INTEGRATED
Lifting Solutions

PO Box 1222 Bibra Lake WA 6963
17B Tayet Link Bibra Lake WA 6163
Tel: 0438 442 679
Email: admin@integratedls.com.au

CERTIFICATE OF PROOF TEST & EXAMINATION

CERTIFICATE NO.: ILS4355

DATE OF REPORT: 2/04/2024

CUSTOMER: Mount Gibson Iron Limited

CUSTOMER PO:

ADDRESS: 1/2 Kings Park Rd, West Pert WA 6005

DATE OF PROOF TEST: 2/04/2024

AS PER TEST SPECIFICATION: As Per Client Request

TEST EQUIPMENT USE: #DLM6832

LOCATION OF TESTING: Kwinana

DESCRIPTION: 1 x 6.4m3 Double Chain Self-Dumping Grab
Tare: 5.7t
Manufactured By: AGM

DISTINGUISHING MARKS: 479

WLL: 17.5t

EFFECTIVE LENGTH: NA

SURFACE FINISH: Painted Red

PROOF TEST LOAD APPLIED: 207.38kN

VISUAL EXAMINATION: Pass

COMMENTS:

The above test was performed by a competent person in accordance with the information provided and as per the requirements of the above referenced standard. A careful examination of each article tested has been carried out after the application of a proof load. Each of the articles was found to have withstood the load without sustaining damage that may affect its intended function or safety and is free from any deleterious permanent set or visible defects.

TESTED BY: Kirby Santos

SIGNED BY: Kirby Santos
(TESTING OFFICER)

SIGNATURE:

LEEA
Development Member

6.4 M3 TOUCH GRAB SPECIFICATIONS

Double Chain Self Dumping Grab

Tare Weight: 5,700KGS
Rated weight loaded: 17,500KGS

MECHANICAL OPERATION:

The Touch grab operates with a simple mechanical opening and closing system. The grab has four sheaves or pulleys inside the sliding block that travels between the top of the grab and the bucket. This sliding block is responsible for the closing of the jaws as it has a large hook that engages a pin connected to the bucket.

The touch grab is opened simply by touching the grab down onto the desired target area to open the jaws. The reason the jaws releases is because the Grab operates with a hook system inside the sliding block which is spring loaded. The hook has a counter weight on its other side. When the grab is touched down this allows the counter weight to remove the hook from the pin and releasing the jaws.

When the Grab is in the opened position, the sliding block and hook will travel up to the top of the grab. When the grab is lowered onto the product, the sliding block is lowered down so that the hook will engage the jaws and the operator can hoist the grab upward while the jaws begin to close again.

OH&S WHILE OPERATING CHAIN GRABS

- Do not stand/walk underneath Grabs while in operation. This applies to grabs moving over the ships deck or wharf
- When Grab is not in operation and connected to ships crane it should never be left hanging over the wharf or the ship's deck
- When closing the Grab on the wharf please keep a minimum 10 meters away in case grab rolls to one side.
- Do not service Grab unless it is stationary on the wharf and the crane driver is informed of your intentions
- When greasing Grab use a ladder when required.

CHAIN GRAB OPERATION SERVICING SCHEDULE

1. Initial Greasing

The Chain Grab has many Greasing nipples all over it which include;

- 8 x Main "A" frame pins
- 2 x Sheave nipples

These greasing points should all be greased before the vessel begins discharging and between the change of shifts with stevedores.

2. Initial Oil of the Grab

Chains: The first oiling of the chains should carried out when the stevedores have connected the grab to the ships crane and have opened the jaws and lowered the grab onto the wharf. The sliding block should be lowered down so that the chain will cover the sheaves and give easy access to spay with oil. The chains should be shinning in the light and dripping. If the chain is sprayed at the top it will drip down each link and so on until all are covered.

Sheaves: The sheaves require oil to be sprayed over them as the chain will roll over them during the opening and closing functions. This is a critical wear point for the chains. The sheaves should also roll as the chain travels over them. If not then the Bushes may require replacing. This problem does not effect the operation if used for a short period.

Springs: The springs are what give the chain grabs hook tension when opening/closing the grab. It is essential that the springs have adequate tension on them during the discharge. There should be 2-5mm gap between the coils in the springs. It is essential there is tension on the springs as this ensures the grab remains closed while being operated by the stevedores.

3. Afternoon Oiling of Chains

Chains: the afternoon oiling of the chain should be done in compliance with the stevedoring to reduce stoppages in their discharge. The chain needs to be completely covered in oil again to last during the nights discharge.

Greasing of nipples: Always take the grease gun down and pump grease into the 4 main hinges that receive the most operation.

- The Grab Pins & Sheaves require Greasing 1-2 times per day
- The Chain and Sheaves require Oiling 2 times per day.
- During each service a visual check on grab is also required

6.4 M3 TOUCH GRAB SETUP

Unloading Grabs From Trucks.

To unload the grabs from the Truck using Ships cranes please use the following steps:

1. Ensure the Truck has stopped along side the vessel directly above the ships crane.
2. Remove all lashings from the Grab.
3. Attach the two legged chains to the Grab Arms connected to the bucket. These should be attached between the hinge pins and the cross supports. (This will balance the grab perfectly when lifting Grab off the Truck. Please refer to photos attached)
4. Lay the Grab on the wharf while it is still on one side.
5. Remove the Grab chains from inside the grab bucket. The easiest way to achieve this is buy connecting the two legged lifting chains to the monkey face (the steel triangular separator attached to the end of the grabs chains)
6. Lay the Grabs chains on the wharf.
7. Remove the locking bars from inside the grab bucket with a large spanner. (This prevents the buckets from opening while being transported.)
8. Remove the two legged chains and attach the monkey face directly to the cranes hook.
9. Wire of the hook to prevent oblong ring from popping off ships hook.
10. Open the Grab up on the wharf by hoisting the chain and then proceed to oil the chains on the grab.

CHAIN GRAB OPERATION – TROUBLE SHOOTING

1. Chain Grab will not open

When this occurs there are 3 reasons.

(i) the locking bars are still in the grab and they need to be removed
(ii) there is too much tension on the springs and they require loosening
(iii) there is a mechanical problem and grab needs to be replaced

2. The Chain Grab is Opening up as it is coming out the hold

When this occurs there are 2 reasons

(i) The spring on the Grabs hook are too loose and require more tension. If the springs have lost their coil then they require replacing ASAP
(ii) The Grabs Hook may be blunt and therefore it is not locking onto the pin cleanly and is falling off as the crane driver is hoisting.

3. The Grab will not close in the Ships Hold

There is usually only 1 reason for this happening:

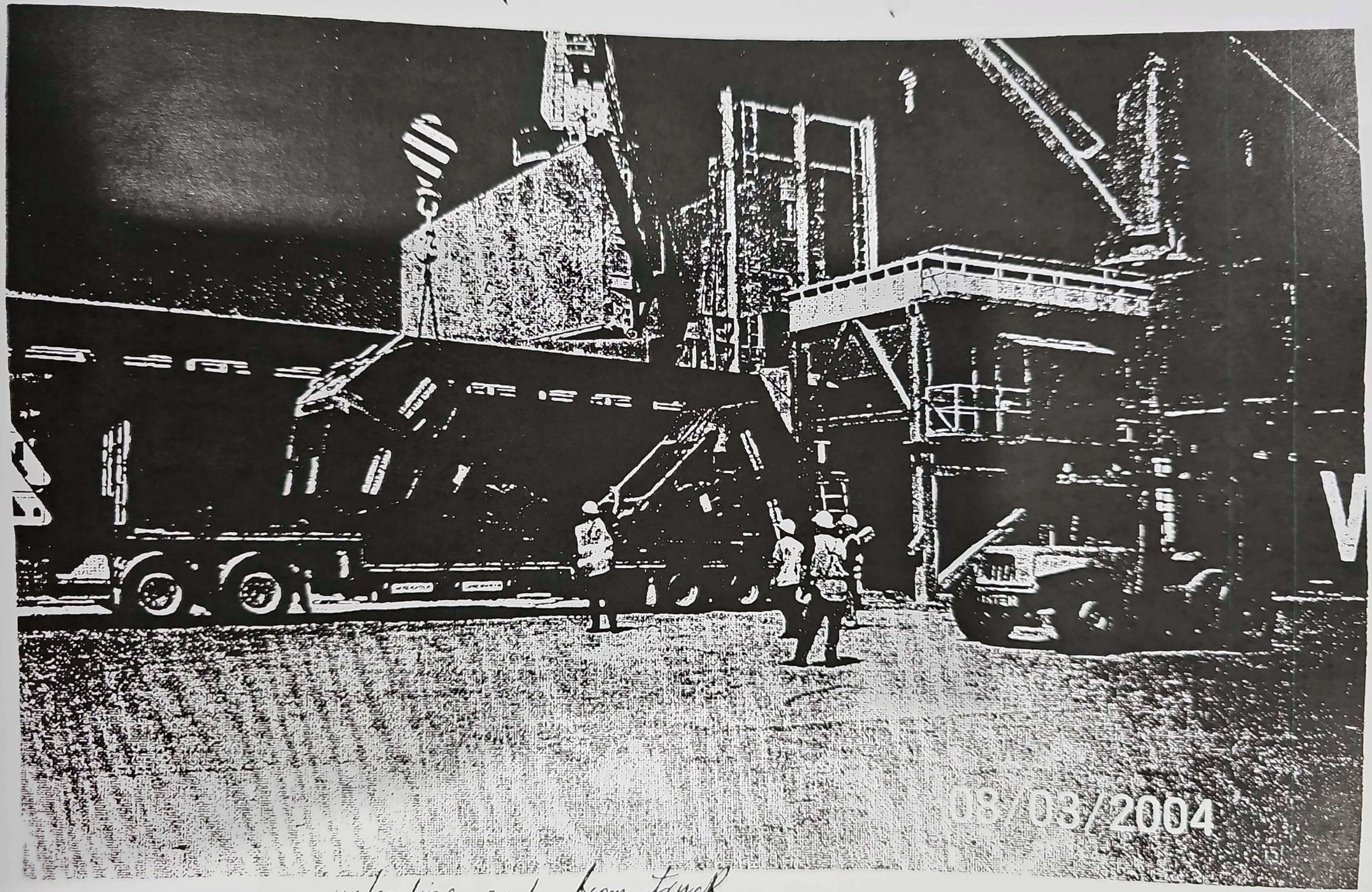
(i) The Grabs hook operates on a counter weight and if the crane drive tries to open the grab while on a hill of product then the counter weight will not lower and therefore the hook will not engage.

4. The Grab is over spilling

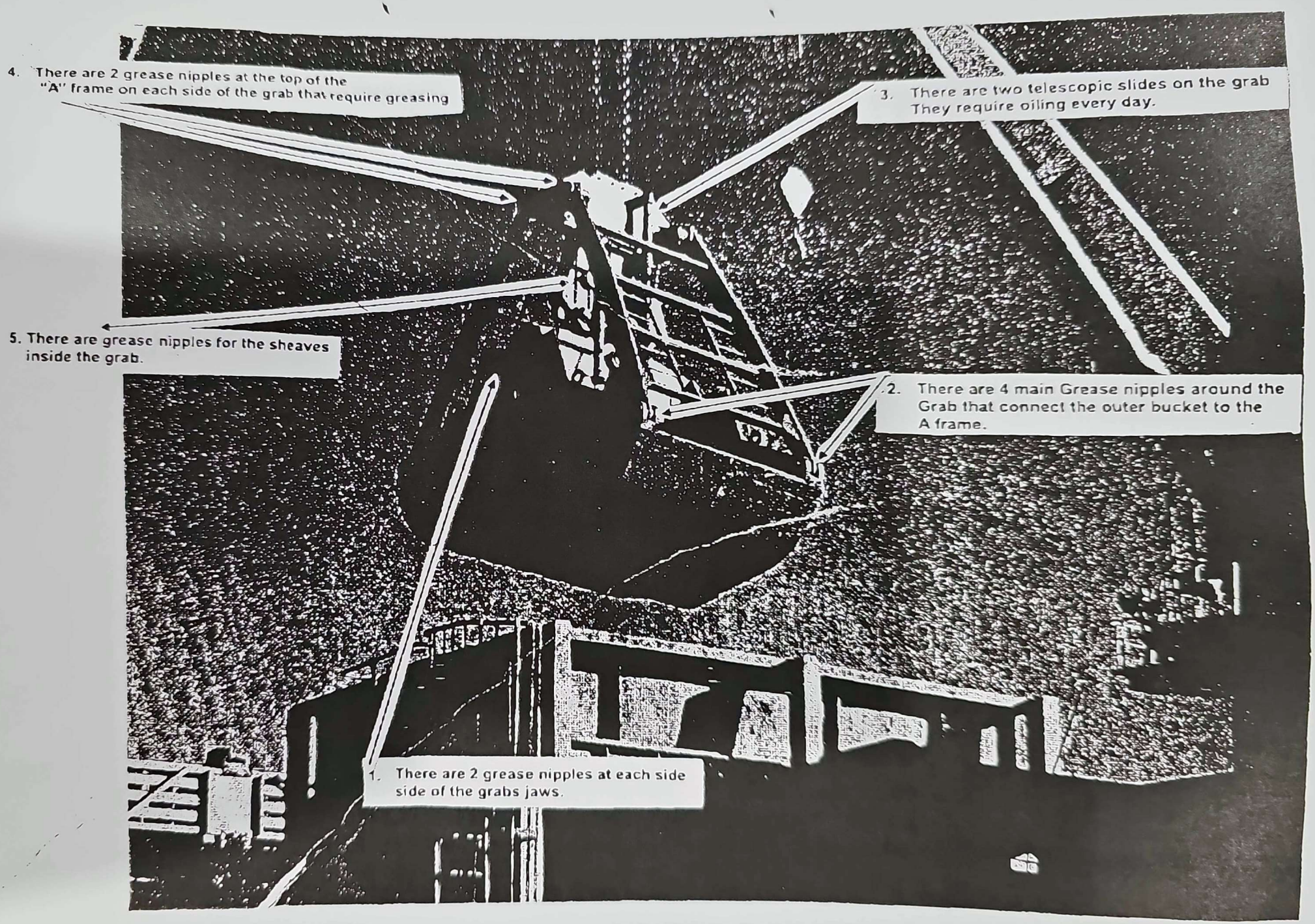
There are two reasons for this:

(i) The Grab is picking up way too much and the product is over spilling the sides. There is nothing that can be done.
(ii) The Grab is leaking product out its jaws. This means the inside plates have been damaged and the product is coming through the bottom corner of the jaws or the side of the jaws.

IN THE EVENT OF ONE OF THESE PROBLEMS OCCURRING PLEASE CONTACT BOB HANKINSON ON 0419941 317 OR DAVID ON 0409 660129.



unloading grabs from truck


4. There are 2 grease nipples at the top of the "A" frame on each side of the grab that require greasing
3. There are two telescopic slides on the grab They require oiling every day.
5. There are grease nipples for the sheaves inside the grab.
2. There are 4 main Grease nipples around the Grab that connect the outer bucket to the A frame.
1. There are 2 grease nipples at each side side of the grabs jaws.

RE: LIFTING GEAR FOR GRABS

Bob,

The attached pages show the Gunnebo lifting equipment used on the chain Grabs and Radio Controlled Grabs.

1. **Radio Controlled Grabs:**

Hammer Lock: G-32-8 **Max load 32.0T**

Oblong Ring: O-2619-8 – **Max load 30 T** **(aproximatley)**

2. **Chain Grab:**

Hammer Lock: G-18/20-8 **Max load 12.5T**

Shackle: SA-22-8 **Max load 15.5T**

Swivel: SKI/SKL-18/20-8 **Max load 12.5T**

(Note: Require 2 x hammer lock halves when ordering swivels)

If you have any further questions please do not hesitate in contacting me.

QUOTATION

FOR THE SUPPLY OF A QUANTITY OF ONE (1) ONLY DOUBLE CHAIN OPERATED HAND TRIP / SELF DUMPING GRABS SUITABLE FOR HANDLING BULK WHEAT AND BARLEY

The jaws to have our patented serrated side seals with underlapping bottom l to minimise spillage, manufactured from wear resistant 360 grade steel and to be mou ted upon double hinges geared together to give maximum spread with the minimum he ht. The hinge bosses to be fitted with renewable hard steel bushes. The closing purc ase sheave to be suitable for a reeving of double 2 to 1. The grab to embody our sp cial locking and releasing mechanism and oil dashpot to regulate the speed of opening. he lever arms to be of mild steel rectangular section braced together and connected to he jaws by steel double lugs and high tensile steel pins. All the pins in the grab to be in gh tensile steel and the main ones to be drilled for lubrication by grease gun. The ort lengths of chain for working around the sheaves to be supplied by us and to be conne ted together at the top by means of a yoke plate ready for slipping over your crane hook.

Heaped capacity	6.4m3
Flush capacity	5.2m3
Weight empty	5700 kgs.
Height open	4100 mm
Height closed	3500 mm
Spread of jaws	3760 mm
Length overall	2184 mm
Width closed	3200 mm
Chain diameter	26 mm