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# Exhaust System

## Section 7F - Collectors

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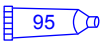
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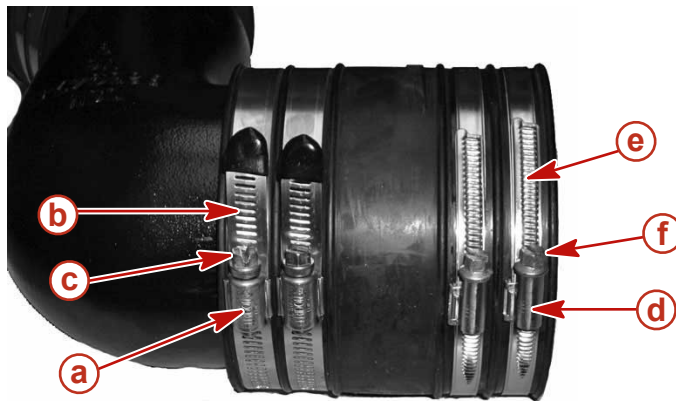
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## Lubricant, Sealant, Adhesives

Tube Ref No.	Description	Where Used	Part No.
	Automotive weather-strip adhesive	Air intake filter	Obtain Locally
	2-4-C with Teflon	Air cylinder-to-silencer pipe flapper at clevis and pin	92-802859A 1

## Hose Clamp Identification

**IMPORTANT:** Two different types of hose clamps may be used in various locations on Mercury MerCruiser power packages. The hose clamps differ in appearance and require different torque specifications.



- a - Tridon hose clamp
- b - Slot cut through the band
- c - Screw hex head (5/16 in.)
- d - Norma hose clamp
- e - Solid stamping
- f - Screw hex head (7 mm)

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## Tridon Hose Clamp

The Tridon hose clamp uses a worm screw with 5/16 in. hex head to engage slots cut through the band.

Description	Nm	lb-in.	lb-ft
Tridon hose clamp	4.41	39	–

## Norma Hose Clamp

The Norma hose clamp is narrower than the original hose clamp and solid-stamped to eliminate cuts through the band. The hex head size of the screw is 7 mm.

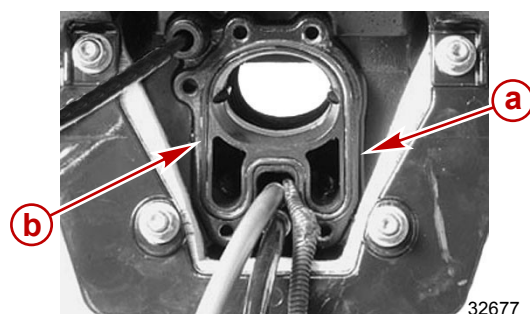
Description	Nm	lb-in.	lb-ft
Norma hose clamp	3.33	29.5	–

## Component Replacement

### Through Propeller Exhaust

**IMPORTANT:** The exhaust pipe and the gimbal housing mating surface must be clean and free of nicks and scratches and the O-ring must be properly seated in the groove or water may leak into the boat.

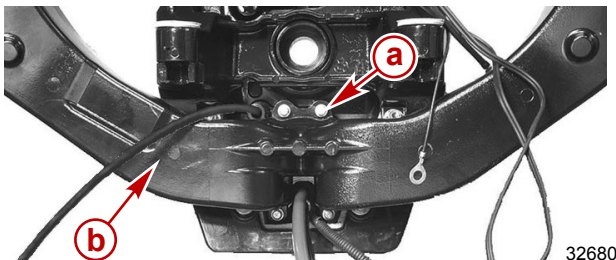
1. Inspect and clean the mating surfaces on the gimbal housing.
2. Inspect the O-ring. The O-ring must remain in the groove.



- a - Mating surface
- b - O-ring

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3. Inspect and clean the mating surfaces on the exhaust pipe.
4. Install the exhaust pipe assembly using the 4 screws and lock-washers. Tighten the screws to specification.



- a - Exhaust Y pipe to gimbal housing bolt (4)  
b - Engine exhaust pipe

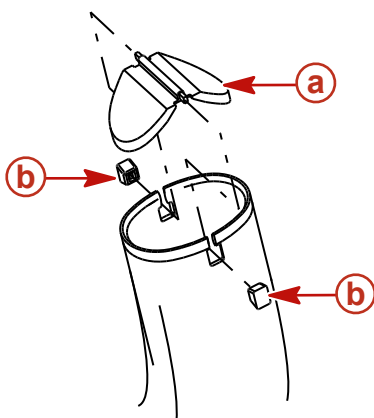
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Description	Nm	lb-in.	lb-ft
Exhaust pipe screw	34	–	25

## Water Shutter Replacement

**IMPORTANT:** The exhaust system supplied by Mercury MerCruiser is compliant with ABYC Standard P-1. If components are utilized in any portion of the exhaust system that modify the design of the supplied system, it is the boat builder's responsibility to ensure that the new system complies with the ABYC Standards. Exhaust system connections to components other than supplied by Mercury Marine must utilize two stainless steel clamps of minimum 13 mm (½ in.) in width at each joint.

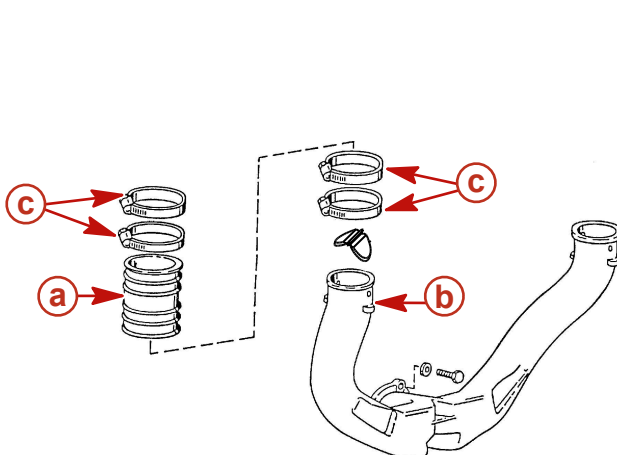
1. Remove and retain the intermediate exhaust pipe from the Y pipe.
2. Remove and discard the water shutter and grommets from the Y pipe.
3. Install the water shutter into the Y pipe. Ensure that the water shutter is seated into the rubber grommets.



- a - Water shutter  
b - Rubber grommet

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4. Install the exhaust tube and the intermediate exhaust pipe onto the exhaust Y pipe and secure with hose clamps. Tighten the hose clamps to specification.



- a - Exhaust tube  
b - Hose clamps  
c - Exhaust Y pipe

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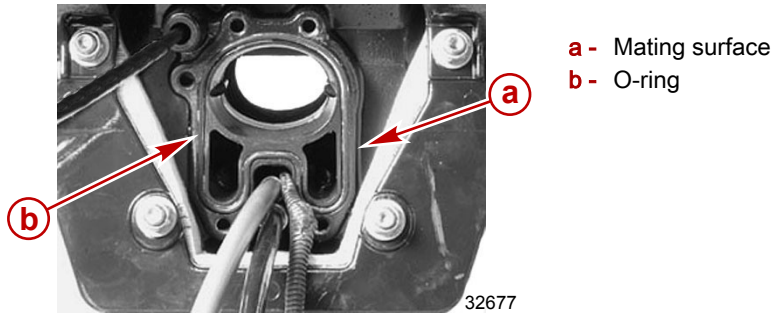
Description	Nm	lb-in.	lb-ft
Tridon hose clamp (exhaust tube)	4.41	39	–
Norma hose clamp (exhaust tube)	3.33	29.5	–

### Through the Transom Exhaust

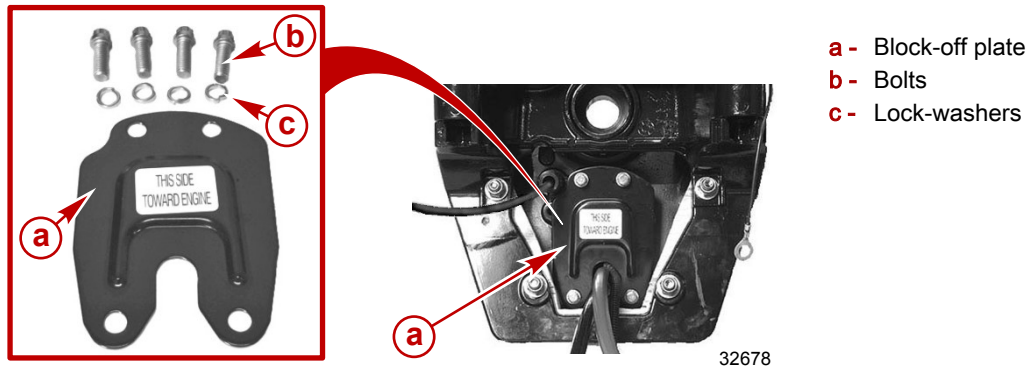
**IMPORTANT:** The block-off plate and the gimbal housing mating surface must be clean and free of nicks and scratches and O-ring must be properly seated in the groove or water may leak into boat.

**IMPORTANT:** A block-off plate must be installed when using through the transom exhaust or below swim platform kits.

1. Inspect and clean the mating surfaces on the gimbal housing.
2. Inspect the O-ring. The O-ring must remain in the groove.



3. Inspect and clean the mating surfaces on the block-off plate.
4. Install the block-off plate assembly using the 4 screws and lock-washers. Tighten the screws to specification.

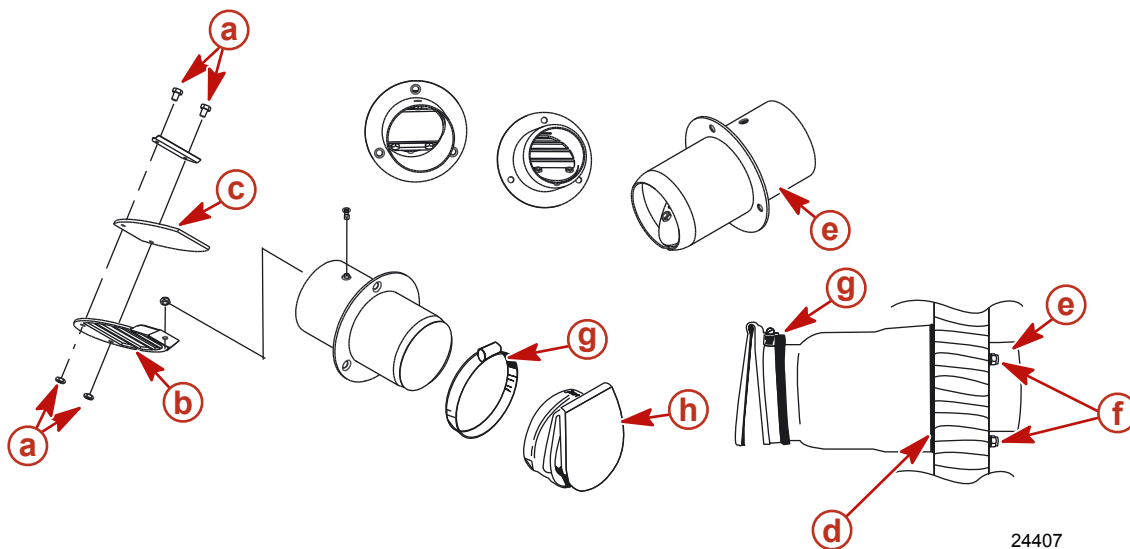


Description	Nm	lb-in.	lb-ft
Exhaust block-off plate bolts	34	–	25

### Shutter Replacement

1. Remove the exhaust hose clamps.
2. Remove the exhaust hose.
3. Install the new shutter. Tighten the screws and nuts securely.

4. Reinstall the exhaust hose. Tighten clamps securely.



#### Transom exhaust kit

- a- Screw and nut (2)
- b- Support member
- c- Water shutter
- d- Gasket
- e- Exhaust flange
- f- Bolts, washers and nuts (3)
- g- Clamp
- h- Cover (flapper)

## Silent Choice Exhaust System

**IMPORTANT:** When installing the Silent Choice exhaust, or other switchable exhaust, it is required that the exhaust bellows on the transom assembly be removed, and replaced with an exhaust tube. This is necessary to avoid creating a vacuum at the exhaust outlet in the propeller at higher boat speeds. This vacuum could degrade propeller performance on some boats.

### NOTICE

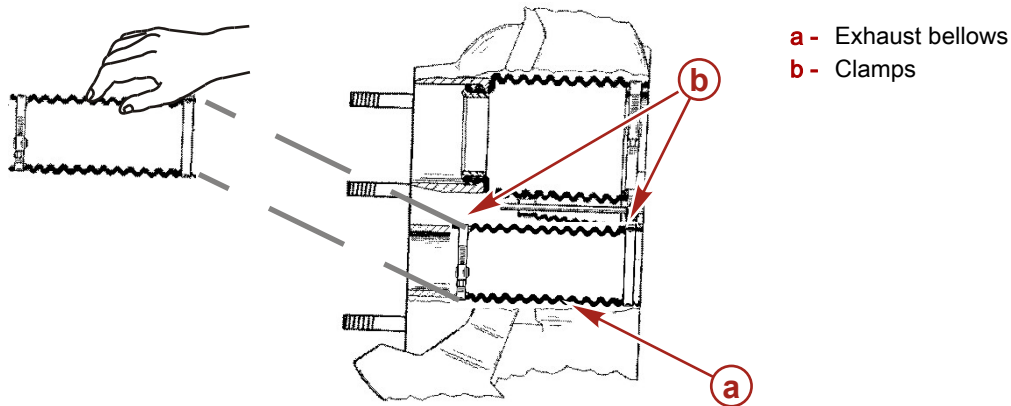
Improperly designing, installing, or modifying the engine's exhaust system can introduce seawater or water from condensation into the combustion chambers, damaging the engine. The installing dealer or boat builder is responsible for proper installation of the exhaust system as explained in the installation instructions for the product. Engine damage resulting from water ingestion is not covered by the product warranty, unless the damage is the result of a defective part supplied by the engine manufacturer.

## Exhaust Tube Installation

**IMPORTANT:** When installing through the propeller exhaust:

- With Bravo One and Bravo Two Sterndrives, the exhaust bellows must be removed and an exhaust tube must be installed.
- With Bravo Three Sterndrives, the exhaust bellows must be removed and an exhaust tube must be installed
- With an exhaust system that can be switched from either through the propeller or through the transom exhaust, the exhaust bellows must be removed and an exhaust tube must be installed.
- With any application, installation of an exhaust tube will increase exhaust noise.

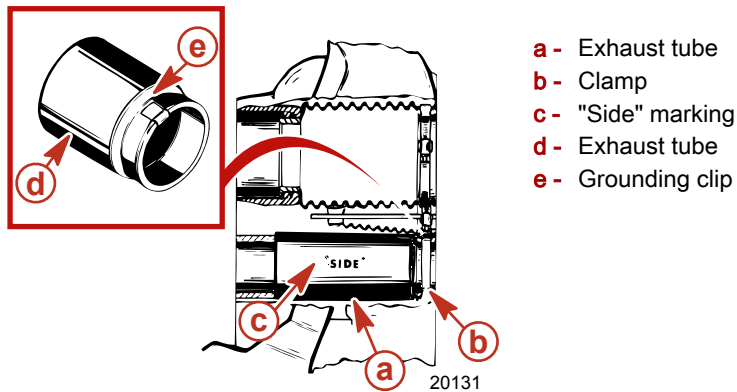
1. Remove and discard the clamps and exhaust bellows from the gimbal housing.



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**IMPORTANT:** Failure to install the grounding clip can damage the exhaust tube due to corrosion. Always install the grounding clip.

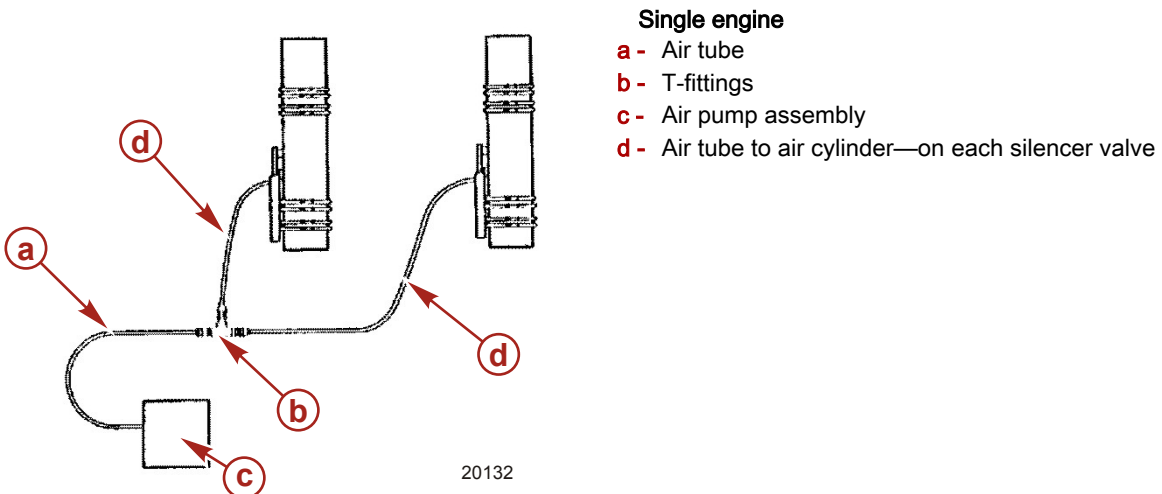
2. Install the grounding clip on the exhaust tube.  
*NOTE: Bellows adhesive is not used when installing an exhaust tube*
3. Position the tube so that the "side" markings on the tube are facing toward the right and left sides.
4. Install the clamp.
5. Tighten the clamp securely.



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### Air Tube Routing

1. Route the air tubing from the air pump to the silencer valve cylinders. Do not route the air tubing close to hot surfaces. Excessive heat will damage the air tubes.



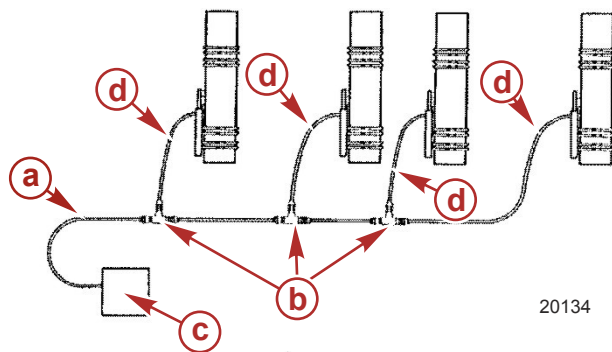
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#### Single engine

- a - Air tube
- b - T-fittings
- c - Air pump assembly
- d - Air tube to air cylinder—on each silencer valve

**Dual engine**


- a - Air tube
- b - T-fittings
- c - Air pump assembly
- d - Air tube to air cylinder—on each silencer valve

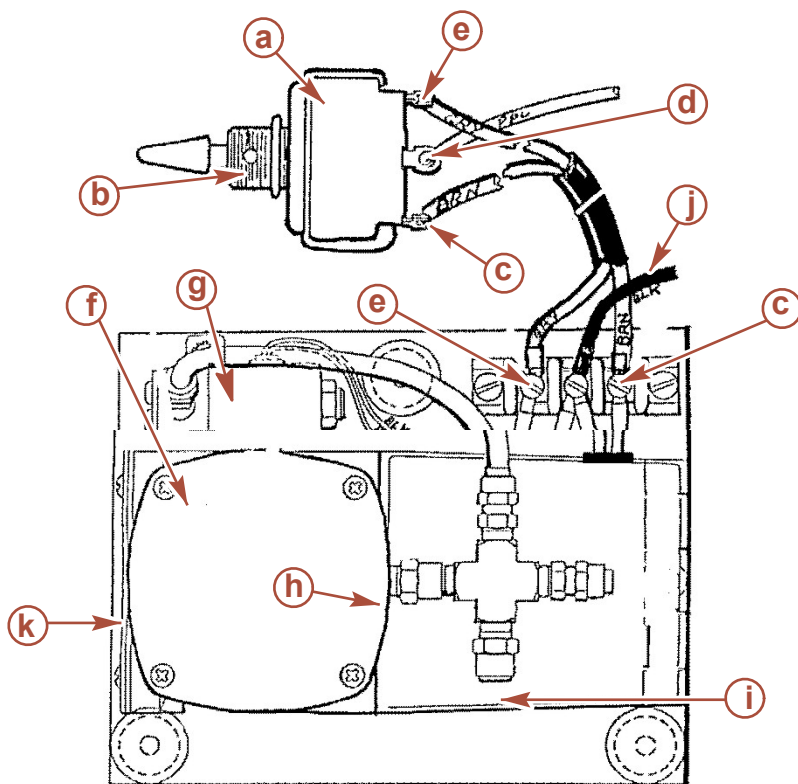


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**Maintenance**

- The air intake filter (32-17272) must be checked once each year. If the filter is clogged or partially clogged, replace the filter. The filter pad is glued in and may be removed with needle-nose pliers. Clean the surface in casting, apply a single dot of adhesive to the center of the air intake filter, and install the new filter. Be careful not to coat the filter or clog the air intake holes with adhesive.

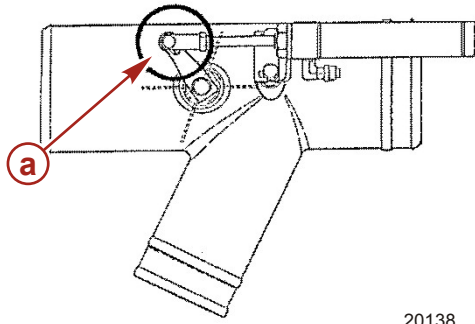
Tube Ref No.	Description	Where Used	Part No.
	Automotive weather-strip adhesive	Air intake filter	Obtain Locally



20136


- a - Mode switch
- b - Keyway—install in down position
- c - BROWN wire to terminal 3—activates compressor
- d - PURPLE wire—12 volt; connect to 12-volt source in control panel area
- e - GRAY wire to terminal 1—activates solenoid
- f - Air pump
- g - Solenoid
- h - Check valve
- i - Relief valve—30 psi
- j - 610 mm (2 ft.) ground wire
- k - Air intake filter

2. Lubricate the air cylinder-to-silencer pipe flapper at the clevis and pin, as needed, with lubricant.



a - Clevis and pin

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Tube Ref No.	Description	Where Used	Part No.
 95	2-4-C with Teflon	Air cylinder-to-silencer pipe flapper at clevis and pin	92-802859A 1