Maintenance Of Loading and Unloading Equipment To Support The Fair Of The Loading and Unloading Process In MV. Golden Destiny

Oktri anti Diani¹, Mega Nanda Ayu², & Arman Saputra³

¹Politeknik Transportasi Sungai Danau dan Penyeberangan Palembang
*email :

Abstract

Crane loading and unloading tool is a tool located in the middle of the ship which functions to lift cargo from the ship's hold, then transferred to the dock. Damage to ship cranes is a problem that often occurs in the loading and unloading process on bulk carrier ships that have cranes on the ship. Ship cranes function as one of the most important loading and unloading tools in the loading and unloading process. In order for the loading and unloading process to run smoothly, it is possible to determine the factors that cause damage to the ship's crane, how to prevent damage to the ship's crane, and prevent damage to the ship's crane. The method used by researchers to solve the problem is descriptive, qualitative method so that researchers can describe the results of the research obtained. Collecting data through documentation, observation and interviews. Researchers conducted direct observations on board the MV. Golden Destiny, researchers conducted interviews with the 1st officer and bosun. Researchers also took pictures to support the observation of research data. The results of the study show that the factors that greatly affect the non-fluency of the loading and unloading process are damage to the ship's crane such as the entanglement of the wire crane, the broken safety roller, the way to repair the damage to the ship's crane is to replace the damaged wire crane, as well as maintenance to prevent damage to the crane. Ship which can cause the loading and unloading process not smooth on the ship.

Keywords: Maintenance, loading and unloading, crane

1. Introduction

Loading and unloading activities using a ship crane is an activity where the cargo or cargo that is in the hold is taken using a crane that is connected to the grab through a chains block and moved to the dock or unloading port operated by a crane operator, loading and unloading activities are not always carried out at the dock but can also be done in the middle of the sea when anchorage with a standard and safe depth of about 50-80 meters, called STS (Ship to

¹Deputy of Direktor III Inland Waterways Journal Transport Polytechnic Of Palembang, email : yohan_wibisono@dephub.go.id
²Lecturer of Inland Waterways Journal Transport Polytechnic Of Palembang, email : mega_putri@dephub.go.id
³Alumni of Inland Waterways Journal Transport Polytechnic Of Palembang, email :
Ship) with barges attached to the left and right sides of the ship's Hull. In the concept of loading and unloading bulk carrier ship itself has a loading and unloading tools located on the deck of the ship or often called the crane ship, but not infrequently also at the time of loading or unloading crane ship often have problems or trouble that can hinder loading or unloading activities.

Researchers found various problems in the form of sudden damage to the crane loading and unloading equipment that is poorly maintained problems that are often encountered is during the loading and unloading process. Suddenly the wire crane is twisted so that the wire becomes bent or uneven and wire fibers arise and immediately perform maintenance with a new wire crane replacement. By replacing the wire, it can delay the loading and unloading process.

The second problem encountered by researchers is broken iron safety wire which results in wire jumping or shifting from safe roller because it is too forced to heave up by the operator when the wire is twisted and its treatment must be welded iron safety wire and can delay loading and unloading activities. and the last problem is the Chaine block can not rotate or difficult to rotate because of the lack of grease and the amount of rust and treatment with tapping to reduce rust and thumping lubricant.

The third problem is contained in the research vessel, so that the necessary maintenance of the crane loading and unloading equipment. With the routine maintenance on board the MV. Golden Destiny, also expected loading and unloading crane tool does not happen trouble and always in good condition and always ready to be used to optimize loading and unloading activities.

Based on the description of the background above, the authors conducted a study entitled “maintenance of loading and unloading equipment to support the smooth loading and unloading process on the MV. Golden Destiny”

2. Research Methodology

The type of research method used by the author in presenting the problem is descriptive qualitative, to describe and describe the object under study. As for what is meant by descriptive Moleong (2002: 6), here is the data collected in the form of words, pictures and not numbers. From the description above, it can be seen the important role of research methodology to provide information about what and how research is done for a researcher. With such a basis the author will describe the experience and knowledge gained during the ship at the time of sea practice.

3. Results and Discussion

As for the results of observations and interviews conducted by the author on the ship during the study, so it is related to the formulation of the problems discussed. In general, damage to ship crane components is one of them due to lack of maintenance both by the deck for external components or that can be seen from the outside which includes wire rope, safe roller, , chaine block, shackle, hook, and others, while the crane engine component is the responsibility of the engine department. sudden damage to crane components is a result arising from the lack of maintenance of each component of the loading and unloading equipment. In many cases, the author often encounters components from cranes that have never been replaced for a long time or for years due to lack of maintenance.
On the ship MV Golden Destiny unloading tool used is a crane with Type Mac Gregor.

![Figure 1. Ship Crane](image)

1. Factors that cause malfunctions in the loading and unloading of cranes on board the MV Golden destiny

   From the analysis, the authors need to discuss further about the causes of damage to the loading and unloading equipment with reference to the routine maintenance of the data that has been presented in the form of observation data conducted on the ship MV. Golden Destiny and interview data ABK on board by mualim 1 and bosun then efforts are made to overcome the factors that cause the crane loading and unloading does not function properly at the time of loading and unloading process activities, as for the factors that cause the:

   a) Internal factors

   Internal factors of the unloading equipment itself is less care and maintenance of the previous crew so that although the age of the ship is still not too old from the year of manufacture of the ship 2001 but the condition of the loading and unloading equipment often have problems or trouble, and also the absence of routine checks and schedules regularly and periodically it can accelerate the occurrence of damage to the loading and unloading equipment on board. Efforts that can be done by mualim 1 to overcome the problems posed is to make a schedule of maintenance and maintenance regularly and periodically in collaboration with bosun and other crew members and checking loading and unloading equipment before carrying out the loading and unloading process.

   b) External factors

   External factors factors where the cause is caused by nature, namely weather such as rain and sea water, and the heat of the sun which causes corrosion of the loading and unloading equipment on board.

Below are the things that are done for the care and maintenance of loading and unloading equipment:

1) Provision of grease to the wire rope crane hoisting, luffing and replacement of wire that has been damaged or that has arisen wire fibers so as not to endanger the process
of loading and unloading activities, and bearing and jib top arm.

2) Cleaning the cabin where the crane operator and the remaining oil spilled due to the process of adding crane oil.

3) Maintenance against Chaine block so that the rust that arises is lost and repainting and giving grease into the Chaine block for easy rotation.

4) Checking the Iron safety roller whether the iron is still sturdy or has corrosion and if it is not feasible or less strong, the Iron safety roller is replaced and if there is a fracture, welding is immediately done.

2. To find out the prevention and how to repair when trouble crane to increase the smoothness of the crane Road when loading and unloading on board the MV. Golden Destiny

Crane loading and unloading equipment repair activities when experiencing trouble, the ship's crew plays an important role in the repair process so that there is no delay in loading and unloading which can harm the ship and the charterer, so that when there is trouble the ship's crew must immediately carry out the repair process in accordance with the damage that occurred in a timely manner, but the author found the majority of deck crew have experience in terms of repair of loading and unloading equipment on board so that the repair process can be completed quickly and on time without disturbing the process loading and unloading activities.

As for ways to repair loading and unloading equipment when experiencing trouble, namely:

a) At the time of wire crane entangled if the wire crane is not severe or can be twisted back to its original shape, the wire crane sign can still be used, but if the wire crane is twisted or uneven and the fibers arise, the wire crane must be replaced.

b) The fracture of the safety wire iron that causes the wire to jump or shift from the safe roller because it is too forced to heave up by the operator when the wire is twisted, and for the repair process itself, namely by removing the safety wire iron then if the iron is only broken, it can be welded but if the iron is bent and not in accordance with the original shape, the crew must reshape it so that it can return to its original shape and immediately Weld.

c) Chain block can not rotate or difficult to rotate because of the lack of grease and the amount of rust to repair by passing the provision of grease on a regular basis before the loading and unloading process. And for a lot of rust greatly affect the movement of rotating chain block so that to reduce the rust can be done tapping or chipping and to reduce rust or corrosion then painted all parts of the Chaine block below is an example of the difference between Chaine block that has been repaired

4. Closing

a. Conclusions

1) Factors that cause malfunction or damage to the loading and unloading equipment on board the ship are internal factors caused by the lack of routine and periodic maintenance. Natural external factors, namely solar heat and rainwater that cause corrosion on the loading and unloading equipment cause the rapid deterioration of the equipment.

2) How to prevent and repair when the crane loading and unloading equipment
experiencing trouble by the ship's crew is to prevent that can be done to avoid trouble by checking and inspecting the crane loading and unloading equipment before the tool is used and repairing damage in accordance with which parts are damaged or trouble in a timely manner.

b. Suggestion

1) Actions to be taken to determine the factors causing the malfunction of the crane loading and unloading equipment, the chief officer should check before performing maintenance and the chief officer makes a maintenance plan that will be carried out so that the ship deck crew understands the maintenance that must be carried out in order to optimize the crane loading and unloading equipment.

2) Checking and maintenance of loading and unloading to be ready for use and reduce the risk of trouble loading and unloading crane that can hinder the smooth process of loading and unloading on the ship. All ship deck crews are expected to monitor maintenance and implement maintenance SOP on loading and unloading equipment, the need for improved maintenance by making routine and periodic maintenance schedules.

5. References


