

3. From the order guide select the appropriate helms and accessory hardware for each steering station.
4. From the order guide select the fitting and hose kits required for the installation. Note: for hoses add the distance required, in feet to the last two digits of the part number.
5. Confirm that there is sufficient space available in the splashwell and dash areas for the steering components.
See WARNING.

NOTE

Not recommended for use in installations where:

- a) chopper, cleaver or surface piercing propellers are used,
- b) the engine is highly elevated on the transom,
- c) engine trim tabs have been removed,
- d) the boat speed exceeds 75 mph (120 km/h), or
- e) the power exceeds maximum Coast Guard or M.O.T. recommendations for the boat.

ENGINE	SEASTAR FRONT MOUNT (Normal Use)	SEASTAR FRONT MOUNT (Aggressive Use – See Note 1)	HYNAUTIC K-6 (Normal Use Only)
Dual Engine Counter Rotating	Dual Cylinder 600hp Max, 55 Mph Max HC53xx Cylinders, HO60xx Tiebar	Dual Cylinder 700hp Max Tournament Series Cylinders, HC6845 (Note 2 & 4) Tournament Series Tiebar	Dual Cylinder 500hp Max 55 Mph Max
Triple Engine One With Counter Rotating	Dual Cylinder 900hp Max, 55 Mph Max HC53xx Cylinders, HO60xx Tiebar	Dual Cylinder 1050hp Max Tournament Series Cylinders, HC6845 (Note 2 & 4) Tournament Series Tiebar See Tournamnet Series selection guides	Not Recommended
	Triple Cylinder 900hp Max, 55 Mph Max HC53xx Cylinders, HO60xx Tiebar	Triple Cylinder 1050hp Max Tournament Series Cylinders, HC6845 (Note 2 & 4) Tournament Series Tiebar	Not Recommended

NOTES

1. SeaStar Solutions has specific steering equipment for boats that are driven aggressively, used in severe conditions or with more than 300 HP per engine.
2. ALL ENGINES over 300 HP and all boats that are driven aggressively must use a high strength tiller bolt, kit part # HA5822. All front mount cylinders built after June 15, 2007 will have this high strength bolt included in the box. High strength tiller bolts can be identified by the marking '✳' on the head of the bolt (refer to NOTICE).
3. HC6845 PRO Cylinders are designed for all those critical high speed, single outboard engine boats, such as Bass, Flats combo Race/Ski and other performance orientated boats capable of speeds in excess of 65 mph. For optimal performance, the use of SeaStar PRO Kevlar Steering Hoses is recommended.
4. HC6845 Tournament cylinders are designed for use with high powered fishing/sport boats. If your application calls for dual or triple outboard engines, is capable of speeds exceeding 55 mp/h and runs ion open water, tournament Cylinders should be used.


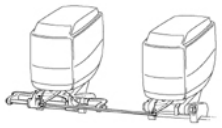
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ORDER INFORMATION

ENGINE/CYLINDER CONFIGURATION	DESCRIPTION	QTY. REQ.	MODEL	PART No.	
<p>SINGLE ENGINE (Single Cylinder)</p> <p>Applications up to 350HP Max.</p> <p>Number of Turns = 5</p> 	Cylinder	1	Front Mount	HC5345	
	Helm	1	SeaStar I-Standard *	HH5271	
	Hose Kit	1	Outboard Hose	HO51__	
	Oil	3	SeaStar Oil	HA5430	
	For Extra Steering Station Add:				
	Helm	1	SeaStar I-Standard *	HH5271	
	Fitting Kit	1	Add a Station	HF5501	
	Hose Kit	1	Outboard Hose	HO51__	
	Oil	1	SeaStar Oil	HA5430	
	DUAL ENGINE (Single Cylinder)	Cylinder	1	Front Mount	HC5345
	<p>Non-Counter Rotating Applications up to 450HP Max.</p> <p>Counter Rotating Applications up to 700HP Max.</p> <p>Number of Turns = 5</p>  <p>CAUTION Tournament cylinders required for aggressive use.</p>	Tie-Bar Kit	1		HO60__
		Helm	1	SeaStar I-Standard *	HH5271
		Hose Kit	1	Outboard Hose	HO51__
		Oil	3	SeaStar Oil	HA5430
For Extra Steering Station Add:					
Helm		1	SeaStar I-Standard *	HH5271	
Fitting Kit		1	Add a Station	HF5501	
Fitting Kit		1	Outboard Hose	HO51__	
Oil		1	SeaStar Oil	HA5430	



NOTES

1. Requires kit HO5090.
2. May require extensive cowling modifications.
3. MUST use High Strength Tiller bolt, part # HA5822. Refer to the NOTICE below identifying the high strength bolt.
4. Optional cylinder part no. HC5358. Slight interference may occur when using the HC5358, with the engine in the full tilt position.
5. Cylinder part # HC5358 may also be used in these single engine applications.

OTHER APPLICATIONS

The SeaStar Front Mount Steering System is also available for many other marine applications, including:

- Triple Engine
- Tournament Series Tiebar Cylinders.
- Tandem Catamaran

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APPLICATION GUIDE - Single Engine Applications

Prior to selecting a cylinder from this application guide, please refer to page 3-4 to ensure that you are selecting the correct cylinder for your engine/boat.

Notice: For latest front mount cylinder application list, please visit www.seastarsolutions.com

ENGINE MANUF.	YEAR	MODEL	CYLINDER	NOTES
Force	1985 To Date	90-150hp	HC5345	
Honda	1996 To Date	75-90hp	HC5345	
	1998 To 2009	115-130hp	HC5347	
	1998 To Date	30-50hp	HC5345	1
	2001 To Date	135-250hp 4-Stroke	HC5345	
	2003 To Date	Bf135hp	HC5345	
	2010 To Date	115hp	HC5345	
Johnson / Evinrude	1977 To 1990	65-300hp	HC5348	
	1988 To 1997	250-300hp V8	HC5342	
	1991 To Date	40-250hp	HC5345	Inc. Etech Engines
	1996 To Date	75-250hp Ficht	HC5345	
	1998 To Date	40-140hp 4-Stroke	HC5358	1
	2000 To Date	115hp Fict	HC5358	1
	2002 To Date	200-225hp 4-Stroke	HC5345	
	2005 To Date	E250 Dpx Vindicator	HC5348	
Mercury	2007 To Date	3.3l/3.4l 200-250hp	HC5345	Inc. H.O. Models
	1984 To 1994	2.4/2.5hp Efi	HC5345	2
	1989 To Date	75-300hp	HC5345	
	1996 To Date	75-225hp 4-Stroke	HC5345	
	1998 To Date	30-60hp	HC5345	1
	2003 To Date	250-300hp Xs	HC5345	3
	2004 To Date	150-200hp Verado	HC534	See Notes 4, 5
Nissan	1990 To Date	90-140hp	HC5345	



SEASTAR™**SEASTAR OUTBOARD (Front Mount)****NOTICE**

High Strength Tiller bolt, part no. HA5822.

ALL cylinders shipped after June 1st, 2007 will have this bolt included in the cylinder package.

APPLICATION GUIDE - Single Engine Applications

ENGINE MANUF.	YEAR	MODEL	CYLINDER	NOTES
Suzuki	1986 To Date	100hp	HC5345	
	1986 To 2002	115-140hp	HC5345	Not 1996
	1986 To Date	150-300hp 2 & 4 Stroke	HC5345	
	1996 Only	115-140hp	HC5348	
	1998 To Date	40-140hp 4-Stroke	HC5358	1
	2003 To Date	90hp 4-Stroke	HC5358	1
Us Marine	1996 To Date	90-120hp	HC5345	
Yamaha	1990 To 2003	40-90hp 2-Stroke	HC5345	
	1986 To Date	100-250hp 2-Stroke	HC5345	5
	1997 To Date	80-225hp 4-Stroke	HC5345	5
	2000 To Date	150-250 Hpdi	HC5345	
	2002 To Date	300 Hpdi	HC5358	
	2003 To Date	25-70hp 4-Stroke	HC5348	1
	2007 To Date	350 Hp	HC5345	4
	2007 To Date	F300-F350 Hp 5.3v8	HC5345	5
Yanmar	1994 To 2005	90-120hp	HC5345	

APPLICATION GUIDE - Twin Engine Applications

If your engine's Horsepower rating is 300+, please refer to our 300HP + Outboard Installation Recommendations prior to selecting a cylinder from this application guide to ensure that you are selecting the correct cylinder for your engine/boat.

NOTES

1. HC5345 is optional for SINGLE Engine ONLY applications. DO NOT use HC5345 for Twin engine applications as operational interference may occur.
2. Requires kit HO5090.
3. Minimum engine center = 27".
4. May require extensive cowling modifications.

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SEASTAR™**SEASTAR OUTBOARD (Front Mount)**

If interference does occur,
contact:

SeaStar Solutions for additional
information/options.

Technical Support

Phone: 604-248-3858

email:

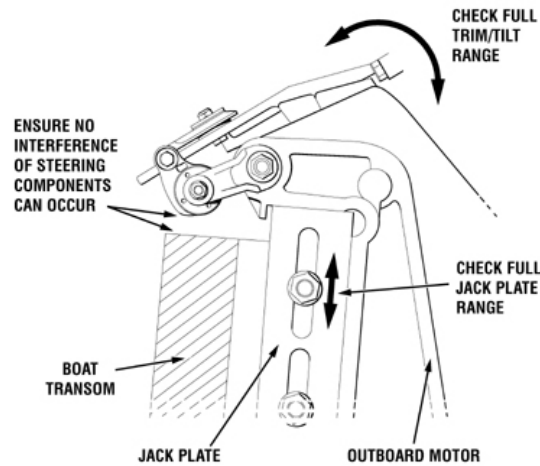
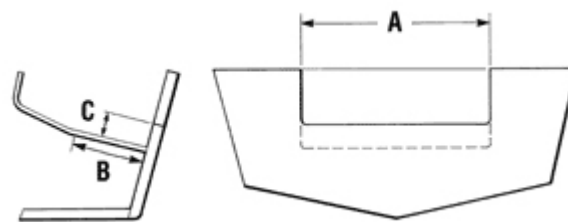
seastar@seastarsolutions.com

If interference is not eliminated
total steering loss can occur,
causing property damage and/
or personal injury.

a) Dimensional restrictions also
apply to external motor
mount brackets.

b) Maximum engine center
distance for twin engine
applications is 36" (914mm)
using the standard tieBar.
Dimension 'A' would have
to be increased proportional
to the tiebar length.

c) Minimum engine center
distance is 26" unless engine
manufacturer
recommendation is greater.

CYLINDER INSTALLATION**Motor Well Dimensions Required**

NO. OF ENGINES	A	B	C	MINIMUM ENGINE CENTER DISTANCE
1	22" (559mm)	6" (152mm)	5" (127mm)	N/A
2	44" (1118mm)	6" (152mm)	5" (127mm)	26" (660mm)

LIQUID TIE BAR KIT

Part No. HA5471-2

The Cylinder Alignment Valve will allow for the periodic required realignment of two outboard motors or rudders that are linked together with a Hydraulic Tie Bar as opposed to a solid link or Mechanical Tie Bar. Generally found on Pontoon Boats and Catamarans

SeaStar Solutions recommends the use of a mechanical tie bar when possible. There is no true substitute for a mechanical connection. The 'Liquid Tie Bar Valve' will require re-alignment. The frequency of re-alignment is too difficult to predict here as several application specific variables need to be taken into consideration.

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