cal department. The former should be able to detect those links which have become visibly unsafe because of overloading, faulty rigging, or other unsafe practices. The latter should make a thorough inspection.

A link-by-link inspection should be made to detect the following.

1 Bent links
2 Cracks in weld areas, in shoulders, or in any other section of link
3 Transverse nicks and gouges
4 Corrosion pits
5 Elongation caused by stretching (Fig. 21-8) can only be caused by overloading The best way to detect such elongation and also link wear is by a visual link-by-link inspection. Overall sling length measurements or even measurements of 1- to 3-ft lengths are inadequate because not all links are affected uniformly. Likewise caliper readings only over several links can miss such a condition See Table 21-K and Fig. 21-9.

Unless full and adequate facilities for repair are available, chain showing faults by inspection should be returned to the manufacturer for reconditioning

Alloy steel chains and heat-treated carbon steel sling chains should never be annealed or normalized because these processes reduce the hardness and, therefore, greatly reduce the strength.

Safe practices

In the use of chains, recognized safe practices will do much to prevent failures.

1. Never splice a chain by inserting a bolt between two links.
2. Never put a strain on a kinked chain. Workmen should be trained to take up the slack slowly and see that every link in the chain seats properly.
3. Do not use a hammer to force a hook over a chain link
4. Permanent identification tags are usually attached to chain slings by the manufacturer. Tags should never be removed.
5. Remember that decreasing the angle between the legs of a chain sling and the horizontal increases the load in the legs
6. Use chain attachments (rings, shackles, couplings, and end links) designed for use with the chain to which they are fastened
7. See that the load is always properly set in the bowl of the hook. Loading on or toward the point (except in the case of grab hooks or others especially designed for the purpose) overloads the hook and leads to spreading and possible failure

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Industrial Data Sheets
Alloy Steel Chains for Overhead Lifting Data Sheet 478.
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