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## SHACKLE INSPECTION



- Shackle identification requirements for the body and the pin.
- The types of inspection a shackle shall receive during its service life.
- Shackle inspection and removal from service criteria.
- Best practices for using and maintaining shackles.

### **Initial Inspection**

Prior to use, all new, altered, modified, or repaired shackles shall be inspected by a Designated Person to verify compliance with the applicable provisions of *ASME B30.26 Rigging Hardware*. Written records of an initial inspection are NOT required.

### **Frequent Inspection**

A visual inspection shall be performed by the user or other Designated Person each day and before each use. Rigging hardware in semi-permanent and inaccessible locations where frequent inspections are not feasible shall have periodic inspections performed.

Conditions listed under Removal Criteria, or any other condition that may result in a hazard shall cause the shackle to be removed from service. Shackles shall not be returned to service until approved by a Qualified Person. **Written records of frequent inspections are not required.**

## Periodic Inspection

A complete inspection of the shackle shall be performed by a Designated Person. During an ASME shackle inspection, the shackle shall be examined for conditions listed under Removal Criteria and a determination made as to whether they constitute a hazard.

Periodic inspection intervals shall not exceed 1 year and periodic inspection frequency should be based on:

- Frequency of shackle use
- Severity of service conditions
- Nature of lifting or load-handling activities
- Experience gained on the service life of shackles used in similar circumstances

Guidelines for periodic inspection intervals:

- Normal Service – Yearly
- Severe Service – Monthly to Quarterly
- Special Service – As recommended by a Qualified Person

**Written records of periodic inspections are NOT required.**

## ASME B30.26 Shackle Inspection Criteria



Incorrect Pin



Bent, twisted, distorted, stretched, elongated body & pin



Material Reduction



Cracked / Broken Body



Excessive Corrosion

The goal of a rigging inspection is to systematically observe the condition of your lifting and rigging equipment. After a rigging inspection, you'll better understand if your shackles are properly marked and if the general overall condition of the equipment meets the ASME B30.26 Rigging Hardware requirements.



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### **ASME Shackle Inspection: Removal from Service Criteria**

ASME states that shackles may be removed from service if damage such as the following is visible after an inspection. Shackles shall only be returned to service when approved by a Qualified Person:

- Missing or illegible manufacturer's name or trademark and/or rated load identification
- Indications of heat damage, including weld splatter or arc strikes
- Excessive pitting or corrosion
- Bent, twisted, distorted, stretched, elongated, cracked, or broken load-bearing components
- Excessive nicks or gouges
- 10% reduction of the original or catalog dimension at any point around the body or pin
- Incomplete pin engagement
- Excessive thread damage
- Evidence of unauthorized welding
- Other conditions, including visible damage, that cause doubt as to the continued use of the shackle

### **Extreme Temperatures**

Avoid using shackles in temperatures in excess of 400°F (204°C) and below -40°F (-40°C). If shackles are to be used in temperatures above or below these ranges, the manufacturer and/or a Qualified Person should be consulted.

### **Chemically Active Environments**

The strength of a shackle can be affected by exposure to caustic or acidic environments. If your shackles have been exposed to or will be used in a chemically-active environment, you should consult the manufacturer or a Qualified Person.

**All inspections are carried out in accordance to ASME standard B30.9**