

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-021
		Level: 3
		Page 1 of 5
Title: Inspection Procedure of Pulley Blocks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

Inspection Procedure of Pulley Blocks

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-021
		Level: 3
		Page 2 of 5
Title: Inspection Procedure of Pulley Blocks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

Contents	Page
1 YOUR SAFETY IS FIRST	3
2 SCOPE	3
3 REFERENCE STANDARDS	3
4 DEFINITION OF PULLEY BLOCKS	3
5 THOROUGH EXAMINATION.....	4
6 PROOF LOAD TEST	4
7 MARKING	5
8 REPORTING AND CERTIFICATION	5
9 Inspector Competency and Qualification.....	5

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-021
		Level: 3
		Page 3 of 5
Title: Inspection Procedure of Pulley Blocks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

1. YOUR SAFETY IS FIRST:

Your safety wear is mandatory at job sites including in general: suit, shoes, helmet, gloves, ear plugs, glasses, and mask.

2. SCOPE:

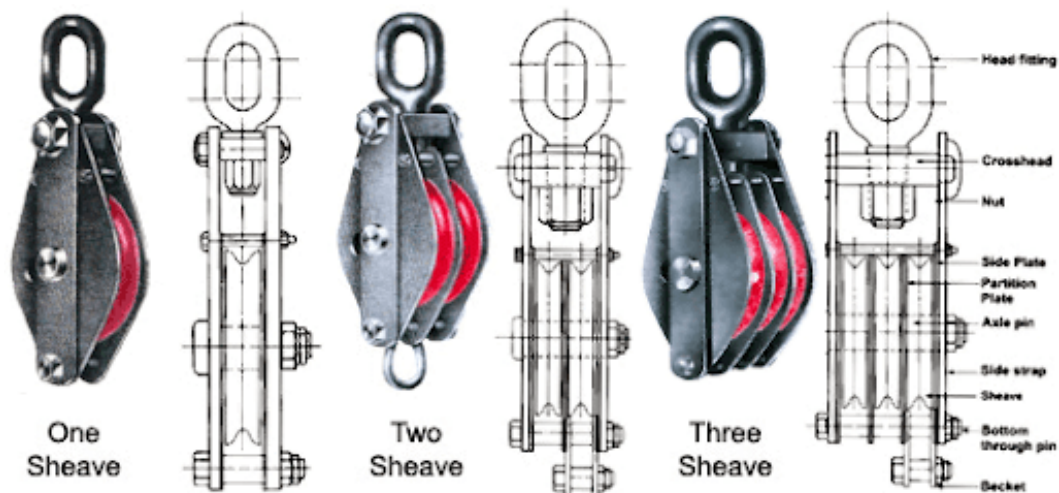
This Procedure covers the inspection and testing of single- and multi-sheaves pulley blocks

3. PRODUCT/ MANUFACTURE STANDARDS:

BS EN 13157: 2004 + A1: 2009	<i>Cranes — Safety — Hand powered lifting equipment</i>
LEEA COPSULE Edition 9 - 2019	<i>Code of Practice for the Safe Use of Lifting Equipment</i>

4. DEFINITION OF PULLEY BLOCKS:

A lifting equipment comprises of one (single) or more (multi) grooved-wheels (sheaves) that rotate freely on shaft(s), pulley blocks are used to change the direction of a wire rope running on the sheave(s).



	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-021
		Level: 3
		Page 4 of 5
Title: Inspection Procedure of Pulley Blocks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

5. THOROUGH EXAMINATION:

Pulley blocks (lifting equipment) should be thoroughly examined by a competent person at intervals not exceeding **twelve months**.

During the thorough examination, the following shall be checked:

- Marking, as per 7. MARKING
- Dimensional check (sheaves, ropes) against manufacturer design
- Main Body: for damage, cracks, bending, nicks, gouges
- Eye of the block (suspension element): for wear, damage, cracks, distortion
- Sheaves: for damage, cracks, opening, scoring, damage, distortion
Sheave and critical load bearing points shall be inspected using NDT techniques such as MPI as per related ATS procedures, for MPI: ATS-NDT-P-001
- Pulley block wheels: for cracks, distortion, wear, nicks, gouges.
- Axle pins: for cracks, distortion, wear, nicks, gouges
- Anchorage: for damage, cracks, distortion
- Wire ropes: for dimensions, condition and defects: cuts, kinks, bird caging, etc.
- Security and condition of all fittings (nuts, bolts, pins, etc.).
- Oil and grease paths in pin and bush, sheave and shell are clear.
- A functional test shall be performed to check the correct operation of the block, braking system, and the correct movement and fitting of the wire rope.

6. PROOF LOAD TEST:

Proof load is performed to the pulley block before being put into use for the first time, after any major repair / alternation, after heavy use, after exceptional circumstances, or as per client requirements. If the pulley block has not been subjected to a **breakage test (By Manufacturer)** prior to first use, it shall be subjected to a static and dynamic test:

- **Static test** consisting of suspending a load of: $1,5 \times \text{Rated Capacity}$ for rated capacities $< 20 \text{ t}$ and $1,25 \times \text{Rated Capacity}$ for rated capacities $\geq 20 \text{ t}$, for at least 10 minutes for all cases.
After proof load test using by a static test method, the block is thoroughly examined as per 6.THOROUGH EXAMINATION, the test shall be accepted satisfactory if no cracks, permanent deformation or damage that would adversely affect the function or safety of the lifting equipment is visible, and the connections have not become loose or damaged and if the braking device can hold the load without slipping and if it is possible to perform the dynamic test with the same lifting equipment after the static test.
- **Dynamic test:** the block is subjected to a dynamic operation with a dynamic load of $1.1 \times \text{Rated Capacity}$, the tests shall be carried out for each lifting equipment movement under the most unfavorable conditions., these tests shall comprise repeated stopping and starting for each machine movement.
After dynamic test and thorough examination as per 6. THOROUGH EXAMINATION, the test shall be accepted if the block has carried out al functions, and no damage to the block - including connections - is present.

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-021
		Level: 3
		Page 5 of 5
Title: Inspection Procedure of Pulley Blocks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

7. MARKING:

Marking shall be clearly visible and legible on a permanent plate in a visible location on the block, for blocks whose size / nature cannot permit attaching such plates, these shall have at least marking of the rated capacity and a mark to identify the supplier. Marking shall include the following information:

- Manufacturer's name and address, and year of manufacture
- ID number
- Rated Capacity
- Model
- Wire rope: dimensions, quality, and the minimum breaking force of the wire rope.

If the item is not already marked, it shall be clearly marked with an identification number and if the test is satisfactory, the Rated Capacity and date of the test.

8. REPORTING AND CERTIFICATION:

A certificate of test and thorough examination will be issued upon the satisfactory completion of the examination, i.e. the lifting equipment is safe to operate

A defect report will be issued if the lifting equipment fails to meet the requirements.

9. Inspector Competency and Qualification:

Inspector shall have minimum qualification of LEEA Foundation – LEEA Lifting Equipment General - LEEA Lifting Machines Manual