

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

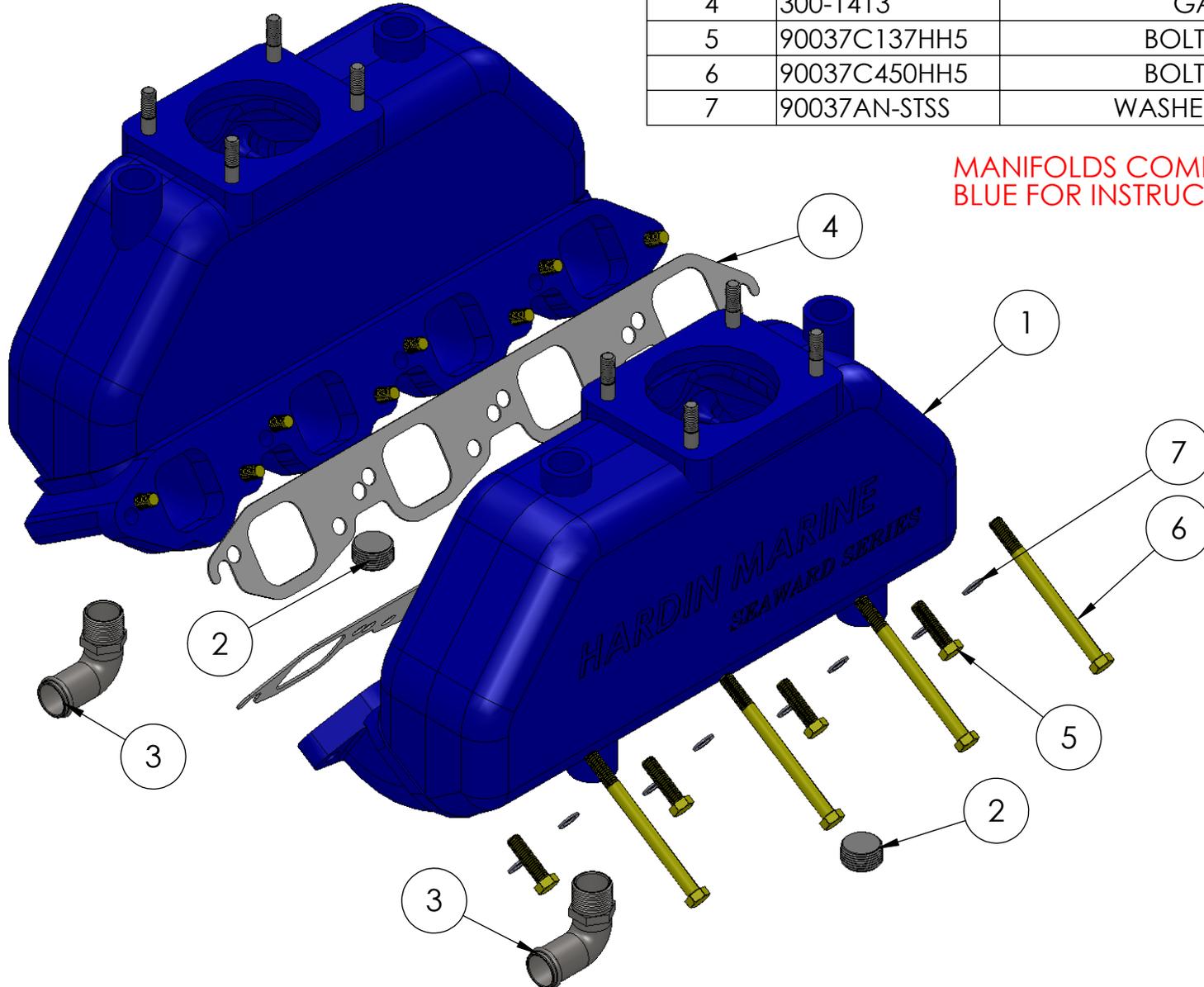
PART NO.  
620-38000  
620-38100

TITLE: SEAWARD BBC MANIFOLDS PARTS  
BREAKDOWN 620-38000& 620-38100

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	620-38001	MANIFOLD ASSEMBLY	2
2	540-222999	3/4NPT PIPE PLUG	2
3	540-222120	FITTING, 3/4NPT x 1' BARB 90 DEG	2
4	300-1413	GASKET	2
5	90037C137HH5	BOLT, 3/8-16	8
6	90037C450HH5	BOLT, 3/8-16	8
7	90037AN-STSS	WASHER - 3/8 AN	16

MANIFOLDS COME BLACK. SHOWN IN BLUE FOR INSTRUCTION PURPOSES.



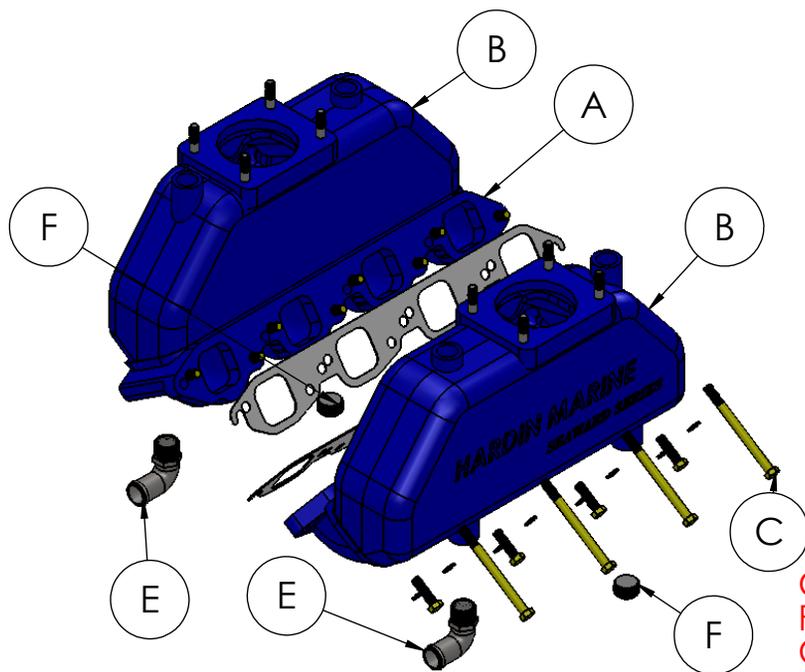
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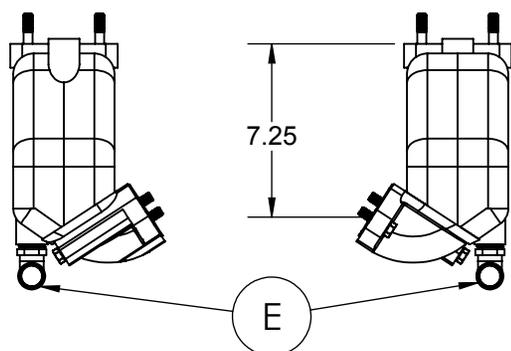
PART NO.  
620-38000  
620-38100

TITLE: SEAWARD BBC MANIFOLDS INSTALLATION  
620-38000 & 620-38100

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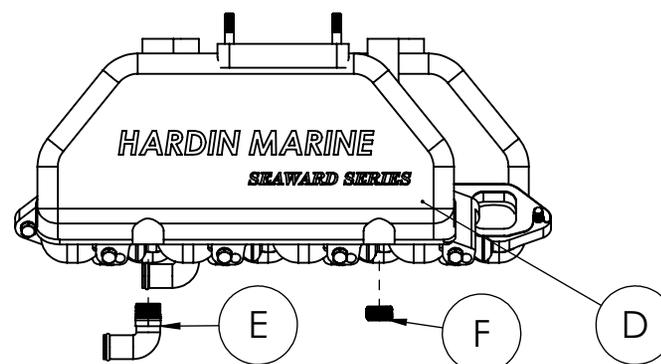
MANIFOLDS COME BLACK. SHOWN  
IN BLUE FOR INSTRUCTION PURPOSES.



#### 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 3/8 BOLTS AND WASHERS. APPLY ANTI-SIEZE TO 3/8 MOUNTING BOLTS, FIG. C . TORQUE TO 30 FT. LBS..
- 4) APPLY LIQUID PIPE THREAD SEALANT TO THE SUPPLIED 1" HOSE BARB FITTINGS AND 3/4 NPT PIPE PLUGS.
- 5) FIG. D SHOWS PORT SIDE TYPICAL WATER INLET POSITION. INSTALL 1" HOSE BARB FITTING INTO BOTTOM OF THE MANIFOLD, FIG. E..
- 6) INSTALL 3/4 PIPE PLUG, FIG. F, INTO THE OPPOSITE WATER INLET BUNG.
- 7) ATTACH 1" WATER INLET HOSE FROM THERMOSTAT HOUSING TO FIG. E FITTINGS (MAKE SURE IT IS A CONSTANT FLOW WATER SUPPLY).
- 8) GO TO 620-38025 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.**



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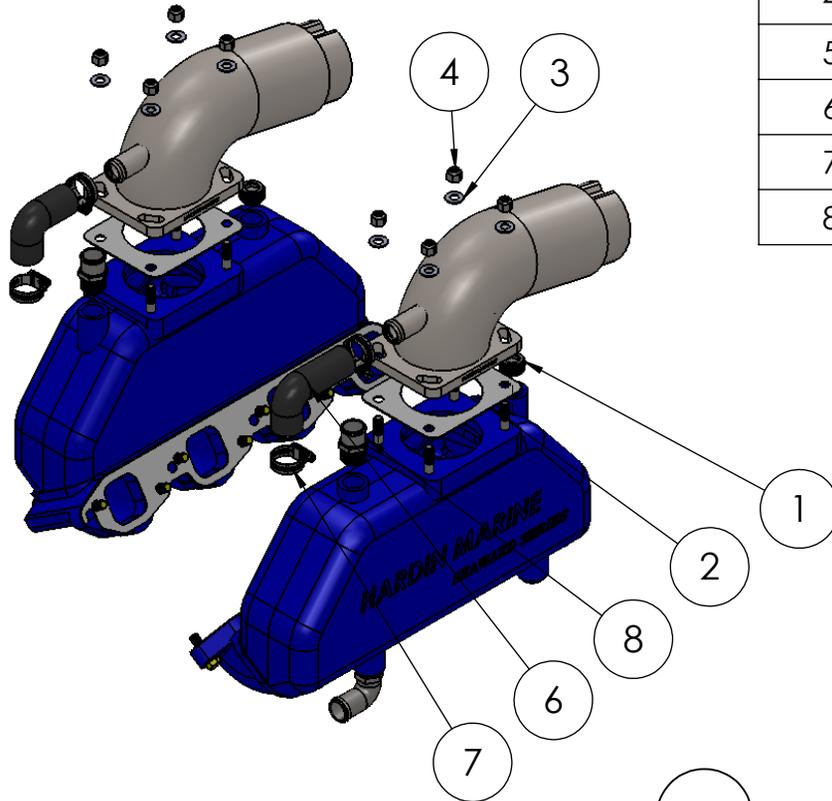
**HARDIN MARINE** 11 Industry Dr. Palm Coast, FL 32137  
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PART NO.  
620-38036

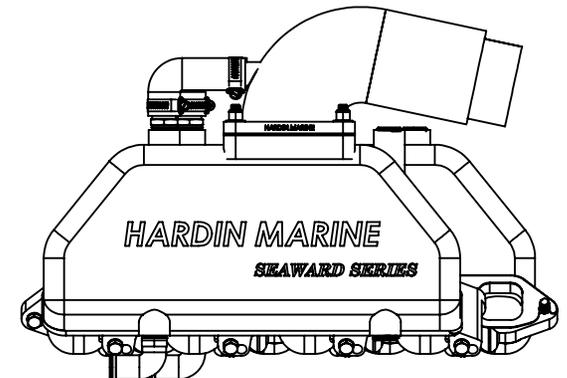
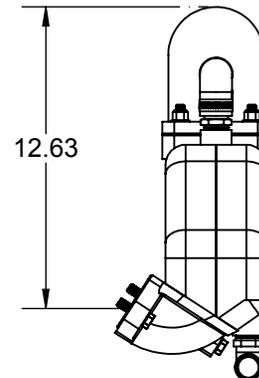
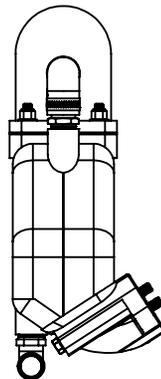
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	540-222999	3/4NPT PIPE PLUG	2
2	620-38006	RISER GASKET	2
3	90037SA-STSS	WASHER, 3/8 SAE	8
4	90037CN-FNSS	NUT, 3/8-16	8
5	620-38030	HOSE, RISER - STRB	1
6	620-38029	HOSE, RISER - PORT	1
7	100-720-6316	HOSE CLAMP	4
8	540-222132	FITTING, 1" BARB	2

TITLE:  
SEAWARD BBC RISER INSTALL KIT-PARTS BREAKDOWN

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MANIFOLDS COME BLACK. SHOWN IN BLUE FOR INSTRUCTION PURPOSES.



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TITLE:

## SEAWARD BBC RISER INSTALLATION

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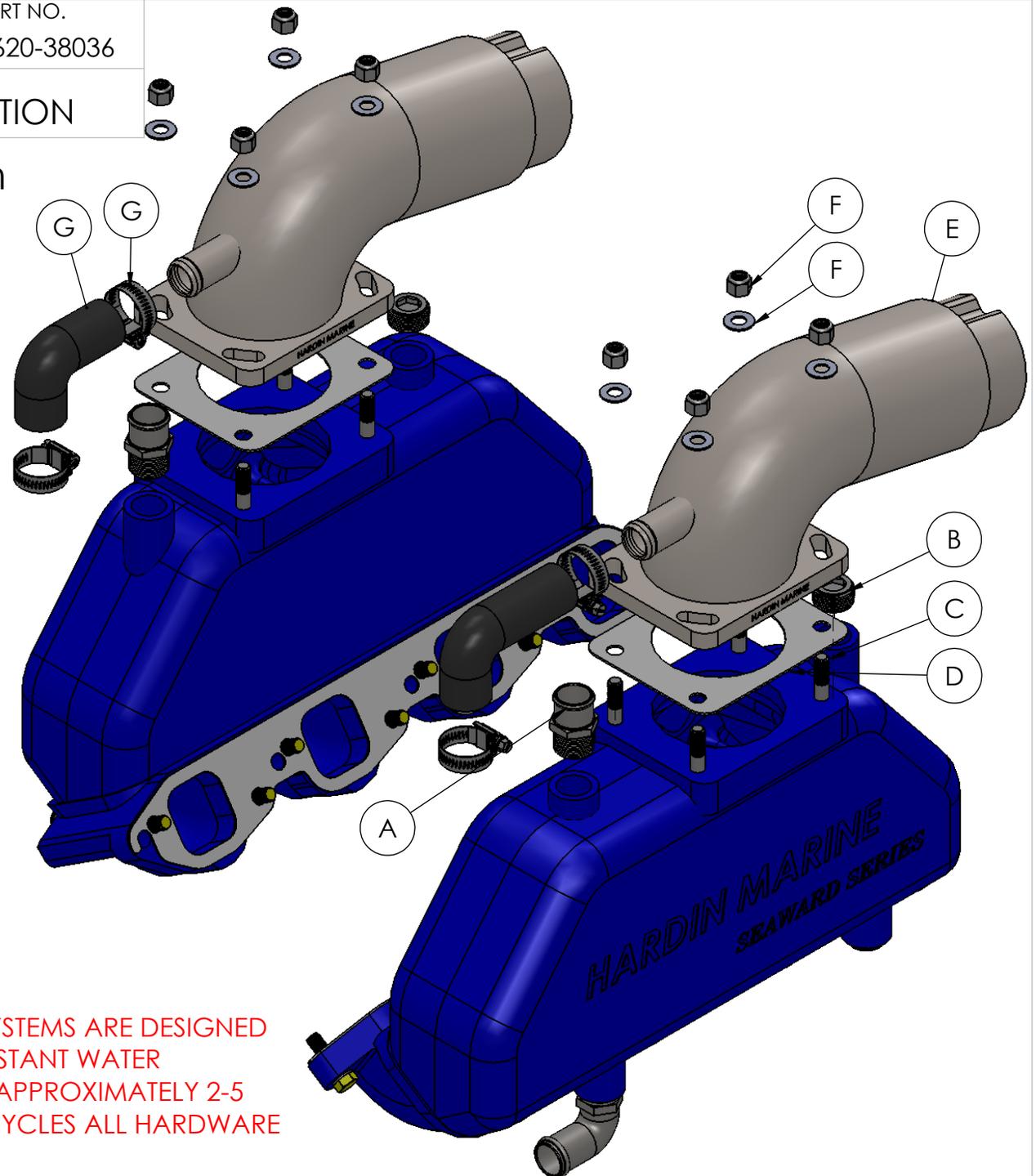
### INSTALLATION INSTRUCTIONS:

- 1) APPLY LIQUID THREAD SEALANT TO THE SUPPLIED 1" HOSE BARB FITTING & 3/4 NPT PIPE PLUGS.
- 2) INSTALL 1" HOSE BARB FITTINGS INTO FRONT OF THE MANIFOLDS, FIG. A.
- 3) INSTALL 3/4NPT PIPE PLUGS INTO THE REAR OF THE MANIFOLDS, FIG.B.
- 4) APPLY ANTI-SIEZE TO THE 8 STUDS, FIG. C.
- 5) SLIDE GASKETS OVER STUDS, FIG. D. DO NOT USE SEALANT ON THE GASKETS.
- 6) INSTALL RISERS, FIG. E.
- 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 WASHERS AND NUTS, FIG F. TORQUE TO 30 FT. LBS..
- 9) INSTALL JUMPER HOSE AND HOSE CLAMPS. STARBOARD SIDE IS SHORTER HOSE, FIG.G.

**MANIFOLDS COME BLACK. SHOWN IN BLUE FOR INSTRUCTION PURPOSES.**

**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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PART NO.  
620-38035/  
620-38035Z

TITLE:

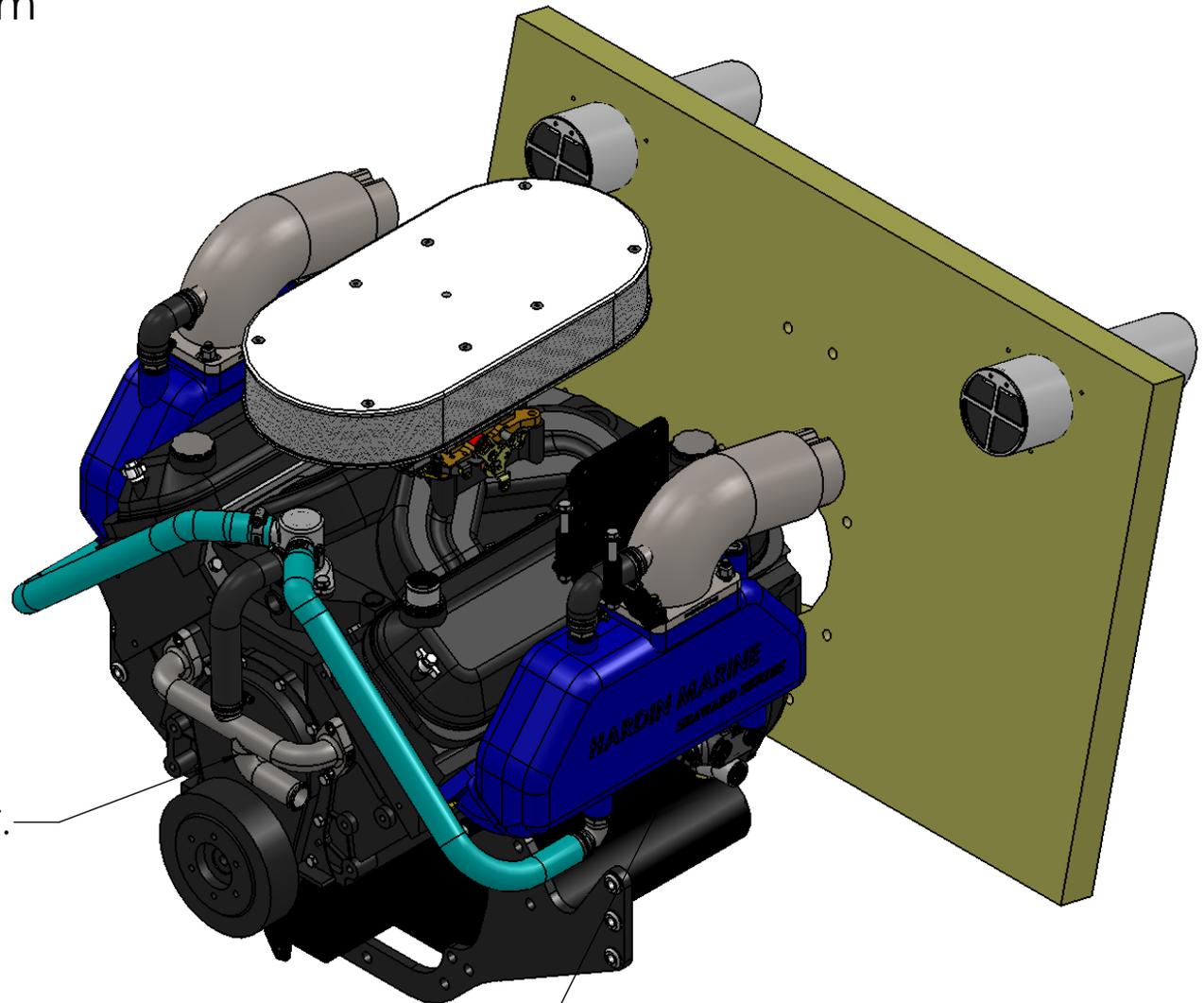
SEAWARD STD. BRAVO HOSE DIAGRAM

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SEAWARD EXHAUST MANIFOLDS REQUIRE A CONSTANT FLOW OF COOLING WATER. COOLING SYSTEM PLUMBING TO BE PLUMBED FROM THE ENGINES TOP WATER DISCHARGE OR THERMOSTAT HOUSING TO THE BOTTOM INLET PROVISION OF THE EXHAUST MANIFOLD. WATER FLOW VERTICALLY THROUGH THE EXHAUST MANIFOLD AND IS DISCHARGED THROUGH A JUMP CONNECTION HOSE TO THE EXHAUST RISER FOR COOLING.

SHOWN WITH 620-300100 CROSSOVER w/BYPASS KIT.

FOR ENGINES WITH A 4 PORT THERMOSTAT HOUSING. YOU CAN EITHER BUY A 540-222120 FITTING AND CONNECT TO THE BOTTOM BACK PORT ON THE MANFIOLD OR 420-910311 "Y" FITTING.



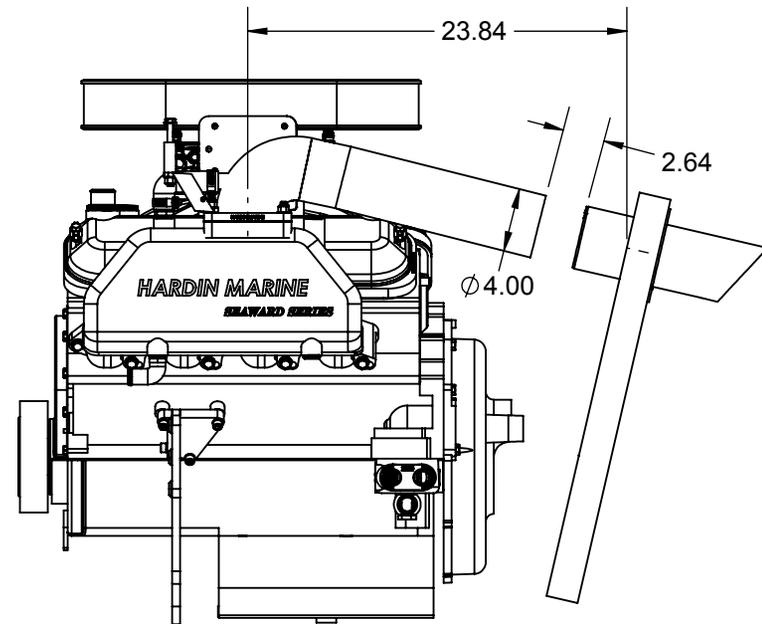
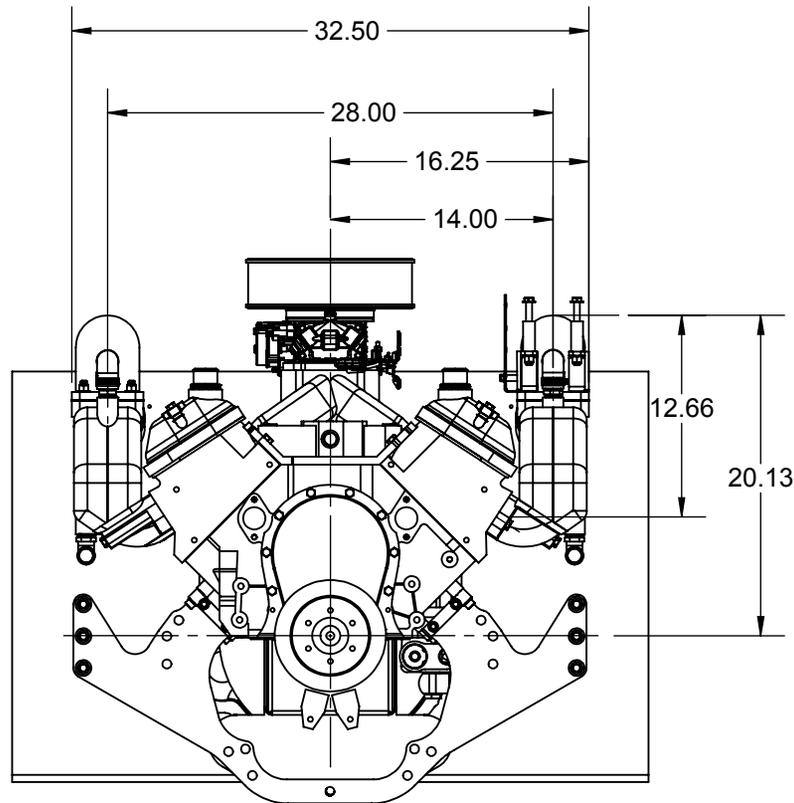
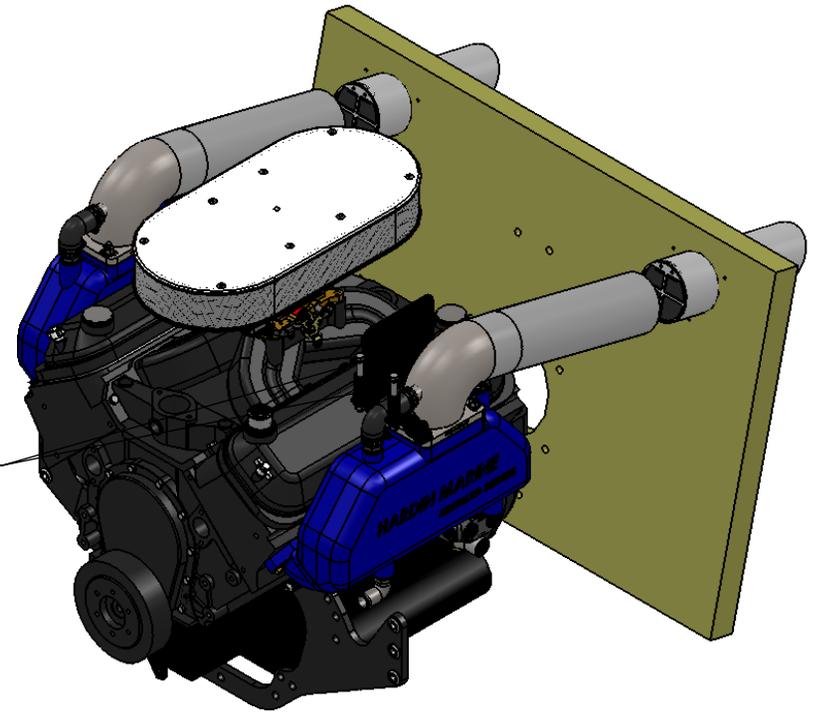
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PART NO.  
620-38038/  
620-38038Z

TITLE:  
SEAWARD BBC MANIFOLD & LONG RISER

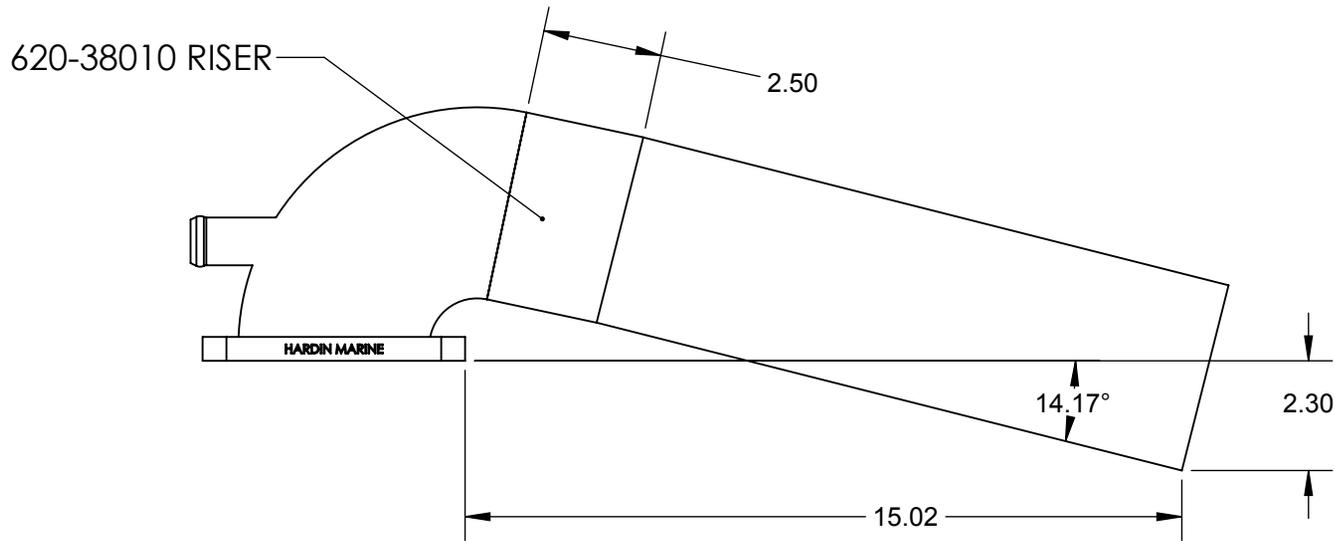
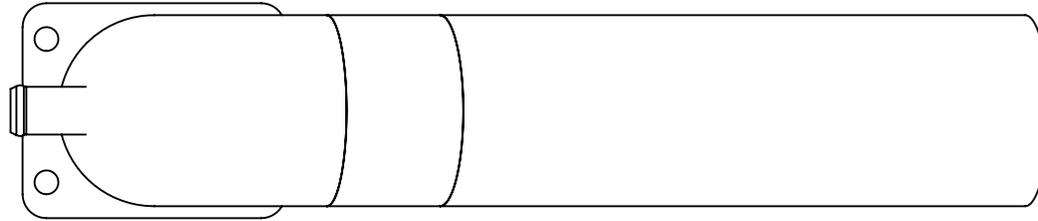
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SHOWN WITH OPTIONAL  
620-38050 OIL FILTER BRACKET  
& 620-38051 SHIFT BRACKET.



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NOTE:  
 1) BREAK ALL EDGES .02x45°, UNLESS NOTED.



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UNLESS OTHERWISE SPECIFIED:		<b>HARDIN MARINE</b> 11 Industry Dr. Palm Coast, FL 32137 386-445-2500 / FAX 386-445-1122	
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± 2° BEND ± TWO PLACE DECIMAL ± .015 THREE PLACE DECIMAL ± .005		TITLE: <b>SEAWARD STD BRAVO TAILPIPE</b>	
MATERIAL 316L	SIZE A	DWG. NO. 620-38058	PART NO. 620-38058
FINISH POLISHED	SCALE: 1:4	DRAWN BY: J.P.STULL	DATE: 07/26/16