

HARDIN 11 Industry Dr. Palm Coast, FL 32137  
MARINE 386-445-2500 / FAX 386-445-1122

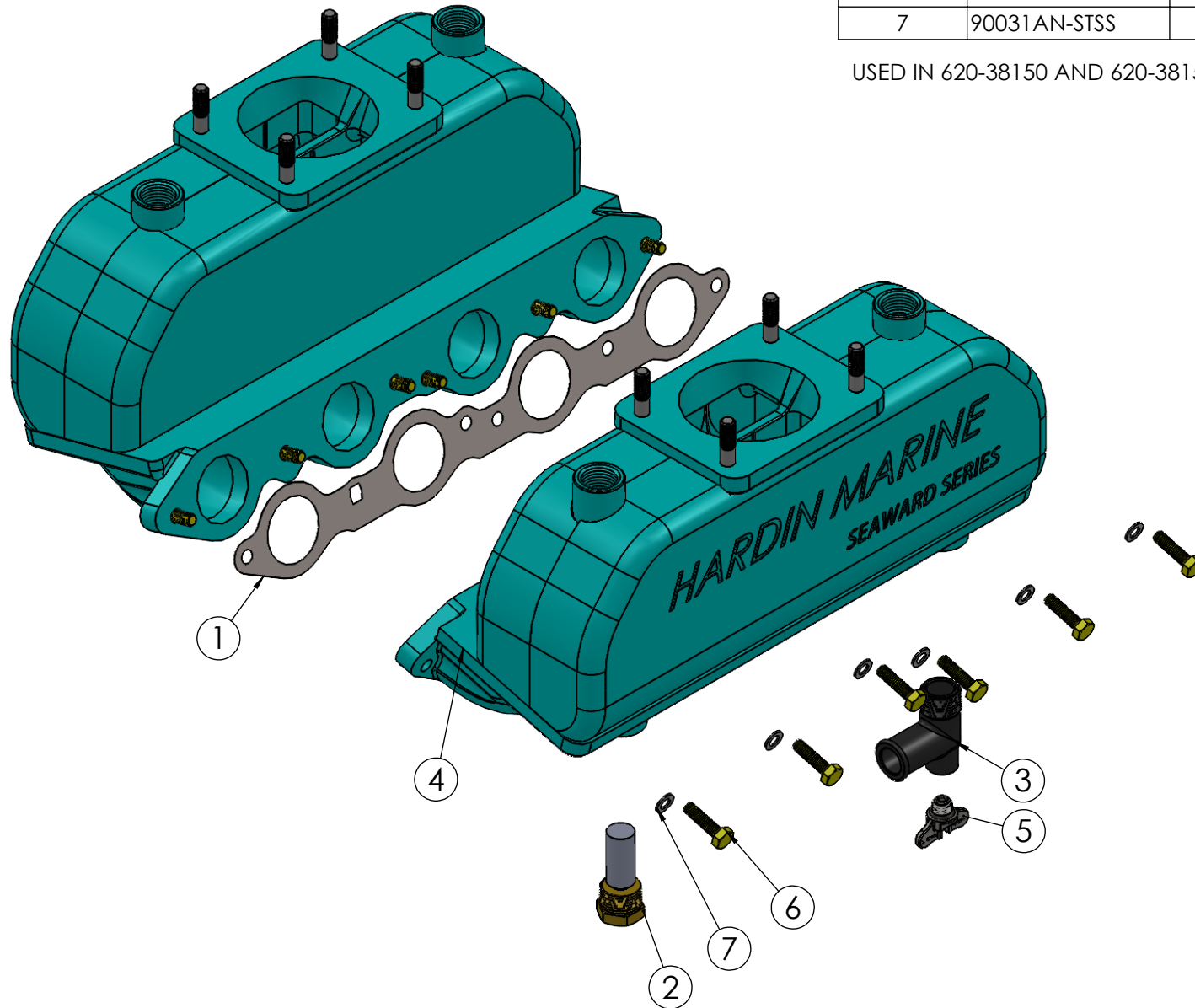
PART NO.  
620-38143

TITLE:  
SEAWARD LS MANIFOLD INSTALL KIT

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	302-C5818-030	GASKET, LS EXHAUST	2
2	620-38126	3/4 NPT ANODE	2
3	620-38127	FITTING, SEAWARD INLET	2
4	620-38150	SEAWARD LS MANIFOLD	2
5	625-4289	DRAIN PLUG	2
6	900M08C030HH8	BOLT, 8MM x 30	12
7	90031AN-STSS	WASHER, 5/16 AN	12

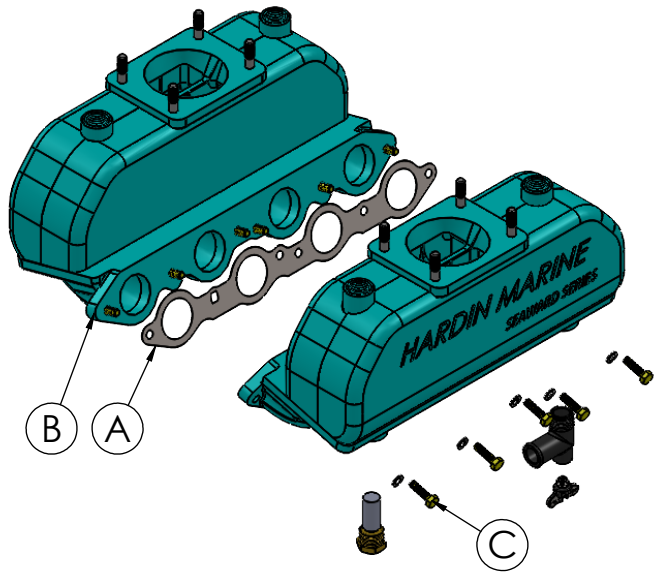
USED IN 620-38150 AND 620-38151 MANIFOLD ASSEMBLIES.



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TITLE: SEAWARD LS MANIFOLD INSTALL KIT

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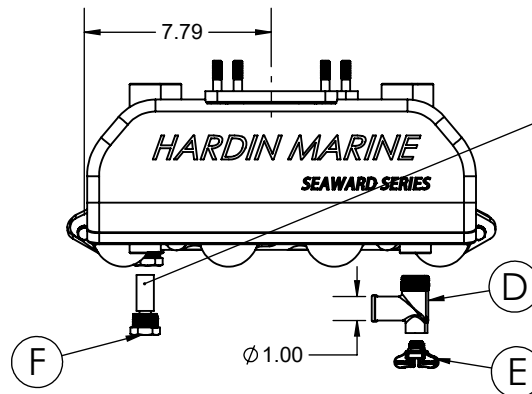
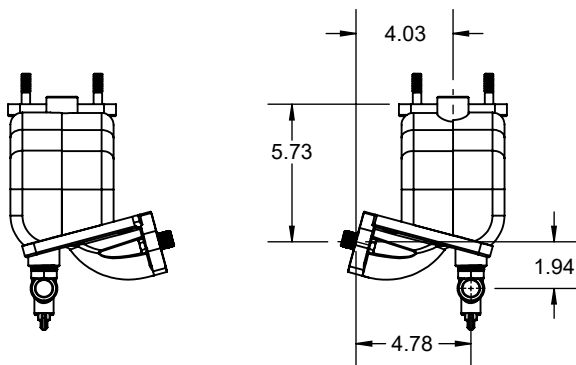


MANIFOLDS COME BLACK. SHOWN IN BLUE FOR INSTRUCTION PURPOSES.

INSTALLATION INSTRUCTIONS:

- 1) MAKE SURE CYLINDER HEAD EXHAUST MOUNTING SURFACE IS FREE OF KNICKS AND ANY OLD GASKET MATERIAL IS REMOVED. SEALANT IS NOT REQUIRED ON THE NEW SUPPLIED GASKETS. FIG. A.
- 2) THE PORT AND STARBOARD MANIFOLDS ARE THE SAME PART AND CAN BE USED ON EITHER SIDE OF THE ENGINE. FIG. B.
- 3) INSTALL MANIFOLDS WITH THE SUPPLIED 8MM BOLTS AND WASHERS. APPLY ANTI-SIEZE TO 3/8 MOUNTING BOLTS, FIG.C . USING A 13MM SOCKET, TORQUE TO 20 FT. LBS..
- 4) SIDE VIEW BELOW AND ISOMETRIC VIEW TO THE LEFT SHOWS PORT SIDE TYPICAL WATER INLET POSITION. INSTALL 1" HOSE BARB FITTING INTO BOTTOM, REAR PORT OF THE MANIFOLD, FIG. D. NO ADDITIONAL SEALANT IS NEEDED. CAREFULL NOT TO CROSS THREAD THE FITTING. DO NOT OVER TIGHTEN.
- 5) INSTALL DRAIN PLUG, FIG. E, INTO THE BOTTOM OF THE WATER INLET BUNG.
- 6) USING 1-1/16 SOCKET, INSTALL 3/4 ANODE PLUG, FIG. F, INTO THE OPPOSITE WATER INLET BUNG. NO ADDITIONAL SEALANT IS NEEDED.
- 7) ATTACH 1" WATER INLET HOSE FROM HEAT EXCHANGER OR THERMOSTAT BYPASS ASSEMBLY TO FIG. E FITTINGS (MAKE SURE IT IS A CONSTANT FLOW WATER SUPPLY).
- 8) GO TO 620-38142 TAILPIPE INSTRUCTIONS TO COMPLETE INSTALLATION.

CAUTION\*\* HARDIN MARINE MANIFOLD SYSTEMS ARE DESIGNED FOR USE ON ENGINES WITH FULL TIME CONSTANT WATER CIRCULATION AT ALL TIMES. NOTE\*\* AFTER APPROXIMATELY 2-5 HOURS USE OR NUMEROUS ENGINE HEAT CYCLES ALL HARDWARE MUST BE RETORQUED AND OR TIGHTENED.



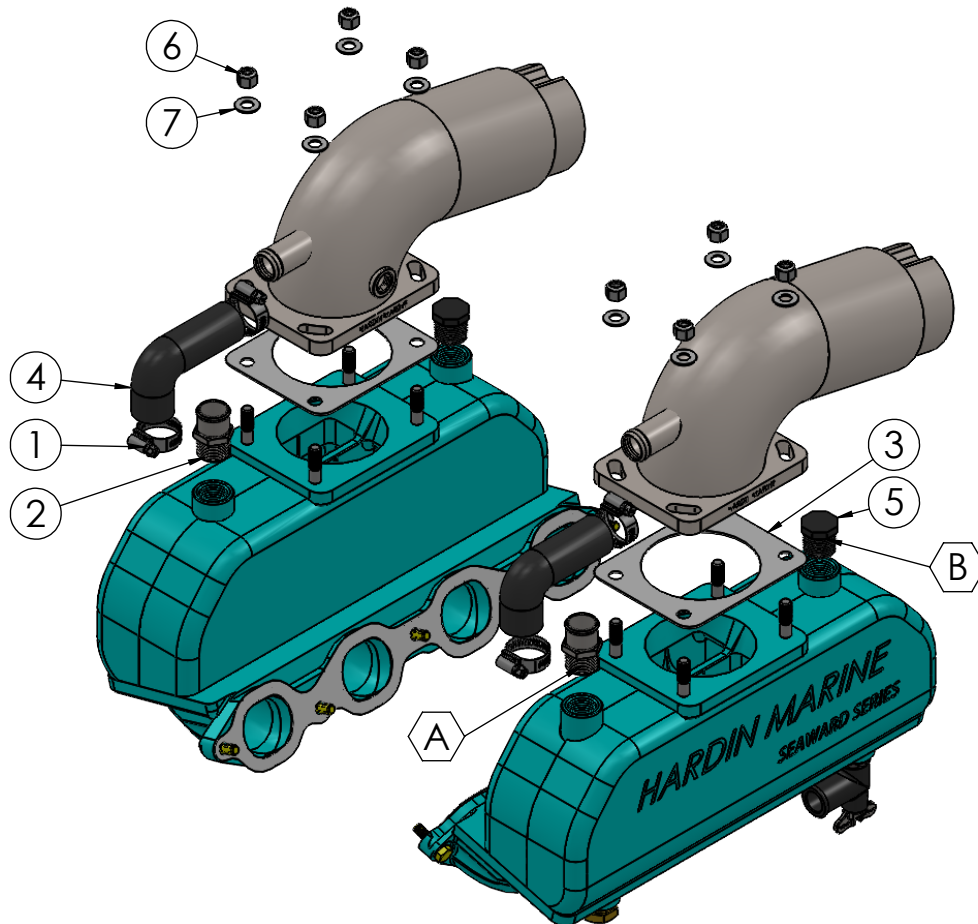
WARNING\*\* ANODES ARE A SERVICEABLE PART AND SHOULD BE INSPECTED ROUTINELY DEPENDING ON THE NATURE OF THE BOATING ENVIRONMENT.

HARDIN 11 Industry Dr. Palm Coast, FL 32137  
MARINE 386-445-2500 / FAX 386-445-1122

PART NO.  
620-38142

TITLE:  
SEAWARD LS/LT RISER INSTALL KIT

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	100-720-6316	HOSE CLAMP	4
2	540-222132	FITTING, 1" BARB	2
3	620-38006	RISER GASKET	2
4	620-38029	HOSE, RISER - PORT	2
5	625-2086	PLUG, PIPE - 3/4 NPT	2
6	90037CN-FNSS	NUT, 3/8-16	8
7	90037SA-STSS	WASHER, 3/8 SAE	8

#### INSTALLATION INSTRUCTIONS:

- 1) APPLY LIQUID THREAD SEALANT TO THE SUPPLIED HOSE BARB FITTINGS & PIPE PLUGS.
- 2) USING 1-1/16 WRENCH, INSTALL #2 HOSE BARB FITTINGS INTO FRONT OF THE MANIFOLDS, FIG. A.
- 3) USING 1-1/8 WRENCH, INSTALL #7 NPT PIPE PLUGS INTO THE REAR OF THE MANIFOLDS, FIG.B.
- 4) APPLY ANTI-SIEZE TO THE 8 STUDS.
- 5) SLIDE GASKETS OVER STUDS. DO NOT USE SEALANT ON THE GASKETS.
- 6) INSTALL RISERS.
- 7) IF YOU ARE INSTALLING 620-38051 SHIFT BRACKET AND 620-38050 OIL FILTER RELOCATION BRACKET, INSTALL THEM NOW. USE THE INSTRUCTIONS THAT CAME WITH THOSE KITS.
- 8) INSTALL #9 WASHERS AND #8 NUTS. USING 9/16 CROWS FOOT, TORQUE TO 30 FT. LBS..
- 9) INSTALL #5 AND 6 JUMPER HOSE WITH #1 HOSE CLAMPS. STARBOARD SIDE IS THE SHORTER HOSE.

**CAUTION\*\* HARDIN MARINE MANIFOLD SYSTEMS ARE DESIGNED FOR USE ON ENGINES WITH FULL TIME CONSTANT WATER CIRCULATION AT ALL TIMES. NOTE\*\* AFTER APPROXIMATELY 2-5 HOURS USE OR NUMEROUS ENGINE HEAT CYCLES ALL HARDWARE MUST BE RETORQUED AND OR TIGHTENED.**

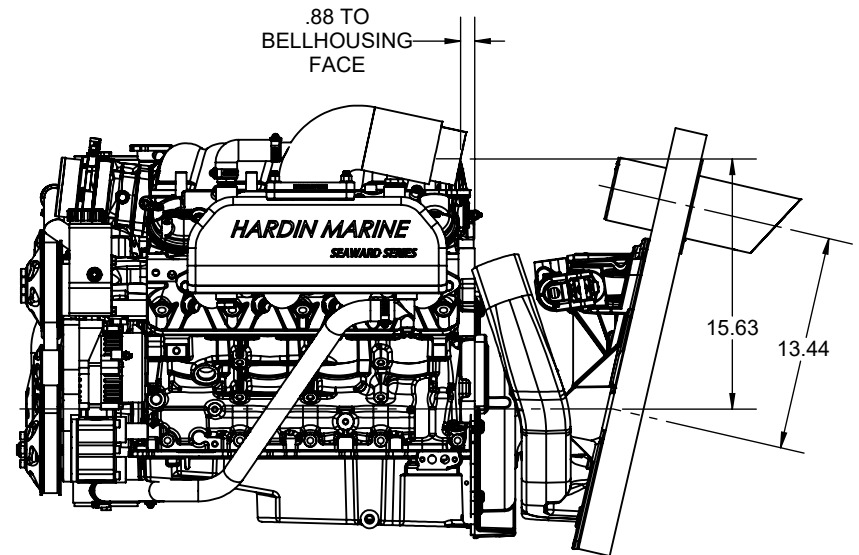
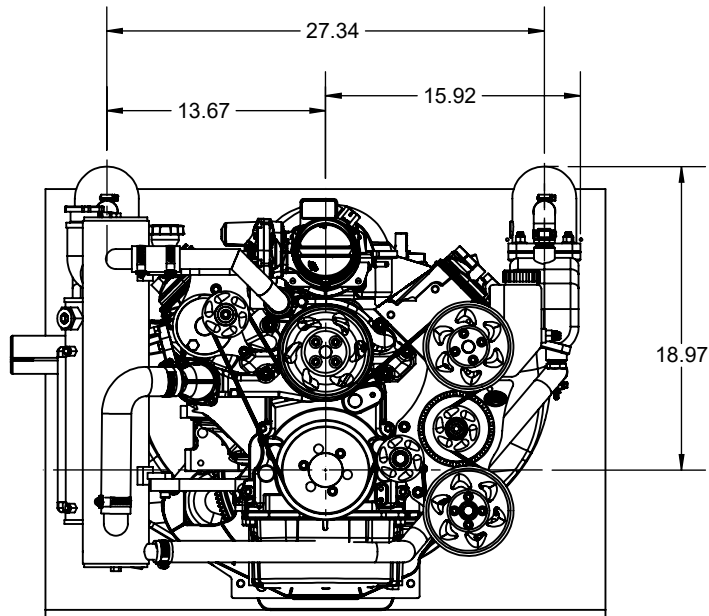
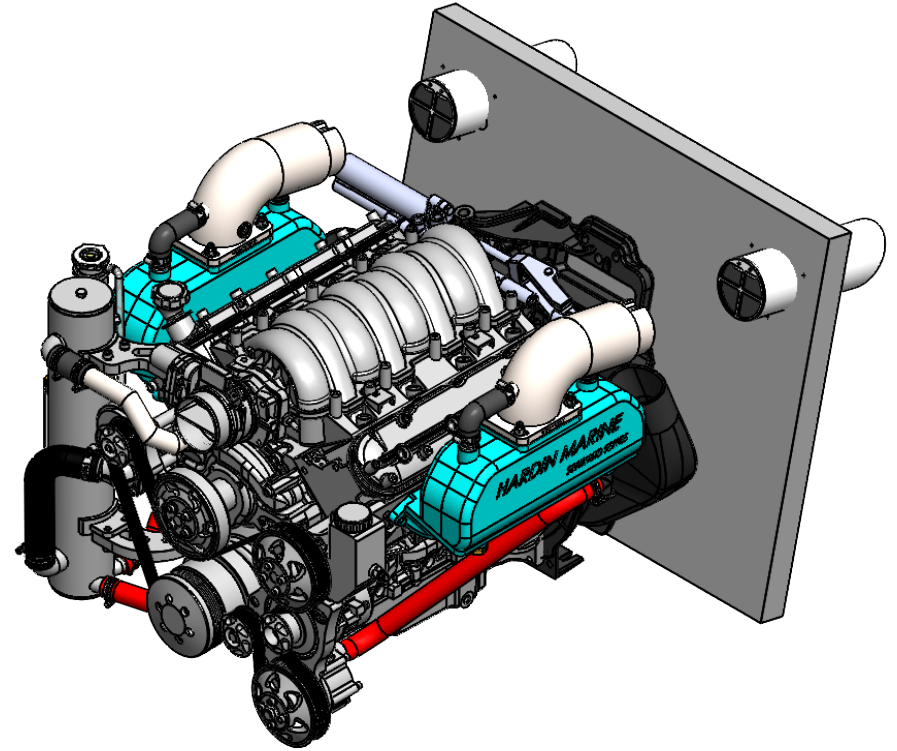
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MARINE 386-445-2500 / FAX 386-445-1122

PART NO.  
620-38152  
620-38152Z

TITLE: SEAWARD LS MANIFOLD AND STD RISER

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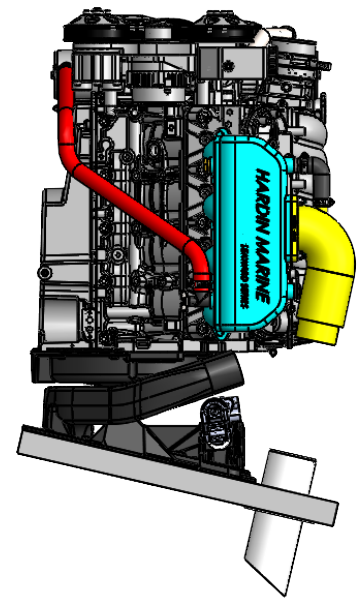
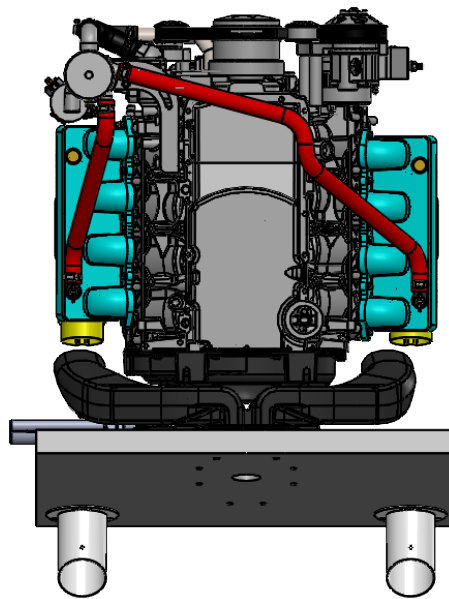
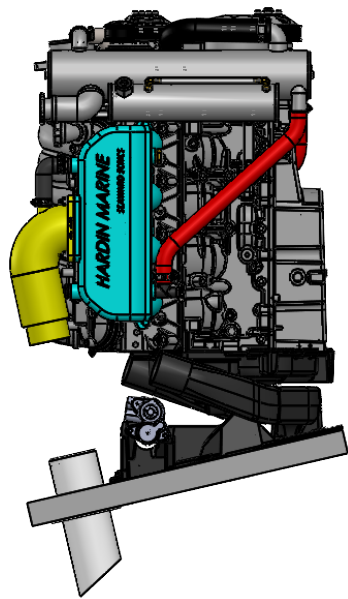
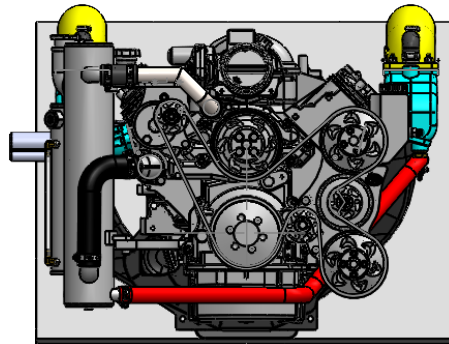
HARDIN 11 Industry Dr. Palm Coast, FL 32137  
MARINE 386-445-2500 / FAX 386-445-1122

PART NO.  
620-38152

TITLE: SEAWARD LS/LT EXHAUST HEAT  
EXCHANGER PLUMBING DIAGRAM

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AS SHOWN WITH 625-4574 HEAT EXCHANGER  
AND 625-8313 DRIVE KIT. THE  $\varnothing$  1.00 WATER  
EXITS ON THE BOTTOM OF THE HEAT  
EXCHANGER GETS PLUMBED TO THE REAR  
PORT IN EACH EXHAUST MANIFOLDS. THIS IS  
THE FRESH WATER DUMP FOR THE HEAT  
EXCHANGER.  $\varnothing$  1.00 HOSE SHOWN IN RED.



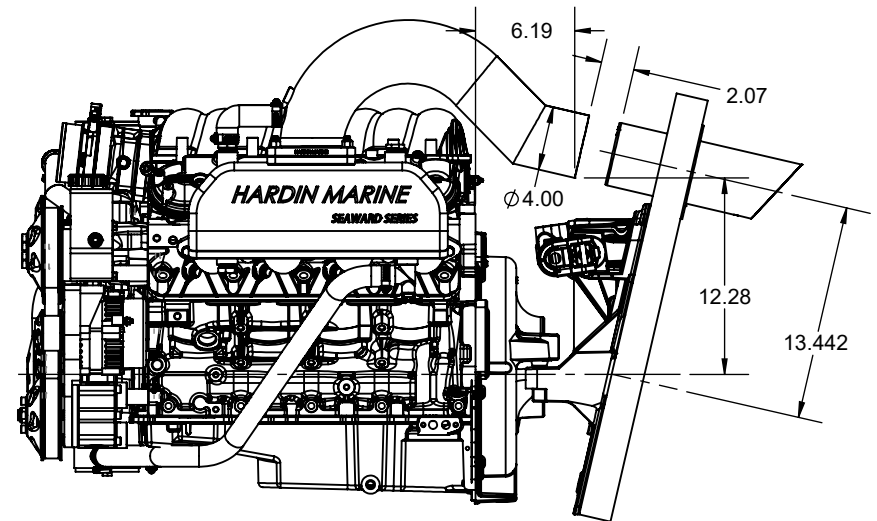
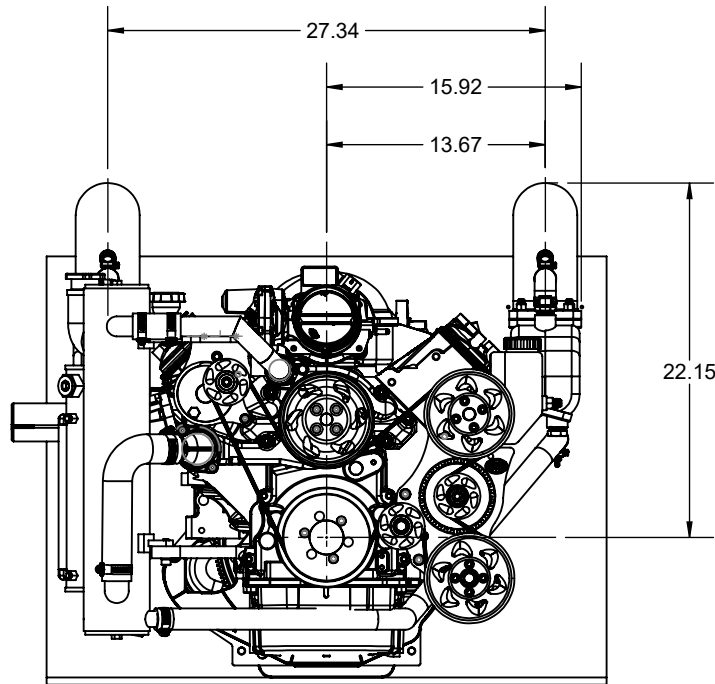
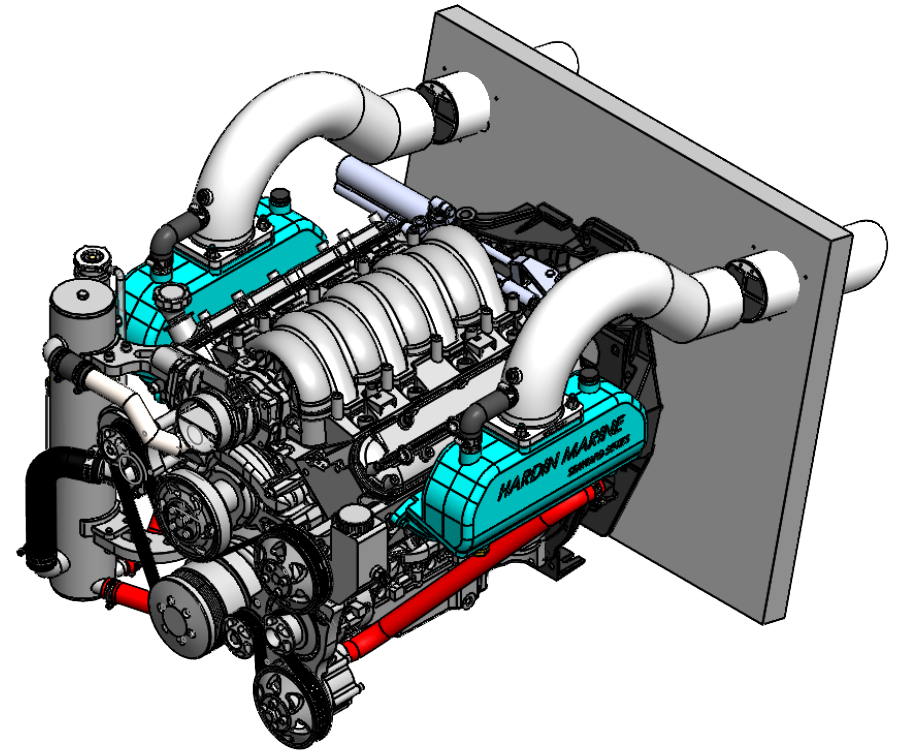
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PART NO.  
620-38153 /  
620-38153Z

TITLE:  
SEAWARD LS MANIFOLD AND TALL HP RISER

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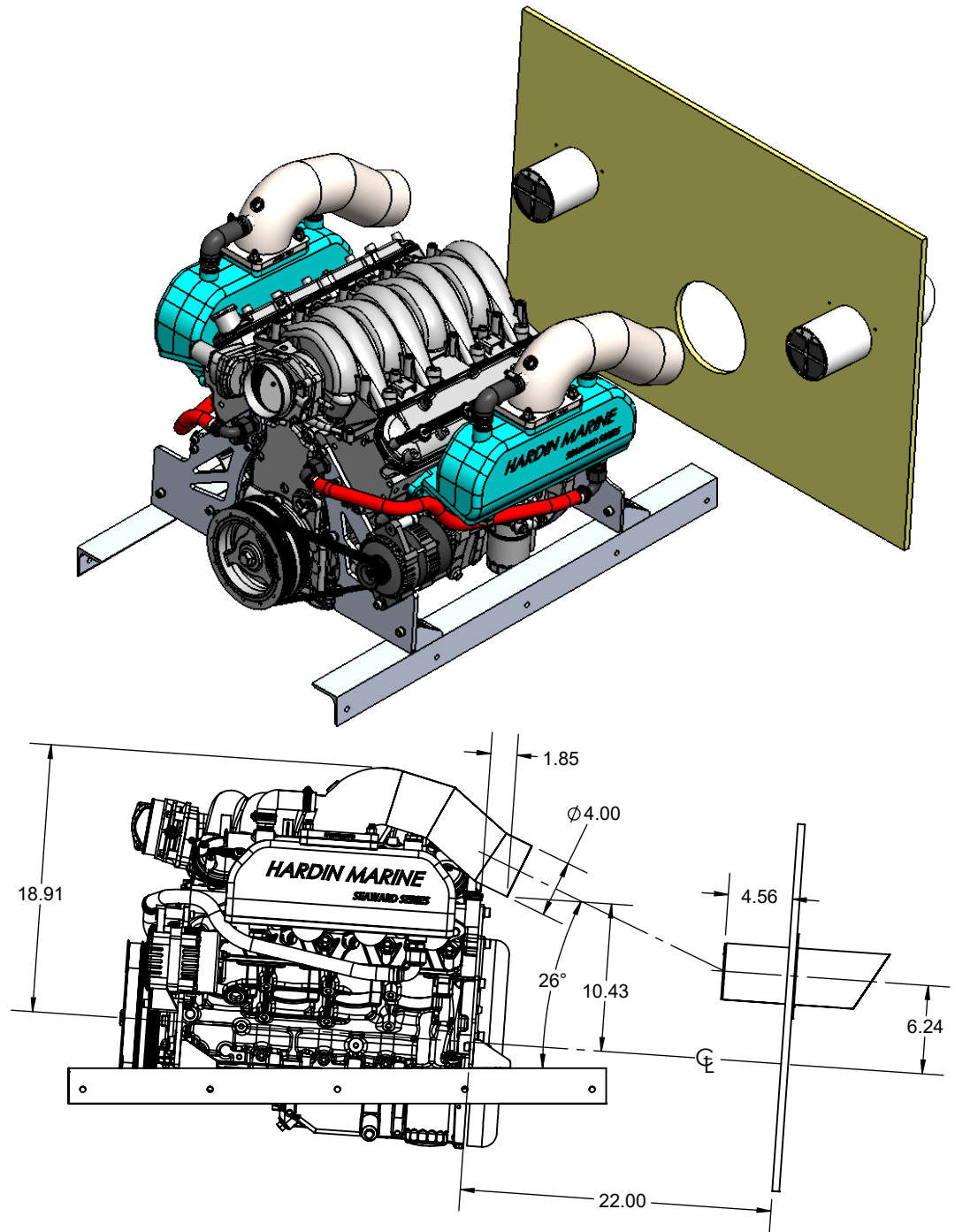
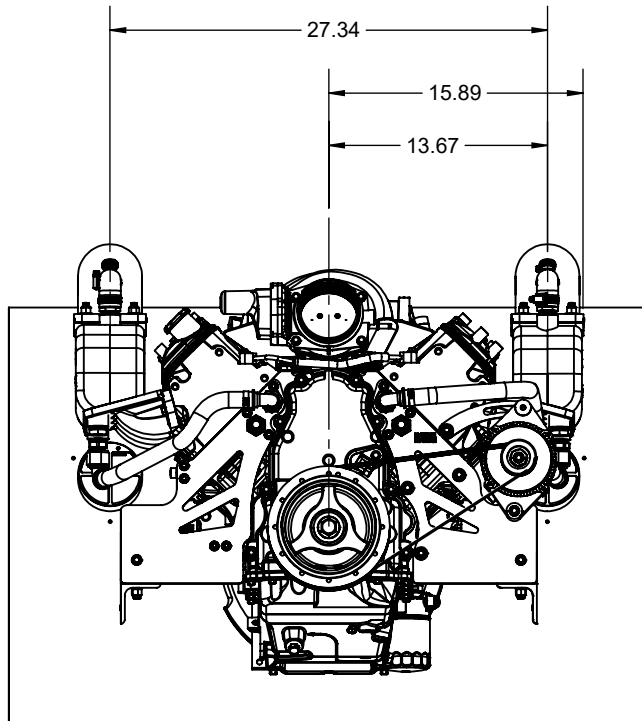
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PART NO.  
620-38154

TITLE: LS SEAWARD MANIFOLDS AND LOW  
EXIT JET BOAT TAILPIPES

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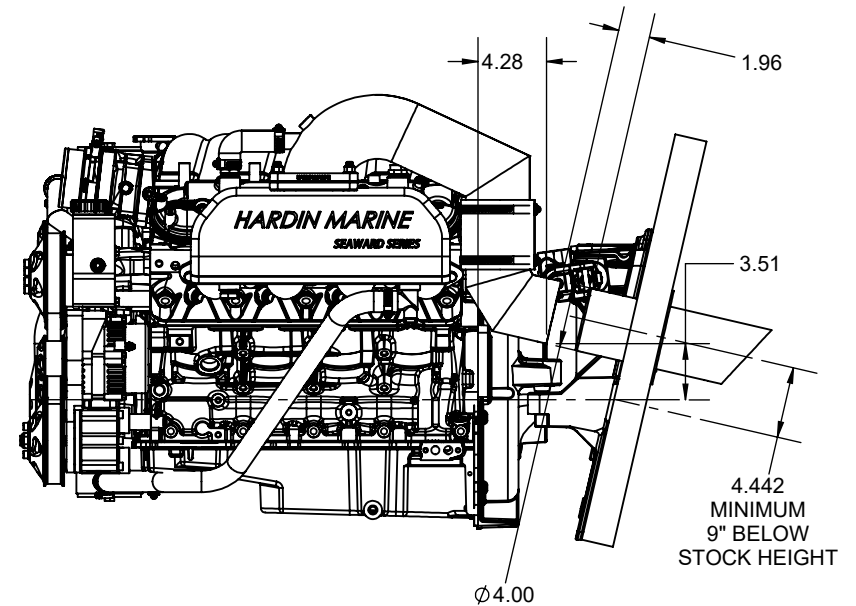
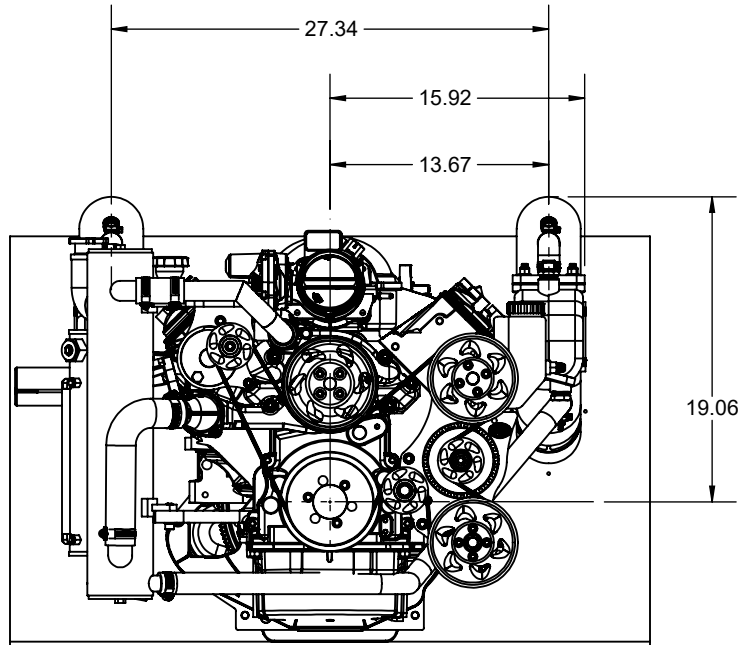
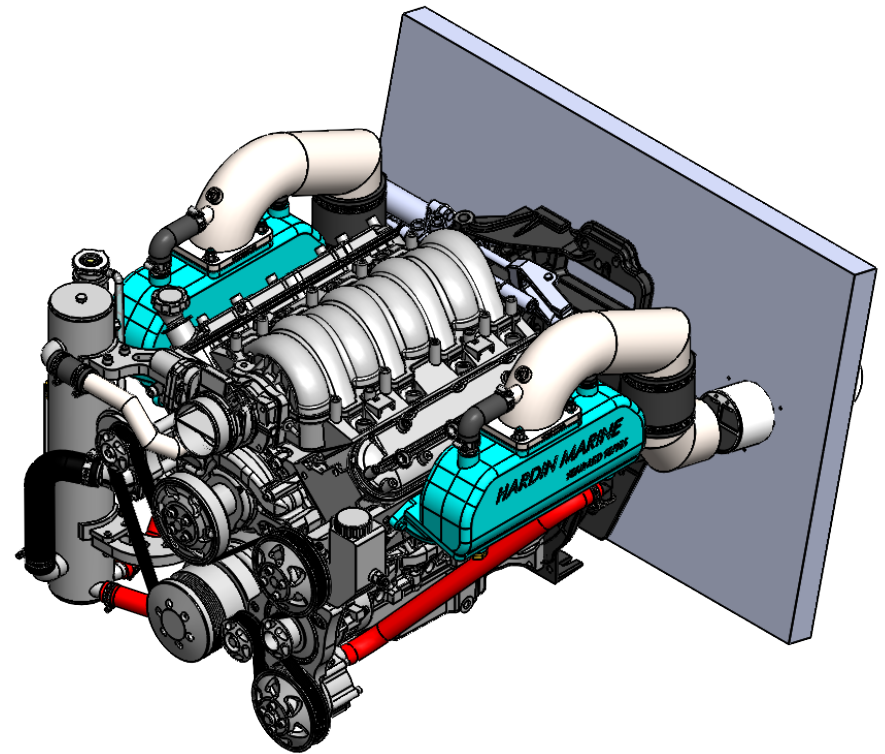
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MARINE 386-445-2500 / FAX 386-445-1122

PART NO.  
620-38155 /  
620-38155Z

TITLE:  
SEAWARD LS MANIFOLD AND LOW EXIT TAILPIPES

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MINIMUM LENGTH FROM 13.442 STANDARD BRAVO LOCATION IS 9" WITH 5" OF HOSE AND 12" WITH 8" OF HOSE. WE SUPPLY KIT WITH 16" OF HOSE AND 4 HOSE CLAMPS. IF YOU NEED IT TO BE LOWER YOU WILL NEED TO BUY MORE 100-200-4004 4" EXHAUST HOSE. MAKE SURE TO HAVE MINIMUM 2-1/2" OF HOSE CLAMPING ON BOTH THE UPPER TAILPIPE AND THE LOWER EXIT. DIMENSIONS ABOVE ARE THE MINIMUM ASSEMBLED HEIGHT.



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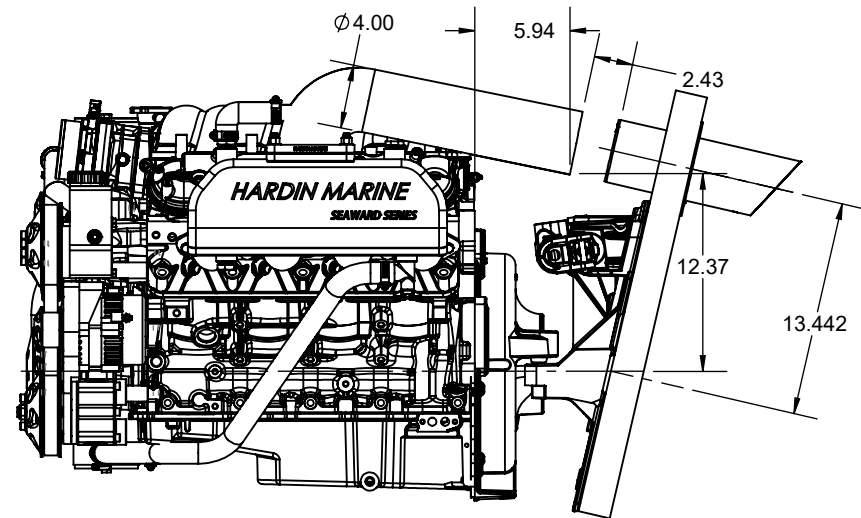
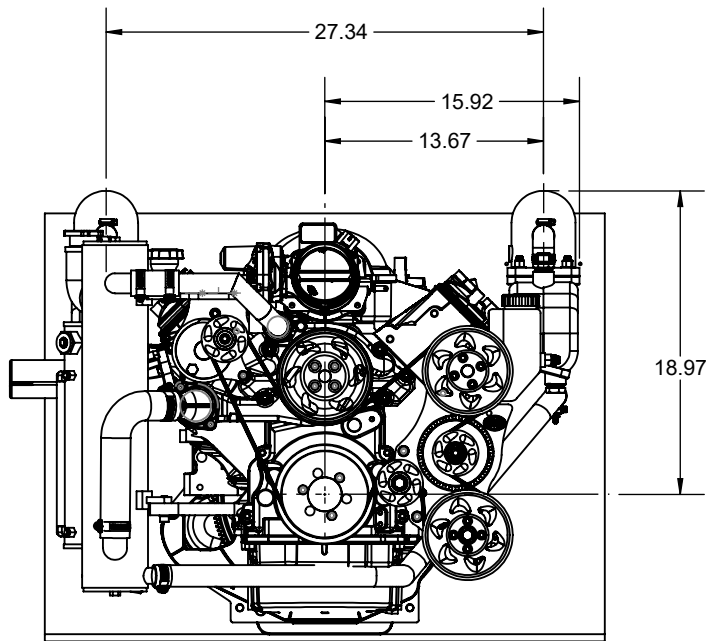
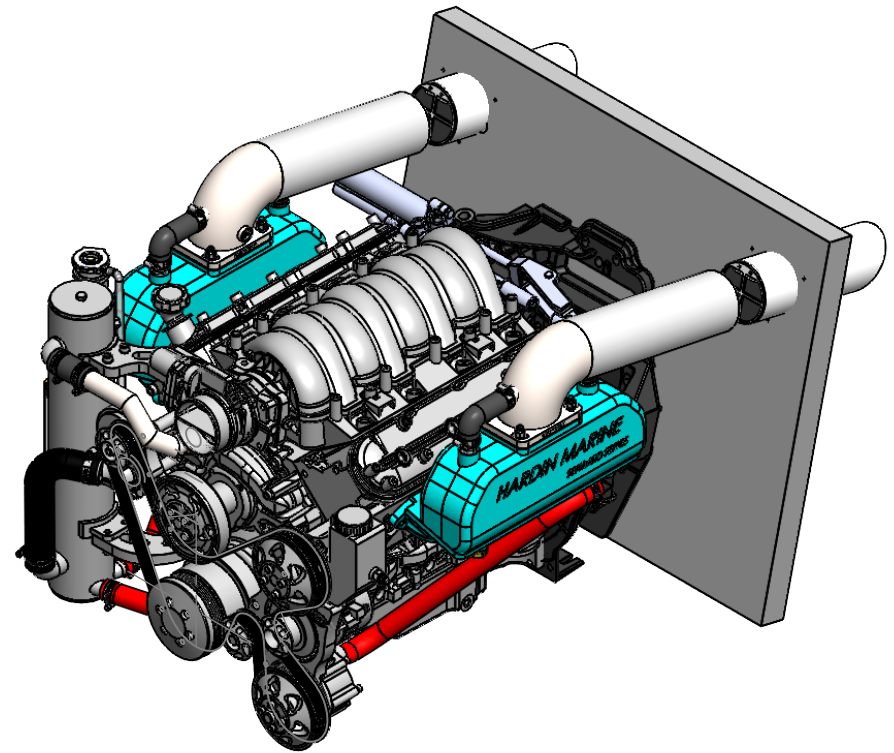


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PART NO  
620-38156/  
620-38156Z

TITLE: SEAWARD LS MANIFOLDS AND STD  
BRAVO LONG TAILPIPES

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