

MFH-4949

Big-Block Fresh Water Cooling Kit Instructions



MONITOR PRODUCTS, INC.

15400 Flight Path Dr
Brooksville, FL 34604

Tel: 1-800-334-4591 or 352-544-2620

Sales: ext 201

Technical Support: ext 209

Fax: 352-544-0870

IMPORTANT

Before you unpack the kit and start installation, make sure you have the right kit for your engine by studying these installation instructions. These installation instructions have been written to cover most sterndrive and inboard installations on late model Chevy big block engines conversions made by the major marine engine manufacturers. The system is front mounted at the level of the thermostat housing and the engine must have the alternator and or the power steering pump mounted low or to the extreme port side of the engine. The heat exchanger is flush with the inside of the starboard exhaust manifold extending 21 inches toward port.

These instructions cover a normal installation situation. Sometimes problems can occur due to engine variations and boat-builder or owner modifications. If you run into such problems you can call Monitor Products for advice during normal business hours.

If you determine this is the wrong kit for your type of engine:

- Call the distributor you purchased the kit from for their return policy.
- If you purchased the kit from Monitor Products Inc., call 1-800-334-4591 for return authorization. No returns will be accepted without this authorization. The kit must be in new condition and repacked in its original packaging to qualify for credit or replacement.

MONITOR PRODUCTS, INC.

1-800-334-4591

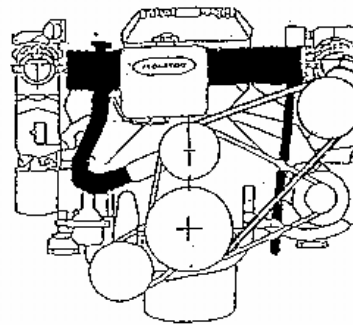
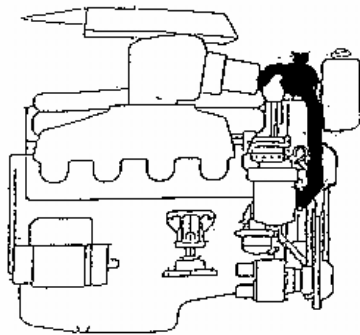
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The installer must make sure that the overall installation is safe and in accordance with Coast Guard and industry standards.



Installation tools & supplies

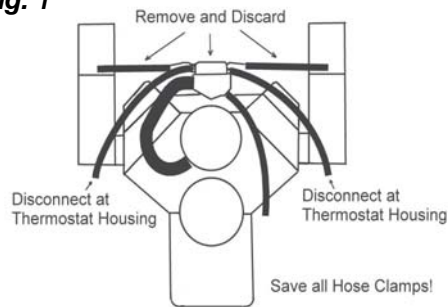
Flat head screw driver
Phillips head screw driver
11/16" deep socket, or box wrench
9/16" socket, or box wrench
7/16" socket, or box wrench

Hose Cutter or Knife
Gasket scraper
RTV silicone gasket sealer
Antifreeze solution (See flush and fill instructions)

Installation Steps

1. Drain water from block by removing plugs from both lower sides of engine.

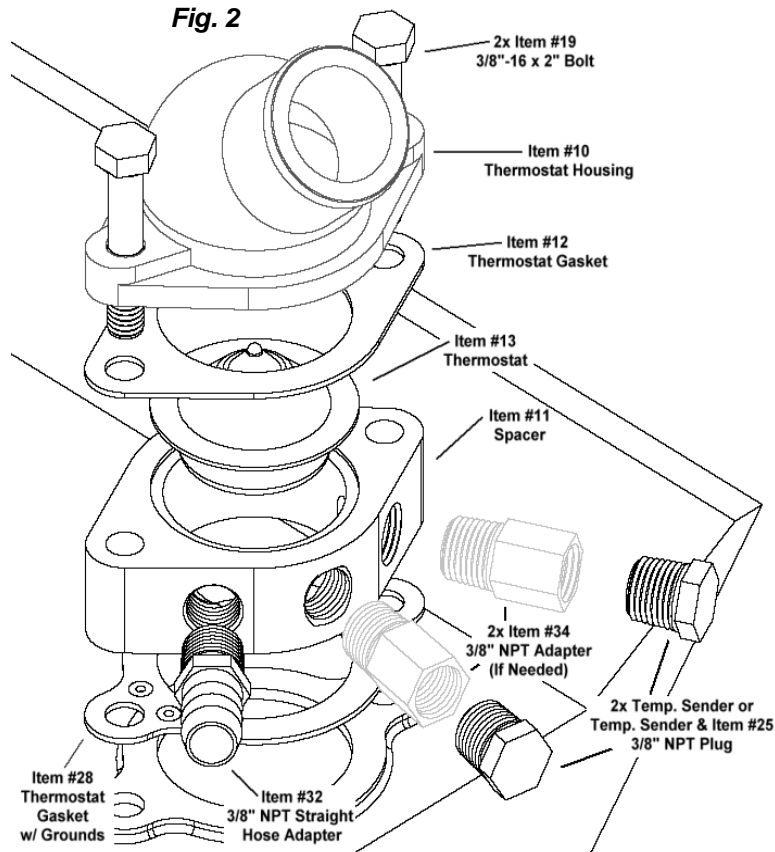
Fig. 1



2. Remove hoses from the existing thermostat housing. Save all hose clamps. See Fig. 1.
3. Disconnect wire from temperature sender and remove unit from thermostat housing.
4. Remove and discard existing thermostat housing, thermostat, gasket and bolts. Scrape clean surface especially grooves where new thermostat will be located. Avoid getting scrapings into thermostat opening. See Fig. #1

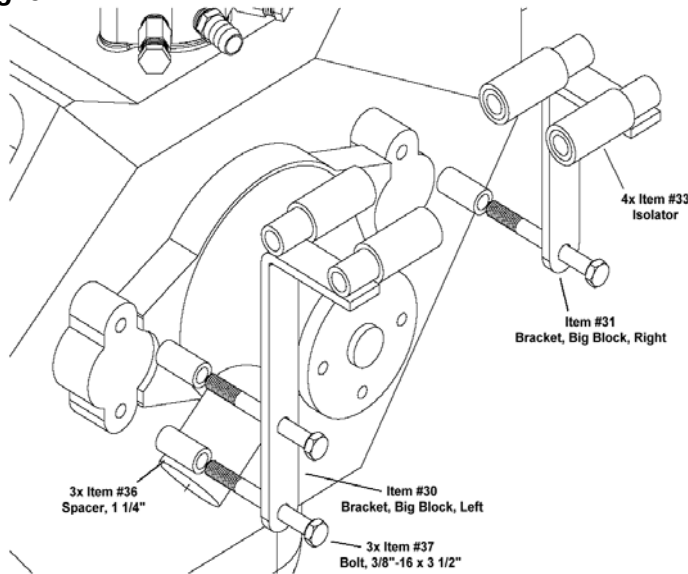
5. Flush engine. If new, flush engine briefly with fresh water through thermostat opening. Use a garden hose with a rag around it. If used, more thorough flushing may be needed. See separate instructions.
6. Remove hoses from exhaust elbows and discard. Remove fittings from elbows and discard. Install $\frac{3}{4}$ " NPT plugs (Item #22) using sealer. On some late model engines, there are molded hose bibs in the exhaust elbows in, this instance, use manifold caps (Item #3) secure with existing clamps.

Fig. 2



7. Using gasket sealer, install spacer (Item #11), thermostat (Item #13), and thermostat housing (Item #10), with two gaskets (Item #12 and Item #28) as shown in Fig. #2. Tighten 3/8-16 x 2" bolts (Item #9) securely.
8. Thread straight hose adapter (Item #32) into left tapping of spacer.
9. Thread temp sender into spacer. If overheat alarm is used, thread into the other tapping of spacer. If not, thread in 3/8" plug (Item #25). Reconnect wire to temp senders. If interference between senders and thermostat is noted, use 3/8" adapters (Item #34).

Fig. 3

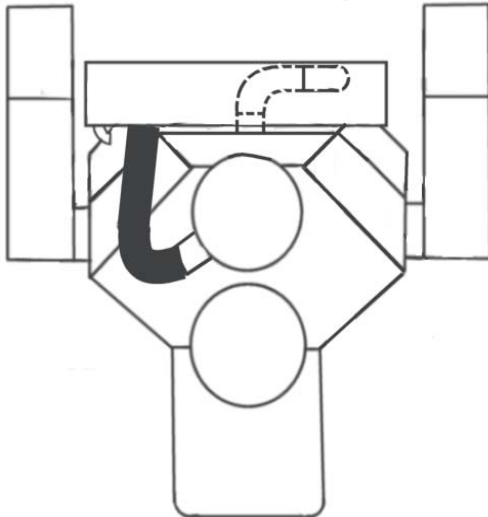


10. Install left bracket (Item #30) to front of jacket water pump by removing bolts from left side of water pump and installing the bracket with two spacers (Item # 36) using 3/8"-16 x 3 1/2" bolts (Item # 37) and tighten bolts. See Fig. # 4.

11. Install right bracket (Item #31) to front of jacket water pump by removing top bolt from right side of water pump and installing the bracket with a spacer (Item # 36) using 3/8"-16 x 3 1/2" bolt (Item # 37) and tighten bolt.

12. Install isolators (Item #33) onto bracket rails.

Fig. 4

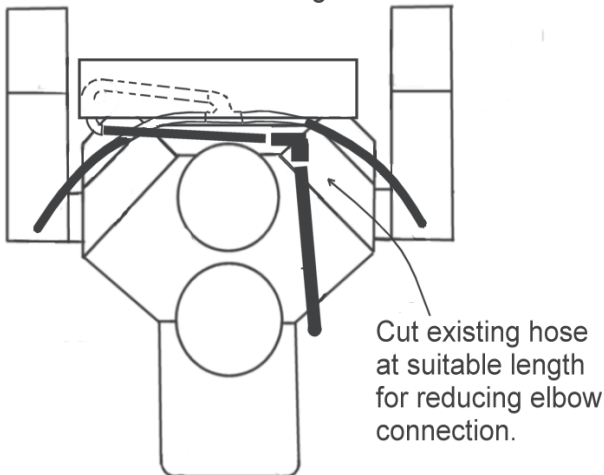


13. Insert reducing elbow (Item #2) into 1" ID hose (Item #5). Trim raw water supply hose as required to fully engage reducing elbow. Place hose horizontally in space directly in front of intake manifold. Secure using one existing clamp and one clamp (Item #29).

14. Install heat exchanger on rails of support brackets (Item #11) and secure with two large hose clamps (Item #8). Heat exchanger should be 1/4" away from power steering pump and flush with starboard side of engine. See Fig. # 4 & # 5.

15. Trim 1 3/4" molded hose running from circulating pump to engage hose bib on port side of heat exchanger. Install spring (Item #35) into hose. Secure using existing clamps. See Fig. # 4.

Fig. 5 Outgoing raw water hoses behind heat exchanger.



16. Attached raw water supply hose (Item #5) to elbow bib at lower left side of exchanger using clamp (Item #29). Trim hose as necessary. See Fig. #5.

17. Connect tee assembly (Item #14) to heat exchanger at top rear left side of heat exchanger with 1" ID hose (Item #6) using clamps (Item #29). Place Tee assembly on top of heat exchanger bracket and between thermostat housing and heat exchanger. Attach hoses leading to bottom or front of exhaust manifolds to each side of tee assembly. NOTE: The outlets of the tee assembly will fit both 3/4" and 1" hose. If 3/4" hose attach hose to outer portion of hose bib only. If 1" hose, push hose all the way over. Use existing hose clamps. See Fig. #5.

18. Connect heat exchanger with thermostat housing with 1 ½" ID molded hose (Item #4) using clamp (Item #21). See Fig. #4.
19. Thread 90° hose adapter (Item #38) into 3/8" NPT fitting on rear left side of heat exchanger
20. Attach 5/8" ID hose (Item #7) using clamps (Item #23) to hose adapter on spacer and 90° hose adapter on rear left side of heat exchanger. If heater system hook-up is used this 5/8" hose is extended to heating devices and back. Trim as necessary. If desired, an optional flushing tee, available at most automotive supply stores, can be installed in this 5/8" hose.
21. Thread plastic elbow (Item #16) into bottom of overflow bottle (Item #15) using sealer.
22. Mount overflow bottle on studs on front of heat exchanger using lock washer (Item #28) and nuts (Item #27). If space in front of engine does not allow installation on heat exchanger, install on vertical surface next to engine using washers #19 and screws (Item #18). Keep as close to heat exchanger as is practical with top of tank level with top of heat exchanger. Connect filler neck with 5/16" clear PVC hose (Item #17) and clamp (Item #20).
23. Use tie wraps (Item #26) to make sure that hoses or other parts are not in contact with critical engine components, such as V-belt and fuel lines.
24. Reinstall engine block drain plugs.
25. Double check total installation and make sure all fasteners, fittings, and hose clamps are tightened properly. See separate Filling and Start-Up Instructions.

We strongly recommend that you install an audible "buzzer" type alarm. These overheat alarms are usually combined with low oil pressure alarm and are very reasonable in price.