

# TIDSMARINE

## SHAFT SEALS



[www.tidesmarine.com](http://www.tidesmarine.com)



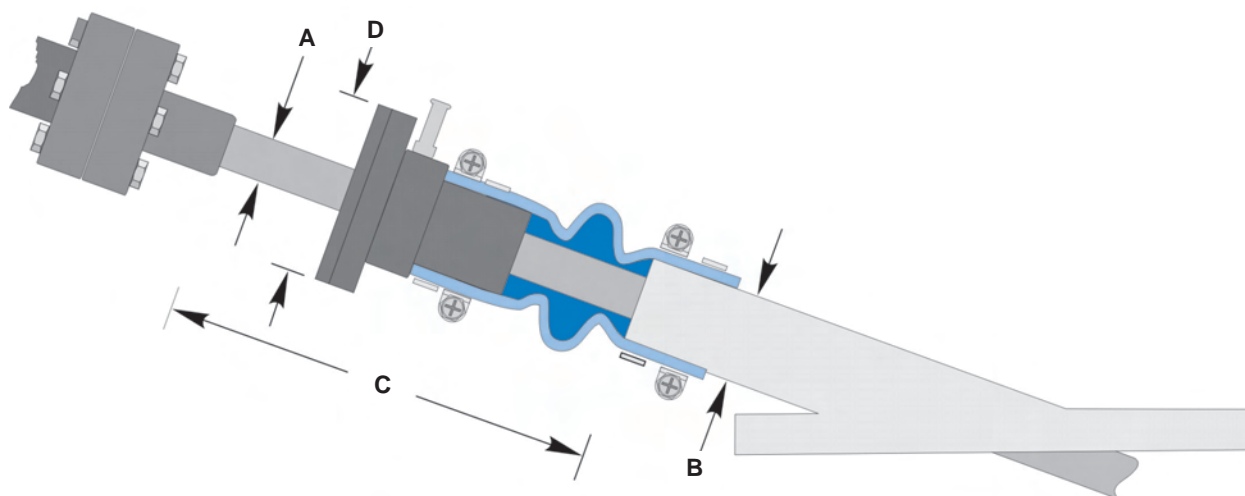
## Before Ordering

SureSeals™ are sold as a kit with hose and clamps.

To determine which parts to order and whether or not you have sufficient space for the installation, you need to measure “A”, the shaft diameter and “B”, the O.D. of the stern tube (which corresponds to the hose I.D.). In addition please advise dimension “C” to confirm how much CLEAN, SMOOTH shaft forward of the stern tube is available for locating the unit.

Please also confirm what material your propeller shaft is manufactured from.

In twin-engine applications, SureSeals™ are normally supplied with a “second injection fitting” to accommodate a crossover line between the SureSeals™.



A = \_\_\_\_\_

B = \_\_\_\_\_

Imperial or Metric Dimensions?

C = \_\_\_\_\_

Shaft material \_\_\_\_\_

Single or Twin Engine Installation?

Please fax back to: + 44 (0) 1202 697503 or email to: [tmi@tidesmarine.com](mailto:tmi@tidesmarine.com)

## **Tides Marine SureSeal™ System**



Tides Marine SureSeal™ is the market leader in dripless propeller shaft sealing systems. SureSeal™ has become an industry standard fit on many production-built power boats, yachts and commercial craft.

The Tides Marine SureSeal™ system is a water tight, self-aligning shaft seal. The one-piece fibre-reinforced composite housing consists of a water lubricated PTFE shaft alignment bearing and lip seal. Once the bearing is on the shaft, the risk of misaligning the SureSeal™ is reduced.

The housing is connected to the stern tube by the means of a special hose and hose clamps to an improved design. The hose reduces side loads to the SureSeal™ when shaft misalignment occurs, extending the life of the bearing and lip seal.

SureSeal™ units have a worldwide warranty of 2500 engine hours, or two years (whichever comes first), and the design allows the lip seal to be easily changed if the cooling water becomes blocked and the lip seal is damaged. Spare lip seals can be installed on the shaft at the time of installation of the SureSeal™ and then be fitted without the need to uncouple the shaft from the transmission coupling, often with the vessel afloat.

SureSeal™ can be easily fitted as a replacement for traditional packed glands or face seals.

## **Major Benefits**

ABS and LLOYDS REGISTER TYPE APPROVAL

ALL COMPONENTS ARE NON-CORROSIVE AND INERT TO ELECTROLYSIS

SEALS ARE MAINTENANCE FREE

NO MOVING PARTS TO WEAR OR CAUSE 'SNAG RISK' IN THE ENGINE ROOM

OPERATES THROUGH A WIDE RANGE OF SHAFT RPM

OPERATES AT A BROAD RANGE OF TEMPERATURES

REDUCES VIBRATION

SIMPLE INSTALLATION

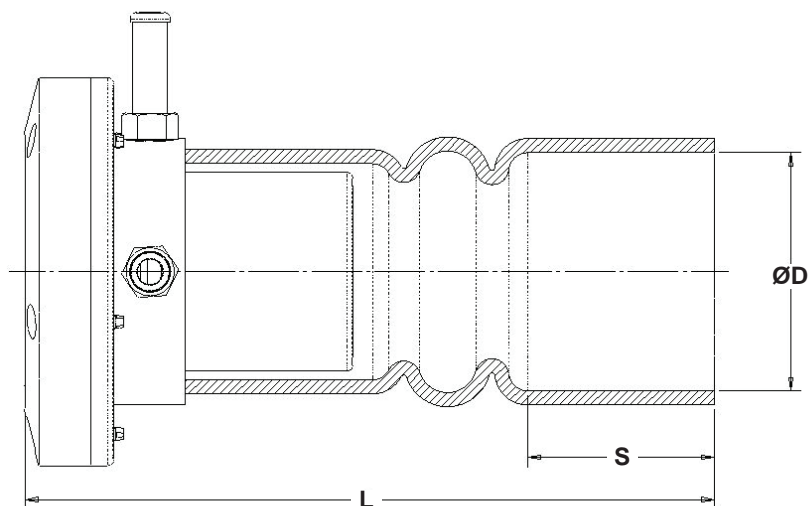
SUITABLE FOR BOTH NEW BUILD AND RETROFIT APPLICATION

AVAILABLE WITH CROSSOVER WATER FEED FOR TWIN APPLICATION

## SureSeal™ Standard Sizes – IMPERIAL

The shaft / stern tube diameter combinations normally available from stock are listed. Additional shaft diameters and stern tube hose options are available on request.

Diameters up to 8" available.



Shaft Ø	D = Stern Tube Ø	S = Hose Cuff Length	L = Overall Length
1-3/8"	2.000"	2.00"	7.82"
	2.125" *		
	2.250"		
	2.375"		
	2.500"		
	2.625"		
	2.750"		

1-1/2"	2.250"	2.00"	7.82"
	2.375"		
	2.500"		
	2.625"		
	2.750"		
	3.000"		

1-5/8"	2.500"	2.00"	7.82"
	2.625"		
	2.750"		
	3.000"		

1-3/4"	2.500"	2.00"	7.82"
	2.625"		
	2.750"		
	2.875" *		
	3.000"		
	3.125" *		
	3.250"		
	3.500"		

2"	2.500"	2.00"	7.82"
	2.750" *		
	3.000"		
	3.125" *		
	3.250"		
	3.500"		
	4.000"		

2-1/4"	3.000"	2.12"	7.82"
	3.250"		
	3.500"		
	3.750"		
	4.000"		
	4.250"		

2-1/2"	3.500"	2.12"	7.82"
	3.750"		
	4.000"		
	4.250"		
	4.500"		

2-3/4"	3.500"	2.12"	7.82"
	3.750"		
	4.000"		
	4.250"		
	4.500"		

3"	4.000"	2.12"	8.54"
	4.500"		
	5.000"		

3-1/4"	4.500"	2.12"	8.54"
	5.000"		
	5.500"	3.00"	9.66"

3-1/2"	4.500"	2.12"	9.04"
	5.000"		
	5.500"	3.00"	10.16"
	6.000"		

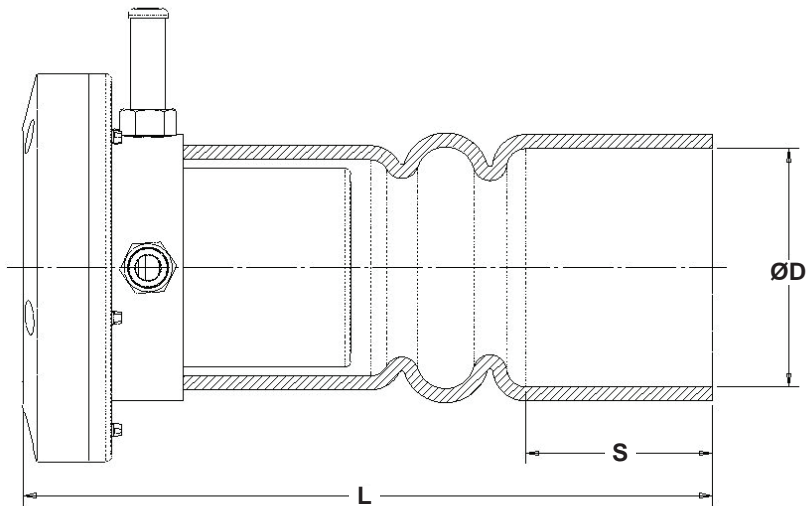
4"	5.500"	2.50"	10.16"
	6.000"	3.00"	10.66"
	6.500"	3.50"	11.16"

\* Stern tube hoses (Ø D) for 2.125", 2.750", 2.875" and 3.125" are supplied with straight wall silicon hose.

## SureSeal™ Standard Sizes – METRIC

The shaft / stern tube diameter combinations normally available from stock are listed. Additional shaft diameters and stern tube hose options are available on request.

Diameters up to 200mm available.



Shaft Ø	D = Stern Tube Ø	S = Hose Cuff Length	L = Overall Length
35mm	51mm	51mm	200mm
	54mm *		
	57mm		
	60mm		
	64mm		
	67mm		
	70mm		

40mm	57mm	51mm	200mm
	60mm		
	64mm		
	67mm		
	76mm		

45mm	64mm	51mm	200mm
	67mm		
	70mm		
	73mm *		
	76mm		
	79mm *		
	83mm		
	89mm		

50mm	64mm	52mm	200mm
	70mm *		
	76mm		
	79mm *		
	83mm		
	89mm		
	102mm		

55mm	76mm	52mm	205mm
	79mm *		
	83mm		
	89mm		
	102mm		

60mm	76mm	52mm	205mm
	89mm		
	95mm		
	102mm		
	108mm		

65mm	89mm	52mm	205mm
	95mm		
	102mm		
	108mm		
	114mm		

70mm	89mm	52mm	205mm
	102mm		
	108mm		
	114mm		
	127mm		

75mm	102mm	54mm	217mm
	108mm		
	114mm		
	127mm		

80mm	102mm	54mm	217mm
	108mm		
	114mm		
	127mm		

85mm	114mm	54mm	229mm
	127mm		
	140mm	76mm	258mm
	152mm		

90mm	127mm	54mm	229mm
	140mm		
	152mm	76mm	258mm

\* Stern tube hoses (Ø D) for 54mm, 70mm, 73mm and 79mm are supplied with straight wall silicon hose.



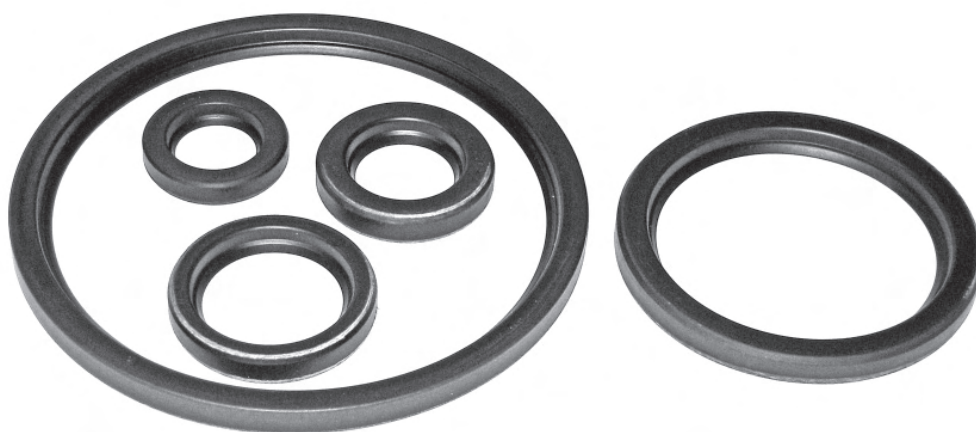
## Spare Seal Carriers



The Tides Marine Spare Seal Carrier Kit provides a convenient way of storing a replacement lip seal on the propeller shaft during installation of the SureSeal™. This allows the change of a damaged or worn lip seal without uncoupling the shaft from the transmission. If necessary, the lip seal can be replaced with the craft afloat.

The Spare Seal Carrier is a two-piece, non-metallic housing, which is clamped to the propeller shaft in front of the seal head. Carriers up to 1.75" / 45mm contain a single lip seal, whilst carriers 2" / 50mm and above are supplied with two lip seals.

## Replacement Lip Seals



Replacement Tides Marine nitrile lip seals complete with a 316 stainless steel garter spring are the only approved parts for fitting to Tides Marine Strong® Seal or SureSeal™ units.

When ordering, please provide the shaft seal serial number along with the part number on the face of the lip seal.

Please see the table on the next page for full details.

## Replacement Lip Seals for Tides Marine Shaft Seals

Fits Strong® Seal	Size	Fits SureSeal™
<b>Imperial</b>		
	3/4"	FSA-0750 (JMC 9983)
SS-0875 (JMC 8465)	7/8"	FSA-0875 (JMC 8465)
Pre-1994 Strong Seal (JMC 80107)	1"	
Post-1995 Strong Seal (JMC 9257)	1"	FSA-1000 (JMC 9520)
SS-1125 (JMC 9460)	1-1/8"	FSA-1125 (JMC 9558)
SS-1250 (JMC 5728)	1-1/4"	FSA-1250 (JMC 5729)
SS-1375 (JMC 15099)	1-3/8"	FSA-1375 (JMC 3740)
SS-1500 (JMC 9041)	1-1/2"	FSA-1500 (JMC 9041)
	1-5/8"	FSA-1625 (JMC 6056)
SS-1750 (JMC 15557)	1-3/4"	FSA-1750 (JMC 15557)
SS-1875 (JMC 8989)	1-7/8"	FSA-1875 (JMC 8989)
SS-2000 (JMC 11551)	2"	FSA-2000 (JMC 9043)
SS-2250 (JMC 10418)	2-1/4"	FSA-2250 (JMC 10432)
SS-2500 (JMC 8497)	2-1/2"	FSA-2500 (JMC 10121)
SS-2750 (JMC 9732)	2-3/4"	FSA-2750 (JMC 11894)
SS-2875 (JMC 10097)	2-7/8"	
SS-3000 (JMC 9045)	3"	FSA-3000 (JMC 9045)
SS-3250 (JMC 9547)	3-1/4"	FSA-3250 (JMC 9547)
SS-3500 (JMC 11197)	3-1/2"	FSA-3500 (JMC 11197)
SS-3750 (JMC 7146)	3-3/4"	FSA-3750 (JMC 7146)
SS-4000 (JMC 7199)	4"	FSA-4000 (JMC 7199)
SS-4250 (JMC 7040)	4-1/4"	FSA-4250 (JMC 7040)
SS-4500 (JMC 9170)	4-1/2"	FSA-4500 (JMC 9170)
SS-5000 (JMC 9629)	5"	FSA-5000 (JMC 9629)

Fits Strong® Seal	Size	Fits SureSeal™
<b>Metric</b>		
SSM-20MM (JMC 18798)	20mm	
SSM-25MM (JMC 6084)	25mm	FSA-25MM (JMC 6726)
SSM-30MM (JMC 17236)	30mm	FSA-30MM (JMC 10569)
	35mm	FSA-35MM (JMC 3740)
	38mm	FSA-38MM (JMC 9041)
SSM-40MM (JMC 18329)	40mm	FSA-40MM (JMC 5536)
SSM-45MM (JMC 15265)	45mm	FSA-45MM (JMC 11499)
SSM-50MM (JMC 10015)	50mm	FSA-50MM (JMC 10015)
SSM-55MM (JMC 18406)	55mm	FSA-55MM (JMC 18406)
SSM-60MM (JMC 9319)	60mm	FSA-60MM (JMC 9319)
SSM-65MM (JMC 6869)	65mm	FSA-65MM (JMC 6869)
	70mm	FSA-70MM (JMC 11894)
SSM-75MM (JMC 15089)	75mm	FSA-75MM (JMC 4183)
	80mm	FSA-80MM (JMC 4801)
SSM-85MM (JMC 16431)	85mm	FSA-85MM (JMC 16431)
SSM-90MM (JMC 30019)	90mm	FSA-90MM (JMC 19819)
	95mm	FSA-95MM (JMC 7146)
SSM-100MM (JMC 9510)	100mm	FSA-100MM (JMC 9510)
	105mm	FSA-105MM (JMC 11790)
	110mm	FSA-110MM (JMC 16548)
	115mm	FSA-115MM (JMC 7191)
	120mm	FSA-120MM (JMC 30026)
	125mm	FSA-125MM (JMC 19662)
	150mm	FSA-150MM (JMC 12021)

All Lip Seals Supplied with an Installation Hat

## Product Overview



Designed for use on smaller vessels with stainless steel propeller shafts, the seriesOne™ shaft seal is designed to fit shaft diameters from 3/4" through 1-1/4", in 1/8" increments. It is also available to fit metric shafting diameters of 22mm, 25mm and 30mm.

The seriesOne™ shaft seal is to be used in single-engine vessels only. For twin-engine applications, the SureSeal™ is recommended.

Key design features of the seriesOne™ shaft seal include:

**Housing:** The one-piece body is manufactured from an engineering-grade thermoplastic.

**Bearing:** The bearing is machined to precise tolerances providing reliable, long-term operating life.

**Hose:** Several hose alternatives are available to optimize operating characteristics of these units. For vessels (like ski boats) with short shafts (length = approx 3'), high RPMs (range 5,000) and rigid engine mounts, a hose with a single convolution is recommended. For work boats powered by smaller diesel engines and softer engine mounts, the multi-convolution hose is recommended to compensate for more lateral shaft movement during operation.

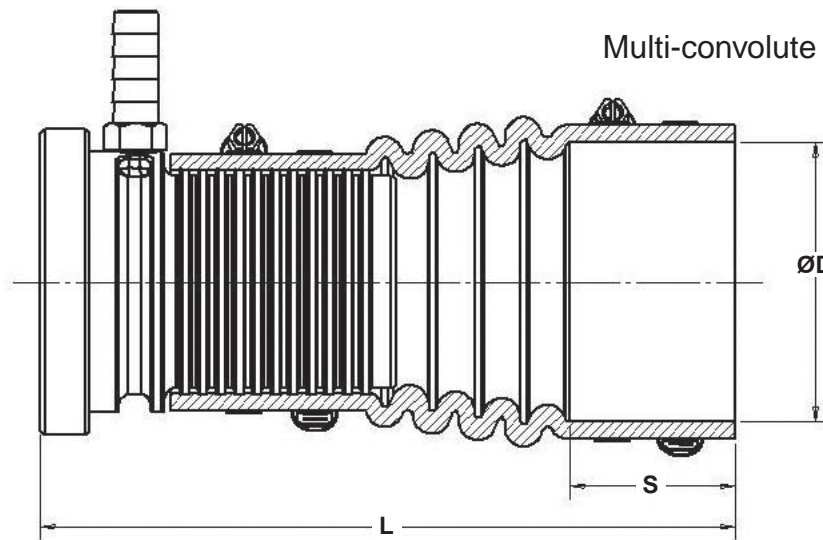
**Hose Clamps:** Four standard hose clamps are provided with these shaft seals. If your vessel is operating in extremely harsh environments, 316 stainless AWAB hose clamps are available at an additional charge as an upgrade.

**Seal Replacement:** The seriesOne™ is designed to be removed and replaced when the workable life span of the seal has been achieved. If in-water replacement is a desired option please use our SureSeal™ line of self-aligning shaft seals. Spare Seal Carrier kits containing replacement lip seals are only available for SureSeal™ units.



## seriesOne™ Standard Sizes

The shaft / stern tube diameter combinations normally available from stock are listed.



Multi-convolute hose option shown

METRIC			
Shaft Ø	D = Stern Tube Ø	S = Hose Cuff Length	L = Overall Length
22mm	38mm *	48mm	156mm
	41mm		
	45mm		
	51mm		
	57mm		
	63mm		
	70mm		

25mm	38mm *	48mm	156mm
	41mm		
	45mm		
	51mm		
	57mm		
	63mm		
	70mm		

30mm	41mm	48mm	156mm
	45mm		
	51mm		
	57mm		
	63mm		
	70mm		
	76mm		

IMPERIAL			
Shaft Ø	D = Stern Tube Ø	S = Hose Cuff Length	L = Overall Length
3/4"	1.500" *	1.880"	6.150"
	1.625"		
	1.750"		
	2.000"		
	2.250"		
	2.500"		
	2.750"		

7/8"	1.500" *	1.880"	6.150"
	1.625"		
	1.750"		
	2.000"		
	2.250"		
	2.500"		
	2.750"		

1"	1.500" *	1.880"	6.150"
	1.625"		
	1.750"		
	2.000"		
	2.250"		
	2.500"		
	2.750"		

\* Supplied with 1.5" / 38mm Adaptor.

1-1/8"	1.625"	1.880"	6.150"
	1.750"		
	2.000"		
	2.250"		
	2.500"		
	2.750"		
	3.000"		

1-1/4"	1.625"	1.880"	6.150"
	1.750"		
	2.000"		
	2.250"		
	2.500"		
	2.750"		
	3.000"		

# Water Pick-Up Kits

## Product Overview



Tides Marine Water Pick-Up Kits include everything needed to connect SureSeals™ to source water necessary for proper lubrication of the lip seal and bearing. There are two types of kits available: “Tee Kits”, which are used to tap into the flexible cooling hoses, and “Fitting Kits”, which are used to tap into fixed points in the raw cooling system.

**Tee Kits:** Brass tees are designed to fit a wide range of hose sizes and have branch fittings matched to those found on each SureSeal™.

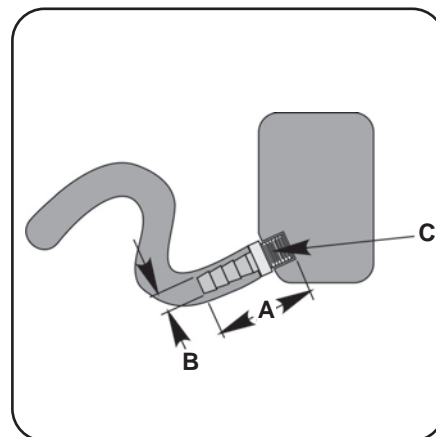
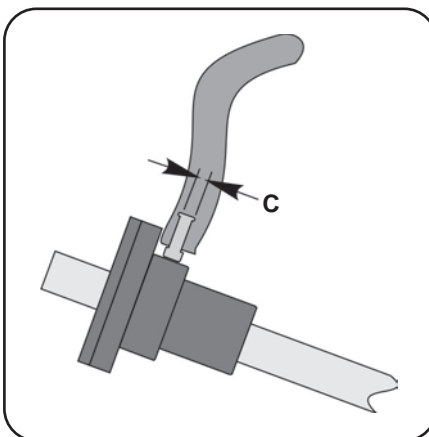
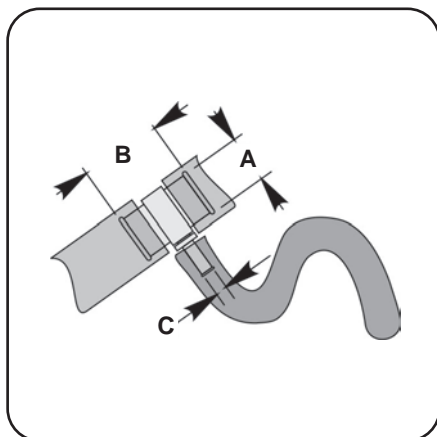
**Fitting Kits:** Fitting Kits contain a brass water fitting (matched to fit the water injection fittings on each SureSeal™). Each kit includes 8' of Type B fuel hose, a tee or injection fitting and stainless steel hose clamps. Extra hose and clamps are available at no charge if you will be using a crossover line between the shaft seals in a twin engine application.



**When the engine(s) are installed below the waterline (or water-lift mufflers are used), a vented loop may be required to prevent back-flooding of water through the exhaust system into the engine. ABYC guidelines regarding materials and installation practices should be followed.**

The water pick-up fitting should be installed in the “pressure side” of the vented loop “T”. This vented loop should be as far above the waterline as is practical (a minimum distance of 12" is required). In twin engine applications with water-lift mufflers, a check valve in the water pick-up line is required if a crossover line is used.

Vented loops and check valves should be checked for proper function at least seasonally.



## Tee Fitting Specifications

(dimensions in inches)

Hose I.D.	Hose Tee Length	Branch Hose Barb Size	Part Number
A	B	C	
3/8	1-7/8	3/8	TK0375-3/8-.275
5/8	1-7/8	3/8	TK0625-3/8-.218
3/4	1-7/8	3/8	TK0750-3/8-.218
1	1-7/8	3/8	TK1000-3/8-.218
1-1/4	1-7/8	3/8	TK1250-3/8-.218
1-1/2	1-7/8	3/8	TK1500-3/8-.218
1-1/2	1-7/8	1/2	TK1500-1/2-.343
1-5/8	1-7/8	3/8	TK1625-3/8-.218
1-3/4	2	3/8	TK1750-3/8-.218
2	2-1/2	3/8	TK2000-3/8-.218
2	2-1/2	1/2	TK2000-1/2-.343

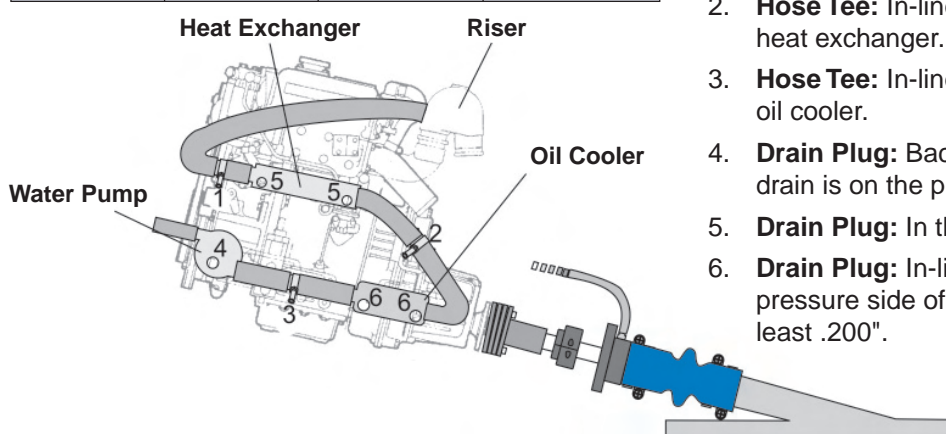
## Water Fitting Specifications

(dimensions in inches)

Fitting Length	Fitting Hose Barb Size	Fitting Thread Size	Part Number
A	B	C	
2	3/8	1/4 NPT	UK250-375-2000
2	3/8	3/8 NPT	UK375-375-2000
2	1/2	3/8 NPT	UK375-500-2000

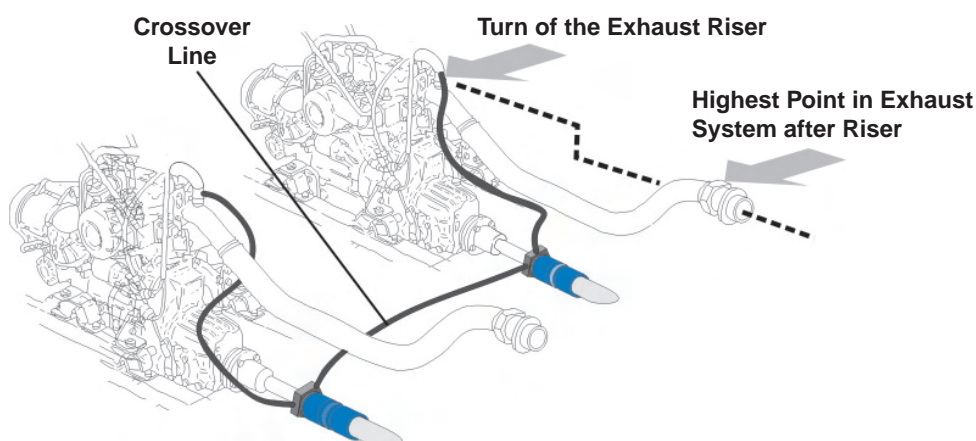
### Recommended Water Pick-Up Points in Order of Preference

- Hose Tee:** In-line between the heat exchanger and riser (as close to the heat exchanger as possible).
- Hose Tee:** In-line between the oil cooler and the heat exchanger.
- Hose Tee:** In-line between the water pump and the oil cooler.
- Drain Plug:** Back of the water pump. Be sure the drain is on the pressure side of the pump.
- Drain Plug:** In the heat exchanger.
- Drain Plug:** In-line oil cooler (if oil cooler is on the pressure side of the pump). The bore should be at least .200".



The turn of the exhaust riser must be above the rest of the exhaust system.

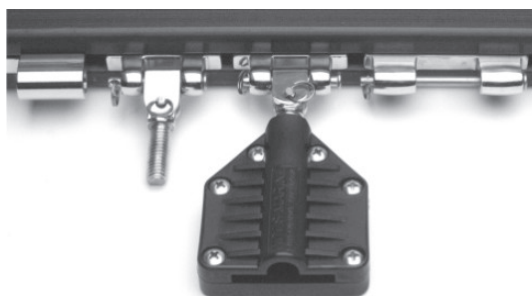
Before operating the vessel you must test the water supply.



## Other Products Available



**Rudder Ports, Tubes and Bearings**



**Sail Track System**

# TIDESMARINE



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