

98-8M0123083

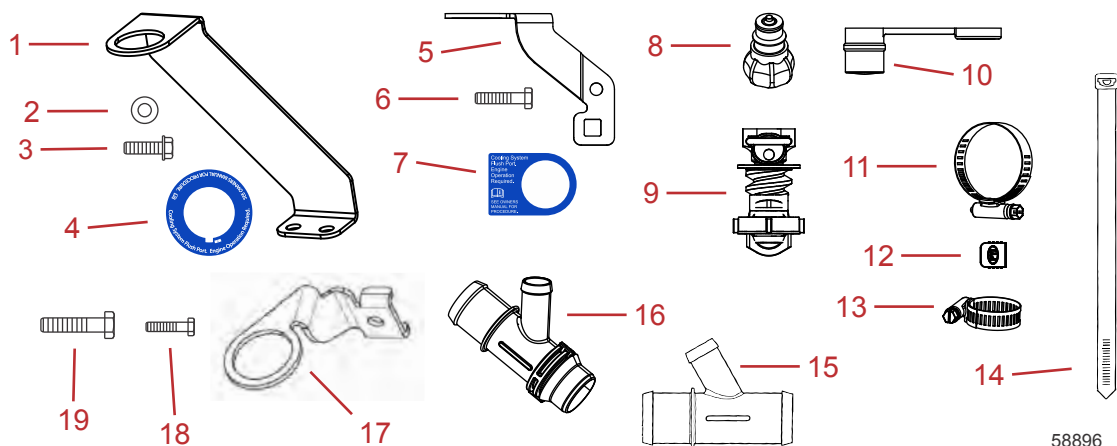
4.3L ECT, 4.5L, AND 6.2L ENGINE FLUSH KIT

IMPORTANT: This document is written to aid our dealers and company service personnel in the proper installation or service of our products. Persons who are not familiar with these or similar products produced by Mercury Marine, and who have not been trained in the recommended servicing or installation procedures should have the work performed by an authorized Mercury Marine dealer. Improper installation or servicing of the Mercury product could result in damage to the product or personal injury to the installer or persons operating the product. Always refer to the appropriate Mercury Marine service manual for component removal and installation instructions.

NOTE: After completing installation, place these instructions with the product for the owner's future use.

Models Covered	Serial Number Or Year
4.3L ECT	1A637496 and above
4.5L	2A441953 and above
New 6.2L	2A460833 and above

Components Contained in Kit



Ref No.	Qty.	Description	Part Number
1	1	Flush valve bracket (4.3L ECT)	8M2021334
2	2	Washer, 0.688 x 0.344 x 0.065 stainless steel plain	814806
3	2	Screw, 0.312-18 x 0.88 stainless steel with hex head cap	28782
4	1	Flush port label (4.3L ECT)	8M2017894
5	1	Flush valve bracket (4.5L and 6.2L)	8M0077939
6	3	M8 x 16 screw (4.5L)	885526 16
7	1	Flush port label (4.5L and 6.2L)	8M0085350
8	1	Coupling insert	857175
9	1	Flush socket (quick-connect)	861406
10	1	Tethered dust cap	858240
11	3	Hose clamp	815504222
12	5	Hose clamp cover	8M0074364
13	2	Hose clamp	815504212
14	1	Cable tie, 14.5 in.	77054
15	1	Plastic Y-fitting	862993
16	1	Quick-connect Y-fitting	8M4501756
17	1	Flush valve bracket (TowSport)	8M0094223
18	1	M8 x 12 screw (6.2L)	885526 12
19	1	M8 x 20 screw (6.2L)	885526 20
-	1	Flush hose, 3/4 x 42 in. (cut to length)	8M0062635

Ref No.	Qty.	Description	Part Number
–	1	Water hose, 1-1/4 x 4 in.	8M0062653

NOTE: Models equipped with two seawater inlets on the seawater inlet hose will need to order one Y-fitting (864727) separately.

Installing the Engine-Mounted Flush System

Preparation

⚠ WARNING

Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected engine starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing engine or drive components.

⚠ CAUTION

Disconnecting or connecting the battery cables in the incorrect order can cause injury from electrical shock or can damage the electrical system. Always disconnect the negative (-) battery cable first and connect it last.

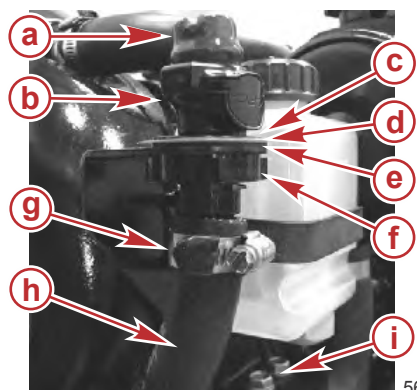
1. Remove the boat from the water.
2. Disconnect both battery cables.

Flush Valve Bracket Installation

4.3L ECT Models

1. Remove and retain the drive gear lube bottle. Secure the bottle so that the drive gear fluid does not spill.
2. Remove and retain the drive gear lube bottle bracket. Discard the screws.
3. Attach the flush valve bracket to the drive gear lube bottle bracket with the two new hex head screws and washers. Tighten the screws to the specified torque.

Description	Nm	lb-in.	lb-ft
Flush valve bracket screws	19	168	–



56701

4.3L ECT model

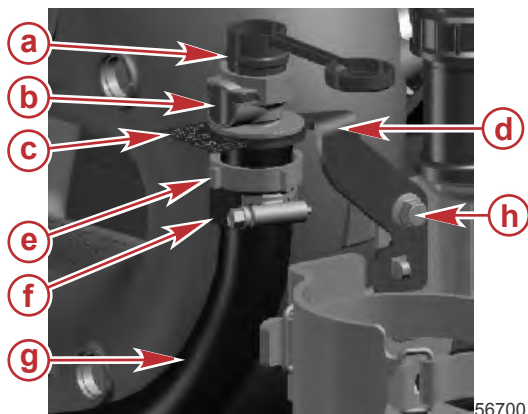
- a** - Tethered dust cap
- b** - Flush socket
- c** - Label
- d** - Flush port label (4.3L ECT)
- e** - Flush valve bracket
- f** - Plastic nut
- g** - Hose clamp with cover
- h** - Flush hose
- i** - Flush valve bracket screws (2)

4. Install the drive gear lube bottle.

4.5L and 6.2L Sterndrive Models

1. Remove the top screw that fastens the drive gear lube bottle bracket to the power steering reservoir bracket. Discard the screw.
2. Attach the flush valve bracket to the drive gear lube bottle bracket with the M8 x 16 screw. Tighten the screw to the specified torque.

Description	Nm	lb-in.	lb-ft
M8 x 16 screw	19	168	–

**4.5L and 6.2L models**

- a** - Tethered dust cap
- b** - Flush socket
- c** - Label and gasket
- d** - Flush valve bracket
- e** - Plastic nut
- f** - Hose clamp with cover
- g** - Flush hose
- h** - Flush valve bracket screw

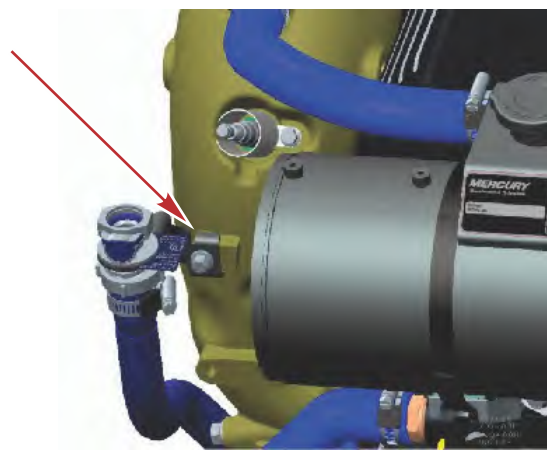
56700

TowSport Models

1. Install the flush valve bracket with one M8 x 16 screw. Tighten the screw to the specified torque.

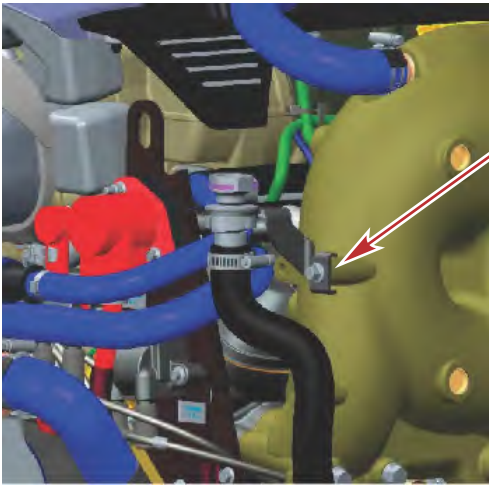
NOTE: Refer to the following images for the mounting location of the flush valve bracket.

Description	Nm	lb-in.	lb-ft
M8 x 16 screw	19	168	–



59006

Flush valve bracket location on in-line models



59007

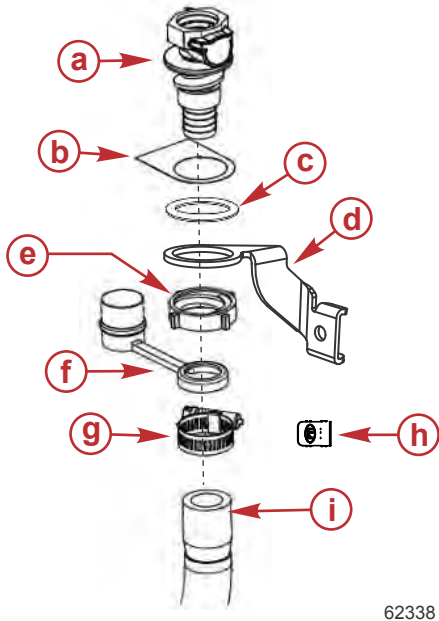
Flush valve bracket location on V-drive models

Flush Socket Assembly—All Models

NOTE: Refer to the **Components Contained in Kit** table for specific flush valve bracket and flush port label differences.

- 1. Install the flush port label and gasket onto the flush socket.
- 2. Install the flush socket onto the flush valve bracket using the plastic nut. Tighten the nut securely.
- 3. Install the tethered dust cap onto the bottom of the flush socket prior to attaching the flush hose.
- 4. Attach the 19 mm (3/4 in.) flush hose with a hose clamp to the flush socket. Tighten the hose clamp to the specified torque. Install the cover on the hose clamp.

Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	—



- a - Flush socket (quick-connect)
- b - Flush port label
- c - Gasket
- d - Flush valve bracket
- e - Plastic nut
- f - Tethered dust cap
- g - Hose clamp
- h - Hose clamp cover
- i - Flush hose - 3/4 x 42 in.

62338

5. Insert the dust cap in the flush socket with its open end up.



49483

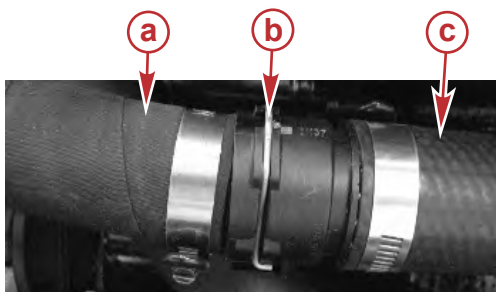
Quick-Connect Y-Fitting Installation

4.3L ECT Models with Quick-Connect Fittings on the Seawater Inlet Hose

NOTICE

Disconnecting the seawater inlet hose will cause water to enter the bilge, resulting in engine damage. Close the seacock before disconnecting the seawater inlet hose. Plug the seawater inlet hose immediately after disconnecting it.

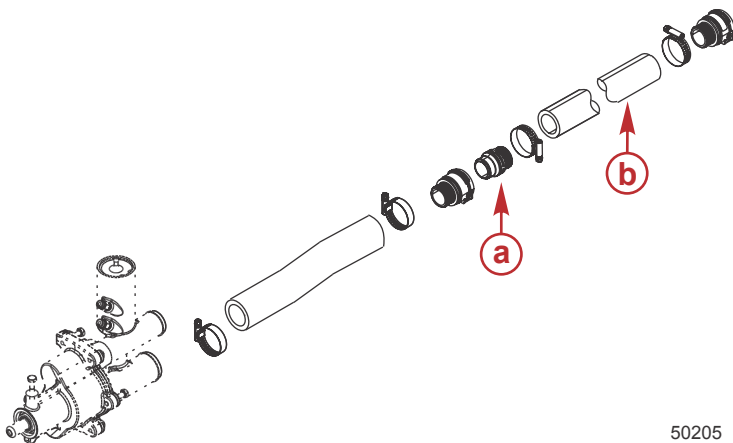
1. Lift the quick-connect wire to the open position and disconnect the seawater inlet hose. Do not remove the seawater inlet hose attached to the seawater pump.



50213

- a** - Seawater inlet hose from the gimbal housing
- b** - Quick-connect wire (closed position)
- c** - Seawater inlet hose to the engine seawater pump

2. Remove the quick-connect male fitting, and retain the hose clamp.

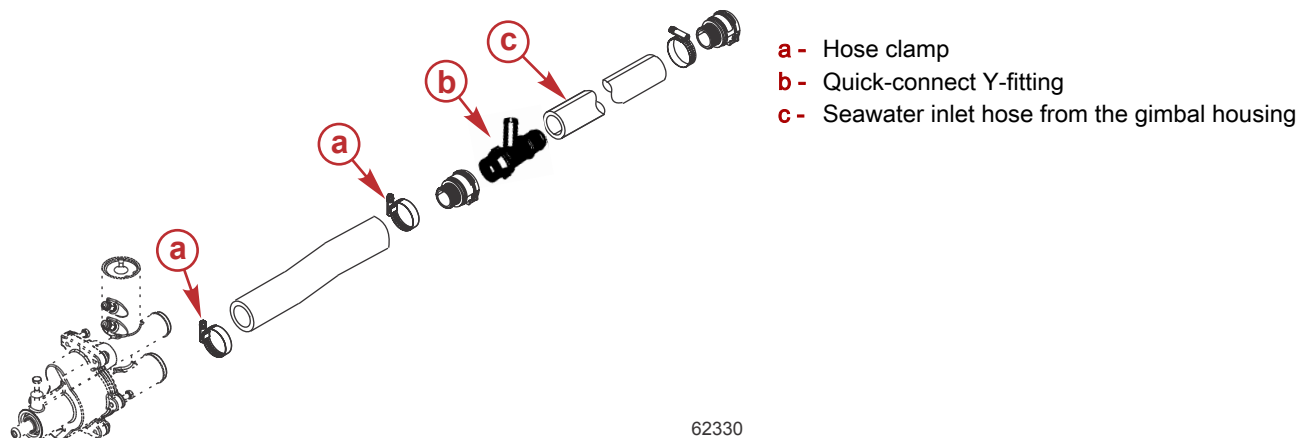


50205

- a** - Quick-connect male fitting
- b** - Seawater inlet hose from the gimbal housing

NOTE: It may be necessary to remove an inch or more from the seawater inlet hose before installing the quick-connect Y-fitting.

- Push the quick-connect Y-fitting supplied with the kit into the seawater inlet hose from the gimbal housing with the inlet pointing up. Slide the hose clamp into place and tighten it to the specified torque.



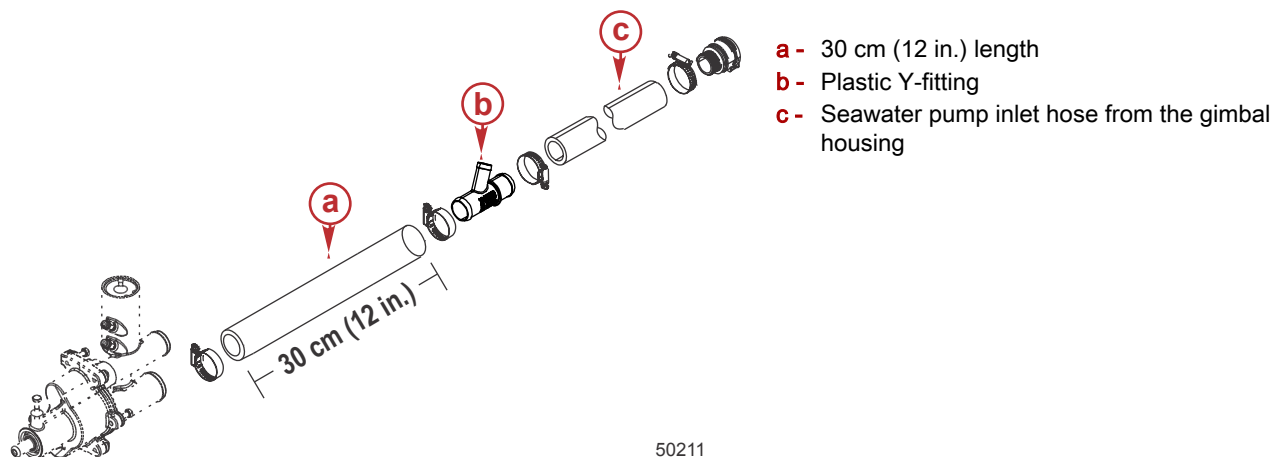
Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

- Connect the seawater inlet hose to the seawater inlet hose on the engine by coupling the male and female quick-connect fittings. Push the quick-connect wire to its locking position. Ensure that the connection is secure by pulling firmly on each side of the quick-connect fitting.

4.3L ECT Models not Equipped with Quick-Connect Fittings on the Seawater Inlet Hose

Using the following guidelines, select the most appropriate location on the seawater inlet hose to install the plastic Y-fitting:

- Measure 30 cm (12 in.) from the sea pump end of the seawater inlet hose and cut the hose.



- Apply soapy water to the inside of the seawater pump inlet hose.
- Place a hose clamp around the end of the seawater pump inlet hose and insert the plastic Y-fitting into the hose. Tighten the hose clamp to the specified torque. Install the hose clamp cover.

Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

- Measure, cut, and discard 32 mm (1-1/4 in.) of the seawater pump inlet hose from the gimbal housing to make room for the plastic Y-fitting.
- Apply soapy water to the inside of the seawater pump inlet hose from the gimbal housing.
- Place a hose clamp around the end of the seawater pump inlet hose from the gimbal housing and slide the hose end onto the plastic Y-fitting hose barb. Tighten the hose clamp to the specified torque and install the hose clamp cover.

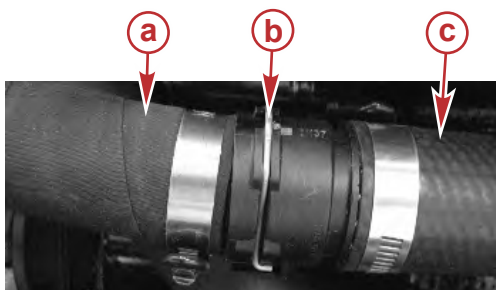
Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

4.5L and 6.2L Sterndrive Models—Design I

NOTICE

Disconnecting the seawater inlet hose will cause water to enter the bilge, resulting in engine damage. Close the seacock before disconnecting the seawater inlet hose. Plug the seawater inlet hose immediately after disconnecting it.

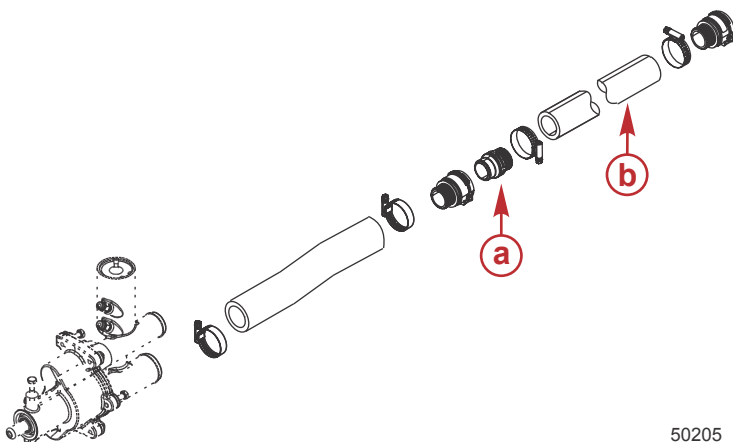
1. Lift the quick-connect wire to the open position and disconnect the seawater inlet hose. Do not remove the seawater inlet hose attached to the seawater pump.



50213

- a - Seawater inlet hose from the gimbal housing
- b - Quick-connect wire (closed position)
- c - Seawater inlet hose to engine seawater pump

2. Remove the quick-connect male fitting, and retain the hose clamp.

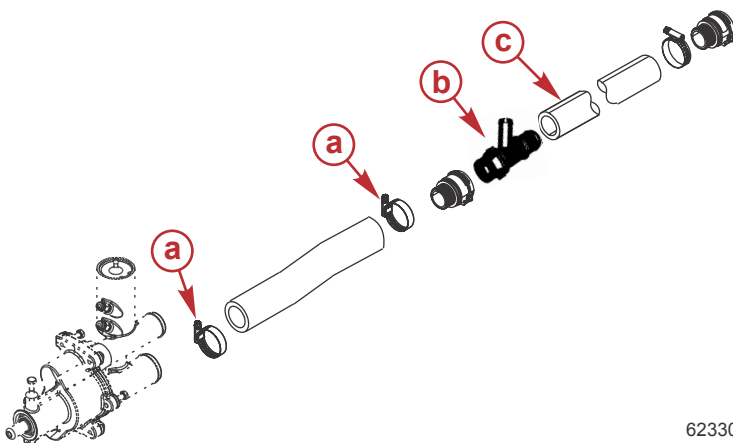


50205

- a - Quick-connect male fitting
- b - Seawater inlet hose from gimbal housing

NOTE: It may be necessary to remove an inch or more from the seawater inlet hose before installing the quick-connect Y-fitting.

3. Push the quick-connect Y-fitting supplied with the kit into the seawater inlet hose end with the inlet pointing up. Slide the hose clamp into place and tighten it to the specified torque.



62330

- a - Hose clamp
- b - Quick-connect Y-fitting
- c - Seawater inlet hose from the gimbal housing

Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	—

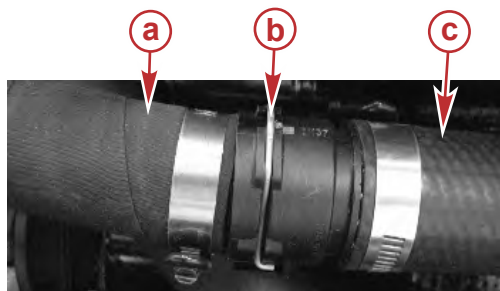
- Connect the seawater inlet hose from the gimbal housing to the seawater inlet hose on the engine by coupling the male and female quick-connect fittings. Push the quick-connect wire to its locking position. Ensure that the connection is secure by pulling firmly on each side of the quick-connect fitting.

4.5L and 6.2L Sterndrive Models—Design II

NOTICE

Disconnecting the seawater inlet hose will cause water to enter the bilge, resulting in engine damage. Close the seacock before disconnecting the seawater inlet hose. Plug the seawater inlet hose immediately after disconnecting it.

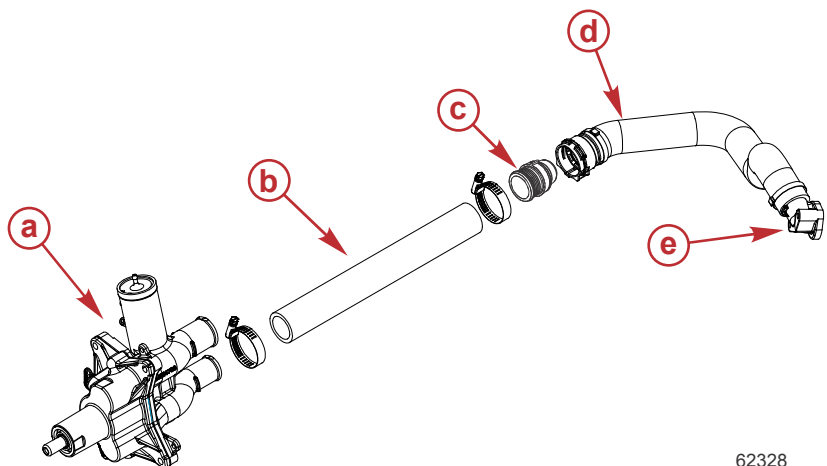
- Lift the quick-connect wire to the open position and disconnect the seawater inlet hose. Do not remove the seawater inlet hose attached to the seawater pump.



50213

- a - Seawater inlet hose from the gimbal housing
- b - Quick-connect wire (closed position)
- c - Seawater inlet hose to the engine seawater pump

- Remove the quick-connect male fitting, and retain the hose clamp.

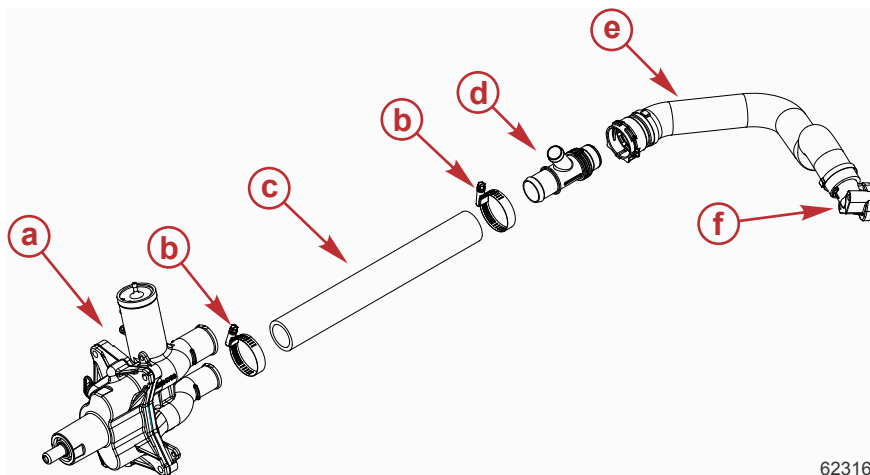


62328

- a - Seawater pump
- b - Seawater inlet hose to the seawater pump
- c - Quick-connect male fitting
- d - Seawater inlet hose from the gimbal housing
- e - Water outlet connection on the gimbal housing

- Push the quick-connect Y-fitting supplied with the kit into the seawater inlet hose end with the inlet pointing up. Slide the hose clamp into place and tighten it to the specified torque.

NOTE: The seawater inlet hose (reference callout c) will need to be cut to 31.75 cm (12.5 in.) for the V6 models and 41.90 cm (16.5 in.) for the V8 models.



62316

- a - Seawater pump
- b - Hose clamp
- c - Seawater inlet hose to the seawater pump
- d - Quick-connect Y-fitting
- e - Seawater inlet hose from the gimbal housing
- f - Water outlet connection on gimbal housing

Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

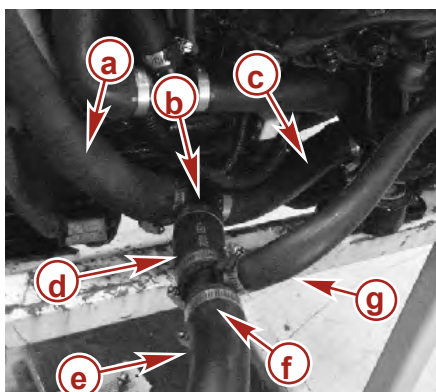
- Connect the seawater inlet hose from the gimbal housing to the seawater inlet hose on the engine by coupling the male and female quick-connect fittings. Push the quick-connect wire to its locking position. Ensure that the connection is secure by pulling firmly on each side of the quick-connect fitting.

Models Equipped with Two Seawater Inlets on the Seawater Inlet Hose

NOTE: This application requires the use of an additional Y-fitting which will need to be ordered separately.

Qty.	Description	Part Number
1	Y-fitting	864727

Using the following guidelines and illustrations, install the plastic Y-fitting at the appropriate location on the alternative (transom or through-the-hull pickup) seawater inlet hose.



49762

Completed assembly shown

- a** - Seawater inlet from transom
- b** - Cast metal Y-fitting
- c** - Hose to seawater pump
- d** - 10 cm (4 in.) section of alternative seawater inlet hose
- e** - Hose to alternative seawater pickup
- f** - Plastic Y-fitting
- g** - Flush hose to socket fitting on bracket

- Measure 10 cm (4 in.) from the cast metal Y-fitting of the alternative seawater inlet hose and cut the hose.
- Apply soapy water to the inside of the alternative seawater pump inlet hose.
- Place a hose clamp around the end of the seawater pump inlet hose and insert the provided plastic Y-fitting into the hose. Orient the plastic Y-fitting so that the water from the flush hose is directed toward the seawater pump. Tighten the hose clamp to the specified torque. Install the hose clamp cover.

Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

- Measure, cut, and discard 32 mm (1-1/4 in.) of the alternative seawater pump inlet hose to accommodate the plastic Y-fitting.
- Apply soapy water to the inside of the seawater pump inlet hose.
- Place a hose clamp around the end of the alternative seawater pump inlet hose and install the plastic Y-fitting. Tighten the hose clamp to the specified torque. Install the hose clamp cover.

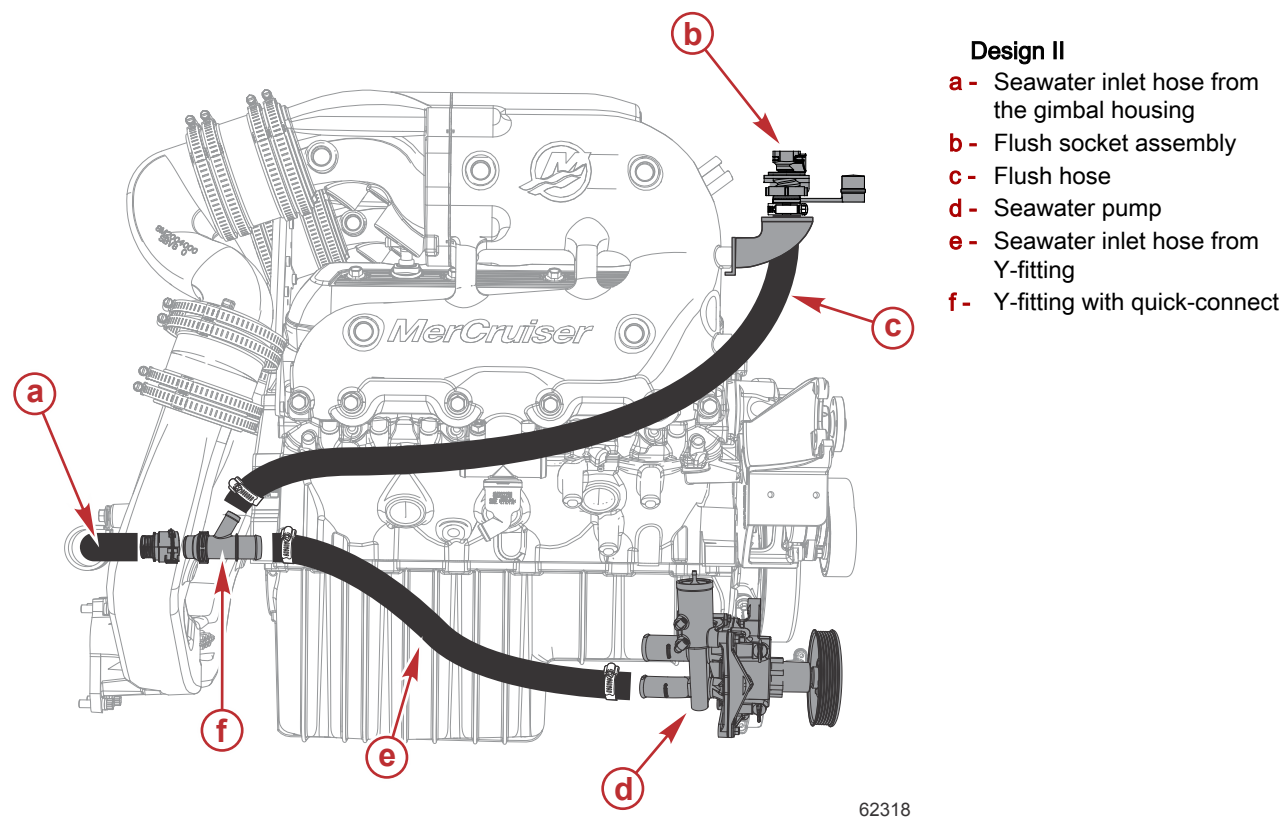
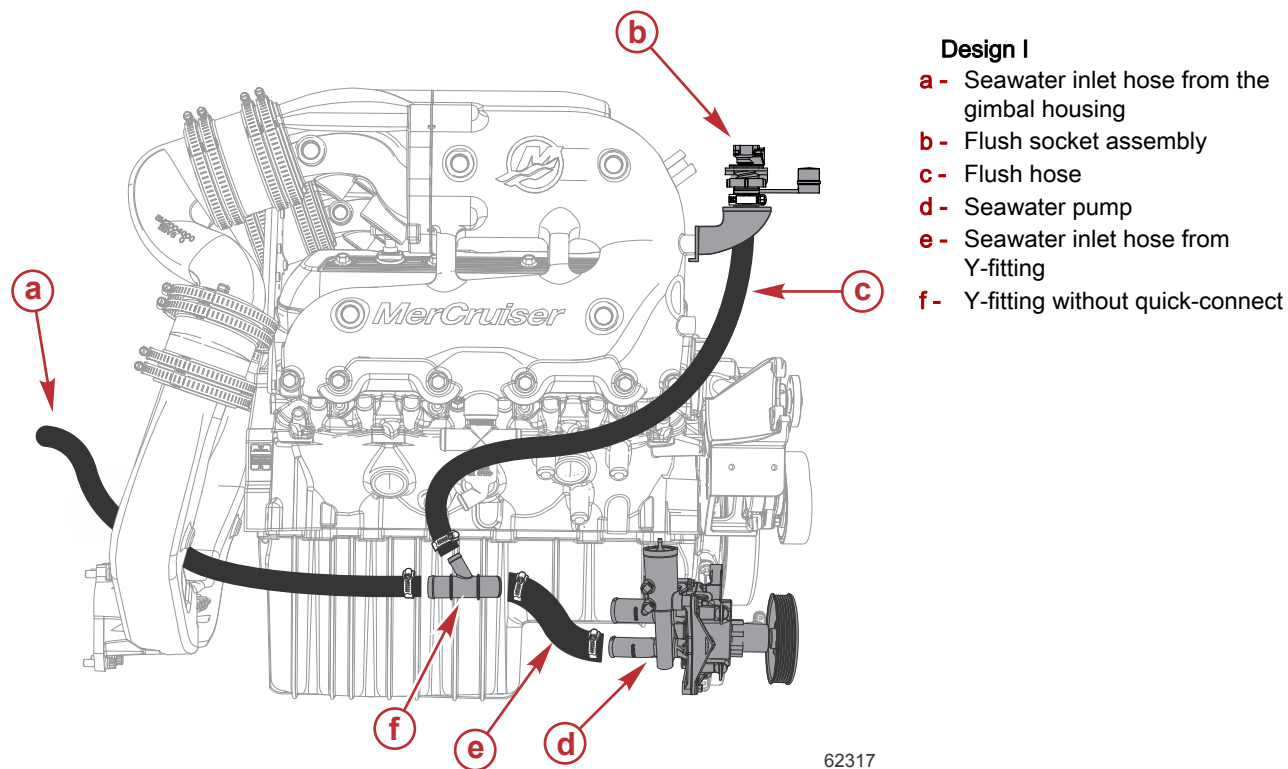
Description	Nm	lb-in.	lb-ft
Hose clamp	3	26.5	–

Flush Hose Installation

- Route the flush hose from the flush socket to the appropriate Y-fitting and cut the hose to length, if needed. A typical routing is shown in the following illustrations.
- Slide a hose clamp onto both ends of the flush hose and install the flush hose onto the flush socket and Y-fitting. Tighten the hose clamps to the specified torque.

Description	Nm	lb-in.	lb-ft
Hose clamps	3	26.5	–

IMPORTANT: If a cable tie is used to secure the flush hose to the exhaust manifold hose, it is crucial to maintain an air gap between all hoses and the exhaust manifold. The bottom surface of the exhaust manifold can reach high temperatures that can damage any hose that contacts it. Also, be aware of any sharp objects and allow access to the drain plug.



Flushing Procedures

Check the Hose Connections

⚠ CAUTION

Disconnecting or connecting the battery cables in the incorrect order can cause injury from electrical shock or can damage the electrical system. Always disconnect the negative (-) battery cable first and connect it last.

NOTICE

Without sufficient cooling water, the engine, the water pump, and other components will overheat and suffer damage. Provide a sufficient supply of water to the water inlets during operation.

1. Connect the battery cables.
2. Operate the bilge blower for at least four minutes before starting the engine.
3. Upon first starting the engine, ensure that no leaks exist. If a leak exists, immediately stop the engine and correct the leak before proceeding.

Flushing the Sterndrive Power Package with the Engine-Mounted Flush System

General Information

Flushing the power package is most effective when performed with the boat and sterndrive out of the water.

The engine-mounted flush system is designed to flush the Bravo sterndrive and the engine with a single water source. For other methods of flushing the power package, refer to the appropriate Mercury MerCruiser Operation, Maintenance and Warranty Manual.

IMPORTANT: Flush the engine package if it has been operated in saltwater, brackish water, mineral-laden water, or polluted water. For best results we recommend flushing after each outing and before cold weather and extended storage.

Boat Out of the Water—Bravo Sterndrive

The following procedure applies to models equipped with through-the-drive, through-the-hull, or through-the-transom water pickups.

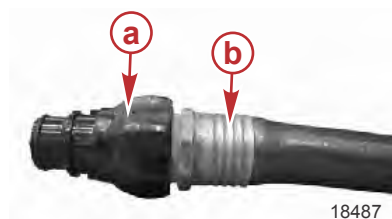
IMPORTANT: Do not block or remove the inlet water hose connecting the sterndrive to the engine.

1. Lower the sterndrive to the full down position.

⚠ WARNING

Rotating propellers can cause serious injury or death. Never operate the boat out of the water with a propeller installed. Before installing or removing a propeller, place the drive unit in neutral and engage the lanyard stop switch to prevent the engine from starting. Place a block of wood between the propeller blade and the anti-ventilation plate.

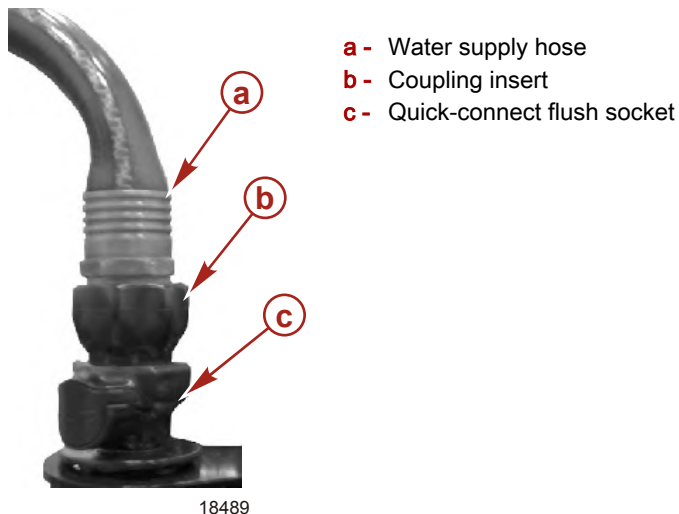
2. Remove the propeller or propellers.
3. Attach the coupling insert to the water supply hose.



- a** - Coupling insert
b - Water supply hose

4. Connect the water supply hose to the water source.

5. Insert the coupling insert of the water supply hose into the flush socket on the engine. Ensure that the fitting is completely seated in the socket.



NOTICE

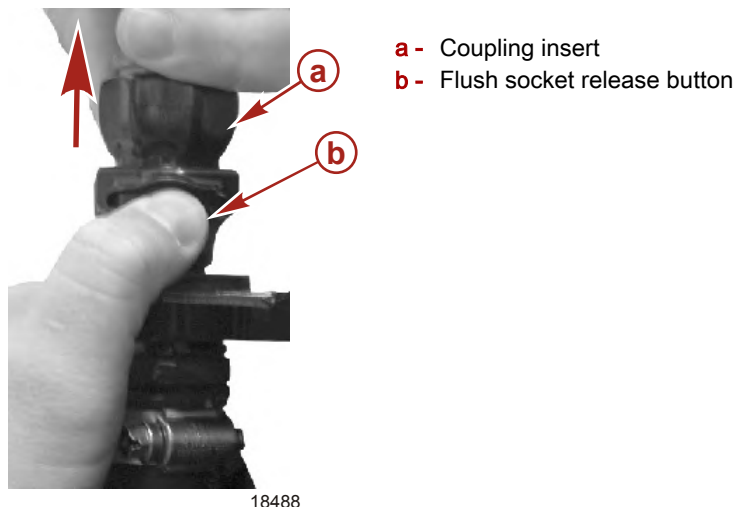
Flushing the engine when it is not operating will result in water collecting in the exhaust system, damaging the engine. Do not supply flush water for more than 15 seconds without the engine operating.

6. With the sterndrive in the normal operating position, completely open the water source to provide maximum water supply.
7. Place the remote control in the neutral idle speed position and start the engine.

NOTICE

Operating the engine out of the water at high speeds creates suction, which can collapse the water supply hose and overheat the engine. Do not operate the engine above 1400 RPM out of the water and without sufficient cooling water supply.

8. Press the throttle only button and slowly advance the throttle until the engine reaches 1300 RPM (± 100 RPM).
9. Observe the water temperature gauge to ensure that the engine is operating in the normal range.
10. Operate the engine with the sterndrive in neutral for a minimum of 10 minutes.
11. For power packages operated in saltwater, brackish water, mineral-laden water, or polluted water, continue to operate the engine until the discharge water is clear.
12. Slowly return the throttle to the idle speed position.
13. Stop the engine.
14. Turn off the water supply.
15. Disconnect the water supply hose by pressing the release button on the flush socket.



16. Remove the coupling insert from the water hose. Retain the fitting for repeated use.

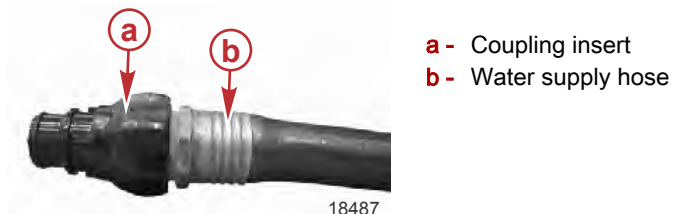
17. Insert the dust cover into the flush socket on the engine.



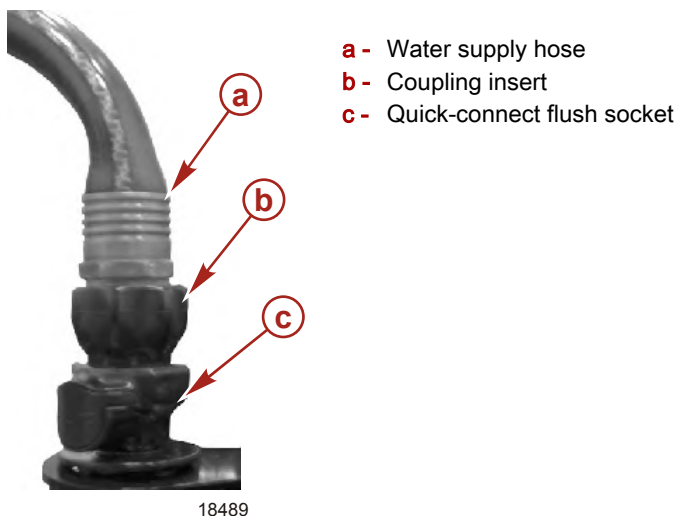
Boat in the Water—Bravo Sterndrive

IMPORTANT: Flush the engine package if it has been operated in saltwater, brackish water, mineral-laden water, or polluted water. For best results we recommend flushing after each outing and before cold weather and extended storage.

1. Close the seacock, if equipped.
2. If not equipped with a seacock, disconnect the seawater pump inlet hose from the transom side of the Y-fitting and plug the open ends on the hose and the Y-fitting. Do not block the water inlet to the Y-fitting from the flush hose.
3. Lower the sterndrive to the full down position.
4. Attach the coupling insert to the water supply hose.



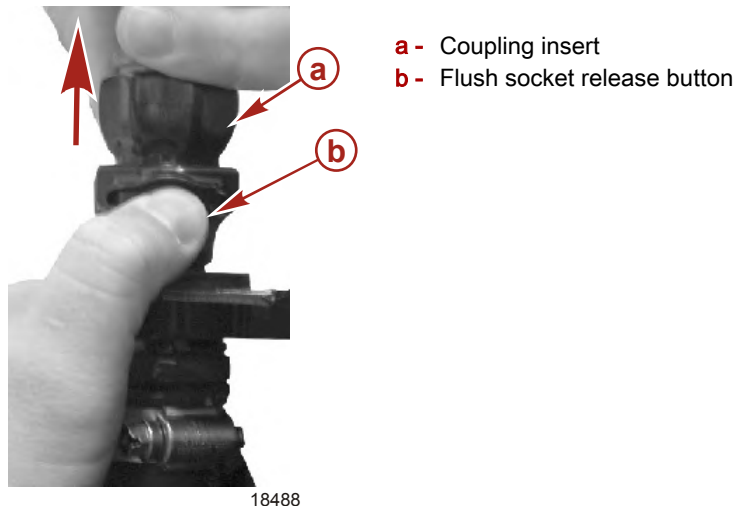
5. Connect the water supply hose to the water source.
6. Insert the coupling insert of the water supply hose into the flush socket on the engine. Ensure that the coupling insert is completely seated into the flush socket.



NOTICE

Flushing the engine when it is not operating will result in water collecting in the exhaust system, damaging the engine. Do not supply flush water for more than 15 seconds without the engine operating.

7. With the sterndrive unit in normal operating position, completely open the water source to provide maximum water supply.
8. Press the throttle only button and slowly advance the throttle until the engine reaches 1300 RPM (\pm 100 RPM).
9. Observe the water temperature gauge to ensure that the engine is operating in the normal range.
10. Operate the engine with the sterndrive in neutral for a minimum of 10 minutes.
11. Slowly return the throttle to the idle speed position.
12. Stop the engine.
13. Shut off the water supply.
14. Disconnect the water supply hose by pressing the release button on the flush socket.



15. Remove the coupling insert from the water hose. Retain the fitting for repeated use.
16. Insert the dust cover into the flush socket on the engine.



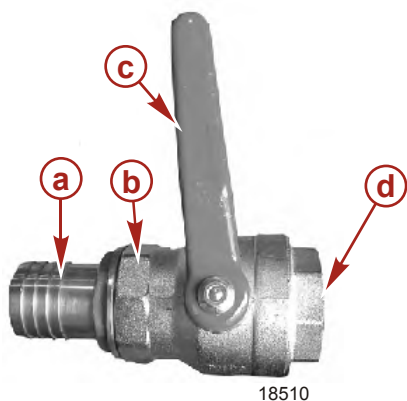
17. Connect the seawater pump inlet hose.
18. If equipped, open the seacock before starting the engine.

Flushing the Power Package—TowSport Models with a Flushing Attachment

NOTE: Flushing is needed only for salty, brackish, mineral-laden, or polluted water applications. Flushing is recommended after each outing for best results.

IMPORTANT: Do not allow the engine to pull air or seawater from an alternative water pickup source during the flushing procedure. If equipped, ensure that all alternative water inlet hoses are plugged at both ends.

1. Close the seacock, if equipped.

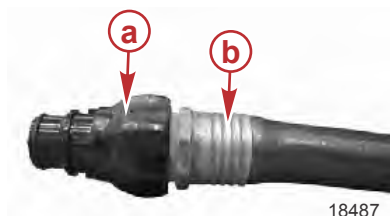


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For visual clarity, the seacock shown is not installed

- a - Hose fitting to engine
- b - Seacock
- c - Handle (closed position)
- d - To water source pickup attachment

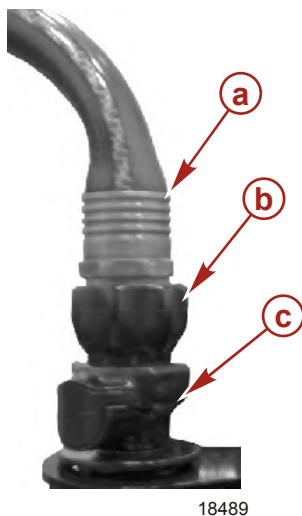
2. If the boat is not equipped with a seacock, disconnect the water hose from the water pickup and plug both ends to prevent water from entering the boat.
3. Remove the coupling insert from the parts bag supplied with the engine.
4. Attach the coupling insert to a water supply hose.



18487

- a - Coupling insert
- b - Water supply hose

5. Snap the coupling insert with the water hose into the flush socket on the engine.



18489

- a - Water hose
- b - Coupling insert
- c - Flush socket

NOTICE

Flushing the engine when it is not operating will result in water collecting in the exhaust system, damaging the engine. Do not supply flush water for more than 15 seconds without the engine operating.

6. Open the water source of the water hose to a full flow.

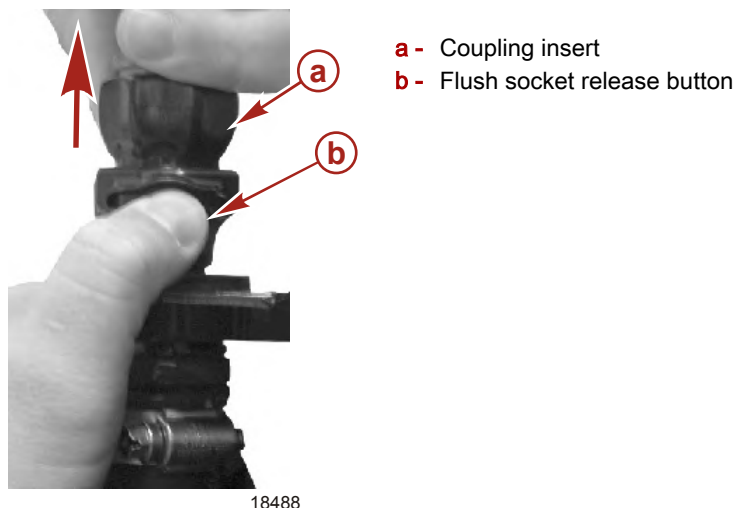
NOTICE

Operating the engine out of the water at high speeds creates suction, which can collapse the water supply hose and overheat the engine. Do not operate the engine above 1400 RPM out of the water and without sufficient cooling water supply.

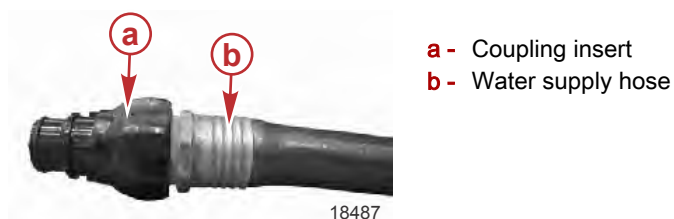
7. Place the remote control in neutral idle speed position and start the engine immediately.
8. Operate the engine at idle speed in neutral gear. Do not exceed 1300 RPM (\pm 100 RPM).
9. Monitor the engine temperature while operating the engine.

4.3L ECT, 4.5L, AND 6.2L ENGINE FLUSH KIT

10. Flush the engine for 10 minutes.
11. Shut off the engine.
12. Turn off the water source.
13. Disconnect the coupling insert and water hose from the flush socket on the engine by pressing the release button on the flush socket.

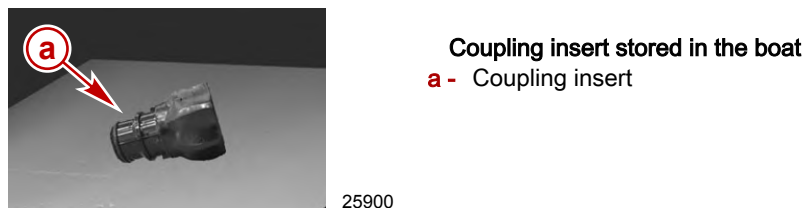


14. Remove the coupling insert from the water supply hose.



15. Retain the coupling insert with the water hose end for repeated use by storing it separately in a storage compartment on the boat for easy access.

IMPORTANT: Do not store the coupling insert in the flush socket on the engine. Doing so would allow the seawater pump to suck air during engine operation causing an overheating problem. Damages due to engine overheating are not covered by Mercury MerCruiser Warranty.



16. Insert the dust cover in the flush socket on the engine.



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Dust cover installed in the flush socket

- a -** Dust cover
b - Flush socket

17. Remove the plugs from the water hose and connect to the fittings. Tighten the hose clamps securely.
18. Open the seacock, if equipped.

IMPORTANT: If the unit is to be stored in the water, the seacock should remain closed until time of usage. If the unit is to be stored out of the water, open the seacock.

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W6250 Pioneer Road
Fond du Lac, WI 54936-1939

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