all transmissions except MG5170 series, MG5200 series, MG5300 series, MG5600 series, and all MG6000 series (without the optional trailing pump). For these transmissions, instructions in only B and C below are applicable.

You need to employ only one of the following methods:

- A. Start the engine and operate the marine transmission in neutral at normal fluid pressures for five minutes, doing this once every eight hours. Maintain the backdriven marine transmissions oil level at the full mark on the dipstick.
- B. Lock the propeller shaft to prevent rotation.
- C. Add a trailing pump to the lube circuit. See the hydraulic system prints for more details on auxiliary pump specifications for the applicable transmission or contact your Twin Disc distributor.
- D. In the case of an inoperable engine, or pump failure, where pressure lubrication of the transmission is not possible; plug the dipstick tube and completely fill the transmission with oil. Prior to backdriving or towing, drain the oil down to “full” oil level. Repeat this process every eight hours.