



Operating Practices ■ Recovery Chains

ALLOY CHAIN PROPERTIES

Federal regulations require the use of Alloy Chain for lifting and hoisting applications. We offer a full line of Grade 100 and limited items in Grade 80 chain which is produced from heat treatable alloy steel in conformance with ASTM specifications. Its typical mechanical properties provide for a tensile strength of 125,000 psi minimum and a minimum elongation of 20%. Strength and hardness of the alloy chain material are important factors, but are not the only criteria for selection. Acceptable alloy chain material also must have toughness, must be resistant to shock loading, and must possess sufficient ductility to provide ample visual evidence of damage caused by excessive over loading.

*** Your state may or may not have specific regulations limiting the use of certain grades of chain. Contact your D.O.T. or State Towing Regulation Board.**

INSPECTION

1. Schedule periodic link-by-link inspection of chain, based on frequency of chain use, severity of service conditions, experience gained on service life of chain used in similar circumstances.
2. Clean chain prior to inspections, to make damage or defects more easily seen.
3. Hang chain vertically, if practical, for preliminary inspection.
4. Inspect link by link, where the following should be looked for:
 - A. Bent, gouged, nicked, worn or elongated links.
 - B. Cracks, scoring or marking tending to weaken links. Transverse markings are the most dangerous.
 - C. Severe corrosion.
 - D. Excessive wear - chains with links having wear exceeding that shown in Table of Wear should be removed from service. (see figure 1)
5. Check master links and hooks for all of the above faults- hooks especially for excessive throat opening.

REMOVAL CRITERIA ALLOY CHAIN

SLINGS:

An alloy steel chain sling shall be removed from service if conditions such as the following are present:

- (1) missing or illegible sling tag
- (2) cracks or breaks
- (3) excessive wear, nicks or gouges. Minimum thickness on chain links shall not be below the values listed in Figure One found on page 97
- (4) stretched chain links or components
- (5) bent, twisted or deformed chain links or components
- (6) evidence of heat damage
- (7) excessive pitting or corrosion
- (8) lack of ability of chain or components to hinge (articulate) freely
- (9) weld splatter

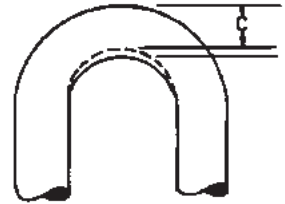
Additional data for end fittings such as hooks and shackles Can be found on page 27-29

TABLE OF WEAR

Specifications - Inches

Figure 1

Size of Chain Inches	Minimum Safe Dimensions at Worn Part of Link C Inches
1/4	13/64
3/8	5/16
1/2	7/16
5/8	9/16



WARNING

- Failure to read, understand, and follow these instructions may cause death or serious injury.
- Read and understand these instructions before using chain.
- Determine that the weight of the load is within the working load limit of the chain.
- Select a chain having suitable characteristics for the type of load and environment.
- Chains shall not be shortened or lengthened by knotting or other unapproved methods.
- Damaged chains shall not be used.
- Chains shall be applied in a manner providing control over the load.
- Protect chain with corner protectors when engaging sharp edged loads.
- Protect chain against corrosion.
- Winch loads smoothly - do not jerk.
- Chains shall not be pulled from under a load when a load is resting on the chain.
- Chains should be stored in an area where they will not be subjected to mechanical damage.
- Twisting of chains shall be avoided.
- Inspect chains for damage before each use.
- Anchorages shall have design strengths not less than those which are required of the chains attached to them.
- Do not point load chain hooks.
- If a chain is not marked with its grade or working load limit, consider it the weaker grade 28 proof coil and do not use for recovery or lifting.
- Use only Grade 80 Alloy or Grade 100 Alloy for hoisting or lifting applications.
- Connect the towing hardware only to the vehicle Manufacturers approved connection points on the vehicle towed.
- Do not stand between disabled vehicle and recovery vehicle.