



Risk assessment and method statement

Lifting operations risk assessment

Lifting operations by crane and lifting equipment. Pre-filled with typical hazards, controls and sequence: edit it for this site.

PROJECT

SITE ADDRESS			
ACTIVITY		RAMS REFERENCE	
Lifting operations by crane and lifting equipment			
CONTRACTOR CARRYING OUT THE WORK		PRINCIPAL CONTRACTOR	
PREPARED BY	APPROVED BY	REVISION	DATE

Revision record

Reissue and rebrief when the sequence, the programme, the team or the conditions change. If you would have written it differently had you known, it needs a new revision.

REV	DATE	WHAT CHANGED	BY

THE WORK

The activity, the place and the people

Pre-filled for this kind of work. Make every line specific to this site: this sequence, this access, these people, this weather.

Scope of the activity

What is being done, and what is not included.

MHSWR REGULATION 3(1)

Lifting operations at [site] to [describe the lifts, for example place steel, plant or materials], using [mobile crane, lorry loader or telehandler with lifting attachment] and the accessories listed on the lift plan. Heaviest load: [weight] at [radius]. Lift category: [basic, standard or complex]. Not included: [tower crane erection, covered by its own plan].

Location and access

Where on site, how people and materials get there, and the restrictions.

Crane access via [gate] to the set-up position at [location], on ground checked for the outrigger loads. Exclusion zone and tail swing area barriered as shown on the lift plan. Road closure or oversail permission [ref] where needed. Working hours [08:00 to 17:00].

Programme and interfaces

When the work runs, and who else is working nearby.

CDM REGULATION 15(2)

START DATE

DURATION

WORKING HOURS

INTERFACES WITH OTHER TRADES

Trades working near the lift area or the load route: [trades]. They stay outside the exclusion zone during lifts. Other cranes and plant on site coordinated through [name]. Receivers at height work behind edge protection.

Documents this RAMS relies on

Lift plan [ref]; crane and accessory thorough examination reports; load charts; operator and slinger signaller cards; ground assessment and outrigger loads; network operator agreement for overhead lines; construction phase plan.

The team, and their competence

CDM REGULATION 8

ROLE	NAME	CARD, TICKET OR TRAINING NEEDED	CONTACT
Appointed person		Plans the lift and sets its category; trained to the recommendations in BS 7121-1 for appointed persons.	
Crane supervisor		Controls the lift on the day and stops it if conditions change.	
Crane operator		Trained and carded for the crane category, and familiar with the model and its configuration.	
Slinger signaller		Trained to sling loads and give signals, such as the CPCS A40 slinger signaller category.	
Lorry loader operator		Trained for the lorry loader and for the attachments used.	
Thorough examiner		A competent person with the knowledge and experience to find defects and judge their importance.	

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METHOD STATEMENT

The sequence of work

The order the team will work in on the day, with the controls built into each stage. If the sequence changes on site, revise the RAMS and brief it again.

STAGE	WHAT IS DONE, AND HOW	CONTROLS AT THIS STAGE	BY
Plan and categorise the lift	Find the load weight, dimensions, lifting points and centre of gravity. Set the lift category, and decide whether a generic plan will do or the lift needs its own.	Planned by a competent person, as LOLER regulation 8 requires; lift plan page completed.	Appointed person
Choose the crane and accessories	Choose a crane that can handle the heaviest load at the greatest radius in its planned configuration. Choose slings, shackles and spreader beams with safe working loads that suit the load and the rigging angle.	Load chart checked at radius; accessories marked and examined in the last six months.	Appointed person
Check the ground and set-up	Survey the set-up position for voids, services, cellars, excavations and backfill. Get the outrigger loads from the crane supplier and size the mats to the ground.	Ground confirmed as able to carry the loads; access route for the crane checked.	Appointed person
Check the paperwork	Check the thorough examination reports for the crane, attachments and accessories, the operator's and slinger's cards, and any permits for the area.	Nothing used without evidence of its last thorough examination; defects closed.	Crane supervisor
Brief the lift team	Brief the plan to the operator, slinger, signaller and receivers: the load, the route, the exclusion zone, the signals, the wind limit and what to do if the lift goes wrong.	Briefing signed; one signaller named for each lift; radios checked.	Crane supervisor
Set up the crane	Rig the crane to the configuration in the plan. Set outriggers fully on mats, level the crane, and barrier the tail swing area and the exclusion zone.	Rated capacity indicator set and tested; exclusion zone signed and clear.	Crane operator
Sling and trial lift	Sling the load to the method in the plan, packing sharp edges. Take the weight, lift a short way and pause to check balance, slings and the crane before the full lift.	Hook catches in place; nobody under the load; lift lowered and re-rigged if it does not hang level.	Slinger
Lift, travel and land	Lift and slew smoothly along the planned route, with the signaller in view of the load. Land the load on bearers and make it secure before the slings are released.	Wind checked during the lift; lift stopped if contact is lost or anyone enters the zone.	Signaller
De-rig and stand down	Release slings once the load is secure, check accessories and return them to storage. Stow the crane, retract outriggers and remove barriers once the crane is clear.	Damaged accessories quarantined and reported; area left safe.	Crane supervisor
Review	Talk through the lift with the team and record anything that did not go to plan. Revise the generic plan or the lift plan before the next similar lift.	Near misses reported; dangerous occurrences reported under RIDDOR.	Appointed person

CDM REGULATION 15(2): PLAN, MANAGE AND MONITOR THE WORK

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RISK ASSESSMENT

Hazards, controls and the risk that remains

Each significant hazard rated before and after its controls, as likelihood times severity. The ratings are typical: check them for this site.

	LIKELIHOOD		SEVERITY		
	1	2	3	4	5
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5
	1	2	3	4	5

1 to 4 low
 5 to 12 medium
 15 to 25 high

HAZARD	WHO COULD BE HARMED, AND HOW	RISK BEFORE	CONTROLS	RISK AFTER	BY
Lift not planned or under-planned	The lift team and everyone nearby, when a lift goes ahead without a plan suited to its risk.	3 x 5 = 15 High	- Every lift planned by a competent person; routine lifts under a generic plan, others under a plan written for the lift. - Lift category under BS 7121 (basic, standard or complex) set by the appointed person. - Supervision in proportion to the risk; no lift starts until the plan has been briefed.	1 x 5 = 5 Med	Appointed person
Unknown load weight or centre of gravity	The lift team, when a load is heavier than expected or tips because its weight is off centre.	3 x 5 = 15 High	- Weight taken from the manufacturer, delivery note or drawings, with attachments and packing added. - Lifting points and centre of gravity identified; unbalanced loads rigged to hang level. - Load lifted a short way and paused to check balance before the full lift.	1 x 5 = 5 Med	
Crane overloaded at radius	The operator and people nearby, if the crane overturns or a part fails.	2 x 5 = 10 Med	- Crane chosen for the heaviest load at the greatest radius in the plan, with the load chart checked. - Weight of hook block, accessories and spreader beams counted in the load. - Rated capacity indicator working and never overridden; crane rigged to the configuration in the plan.	1 x 5 = 5 Med	Appointed person
Ground failure under outriggers or tracks	The operator and people nearby, when the ground gives way under a loaded outrigger.	3 x 5 = 15 High	- Ground checked for voids, cellars, services, excavations and recent backfill at the set-up position. - Outrigger loads from the crane supplier compared with what the ground can carry; mats sized to suit. - Outriggers fully set and the crane levelled before any lift.	1 x 5 = 5 Med	
Wind on the crane and the load	The lift team, when wind swings a load or loads the crane beyond its limit.	3 x 4 = 12 Med	- Forecast checked; wind limits for the crane and for loads with a large surface area set in the plan. - Wind speed measured at the crane during the lift; work stopped when the limit is reached. - Tag lines on loads that may spin, handled by people standing clear.	1 x 4 = 4 Low	
Load falling from poor slinging	Slings and anyone below, when a load slips, a sling is cut or a hook opens.	3 x 5 = 15 High	- Slinging done by a trained slinger to the method in the plan; edges packed to protect slings. - Safety catches on hooks; loose items banded or put in a suitable skip or cradle. - Nobody under the load at any stage of the lift.	1 x 5 = 5 Med	Slinger
Damaged or unmarked accessories	The lift team, when a sling, chain or shackle fails under load.	3 x 5 = 15 High	- Accessories marked with their safe working load and identified, as LOLER regulation 7 requires. - Pre-use check by the slinger; damaged items taken out of use and quarantined. - Thorough examination at least every six months, with reports in date and on site.	1 x 5 = 5 Med	
People under or near the load	Other trades, visitors and the public within reach of the load or the slewing crane.	3 x 5 = 15 High	- Exclusion zone set by the plan, barriered and signed; the slew path kept clear of people. - Lift route planned so the load does not pass over people, occupied areas or public routes. - Lift stopped if anyone enters the zone; marshals on public routes where needed.	1 x 5 = 5 Med	Crane supervisor

MHSWR REGULATION 3(6): WITH FIVE OR MORE EMPLOYEES, RECORD THE SIGNIFICANT FINDINGS

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RISK ASSESSMENT, CONTINUED

More hazards, and those specific to this site

HAZARD	WHO COULD BE HARMED, AND HOW	RISK BEFORE	CONTROLS	RISK AFTER	BY
Trapping and crushing at landing	Slingers and receivers guiding the load into place, at height or at ground level.	3 x 4 = 12 Med	- Load landed on bearers so slings can be removed without hands under the load. - Hands kept off the load where possible, with tag lines or push sticks used instead. - Receivers at height work behind edge protection; nobody between the load and a fixed structure.	2 x 4 = 8 Med	
Trapping by the crane counterweight	Anyone between the slewing superstructure of a mobile crane and a fixed object.	2 x 5 = 10 Med	- Tail swing area barriered so nobody can stand within it. - Crane set up with enough clearance for the counterweight to slew past walls and stacks.	1 x 5 = 5 Med	
Overhead power lines	The lift team, if the jib, the hoist rope or the load touches or arcs to a line.	2 x 5 = 10 Med	- Lines found at the planning stage; network operator asked to make dead or divert where the lift is close. - Where lines stay live, the crane set up so it cannot reach them, with the operator's advice and a signed plan. - Slingers trained to keep clear of the load and the crane if contact is made.	1 x 5 = 5 Med	
Striking structures, scaffold or other cranes	The lift team and others, when a jib, load or hook hits a building, scaffold or another crane.	3 x 4 = 12 Med	- Proximity hazards plotted on the lift plan; other cranes on site agreed through one coordinator. - Slew and radius limits set where the crane has them; scaffold ties and edges checked on the lift route. - Signaller in view of the load wherever the operator cannot see it.	1 x 4 = 4 Low	
Poor signals between signaller and operator	The lift team, when the operator cannot see the load and a signal is missed or misread.	3 x 4 = 12 Med	- One signaller in control of each lift, agreed and briefed beforehand. - Recognised hand signals, or radios on a dedicated channel checked before the lift. - Lift stopped at once if contact is lost, and not restarted until it is regained.	1 x 4 = 4 Low	Signaller
Lorry loader deliveries	Drivers and people at the set-down point when a lorry-mounted crane offloads materials.	3 x 4 = 12 Med	- Lorry parked on firm, level ground with stabilisers fully set on mats; delivery lifts covered by the plan. - Operator trained for the lorry loader; controls used from a position with a clear view of the load. - People kept out of the lift area; nobody under the boom or the load.	2 x 4 = 8 Med	Supervisor
Lifting people	Anyone lifted in a man-basket on a crane or carrier not made for lifting people.	2 x 5 = 10 Med	- A MEWP or other equipment made for lifting people chosen first. - Lifting equipment not designed for people used only in exceptional circumstances, under a plan for that lift. - Equipment that lifts people examined at least every six months, and marked as such.	1 x 5 = 5 Med	Appointed person
Equipment defects or out of date examination	The lift team, when the crane or a part of it fails in use.	2 x 5 = 10 Med	- Thorough examination reports checked for the crane, attachments and accessories before the lift. - Pre-use checks done and recorded by the operator; defects reported and the equipment not used until put right. - Hired cranes accompanied by evidence of their last thorough examination, as regulation 9(4) requires.	1 x 5 = 5 Med	

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EQUIPMENT

Plant, equipment and PPE

Plant and equipment

Each item, the checks and certificates it needs, and who may operate it.

PUWER 1998, LOLER 1998

ITEM	CHECKS AND CERTIFICATES	OPERATOR COMPETENCE
Mobile crane	Thorough examination in date; rated capacity indicator tested; load chart for the set-up.	Carded crane operator
Lorry loader	Thorough examination in date; stabilisers and controls checked before use.	Trained operator
Telehandler with crane attachment	Attachment approved for the machine; load chart in the cab; examined.	Carded operator
Slings, chains, shackles and spreader beams	Marked with safe working load; pre-use check; examined every 6 months.	Trained slinger
Outrigger mats	Sized for the outrigger loads and the ground; checked for damage.	Appointed person
Radios and anemometer	Radios charged and tested on a set channel; wind meter working.	Lift team

Personal protective equipment

PPE is the last line of defence, after the controls above. Specify the type, not just the item.

PPE AT WORK REGULATIONS 1992

ITEM	NEEDED	TYPE AND SPECIFICATION
Safety helmet	☒	Everyone in the lift area
Safety footwear	☒	Toe protection and a grip sole
High-visibility clothing	☒	Signaller clearly identified
Gloves	☒	For slings, chains and wire rope
Eye protection	☐	
Hearing protection	☐	
Respiratory protection Type, and face-fit tested	☐	
Harness or restraint Anchor points identified	☒	Receivers at an unprotected edge

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CONTROLS

Substances, permits, emergencies and the environment

Hazardous substances

Each substance and its COSHH assessment.

COSHH 2002, REGULATION 6

SUBSTANCE	COSHH ASSESSMENT REFERENCE	CONTROLS

Permits and plans

PERMIT OR PLAN	NEEDED	REFERENCE
Hot work permit	☐	
Permit to work	☒	
Permit to dig or break ground	☐	
Confined space entry	☐	
Lift plan	☒	
Temporary works design	☐	

Emergency and rescue

First aid, fire, and how someone is rescued.
The rescue plan belongs in the RAMS, not
after it.

A plan for a load stuck in the air, a crane fault and a casualty at height before the lift starts. Lift stopped and the area cleared if the crane or ground moves. The collapse, overturning or failure of a load-bearing part of lifting equipment other than an accessory, or plant contact with a bare overhead line over 200 volts, is a RIDDOR dangerous occurrence.

Environment and neighbours

Dust, noise, vibration, waste, spills and hours
of work.

Crane mats on finished surfaces to protect the ground. Engines switched off between lifts where practical. Neighbours told of road closures and crane arrival times. Packing, banding and pallets collected after landing and removed from site.

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LIFT PLAN

Lift plan for one lift

Complete one page for each lift, or one per routine lift type. The example is a packaged plant unit lifted onto a flat roof by mobile crane: replace it with your own lift.

ITEM	WHAT TO RECORD	THIS LIFT	CHECKED BY
Load	Description, weight with packing, dimensions, lifting points, centre of gravity	Packaged air handling unit, [x] kg from maker's data, four marked lifting eyes, centre of gravity marked	
Lift category	Basic, standard or complex, the BS 7121 categories	[Category], set by the appointed person	
Crane and set-up	Type, configuration, counterweight, set-up position, maximum radius and capacity there	[Crane type], set up in the service yard; [x] m radius to the roof landing point	
Accessories	Slings, shackles, spreader beam: safe working load and examination date	Four-leg chain sling and spreader beam, marked and examined within six months	
Rigging method	How the load is slung, edge protection, tag lines	Spreader beam to the four lifting eyes; two tag lines	
Ground	Voids, services, cellars, backfill; outrigger loads; mat size	Drainage run beside the yard avoided; mats sized to the supplier's outrigger loads	
Proximity hazards	Overhead lines, buildings, scaffold, other cranes, public routes	Scaffold on the north elevation; no overhead lines within reach	
Exclusion zone	Area closed during the lift, how it is barriered and who controls it	Service yard and roof landing area closed; marshal at the yard gate	
Wind and weather	Wind limit for the crane and the load, how wind is measured, visibility	[Limit from the crane manual and the load's surface area]; measured at the crane	
Communication	Signaller, hand signals or radio channel, what happens if contact is lost	Radios on channel [x]; signaller on the roof; lift stops if contact is lost	
Lift team	Appointed person, crane supervisor, operator, slinger signaller, receivers	[Names and card numbers]	
Examinations	Crane, attachments and accessories: last thorough examination and report seen	[Dates and report references]	
If it goes wrong	Load stuck in the air, crane fault, casualty at height, contact with a line	Load lowered to the yard if safe; roof rescue kit at the landing point	

LOLER 1998, REGULATIONS 4 TO 9; HSE, PLANNING AND ORGANISING LIFTING OPERATIONS; BS 7121-1:2016

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Briefed before the work starts

BRIEFED BY	REVISION BRIEFED	DATE AND TIME

[illegible]

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