

Manual Section 7	Issue Date 11/15/10	Revision Date 01/01/24	Policy Number LLCP-105
<b>Rigging</b>			

### **Purpose**

Rigging operations are one of the most dangerous operations in the industry. Working unsafely around heavy equipment can lead to a serious incident and/or injuries. These operations can occur in an onshore or offshore environment where the potential exist for extended response times for medical attention. This policy provides guidance and a minimum set of expectations for riggers performing rigging related activities. All Riggers and Operators shall be trained in safe work standards.

### **Scope**

All LLC Companies including, Blanchard Industrial, LLC, GIS Engineering, LLC, Grand Isle Shipyard, Inc., and GWIS, Mack Steel, NuWave, Sun Industries, Valvemax, Discovery Industries, Inc.; hereafter identified as “Company”.

### **General**

Rigging equipment for material handling shall be inspected prior to use on each shift and as necessary during its use to ensure that it is safe.

Defective rigging equipment shall be removed from service. Rigging equipment shall not be loaded in excess of its recommended safe working load, as prescribed in CFR 1926.251

Rigging equipment, when not in use, shall be removed from the immediate work area so as not to present a hazard to employees. Special custom design grabs, hooks, clamps, or other lifting accessories, for such units as modular panels, prefabricated structures and similar materials, shall be marked to indicate the safe working loads and shall be proof-tested prior to use to 125 percent of their rated load. Taglines shall be used unless their use creates an unsafe condition. All employees shall be kept clear of loads about to be lifted and loads that are suspended. Never rig from process lines without operations and engineering approval. Never rig from electrical conduit. The safe working loads of rigging shall be based on a 5 to 1 safety factor. Any rigging components used for hoisting personnel shall be based on a 10 to 1 safety factor.

### **ACRONYMS**

ALARP – As Low as Reasonably Practicable  
 API RP – American Petroleum Institute Recommended Practice  
 ANSI – American National Standards Institute  
 JSEA – Job Safety & Environmental Analysis  
 MSDS – Material Safety Data Sheet  
 PFD – Personal Floatation Device  
 PPE – Personal Protective Equipment  
 WLL – Working Load Limit

### **RESPONSIBILITIES**

#### **Rigger’s Responsibilities**

- As a rigger, you are required to follow the guidelines and procedures established in this policy. In the event of a conflict between this policy and a client’s safety program, the more stringent rule shall apply.
- You have the responsibility to take reasonable care of your own safety and that of other people who may be affected by your conduct at work.
- All employees have the responsibility to stop any work that does not comply with this policy.

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### **Supervisor and Captain's Responsibilities**

- Ensure the vessel's stability for all cargo placed upon its deck.
- Participate, by radio, in pre-lift meetings and risk assessments.
- Make sure that the cargo is properly positioned and secured before leaving the dock or offshore facility.
- Ensure that all personnel (Company and third party) participating in rigging operations on the vessel wear proper work clothes and PPE.
- Stop any lift operation to or from the vessel that is deemed unsafe.
- Maintain communication with the lift team during lifting operations via hand signals and radio.

### **Management's Responsibilities**

- Ensure employees are aware of the contents in this policy.
- Provide employees with the necessary tools to conduct rigging related activities safely.
- Support employees with the ability to use Stop Work Authority.

### **TRAINING**

Training is required to ensure competence with the required job skills. Any person involved in any rigging operation, must be trained to conduct that operation. Minimal training requirements include:

- Successful completion of a rigger-training course, which at a minimum meets the Client's requirements (i.e. API RP-2D (latest edition) standards), to include the familiarization with rigging, hardware, slings and safety issues associated with rigging, lifting loads and lift planning. Training will include classroom, hands-on training and exams. Hands-on will include proper inspection, use, selection and maintenance of loose gear (slings, shackles, hooks, etc.).
- Successful completion of a rigger-training refresher course, which at a minimum meets the client's requirements.

All employees who perform rigging activities must have documentation verifying successful completion of the above training requirements.

### **ASSESSING RISKS**

Using proper planning techniques prior to beginning any job identifies hazards associated with the operation and implements the appropriate safeguards to reduce the operating risk and the potential for safety, health and environmental incidents and liabilities.

### **Pre-Job Safety Meetings**

Before a new job or in the event of a significant operational change, the person in charge must hold a pre-job safety meeting to discuss job planning, job assignments, the completion of a JSEA, and any unique or unusual project hazards. Everyone involved in the job task must be involved in this meeting. If shift change occurs or another crewmember joins the job, another safety meeting must take place. Pre-job safety meetings for rigging operations include:

### **Pre-Job Safety Checklist**

This is a safety checklist that asks very important questions in relation to the job task.

- Do you have the right equipment for the job?
- Do all personnel understand how to safely do the job?
- Are the proper safety procedures to do the job in place?

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### **Rigger Checklist**

This checklist is used in addition to the checklist above. It assists with rigging related inspections such as checking to ensure:

- Slings, shackles, taglines are appropriate.
- Spacing is adequate.
- Exclusion Zone has been established and extent of the Zone includes deflected falling objects.
- SDS is available.
- Equipment is loaded appropriately.

### **JSEA (Job Safety & Environmental Analysis)**

The JSEA process is used to determine the hazards of, and safe procedures for, each step of the job. A specific job or work assignment is separated into a series of relatively simple steps; the hazards associated with each step are identified; and solutions are developed to control each hazard. Each JSEA must assess each aspect of the task and identify items that could pose a threat to the environment or result in injury to personnel or damage to equipment.

Jobs and job conditions can vary from one day to another. Many factors such as weather, time of day and sea state can present additional hazards not found on the baseline JSEA. JSEAs must be reviewed with additional information, hazards and solutions documented on the form. In the event new personnel arrive at the site after the job or activities have begun, those personnel must review the JSEA before beginning work. JSEAs must be kept on file for auditing purposes.

### **JSEAs with Rigs / Facilities**

Rigging activities involve not only the riggers at job sites or onboard vessels, but they also involve crane operators and other employees of the rig or land based facility. It is of the utmost importance, that the planning techniques and hazard assessments involve everyone with any relation to the job task. It is expected to have everyone involved in the task and the crane operator participates in the JSEA process. During these meetings, it is important to determine the total scope of the job and where to place equipment so equipment does not need to be moved more than once. These JSEAs are encouraged to be conducted at the job site if possible.

### **Lift Plans / Inspections**

No rigger should engage in loading or offloading unless the entire rigging team has been included in the crane pre-lift plan. The rated load of the crane shall be plainly marked on each side of the crane, and if the crane has more than one hoisting unit, each hoist shall have its rated load marked on it or its load block and this marking shall be clearly legible from the ground or floor. The rated load marking on a hoist must be located and arranged so that it is evident to the personnel responsible for the safe operation of the hoisting unit.

Monthly inspection records shall be made and kept on critical items in use such as brakes, crane hooks, and ropes.

Written reports shall be made and maintained on rated load tests showing the test procedures and confirming the adequacy of any repairs or alterations.

A CO2 or dry chemical fire extinguisher shall be kept in the crane cab or vicinity of the crane.

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The preventive maintenance program based upon the crane manufacturer's recommendations shall be maintained. Placement of Warning or "Out of Order" signs on the crane shall be placed on or near the crane during maintenance.

### **Safety Data Sheet (SDS)**

SDSs provide information on manufacturer, chemical ingredients, hazards, storage, first aid measures, and PPE. If rigging operations include the moving of hazardous substances, copies of SDSs for all hazardous substances to which employees may be exposed **MUST** be available to all employees at all times. If any SDS is not available, the job shall not commence until the SDS is present.

### **PPE**

Appropriate PPE must be used at all times during rigging operations. ANSI approved hard hats, ANSI approved protective eyewear, ANSI approved foot protection (steel toe shoes or boots), long pants, sleeved shirts and gloves are the minimum required basic PPE. Additional PPE such as PFDs are required while rigging offshore.

### **WEATHER CONDITIONS**

Weather conditions can create additional hazards such as slippery surfaces, difficulty balancing and unstable loads. Wind speed/gusty conditions, etc. can reduce the lifting capacity of the crane and endanger the crew. Before rigging operations start, the supervisor should verify weather conditions to ensure the most up to date information is provided.

In severe weather conditions, there is the added possibility of the cargo breaking loose, which can be very hazardous to the crew when they try and re-secure it on pitching, and heaving surfaces. There is the obvious risk of them being trapped and crushed between loads.

Consider the use of additional or stronger lashings to compensate for rough weather. Cargo binding should always be done with worst-case scenarios in mind. **ALWAYS**, take weather conditions in consideration when conducting pre-job risk assessments and **REMEMBER**, you have the right to stop the job if you feel unsafe.

### **ELECTRICAL EQUIPMENT AND LINES**

Electrocution due to contact with power lines is the leading cause of crane related fatalities. Detailed federal regulations for proximity to high voltage sources must be strictly enforced. Any potential danger should be pointed out to the crane operator or a supervisor-but never touch the crane at this time. Each employee shall be protected from hazards that might arise from equipment contact with the energized lines. The measures used shall ensure that employees will not be exposed to hazardous differences in potential. Unless the employer can demonstrate that the methods in use protect each employee from the hazards that might arise if the equipment contacts the energized line.

Electrical equipment shall be so located or enclosed that live parts will not be exposed to accidental contact under normal operating conditions.

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## **STOP WORK AUTHORITY**

It is the policy of the Company that:

- All employees and its contractors have the authority and obligation to stop any task or operation where concerns or questions regarding the control of HSE risk exist.
- No work will resume until all stop work issues and concerns have been adequately addressed.
- Any form of retribution or intimidation directed at any individual or company for exercising their authority as outlined in this program will not be tolerated.

## **EQUIPMENT AND INSPECTIONS**

Rigging equipment should only be used for the specific purpose for which it is designed and should not be adapted for any other purpose. All items associated with rigging, must be examined prior to each use on each shift, and as necessary during its use, to ensure that they are safe to carry out the task at hand. Rigging equipment not in use should be removed from the immediate work area so as not to present a hazard to employees.

Monthly inspection must be conducted & records must be kept of all hooks for deformation or cracks.

The certification records must include:

- Date of inspection.
- Signature of person performing inspection.
- The serial number of other identifier of hook inspected.

Should any item fail its visual examination, it must be withdrawn from service immediately and reported to the supervisor. Never attempt to repair any item of lifting gear or equipment. Hooks, chains or rigging fittings shall not be cut, heated or welded. The use of field modified or noncertified lifting and hoisting equipment is prohibited. Field modified or non-certified lifting equipment must be removed from service immediately and reported to your supervisor. Rigging equipment shall not be loaded beyond its recommended safe working load. Identification markings, indicating rated capacity for the type(s) of hitch(es) used, the angle upon which it is based, and the number of legs if more than one, shall be permanently affixed to the rigging.

All lifting gear must be inspected monthly for availability and serviceability with documentation reflecting the date of inspection, name of inspector, findings and corrections.

All lifting gear which has been idle for a period of a month or more due to shut down or storage of a crane on which it is installed shall be given a thorough inspection before it is used. This inspection shall be for all types of deterioration and shall be performed by an appointed or authorized person whose approval shall be required for further use of the rope.

Employers must make a monthly inspection & keep a record of hoist chains (including end connections) for:

- Excessive wear,
- Twist,
- Distorted links interfering with proper function, and
- Stretch beyond manufacturer's recommendation. The certification records must include:
  - Date of inspection,
  - Signature of person performing inspection
  - Identifier of chain inspected.

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## SLING GUIDELINES

- All slings are required to be certified and labeled with sling tags. Each sling shall be inspected before being used. Each sling, fastenings, and all attachments shall be inspected by a designated competent person. Wire rope sling tags are typically attached with small wire and synthetic tags are sewn directly to the sling. Tags should include:
  - Manufacturer's name
  - Serial #
  - WLL
  - Date of last inspection
- Do not use a sling if the identification tag is missing. Tag it, render the sling unusable and put it on the side until it can be re-inspected and re-tagged by an approved inspection company.
- Slings that are damaged or defective shall not be used.
- Slings shall not be shortened with knots or other similar means.
- Sling legs shall not be kinked.
- Slings shall not be loaded in excess of their rated capacity.
- Slings shall be securely attached to their loads.
- Slings or other lifting devices should be properly seated in the hook saddle before lifting load.
- Slings shall be padded or protected from the sharp edges of their loads.
- Shock loading of slings is prohibited.
- Hands or fingers shall not be placed between the sling and its load while the slings are being tightened around the load.
- A sling shall not be pulled from under a load when the load is resting on the sling.
- Avoid trapping of slings between the load and the floor. This will cause damage to the sling.
- Synthetic slings shall not be used where fumes, vapors, sprays, mists, or liquids of acids or other harmful chemicals are present.
- Never allow wire rope to lie on the ground. It should be stored in a covered area and well lubricated.
- Slings shall be padded or protected from the sharp edges of their loads.
- Whenever any sling is used specific safety practices shall be observed.

## SLING PRE-USE INSPECTIONS (Wire Rope Slings)

Take wire rope slings out of service if you notice any of the following:

- Ten randomly distributed broken wires in one rope lay, or five broken wires in one strand of one rope lay.
- Wear or scraping of 1/3 of the original diameter of outside individual wires.
- Evidence of kinking, crushing, bird caging, or any other damage that results in distortion of the wire rope structure.
- Evidence of heat damage.
- Cracked, deformed or corroded wire rope end attachments.
- Missing identification tag.
- If in doubt, take it out!

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### **SLING PRE-USE INSPECTIONS (Synthetic Slings)**

- Synthetic slings are weakened by prolonged exposure to sunlight, arc welding, high heat temperatures and ultraviolet light.
- Take slings out of service if you notice any of the following:
  - Worn or distorted end fittings.
  - Any cuts, punctures, snags or tears.
  - Frayed material.
  - Broken or worn stitches.
  - Evidence of melting or charring of any part of the sling surface.
  - Evidence of acid or caustic burns.
  - The warning thread (usually red) becomes visible.
  - Missing identification tag.
  - If in doubt, take it out!

### **SLING STORAGE**

Do not store slings on the deck or ground. Slings should be stored in a well-ventilated area and maintained to minimize damage.

### **CHAIN**

- Only alloy grade 80 is allowed.
- Visual check each chain for distortion of the links, wear between chain links or heat damage.
- Chain not meeting inspection must be removed from service.
- Never weld or expose chain to temperature in excess of 600°F.
- Chains must not be used for lifting, in an offshore environment.

### **SHACKLES**

- Shackles should be suitable to the load being lifted allowing for any increased loading due to sling angles.
- Never allow a shackle to be pulled at an angle because the capacity will be tremendously reduced.
- Use only safety pin shackles (allows pins to be secured to prevent inadvertent loosening or “backing off”). Secure shackle pins to prevent them from being unscrewed while under a load.
- Ensure the correct pin for the shackle. Never replace the shackle pin with a bolt, as it will not be as strong as the proper pin that is manufactured from a high-grade material. Only the proper fitted pin shall be used.
- Never use a shackle when the rated load is not stamped on it.
- Check alignment of pins holes and ensure the pin fits correctly.
- Is the WLL adequate for the load? (Never exceed the manufacturer’s WLL)
- Shackles are sized by the diameter of the steel in the bow section rather than the pin size.
- All pins must be straight and all screw pins must be completely seated.
- Only shackles made to United States federal specs are allowed. Foreign made shackles are not made from high quality material and must be removed from service.



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Before making a lift, visually inspect shackles used in lifting. Take shackles out of service if you notice any of the following:

- The shackle eyes are sprung open.
- The pin is not straight.
- The shackle is not American made.
- The shackle is worn in the crown or the pin by more than 10% of the original diameter.
- The shackle does not have a safety pin.
- Evidence of wear, deformation or cracking on pin threads.
- The rated load is not stamped on the shackle.
- The body of the shackle has deformation and cracking or wears in the crown and pin holes.
- If in doubt, take it out!

### **LIFTING HOOKS**

- Visually inspect hooks for cracks, corrosion, bending, twisting, wear, general damage, and missing or corroded pins and bolts. Do not use hooks with these findings.
- Lifting hooks must have approved functional retaining latches, of a type that can be closed and locked, eliminating the hook throat opening.
- Hooks sprung open more than 15% and bent more than 10° from an unbent plane are not to be used.
- Rated capacity must be stamped on the hook.
- Inspect hooks on regular intervals.

### **LIFTING CLAMPS**

Prior to the selection, operation, and/or maintenance of lifting clamps, the employee shall read and understand the information provided in the manufacturer's operations manual. A copy of the operator's manual covering application, operation, and maintenance is shipped with each clamp.

All lifting clamps shall be used in accordance with manufacturer's requirements.

A clamp shall not be used to lift material greater than the rated load capacity or rated jaw range for that clamp. The model designation, capacity and plate thickness is stenciled on each clamp.

- Never overload a clamp.
- Do not use a clamp it is not properly labeled or if the stenciling is illegible.
- Do not alter, grind, modify, or weld a clamp.
- A visual inspection of each clamp shall be done before each use.
- Use the appropriate number of clamps to balance a load.
- Never lift a load over personnel using lifting clamps.
- Clamps shall not be used to pull plate or lift plate from the bottom of plate stacks.
- Never side-load a lifting clamp. Always use the proper alignment required for their use.
- No more than one plate shall be lifted at a time when lifting with a vertical clamp.
- Never attach a crane hook directly to the clamp; always use a sling between the crane hook and clamp.



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- Horizontal clamps shall not be used to lift material vertically.
- Horizontal lifting clamps are to be used in pairs, sets of pairs, or in a tripod arrangement for transporting steel plate horizontally.
- Never use horizontal lifting clamps on plates, as bundles of plate are not able to support them without sagging.
- Under no rigging arrangement shall the load exceed over half the rated capacity of the rigging arrangement when using horizontal lifting clamps.
- Lifting clamps shall be removed only after the load is fully supported and at rest in a stable position.

### **PAD EYES**

- Visually inspect pad eyes before making a lift by checking them for evidence of bending, crushing, bulges, burrs, or other deformities. They should also be checked for cracks, excessive rust, wrinkled paint, and indications that the pad eye has been modified.
- Flame-cut pad eyes are prohibited.
- Make sure all pad eyeholes are cleanly cut and do not have torn or ragged edges.

### **CARGO BASKETS / BINS / CONTAINERS**

- Check that the inspection / test plate is up to date and there is ample certification remaining to allow a round trip.
- Ensure the overall structure is sound and there are no signs of mechanical damage. Any signs of damage must be reported immediately.
- Check the function of the door locking mechanism and ensure the doors close and lock without having to apply undue force (containers).
- Check that the lifting set is of the correct length for the size of the container.
- Ensure the slings are correct (no twist in the legs) and are of adequate WLL.
- Loose items should be placed in cargo baskets to make loading and offloading more safe and efficient.
- NEVER climb into a cargo basket.
- Cargo baskets and/or any piece of equipment shall be disconnected from the crane prior to any rigger placing his/her hand on it.

**REMEMBER: No working load limit or identification number, DO NOT USE!**

### **COMMUNICATIONS**

Communications is about letting everyone know in advance, what is happening with regards to cargo movements, to allow them to make any special arrangements. It is also about issuing specific instructions where required, to ensure the cargo is handled in the safest possible manner.

Under normal circumstances, there will be only one person nominated to give signals to the crane operator. He must be in full view of (or in radio communication with) the crane operator at all times. There may be instances with certain types of lifts where two signalers are required.

One should be appointed as senior signaler and remain in sight of the crane operator at all times (radio communication is recommended). Each time the signaler moves, he should re-establish communications.

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The signaler, the vessel and the crane operator should establish a working radio channel when lifting off of a boat.

A signal person must be provided in each of the following situations:

- The load travel or the area near or at load placement is not in full view of the operator.
- When the equipment is traveling, the view in the direction of travel is obstructed.
- The operator or person handling the load determines a signal person is necessary due to site specific safety concerns.

Should a third party or a breakdown altogether interrupt communications, all operations must cease immediately and shall not resume until communications have been re-established.

Radio communication must be established between the crane operator, the vessel, and the signaler prior to lifting. Radio Communications devices shall be tested by all parties involved, prior to the lift beginning. Signals to operators must use the hand, voice, audible method.

Means of transmitting the signals (direct line of sight, radio, etc.) must be suitable and appropriate for the site conditions.

Each signal person must:

- Know and understand the type(s) of signals used;
- Be competent in the application of the type of signals used;
- Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads;
- Demonstrate that he/she meets the qualification requirements through an oral or written test, and through a practical test.

**Any person observing a hazardous situation developing during a lifting operation can give the EMERGENCY STOP signal.**

## **CARGO HANDLING**

Prior to carrying out any lifting operation, certain precautions shall be taken:

- Examine cargo and refuse to attach or lift any load judged to be unsafe.
- Prior to a load being lifted, all slings and associated equipment should be checked for security and balance.
- Do not stand below loads. All employees shall be kept clear of loads about to be lifted and of suspended loads. Employees shall give themselves approximately 15 to 20 feet of clearance from the load until the load is waist height. Ensure that the load does not pass over personnel, and personnel do not walk under suspended loads.
- Keep clear of rigging as slack is taken up. Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load. **BEWARE** of pinch points!
- Ensure a clear & effective communication system is employed & understood by all personnel involved with the lifting operation.

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- Ensure the lifting equipment is certified for current use.
- Never place slings under a pallet to use as a lifting device. Pallets are not weight rated nor certified to be used for lifting. In cases where items are too heavy to be placed into cargo baskets or where other injuries can occur due to moving equipment or supplies, certified pallet forks must be used.
- Ensure the appropriate rigging for the lift is correctly installed and shackle bolts are, tight & adequately secured.
- Do not climb on containers or stacked materials. Riggers should be able to hook/unhook cargo while standing on the ground unless other approved means have been agreed upon.
- Never stand between loads and walls.
- ALWAYS have an escape route. Never trap yourself. Never take your eyes off the lift, until it has cleared the deck and no longer poses a danger to you.
- Ensure taglines are used appropriately.
- Should any doubt exist concerning the stability or security of any load, use SWA.

### CONNECTIONS

- Always position the hook directly over the center of gravity.
- Each leg must support the weight of the entire load.
- The weight of the load must be verified before the load is lifted.
- Lower the load and reconnect if the load tilts more than 5° off level.
- Always clear personnel from the area and retreat to a safe area after the load has been lifted.
- If the load is a substantial height, ladders may be required to allow the deck crew access to hook up the rigging when offloading.
- When placing two sling legs in a hook, make sure the angle between the two sling legs does not exceed 90 degrees.
- No more than two sling eyes shall be attached directly on any one hook. A shackle must be used when attaching more than two slings to a hook.
- Use a multi-leg sling if possible, rather than a combination of single slings.
- Do not lift loads with one leg of a multi-leg sling until the unused legs are secured.
- Before making a lift, check to see that the slings are properly attached to the load and not twisted or knotted. Faulty hook-ups, tip-loading of hooks, slipping or unbalanced loads and/or lifting with twisted or knotted slings can impose loads in excess of the rated capacity of the slings.
- Cargo baskets and/or any piece of equipment shall be disconnected from the crane prior to any rigger placing his/her hand on it.
- **Always imagine that rigging or slings can fail, visualize where the load will end up and make sure neither you nor anyone else is in the way!**

### SLING ANGLES

- When using slings in pairs, you must always be aware of the increased loadings in the slings when lifting at an angle.
- When lifting with multi-leg slings, they are rated at a certain WLL from 0 to 90 degrees and the WLL must NOT be exceeded.
- Never use less than a 45-degree sling angle.

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**Vertical** - When a sling is used in a vertical hitch, the full lifting capacity of the sling material can be utilized.

**Choker** - Due to the stress created at the choke point, slings rigged with this hitch achieve only about 75% of their potential capacity. Always pull a choker hitch tight *before* a lift is made - *never* during the lift.

**Basket Hitch (90°)** - The cradle configuration of this hitch allows the two extending ends (legs) of the sling to function as if they were two separate slings. The capacity of the sling in this hitch is twice that of the same sling in a vertical hitch, but only if the sling angle of each leg is 90-degrees.

**Basket Hitch (less than 90°)** - When slings or sling legs are used at an angle during a lift, the sling capacity is reduced. How much it is reduced depends on the sling angle. Note that the stress on the slings of a 45- degree is more than that of a 90-degree basket. Sling angles below 45 degrees are not allowed. A sling angle of 60-degrees or more is preferred.

## TAG LINES

Keep hands off of suspended loads. Tag lines are commonly used in the offshore industry, but can present serious hazards (i.e. becoming entangled in the tagline and being lifting off the deck).

Tag lines should be used on all off-board lifts to assist in controlling the load when landing, unless their use creates an unsafe condition. The below list shall be used as guidance:

- Taglines must be of such length that allows the rigger to work in a safe position well clear of the immediate vicinity of the load. (Best practices should include rope ¼ inch, extending 15 to 20 feet from the load)
- Taglines should always be connected to the load, not the rigging.
- Apart from the knot attaching the line to the cargo, there must be no other joints or knots in the line.
- Riggers must be aware of their surroundings and tagline location at all times to prevent entanglement.
- All sections of the line, including slack, must be kept in front of the body, between the handler and the load.
- Taglines can get snagged on handrails or wrapped around body parts as the crane is hoisting. Keep a firm grip on the tagline, but NEVER wrap it around any body part!
- Taglines must be held in such a manner that they can be quickly and totally released.
- Taglines should be attached before the load is lifted.
- The person holding the tagline must never be positioned between a suspended load and a stationary object.
- Use two taglines on large loads by placing one line at each end of the load.
- Where two or more persons are handling the same line, ALL must work on the same side of the line. Any slack must be kept in front of the group.
- Taglines must not be secured or attached in any manner to adjacent structures or equipment.
- Once the lift is secured for lifting, back away from the load to a distance greater than the length of the tagline.

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### **LOAD BINDERS**

- Only safety binders or ratchet type binders are allowed. Full swing binders are prohibited.
- Always consider the safety of nearby workers, as well as yourself, when using a load binder.
- Always maintain a good grip.
- Always conduct a thorough risk assessment before the job task.
- Always inspect the binder before use and remove any worn, cracked, or defective equipment from service. Defective equipment must be taken out of service and replaced.
- Always be aware of cargo movement while binding or unbinding equipment; loads can shift while attempting to bind equipment and cause serious injury.
- Never operate a binder while standing on a load or unsteady surface.

### **LEVER-TYPE SAFETY BINDERS**

- Ensure footing is appropriate and be cautious around slippery surfaces.
- Always keep yourself out of the path of the moving handle and/or binder bar. Stored energy inside the binder can cause serious injury if it whips back.
- Never use cheater pipes. Only approved binder bars are accepted when binding down a lever-type chain binder.
- While under tension, the chain binder must not bear against an object, as this will cause a side load.
- Always check handle position and ensure it is secured to prevent accidental release
- (i.e., wrap with chain or tie handle down with soft wire).

### **RATCHET BINDERS**

- Never use a binder bar on a ratchet binder. Ratchet binders have a 50:1 mechanical advantage vs. a 25:1 mechanical advantage of the lever-type binders and are designed to be tightened by hand only.
- Ensure proper maintenance of the ratchet binders. Failure to properly lubricate the binders will result in difficulty operating the equipment.

### **UNBINDING CARGO**

- Always stay clear of the handle when releasing a binder. Use a rope if available.
- Never use a binder bar over the handle to release a binder.
- Be cautious when unbinding equipment that has the potential to roll.
- Always be cautious when near unsecured cargo.

### **HAND AWARENESS and PINCH POINTS**

When handling cargo, employees should never attempt to place their hands on the cargo or attempt to remove any slings until the load has completely rested on the deck. An unstable working surface, due to weather conditions can cause equipment to shift and body parts to be smashed. Employees working with of handling equipment and cargo should utilize a heightened sense of awareness to hand placement, at all times. Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load. **BEWARE** of pinch points!

Manual Section 7	Issue Date 11/15/10	Revision Date 01/01/24	Policy Number LLCP-105
	<b>Rigging</b>		

### **INCIDENTS / PROBLEMS ENCOUNTERED**

All incidents, near misses, safety concerns, problems encountered, no matter how small, must be reported to the supervisor immediately and the job stopped. The job may not be resumed until the problem/incident has been assessed and corrective actions have been in place.

### **Company Sling Policy**

#### Pre-Slung Containers

- Slings must be certified yearly

#### Nylon Slings








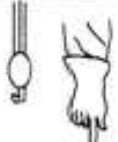
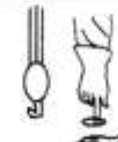











- Must be replaced yearly

#### Slings used on Company facilities

- Must be tagged
- Can be used for an indefinite period of time based upon a satisfactory Inspection

Any questions concerning this policy please contact the Corporate HSE Department.

## Crane Hand Signals

 Main Hoist	 Auxiliary Hoist	 Hoist Load	 Hoist Load Slowly	 Stop
 Raise Boom	 Raise Boom & Lower Load	 Lower Load	 Lower Load Slowly	 Emergency Stop
 Lower Boom	 Lower Boom & Raise Load	 Swing Boom	 Swing Boom Slowly	 Travel (mobile eqpt)
 Retract Boom 2 hands	 Retract Boom 1 hand	 Extend Boom 2 hands	 Extend Boom 1 hand	 Dog Everything