Initial Inspection

New, reinstalled, altered, repaired, and modified equipment shall be inspected prior to initial use to verify whether the crane or hoist can be expected to perform as intended.

The operational inspection shall include the following function tests (with an empty hook), as applicable:

- Lifting and lowering
- Trolley travel
- Bridge travel
- Hoist-limit devices
- Travel-limiting devices
- Locking and indicating devices, if provided

New equipment shall also be load tested prior to initial use. Load testing for altered, repaired or modified cranes or hoists may be limited to the functions affected by the alternation, repair or modification, as determined by a qualified person.

- The load shall not be less than 100% of the rated load of the crane or hoist(s), whichever is larger, or more than 125% of the rated load of the crane or hoist, whichever is smaller, unless otherwise recommended by the manufacturer or qualified person.
- During a load test, the person conducting the load test shall prepare a written report of the load sustained during the test and the operations performed during the test. Reports shall be placed on file for that particular crane or hoist(s).
- Operations to perform during a load test include (unless otherwise modified by a qualified person):
    - Hoist the test load a distance to ensure that the load is supported by the crane and held by the hoist brakes.
    - Transport the test load by means of the trolley for the full length of the bridge.
    - Transport the test load by means of the bridge for the full length of the runway in one direction with the trolley as close to the extreme right-hand end of the crane as practical, and in the other direction with the trolley as close to the extreme left-hand end of the crane as practical.
    - Lower the test load, and stop and hold the load with the brakes.
- Record inspection using the following “Inspection Record” form. Retain originals in equipment file.

Inspection Record

General Information	
Competent Person(s) completing initial inspection and test	
Date of Initial Inspection/Test	
Crane/Hoist Location	
Crane/Hoist Identifier	

New, reinstalled, altered, repaired and modified equipment shall be inspected prior to initial use.

Operational Inspection (w/ empty hook)	Pass	Fail
Lifting and lowering		
Trolley travel		
Bridge travel		
Hoist-limit devices		
Travel-limiting devices		
Brakes		
Locking and indicating devices, if provided		

New, reinstalled, altered, repaired and modified equipment shall be load tested prior to initial use.

Load Test	
Crane Capacity	
Hoist Capacity	
Test Load Weight • Not less than 100% of rated load (whichever is higher) • Not more than 125% of rated load (whichever is lower)	
Description of Load	

	Pass	Fail
Operations performed during load test:		
• Lifting and Lowering		
• Brake test		
• Bridge travel		
• Trolley travel (extreme right and extreme left)		
• Other:		

Overall Load Test	Pass	Fail

Competent Person Signature: _____

Functional Inspection
Functional inspections shall be conducted at the beginning of each shift, or before the crane is first used during each shift.

Items that shall be inspected include

- Operational controls, hoisting and lowering, trolley travel, bridge travel, limit switches.
- Operational verification of the upper limit device under no-load conditions. The load shall be inched into the limit or run in at a slow speed.
- Deterioration or leakage in lines, tanks, valves, drain pumps, and other parts of air or hydraulic systems.
- Ropes, looking for the following removal criteria:
    - Distortion of the rope, such as kinking, crushing, unstranding, bird-caging, main strand displacement, or core protrusion.
    - Reduction of rope diameter below nominal diameter due to loss of core support, internal or external corrosion, or wear of outside wires.
    - General corrosion
    - Broken or cut strands
    - Apparent heat damage from any heat source
    - Number, distribution, and type of visible broken wires:
        - In running ropes, twelve randomly distributed broken wires in one lay or four broken wires in one strand in one lay.
        - One outer wire broken at the contact point with the core of the rope, which has worked its way out of the rope structure and protrudes or loops from the rope structure.
- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper functions, or stretch beyond manufacturer's recommendations.
- Hooks and latches, looking for the following removal criteria:
    - Excessive throat opening
    - Damages or missing safety latch
    - Wear, deformation, corrosion
- Record the inspection using an inspection tag affixed to the crane/hoist or made closely available to the crane/hoist.

HOIST AND CRANE INSPECTION

Are you qualified to use this hoist or crane? Have you completed the Hoist and Crane training?

1. Check annual inspection tag. If tag is missing, expired or illegible, DO NOT USE.
2. Check pendant controls for any damage (move up/down/laterally (if applicable).
3. Check wire rope or chain for damage (worn, cut, kinked, crushed, spooling or birdcaged).
4. Check hook (bent, spread, cracked, safety latch operations).
5. Check upper limit switch (run to upper limit and very block stops).
6. Check brakes if applicable
7. Check trolley travel.
8. Review weight limits. Verify load weight is less than rated capacity of hoist/crane and slings.
9. Inspect rigging equipment. Fill out inspection sheet.

If any malfunctions are observed STOP USE.
Place a lock on the electrical disconnect and notify supervision.

DATE	BY	DATE	BY

Frequent Inspection

Equipment shall be inspected at intervals dependent on the use of the equipment as follows:

- Normal service – Monthly
- Heavy service – Weekly to monthly
- Severe service – Daily to weekly

The following shall be inspected:

- Operating controls for proper operation, proper adjustment, and unusual sounds; squeaking, grinding, grating, etc.
- Verify operation of the upper limit device under no-load conditions. The load shall be inched into the limit or run in at a slow speed.
- Tanks, valves, pumps, lines, and other parts of air or hydraulic systems for leakage.
- Hooks and latches, looking for the following removal criteria:
    - Missing or illegible hook manufacturer's identification or secondary manufacturer's identification.
    - Missing or illegible rated load identification.
    - Excessive pitting or corrosion.
    - Cracks, nicks, or gouges.
    - Wear – any wear exceeding 10% of the original section dimension of the hook or its load pin.
    - Deformation – any visible apparent bend or twist from the plane of the unbent hook.
    - Throat opening – any distortion causing an increase in the throat opening of 5% of the original opening (not to exceed ¼ inch).
    - Inability to lock – any self-locking hook that does not lock.
    - Inoperative latch – any damage latch or malfunctioning latch that does not close the hook's throat.
    - Damaged, missing, or malfunctioning hook attachment and securing means.
    - Thread wear, damage or corrosion.
    - Evidence of excessive heat exposure or unauthorized welding.
    - Evidence of unauthorized alternations such as drilling, machining, grinding, or other modifications.
- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper functions, or stretch beyond manufacturer's recommendations.
- Rope for proper spooling onto the drums and sheaves
- Warning devices for proper operation
- Ropes, (see **Functional Inspections** for details)
- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper functions, or stretch beyond manufacturer's recommendations.
- Hooks and latches, looking for the following removal criteria:
    - Excessive throat opening
    - Damages or missing safety latch
    - Wear, deformation, corrosion
- Record the inspection using Frequent Inspection Form, retain originals in equipment file for one year.

Frequent Inspection Record

General Information	
Competent Person(s) completing initial inspection and test	
Date of Initial Inspection/Test	
Crane/Hoist Location	
Crane/Hoist Identifier	

	Pass	Fail
Operating controls		
Hoist Limit Devices		
No leakage		
Hooks and latches		
• Hook has manufacturer's identification		
• Rated load identification		
• No pitting or corrosion		
• No cracks, nicks, or gouges		
• No excessive wear		
• No deformation		
• Throat opening		
• Ability to lock		
• Operative latch		
• Hook attachment and securing means		
• No excessive heat exposure/unauthorized welding		
• No unauthorized alternations (drilling, machining, grinding, etc.)		
Proper spooling of rope onto drum and sheaves		
Warning devices for proper operation		
Ropes		
• No kinking, crushing, stranding, bird-caging, main strand displacement or core protrusion		
• No general corrosion		
• No broken or cut strands		
• No apparent heat damage from any heat source		
• Number, distribution, and type of visible broken wires		

Competent Person Signature: _____

Periodic Inspections
Periodic inspections shall be conducted by a factory trained employee or a contract certified inspection service.

Equipment shall be inspected at intervals dependent on the use of the equipment as follows:

- Normal service – Yearly
- Heavy service – Yearly
- Severe service – Quarterly

The inspection shall include the items listed in **Frequent Inspections** and the following items as applicable

- Deformed, cracked, corroded, worn or loose members or parts.
- Loose or missing fasteners; bolts, nuts, pins or rivets.
- Cracked or worn sheaves and drums
- Worn, cracked or distorted parks such as pins, bearings, wheels, shafts, gears, rollers, locking and clamping devices, bumpers and stops.
- Hooks and latches (See **Frequent Inspections** for details)
- Excessive wear of brake system parts
- Excessive wear of drive chain sprockets and excessive drive chain stretch.
- Deterioration of controllers, master switches, contact, limit switches, and pushbutton stations.
- Gasoline, diesel, electric or other power plants for proper operation.
- Motion limit devices.
- Rope reeving.
- Function, instruction and safety information signs, labels or plates for legibility and replacement.
- Rope and end connections.

Ensure the inspection is documented to provide a basis for continuing evaluation and retained on file.

Inspection of Cranes Not in Regular Use
A crane that has been idle for a period of one month or more, but less than six months, shall be inspected before being placed in service following the requirements as outlined in **Frequent Inspection**.

A crane that has been idle for six months or more, shall be inspected before being placed in service following the requirements as outlined in **Periodic Inspection**.