



FEATURES:

- Suitable for use with all SeaStar Helms & SeaStar Power Assist.
- Heavy duty universal cylinder.
- Bolt on stainless steel tie bar plates, also reversible (patent pending).
- Robust design with heavy duty support brackets, barrel, shaft & seals.
- Superior corrosion resistance.
- New pivot plate design provides smooth articulation and a sealed joint (patent pending).
- Heavy duty adjustable tie bar (patent pending).
- Equipped with stainless steel adjustable o-ring sealed elbow fittings which can be easily orientated in any direction.

SEASTAR TOURNAMENT CYLINDERS

Tournament Series Cylinders & Tie Bars are ESSENTIAL for multi-engine boats and recommended by blue water pros, these rugged, high-performance cylinders and tie bars are designed with professional fishermen in mind.

APPLICATIONS:

Ideal for nearly any multi-engine outboard-powered boat which sees heavy use.

For use with SeaStar helms and hoses. (See SeaStar Outboard Steering for list of helm and hose options.)

These cylinders and tie bars are application-specific. Please see the chart below.

APPLICATION GUIDE: TOURNAMENT SERIES CYLINDERS & TIE BARS

CONFIGURATION	CYLINDER		HARDWARE KIT		TIE BAR				NOTES
	PART NO.	QTY.	PART NO.	QTY.	PART NO.	QTY.	CENTER TO CENTER (IN.)	CENTER TO CENTER (MM)	
Single Engine	HC6845S	1	Included	N/A	N/A	N/A	N/A	N/A	
Twin Engine - Single Cylinder (STBD)	HC6845	1	HA6802	1	HO6002	1	25.0 - 25.6	635 - 650	1, 3, 4, 5, 7
						1	25.7 - 30.6	653 - 777	1, 3, 4, 5, 7
						1	30.7 - 39.0	780 - 991	1, 3, 4, 5, 7
Twin Engine - Dual Cylinder	HC6845	2	HA6804	1	HO6820	1	25.0 - 26.5	635 - 673	1, 3, 4, 5
					HO6821	1	26.6 - 29.3	676 - 744	1, 3, 4, 5
					HO6822	1	29.4 - 34.2	747 - 869	1, 3, 4, 5
					HO6823	1	34.3 - 43.0	871 - 1092	1, 3, 4, 5
Triple Engine - Dual Cylinder	HC6845	2	HA6806	1	HO6822	2	25.0 - 27.9	635 - 709	1, 2, 3, 4, 5, 6
					HO6823	2	28.0 - 36.0	711 - 914	1, 2, 3, 4, 5, 6
Quad Engine - Dual Cylinder	HC6845	2	HA6811	1	Consult SeaStar Solutions technical service				1, 2, 3, 4, 5
Quintuplet Engine (Plus)	Consult SeaStar Solutions technical service								1, 2, 3, 4, 5
NOTES									
1. Installation may vary according to the following factors: engine mounting height, transom thickness, use of transom savers, tiller bolt location, engine tilt range, and engine size.					4. Based on recommended engine manufacturer minimum center to center distances. Deviating from these recommendations may require stroke limiting cylinders and/or engine tilt limiting, please consult SeaStar Solutions Technical Service.				
2. For center engine drops greater than 3 inches (76mm), please consult SeaStar Solutions Technical Service.					5. Cylinder's must be plumbed in parallel only, no series connections. Only exception is if cylinders are utilizing liquid tie bar.				
3. Tie bar length may vary depending on toe in/toe out setup. To allow for toe, add or subtract from your nominal engine center to center distance.					6. Maximum drop: <3 inches (76mm). Contact SeaStar Solutions Technical Support for center engine drops greater than 3 inches.				
					7. Extra long tie bar kits available, contact SeaStar Solutions Technical Support for details				

IMPORTANT: Each configuration requires a hardware kit and tie bar kit(s), with the exception of the single engine configuration.

NOTE: The Kicker Cable Tie bar will ONLY work with SeaStar HC5345-3, HC5358-3 and HC5348-3 steering cylinders.

SINGLE & DUAL ENGINE APPLICATION GUIDE:

ENGINE MANUF.	YEAR	MODEL	CYLINDER	TIE BAR KITS		NOTES
				Twin Engine Single Cyl.	Twin Engine Dual Cyl.	
Force	1985 TO DATE	90-150HP	HC5345-3	HO5008A	HO5008A	
Honda	1996 TO DATE	75-90HP	HC5345-3	HO6001	HO6002	See Note 3
	1998 TO 2009	115-130HP	HC5347-3	HO5063	HO5064	See Note 5
	1998 TO DATE	30-50HP	HC5345-3	HO6001	HO6002	See Note 2
	2001 TO DATE	150HP 4-STROKE	HC5345-3	N/A	HO6002	See Note 6
	2001 TO DATE	225-250HP 4-STROKE	HC5445-3	HO6001	HO6002	
	2003 TO DATE	BF135HP	HC5345-3	HO6003	HO6002	
	2010 TO DATE	115HP	HC5345-3	HO6003	HO6002	
Johnson / Evinrude	1977 TO 1990	65-300HP	HC5348-3	HO6003	HO6002	
	1988 TO 1997	250-300HP V8	HC5342-3	HO5001A	HO5030	See Note 5
	1991 TO DATE	40-300HP	HC5345-3	HO6003	HO6002	Inc. ETech Engines
	1996 TO DATE	75-250HP FICHT	HC5345-3	HO6003	HO6002	
	1998 TO DATE	40-140HP 4-STROKE	HC5358-3	HO6003	HO6002	See Note 2
	2000 TO DATE	115HP FICT	HC5358-3	HO6003	HO6002	See Note 2
	2002 TO DATE	200-225HP 4-STROKE	HC5345-3	HO6003	HO6002	
	2005 TO DATE	E250 DPX VINDICATOR	HC5348-3	HO6003	HO6002	
	2007 TO DATE	3.3L/3.4L 200-250HP	HC5345-3	HO6003	HO6002	Inc. H.O. Models.
Mercury	1984 TO 1994	2.4/2.5HP EFI	HC5345-3	HO6001	HO6002	See Note 4
	1989 TO DATE	75-300HP	HC5345-3	HO6001	HO6002	See Note 3
	1996 TO DATE	75-200HP 2 & 4-STROKE	HC5345-3	HO6001	HO6002	
	1998 TO DATE	30-60HP	HC5345-3	HO6001	HO6002	See Note 2
	2002 TO 2003	225HP 4-STROKE	HC5358-3	HO6001	HO6002	See Note 1
	2004 TO DATE	150-200HP VERADO	HC5345-3	HO6001	HO6002	
	2003 TO DATE	150-200XS	MUST Use Tournament Cylinders. Contact tech. support for details.			
	2003 TO DATE	250-300HP XS	MUST Use Tournament Cylinders. Refer to Page 55			
Nissan	1990 TO DATE	90-140HP	HC5345-3	HO6001	HO6002	
Suzuki	1986 TO DATE	100HP	HC5345-3	HO6003	HO6002	
	1986 TO DATE	150-300 2 & 4 STROKE	HC5345-3	HO6003	HO6002	
	1986 TO 2002	115-140HP	HC5345-3	HO6001	HO6002	NOT 1996
	1996 ONLY	115-140HP	HC5348-3	HO6001	HO6002	
	1998 TO DATE	40-140HP 4-STROKE	HC5358-3	HO6003	HO6002	See Note 2
	2003 TO DATE	90HP 4-STROKE	HC5358-3	HO6003	HO6002	See Note 2
	2013 TO DATE	DF150 - DF175 HP	HC5345-3	HO6001	HO6002	
Yamaha	1990 TO 2007	40-90HP	HC5345-3	HO6003	HO6002	
	1986 TO DATE	100-250HP 2-STROKE	HC5345-3	HO6001	HO6002	
	2000 TO DATE	150-300 HPDI	HC5345-3	HO6001	HO6002	
	2001 TO 2003	80-250 HP 4-Stroke	HC5358-3	HO6001	HO6002	See Note 1
	2003 TO DATE	F200-F250 3.3L	HC5358-3	HO6001	HO6002	
	2003 TO DATE	25-70HP 4-STROKE	HC5348-3	HO6003	HO6002	See Note 2
	2007 TO DATE	200-300 HP 4.2L V6 4-Stroke	HC5345-3	HO6001	HO6002	
	2007 TO DATE	F300-F350 HP 5.3V8	MUST Use Tournament Cylinders. Refer to Page 55			
	2011-2013	F115A	HC5358-3	HO6003	HO6002	
	2014-DATE	F115B	HC5345-3	HO6003	HO6002	

1. HC5345-3 is optional for SINGLE ENGINE ONLY applications. DO NOT use HC5345-3 for twin engine applications as operational interference may occur.

2. Requires Kit HO5090

3. Minimum Engine Center = 27"

4. May Require Extensive Cowling Modifications

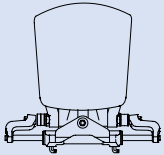
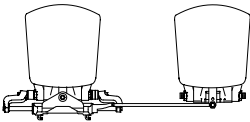
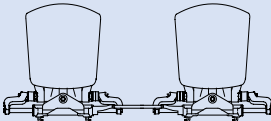
5. HO5030 and HO5064 comes without Tie Bar

6. Interference will occur when using a single HC5345-3 cylinder and HO6003 tie bar when installed in the aft hole on the steering arm. Options include, a) install tie bar into most forward hole (this will limit steering articulation), b) purchase K-6 Cylinder, and tie bar kit part # HO5009. There will be no interference when using twin HC5345-3 cylinders.

•Catamaran Steering. See page 82 for Catamaran cylinder options.

Note: Contact Technical Support if engine is not listed.

SINGLE & DUAL ENGINE ORDERING GUIDE: PIVOT MOUNT SYSTEMS

ENGINE/CYLINDER CONFIGURATION	COMPONENT DESCRIPTION	QTY. REQ'D	MODEL	PART NO.
SINGLE ENGINE (SINGLE CYLINDER) Applications up to 350 HP maximum <u>NUMBER OF TURNS: 5</u> 	CYLINDER (See Application Guide)	1	PIVOT MOUNT	HC_3xx-3
	HELM	1	SEASTAR 1.7	HH5271-3
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	OIL	3	SEASTAR OIL (QT.)	HA5430
	FOR EXTRA STEERING STATION ADD:			
	HELM	1	SEASTAR 1.7	HH5271-3
	FITTING KIT	1	ADD A STATION	HF6007
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	OIL	1	SEASTAR OIL (QT.)	HA5430
DUAL ENGINE (SINGLE CYLINDER) Non-Counter-Rotating Applications to 450 HP max; Counter-Rotating Applications to 700 HP maximum. <u>NUMBER OF TURNS: 5</u> 	CYLINDER (See Application Guide)	1	PIVOT MOUNT	HC_3xx-3
	TIE BAR KIT	1	SEE APPLICATION GUIDE	HO60xx
	HELM	1	SEASTAR 1.7	HH5271-3
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	OIL	3	SEASTAR OIL (QT.)	HA5430
	FOR EXTRA STEERING STATION ADD:			
	HELM	1	SEASTAR 1.7	HH5271-3
	FITTING KIT	1	ADD A STATION	HF6007
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	OIL	1	SEASTAR OIL (QT.)	HA5430
DUAL ENGINE (DUAL CYLINDERS) Non-Counter-Rotating Applications to 450 HP max; All Counter-Rotating Engine Applications <u>NUMBER OF TURNS: 7</u> 	CYLINDER (See Application Guide)	2	PIVOT MOUNT	HC_3xx-3
	TIE BAR KIT	1	SEE APPLICATION GUIDE	HO60xx
	HELM	1	SEASTAR 2.4	HH5272-3
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	FITTING KIT	1	TEE FITTINGS	HF5530
	OIL	3	SEASTAR OIL (QT.)	HA5430
	FOR EXTRA STEERING STATION ADD:			
	HELM	1	SEASTAR 2.4	HH5272-3
	FITTING KIT	1	ADD A STATION	HF6007
	HOSE KIT	1	OUTBOARD HOSE	HO51xx
	OIL	1	SEASTAR OIL (QT.)	HA5430