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## APPLICATION NOTE NO. 66

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### **Routine Maintenance for the SBE 32 Carousel Water Sampler**

This Application Note reviews corrosion precautions and routine maintenance for the SBE 32 Carousel Water Sampler. The reliability of the Carousel is sustained by establishing proper handling practices.

#### **Corrosion Precautions/Cleaning**

Rinse the entire Carousel with fresh water after each cast.

The Carousel's trigger mechanism is made of titanium. The titanium is coated with Tiodizing; this product is similar to anodizing aluminum. **The Tiodized surface is water lubricating and should never be oiled with petroleum or silicon-based products.** Rinse the trigger mechanism with fresh water after each cast and clean it periodically with warm, soapy water. If the trigger mechanism sticks after this cleaning, remove the latch assembly and immerse the whole assembly in warm, soapy water. See *Removing / Replacing Latch Assembly* below.

Large zinc anodes provide corrosion protection:

- SBE 32C and 32SC - two each in lower adapter plate, lower guard ring, upper adapter plate, upper guard ring; one on pylon/hub assembly
- SBE 32 (standard)
  - 12-bottle size - three each on lower guard ring and upper guard ring; two on lower adapter plate; one on pylon/hub assembly
  - 24-bottle size - three each in lower adapter plate, lower guard ring, upper adapter plate, upper guard ring; one on pylon/hub assembly
- CTD extension stand (if used) - two

Check the anodes occasionally to verify that they are securely fastened and have not eroded.

All screws that are exposed to seawater have been generously lubricated with an anti-seize compound, Never-Seez Blue Moly, manufactured by Bostik (available through marine hardware stores). When disassembling/reassembling the Carousel, re-lubricate these screws with Blue Moly or equivalent. This compound is electrically conductive, so be careful not to get it on circuit boards.

**Note:** Blue Moly is molybdenum disulfide and pure nickel flake in pressure-resistant premium grade grease, formulated *without* graphite, lead, or copper. See Bostik's website (<http://www.bostik-us.com/TDS/TDSFiles/NSBlueMoly.pdf>) for the most up-to-date specification; a copy of Bostik's current product data sheet is included at the end of this Application Note for your convenience.

## Removing/Replacing Latch Assembly

### Removing Latch Assembly

1. Remove the three socket hex head screws, lock washers, and flat washers from the top of the latch assembly.
2. (For Carousels built in 2006 and later) Insert a jackscrew (jackscrew kit is provided with the Carousel) in the center hole. As you turn the jackscrew, the latch assembly will push away from the pylon.
3. Lift the latch assembly off the pylon.
4. Remove individual triggers if desired:
  - A. Mark the location of trigger 1 (from the retainer disk) on the trigger mount disk to aid in reassembly.
  - B. Remove the Phillips-head screws (eight for 32C and 32SC, six for full-size 32). Lift the retainer disk from the top of the latch assembly.
  - C. Pull the desired trigger(s) horizontally from the trigger mount disk. Mark the trigger(s) to aid in reassembly.

### Replacing Latch Assembly

1. Replace the triggers on the trigger mount disk.
2. Place the retainer disk on the triggers, aligning the mark you made for trigger 1 on the trigger mount disk with trigger 1 on the retainer disk. Verify that the triggers are properly seated in the grooves and that the disk is flat. Reinstall the Phillips-head screws loosely. Tighten the screws, working in a diagonal pattern to ensure the disk remains properly seated.
3. Line up the latch assembly alignment hole with the pylon alignment pin. Seat the latch assembly on the pylon. Reinstall the three socket hex head screws, lock washers, and flat washers.



## Removing Center Pylon

1. Remove the lifting bail.
  - A. Remove the hardware from underneath the lower guard ring.
  - B. Begin to pull the lifting bail up, until it is above the lower guard ring/adaptor plate/hub assembly connection.
  - C. Remove the hardware from the legs of the lifting bail.
  - D. Pull the lifting bail out of the upper guard ring.

**NOTE:**

There are plastic insulators on the underside of the following connections:

- Lower guard ring/adaptor plate/hub assembly - for lifting bail
- Upper adaptor plate - for pylon

Verify that the insulators have not fallen out before reinstalling the pylon and lifting bail.

2. Remove the 6 socket hex head cap screws and washers from the underside of the upper adaptor plate. Pull the trigger assembly with the pylon up and out of the Carousel frame.

# Never-Seez Blue Moly Data Sheet



## Blue Moly

### Product Description

Never-Seez® Blue Moly is a superior lubricating and anti-seize compound formulated to provide maximum parts protection in a wide range of applications. The exclusive combination of molybdenum disulfide and pure nickel powder suspended in a premium-grade grease provides both excellent lubricity and extreme pressure resistance. Blue Moly is especially recommended for those applications in which graphite, lead, and copper are prohibited or undesirable. The addition of special corrosion inhibitors allows Blue Moly to be used in harsh environments.

### Product Benefits

- Excellent protection against extreme pressure.
- Excellent temperature protection, up to 1500°F.
- Unique blue color allows for easy visual inspection.
- Contains no graphite, lead or copper, therefore Blue Moly can be used in applications where these are undesirable or prohibited.

### Product Applications

- Metal fittings
- Aircraft components
- Valves
- Stainless steel fasteners and slow moving parts
- Automotive engine bolts and body fasteners
- Stainless steel flange and pump bolts
- Chemical processing machinery
- Gasket dressing
- Assembly of dissimilar metals

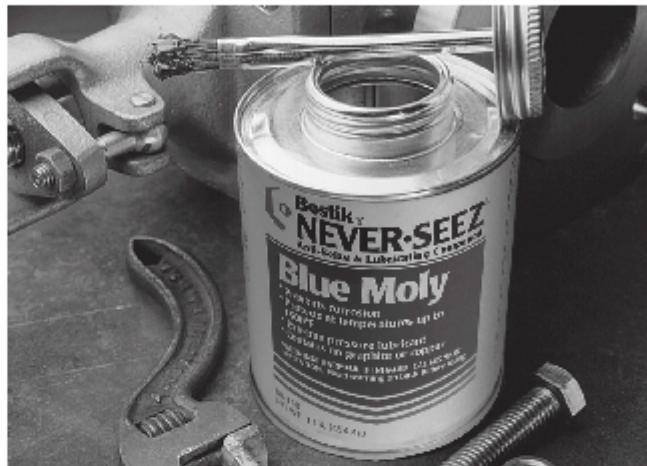
### Limitations

- Never-Seez® Blue Moly is not recommended for high speed bearings. Never-Seez® Red Bearing Lubricant is suggested for these applications.
- For temperature resistance to 2400°F (1316°C), use Never-Seez® Pure Nickel Special.

### Other Anti-Seize Lubricants

- Regular Grade
- Nuclear Grade, Nickel Special
- Pure Nickel Special
- High Temp Stainless
- High Temp Stainless, Nuclear Certified
- Marine Grade
- Black Moly Lubricant
- Red Bearing Lubricant
- White Food Grade with PTFE
- High Temperature Bearing Lubricant
- Pipe Compound with Teflon®

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### Technical Specifications

Color	Blue	
Temperature Range, °F (°C)	-150°F to 1500°F (-101°C to 815°C)	
Solvent Resistance	Excellent in fresh or salt water	
Particle Size, mil (microns)	2 maximum (50 µ)	
Density (g/cm <sup>3</sup> )	1.14 to 1.20	
		ASTM Test Method
NLGI Grade	1/2	D-217
Worked Penetration (60 Strokes)	300-350	D-217
Flash Point, °F (°C)	>482 °F (>250°C)	D-92
Dropping Point, °F (°C)	360°F (182°C)	D-566
Copper Corrosion Test @ 212°F (100°C), 24 hours	No Corrosion	D-130-83
Torque Coefficient, k factor	0.150	
Coefficient of Friction (4 ball), 167°F (75°C)	0.0824	D-2266

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**Ingredients:** Contains a special, high-quality bearing grease with pure nickel powder, molybdenum sulfide and aluminum flake.

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**Shelf Life:** Never-Seez® Blue Moly does not deteriorate with age when stored unopened at temperatures below 120°F (49°C). Quality and performance are guaranteed for five years from the date of manufacture on unopened containers.

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Use in accordance with Material Safety Data Sheet.

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**Ordering Information:**

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**BLUE MOLY**

STOCK NUMBER	DESCRIPTION	SIZE
NBBT-8	Brush Top	8 oz.
NBBT-16	Brush Top	1 lb.
NB-160	Flat Top	1 lb.
NB-42B	Pail	42 lb.
NB-425B	Drum	425lbs.

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