



# **SEAKEEPER 9** METHOD OF INSTALLATION GUIDE





# **TABLE OF CONTENTS**

### **OVERVIEW**

Clearances

New Installation

### **REFIT INSTALLATION W**

566 mm – 706 mm (22.29 in

591 mm – 785 mm (23.28 ir

595 mm – 817 mm (23.42 in

817 mm – 927 mm (32.18 in

Greater Than 927 mm (36.5

Longitudinal & Transverse

	<b>INSTALLATION METHOD</b>	<b>DRAWING PAGE</b>
		3
	BOLT-IN METHOD	4
	BOND-IN METHOD	9
ITH CLEARAN	<b>CE BETWEEN STRINGERS OF:</b>	
$\sim 27.01$ in	BOLT-IN METHOD	<u>5</u>
1 – 27.81 m)	BOND-IN METHOD	<u>10</u>
$\sim 20.00$ in)	BOLT-IN METHOD	6
T – 30.90 m)	BOND-IN METHOD	<u>10</u>
22.18 in	BOLT-IN METHOD	2
1 – 32.10 111)	BOND-IN METHOD	<u>10</u>
a = 3650 in)	BOLT-IN METHOD	<u>8</u>
r = 30.30 m)	BOND-IN METHOD	<u>10</u>
50 in)	BOLT-IN METHOD	<u>4</u>
50 m)	BOND-IN METHOD	<u>9</u>
lamination	BOLT-IN METHOD	<u>11-12</u>
	BOND-IN METHOD	<u>13-14</u>







(BUYER'S) VESSEL.



VIEWS SHOWING RECOMMENDED CLEARANCE AROUND GYRO FOR USE OF HAND TOOLS, EASE OF MAINTENANCE, INSTALLATION AND PROPER OPERATION. THESE APPLY TO BOLT-IN AND BOND-IN METHOD UNITS.

### **SEAKEEPER 9 CLEARANCES**

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VEIGHT - LBS:	WITHOUT THE WE OF SEAKEEPEF	ART OR AS A WHOLE RITTEN PERMISSION RIS PROHIBITED.	NAME:		
MATERIAL:	drawn: RLK	DATE: 13MAY2016	FOUNDATIO	DN DESI	IGN
	ENG APPR:	DATE: 13MAY2016	DWG NUMBER	REV. NO.	SHEET NO.
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### **SECTION 1-A**

#### SEAKEEPER 9 BOLT-IN METHOD LAMINATED FRP MOLDED

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WEIGHT - LBS:	WITHOUT THE W OF SEAKEEPEI	RITTEN PERMISSION RITTEN PERMISSION R IS PROHIBITED.	NAME:		
MATERIAL:	drawn: RLK	DATE: 13MAY2016	FOUNDATIO	DN DESI	IGN
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### **SECTION 1-E**

#### SEAKEEPER 9 BOLT-IN METHOD LAMINATED WITH ADAPTER PLATE

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WEIGHT - LBS:	WITHOUT THE WE OF SEAKEEPER	ART OR AS A WHOLE RITTEN PERMISSION RIS PROHIBITED.	NAME:		
MATERIAL:	drawn: RLK	date: 13MAY2016	FOUNDATIO	DN DESI	IGN
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	PROD APPR:	DATE:	90384	1	5 OF 14



### **SECTION 1-C**

#### SEAKEEPER 9 BOLT-IN METHOD ALUMINUM BOLTED FOUNDATION

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/EIGHT - LBS:	WITHOUT THE WE OF SEAKEEPEF	ART OR AS A WHOLE RITTEN PERMISSION RIS PROHIBITED.	NAME: SEAKEEDER	9 SVVI	
IATERIAL:	drawn: RLK	DATE: 13MAY2016	FOUNDATIO	DN DES	GN
	ENG APPR:	DATE: 13MAY2016	DWG NUMBER	REV. NO.	SHEET NO
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### **SECTION 1-B**

#### **SEAKEEPER 9 BOLT-IN METHOD** ALUMINUM WELDED FOUNDATION

	PROPRIETARY AI THE INFORMATION DRAWING IS THE SEAKEEPER INCO	ND CONFIDENTIAL I CONTAINED IN THIS SOLE PROPERTY OF RPORATED. ANY RE-	SEAKEEPER	Seakeeper 44425 Pec Suite 151 California,	lnc. an Court MD 20619
WEIGHT - LBS:	- PRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SEAKEEPER IS PROHIBITED.		NAME:		
MATERIAL:	drawn: RLK	DATE: 13MAY2016	FOUNDATIO	DN DESI	IGN
	ENG APPR:	date: 13MAY2016	DWG NUMBER	REV. NO.	SHEET NO.
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**REQUIREMENTS OF CUSTOMER'S** (BUYER'S) VESSEL.

![](_page_7_Figure_2.jpeg)

	PROPRIETARY A THE INFORMATION DRAWING IS THE SEAKEEPER INCO	ND CONFIDENTIAL I CONTAINED IN THIS SOLE PROPERTY OF RPORATED. ANY RE-	SEAKEEPER	Seakeeper Inc. 44425 Pecan Court Suite 151 California, MD 20619	
EIGHT - LBS:	PRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF SEAKEEPER IS PROHIBITED.		NAME: SEAKEEDER		
ATERIAL:	drawn: RLK	date: 13MAY2016	FOUNDATIO	DN DESI	GN
	ENG APPR:	date: 13MAY2016	DWG NUMBER	REV. NO.	SHEET NC
	PROD APPR:	DATE:	90384	1	8 OF 14

![](_page_8_Figure_0.jpeg)

PLAN VIEW 7-B (LAMINATED FRP MOLDED METHOD 2-A)

### **SECTION 2-A**

- FLYWHEEL SPIN AXIS

#### **SEAKEEPER 9 BOND-IN METHOD** LAMINATED FRP MOLDED

#### FOR INFORMATION ONLY TO ILLUSTRATE TYPICAL GYRO INSTALLATION

Seakeeper Inc. 44425 Pecan Court SEAKEEPER Suite 151 California, MD 20619 PRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION WEIGHT - LBS: NAME: OF SEAKEEPER IS PROHIBITED. SEAKEEPER 9 SAMPLE MATERIAL: DRAWN: DATE: FOUNDATION DESIGN RLK 13MAY2016 DWG NUMBER REV. NO. SHEET NO. DATE: ENG APPR: JC 13MAY2016 **1** 9 OF 14 90384 DATE: PROD APPR:

![](_page_9_Figure_0.jpeg)

PLAN VIEW 7-B (LAMINATED FRP REFIT METHOD 2-B)

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## **SECTION 2-B**

#### SEAKEEPER 9 BOND-IN METHOD LAMINATION FRP REFIT

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MATERIAL:	drawn: RLK	date: 13MAY2016	FOUNDATIO	DN DESI	GN
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![](_page_10_Picture_0.jpeg)

– LAMINATION LAPS ON BULKHEAD, 3" TYP.

### **SECTION 5-C**

#### SEAKEEPER 9 BOLT-IN METHOD STRINGER LAMINATION, TYP.

	1.TYPICAL LAMINA	
STEP	LAMINA	THICKNESS (IN)
1.01	E-M 0015 CHOP MAT	0.036
1.02	E-BXM 1708	0.048
1.03	E-BXM 1708	0.048
1.04	E-M 0015 CHOP MAT	0.036
1.05	E-BXM 1708	0.048
1.06	E-BXM 1708	0.048
COM	POSITE THICKNESS	0.264
	2. OPTIONAL LAMINA	ATION
STEP	LAMINA	THICKNESS (IN)
2.01	E-M 0015 CHOP MAT	0.036
2.02	E-TLXM 2208	0.056
2.03	E-TLXM 2208	0.056
2.04	E-TLXM 2208	0.056
2.05	E-TLXM 2208	0.056
СОМ	POSITE THICKNESS	0.260
[		
STEP	LAMINA	THICKNESS (IN)
3.01	E-M 0015 CHOP MAT	0.036
3.02	E-LTM 1815	0.062
3.03	E-LTM 1815	0.062
3.04	E-LTM 1815	0.062
3.05	E-LTM 1808	0.047
COM		0.269
	I JOIL THIONNEOD	0.203

LAMINATION LAPS, 3" TYP. ALL THE WAY AROUND

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VEIGHT - LBS:	WITHOUT THE WE OF SEAKEEPEF	ART OR AS A WHOLE RITTEN PERMISSION R IS PROHIBITED.	NAME:		
MATERIAL:	drawn: RLK	DATE: 13MAY2016	FOUNDATIO	DN DESI	IGN
	ENG APPR:	DATE: 13MAY2016	DWG NUMBER	REV. NO.	SHEET NO.
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![](_page_11_Figure_0.jpeg)

![](_page_11_Figure_2.jpeg)

### **SECTION 5-C**

#### SEAKEEPER 9 BOLT-IN METHOD TRANSVERSE LAMINATION, TYP.

TYPICAL LAMINATION ALL THE WAY AROUND

1.TYPICAL LAMINATION			
STEP	LAMINA	THICKNESS (IN)	
1.01	E-M 0015 CHOP MAT	0.036	
1.02	E-BXM 1708	0.048	
1.03	E-BXM 1708	0.048	
1.04	E-M 0015 CHOP MAT	0.036	
1.05	E-BXM 1708	0.048	
1.06	E-BXM 1708	0.048	
COMPOSITE THICKNESS		0.264	

2. OPTIONAL LAMINATION				
STEP	LAMINA	THICKNESS (IN)		
2.01	E-M 0015 CHOP MAT	0.036		
2.02	E-TLXM 2208	0.056		
2.03	E-TLXM 2208	0.056		
2.04	E-TLXM 2208	0.056		
2.05	E-TLXM 2208	0.056		
СОМ	POSITE THICKNESS	0.260		

	3. OPTIONAL LAMINATION				
STEP	LAMINA	THICKNESS (IN)			
3.01	E-M 0015 CHOP MAT	0.036			
3.02	E-LTM 1815	0.062			
3.03	E-LTM 1815	0.062			
3.04	E-LTM 1815	0.062			
3.05	E-LTM 1808	0.047			
COMPOSITE THICKNESS		0.269			

![](_page_11_Figure_10.jpeg)

— LAMINATION LAPS, 3" TYP. ALL THE WAY AROUND

WEIGHT - LBS:	PROPRIETARY AI THE INFORMATION DRAWING IS THE SEAKEEPER INCO PRODUCTION IN P WITHOUT THE WE OF SEAKEEPER	ND CONFIDENTIAL I CONTAINED IN THIS SOLE PROPERTY OF RPORATED. ANY RE- ART OR AS A WHOLE RITTEN PERMISSION & IS PROHIBITED.	SEAKEEPER NAME:	Seakeeper 44425 Pec Suite 151 California,	Inc. an Court MD 20619 DI E
MATERIAL:	drawn: RLK	DATE: 13MAY2016	6 FOUNDATION DES		GN
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![](_page_12_Picture_1.jpeg)

### **SECTION 5-C**

#### SEAKEEPER 9 BOND-IN METHOD STRINGER LAMINATION, TYP.

1.TYPICAL LAMINATION				
STEP	LAMINA	THICKNESS (IN		
1.01	E-M 0015 CHOP MAT	0.036		
1.02	E-BXM 1708	0.048		
1.03	E-BXM 1708	0.048		
1.04	E-BXM 1708	0.048		
1.05	E-BXM 1708	0.048		
1.06	E-BXM 1708	0.048		
1.07	E-BXM 1708	0.048		
COMPOSITE THICKNESS 0.324				
COMPOSITE THICKNESS 0.324				

2. OPTIONAL LAMINATION					
STEP	LAMINA	THICKNESS (IN)			
2.01	E-M 0015 CHOP MAT	0.036			
2.02	E-TLXM 2208	0.056			
2.03	E-TLXM 2208	0.056			
2.04	E-TLXM 2208	0.056			
2.05	E-TLXM 2208	0.056			
2.06	E-TLXM 2208	0.056			
COM	POSITE THICKNESS	0.316			

#### 3. OPTIONAL LAMINATION

STEP	LAMINA	THICKNESS (IN)
3.01	E-M 0015 CHOP MAT	0.036
3.02	E-LTM 1815	0.062
3.03	E-LTM 1808	0.047
3.04	E-LTM 1815	0.062
3.05	E-LTM 1808	0.047
3.06	E-LTM 1815	0.062
COMPOSITE THICKNESS		0.316

	PROPRIETARY AL THE INFORMATION DRAWING IS THE SEAKEEPER INCO	ND CONFIDENTIAL I CONTAINED IN THIS SOLE PROPERTY OF RPORATED. ANY RE-	SEAKEEPER	Seakeeper 44425 Pec Suite 151 California,	Inc. an Court MD 20619
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- HULL BOTTOM

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![](_page_13_Figure_2.jpeg)

### **SECTION 5-C**

#### SEAKEEPER 9 BOND-IN METHOD TRANSVERSE LAMINATION

1.TYPICAL LAMINATION				
STEP	LAMINA	THICKNESS (IN)		
1.01	E-M 0015 CHOP MAT	0.036		
1.02	E-BXM 1708	0.048		
1.03	E-BXM 1708	0.048		
1.04	E-BXM 1708	0.048		
1.05	E-BXM 1708	0.048		
1.06	E-BXM 1708	0.048		
1.07	E-BXM 1708	0.048		
СОМ	POSITE THICKNESS	0.324		

2. OPTIONAL LAMINATION					
STEP	LAMINA	THICKNESS (IN)			
2.01	E-M 0015 CHOP MAT	0.036			
2.02	E-TLXM 2208	0.056			
2.03	E-TLXM 2208	0.056			
2.04	E-TLXM 2208	0.056			
2.05	E-TLXM 2208	0.056			
2.06	E-TLXM 2208	0.056			
COMPOSITE THICKNESS		0.316			

3. OPTIONAL LAMINATION			
STEP	LAMINA	THICKNESS (IN)	
3.01	E-M 0015 CHOP MAT	0.036	
3.02	E-LTM 1815	0.062	
3.03	E-LTM 1808	0.047	
3.04	E-LTM 1815	0.062	
3.05	E-LTM 1808	0.047	
3.06	E-LTM 1815	0.062	
COMPOSITE THICKNESS		0.316	

LAMINATION LAPS, 3" TYP. ALL THE WAY AROUND

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