

FILLING AND PURGING THE SYSTEM

DEALER NOTICE

Reduce purging time to approximately 10 min per system with optional, portable Power Purge Jr. For more information reference our Website at www.seastarsteering.com or contact Teleflex at 604-270-6899.

Read First

This procedure requires two people. One person may not be able to remove all the air from the system which will result in spongy, unresponsive steering.

During the entire filling procedure, oil **must** be visible in the filler tube. **Do not** allow the oil level to disappear into the helm pump, as this may introduce air into the system and increase your filling time.

⚠ WARNING

DO NOT use SeaStar power purge with the BayStar system unless pressure gauge kit # HA5443 has been installed in the power purge. Failure to do so may result in damage to the system.

Hydraulic Fluid Requirements

Recommended oils for your BayStar Steering System are; SeaStar/BayStar Marine Steering Fluid, part# HA5430 (1 quart), HA5440 (1 Gallon.)

⚠ WARNING

NEVER use brake fluid. Any non-approved fluid may cause irreparable damage, loss of steering, and cancellation of warranty.

Texaco H015 Chevron Aviation Fluid A
Shell Aero 4 Mobil Aero HFA
Esso Univis N15 Fluids meeting Mil H5606 specifications.

Automatic transmission fluid Dexron II may be used in an emergency.

In case of emergency any non-toxic, non-flammable fluid may provide temporary steering. Steering system should be fully serviced after such usage. Please contact manufacturer.

NOTICE

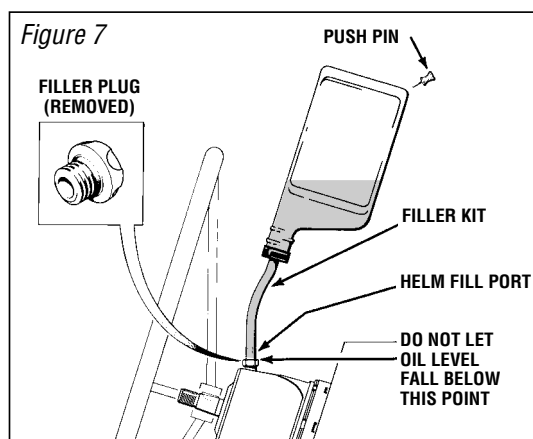
Oil can be re-used if filtered through a fine mesh screen such as used for gasoline. If unable to filter oil, an additional bottle of oil is required.

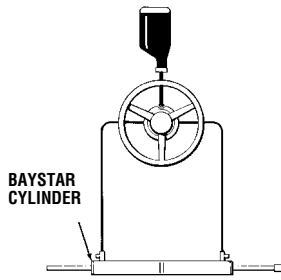
NOTICE

"Bleeder" refers to cylinder fitted with bleeder tee fittings. Open bleeder by turning bleed nipple tube nut 2 revolutions counter clockwise.

NOTICE

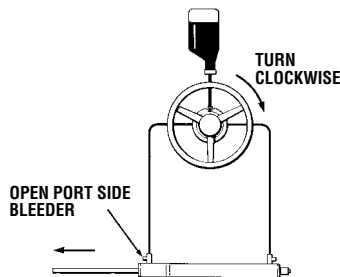
Filling the helm with oil can be done faster if oil is poured into the helm prior to connecting filler tube and oil bottle to the helm. Part #HA5438.





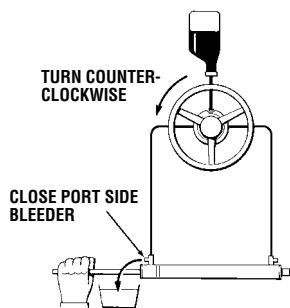
Step 1

- Screw the threaded end of the filler tube into the helm filler port.
- Remove the cap from the oil bottle and holding upright screw into the filler tube bottle cap. Poke hole in the bottom of the bottle.
- Fill the helm pump with hydraulic oil so that it is visible in the filler tube. Oil should always be visible in the filler tube. Use the next bottle of fluid at any time during the procedure in order to maintain the oil level. Do not proceed with step 2 until helm is full.



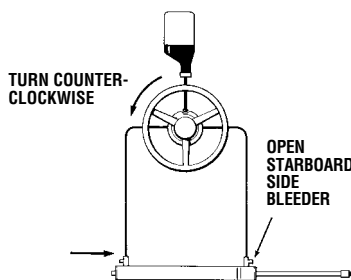
Step 2

- Turn the steering wheel clockwise until the cylinder rod is fully extended to port.
- Open port side bleeder.



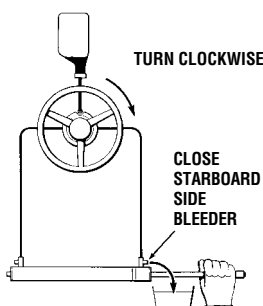
Step 3

- Hold the rod with your hand (**do not use a wrench or channel locks to restrict movement in shaft**) to prevent the rod from moving and turn the wheel counter-clockwise until a steady stream of air free oil flows from the bleeder nipple.
- While continuing to turn the wheel, close the port side bleeder and let go of the cylinder rod.



Step 4

- Continue turning the steering wheel counter-clockwise until the cylinder rod is fully extended to starboard. (Steering wheel will come to a stop).
- Open the starboard bleeder.



Step 5

- Hold the rod with your hand (**do not use a wrench or channel locks to restrict movement in shaft**) to prevent the rod from moving and turn the wheel clockwise until a steady stream of air free oil flows from the bleeder nipple.
- While continuing to turn the wheel, close the starboard side bleeder and let go of the cylinder rod.

System Air Test

! WARNING

DO NOT use SeaStar power purge with the BayStar system unless pressure gauge kit # HA5443 has been installed in the power purge. Failure to do so may result in damage to the system.

Attach the fill tube (part number HA5438) to the fill port of your BayStar Helm Pump.

Fill the HA5438 tube approximately 1/2 with Steering fluid.

Jog the steering wheel back and forth quickly approximately 1/2 turn in each direction while observing the level of fluid movement in the fill tube.

If the fluid level in the filler tube remains constant, all air has been removed from the system. If the fluid level in the tube jumps more than 2 inches, further bleeding is required.

When BayStar steering system has been properly purged/bled the steering wheel will turn approximately 4.5 times stop to stop.

OIL LEVEL AND SYSTEM CHECK

! CAUTION

! WARNING

DO NOT USE NON-VENTED FILL PLUG/CAP.

! CAUTION

Single and twin outboard engines MUST be tested to ensure no interference occurs between the cylinder, the steerable devices, tiebars, transom, engine lift plates, splashwell or other surfaces with engine(s) at any and all combinations of hard over to hard over, highest and lowest tilt positions and engine lift plates highest and lowest adjustment. This is done by taking the system through 2 full cycles from hard over to hard over.

! CAUTION

Failure to check for interference may result in cylinder, splashwell and/or engine damage.

Check oil level prior to leaving dock or turning wheel.

For helms mounted horizontally, or up to 10° from the horizontal, oil must be filled to the bottom of the fill port. DO NOT allow the oil level to drop more than 1/4" (6.3mm).

For helms mounted between 10° and 70° from the horizontal, oil should be maintained at between 1/8" (3.2mm) and 1/2" (12.5mm) from the bottom of the fill port.

Over filling may NOT allow sufficient air volume in the reservoir and may cause weeping from the vent plug.

Under filling may result in air being drawn into the lines causing poor performance and/or **loss of steering causing property damage, personal injury or death.**

At this time the steering system must be checked for proper connections of tube and fittings, possible leaks, and air removal. To do so, turn the steering wheel in one direction (port or starboard) to the engine stop position and pressurize the system by forcing the wheel beyond the engine stop position. You will not harm any component of the system by doing this. While maintaining pressure on the steering wheel, check all the fittings and tube connections for a minimum of 60 seconds for leaks. Repeat by turning the steering wheel in the opposite direction. If there is no sign of fluid loss your steering system is ready for use.

If interference occurs during engine tilt or trim between steering cylinder and splashwell or jackplate, contact your engine manufacturer for trim restrictors or a Tilt Stop Switch.