



Nylon Washers must be installed between the top surface of the cylinder mount or yoke and clevis as shown in detailed views.

Assembly Parts

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|--|---------------------------------|--------------------------------------|
| A. Fin Nut* | M. Lock Assembly Platform | Wa. Sensor Cable Cover Screw |
| B. Actuator Shaft Stud | N. Yoke Locking Cylinder | X. Cylinder Mount |
| C. Weld-in Hull Assembly (WHA) (Note 2) | O. Locking Housing | Xa. Cylinder Mount Bolt |
| Ca. Weld-in Hull Insert (Note 6) | Oa. Locking Housing Bolt | Xb. Cylinder Mount Shoulder Screw |
| Cb. Bolt-on Hull Insert | P. Clevis Pin | Xc. Cylinder Mount Dowel Pin |
| Cc. WHA Bolt | R. Yoke Clamping Bolt | Xd. Cylinder Mount Support Bolt |
| D. Platform Flange (Note 4) | S. Top Plate. | Xe. Cylinder Mount Support Bolt |
| E. Augmented Hull Thickness (Note 1) | Sa. Top Plate Screw | Xf. Cylinder Mount Support Dowel Pin |
| F. Hull Flange Gusset (Note 3) | T. Top Plate Standoff | |
| G. Hull Framing (Note 3) | U. Actuator Cylinder | |
| J. Actuator Flange Bolt | V. Position Sensor Cover | |
| K. Actuator Flange (Note 4) | Va. Position Sensor Cover Screw | |
| L. HDPE Washers (4X) | W. Sensor Cable Cover | |

Assembly Fasteners

Part	Description	Qty	Size # or inch	Install Torque ft-lb / (Nm)	Install with Coating**
A	Fin Nut *	1	M48 - 5.0	1000 / (1356)	Loctite 262
Cc	WHA Bolt	8	M20 - 2.5	270 / (370)	--
J	Actuator Flange Bolt	8	M24 - 3.0	400 / (542)	H
Oa	Locking Housing Bolt	4	M16 - 2.0	180 / (244)	M
P	Clevis Pin	4	--	--	N
R	Yoke Clamping Bolt	1	1" - 14	500 / (678)	H
Sa	Top Plate Screw	5	1/2 - 13	15 / (20)	M
T	Top Plate Standoff	5	M20 - 2.5	215 / (295)	H
Va	Sensor Cover Screw	6	M5 - 0.8	1.5 / (2.0)	--
Wa	Cable Cover Screw	6	M3 - 0.5	0.3 / (0.4)	--
Xa	Cylinder Mount Bolt	2	M20 - 2.5	325 / (440)	H
Xb	Cylinder Mount Shoulder Screw	2	M16 - 2.0	180 / (244)	H
Xc	Cylinder Mount Dowel Pin	2	3/4 x 3.5	--	N
Xe	Cylinder Mount Support Bolt	6	M20 - 2.5	325 / (440)	H
Xf	Cylinder Mount Support Dowel Pin	2	3/4 x 3.0	--	N

* Nut requires 3.125" Hex Socket
 ** M = Medium strength thread lock compound; H = High Strength thread lock compound. Install torques shown here require coating on threads and also, as lubricant, under bolt head or nut, whichever is turned; N = Never-Seez anti seize compound or equivalent.

NOTES:

- It is the responsibility of the installer to determine what reinforcement measures should be taken to properly strengthen the hull for withstanding forces that may be encountered if the fin or the fin shaft strikes an immovable object while the vessel is under way. Recommendations made by American Bow Thruster are to be used as starting guidelines only. American Bow Thruster is NOT a naval architecture firm and is NOT qualified to advise on structural matters. American Bow Thruster strongly recommends that you seek the advice of a naval architect familiar with your make of vessel.
- See inset "Detail B" for Hull Flange Assembly details.
- The Platform Flange is to be supported by integrated gussets, hull framing and stringers which are provided by the customer according to the naval architect's specifications.
- The actuator housing bolts are provided by the customer in the required length according to the thickness of the Platform Flange used. Holes in the actuator housing are for six M24 hex-head bolts and two M24 socket head bolts.
- Assembly fasteners illustrated and listed on this page should be installed with indicated coating applied to threads and to head or nut sliding surfaces and torqued to values given.
- Install outboard plane of Weld-in Hull Insert to be flush with outside plane of hull at centerlines through flange. Install Actuator to have outboard end of Seal Housing flush with or slightly extending (0.00" / +0.125") from outboard plane of Weld-in Hull Insert.
- Actuator specifications and dimensions are subject to change without prior notice. Do not use this print for final installation without contacting the factory for certified dimensions.

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	DRAWN	BK			
	CHECKED	BK	Parts & Dimensions for Steel Hull Installation All Dimensions are inches unless noted		
	ISSUED	7/2/2013			
SCALE:	N.T.S .	SHEET:	1 OF 1	REV:	D