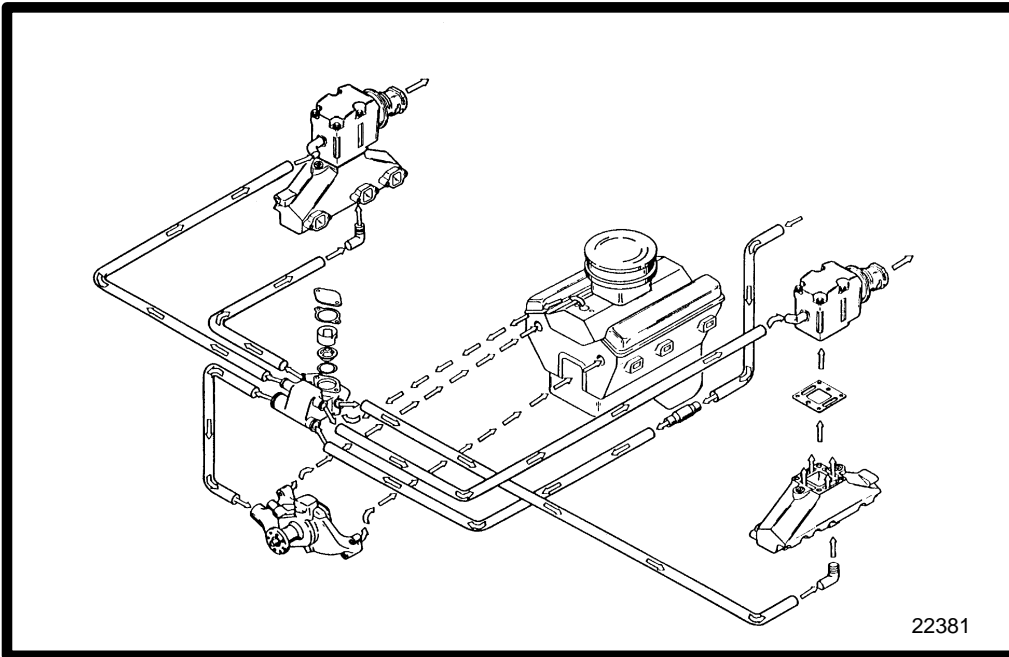


COOLING SYSTEM



SEAWATER COOLING MODELS

6

A

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MCM 262 CID / 4.3L

TORQUE SPECIFICATIONS

DESCRIPTION	Lb. In.	Lb. Ft.	N·m
Alternator Brace to Alternator	192		28
Alternator Brace to Block		30	41
Alternator to Mounting Bracket			
Alternator/Power Steering Pump Mounting Bracket			
Power Steering Pump Brace to Block			
Power Steering Pump Bracket			
Thermostat Cover			
Thermostat Housing			
Water Circulating Pump			
Water Temperature Sender		20	27
Drain Plugs (See Note)	Securely		
Hose Clamps			
Petcocks			
Pulleys			

Note: Coat threads with Quicksilver Perfect Seal before installing.

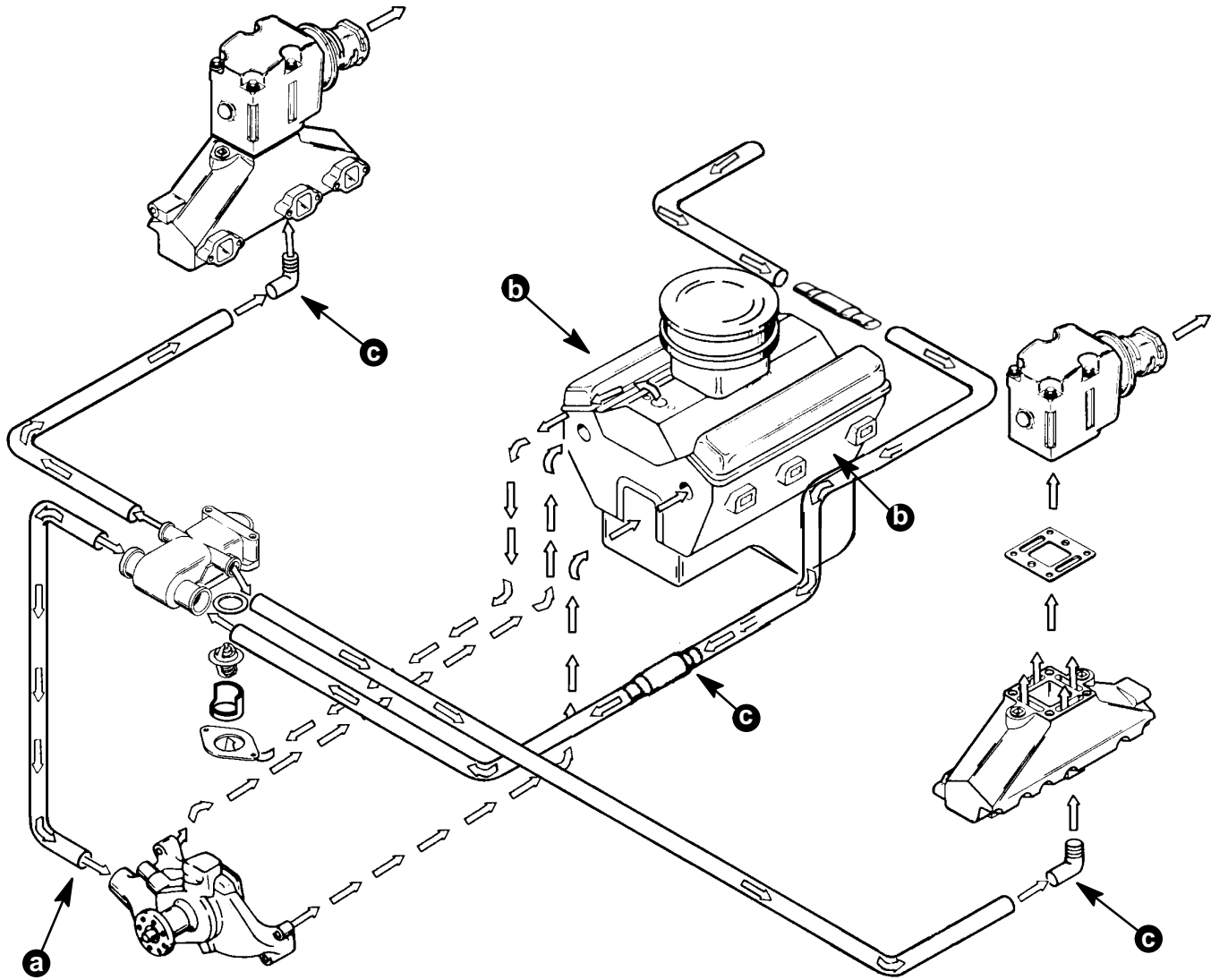
TOOLS/LUBRICANTS/SEALANTS

DESCRIPTION	PART NUMBER
Quicksilver Perfect Seal	92-34227-1
Quicksilver Flushing Attachment	73971A2
Quicksilver Liquid Neoprene	92-25711--2
Loctite Pipe Sealant with Teflon	Obtain Locally
Marine Caulking	

SPECIFICATIONS

Cooling System Capacity	15 Qts (14L)
Thermostat (Type) Stainless Steel	160° F (71° C)
Thermostat (Type) Brass	143° F (60° C)

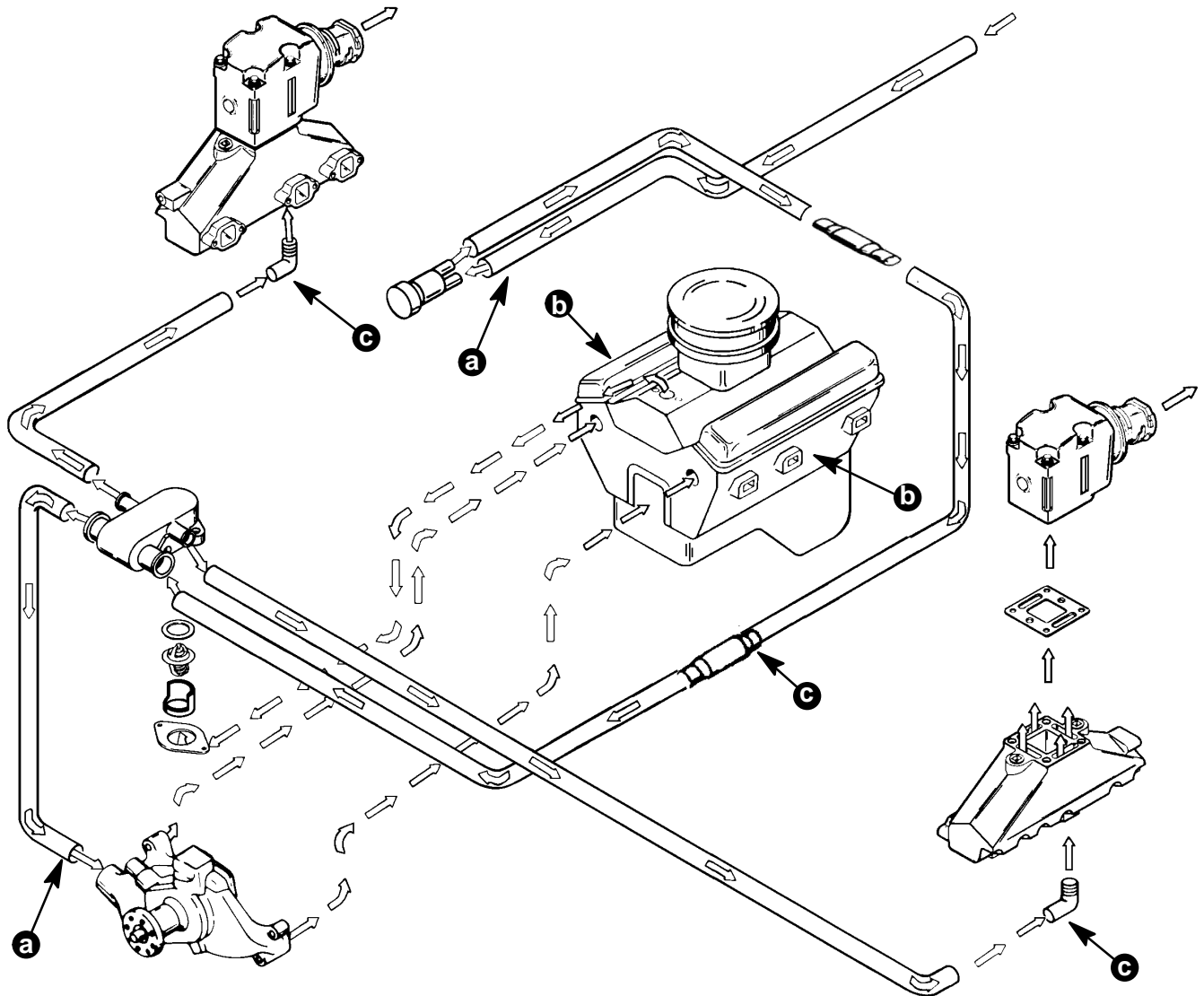
MCM 262 CID / 4.3L Alpha (Two Piece Manifolds Shown, One Piece Similar)



74816

- a - Remove Hoses (Lift, Lower or Bend To Completely Drain).
- b - Remove Block Plugs (Repeatedly Clean Out Holes Using A Stiff Wire Until Entire System Is Drained).
- c - Remove Drain Plugs From Exhaust Exhaust Manifold Drain Elbows and Fuel Cooler or Water Tube (Repeatedly Clean Out Holes Using A Stiff Wire Until Entire System Is Drained)

MCM 262CID / 4.3L Bravo (Two Piece Manifolds Shown, One Piece Similar)



74818

- a - Remove Hoses (Lift, Lower or Bend To Completely Drain).
- b - Remove Block Plugs (Repeatedly Clean Out Holes Using A Stiff Wire Until Entire System Is Drained).
- c - Remove Drain Plugs From Exhaust Exhaust Manifold Drain Elbows and Fuel Cooler or Water Tube (Repeatedly Clean Out Holes Using A Stiff Wire Until Entire System Is Drained)

Seawater Inlet Recommendations

Transom Mounted or Thru-Hull Seawater Pickups and Hose

Water pickup must be large enough to permit sufficient water flow to engine seawater pickup pump for adequate engine cooling [30 gal. per min. (114 L per min.) minimum]. Pickup also must supply a positive head while underway.

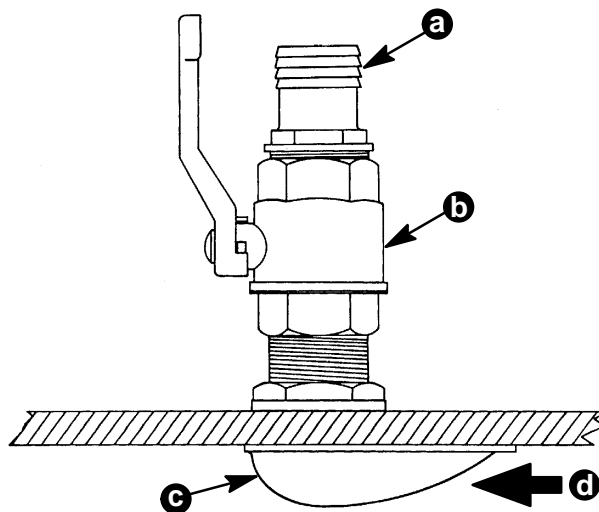
⚠ CAUTION

Do not install water pickup directly in line with propeller, as pickup may create turbulence and allow air to flow into the “propeller slipstream.” This will cause propeller ventilation and will adversely affect boat performance.

Water pickup should be located as close to seawater pickup pump inlet as possible and in an area where an uninterrupted, solid stream of water will flow past when boat is underway. Connect water pickup to seawater pickup pump inlet with 1-1/4 in. (32 mm) I.D. wire reinforced hose of adequate wall thickness to prevent it from collapsing from pump suction. Be sure to secure hose connections with hose clamps.

Seacock (Seawater Inlet Valve)

If a seacock is being used, it must be installed between water pickup and seawater pickup pump (or sea strainer), to allow operator to shut off the seawater in case of a leak or when boat is not in use. This will allow the operator to flush or drain the engine, or clean the sea strainer while boat is in the water. Seacock used must have an internal cross-sectional area equal to or greater than hose to prevent restricting water flow. Install seacock in an area where it will be easily accessible and self-supporting to prevent hose fatigue.



70355

Seacock (With Thru-Hull Pickup Shown)

- a - Hose Connector [1-1/4 In. (32mm) I.D.] to Seawater Pump Inlet
- b - Seacock [1-1/4 In. (32mm)] Brass Ball or Gate Valve
- c - Seawater Pickup
- d - Direction of Seawater Flow

Sea Strainer

If boat is equipped with a sea strainer, it must be of sufficient size to ensure that an adequate supply of water is maintained for engine cooling. Install seawater strainer in an area where it will be easily accessible for inspection and cleaning. Strainer should be installed in water inlet hose after water inlet valve to allow operator to shut off water when cleaning strainer.

Seawater Pickups

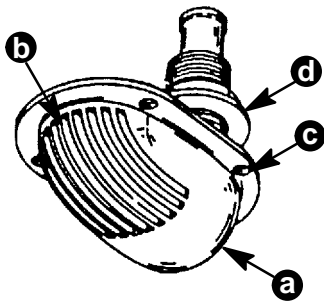
NOTICE

Refer to manufacturer's instructions for information on removal and installation of other than Quicksilver Seawater Pickups.

IMPORTANT: Seal the inside edges of any hole made through the hull with a suitable sealant to prevent water absorption and deterioration.

Thru-Hull Mounted

(Quicksilver 68670A2)



72639

Quicksilver Thru-Hull Seawater Pickup Shown

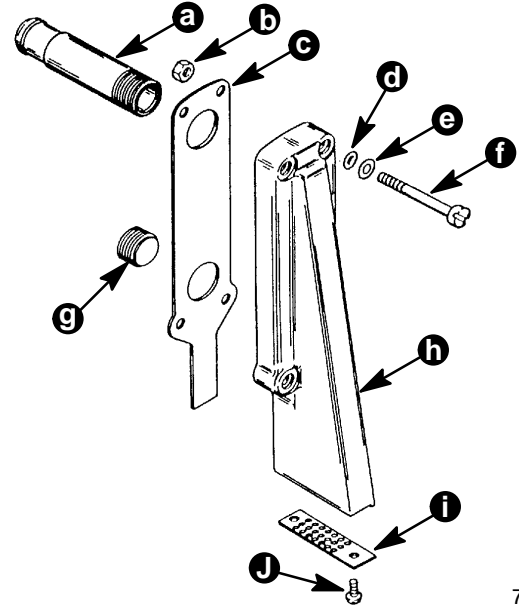
- a - Seawater Pickup
- b - Seawater Inlet Slot (MUST Face Forward - Parallel with Water Flow)
- c - Mounting Screw Holes (If So Designed)
- d - Nut

1. Seal inside edges of 1-3/4 in. (44 mm) hole in hull using a suitable sealer.
2. Apply marine caulking (sealer) to mounting surface on seawater pickup where hull contact will occur when installed.
3. Ensure slots in seawater pickup are facing forward (toward bow of boat) and install seawater pickup through hull. The slots must be parallel with flow of water.
4. Fasten pickup with four appropriate mounting screws (if so designed).
5. Apply marine caulking as needed inside boat. Apply Loctite to threads of nut and install on pickup on inside of boat and torque nut to 35 lb. ft. (42 N•m).

NOTE: If pickup being used does not have mounting screws on underside where mounted to hull, be certain, after nut is torqued, that slots are still facing forward.

Transom Mounted

(Quicksilver Part Number: 88845A1)



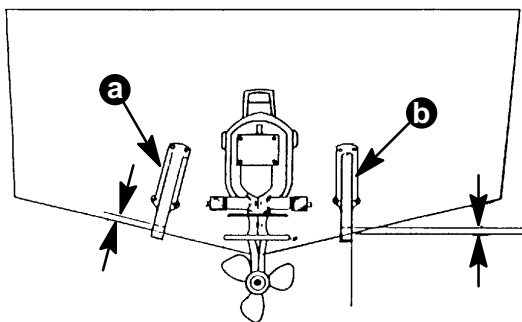
72640

Seawater Pickup Installation

- a - Hose Nipple
- b - Nuts (4)
- c - Gasket - Between Pickup and Transom
- d - O-Ring (4)
- e - Washer (4)
- f - Screw (4)
- g - Plastic Plug
- h - Pickup
- i - Screen
- j - Screw

1. Seal the inside edges of the 1-1/2 in. (38 mm) hole for hose nipple.
2. Be certain hose nipple and plastic plug are in place and threads have been sealed with Loctite Pipe Sealant with Teflon prior to tightening each securely.
3. Position one flat washer and one rubber O-ring on each 5/16 in. x 4 in. (102 mm) long, round head screw as shown. Coat each screw shaft with silicone sealant or equivalent.
4. Place new gasket on pickup housing and hold pickup in place on transom. Install four round head screws (with washers and O-rings in place) into pickup mounting holes and through drilled 21/64 in. (8.5 mm) holes in transom.

NOTE: Some installations may have 7/32 in. (5.5 mm) holes drilled in transom using four 5/16 in. diameter stainless steel lag bolts in place of round head screws. In any case, flat washers and O-rings are required as outlined.



72641

Water Pickup Installed on Transom

- a - Diagonal Mount - Leading Edge of Pickup 1/8 In. (3mm) from Boat Bottom
 - b - Vertical Mount - Corner of Leading Edge of Pickup 1/8 In. (3mm) from Boat Bottom
5. Secure water pickup from inside with locknuts and washers (unless using lag bolts).
 6. Tighten fasteners securely.

Sea Strainer (Quicksilver)

NOTICE

Refer to manufacturer's instructions for information on removal and installation of other than Quicksilver Sea Strainer.

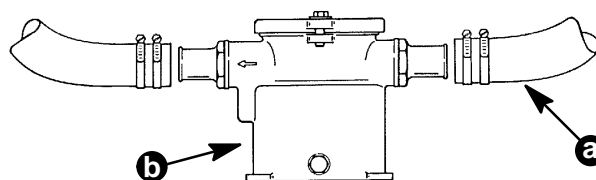
Removal

CAUTION

If boat is in water while working on seawater strainer, close seacock, if so equipped. If boat is not equipped with a seacock, remove and plug seawater inlet hose to prevent a siphoning action that may occur, allowing seawater to flow from the drain holes or removed hoses and enter boat.

IMPORTANT: Be certain engine is off and cooling system is cold.

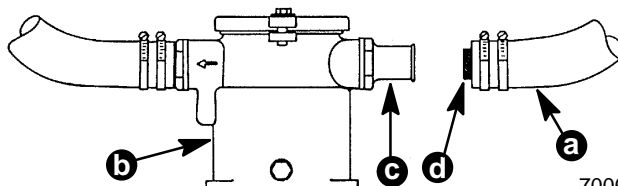
1. Follow "a" or "b" instructions:
 - a. **Models Equipped with Seacock:**
 - (1) Close seacock (seawater inlet valve).
 - (2) Disconnect seawater inlet hose from seawater strainer.



72691

- a - Seawater Inlet Hose
- b - Seawater Strainer

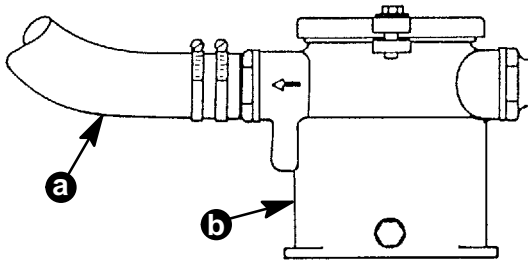
- b. **Models without Seacock:**
 - (1) Disconnect seawater inlet hose from seawater strainer inlet and plug seawater inlet hose.



70062

- a - Seawater Inlet Hose
- b - Seawater Strainer
- c - Seawater Strainer Inlet
- d - Plug

- Remove outlet hose. Drain into a suitable container.



72643

- a - Seawater Outlet Hose
- b - Seawater Strainer

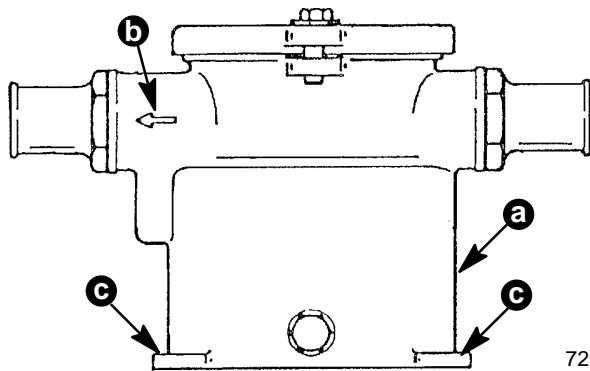
- Remove mounting bolts. Remove strainer.

Installation

IMPORTANT: Mount seawater strainer in a vibration-free location. Never mount it on the engine or transmission. Hoses must not be kinked or allowed to come in contact with hot or moving engine or transmission parts.

- Mount seawater strainer (Arrow must point toward seawater pump.)

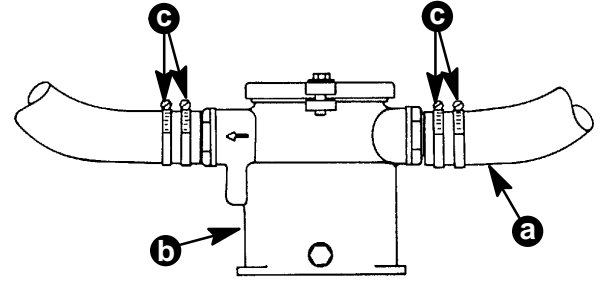
Tighten mounting bolts securely.



72644

- a - Seawater Strainer
- b - Arrow
- c - Mounting Bolt Hole Location (Bolts Not Shown)

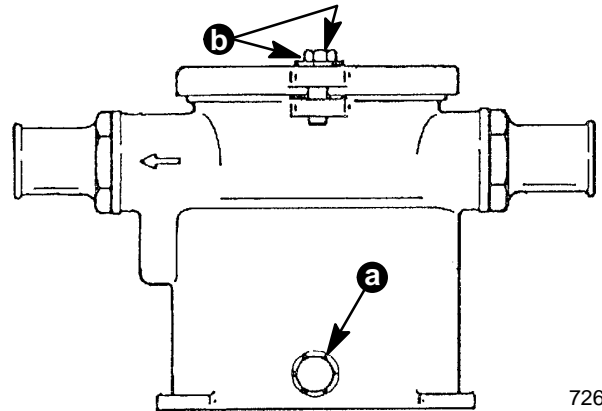
- Install inlet and outlet hoses. Use two hose clamps on each hose connection. Tighten clamps securely.



72645

- a - Seawater Inlet Hose
- b - Seawater Strainer
- c - Double Hose Clamps

- Check drain plug and lens cover bolts. Tighten securely. Do not over-tighten cover bolts or cover may warp and leak water into boat.



72644

- a - Drain Plug
- b - Lens Cover Bolt (2, One Hidden in This View)

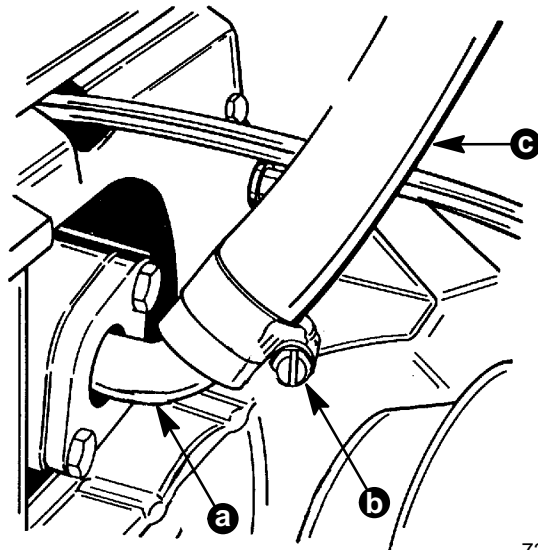
Stern Drive Unit Seawater Pickup Pump Output Test

If an overheating problem exists, use this test to determine if a sufficient amount of water is being supplied to cool engine.

IMPORTANT: The following information should be observed before proceeding with test:

- **BOAT MUST BE IN THE WATER FOR THIS TEST.** This test **CANNOT BE** performed with a flush-test device and water hose.
- The ability of this test to detect a problem is greatly dependent upon the accuracy in which it is performed. An error in setting the engine RPM, timing the test or measuring the water output will affect the overall accuracy of the test and may produce misleading results. To help ensure accurate results, a shop tachometer with an error of less than 5% should be used. The boat tachometer definitely should not be used as its accuracy is questionable. A stop watch should be used to time the duration of the test to help ensure that the accuracy is maintained within one second. An 8 U.S.qt. (7.6 L) or larger capacity container should be used to measure water output.
- Due to the manner in which this test is performed, it may not be possible to detect a marginal condition or a high-speed water pump output problem.

1. Remove water inlet hose, which runs between gimbal housing water tube and engine, and replace with another hose of same diameter, but approximately 3 ft. (1 m) longer. Hose should be wire reinforced or of adequate wall thickness to prevent it from kinking when performing test. Clamp hose at gimbal housing water tube only. Do not clamp hose at engine end.



72614

- a - Water Tube
- b - Hose Clamp
- c - Water Hose

2. Place an 8 U.S. qt. (7.6 L) or larger container near unclamped end of hose.

CAUTION

Do not run engine for more than 15 seconds with hose disconnected, in next step, as internal damage to engine and exhaust system may result.

3. With assistance of another person, start engine and adjust speed to exactly 1000 RPM while holding unclamped end of hose on connection on engine. Remove hose from connection on engine and direct water flow into container for exactly 15 seconds. At the end of 15 seconds, direct the water flow overboard, return engine to idle and stop engine. Reconnect hose to engine.
4. Measure quantity of water discharged into container and compare with specifications given in chart following.

- Repeat test four times to check repeatability of results.

Alpha Stern Drive Pump Output for 15 Second Period	
Drive Unit Gear Ratio	Minimum Quantity U.S. Qts. (L)
1.98:1	3.0 (2.8)
1.84:1	3.3 (3.1)
1.65:1	3.6 (3.4)
1.50:1	4.0 (3.8)
1.32:1	4.5 (4.3)

Stern Drive Unit Seawater Pickup Pump Repairs

NOTICE

MCM (Stern Drive) Models equipped with Alpha Drive Units have a seawater pickup pump mounted in stern drive unit. Refer to appropriate Stern Drive Service Manual for further testing and repairs.

Water Circulating Pump Replacement

Removal

- Drain water from cylinder block. Refer to "Draining Seawater Cooling System" as outlined later in this section.
- Loosen circulating pump pulley attaching bolts. Do not remove bolts at this time.
- Loosen power steering pump brace and pump mounting bolts, then pivot pump inward and remove drive belts.
- Loosen alternator brace attaching bolts and alternator mounting bolt, then pivot alternator inward and remove drive belt.

- Remove pump pulley attaching bolts, lockwashers, clamping ring (if so equipped) and pulley.
- Disconnect hose(s) from pump.
- Remove bolts, which secure pump to cylinder block, and remove pump and old gaskets (discard gaskets).

Cleaning and Inspection

- Clean gasket surfaces on water pump and cylinder block.
- Inspect water pump for blockage, cracks, sand holes, corrosion or other damage. Inspect pump impeller for cracks and erosion. Replace complete pump if any damage exists.
- Check impeller shaft and bearings for excessive side play. If play can be felt, replace complete pump.
- Inspect pump pulley for bends, cracks, corrosion or other physical damage. Inspect pulley for rotational trueness. Replace pulley if damaged or untrue.

Installation

- Coat both sides of new circulating pump gasket with Quicksilver Perfect Seal, then position gaskets and circulating pump on cylinder block. Coat threads of circulating pump attaching bolts with Quicksilver Perfect Seal and install bolts and alternator brace (if applicable). Torque bolts to specifications.
- Reconnect hoses to pump.
- Install pump pulley and clamping ring (if used) on pump hub and secure with bolts and lockwashers. Tighten bolts securely.
- Install drive belts and adjust tension as outlined in "Drive Belt Tension Adjustment."
- Start engine and check for leaks.

Flushing Seawater Cooling System

If engine is operated in salty, polluted or mineral-laden waters, seawater cooling system should be flushed periodically (preferably after each use) with fresh water to reduce corrosion and prevent the accumulation of deposits in the system. Seawater cooling system also should be thoroughly flushed prior to storage.

⚠ WARNING

When flushing, be certain the area around propeller is clear, and no one is standing nearby. To avoid possible injury, remove propeller.

⚠ CAUTION

Do not run engine above 1500 RPM when flushing. Suction created by seawater pickup pump may collapse flushing hose, causing engine to overheat.

IMPORTANT: If cooling system is to be flushed with boat in the water, seacock (if so equipped) must be closed, or water inlet hose must be disconnected and plugged to prevent water from flowing into boat.

⚠ CAUTION

Watch temperature gauge at dash to ensure the engine does not overheat.

Engines with Stern Drive Seawater Pickup Pump

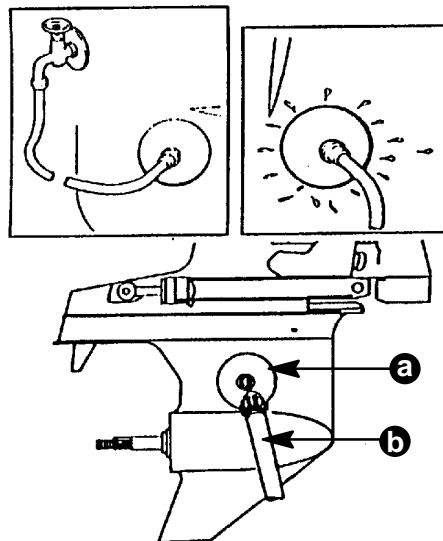
⚠ CAUTION

To prevent engine or stern drive unit damage DO NOT run engine or drive unit without water being supplied to water intake openings on gear housing.

If flushing cooling system with boat in water, raise drive unit to trailer position, install flushing attachment and lower drive unit to full IN/DOWN position.

1. Install Quicksilver Flushing Attachment (or equivalent) over water intake openings in gear housing.

2. Connect hose between flushing attachment and water tap.



72672

- a - Quicksilver Flushing Attachment
b - Garden Hose

3. With drive unit in normal operating position, partially open water tap (about 1/2 maximum) and allow cooling system to fill completely. Cooling system is full when water is discharged through the propeller. Do not use full tap water pressure.
4. Place remote control in NEUTRAL, idle speed position and start engine. Operate engine at idle speed, in NEUTRAL, for about 10 minutes, or until discharge water is clear. Watch temperature gauge on instrument panel to ensure that engine does not overheat.
5. Stop engine. Shut off tap water and remove flushing attachment

Check/Clean Seawater Strainer

NOTICE

Refer to manufacturer's instructions for information on checking and cleaning of other than Quicksilver Seawater Strainer.

1. Visually inspect seawater strainer through glass top.

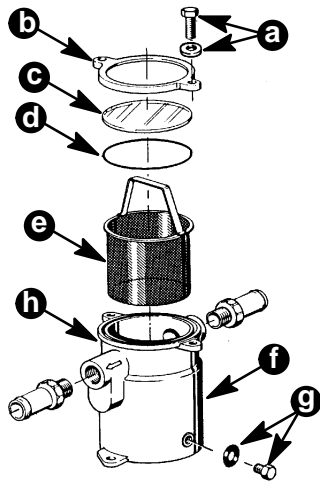
⚠ WARNING

When cleaning seawater strainer, close seacock, if so equipped. If boat is not equipped with a seacock, remove and plug seawater inlet hose to prevent a siphoning action that may occur, allowing seawater to flow from the drain holes or removed hoses.

CAUTION

Do not over-tighten cover screws or cover will warp and leak.

2. With engine off, close seacock, if so equipped, or remove and plug seawater inlet hose, if no seacock exists. Remove two screws and washers, and cover. Remove strainer, and drain plug and washer. Clean any debris from strainer housing; flush both strainer and housing with clean water. Check gasket; replace when necessary (if it leaks). Reinstall strainer, drain plug and washer. Reattach cover with screws and washers. Open seacock, or unplug and reconnect seawater inlet hose. Tighten hose clamps securely. After starting engine, check for leaks and/or air in system, which would indicate an external leak.



72673

Quicksilver Seawater Strainer Shown

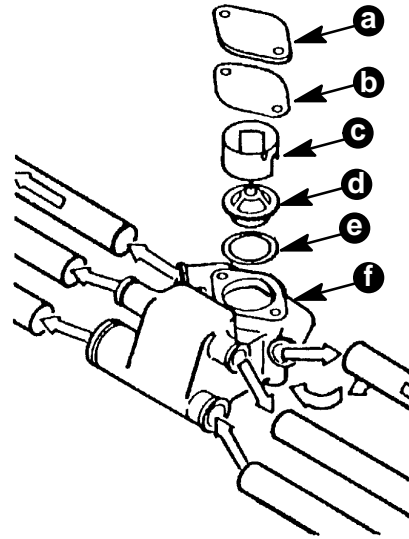
- a - Screws and Washers
- b - Cover
- c - Glass
- d - O-Ring
- e - Strainer
- f - Housing
- g - Drain Plug and Sealing Washer
- h - Gasket

Thermostat

Removal

1. Drain water from cylinder block and exhaust manifolds.
2. Remove thermostat cover attaching bolts and lockwashers, then remove cover and gasket.
3. Remove thermostat from thermostat housing or cover.

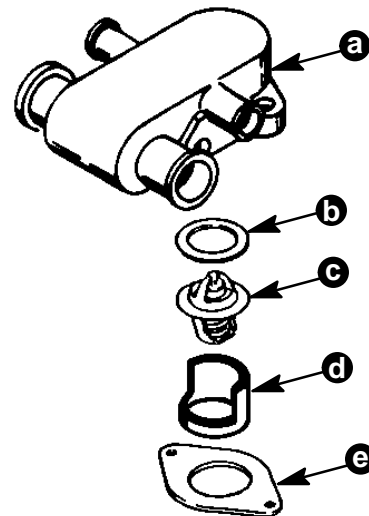
NOTE: If equipped with a lifting eye (not shown in following), note placement of lifting eye so that it may be positioned exactly the same upon installation, or it may interfere with the fit of the flame arrestor cover.



72589

6 Hose Thermostat Housing

- a - Cover
- b - Gasket
- c - Spacer
- d - Thermostat
- e - O-Ring
- f - Housing



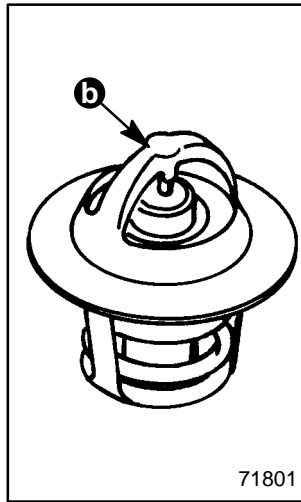
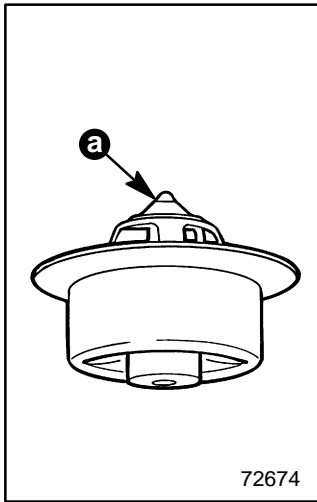
71758

4 Hose Thermostat Housing

- a - Housing
- b - O-Ring
- c - Thermostat (Stainless Steel)
- d - Spacer
- e - Gasket

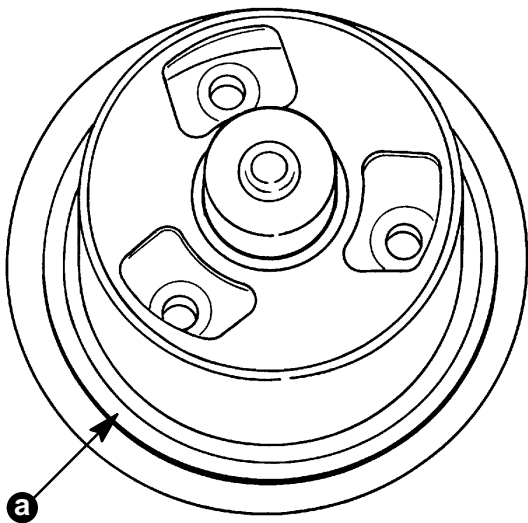
Testing

1. Clean thermostat in soap and water to remove any deposits or debris.
2. Inspect thermostat for corrosion or other visible damage.



- a - Brass Thermostat
b - Stainless Steel Thermostat

3. If thermostat is suspected of producing insufficient engine temperature, check thermostat for leakage by holding it up to a lighted background. Light leakage around the thermostat valve indicates that thermostat is not closing completely and should be replaced. (A small amount of leakage at one or two points around the valve perimeter is acceptable.)

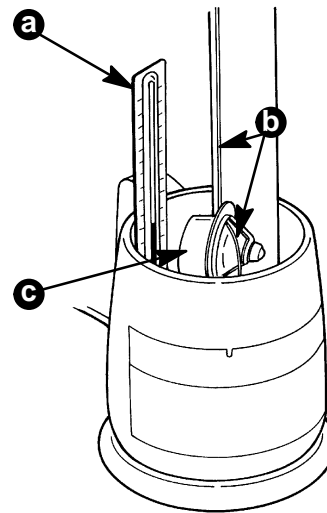


72717

Brass Thermostat Shown (Stainless Similar)

- a - Check for Light Leakage Around Perimeter of Valve

4. Check opening and closing temperature of thermostat (using a tester similar to the one shown) as follows:
 - a. Fill tester to within 1 in. (25mm) of top with tap water. Do not use distilled water.
 - b. Open thermostat valve and insert nylon string. Position thermostat on string so that it will be just below water level when suspended, then allow valve to close. Suspend thermostat in water.
 - c. Place thermometer in container and position so that bottom of thermometer is even with bottom of thermostat. Do not allow thermometer to touch container.



72675

- a - Thermometer
b - Nylon String
c - Thermostat (Typical)

IMPORTANT: When performing procedures "d"-“f,” water must be agitated thoroughly to obtain accurate results.

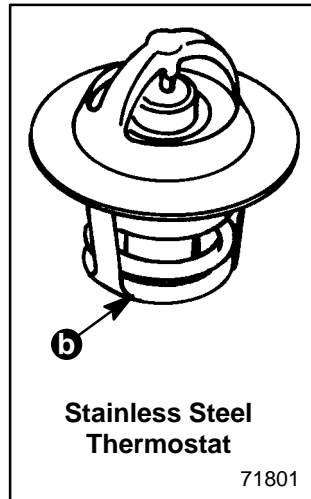
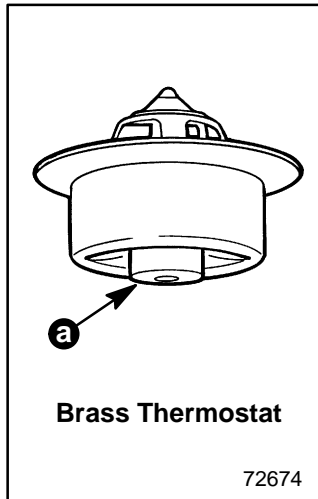
- d. Plug in tester and observe temperature at which thermostat opens (thermostat drops off thread). Thermostat must open at specified temperature stamped on thermostat.
- e. Continue to heat water until a temperature 25°F (14°C) above temperature specified on thermostat is obtained. Thermostat valve must be completely open at this temperature.
- f. Unplug tester and allow water to cool to a temperature 10°F (5°C) below specified temperature on thermostat. Thermostat must be completely closed at this temperature.
- g. Replace a thermostat that fails to meet all of the preceding tests.

Installation

1. Clean gasket surfaces on thermostat cover and thermostat housing.
2. If thermostat housing was disturbed during removal of thermostat, remove thermostat housing. Clean gasket surfaces on thermostat housing and intake manifold and replace thermostat housing-to-intake manifold gasket.

IMPORTANT: If gasket has continuity rivets, do not coat with Quicksilver Perfect Seal, or audio warning temperature switch may not work properly.

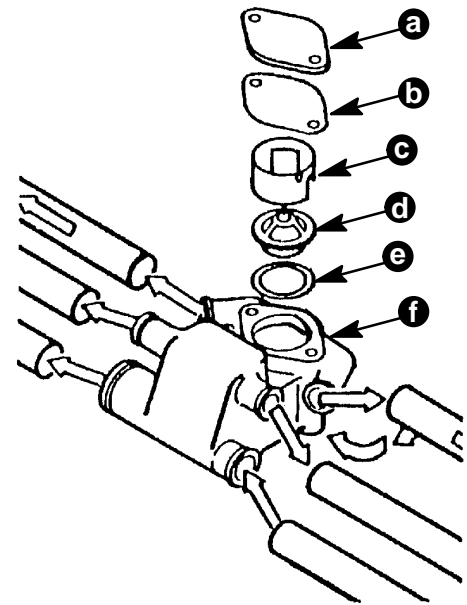
3. Place O-ring in the thermostat housing. Be certain it is positioned properly on mounting flange in housing.
4. Install thermostat in thermostat housing as shown.



a - Install Thermostat With This End (Down) Toward Thermostat Housing

5. Align tang on sleeve with groove in thermostat housing bore and install sleeve into housing.
6. Coat both sides of new thermostat cover-to-thermostat housing gasket with Quicksilver Perfect Seal and position on housing.
7. Reinstall thermostat cover (with engine lifting eye, if so equipped) and torque screws with lock-washers to 30 lb. ft. (41 N·m).

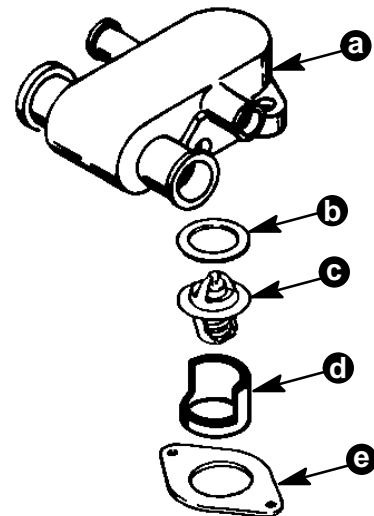
8. Reconnect hose(s) to thermostat housing. Tighten hose clamps securely.
9. Start engine and inspect for leaks.



72589

6 Hole Thermostat Housing

- a - Cover
- b - Gasket
- c - Spacer
- d - Thermostat
- e - O-Ring
- f - Housing



71758

4 Hole Thermostat Housing

- a - Housing
- b - O-Ring
- c - Thermostat (Stainless Steel)
- d - Spacer
- e - Gasket

Draining Seawater Cooling System

NOTICE

For cold weather or extended storage information and procedures, refer to SECTION 1B.

Draining Precautions

CAUTION

If boat is in the water, seacock (water inlet valve), if so equipped, must be left closed until engine is to be restarted to prevent water from flowing back into cooling system and/or boat. If boat is not fitted with a seacock, water inlet hose must be left disconnected and plugged to prevent water from flowing back into cooling system and/or boat. As a precautionary measure, attach a tag to the ignition switch or steering wheel of the boat with the warning that the seacock must be opened or the water inlet hose reconnected prior to starting the engine.

IMPORTANT: Observe the following information to ensure complete draining of cooling system.

- Engine must be as level as possible.
- A wire should be repeatedly inserted into all drain holes to ensure there are no obstructions in passages.

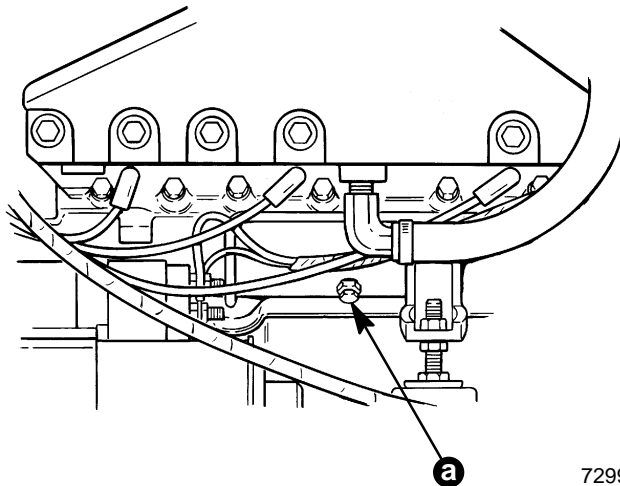
IMPORTANT: To prevent threads in manifolds, elbows and cylinder blocks from rusting out during storage, reinstall plugs using Quicksilver Perfect Seal on threads. Never leave drain plugs out during storage.

NOTE: If possible, place a container under drains and hoses to prevent water from draining into boat.

NOTICE

Refer to "Draining Precautions," in this section, **BEFORE** proceeding.

1. Check that engine is as level as possible to ensure complete draining of cooling system.
2. Remove drain plugs (port and starboard) from cylinder block.



72993

Starboard Side Shown (Port Similar)

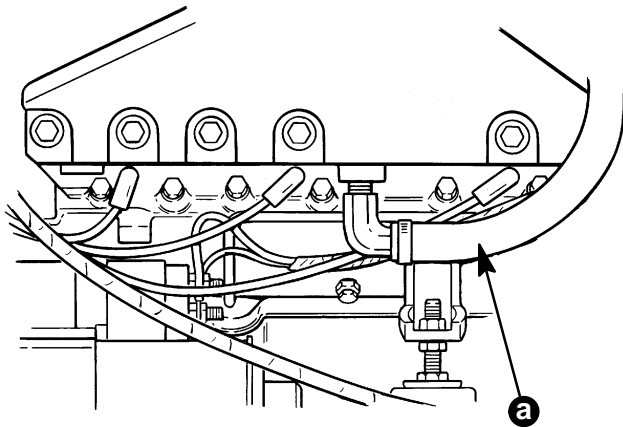
a - Drain Plug (Port and Starboard)

3. Repeatedly clean out drain holes using a stiff piece of wire. Do this until entire system is drained.

NOTE: It may be necessary to lift, bend, or lower hoses to allow water to drain completely when hoses are disconnected.

4. Remove hose or drain plug from bottom of port and starboard manifolds.

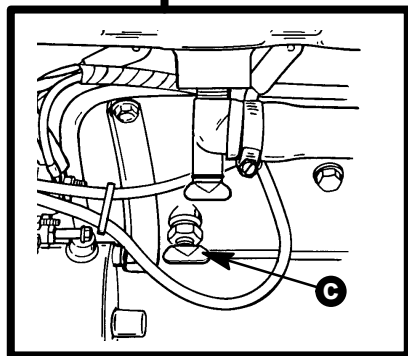
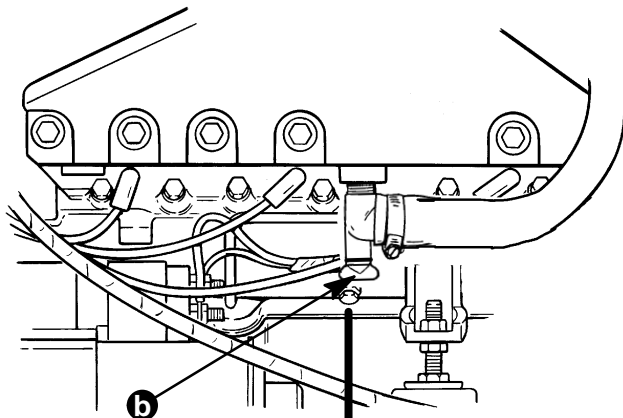
NOTE: With the engine level, sufficient draining of manifolds will occur when exhaust manifold-to-thermostat housing hoses are removed.



72993

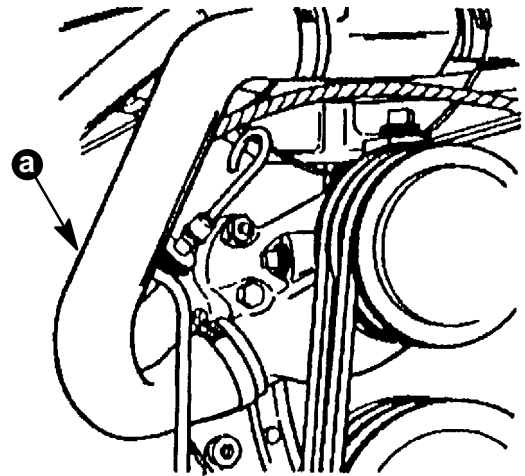
Starboard Side Shown (Port Similar)

a - Bottom Hose, Exhaust Manifold to Thermostat Housing



b - Drain Plug in Exhaust Manifold Elbow
c - Later Models Are Equipped With This Style Of Drain Plug.

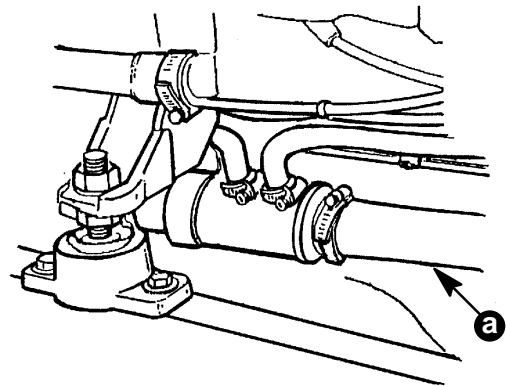
5. Remove the engine water circulating pump hose as shown.



72587

a - Hose, Water Circulating Pump to Thermostat Housing

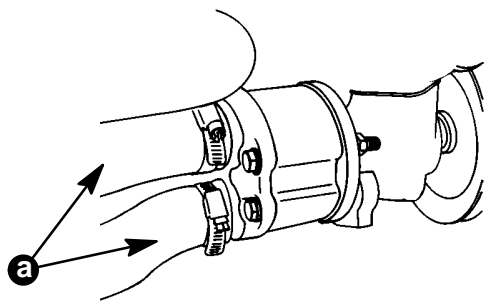
6. Remove the power steering fluid cooler seawater hose, as shown.



72588

a - Hose, Seawater Pump to Cooler

7. Bravo models need to remove both hoses from seawater pump.

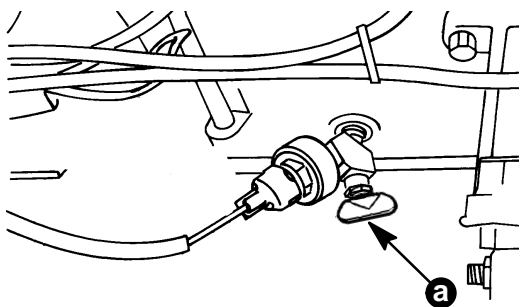


71170

a - Seawater Inlet And Outlet Hoses

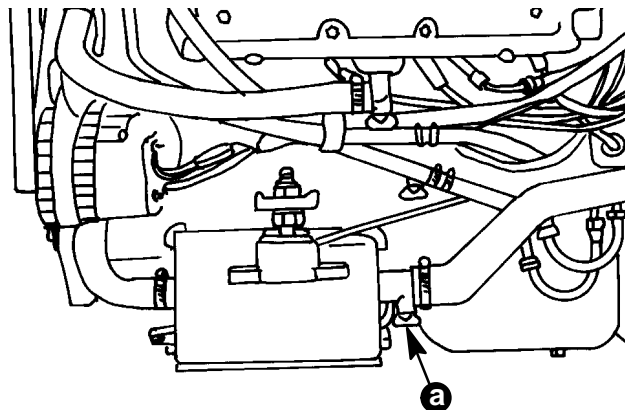
8. **For 1996 and newer models the additional following steps must be performed:**

- a. Remove the drain plug from the Y-fitting from the port side of the block.

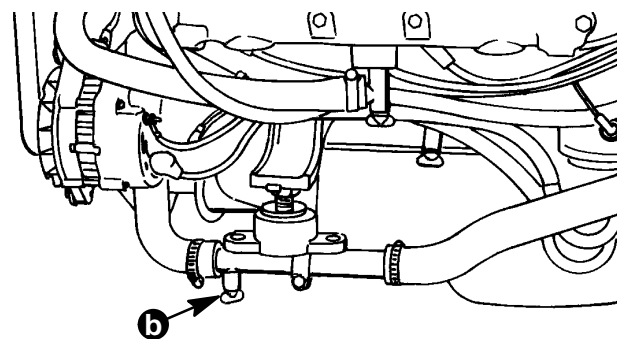


a - Drain Plug

- b. Remove the drain plug from the water tube (carburetor models) or Cool Fuel system (fuel injection models)



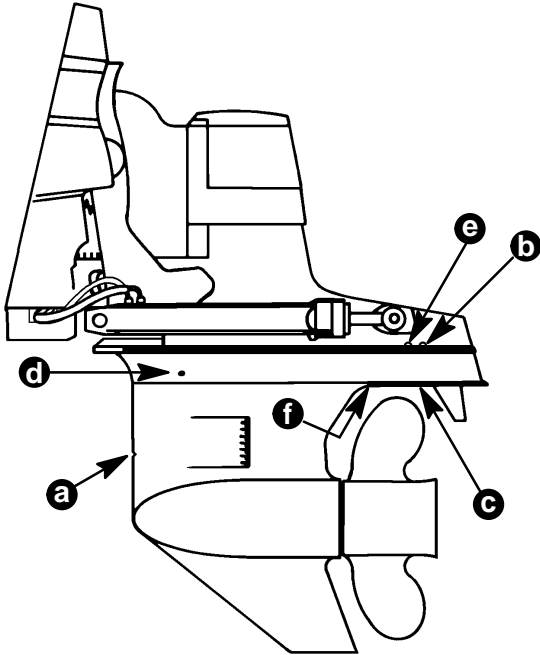
75081



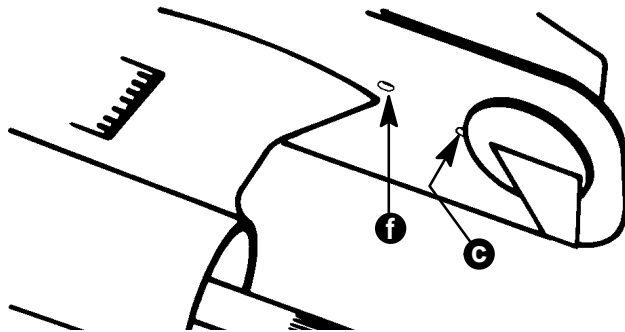
75018

a - Drain Plug (Cool Fuel System - Fuel Cool System)
b - Drain Plug (Water Tube - Carburetor Models)

9. Insert a small wire (repeatedly) to make sure that vent holes and water drain holes and passages (as shown) are unobstructed and open.



71216



70134

- a - Speedometer Pitot Tube
- b - Trim Tab Cavity Vent Hole
- c - Trim Tab Cavity Drain Passage
- d - Gear Housing Water Drain Hole (One Each - Port and Starboard)
- e - Gear Housing Cavity Vent Hole
- f - Gear Housing Cavity Drain Hole

10. After cooling system has been drained completely, install and tighten securely all drain plugs. Reconnect all hoses and tighten all hose clamps securely.

Auxiliary Hot Water Heater Installation Information

IMPORTANT: When connecting a cabin heater or hot water heater, certain requirements must be met.

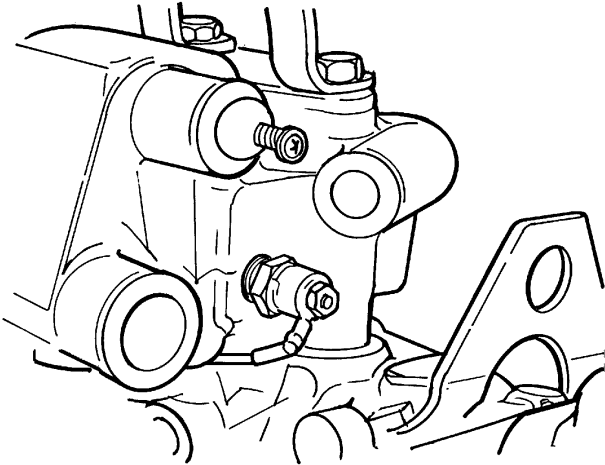
- Supply hose (from engine to heater) and return hose (from heater to engine) **MUST NOT EXCEED 5/8 in. (15.8 mm) I.D. (inside diameter).**
- Make heater connections **ONLY** at locations described in the following instructions.
- Check complete system for leaks after heater is connected into cooling system.
- Check for overheating condition (of engine) after heater is connected.

1. Hot water heater supply hose can be connected at several different locations. On some models, there may be other accessories and options that are using these hot water supply locations. One of the following should be available for use when connecting the hot water heater system.

- a. Port side of thermostat housing.

NOTE: On some models it may be necessary to remove the audio warning heat switch from port side of thermostat housing and reposition to water circulating pump opening as outlined following.

- b. Starboard side of thermostat housing, unless being used for engine temperature switch.

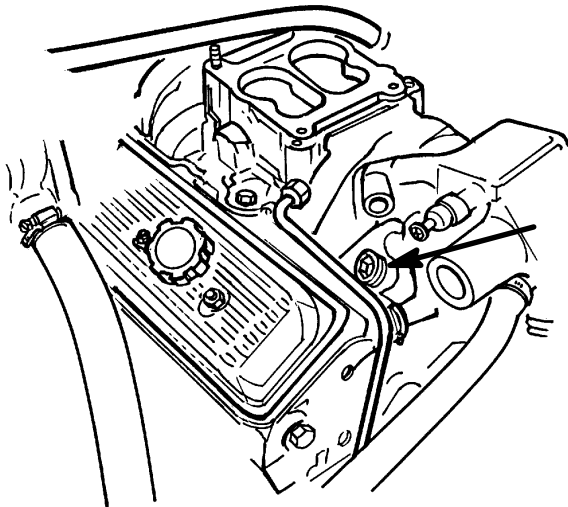


72613

Thermostat Housing - Port Side Shown (Starboard Similar)

IMPORTANT: Do not reposition engine temperature switch, it must remain where installed by factory.

- c. Intake manifold near thermostat housing (some models).



72708

Intake Manifold (If Engine Temperature Sender is Not Installed at This Location)

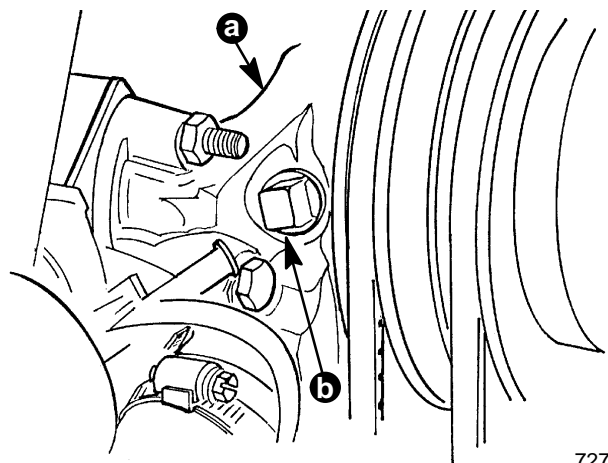
- 2. Connect hot water heater SUPPLY hose to desired location following instructions "a" or "b":

- a. **On Models with Pipe Plug in Thermostat Housing (Port or Starboard) or Intake Manifold:**

- (1) Remove pipe plug.
- (2) Coat threads of fitting(s) (obtained locally) with Quicksilver Perfect Seal and install fitting(s) in threaded hole from which pipe plug was removed.
- (3) Connect hot water heat supply hose to fitting and secure with a hose clamp (not provided).

- b. **On Models with Audio Warning Heat Switch in Thermostat Housing (Port Side):**

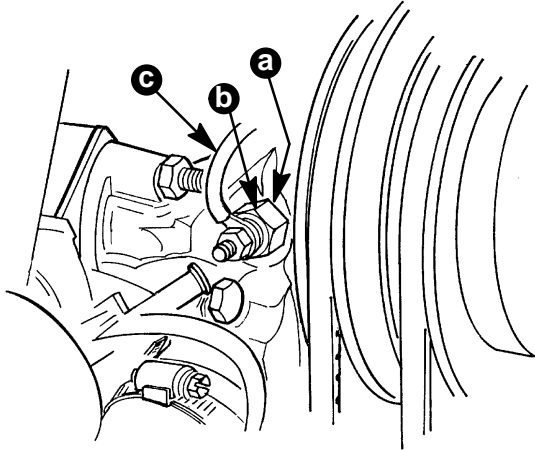
- (1) Disconnect TAN/BLUE wire from audio warning switch.
- (2) Remove audio warning switch from thermostat housing.
- (3) Coat threads of fitting(s) (obtained locally) with Quicksilver Perfect Seal and install fitting(s) in threaded hole from which audio warning switch was removed.
- (4) Connect hot water heater supply hose to fitting and secure with a hose clamp (not provided).
- (5) Remove pipe plug from starboard side of engine water circulating pump.



72702

- a - Engine Water Circulating Pump
- b - Pipe Plug

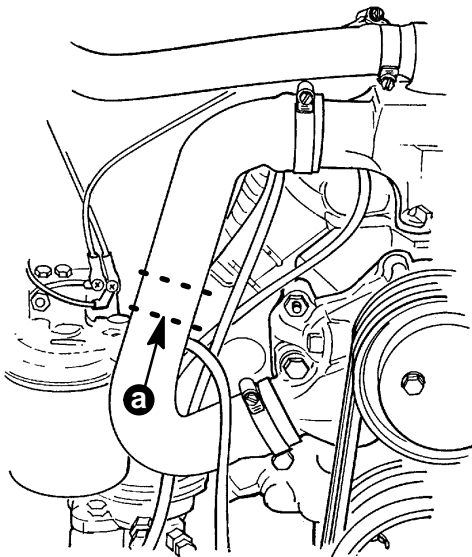
- (6) Apply Loctite Pipe Sealant with Teflon to threads of reducer bushing (obtain locally) and audio warning heat switch.
- (7) Install reducer bushing in circulating pump and tighten securely.
- (8) Apply Loctite Pipe Sealant with Teflon to threads of audio warning switch and install in reducer bushing. Tighten securely.
- (9) Connect TAN/BLUE wire to switch and secure with nut and lockwasher. Coat terminal with Quicksilver Liquid Neoprene.



72703

- a - Reducer Bushing (Hidden in this View)
- b - Audio Warning Heat Switch
- c - TAN/BLUE Wire

3. Connect hot water heater return hose into system as follows (refer to figures):
 - a. Cut approximately 3/4 in. (19 mm) out of hose to maintain proper hose configuration.

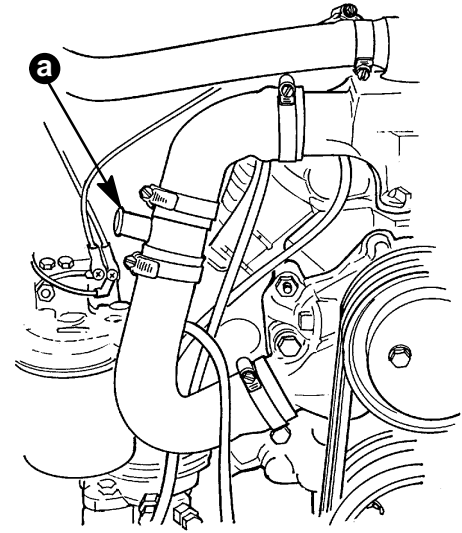


72704

Typical

- a - Cut Here

- b. Secure T-fitting in hose with hose clamps (provided in kit) and tighten securely.



72705

Typical

- a - T-Fitting
 - c. Connect hot water heater return hose to T-fitting and secure with hose clamp (provided).
- 4. Secure hoses, as required, to ensure they do not rub or chafe against engine components.
- 5. With boat in water, start engine and check for leaks and overheating.

**THIS PAGE IS INTENTIONALLY BLANK TO
ALLOW FOR CORRECTIONS OR ADDITIONS
AT A LATER DATE**