DGCRANE

# Monthly Overhead Crane Inspection Checklist

| No. | Category | Item | Inspection Requirements & Methods | Inspection Result (Pass/Fail) |
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| 1 | Overall Performance | Abnormal Lifting Inspection | Observe for abnormal vibration of the main beam or load during full load lifting. Listen for abnormal noise from each mechanism. When possible, touch gearboxes and motors for abnormal heat. Analyze and eliminate the causes of abnormalities. | |
| 2 | | Sliding During Lowering | During full load lowering, check whether the load slips excessively when stopped. If so, adjust the hoist brake clearance until braking is normal. | |
| 3 | | Inspection During Operation | Observe for serpentine motion, twisting, lateral sliding, skewed travel, rail gnawing, or abnormal noise during crane operation. Mark and investigate the causes. | |
| 5 | | Wheel Load Condition | Check for suspended wheels or ‘three-leg’ condition where individual wheels are not rotating properly. | |
| 6 | | Oil Leakage Check | Check for oil seepage or leakage from hoist or trolley travel reducers. | |
| 8 | | Surface Appearance | Check for rust, peeling paint, or surface damage. | |
| 9 | Travel Mechanism | End Stop Inspection | Check for deformation or damage to end stops. Ensure no risk of falling. Check bolts or welds for loosening or cracking. | |
| 10 | | Rail Installation Inspection | Check for joint deformation, bolt looseness, lateral rail shift, cracked welds, loose base/connection plates. | |
| 11 | | Rail Wear Check | Inspect running rail tread and side for severe localized wear, peeling, or deformation. | |
| 12 | Main/End Beams | Weld Seam Inspection | Check for cracks in the welds of the main and end beams. | |
| 13 | | Main Beam Wear/Deformation | Check I-beam flange for severe wear or plastic deformation (sagging). | |
| 14 | | Beam Connection | If bolted, check for looseness. | |
| 15 | | Rail on Main Beam | Check for abnormal bending or deformation. Inspect pressure plates, bolts, and welds. | |

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| **16** | | Trolley Stopper on Main Beam | Check for deformation, damage, or falling risk. Ensure bolts/welds are intact. | |
| **17** | | Buffer Inspection | Buffers must be firmly attached, without cracks or damage. | |
| **18** | **Motor** | Motor Overheating | Check if hoisting or travel motors are overheating. Analyze causes such as overload, voltage drop, frequent braking, small brake gap, or friction between brake wheel and lining. | |
| **19** | | Motor Abnormalities | Check if motors are hard to start, noisy, or emit abnormal sounds. Analyze causes like overload, low voltage, brake not releasing, or wiring issues. | |
| **21** | **Brake** | Brake Performance | Check if hoist brakes slip too much when lowering loads. Check if travel brakes can't stop properly or slide too far. Adjust performance if needed. | |
| **22** | | Brake Abnormalities | Check if cone brake lock nuts are loose. If squealing, inspect for friction issues or poor contact in brake lining. | |
| **23** | **Reducer** | Gear Noise | Check for abnormal gear noise. Analyze if due to poor lubrication, bearing wear, gear damage, or poor machining/assembly. | |
| **24** | | Abnormalities | Check for loose bolts or oil leakage in reducers. | |
| **25** | | Wear Condition | Check for abnormal wear in drum rope grooves. | |
| **26** | | Drum Shell | Check if drum shell is damaged, especially from hook block collision due to limit failure. | |
| **27** | | Rope Guide | Check for cracks; ensure smooth wire rope exit during hook lowering. | |
| **28** | **Drum & Wire Rope** | Abnormalities | Check for loose pressure plates, bolts on drum and rope guide; ensure smooth guide block movement. | |
| **29** | | Broken Wires | Discard wire rope if broken wires exceed 10% of total within one lay length. | |
| **30** | | Wear | Discard wire rope if diameter reduction exceeds 7% of nominal diameter. | |
| **31** | | Deformation | Discard ropes with crush damage or kinks from side pulling. | |
| **32** | | Corrosion | Check for rust; rope should be lubricated and free from excessive dirt. | |

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| **33** | | Looping in Air | Check if wire rope loops in air (especially for systems with 4+ ropes). | |
| **34** | | Abnormal Inspection | Check all critical rope areas, especially fixing points, pulley contacts, etc., for oil lack, rope biting, or derailment. | |
| **35** | **Hook & Pulley** | Crack Inspection | No harmful cracks on hook, pulleys, or pulley shell. | |
| **36** | | Wear Condition | No abnormal wear on hook opening or pulley groove. | |
| **37** | | Abnormalities | Check pulleys for damage; ensure hook nut is tight; check bolts of shell and stopper plates. | |
| **38** | | Deformation | Hook opening must not be abnormally deformed. | |
| **39** | | Rotation Check | Pulleys must rotate flexibly. | |
| **40** | **Wheel** | Wear Check | No abnormal wear on tread or flange inner surface. | |
| **41** | | Crack Check | No conductorsracks on wheels. | |
| **42** | **Power Supply Device** | Bare Conductor Safety | Bare conductor must maintain safe distance and have protection measures. | |
| **43** | | Contact Surface | Check for corrosion on sliding contact surface; clean with steel brush or sandpaper. | |
| **44** | | Insulator Check | Support insulators must be undamaged and connections tight. | |
| **45** | | Flexible Cable Entry | Check flexible cable support wire rope for wear and tension. | |
| **46** | | Safety Marking | Check for safety markings on non-conductive side and power-on indicators. | |
| **47** | **Collector** | Wear Condition | Collector wheels, pins, or rings must not show abnormal wear. | |
| **48** | | Fixing Check | Cable connections must be tight and insulators secured. | |
| **49** | | Wheel Rotation | Collector wheels must rotate smoothly; lubricate if noisy or stuck. | |

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| **50** | | Spring Check | Springs must retain elasticity, free from rust or fatigue. | |
| **51** | **Internal Wiring** | Appearance | Rubber cables and wires must not have external damage. | |
| **52** | | Fixing Connections | All electrical and wiring fixings must be secure. | |
| **53** | | Cable Movement | Cables must move without excessive bending or twisting. | |
| **54** | **Contactor** | Contact & Core | Check for wear/damage on contacts and cores; ensure clean flat surfaces. | |
| **55** | | Wiring Fixing | Wiring screws must be tight. | |