



Inspection of Overhaul Balls & Hook Blocks

Sometimes it can be easy to neglect to inspect some parts of your rigging hardware, especially when they rarely show external signs of wear. Case in point is inspection of overhaul balls and hook blocks. Frequent lubrication and quick visual checks on the exterior are simply not sufficient enough to mitigate the risks associated with these critical components. The Safety Code on Mobile Cranes CSA Z150-98 Section 4.3.5.2 states that a teardown inspection shall be performed at least every 5 years or as recommended by the manufacturer.



Recently, a customer came to us with an older style split ball (Picture 1) which had failed in service. Fortunately the load was suspended only inches off the ground when the swivel assembly inside the ball failed (Picture 2), dropping the load.



Upon inspection, the interior of the ball was found to be well lubricated. However, over many years of service, the threads on the steel lug had deteriorated to the point of becoming dull and

Quick Shots

Seminar For MOL

The Construction division of the Ministry of Labour recently had a training retreat for their inspectors. Domson was invited to provide a seminar on structural crane inspection and repair. Numerous questions were raised and answered on topics ranging from proper repair methods, electrical contact, custom equipment, proper reports, etc. Overall, the seminar was well received and hopefully improved their understanding of the crane industry.

Tower Crane Working Group

Domson represented the crane inspection industry on the Tower Crane Working Group Committee set up on order by the Minister of Labour. The group included representatives from the construction industry, the MOL, crane erection and maintenance companies, crane owners, and the union. The committee was chaired by Don Dickie who led the group through a complete review of the construction regulations relating to tower cranes. The recommendations of the group were forwarded to the Minister for further review. One major recommendation was that tower crane inspections should be much more comprehensive and that inspectors should be employed by the engineering firm responsible for the inspection.

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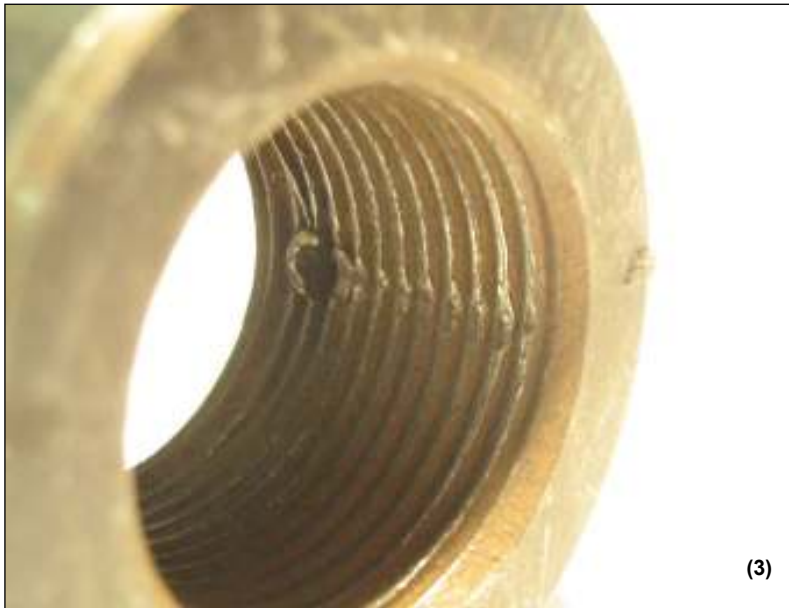
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rounded off. This general corrosion on the threads eventually led to failure under load. The retaining nut had been secured using a split pin, and when the threads on the shaft failed, the load was transferred to the pin which failed in shear. The broken face of the pin, still lodged in the threaded shaft as it pulled through the nut, wiped the threads off the inside diameter on its way out. Evidence of this was clearly visible on the inside face of the nut (Picture 3).



This is a text book case of why it's so important to have tear down inspections performed on a regular basis. In the mid-90's the Canadian Standards Association and the Ontario Ministry of Labour recommended changes to the standards the regulations. Threads in service like those on overhaul balls and block assemblies are particularly vulnerable to corrosion because of road salt, the exposed position of at the front of the crane, and the fine threads that trap moisture. After inspection, the assembly can be relubricated with molybdenum disulphite or another sacrificial corrosion lubricant.

It is also important to point out that use of the older style split ball is prohibited as per OHS/A Regulation 213/91 Section 175 (2).

Ontario Regulations For Hooks

Hooks are mostly covered in the "Regulations for Construction Projects" (O.Reg 231/91) under sections 172 – 175.

Highlights include:

- ✓ A safety catch is required for most applications
- ✓ The load rating is to be cast or stamped into the hook where it can be easily read.
- ✓ Hook blocks must have the load rating and weight cast or stamped on it where it can be easily read.
- ✓ Hooks may not have ANY cracks, twist, or increased throat opening. Note this is a stricter rule than specified by standards and manufacturers!
- ✓ An overhauling weight must be securely attached to the load hook and cable and must not be allowed to slide up or down the cable.

Manufacturer Information

Check out these websites for other useful information on hooks:

- ✓ www.millerproducts.net
- ✓ www.gunnebojohnson.com/catalog.asp
- ✓ <http://catalog.thecrosbygroup.com/maininterface.htm>
(click on "Rigging Information")

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