

INSTALLATION INSTRUCTIONS FOR PART NO. 18-1987-1 MANIFOLD CONVERSION KIT

Preface

Please note that this Conversion Kit is designed to be used on those Mercruiser Sterndrives which utilize the "Log Style" exhaust manifolds, the smallblock Chevy V8 and the low mounted power steering pump. Do not use the exhaust manifolds in this kit on those models utilizing swirl port heads.

Always exercise safety precautions before, during and after any mechanical work. Remember to avoid the presence of spark, open flame and extreme heat when working with or around gasoline. Do not forget to disconnect the battery terminals from the battery before starting any mechanical work.

Contents

QTY	DESCRIPTION	QTY	DESCRIPTION
2	Exhaust Manifolds	1	Solenoid bracket
2	Exhaust elbows	2	11" x 3" Exhaust hose
1	T-Stat housing	1	Filter Bracket Spacer
2	90 degree nylon elbow	1	T-Stat mounting gasket
2	3/4" Iron plugs	2	Exhaust manifold gaskets
8	1/4" Brass plugs	2	Exhaust elbow gaskets
2	3/8" Brass plugs	1	Thermostat
11	3/8" x 1 1/4" Bolts	2	3/8" x 1" Bolts
4	26 to 38mm SS hose clamp	15	3/8" Lockwashers
1	Alternator bracket	2	1/4" x 1/2" Bolts
2	80 degree Elbows	2	1/4" Locknuts
4	Large Stainless Hose Clamps	1	3/8" x 1 3/4" Bolt
1	Fuel Filter Bracket	2	27" x 1" Water Hoses

DISASSEMBLY

DISASSEMBLY OF THERMOSTAT HOUSING AND COVER

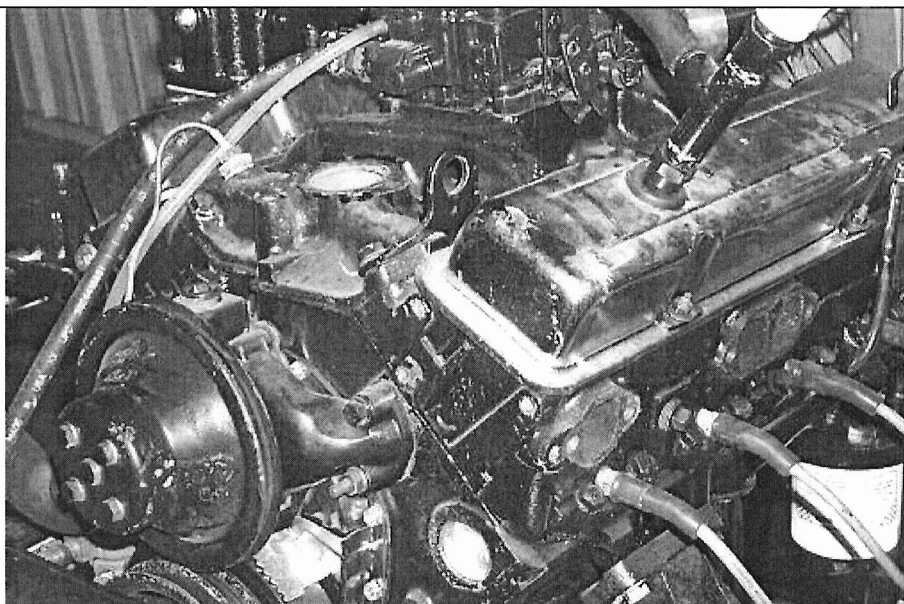
- A. Drain cooling system of water.
- B. Remove feed (rear of manifold) and return (front of manifold) water hoses from both exhaust manifolds.
- C. Remove water hoses from both elbows.
- D. Remove circulation pump to thermostat housing water hose.
- E. Remove water inlet hose from thermostat housing.
- F. Unbolt thermostat cover and housing, remove it and the attached hoses from the engine.

DISASSEMBLY OF ALTERNATOR

- A. Make sure the battery terminals are disconnected from the battery.**
- B. Loosen the alternator bracket (attached to the port manifold) to alternator pivot/tension bolt and nut.
- C. Loosen lower alternator brace to alternator attaching bolt then pivot alternator downward. Remove alternator drive belt.
- D. Remove alternator brace to alternator pivot/tension bolt and nut. Support the alternator out of the way.

DISASSEMBLY OF EXHAUST MANIFOLDS AND ATTACHED HARDWARE

- A. Loosen and remove fuel lines from the water separating fuel filter and plug the lines to prevent fuel spillage, and then remove filter assembly from the front of the starboard exhaust manifold.
- B. Loosen and remove solenoid from its bracket located at the rear of the starboard exhaust manifold, leave wires attached.
- C. Loosen and work exhaust bellows loose from both exhaust elbows.
- D. Loosen and remove the exhaust manifold bolts, then remove the exhaust manifolds with the elbows attached (if there is not ample clearance for this you can first remove the elbows then the manifolds)



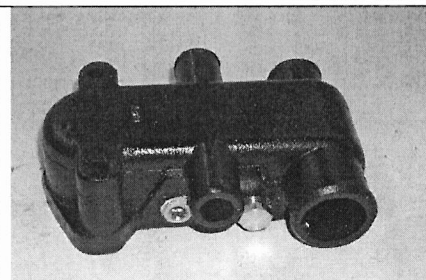
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SIERRA MARINE PRODUCTS

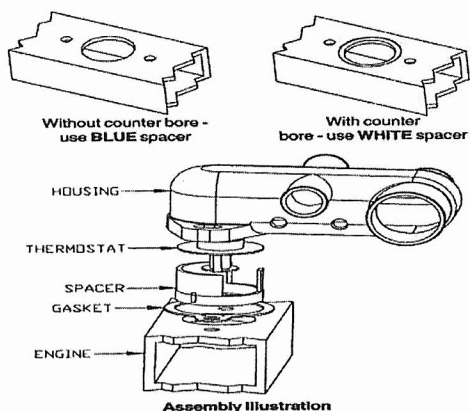
ASSEMBLY

NOTE: Make sure all mating surfaces are clean and free of any oil, grease or gasket residue. Use Sierra gasket remover (part # 18-9008) to aid in the removal of any gasket residues, cements or carbon deposits.

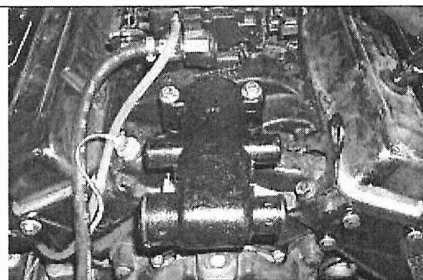
ASSEMBLY OF THERMOSTAT HOUSING AND COVER



A. Locate the three 3/8 inch brass plugs. Tape the threads appropriately with Teflon tape and securely fasten the plugs into their threaded holes.



B. Place the thermostat in the thermostat housing (make certain the pointed end faces up into the thermostat housing). Install the appropriate thermoplastic spacer behind it to hold it in place. Reference the illustration at left to determine whether the blue or white spacer should be used. Coat both sides of the thermostat housing gasket (with continuity rivets) with an appropriate sealer (part # 18-9070) and position gasket onto the intake manifold.

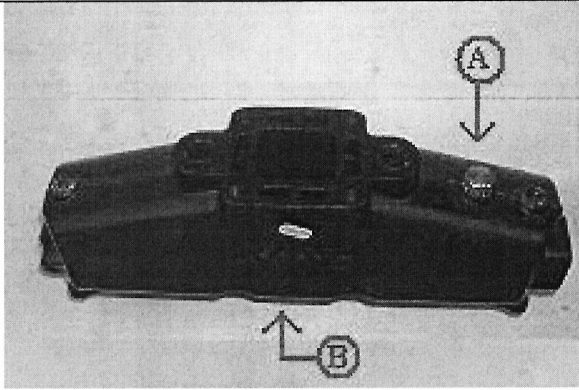


C. Place and position thermostat housing onto the intake manifold. Coat bolt threads with Sierra Anti-Seize Lubricant (part # 18-9018). Install bolts and washers tighten them evenly to 30 lbs. ft. (41 N.M.)

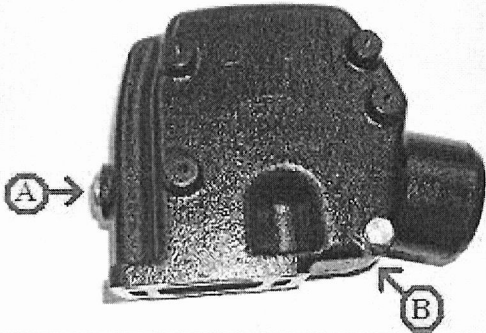
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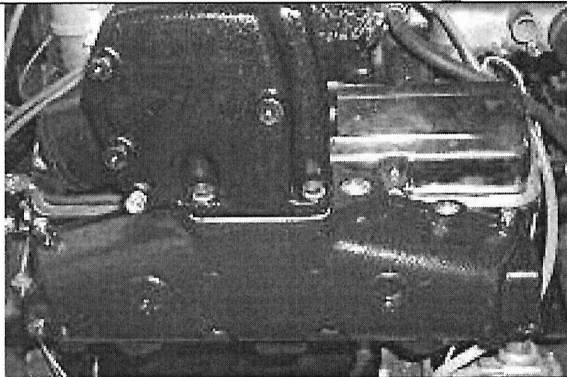
ASSEMBLY OF EXHAUST MANIFOLDS AND ELBOWS



A. Locate two 1/2 inch plugs and two 90 degree plastic elbows with drain. Tape the threaded portions of the plugs and elbows appropriately with teflon tape, then position and securely screw in the plugs at location A and elbows at location B as shown in the illustration to the left. Locate the eight exhaust manifold bolts and coat the threads with Anti-Seize Lubricant (part #18-9018). Using the exhaust manifold gaskets provided, position and bolt the manifolds to the cylinder heads. Tighten bolts evenly starting with the two innermost bolts working to the two outermost bolts. Tighten all four bolts once each cycle. Tighten to 25 lbs. ft. (34 N.M.).

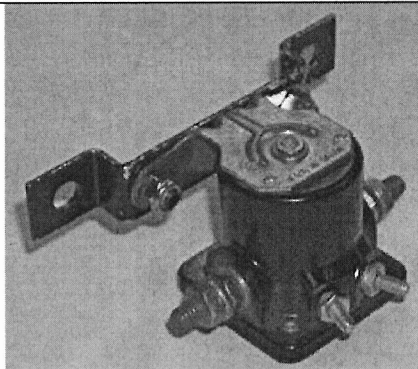


B. Locate four 1/4 inch brass plugs and two 1 inch Iron plugs. Tape each plug appropriately with teflon tape. Securely screw in the 1/4 inch plugs into the threaded holes located at the rear and sides of each elbow, position B (2 per elbow). Securely screw in the remaining 1 inch plugs into each threaded hole at the front of each elbow, position A.



C. Place and position elbows on top of the manifold to elbow gaskets making sure the outlets face the transom of the hull. Locate eight 3/8 inch x 1 1/4 inch bolts and apply a drop of Thread Lock (part # 18-9000) to the threads of each bolt before screwing the bolts in. Install fasteners with washers (4 sets per elbow) and position oil dipstick tube as necessary to provide room for bolt installation and easy accessibility. Tighten bolts evenly using a "X" pattern to 25 lbs ft (34 N.M.).

ASSEMBLY OF SOLENOID AND SOLENOID BRACKET

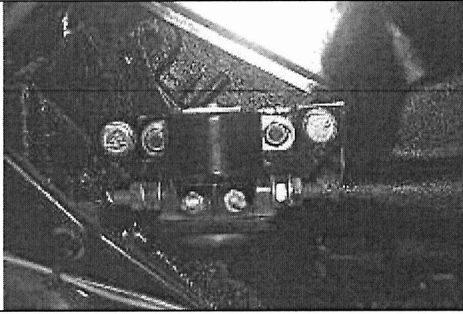


A. Locate solenoid bracket, the two 1/4 inch x 1/2 inch bolts and two 1/4 inch locknuts. Position and mount solenoid with wires attached to the solenoid bracket using the two 1/4 inch x 1/2 inch bolts and locknuts. Tighten bolts and nuts securely.

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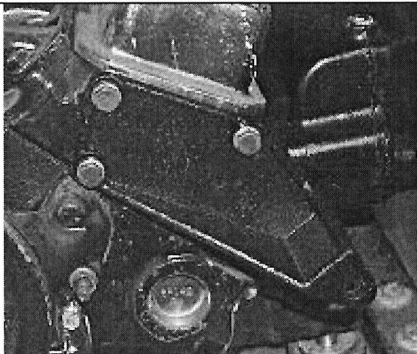
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ASSEMBLY OF SOLENOID AND SOLENOID BRACKET - CONT'D

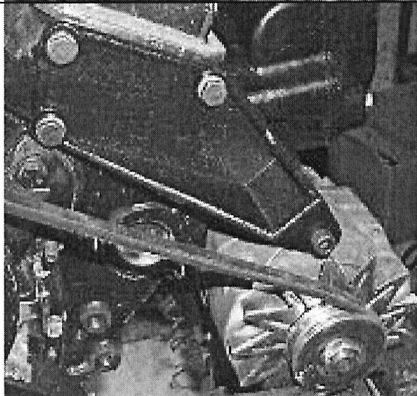


B. Locate two 3/8 inch x 3/4 inch bolts and lockwashers. Coat each bolt with Anti-Seize Lubricant (part #18-9018) and fasten solenoid bracket to the rear of the starboard cylinder head (see photo at left). Tighten bolts to 30 lbs. ft (4 N.M.).

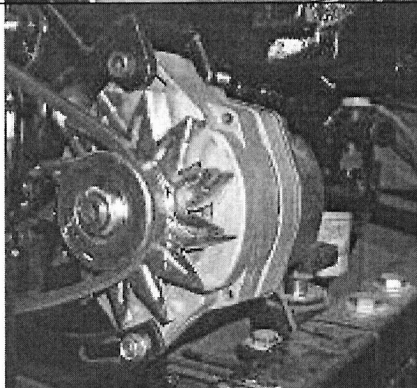
ASSEMBLY OF ALTERNATOR AND BRACKET



A. Locate the alternator bracket, three 3/8 inch x 1 inch bolts and three 3/8 inch lock washers. Apply Anti-Seize Lubricant (part #18-9018) to the bolts. Position bracket to the port cylinder head then insert the bolts. Tighten bolts evenly to 30 lbs ft. (41 N.M.).



B. Insert the alternator pivot/tension bolt while positioning the alternator in between the forked opening, allowing the bolt to pass through alternator bolt hole. Place the nut onto the pivot/tension bolt and tighten.



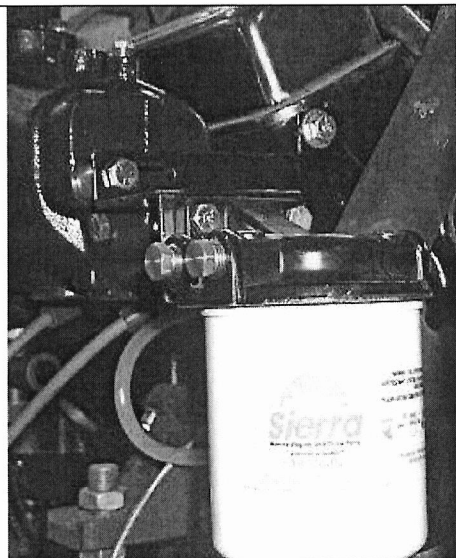
C. Install alternator drive belt. Pivot alternator upward and tighten drive belt appropriately (belt should have no more than 3/8 inch deflection after tightening) while tightening the lower alternator brace to alternator bolt to 35 lbs. ft. (48 N.M.). Tighten the pivot/tension bolt and nut to 30 lbs. ft (41 N.M.).

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ASSEMBLY OF FUEL FILTER BRACKET AND FUEL FILTER

WARNING! To help prevent the possibility of fire or explosion check for leaks immediately after installation and preceding every engine start up. Avoid the presence of spark, open flame, or extreme heat when working on an engine.

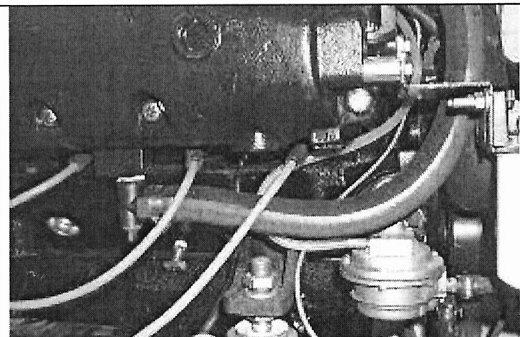


A. Locate the fuel filter bracket, one of the 3/8 inch x 3/4 inch bolts, the 3/8 inch x 1 3/4 inch bolt and spacer and two 3/8 inch lockwashers. Coat bolt threads with Anti-Seize Lubricant (part # 18-9018). Position bracket against the starboard cylinder head and exhaust manifold, then insert the 3/8 inch x 3/4 inch bolt and lockwasher into the cylinder head (see photos at left). Insert the 3/8 inch x 1 3/4 inch bolt and lockwasher with its spacer placed in between the bracket and the manifold. Tighten both bolts evenly to 30 lbs. ft (41 N.M.).

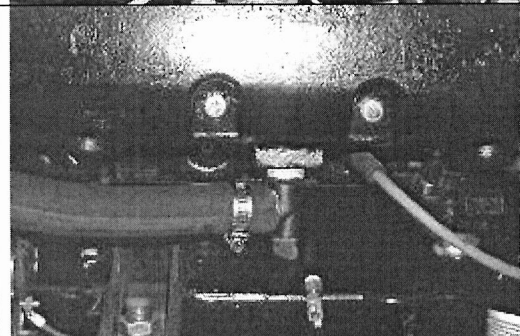
B. Loosely affix fuel lines to fuel filter assembly, then position it against the bracket. Insert nuts and bolts (use your original ones) apply a drop of Thread Lock (part # 18-9000). Tighten all nuts, bolts and fittings securely.

REMINDER: CHECK FUEL FILTER FOR RUST AND CONTAMINATION. IF FILTER NEEDS REPLACING, REPLACE IT WITH A SIERRA #18-7945 WATER SEPERATING FUEL FILTER.

ASSEMBLY OF WATER HOSES



A. Locate the 1 inch water hoses and 4 hose clamps. Slide 2 clamps onto each of the hoses. Affix one hose to the thermostat housing rear hose barb on the starboard side and route it in between the fuel filter bracket and cylinder head. Attach hose to the 90 degree barb located at the bottom center of the exhaust manifold.

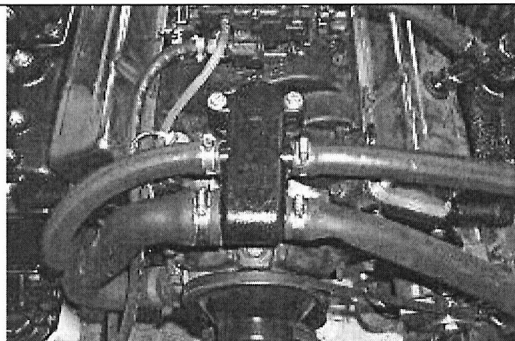


B. Affix second hose to the port side thermostat housing rear hose barb and route hose over the top of the alternator bracket and around the front side of the port exhaust manifold. Attach hose to the 90 degree barb located at the bottom center of the exhaust manifold.

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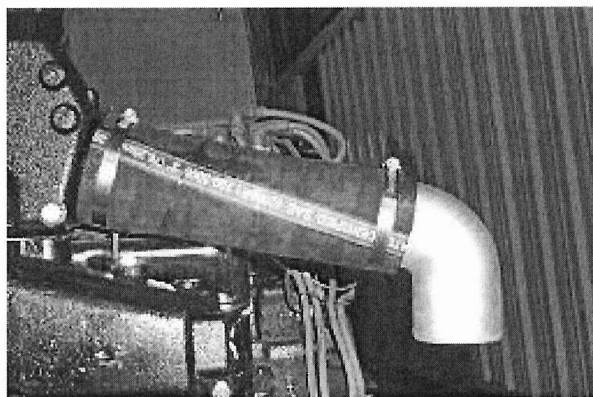
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ASSEMBLY OF WATER HOSES – CONT'D



D. Attach both the circulating pump to thermostat housing water hose and the water inlet hose to the thermostat housing. Tighten all the clamps into position

ASSEMBLY OF EXHAUST HOSES AND ELBOWS



A. Locate and attach the 3 inch exhaust hose to the elbow on the starboard side. Place 2 stainless steel clamps loosely on the exhaust hose.

B. Insert the 80 degree 3 inch elbow and line up the elbow with the exhaust bellows. If necessary remove elbow and cut exhaust hose.

C. Slide hose clamps in place then tighten securely. Work exhaust bellows onto elbow, position hose clamp then tighten securely.

D. Repeat steps A-C for port side.

INITIAL AND POST START UP

IMPORTANT!

Reinstall battery cables, attach water flusher then run engine (**Do not operate the engine above idle when attached to the water flusher**). Check for water leaks, exhaust leak, fuel leaks, proper clearance of water hoses, fuel lines and electrical wires. Make sure there is a proper flow of water throughout the cooling system. After the engine has been run adequately and cooled, check all newly attached bolts and clamps. Retorque if necessary.

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