



HULL UNIT GREASING PROCEDURES



WARNING:

1. ONLY ACCESS THE QC1000-QC1800 UPPER GREASE NIPPLE WITH THE SYSTEM SHUT DOWN AND SECURED.

Introduction

All series of hull units are pre-greased with Shell Retinax HD-2 at the factory. This is a multifunctional, heavy duty, blue dyed grease that contains specific additives to resist particle penetration and water formation for optimal corrosion resistance.

Each hull unit series is designed to be filled up completely with lubricant. Excess grease will be forced out at the barnacle seals and main seals. Some hull unit series will also emit excess grease from the top lip-seal. The condition of complete grease volume is checked at the factory and must be checked again after installation and while the hull unit is operating. Due to thermal expansion, it is possible for grease to pass through the lower seal due to ambient temperature fluctuations.

During these installation and maintenance checks, the grease must be filled utilizing a hand pump equipped with a pressure gauge to ensure that the maximum allowable pressure will not be exceeded. Visible confirmation of grease being forced out at seals must be made when possible.

Greasing Instructions

- 1) For best grease dispersion, performing lubrication while the system is in operation and cycling is recommended. However, it is acceptable to grease the hull unit while it is not cycling
- 2) Start pumping the grease with the hand pump until counter-pressure rises. Be sure to monitor the pressure gauge reading and not exceed the allowable limit
- 3) As the pressure automatically drops because of escaping grease, continue to slowly pump the hand pump to maintain the recommended grease pressure for the indicated maximum filling time
- 4) Should grease pressure not build while performing this procedure, please contact Quantum for technical support

NOTES:

In addition to Retinax HD-2, it is also recommended to use SKF LGGB-2 grease which is a lithium/calcium soap type that is over 80% biodegradable. If unavailable, use any NLGI No. 2 grease resistant to water-washout.

Zerk type grease fittings are installed as standard equipment. Fittings may differ due to customer request.

Use the tables on the reverse side as a guide for:

- The amount of time to pump during normal operation when no visible confirmation is possible while in the water
- The maximum pumping pressure range while pumping slowly
- The total grease amount inside the hull-unit bearing cavity when completely filled

Hull Units with Two Greasing Points (upper roller plus lower sleeve bearings)*

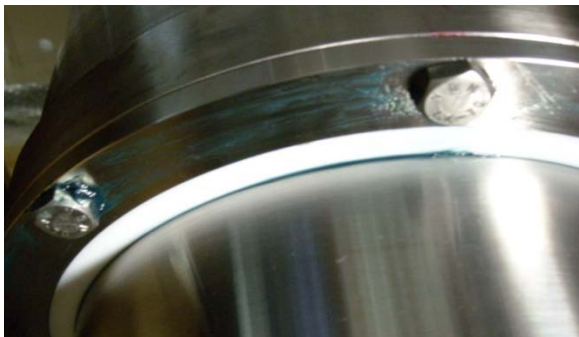
Hull Unit	Upper Volume	Lower Volume	**Pressure Retention Time (Lower Bearing)	Filling Pressure Range
QC1000	0.25L (0.067gal)	0.20L (0.053gal)	1 minute	40-50 bar (580-725psi)
QC1200	0.40L (0.106gal)	0.40L (0.106gal)	1 minute	40-50 bar (580-725psi)
QC1500	0.50L (0.132gal)	0.40L (0.106gal)	1 minute	40-50 bar (580-725psi)
QC1800	1.00L (0.264gal)	0.90L (0.238gal)	1 minute	40-50 bar (580-725psi)

Hull Units with One Greasing Point*

Hull Unit	Volume	**Pressure Retention Time	Filling Pressure Range
QC2200	1.80L (0.476gal)	2 minutes	40-50 bar (580-725psi)
QC2200-S03	12.0L (3.170gal)	2 minutes	40-50 bar (580-725psi)
QC2400	3.00L (0.793gal)	2 minutes	40-50 bar (580-725psi)
QC2600	3.60L (0.951gal)	2 minutes	40-50 bar (580-725psi)
QC3600	7.00L (1.850gal)	2 minutes	40-50 bar (580-725psi)

**All XT and non-XT hull units of the same series require the same volume(s), time and pressure.*

***It can be assured that the bearing chamber is full once the pressure is maintained for the indicated time period or greater. Grease for indicated time period regardless of excess grease emitted past seal.*



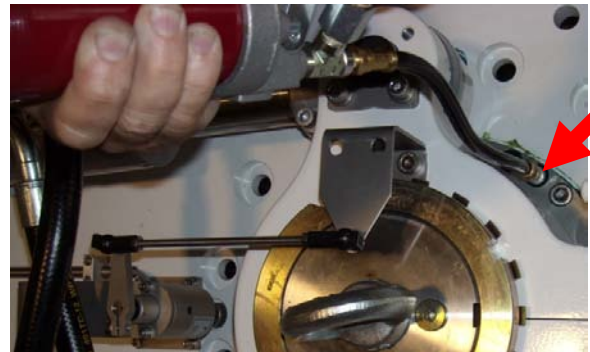
Shaft Before Greasing



Shaft After Greasing



Grease Point (typical)



Grease Point (typical)