

# TECHNICAL BULLETIN – INSTALLATION SPECIFICATIONS



## SEAKEEPER FASTENER TORQUE SPECIFICATIONS & INSTALLATION INFORMATION

		SEAKEEPER MODEL							
		1	2	3	5/6	9	16/18	26	35
TORQUE SPECIFICATIONS	Gimbal Bearing Cap Fasteners Apply anti-seize & silicone sealant	40 ft-lb 54 Nm 17mm	60 ft-lb 82 Nm 17mm	70 ft-lb 95 Nm 19mm	140 ft-lb <sup>i</sup> 190 Nm 24mm	200 ft-lb <sup>ii iii</sup> 272 Nm 1-1/8"	200 ft-lb <sup>iv v</sup> 272 Nm 1-1/8"	400 ft-lb <sup>vi</sup> 544 Nm 1-1/2"	400 ft-lb <sup>vii</sup> 544 Nm 1-1/2"
	Gimbal Shaft Screws <sup>xiv</sup>	40 ft-lb / 54 Nm no sealant, 17mm	30 ft-lb / 41 Nm 6mm Allen	60 ft-lb / 82 Nm 8mm Allen	50 ft-lb / 68 Nm 8mm Allen	130 ft-lb / 176 Nm 12mm Allen	130 ft-lb / 176 Nm 12mm Allen	100 ft-lb <sup>viii</sup> 135 Nm ½" Allen	100 ft-lb <sup>ix</sup> 135 Nm ½" Allen
	Brake Arm and Trunnion <sup>xiv</sup>	Trunnion Plates: 40 ft-lb / 54 Nm Wedge-lock washers, 17mm	60 ft-lb 82 Nm Wedge-lock washers, 17mm	60 ft-lb 82 Nm Wedge-lock washers, 17mm	50 ft-lb 68 Nm 19mm	79 ft-lb 107 Nm 19mm	80 ft-lb 109 Nm 19mm Wedge-lock washers	60 ft-lb <sup>*</sup> 82 Nm 19mm	100 ft-lb 135 Nm 19mm
	Mounting Bolts <sup>xi xiv</sup>	115 ft-lb 156 Nm Wedge-lock washers, 22mm	135 ft-lb 183 Nm Wedge-lock washers, 22mm	135 ft-lb <sup>xii</sup> 183 Nm 24mm	65 ft-lb 88 Nm 19mm	100 ft-lb 136 Nm 22mm	100 ft-lb <sup>xiii</sup> 136 Nm Wedge-lock washers, 22mm	100 ft-lb 136 Nm 24mm	100 ft-lb 136 Nm 24mm
	Water Jacket Screws Apply silicone sealant	72 in-lb / 9 Nm 10mm	72 in-lb / 9 Nm 10mm	72 in-lb / 9 Nm 10mm	72 in-lb / 9 Nm 10mm	120 in-lb / 14 Nm ½"	120 in-lb / 14 Nm ½"	120 in-lb / 14 Nm ½"	120 in-lb / 14 Nm ½"
	Enclosure Equator Screws Apply silicone sealant	36 in-lb / 4 NM 7mm	72 in-lb / 9 Nm 10mm	72 in-lb / 9 Nm 10mm	200 in-lb / 23 Nm 13mm	200 in-lb / 23 Nm ½"	25 ft-lb / 34 Nm ½"	25 ft-lb / 34 Nm ½"	25 ft-lb / 34 Nm ½"
	Bump Stop Screws	Latch Mech. 40 ft-lb / 54 Nm 17mm	—	—	25 ft-lb / 34 Nm 17mm	—	—	—	—
	Motor Drive Torques	Terminal Screws: 90 in-lb / 10.2 Nm	Battery Input: 97 in-lb / 11 Nm Motor Terminal: 29 in-lb / 3.3 Nm		Cover Screws: 19 in-lb / 2.2 Nm				
PART SPECIFICATIONS	Inner Cooling Collar O-Ring P/N	40473 2 pcs	40473 2 pcs	40448 2 pcs	40495 2 pcs	40009 2 pcs	40405 2 pcs	40188 2 pcs	40198 2 pcs
	Outer Cooling Collar O-Ring P/N	40618 2 pcs	40471 2 pcs	40447 2 pcs	40496 2 pcs	40010 2 pcs	40406 2 pcs	40189 2 pcs	40348 2 pcs
	Water Jacket O-Ring P/N	40618 2 pcs	40471 2 pcs	40447 2 pcs	40497 2 pcs	40010 2 pcs	40406 2 pcs	40189 2 pcs	40348 2 pcs
	Water Jacket Square Gasket P/N	40634 2 pcs	40588 2 pcs	40494 2 pcs	10961 2 pcs	10855 2 pcs	40409 2 pcs	11240 2 pcs	40352 2 pcs
	Lifting Bar Ass'y P/N	11766-1	80283-2SP	80283-2SP	80067-1SP	11015-1SP	80061-1SP	80029-2SP	80029-2SP
	Installation Template P/N	90517	90473	90362	90392	90253	90282	90088 Bond-In 90089 Bolt-In	90088 Bond-In 90089 Bolt-In

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		SEAKEEPER MODEL							
		1	2	3	5/6	9	16/18	26	35
DIMENSIONS	Seakeeper Weight	365 lb 166 Kg	414 lb 188 Kg	550 lb 249 Kg	870 lb 395 Kg	1210 lb 550 Kg	2195 lb / 996 Kg 18: 2244 lb 1018 Kg	2960 lb 1342 Kg	3920 lb 1778 Kg
	Sphere Only Weight	—	340 lb 154 Kg	450 lb 205 Kg	690 lb 313 Kg	914 lb 415 Kg	1642 lb 745 Kg	2264 lb 1027 Kg	3233 lb 1467 Kg
	Smallest Sphere Dimension	15.7” 39.9 cm	17-3/8” 44.2 cm	19-1/8” 48.6 cm	20-3/8” 51.8 cm	24” 61 cm	29-3/16” 74.2 cm	33-1/4” 84.5 cm	33-1/4” 84.5cm
ELECTRICAL	Drive Motor Volts/Amps	12 VDC 80 A	12 VDC 100 A	12 VDC 100 A	110 or 230 VAC 25A/20A	230 VAC 20 A	230 VAC 30 A	230 VAC 20 A	230 VAC 30 A
	Controller Volts/Amps	12 VDC 15A	12 VDC 15A	12 VDC 15A	12 VDC 15A	24 VDC 10 A	24 VDC 10 A	24 VDC 10 A	24 VDC 15 A
	Seawater Pump Volts/Amps	12 VDC, 15A max			12 VDC, 15A max 24 VDC, 10A max	24 VDC, 10A max		220 VAC, 5A max (Continuous)	
FLOW	Seawater Flow Requirement	2 – 4 GPM 7.6 – 15.1 LPM	2 – 6 GPM / 7.6 - 22.7 LPM		2.5 – 8 GPM 9.46 – 30.3 LPM	4 – 8 GPM / 15.1 – 30.3 LPM		10 – 14 GPM 37.9 – 53 LPM	

- <sup>i</sup> Seakeeper 6/5: ECN-0618 changed this from 160 ft-lb. The addition of wedge-lock washer (removing need for safety wire)(Cut-in S/N 6-0563).
- <sup>ii</sup> Seakeeper 9/7HD: ECN-0586 changed torque to 145 ft-lb with wedge-lock washers & Grade 8 fasteners (removing need for safety wire)(Cut-in S/N 9-2024).
- <sup>iii</sup> Seakeeper 9/7HD: ECN-0686 changed torque to 200 ft-lb with wedge-lock washers & Grade 5 fasteners (Cut-in S/N: 9-2198).
- <sup>iv</sup> Seakeeper 16/12HD/18: ECN-0587 changed this to 145 ft-lb with wedge-lock washers & Grade 8 fasteners (removing need for safety wire)(02/12/2018. No S/N Cut-in listed).
- <sup>v</sup> Seakeeper 16/12HD/18: ECN-0687 changed torque to 200 ft-lb with wedge-lock washers & Grade 5 fasteners (Cut-in S/N 16-0640).
- <sup>vi</sup> Seakeeper 26/20HD: ECN-0704 changed fastener to Grade 8.8 with wedge-lock washers (removing need for safety wire)(Cut-in S/N: 26-0277)
- <sup>vii</sup> Seakeeper 35/30HD: ECN-0705 changed torque from 350 ft-lb. (Cut-in S/N 35-0255)
- <sup>viii</sup> Seakeeper 26/20HD: ECN-0620 replaced screw with screw equipped with O-ring (P/N: 60578) and changed torque to 150 ft-lbs. (Cut-in S/N 26-0278).
- <sup>ix</sup> Seakeeper 35/30HD: ECN-0633 replaced screw with screw equipped with O-ring (P/N: 60578) and changed torque to 150 ft-lb (Cut-in S/N 35-191-0257).
- <sup>x</sup> Seakeeper 26/20HD: ECN-0383 changed hex hd cap screw, 7/16-14 X 1.5” with hex hd cap screw, M12-1.75 X 40mm. Lowered torque from 75 ft-lb (Cut-in S/N 26-0252).
- <sup>xi</sup> For stainless-steel mounting bolts, reference TB 90449 for requirements. No stainless-steel fasteners to be used on models Seakeeper 1, 2, or 3. Only use Grade 10.9 Al-Zn coated fasteners.
- <sup>xii</sup> If through-bolting, the use of wedge-lock washers is required on both the bolt head and the nut.
- <sup>xiii</sup> Seakeeper 16/18/12HD: ECN0844 changed to add anti-seize on all mounting bolts – NO thread-locker.
- <sup>xiv</sup> Apply Loc-tite on flat or split lock washers and anti-seize when using wedge-lock washers

REVISION	DESCRIPTION	APPROVAL	DATE
3	Deleted legacy models. Added seawater pump volts/amps & flow requirements	R Keown	XXJAN2022