

## TECHNICAL BULLETIN 02 INSPECTION OF LEAF CHAINS – CHAIN ELONGATION

### Reason For This Bulletin

The maximum permitted elongation of leaf chains has been increased from 2% to 3%.

### Aim

The aim of this bulletin is to provide members of the Fork Lift Truck Association with clear guidance on the implications of the change to 3% elongation.

### Who Should Read This Bulletin

Any person responsible for the safe operation of fork lift trucks should be familiar with the content of this bulletin. Any person involved in the maintenance and/or Thorough Examination of fork lift trucks must be familiar with the detail of this bulletin.

### Inspection of Chains

The inspection of chains should only be conducted by a person who has received specialist training. This may be a person who has passed the Fork Lift Truck Association Thorough Examination Course, or its predecessor, the Chain & Forks Inspection course. Inspection should be conducted in accordance with the instruction and course notes associated with this course. The inspection of a chain may result in the rejection of that chain for a variety of reasons. This bulletin concerns only those issues relating to elongation.

### Criteria For The Rejection of Chains On The Basis Of Elongation

*When examining fork lift truck chains the criteria for rejection of chains due to excessive elongation should be made on the following basis.* (This is an extract from BITA Guidance Note GN15.)

#### Up to 2% Elongation

Usually no action would be required. However, *on newly supplied chains excessive deterioration compared with service history may be an indicator of manufacturing defects or unforeseen operating conditions. Under these conditions the competent person needs to make a judgement on the rate of deterioration which could lead to failure and advise on appropriate timescales for replacement of the chain.*

## Elongation Greater Than 2% But Less Than 3%

*Between these elongation limits a judgement needs to be made on whether or not the chain can continue to be used safely up to the next Thorough Examination. If not, a timescale for replacement should be specified. When specifying the timescale account should be taken of the following factors:*

- *date of next Thorough Examination,*
- *elongation measured, and*
- *rate of deterioration since the last Thorough Examination.*

*The general condition of the chain and the environment in which the truck is used should be taken into account when recommending timescales for replacement. It should be noted that humid, dusty or corrosive atmospheres are likely to accelerate deterioration and extreme temperatures can increase the likelihood of chain failure.*

*If the competent person judges that the chain may not remain safe to use up to the next scheduled examination they must recommend replacement within a specified time limit.*

## Elongation 3% Or Greater

*Chains with a measured elongation of 3% or more must be **renewed immediately** and the fork lift truck removed from service until the chain has been replaced.*

## **SPECIAL CIRCUMSTANCES – CHAIN REPLACEMENT SCHEDULE**

Regardless of the results of any inspection there are operating circumstances that dictate a more cautious approach to chain replacement. Chains, and anchor pins, should be replaced as a matter of routine under the following circumstances.

<u>Operating Conditions</u>	<u>Replacement After Period Not Exceeding</u> <u>(Whichever Is Shorter)</u>	
	<u>Years</u>	<u>Operating Hours</u>
Arduous conditions such as: Marine environments Corrosive chemical environments Metal manufacturing/processing Abrasive particle processing such as cement or aggregates Brine processes	2	4000
Cold Stores	3	6000

## Further Information

Further information is provided in the British Industrial Truck Association (BITA) Guidance Note GN15 – Industrial Truck Leaf Chains Maintenance and Inspection – dated September 2001.

More detailed guidance is provided in the Course Notes to the Fork Lift Truck Association Thorough Examination course.

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