

Tech Reference: Hydraulic Steering

SeaStar/BayStar/Hynautic Helm Specifications:

HELM DESCRIPTION	PART NUMBER	DISPLACEMENT CU. IN. (cc) PER REVOLUTION	RELIEF VALVE SETTING PSI (BAR)	MAXIMUM WHEEL DIA. Inches (mm)	TUBE/HOSE CONNECTION PORT SIZE
BAYSTAR - FRONT MOUNT	HH4016	1.6 (23.0)	1000 (70)	22 (558)	1/4 NPT
BAYSTAR - SPORT TILT	HH4015	1.6 (23.0)	1000 (70)	20 (508)	1/4 NPT
CAPILANO 1250V	HH5250	1.7-3.4 (27.8-55.7)	1000 (70)	36 (914)	3/8 NPT
CAPILANO 1275V	HH5275	2.7-5.4 (44.2-88.4)	1000 (70)	36 (914)	3/8 NPT
HYNAUTIC H-20 (3/4" SHAFT)	H-26	2.0 (33)	500 (35) or 950 (66)	32 (812)	3/8 & 1/4 NPT
HYNAUTIC H-20 (3/4" SHAFT)	H-25	2.75 (45)	500 (35) or 950 (66)	34 (863)	3/8 & 1/4 NPT
HYNAUTIC H-20 (1" SHAFT)	H-21	2.75 (45)	500 (35) or 950 (66)	34 (863)	3/8 & 1/4 NPT
HYNAUTIC H-40 (3/4" SHAFT)	H-42-02	4.0 (65.5)	500 (35) or 950 (66)	36 (914)	1/2 & 3/8 NPT
HYNAUTIC H-40 (1" SHAFT)	H-42	4.0 (65.5)	500 (35) or 950 (66)	36 (914)	1/2 & 3/8 NPT
HYNAUTIC H-40 (3/4" SHAFT)	H-41-02	5.5 (90.1)	500 (35) or 950 (66)	48 (1219)	1/2 & 3/8 NPT
HYNAUTIC H-40 (1" SHAFT)	H-41	5.5 (90.1)	500 (35) or 950 (66)	48 (1219)	1/2 & 3/8 NPT
SEASTAR 1.4 - FRONT MOUNT	HH5269	1.4 (23.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.4 - REAR MOUNT	HH5260	1.4 (23.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.4 - R. MT FULL FEEDBACK	HH5231	1.4 (23.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.4 - R. MT. 1" STRT. SHAFT	HH5279	1.4 (23.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.4 - R. MT. 1" TAPER. SHAFT	HH5280	1.4 (23.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.4 - TILT	HH5744	1.4 (23.0)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 1.7 - FRONT MOUNT	HH5271	1.7 (27.8)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.7 - FT. MT. FULL FEEDBACK	HH5761	1.7 (27.8)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.7 - REAR MOUNT	HH5261	1.7 (27.8)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.7 - R. MT. 1" TAPER. SHAFT	HH5281	1.7 (27.8)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 1.7 - SPORT TILT	HH5291	1.7 (27.8)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 1.7 - TRADITIONAL TILT	HH5741	1.7 (27.8)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 2.0 - FRONT MOUNT	HH5273	2.0 (33.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.0 - FT. MT. FULL FEEDBACK	HH5260	2.0 (33.0)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.0 - SPORT TILT	HH5745	2.0 (33.0)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 2.0 - TRADITIONAL TILT	HH5743	2.0 (33.0)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 2.4 - FRONT MOUNT	HH5272	2.4 (39.3)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.4 - FT. MT. FULL FEEDBACK	HH5762	2.4 (39.3)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.4 - REAR MOUNT	HH5262	2.4 (39.3)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.4 - R. MT. 1" TAPER. SHAFT	HH5282	2.4 (39.3)	1000 (70)	26 (660)	1/4 NPT
SEASTAR 2.4 - SPORT TILT	HH5292	2.4 (39.3)	1000 (70)	20 (508)	1/4 NPT
SEASTAR 2.4 - TRADITIONAL TILT	HH5742	2.4 (39.3)	1000 (70)	20 (508)	1/4 NPT
SEASTAR PRO 1.7 - FRONT MOUNT*	HH5779	1.7 (27.8)	1500 (103)	26 (660)	1/4 NPT
SEASTAR PRO 1.7 - REAR MOUNT*	HH5778	1.7 (27.8)	1500 (103)	26 (660)	1/4 NPT
SEASTAR PRO 1.7 - SPORT TILT*	HH5773	1.7 (27.8)	1500 (103)	20 (508)	1/4 NPT
SEASTAR PRO 2.0 - FRONT MOUNT*	HH5770	2.0 (33.0)	1500 (103)	26 (660)	1/4 NPT
SEASTAR PRO 2.0 - REAR MOUNT*	HH5771	2.0 (33.0)	1500 (103)	26 (660)	1/4 NPT
SEASTAR PRO 2.0 - SPORT TILT*	HH5290	2.0 (33.0)	1500 (103)	20 (508)	1/4 NPT
SEASTAR PRO 2.0 - TRADITIONAL TILT*	HH5774	2.0 (33.0)	1500 (103)	20 (508)	1/4 NPT
SEASTAR PRO 2.4 - FRONT MOUNT	HH5772	2.4 (39.3)	1500 (103)	26 (660)	1/4 NPT

* SeaStar PRO helms cannot be used with an unbalanced cylinder. SeaStar PRO Kevlar® reinforced outboard hose MUST be used with ALL SeaStar PRO helms.

Phone: 800-225-0004 ☎ **Fax: 908-486-1056**
e-mail: sales@sealandpower.com

Tech Reference: Hydraulic Steering

SeaStar/BayStar/Hynautic Cylinder Specifications:

CYLINDER MODEL	PART NUMBER	BORE DIA. Inches (mm)	NOM. SHAFT DIA. Inches (mm)	STROKE Inches (mm)	AREA SQUARE Sq.In.(cm)	VOLUME CUBIC IN. (cc)	TORQUE* (SEE NOTE) In.-Lb. (Kg-M)
HYNAUTIC INBOARD UNITS (USED IN SEASTAR, CAPILANO & HYNAUTIC SYSTEMS):							
Hynautic Ball Joint Mount	K-18	1.25 (31.7)	.625 (15.9)	7 (178)	1.0 (6.5)	7.0 (147.4)	N/A
Hynautic Ball Joint Mount	K-19	1.25 (31.7)	.625 (15.9)	9 (229)	1.0 (6.5)	9.0 (114.7)	N/A
Hynautic Fixed Mount	K-22****	1.50 (38.1)	.75 (19.0)	10 (254)	1.33 (8.6)	13.3 (217.9)	8990 (103.5)
Hynautic Fixed Mount	K-27****	1.50 (38.1)	.75 (19.0)	10 (254)	1.33 (8.6)	13.3 (217.9)	8990 (103.5)
Hynautic Univ. Mt. (rod side)	K-5****	1.50 (38.1)	.875 (22.2)	9 (229)	1.32 (8.6)	11.9 (194.9)	10790 (124.3)
Hynautic (piston-only side)***					1.77 (11.5)	15.9 (260.5)	10790 (124.3)
Hynautic Pivot Mount	K-31****	2.00 (50.8)	.875 (22.2)	10 (254)	2.55 (16.6)	25.5 (417.9)	17230 (198.4)
Hynautic Universal Mount	K-8****	2.50 (63.5)	1.00 (25.4)	9.5 (241)	4.13 (26.8)	39.2 (642.4)	26575 (306.0)
Hynautic Universal Mount	K-9****	2.50 (63.5)	1.00 (25.4)	14.5 (368)	4.13 (26.8)	55.0 (901.3)	39850 (458.9)
CAPILANO INBOARD UNITS:							
BA150-7 (TMB/TMC)	HC5349/HC5355	1.50 (38.1)	.625 (15.9)	7 (178)	1.46 (9.4)	10.2 (167.5)	7117 (82.0)
BA175-7 (TMB/TMC)	HC5350/HC5356	1.75 (44.4)	.625 (15.9)	7 (178)	1.96 (12.7)	13.7 (225.4)	9569 (110.2)
BA200-7 (TMB/TMC)	HC5351/HC5357	2.00 (50.8)	.625 (15.9)	7 (178)	3.14 (20.2)	18.9 (310.0)	13200 (151.0)
BA200-11 (TMB/TMC)	HC5378/HC5379	2.00 (50.8)	.625 (15.9)	11 (279)	3.14 (20.2)	29.7 (486.0)	19900 (228.0)
SEASTAR INBOARD UNITS:							
BA125-7ATM	HC5312	1.25 (31.7)	.50 (12.7)	7 (178)	1.03 (6.7)	7.2 (118.2)	5025 (57.9)
BA135-7ATM	HC5313	1.375 (34.9)	.625 (15.9)	7 (178)	1.18 (7.6)	8.3 (135.2)	5741 (66.1)
BA150-7ATM	HC5314**	1.50 (38.1)	.625 (15.9)	7 (178)	1.46 (9.4)	10.2 (167.5)	7117 (82.0)
BA150-7TM	HC5318	1.50 (38.1)	.625 (15.9)	7 (178)	1.46 (9.4)	10.2 (167.5)	7117 (82.0)
BA150-9TM	HC5369	1.50 (38.1)	.625 (15.9)	9 (229)	1.46 (9.4)	13.1 (214.7)	9375 (107.7)
BA175-7TM	HC5319	1.75 (44.4)	.75 (19.0)	7 (178)	1.96 (12.7)	13.7 (225.4)	9569 (110.2)
SEASTAR & HYNAUTIC STERN DRIVE UNITS:							
BA150-7EM	HC5326	1.50 (38.1)	.625 (15.9)	7 (178)	1.46 (9.4)	10.2 (167.5)	8853 (102.0)
125-8EM (rod side)	HC5328***	1.25 (31.7)	.50 (12.7)	8 (203)	1.03 (6.7)	8.3 (135.2)	7142 (82.3)
(125-8EM) (piston-only side)	HC5329***	1.25 (31.7)	.50 (12.7)	8 (203)	1.23 (7.9)	9.8 (160.8)	8505 (98.0)
92VPS	HC5331***	1.25 (31.7)	.50 (12.7)	8 (203)	1.23 (7.9)	8.3 (135.2)	N/A
BA-125-EMV	HC5330	1.25 (31.7)	.50 (12.7)	8 (203)	1.03 (6.7)	8.3 (135.2)	7142 (82.3)
BA-135-7EM	HC5332	1.375 (34.9)	.625 (15.9)	7 (178)	1.18 (7.6)	8.3 (135.2)	5741 (66.1)
Hynautic Univ. Mt. (rod side)	K-5****	1.50 (38.1)	.875 (22.2)	9 (229)	1.32 (8.6)	11.9 (194.9)	10790 (124.3)
Hynautic (piston-only side)					1.77 (11.5)	15.9 (260.5)	10790 (124.3)
SEASTAR OUTBOARD UNITS:							
PIVOT FRONT MOUNT	HC5345/47/48/58	1.375 (35)	.75 (19.0)	8 (203)	0.82 (5.3)	8.34 (136.6)	N/A
PIVOT FRONT MOUNT (PRO)	HC6345/HC6358	1.375 (35)	.75 (19.0)	8 (203)	0.82 (5.3)	8.34 (136.6)	N/A
CATAMARAN (FIXED MOUNT)	HC5343	1.262 (32.6)	.75 (19.0)	10 (254)	0.82 (5.3)	8.13 (133.2)	N/A
SIDE MOUNT (rod side)	HC5370***	1.25 (31.7)	.50 (12.7)	8 (203)	1.03 (6.7)	8.3 (135.2)	N/A
SIDE MOUNT (piston-only side)					1.23 (7.9)	9.8 (160.8)	N/A
SPLASHWELL MT. (rod side)	HC5380***	1.25 (31.7)	.50 (12.7)	9 (228)	1.03 (6.7)	9.3 (152.1)	N/A
SPLASHWELL MOUNT (piston-only side)					1.23 (7.9)	11.0 (180.9)	N/A
FRONT MT.-STD. (OBS.)	HC5340/42	1.262 (32.6)	.75 (19.0)	10 (254)	0.82 (5.3)	8.13 (133.2)	N/A
FRONT MT.-COMPACT (OBS.)	HC5365	1.338 (34.0)	.75 (19.0)	7 (178)	0.97 (6.3)	6.87 (111.0)	N/A

Theoretical torque about pivot point at 35 degrees articulation with 1,000 PSI (70 BAR) system pressure, except as noted (****).

** Also used in some stern drive applications.

*** These area and volume calculations are for unbalanced cylinders. The piston surface areas/displacements are different on each side of the cylinder, since one end has a rod and piston (less surface area) and the other end has only a piston (more surface area). The lower sets of numbers are for the cylinder side with piston and rod (shaft). The higher sets of numbers are for the piston-only side of the cylinder.

**** Theoretical torque about pivot point at 35 degrees articulation with 950 PSI (66 BAR) system pressure.

Phone: 800-225-0004  Fax: 908-486-1056
e-mail: sales@sealandpower.com

Tech Reference: Hydraulic Steering

Power Steering Cylinder Specifications:

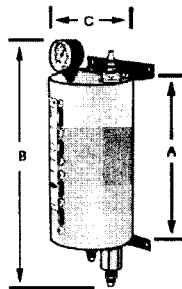
CYLINDER MODEL	PART NUMBER	BORE	NOMINAL SHAFT		VOLUME	OUTPUT	TORQUE
		DIAMETER	DIAMETER	STROKE	CUBIC IN.	FORCE	(SEE NOTE)
		Inches (mm)	Inches (mm)	Inches (mm)	(cc)	Ft.-Lbs. (N)	In.-Lb. (Nm)
SINGLE 9" STROKE x1	HC5801-2	2.00 (51)	1.00 (25.4)	9 (229)	21.25 (348)	2,946 (13090)	18,900 (2,130)
SINGLE 11" STROKE x1	HC5803-2	2.00 (51)	1.00 (25.4)	11 (280)	26.00 (426)	2,946 (13090)	23,140 (2,610)
SINGLE 9" STROKE x1	HC5805	2.50 (64)	1.00 (25.4)	9 (229)	37.11 (608)	5,154 (22926)	33,065 (3,736)
TWIN 9" STROKE x2	HC5802	2.00 (51)	1.00 (25.4)	9 (229)	42.50 (697)	5,892 (26,190)	37,800 (4,260)
TWIN 11" STROKE x2	HC5804	2.00 (51)	1.00 (25.4)	11 (280)	52.00 (853)	5,892 (26,190)	46,280 (5,220)
TWIN 9" STROKE x2	HC5806	2.50 (64)	1.00 (25.4)	9 (229)	74.33 (1216)	10,308 (45,852)	66,130 (7,472)

NOTE: Theoretical torque about pivot point at 35 degrees articulation with 1,000 PSI (70 BAR) system pressure.

Hydraulic Reservoir & Relief Valve Specifications:

Reservoirs

Made of T-6061 aluminum, reservoirs are pressure tested for a minimum of 100 hours, and shipped complete with front-reading pressure gauge, fluid level indicator, and return line filter.

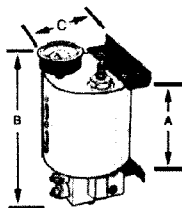


(R06 shown)

RESERVOIR DIMENSIONS & SPECIFICATIONS:						
Model No.	DIMENSIONS			SPECIFICATIONS		
	A	B	C	Capacity (Qt)	Optl. Hand Pump	Special Notes
R-06	9-1/2"	13-5/8"	4-7/8"	2	No	Standard Model
R-07	9-1/2"	14-5/8"	4-7/8"	2	Yes	-
R-11	6"	10-5/8"	4-7/8"	1	Yes	-
R-12	9-1/2"	13-5/8"	4-7/8"	2	No	-

Reservelvs

The reservelvs combines the function of a reservoir and relief valve into a single component.



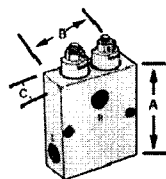
(RV55 shown)

RESERVELVS DIMENSIONS & SPECIFICATIONS:								
Model No.	DIMENSIONS			SPECIFICATIONS				
	A	B	C	Capacity (Qt)	Relief Setting (psi)	Optional Gauge Style	Hand Pump	Special Notes
RV-55	6"	9-1/4"	4-7/8"	1	500	Top Read	No	3/8" O.D. Tubing
RV-55P	6"	10-1/4"	4-7/8"	1	500	Top Read	Yes	3/8" O.D. Tubing
RV-57	6"	10-3/8"	4-7/8"	1	500	Top Read	Yes	5/16" O.D. Tubing
RV-60	6"	9-1/4"	4-7/8"	1	950	Top Read	No	5/16", 3/8" I.D. Hose
RV-67	6"	10-1/4"	4-7/8"	1	950	Front Read	Yes	5/16", 3/8" I.D. Hose

The relief portion of the reservelvs is factory set at either 500 psi or 950 psi. Made of T-6061 aluminum, the reservelvs is complete with front or top-reading gauge, fluid level indicator, and return filter. Relief valve is flow-thru style from either direction to accommodate either portside or starboard mounting.

Relief Valves

These special relief valves are factory set for either 500 psi or 950 psi. They are intended to protect the system's components and assist in purging air.



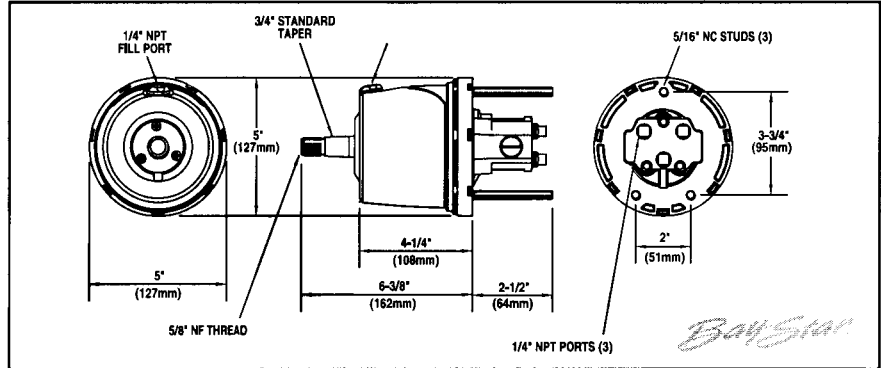
(MSV-21 shown)

RELIEF VALVE DIMENSIONS & SPECIFICATIONS:						
Model No.	DIMENSIONS			SPECIFICATIONS		
	A	B	C	Relief Setting (psi)	Port Size	Special Notes
MSV-19	3-7/8"	2-1/2"	1"	500	1/4-20 NPT	-
MSV-21	3-7/8"	2-1/2"	1"	950	1/4-20 NPT	Standard model

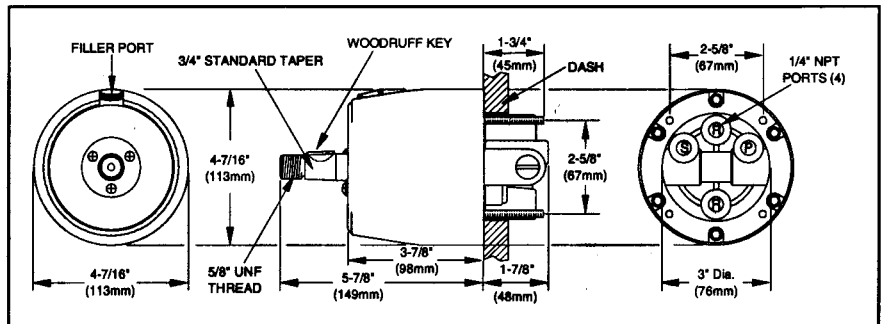
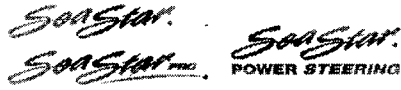
SeaStar steering dimensions

Helms:

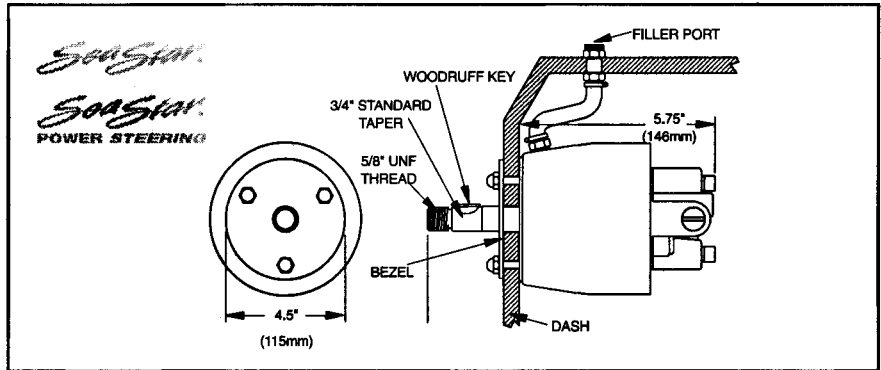
BayStar



**SeaStar &
SeaStar PRO
Front Mount**



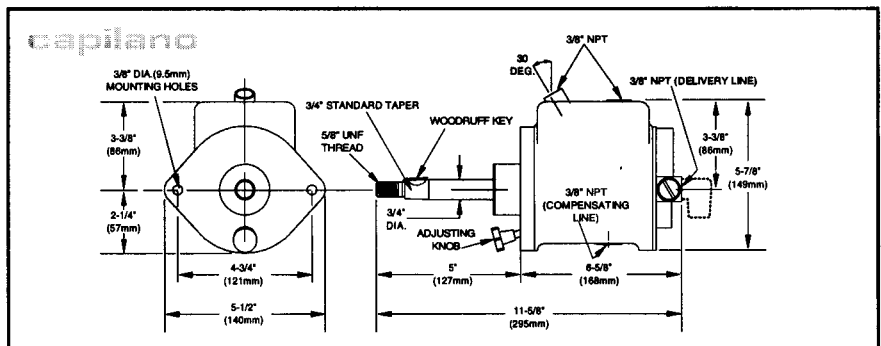
**SeaStar
Rear Mount**



**Hynautic
Rear Mount**

HELM SERIES	HELM MODEL/ PART NO.	DIMENSIONS (INCHES)			SHAFT KEY TYPE
		A	B	C	
H-20	H-21	6.125	10.75	3.5	1/4" square
	H-25	5.5	10.125	3.5	#9 Woodruff
	H-26	5.5	10.125	3.5	#9 Woodruff
H-40	H-41	6.125	13.625	5.125	1/4" square
	H-41-02	5.5	13.0	5.125	#9 Woodruff
	H-41	6.125	13.625	5.125	1/4" square
	H-42-02	5.5	13.0	5.125	#9 Woodruff

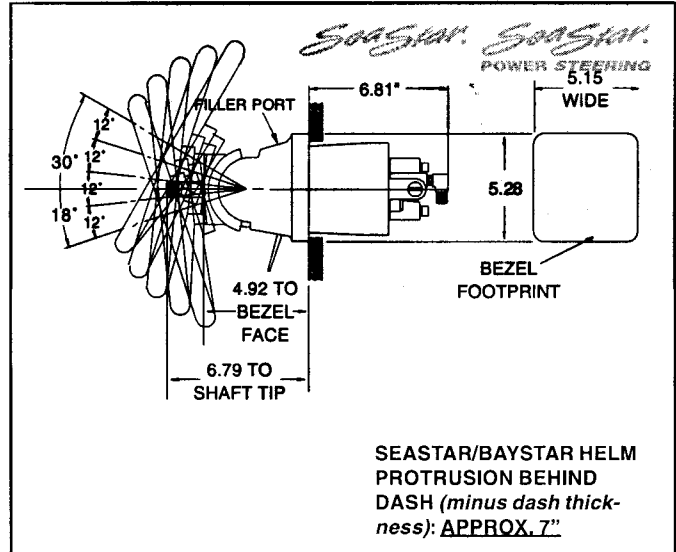
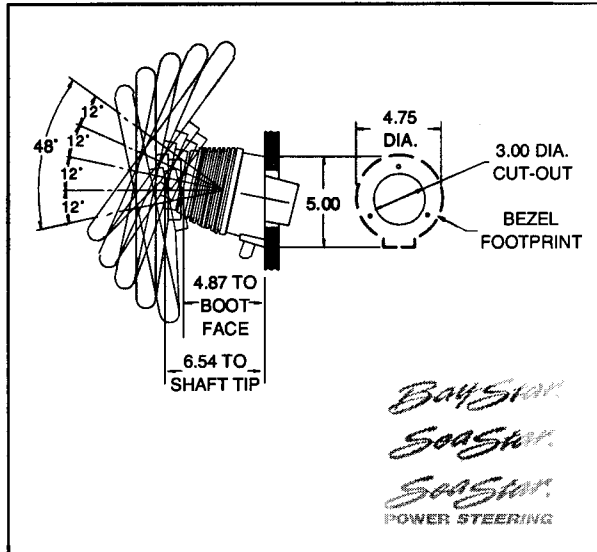
Capilano



SeaStar steering dimensions

Performance Tilt:

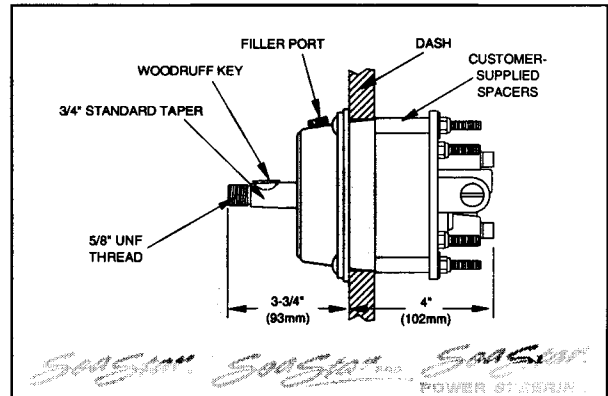
Traditional Tilt:



SeaStar Helm Mounting Options:

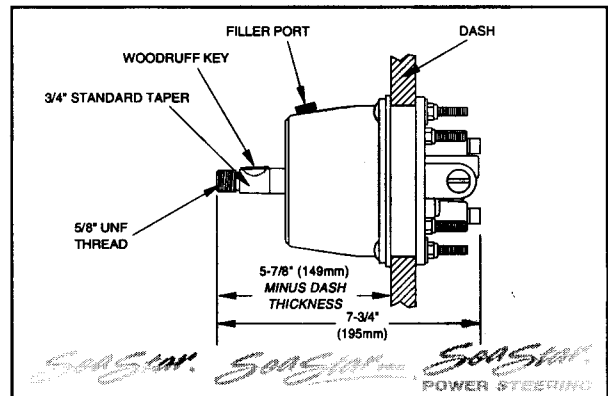
(for SeaStar front mount helms only)

Round Bezel Kit HA5417

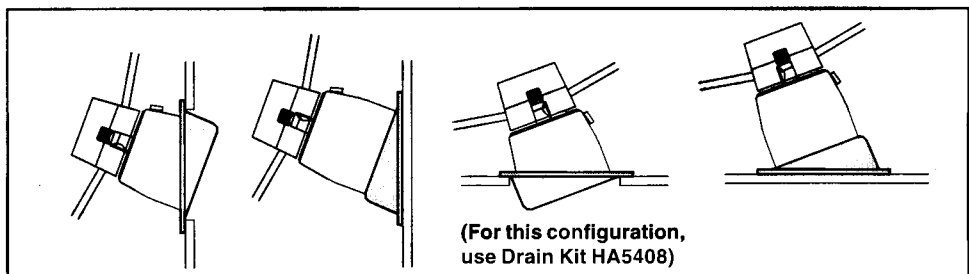


Square Backplate kit HA5418

Required when retrofitting SeaStar front mount helms into dashboard holes from the following steering systems:
Teleflex Mechanical steering: Big-T, Safe-T and most other rotary.
Teleflex Hydraulic steering: SyTen
Hynautic Hydraulic steering helms: H-50, H60, H-80, H-300.

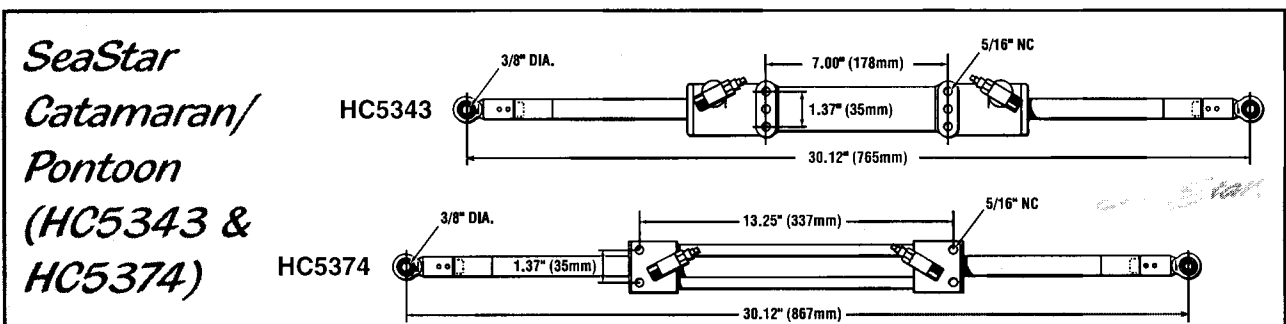
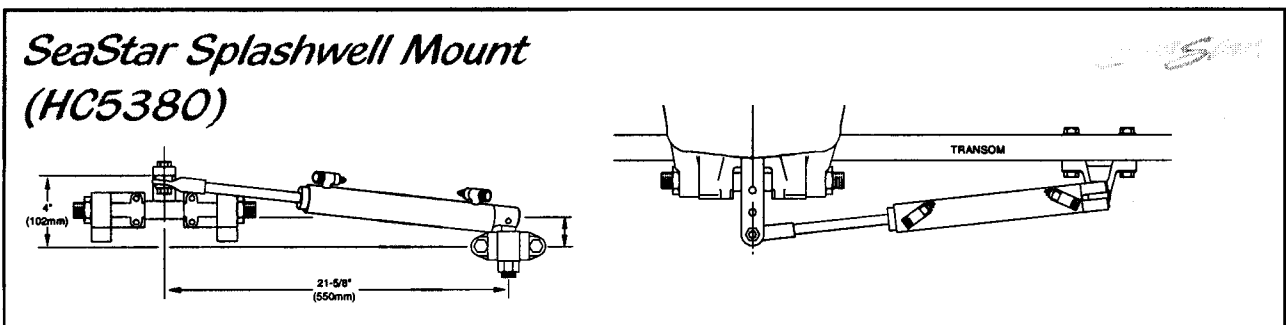
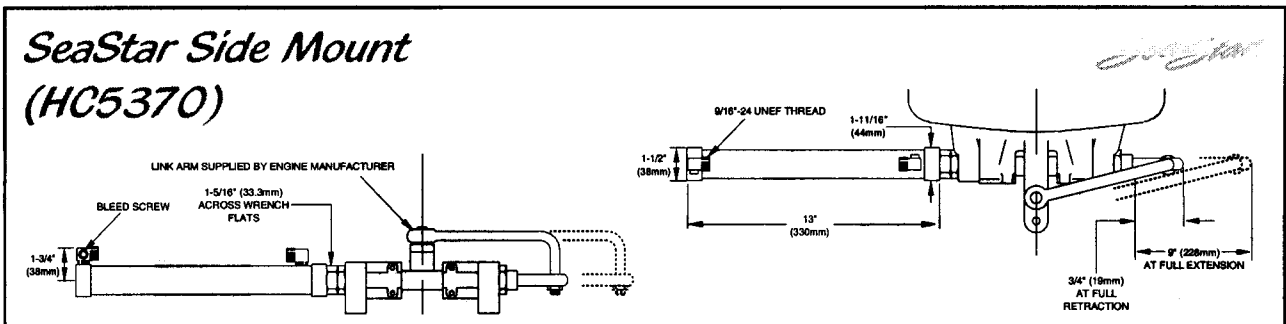
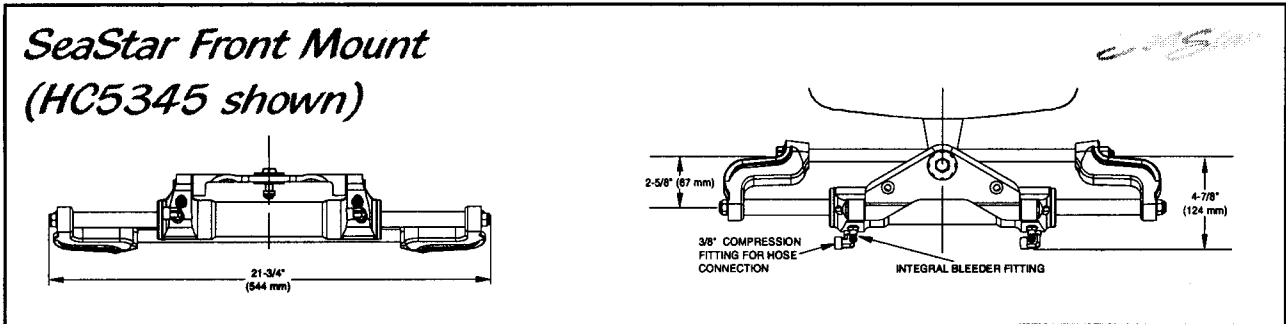
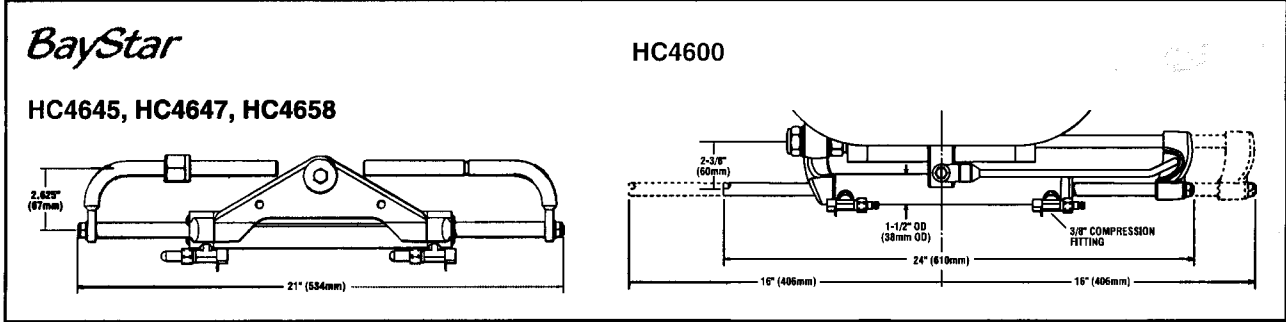


Dash 20° Wedge Kit HA5419



SeaStar steering dimensions

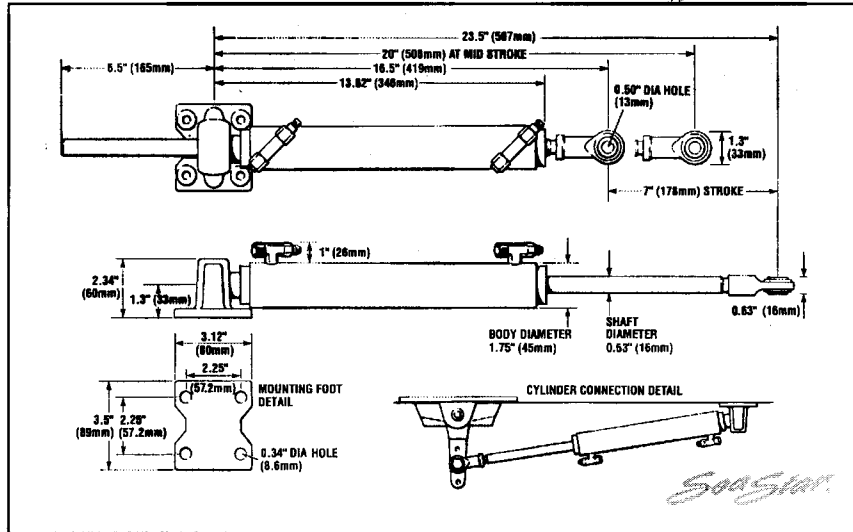
Cylinders: Outboard



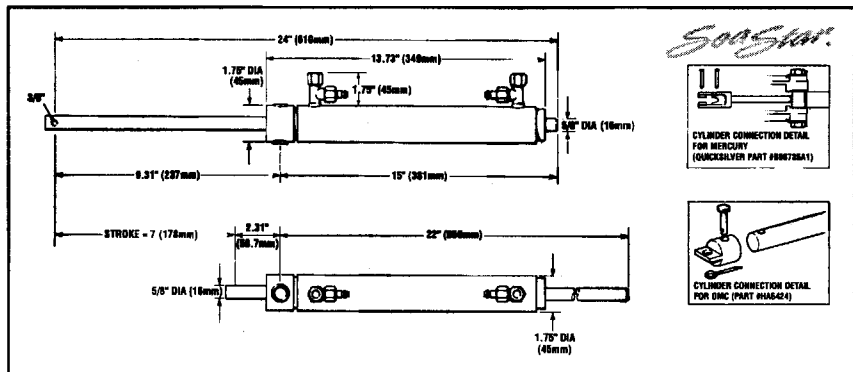
SeaStar steering dimensions

Cylinders: Stern Drive (I/O) Internal Mount

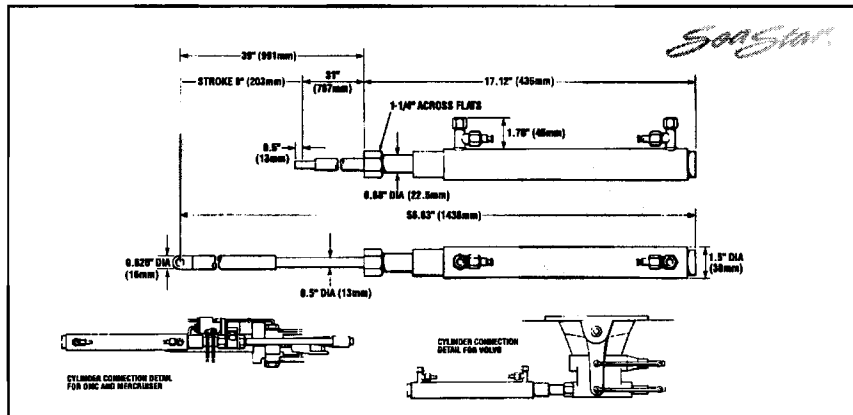
STERN DRIVE CYLINDER:
P/N HC5314
(MODEL BA150-7ATM)
Marine Drive Systems®
Series 1000
(Non Power Assisted, TO DATE)
Volvo® 275
(Non Power Assisted TO DATE)



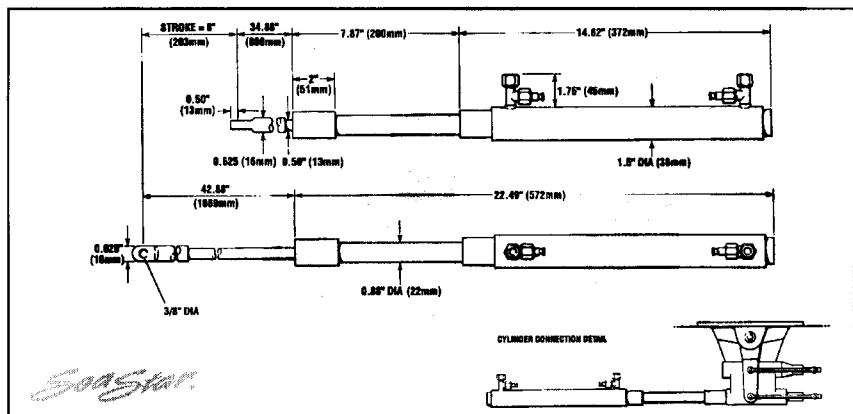
STERN DRIVE CYLINDER:
P/N HC5326
(MODEL BA150-7EM)
MerCruiser® ALPHA I;
MerCruiser® BRAVO I & II
(Non Power Assisted, 1984-DATE)
OMC® King Cobra
(Non Power Assisted; 1986-DATE)



STERN DRIVE CYLINDER:
P/N HC5328 (MODEL 125-8EM)
BMW® All Models
(Power Assisted, TO DATE)
MerCruiser® MERCUISER I
(Power Assisted TO 1983)
MerCruiser® ALPHA I;
MerCruiser® BRAVO I & II
Power Assisted (1984-DATE)
OMC® King Cobra
(Power Assisted 1986-DATE)
Volvo® 280, 290
(Power Assisted TO DATE)
Yamaha® All Models
(Power Assisted 1989-DATE)



STERN DRIVE CYLINDER:
P/N HC5329
(MODEL 125-8VEM)
Volvo® Diesel
(Power Assisted, TO DATE)



SeaStar steering dimensions

Stern Drive (I/O): Internal Mount

STERN DRIVE CYLINDER:

P/N HC5330

(MODEL BA125-8EMV)

BMW® All Models

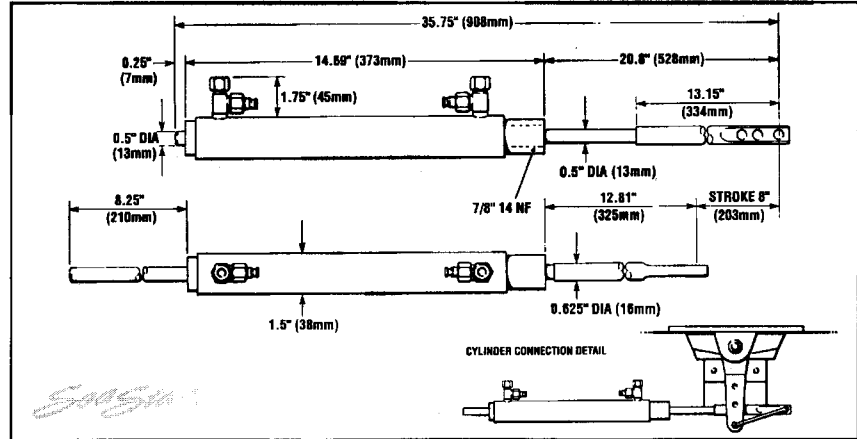
(Non Power Assisted, TO DATE)

MerCruiser®, MerCruiser I

(Non Power Assisted, TO 1983)

Volvo® 280, 290 & Volvo® Diesel

(Non Power Assisted, TO DATE)



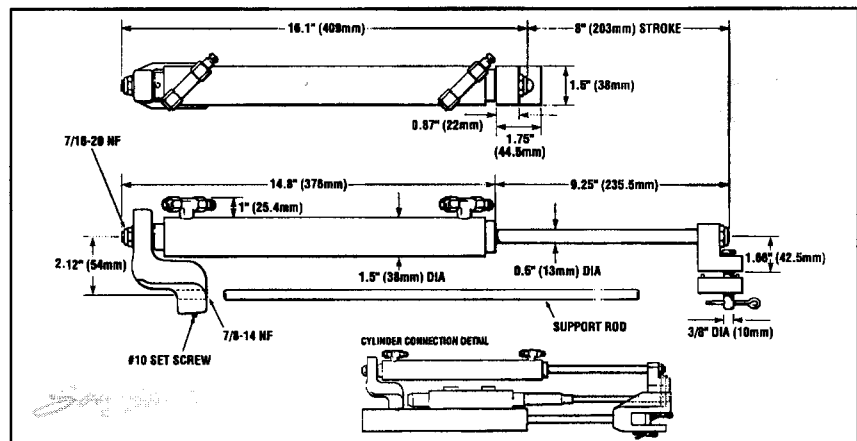
STERN DRIVE CYLINDER:

P/N HC5331

(MODEL 92-VPS)

Volvo® All Models

(Power Assisted, 1992)



STERN DRIVE CYLINDER:

P/N HC5332

(MODEL 135-7EM)

MerCruiser® Alpha 1;

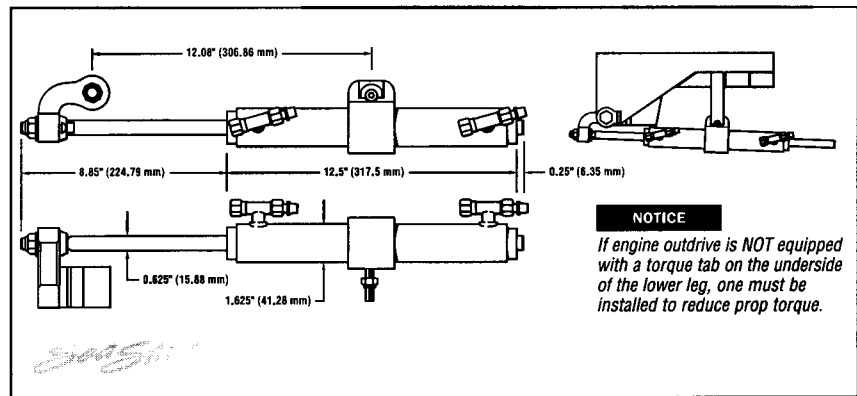
MerCruiser® Bravo I, II, III

(Non Power Assisted, TO DATE)

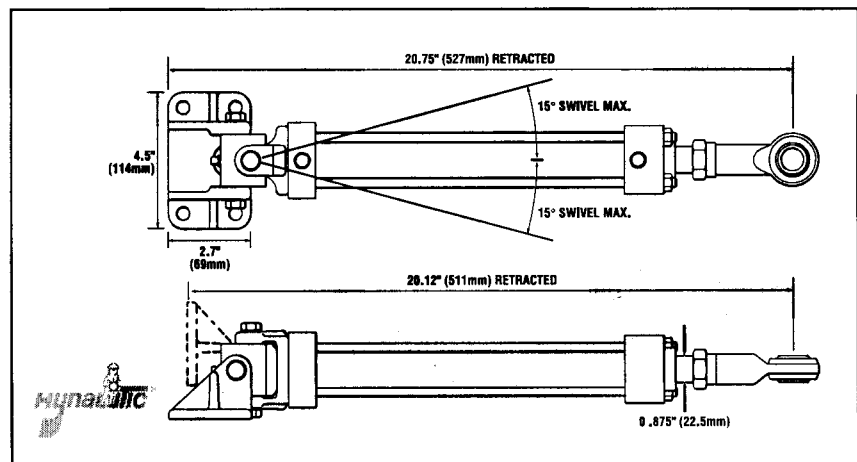
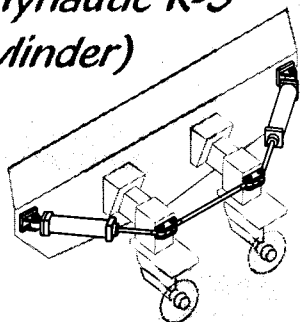
Volvo® 280, 290, Diesel

(Non Power Assisted, TO DATE)

NOTE: If engine outdrive is not equipped with a torque tab on the underside of the lower leg, one must be installed to reduce prop torque.



Heavy Duty External Mount (Hynautic K-5 cylinder)



SeaStar steering dimensions

Cylinders:

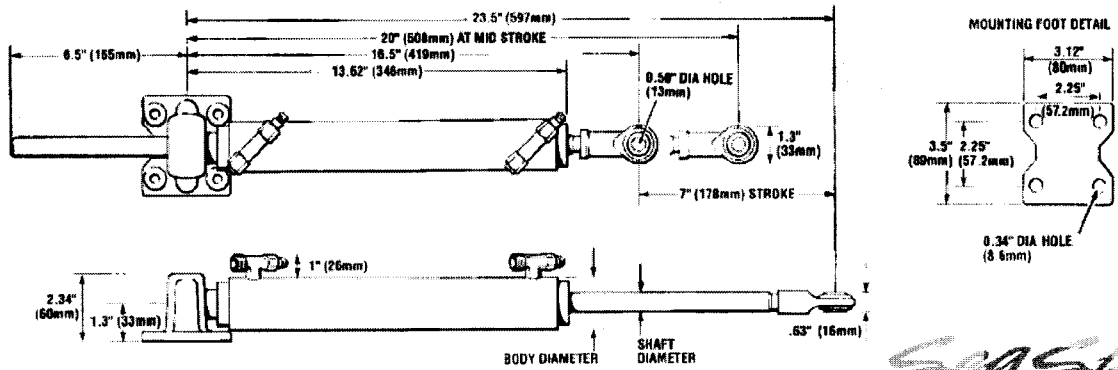
Inboard - Manual

Aluminum

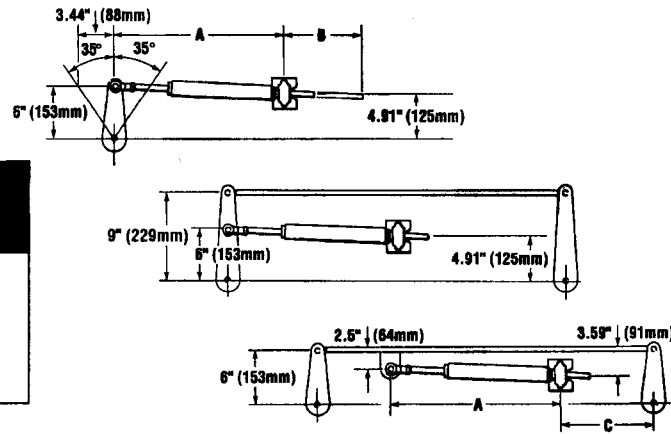
DIMENSIONS

ATM (ALUMINUM BODY) INBOARD CYLINDERS
P/N HC5312/HC5313/HC5314 (MODEL BA1__-7ATM):

CYLINDER DIMENSIONS SPECIFIC TO MODEL			
CYLINDER MODEL	PART #	BODY DIAMETER	SHAFT DIAMETER
BA125-7ATM	HC5312	1.38" (35mm)	0.50" (12.7mm)
BA135-7ATM	HC5313	1.50" (38mm)	0.63" (15.9mm)
BA150-7ATM	HC5314	1.75" (45mm)	0.63" (15.9mm)



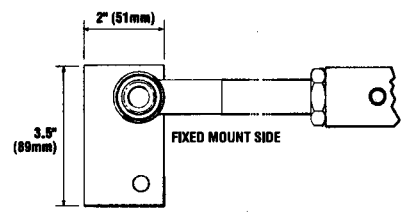
MOUNTING CONFIGURATION DIMENSIONS
ATM (ALUMINUM BODY) INBOARD CYLINDERS
P/N HC5312/HC5313/HC5314 (MODEL BA1__-7ATM):



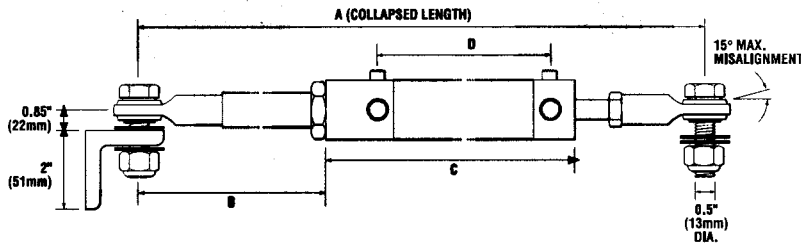
CYLINDER MODEL	PART #	MOUNTING DIMENSIONS		
		A	B	C
BA125-7ATM	HC5312	20" (508)	6.5" (165)	8.5" (216)
BA135-7ATM	HC5313	20" (508)	6.5" (165)	8.5" (216)
BA150-7ATM	HC5314	20" (508)	6.5" (165)	8.5" (216)

(Figures in parenthesis are in millimeters)

BALL JOINT MOUNT CYLINDERS (K-18/K-19)



CYL MODEL	DIMENSIONS				BORE	STROKE	DISP
	A	B	C	D			
K-18	24.5" (622mm)	9.31" (237mm)	11.75" (299mm)	9.875" (251mm)	1.25" (32mm)	7" (178mm)	7cu in
K-19	28.5" (724mm)	11.31" (287mm)	13.75" (350mm)	11.875" (302mm)	1.25" (32mm)	9" (229mm)	9cu in



SeaStar steering dimensions

Cylinders:

Inboard - Manual

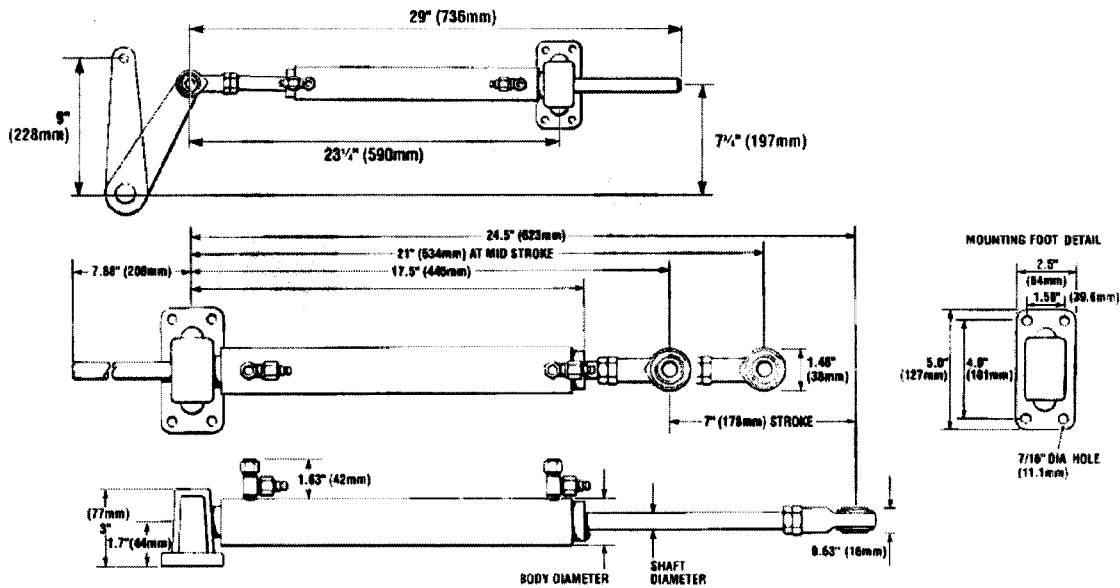
Brass - SeaStar



CYLINDER DIMENSIONS SPECIFIC TO MODEL			
CYLINDER MODEL	PART #	BODY DIAMETER	SHAFT DIAMETER
BA150-7TM	HC5318	1.75" (45mm)	0.63" (15.9mm)
BA150-9TM	HC5369	1.75" (45mm)	0.63" (15.9mm)
BA175-7TM	HC5319	2.00" (51mm)	0.75" (19.1mm)

DIMENSIONS

TM (BRASS BODY) INBOARD CYLINDERS
P/N HC5318/HC5319 (MODEL BA1__-7TM):

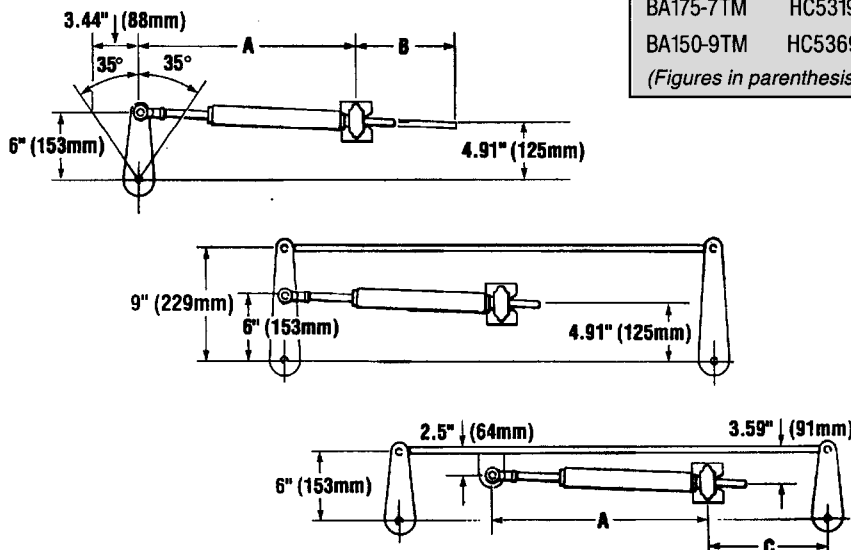


MOUNTING CONFIGURATION DIMENSIONS

TM (BRASS BODY) INBOARD CYLINDERS
P/N HC5318/HC5319 (MODEL BA1__-7TM):

CYLINDER			MOUNTING DIMENSIONS		
MODEL	PART #		A	B	C
BA150-7TM	HC5318	21" (534)	8" (204)	10" (254)	
BA175-7TM	HC5319	21" (534)	8" (204)	10" (254)	
BA150-9TM	HC5369	21" (534)	8" (204)	10" (254)	

(Figures in parenthesis are in millimeters)



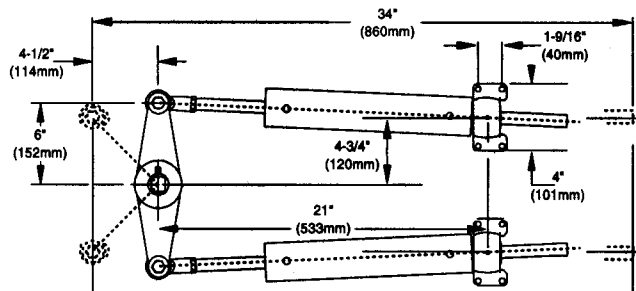
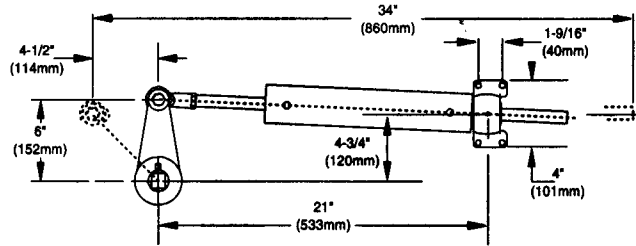
SeaStar steering dimensions

Cylinders:

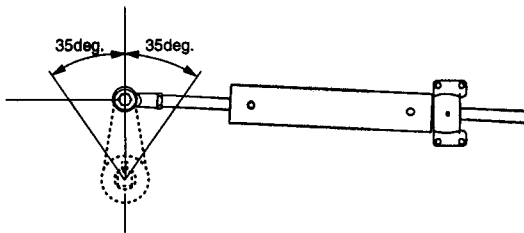
Inboard - Manual

Brass - Capilano

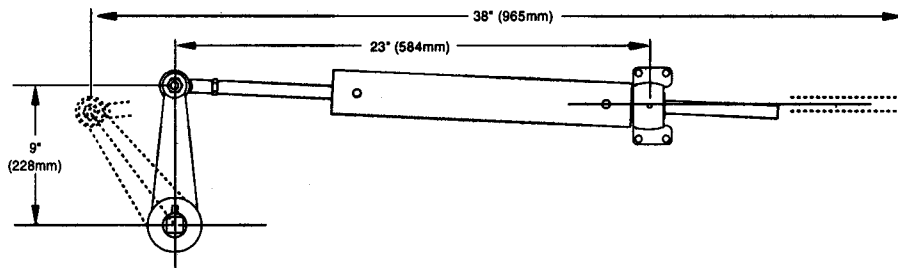
DIMENSIONS & MOUNTING CONFIGURATIONS
CAPILANO (BRASS BODY) INBOARD CYLINDERS
BALANCED 7" STROKE MODELS
P/N's HC5349/HC5350/HC5351/HC5355/HC5356/HC5357
(MODEL BA__-7TM_):



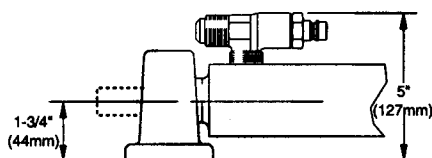
TYPICAL CYLINDER STROKE ARC:



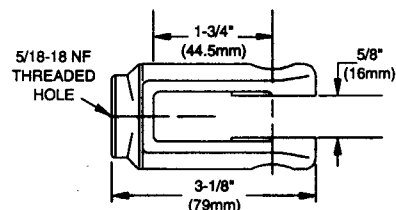
DIMENSIONS & MOUNTING CONFIGURATIONS
CAPILANO (BRASS BODY) INBOARD CYLINDERS
BALANCED 11" STROKE MODELS
P/N's HC5378/HC5379
(MODEL BA__-11TM_):



CYLINDER MOUNTING FOOT DETAIL - ALL 7" STROKE MODELS



CYLINDER ROD END CLEVIS DIMENSIONS



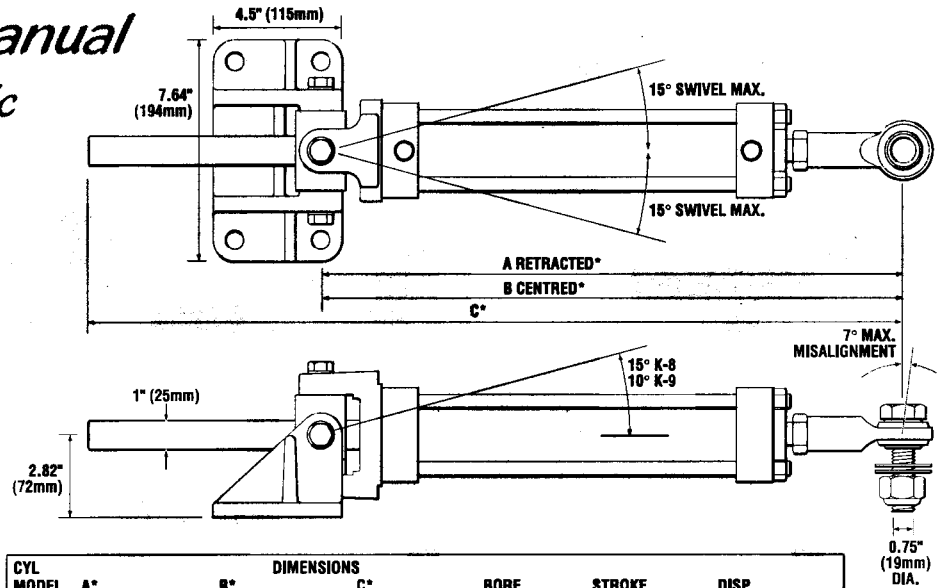
SeaStar steering dimensions

Cylinders:

Inboard - Manual

Brass - Hynautic

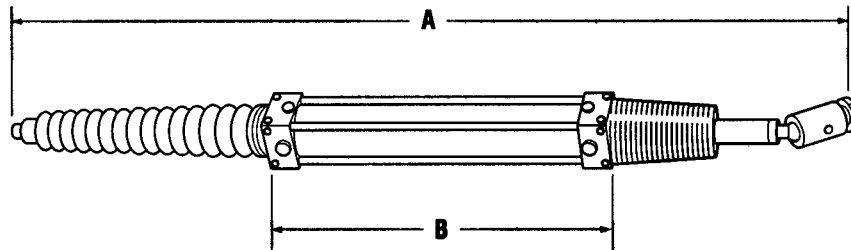
"UNIVERSAL MOUNT"
MODELS:
P/N K-8/K-9



CYL MODEL	DIMENSIONS			BORE	STROKE	DISP
	A*	B*	C*			
K-8	19.74" (502mm)	24.47" (622mm)	27.92" (710mm)	2.5" (64mm)	9.5" (242mm)	39.2cu in
K-9	24.74" (629mm)	31.99" (813mm)	37.92" (962mm)	2.5" (64mm)	14.5" (369mm)	59.8cu in

* Clevis option increases length by 0.44" (12mm)

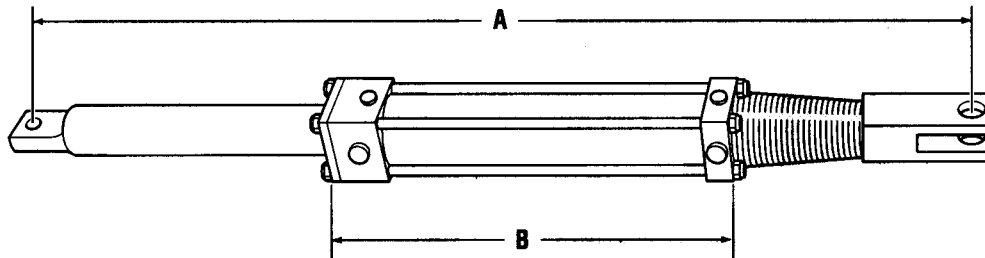
"FIXED MOUNT"
MODELS:
P/N K-22/K-27



CYL MODEL	DIMENSIONS			BORE	STROKE	DISP
	A	B				
K-22	*34.12" (867mm)	13.25" (337mm)	1.5" (38mm)	10" (254mm)	13.20cu in	
K-27	*36.75" (934mm)	13.25" (337mm)	1.5" (38mm)	10" (254mm)	13.20cu in	

* Dimensions are with the cylinder rod centered.

"PIVOT MOUNT"
MODEL:
P/N K-31



CYL MODEL	DIMENSIONS			BORE	STROKE	DISP
	A	B				
K-31	*38.37" (975mm)	14.12" (359mm)	2.0" (51mm)	10" (254mm)	25.5cu in	

* Dimensions are with the cylinder rod centered.