

# LIFT PLAN TEMPLATE

Document structure aligned to BS 7121 · LOLER 1998 · ASME B30 · LEEA guidance

**TEMPLATE ONLY — NOT A LIFT PLAN**

This file is a blank document structure. It does not authorise a lifting operation. Do not take it to site as a signed plan. A lift plan must be prepared and signed by a competent Appointed Person for the specific load, crane, rigging, ground and site conditions. JMR Lifting Solutions & Engineering accepts no responsibility for any lift, injury, damage or delay arising from use of this template.

**Need this signed for a real lift? Email [contact@jmrlifting.com](mailto:contact@jmrlifting.com) or WhatsApp +91 81110 02266. Preliminary study is free.**

## 0. Document control

|                              |                                                                              |
|------------------------------|------------------------------------------------------------------------------|
| Document title               | Lift Plan                                                                    |
| Plan number                  | LP-____-____                                                                 |
| Revision                     | A                                                                            |
| Date                         |                                                                              |
| Project / site               |                                                                              |
| Client                       |                                                                              |
| Contractor                   |                                                                              |
| Lift category                | Routine / Non-routine / Engineered (circle one)                              |
| Applicable standards         | BS 7121-1 / -3   LOLER 1998   ASME B30.5 / B30.9   DNV-ST-N001 (if offshore) |
| Prepared by                  |                                                                              |
| Reviewed by                  |                                                                              |
| Appointed Person (signatory) |                                                                              |
| AP competency reference      |                                                                              |

## Distribution

| # | Role / organisation           | Name | Copy       |
|---|-------------------------------|------|------------|
| 1 | Appointed Person              |      | Master     |
| 2 | Lift Supervisor               |      | Controlled |
| 3 | Crane operator                |      | Controlled |
| 4 | Client / Principal contractor |      | Controlled |
| 5 | HSE / Permit authority        |      | Controlled |

**01****Scope and parameters**

Describe what is being lifted, from where to where, and what is out of scope. One paragraph. No marketing language.

|                                                         |                                               |
|---------------------------------------------------------|-----------------------------------------------|
| <b>Lift description</b>                                 |                                               |
| <b>Start position</b>                                   |                                               |
| <b>Landing position</b>                                 |                                               |
| <b>Orientation change</b>                               | None / Tilt / Upend / Turn (circle)           |
| <b>Number of cranes</b>                                 | 1 / 2 / 3+                                    |
| <b>Personnel in the load path</b>                       | Yes / No — if Yes, this is a non-routine lift |
| <b>Live plant / public / occupied building adjacent</b> | Yes / No                                      |
| <b>Night / restricted visibility / blind lift</b>       | Yes / No                                      |
| <b>Offshore / marine / splash zone</b>                  | Yes / No                                      |
| <b>Out of scope</b>                                     |                                               |

**Hold points before the lift may proceed**

| #  | Hold point                                                              | Signed (name / time) |
|----|-------------------------------------------------------------------------|----------------------|
| H1 | Weight verified against drawing / weigh ticket / calculation            |                      |
| H2 | Crane configuration matches this plan (boom, counterweight, outriggers) |                      |
| H3 | Rigging certificates in date; ID matches register                       |                      |
| H4 | Ground / mats / outrigger pads as specified                             |                      |
| H5 | Exclusion zone established and briefed                                  |                      |
| H6 | Weather within limits                                                   |                      |
| H7 | Toolbox talk completed; stop-work authority understood                  |                      |
| H8 | Permit / PTW issued                                                     |                      |

**02****Load data and centre of gravity**

|                               |                               |                       |                                       |
|-------------------------------|-------------------------------|-----------------------|---------------------------------------|
| Item / tag no.                |                               | Description           |                                       |
| Verified weight (t)           |                               | Weight source         | Vendor GA / weigh ticket / calc       |
| Contingency on weight (%)     |                               | Gross lift weight (t) | Weight + rigging + contingency        |
| Length (m)                    |                               | Width (m)             |                                       |
| Height (m)                    |                               | CoG from datum X (m)  |                                       |
| CoG from datum Y (m)          |                               | CoG from datum Z (m)  |                                       |
| Number of lift points         |                               | Lift point type       | Padeye / trunnion / sling on beam     |
| Contents / ballast / residual | Empty / partly full / secured | Special notes         | Fragile nozzles, coatings, insulation |

**Lift-point load share (static)**

| Point | Location / ID | Vertical share (t) | % of gross | Notes |
|-------|---------------|--------------------|------------|-------|
| A     |               |                    |            |       |
| B     |               |                    |            |       |
| C     |               |                    |            |       |
| D     |               |                    |            |       |

Show the CoG sketch on an attached drawing. Do not guess CoG for an engineered or tandem lift.

**03****Crane selection and configuration****Main crane**

|                                  |  |                          |                                     |
|----------------------------------|--|--------------------------|-------------------------------------|
| Make / model                     |  | Type                     | Mobile / crawler / pedestal / tower |
| Chart used (rev / date)          |  | Boom length (m)          |                                     |
| Jib / extension                  |  | Counterweight (t)        |                                     |
| Outrigger / crawler config       |  | Hook block               |                                     |
| Max working radius this lift (m) |  | Lift height required (m) |                                     |
| Slew sector                      |  | Duty / chart area        |                                     |

**Tail / second crane (if used)**

|              |                         |                       |  |
|--------------|-------------------------|-----------------------|--|
| Make / model |                         | Boom / radius / chart |  |
| Role         | Tail / hold / translate | Load-share target (%) |  |

Attach a reach diagram over the site plan. If utilisation is marginal, record the alternative crane considered and why it was rejected.

## 04

## Load chart utilisation

Apply the site dynamic amplification factor before comparing with chart capacity. Cap utilisation to the tighter of BS 7121, client procedure and crane OEM limits.

|                                    |                                                        |
|------------------------------------|--------------------------------------------------------|
| Gross load on hook (t)             | Load + rigging + block if required by chart            |
| Dynamic amplification factor (DAF) | Onshore typical 1.10–1.25 • Offshore per DNV-ST-N001   |
| Dynamically amplified load (t)     | Gross × DAF                                            |
| Working radius (m)                 |                                                        |
| Chart capacity at that radius (t)  | From the exact chart and configuration                 |
| Utilisation (%)                    | Amplified load ÷ chart capacity × 100                  |
| Client / BS 7121 cap (%)           | e.g. 75% critical / 90% absolute — write the rule used |
| Margin remaining (t / %)           |                                                        |
| Off-lead / side-lead correction    | Yes / No — if Yes, attach calc                         |
| Wind limit for this duty (m/s)     |                                                        |

## Critical lift trigger (tick those that apply)

Utilisation ≥ 75%   Tandem / multi-crane   Blind lift   Over live plant or people   Load of unknown CoG   Custom lifting frame   Personnel lift   Offshore / marine

**05****Rigging configuration**

| Component               | Type / size / grade | WLL / SWL | Cert / ID | Qty |
|-------------------------|---------------------|-----------|-----------|-----|
| Main slings             |                     |           |           |     |
| Tail slings             |                     |           |           |     |
| Shackles — upper        |                     |           |           |     |
| Shackles — lower        |                     |           |           |     |
| Master link / ring      |                     |           |           |     |
| Spreader / lifting beam |                     |           |           |     |
| Softeners / wrap        |                     |           |           |     |
| Tag lines               |                     |           |           |     |

**Geometry**

|                                  |                                    |                                    |                                    |
|----------------------------------|------------------------------------|------------------------------------|------------------------------------|
| <b>Sling arrangement</b>         | 1-leg / 2-leg / 4-leg / bridle     | <b>Included angle at hook (°)</b>  |                                    |
| <b>Angle to vertical (°)</b>     |                                    | <b>Sling length (m)</b>            |                                    |
| <b>Minimum design FoS slings</b> | 5:1 unless standard says otherwise | <b>Minimum design FoS shackles</b> | 4:1 unless standard says otherwise |

Attach a rigging sketch. If the included angle exceeds the sling rating basis, stop and redesign — do not 'accept the risk'.

## 06

## Sling and rigging calculations

Write the formula, then the numbers. A reviewer must be able to repeat the arithmetic without calling you.

**Useful relationships (do not treat as a substitute for the applicable standard)**

Tension per leg  $T = (W \times \text{share} \times \text{DAF}) / (n \times \cos \theta)$  where  $\theta$  is angle to vertical.

Horizontal component  $H = T \times \sin \theta$ . Check spreader / beam and lift-point side load.

Utilisation of component =  $T \div \text{WLL}$ . Must be  $\leq 1$  / required FoS after all factors.

| Check                              | Result | Limit | Pass / Fail |
|------------------------------------|--------|-------|-------------|
| Sling tension — main, max phase    |        |       |             |
| Sling tension — tail, max phase    |        |       |             |
| Shackle pin / bow                  |        |       |             |
| Padeye / trunnion (vendor or calc) |        |       |             |
| Spreader / beam (bending + FoS)    |        |       |             |
| D/d ratio (wire rope over pin)     |        |       |             |
| Soft sling contact / cut risk      |        |       |             |

**Calculation notes / source references**

|  |
|--|
|  |
|  |
|  |
|  |

## 07

## Ground bearing pressure

|                                           |                                     |                                             |                       |
|-------------------------------------------|-------------------------------------|---------------------------------------------|-----------------------|
| Ground type                               | Made ground / slab / engineered pad | Allowable bearing (t/m <sup>2</sup> or kPa) | From geotech / client |
| Outrigger / crawler reaction method       | Chart / calc / software             | Worst-case radius & slew                    |                       |
| Max outrigger reaction (t)                |                                     | Pad / mat size (m × m)                      |                       |
| Applied bearing (t/m <sup>2</sup> or kPa) | Reaction ÷ effective area           | Utilisation vs allowable (%)                |                       |
| Mats / timber / steel specified           | Yes / No — detail below             | Underground services checked                | Yes / No              |

If applied bearing exceeds allowable, the plan is not finished. Specify mats, a different crane position, or ground improvement — do not proceed on a warning sticker.

**08****Risk assessment (L × S)**

Score Likelihood 1–5 and Severity 1–5. Residual risk after controls must be ALARP. High residuals require a design change, not a longer warning.

| #  | Hazard                                       | L | S | L×S | Controls | Res. | Owner |
|----|----------------------------------------------|---|---|-----|----------|------|-------|
| 1  | Overload / chart exceedance                  |   |   |     |          |      |       |
| 2  | Sling angle / overload of rigging            |   |   |     |          |      |       |
| 3  | Ground bearing failure / crane punch-through |   |   |     |          |      |       |
| 4  | Load shift / unstable CoG                    |   |   |     |          |      |       |
| 5  | Collision with structure / overhead lines    |   |   |     |          |      |       |
| 6  | Dropped object / failed rigging              |   |   |     |          |      |       |
| 7  | Personnel in exclusion zone                  |   |   |     |          |      |       |
| 8  | Wind / weather                               |   |   |     |          |      |       |
| 9  | Communication failure                        |   |   |     |          |      |       |
| 10 | Blind lift / loss of sight line              |   |   |     |          |      |       |
| 11 | Simultaneous operations (SIMOPS)             |   |   |     |          |      |       |
| 12 | Emergency stop / recovery                    |   |   |     |          |      |       |

**09****Method statement**

Write the operation as a sequence a crew can brief from. One action per row. Include the hold points from Section 01.

| Step | Phase     | Action / standard                                                     | Responsible |
|------|-----------|-----------------------------------------------------------------------|-------------|
| 1    | Pre-lift  | Confirm this revision is the issued plan. Withdraw superseded copies. |             |
| 2    | Pre-lift  | Inspect crane, ground, mats, overhead clearance, exclusion zone.      |             |
| 3    | Pre-lift  | Inspect and identify every rigging item against the register.         |             |
| 4    | Pre-lift  | Toolbox talk. Confirm stop-work authority and comms protocol.         |             |
| 5    | Pre-lift  | Trial lift to confirm CoG, sling take-up and crane duty.              |             |
| 6    | Lift      | Raise clear of supports. Pause. Recheck radius, list, tag lines.      |             |
| 7    | Transit   | Move on the planned path only. No unplanned slew.                     |             |
| 8    | Set-down  | Land on prepared supports. Confirm stability before slack.            |             |
| 9    | De-rig    | Slack, disconnect, clear exclusion zone, close permit.                |             |
| 10   | Close-out | Record as-built notes. Return signed plan to the file.                |             |

**Weather / stop-work criteria**

|                               |  |                       |                                   |
|-------------------------------|--|-----------------------|-----------------------------------|
| Max mean wind at boom height  |  | Max gust              |                                   |
| Lightning / visibility / rain |  | Who can stop the lift | Any person on the lift — write it |

**10****Roles, comms and emergency**

| Role                  | Name / ticket | Duty on this lift |
|-----------------------|---------------|-------------------|
| Appointed Person      |               |                   |
| Lift Supervisor       |               |                   |
| Crane operator — main |               |                   |
| Crane operator — tail |               |                   |
| Slinger / rigger      |               |                   |
| Slinger / rigger      |               |                   |
| Banksman / signaller  |               |                   |
| Client representative |               |                   |

|                         |                              |                         |  |
|-------------------------|------------------------------|-------------------------|--|
| Primary comms           | Radio channel / hand signals | Backup comms            |  |
| Language of the lift    |                              | Emergency muster        |  |
| First aid / ERT contact |                              | Nearest trauma facility |  |

**11****Approvals and references**

| <b>Appointed Person</b> | <b>Lift Supervisor</b> | <b>Client / permit holder</b> |
|-------------------------|------------------------|-------------------------------|
| Name:                   | Name:                  | Name:                         |
| Competency / cert no.:  | Ticket:                | Role:                         |
| Signature:              | Signature:             | Signature:                    |
| Date:                   | Date:                  | Date:                         |

**Drawings and attachments**

| <b>Ref</b> | <b>Document</b>           | <b>Number / rev</b> |
|------------|---------------------------|---------------------|
| 01         | GA / vendor drawing       |                     |
| 02         | Site plan / reach overlay |                     |
| 03         | Rigging sketch            |                     |
| 04         | Load chart extract        |                     |
| 05         | Ground / pad design       |                     |
| 06         | Weigh ticket / CoG calc   |                     |
| 07         | Rigging certificates      |                     |
| 08         | Permit / isolation        |                     |

1. Duplicate this file. Rename it with a plan number. Never overwrite the blank master.
2. Fill every field that applies. Write N/A where a field does not apply — do not leave silent blanks on a safety document.
3. Attach sketches and charts. A plan without a reach diagram and a rigging sketch is not finished.
4. Have a competent Appointed Person calculate, review and sign. If you are not that person, stop here and send the brief to one.
5. Brief the crew from the signed revision. Withdraw old revisions.

**JMR can take this from template to a signed plan**

Send the load, the site constraints and the target date. You receive a preliminary crane selection and red flags within 48 hours, free of charge. The engineered plan is authored and signed by Muthuraj Jeyabal, LEEA Certified Appointed Person (cert 8234-13608-8667-27-1).

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