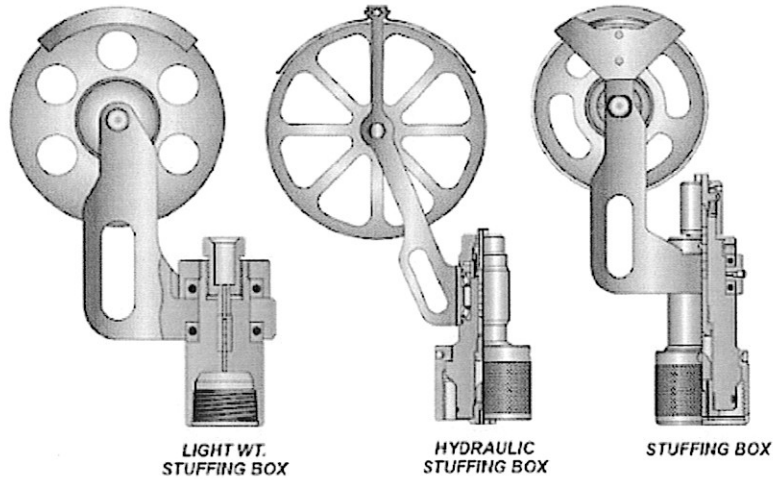




B. SURFACE EQUIPMENT

1. Stuffing Box



What is Stuffing Box

- Stuffing box is a one of the PCB component.
- primary Barrier

What is the purpose of stuffing Box

- Stuffing box is specifically designed to seal around solid wireline to confined well bore fluids and gas within the surface pressure equipment.
- Hold pressure while in wireline operation.

How to operate Stuffing Box

- Use hydraulic hand pump or Control panel.
- Packing nut
- Control panel & RSU
- The hand pump or control panel must be place close with the well operator.

What is maintenance required for Stuffing Box

- Service upper gland, lower gland, packing, o-ring Bop plunger
- Hydro Test one a year

What is safety precaution required for Stuffing Box

- make sure stuffing box in good condition and certified and should be visually checked.

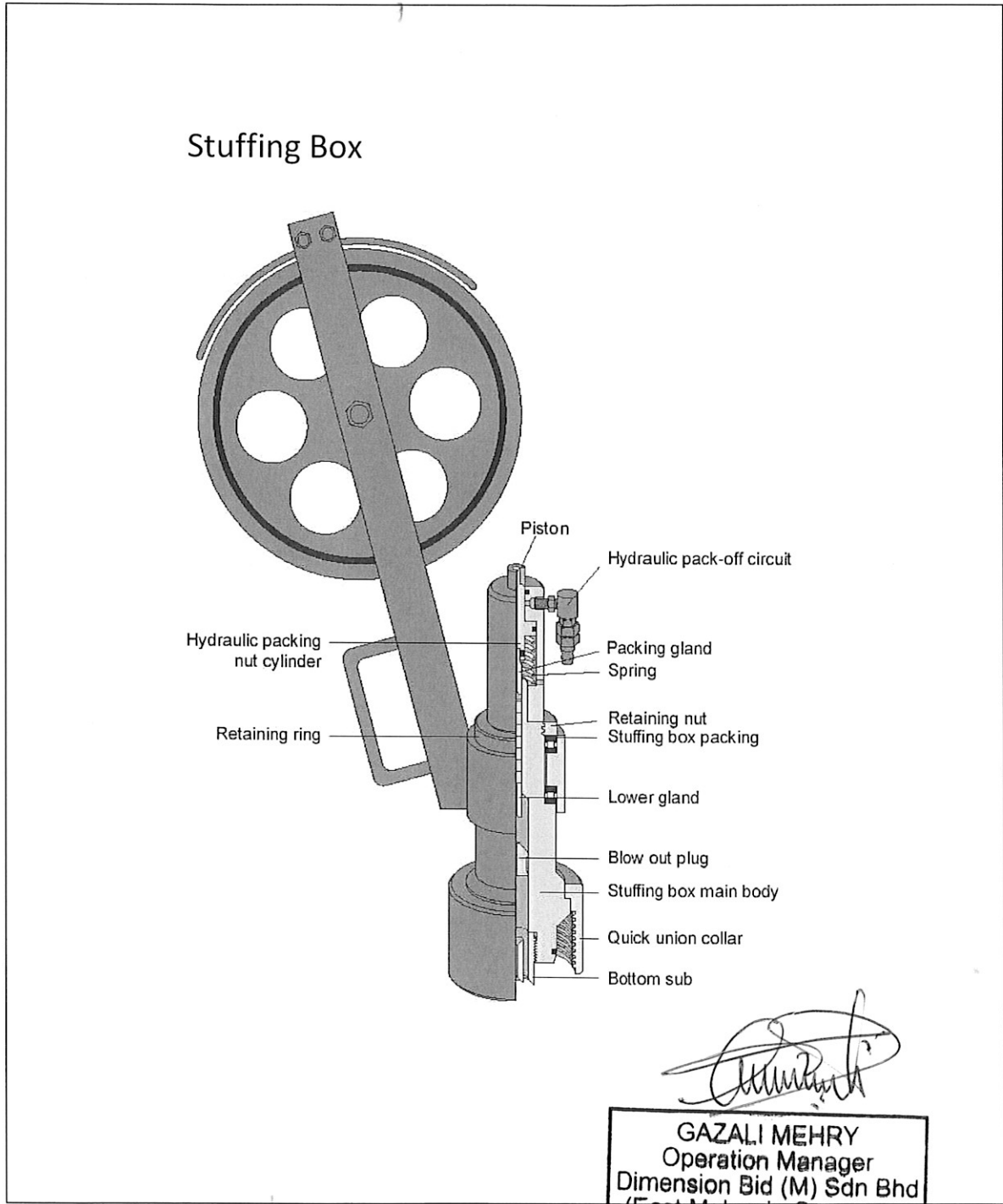
[Signature]
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What is potential hazard during handling Stuffing Box

pinch point
drop object

Draw & name each part of stuffing box




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2. Lubricator

What is Lubricator

A term applied to the assembly of pressure control equipment use on a slickline operation to house the toolstring in the preparation for running into the well or retrieval of the toolstring on completion of the operation.

What is the purpose of Lubricator

- Release pressure -
- Hold pressure -

How to operate Lubricator

- using chain block
 - wireline mast
 - crane
- (Connect to SBOP / BOP / LTV / Pumping tee to make complete lub. assy.)

What is maintenance required for Lubricator

- Coating -
- painting -
- check oring -
- pressure test - (Hydro test)

What is safety precaution required for Lubricator

- Make sure pressure was release before operate -
- All Lubricator should be xray for confirm no crack and visually inspected at the regular intervals (API)

What is potential hazard during handling Lubricator

- pinch point -
- Gas leaking -
- Drop object -

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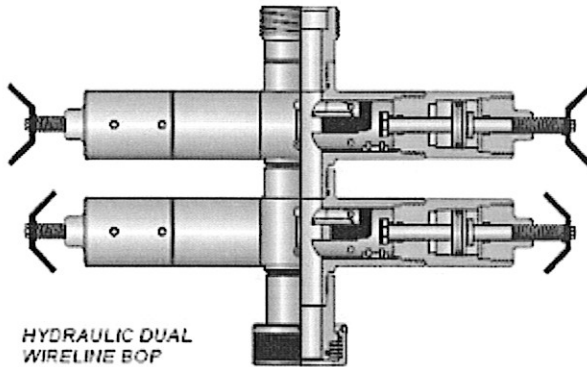
Draw & name each part of Lubricator



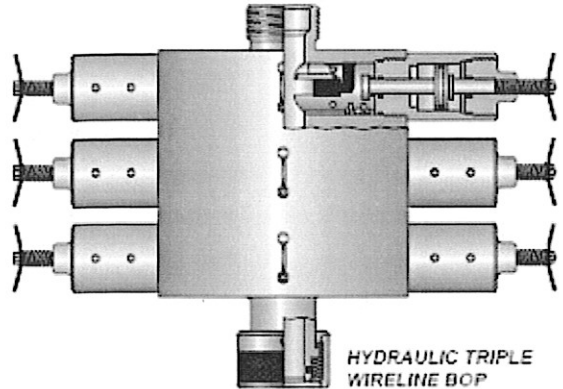
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3. Blowout Preventer (BOP)



HYDRAULIC DUAL WIRELINE BOP



HYDRAULIC TRIPLE WIRELINE BOP

What is BOP

- Designed to provide a positive seal around slickline or cable. place between the wellhead and lubricator assembly.
- Secondary barrier for wireline operation.

What is the purpose of BOP

- To enable the well pressure to be isolated without cutting the wire

How to operate BOP

- Hydraulic pressure - manual (close only)
- use control panel
- Reel skid unit

What is maintenance required for BOP

- check inner seal, outer seal, oring and check condition BOP.
- mps and Hydro Test

What is safety precaution required for BOP

- Do function test before operate. to ensure the Rams function well.

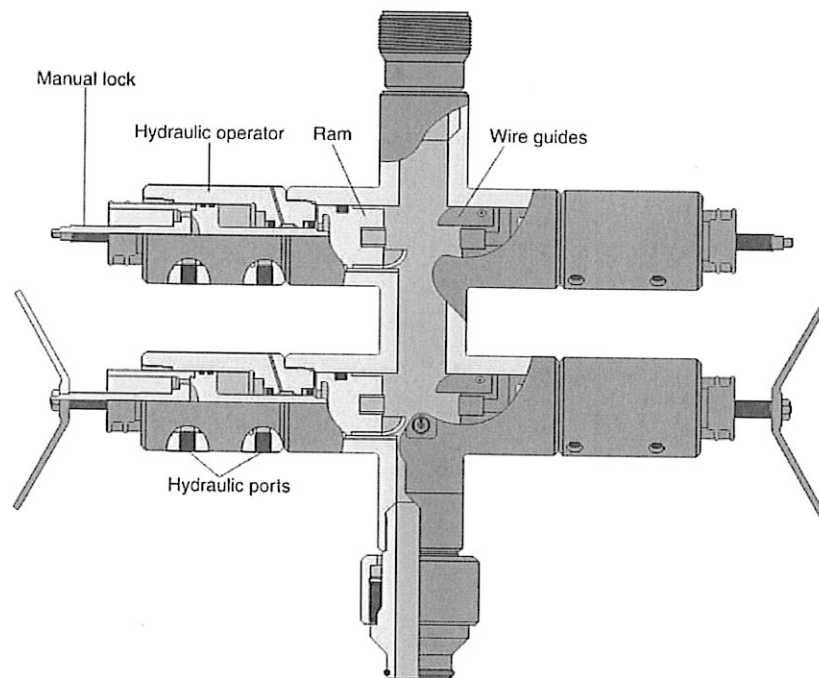
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What is potential hazard during handling BOP

- Wrong operation technique
- Drop object

Draw & name each part of BOP



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4. X-Mas Tree

What is x-mas tree

x mas tree is a series of valves installed on the well head to control the flow of fluid from the well

What is the purpose of x-mas tree

- Pressure monitoring
- Pressure sealing
- Control the flow of well

How to operate x-mas tree

- SWCP
- In control panel
- Always count the turn (18 turn)

What is maintenance required for x-mas tree

- Lubrication of valves and actuator
- Corrosion and emulsion inspection
- Pressure testing of valves

What is safety precaution required for x-mas tree

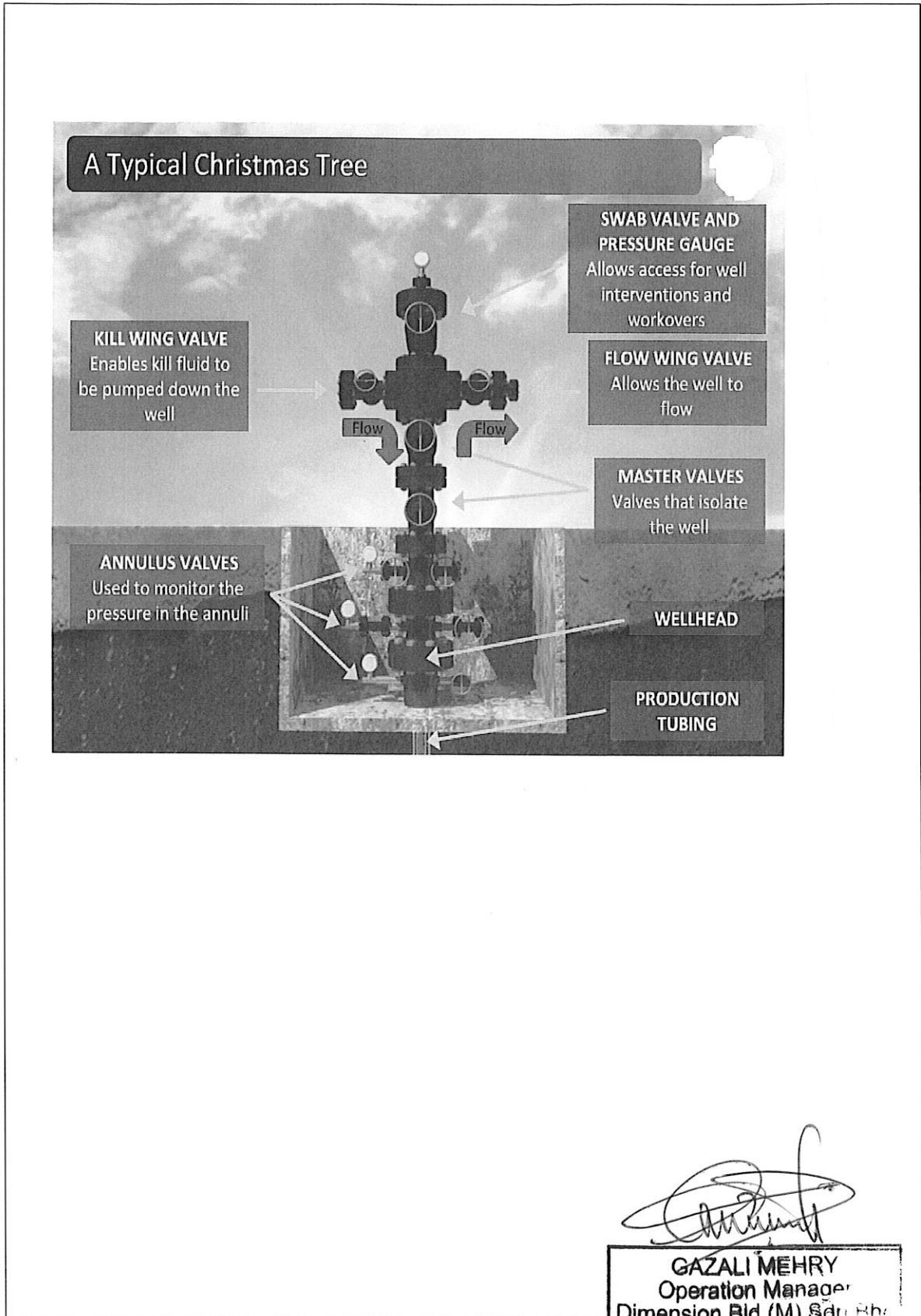
Do not over tighten during opening or closing

What is potential hazard during handling x-mas tree

- Pinch point
- Back injury
- Gas leak

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Draw & name each part of x-mas tree





5. Wireline Reel Skid Unit (RSU) / Winch – Single Drum and Double Drum

What is RSU

unit that have a drum that contain wire and a panel to control the drum direction and speed

What is the purpose of RSU

Contain a drum which have a wire to lower down our tools and to pull the well accessories.

How to operate RSU

- By power pack (hydraulic pressure) introduce the hydraulic power to run the RSU and control with hand lever.

What is maintenance required for RSU

- Hydraulic filter - check the brake
- check hose condition - check the ~~pressure~~ wire condition
- odometer cable condition - check the roller guide
- PRV - check all the hose connections / fitting

What is safety precaution required for RSU

- Always check hose condition before using RSU
- inspect wire before use

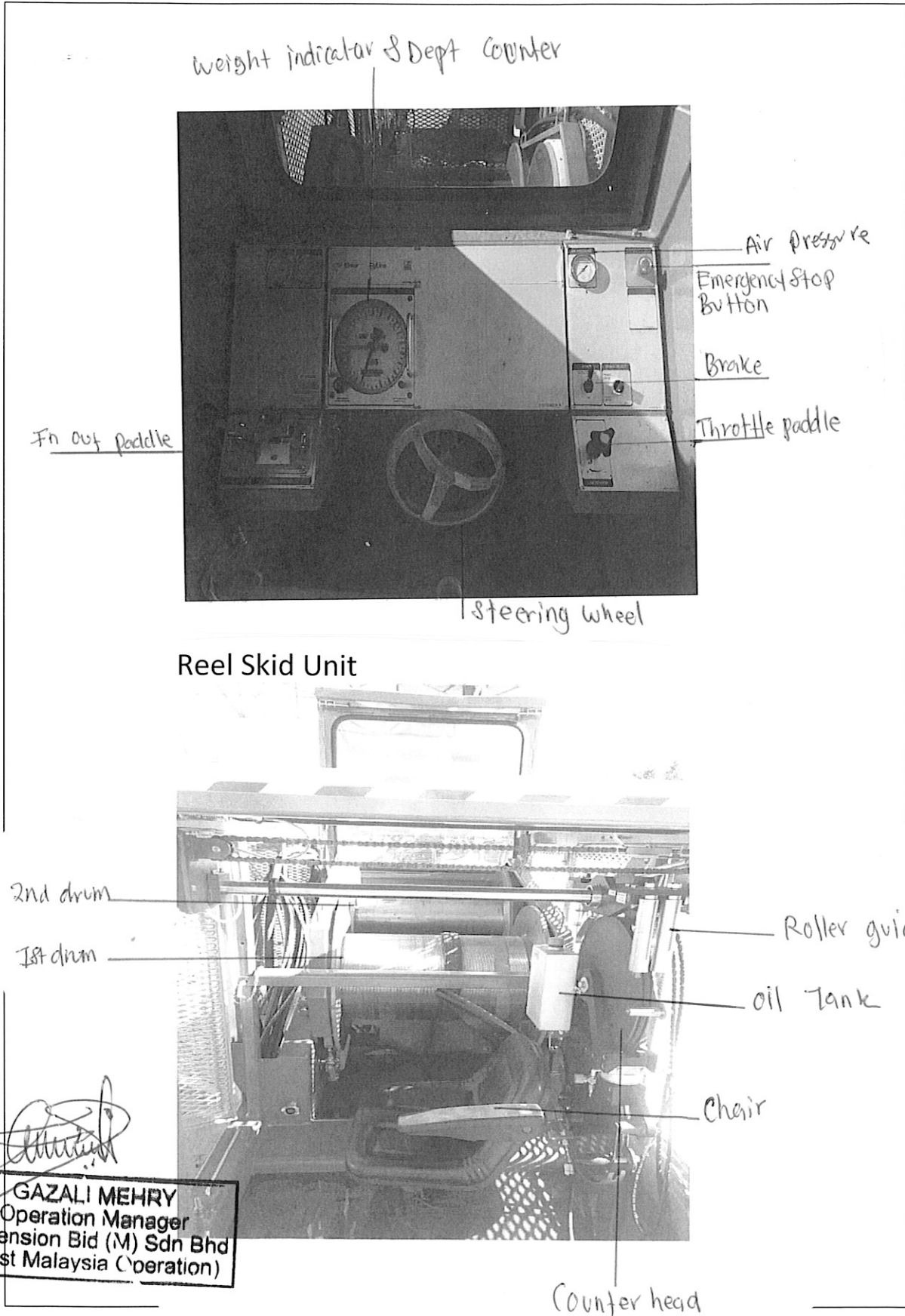
What is potential hazard during handling RSU

- hose burst / hose fitting dis connected
- wire break
- pinch point
- drop object

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Draw & name each part of RSU



[Handwritten signature]

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6. Odometer

What is Odometer

odometer is a device that record and shows the current depth of our tools

What is the purpose of Odometer

to tell the current depth of our tools

How to operate Odometer

Connect the odometer to the odometer cable. The odometer have the ratio 1:2. To reset the odometer or zero toolstring there is a knob that can be turn to reset

What is maintenance required for Odometer

- Clean the cable with WPHO
- spray the knob with WPHO

What is safety precaution required for Odometer

- Make sure the cable stand tight
- use glove when tuning the knob

What is potential hazard during handling Odometer

- pinch point
- sharp object

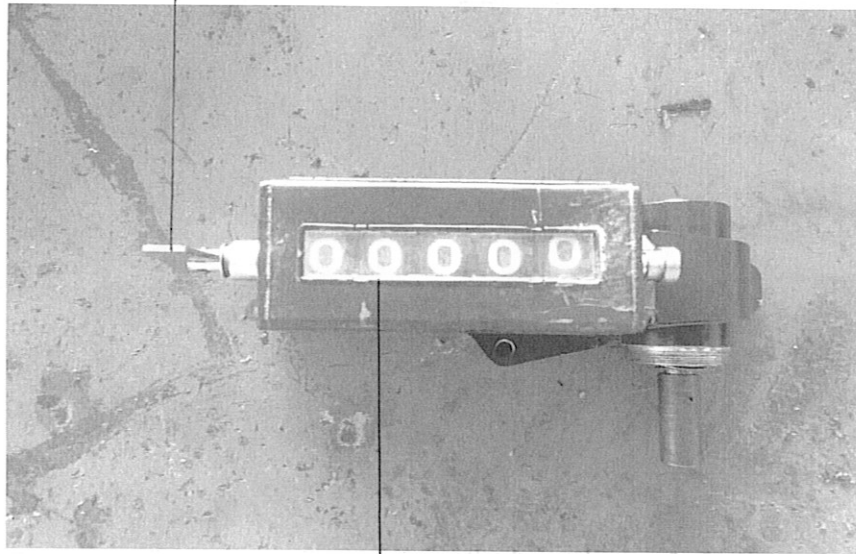

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Draw & name each part of Odometer

- ① 0.5 in feet reading
- ② 0.6 in Meter Reading

Depth counter reset (pull)



Analog

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7. Weight indicator (200 lbs and 4000 lbs)

What is Weight Indicator

A device or system used to measure weight. ✓

What is the purpose of Weight Indicator

display the weight of a tool string ✓

How to operate Weight Indicator

Hydraulic ✓

What is maintenance required for Weight Indicator

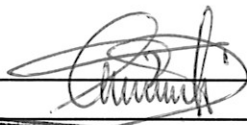
- Calibration ✓
- indicator hydraulic ✓
- hydraulic hose ✓

What is safety precaution required for Weight Indicator

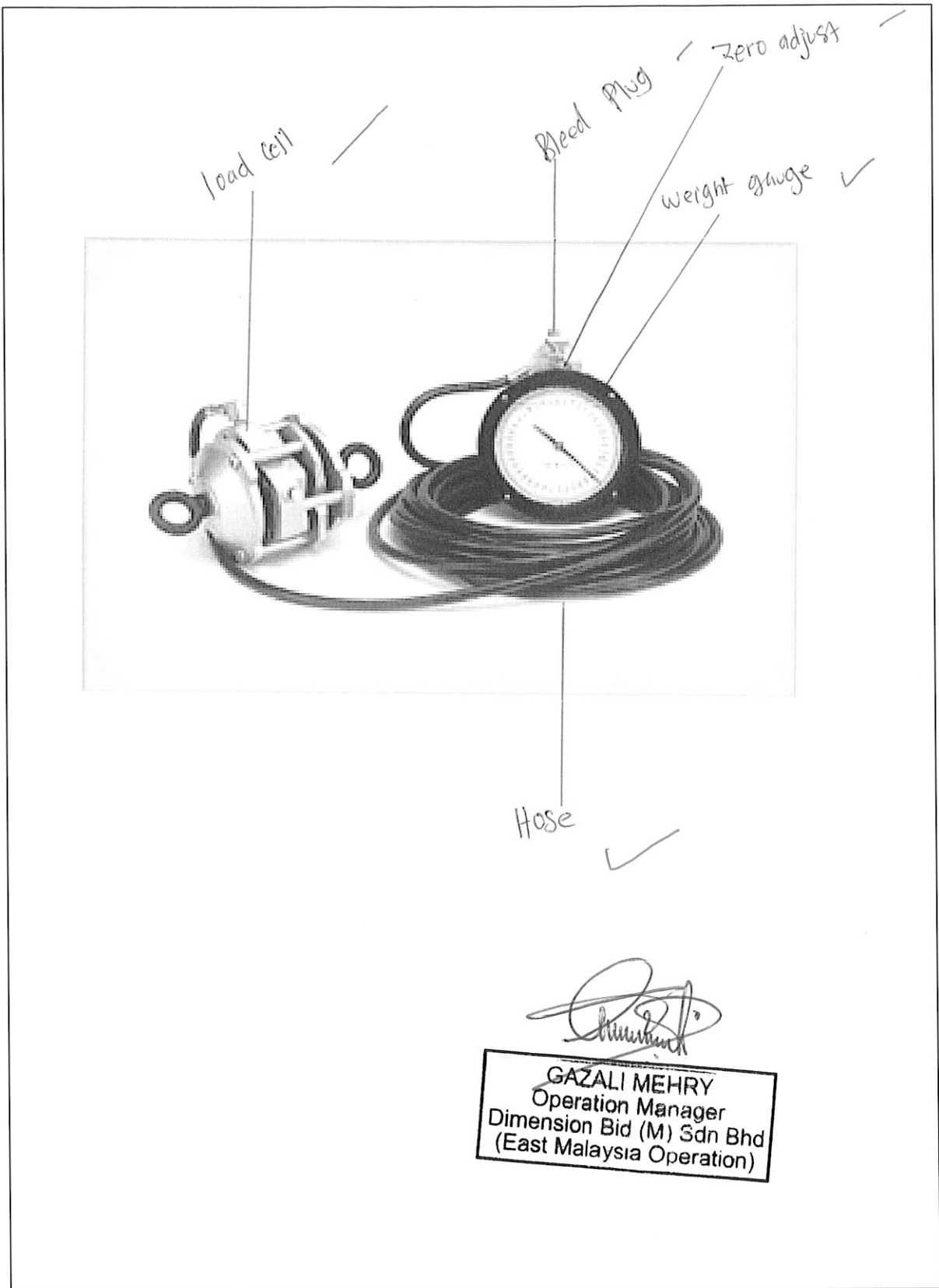
- check the hose make sure the hose in good condition ✓

What is potential hazard during handling Weight Indicator

- pinch point ✓
- chain break of ✓
- The glass break ✓


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Draw & name each part of Weight Indicator



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8. Spooling Device

What is Spooling Device

A device that hold the reel during spooling process

What is the purpose of Spooling Device

To hold the reel in spooling process it also give proper tension during spool in around 300 LB

How to operate Spooling Device

Assemble the reel. The Setup is almost the same with normal operation which, weight indicator and hay pulley is needed. Spooling device have a brake lever and that will help to control the line tension

What is maintenance required for Spooling Device

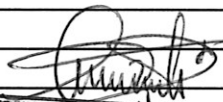
Always check the hydraulic hose.
Always check the brake.

What is safety precaution required for Spooling Device

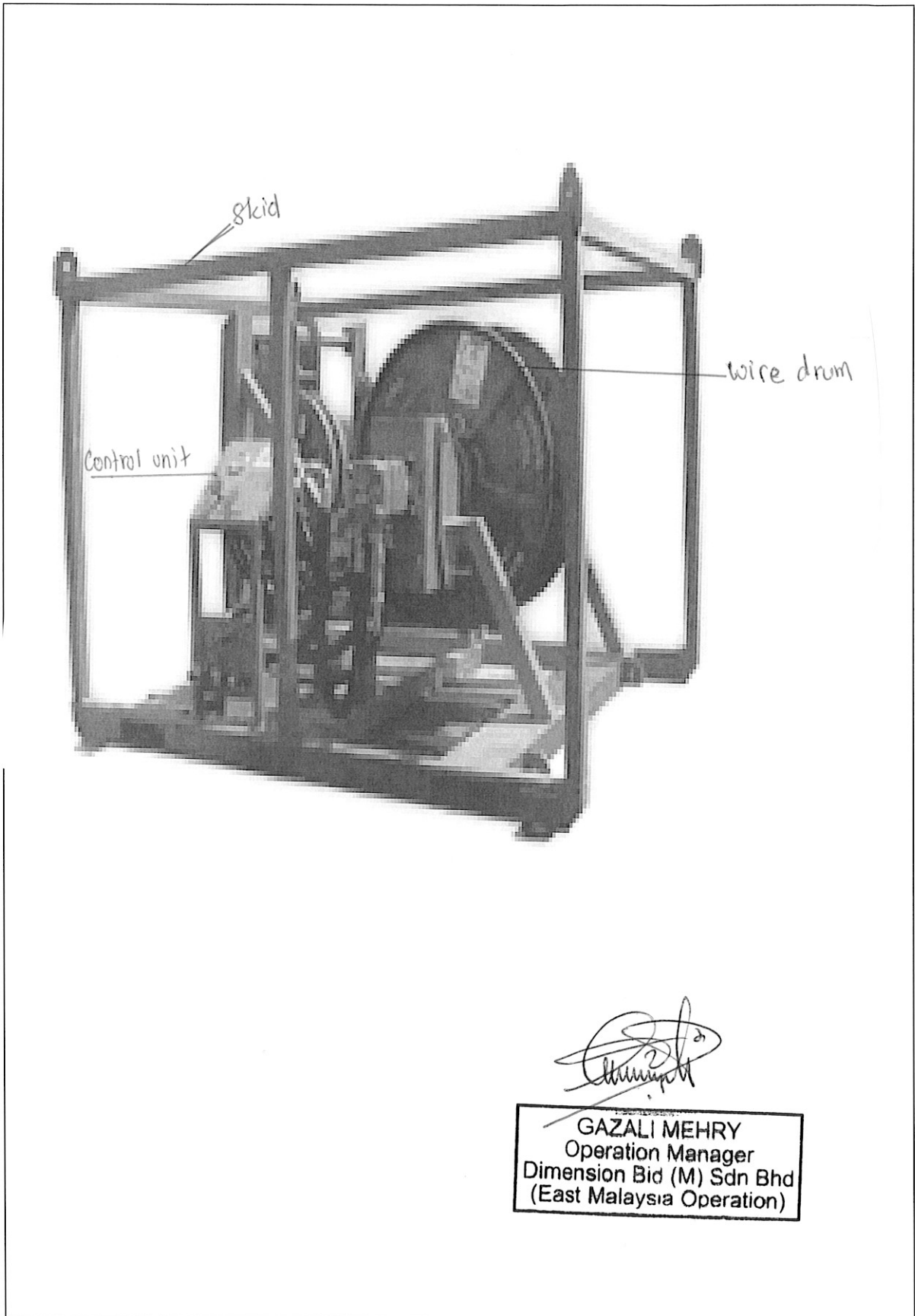
- Always ensure Plexi glass in good condition

What is potential hazard during handling Spooling Device

- Pinch point
- Hose burst
- wire parted
- The glass break off.


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Draw & name each part of Spooling Device




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9. Control Panel

What is Control Panel

cp have series of pump and gauges that use to control our equipment and the well head.

What is the purpose of Control Panel

- to control Bop, stuffing box, safety valve and master valve. SC-SSC

How to operate Control Panel

connect the control line to the equipment. open the air supply use the regulator to control pump and pressurized the line.

What is maintenance required for Control Panel

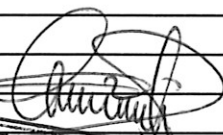
- change the oil
- clean the panel both both inside and out to observe leaks
- repair and replace components if leak
- All the gauge to Calibrate with Certificate.

What is safety precaution required for Control Panel

- isolate all the valves and test all the lines
- Ensure all connection is secured
- pressurized cp within the limit
- Ensure no leak

What is potential hazard during handling Control Panel

- Prop object during lifting
- Hose burst


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Draw & name each part of Control Panel

The image shows two photographs of a control panel, labeled 'CP DB-01'. The top photograph is a close-up of the panel's surface, featuring several gauges, valves, and a hand pump. Handwritten labels with lines pointing to specific parts include: 'Air regulator' (pointing to a gauge on the left), 'Bop upper ram' (pointing to a valve), 'Bop lower ram' (pointing to another valve), 'Ball valve' (pointing to a valve in the center), 'T.C' (pointing to a gauge), 'Stuffing Box' (pointing to a component on the right), and 'Bleed of valve' (pointing to a valve on the right). The bottom photograph shows the panel from a wider perspective, with a 'Hand pump' label pointing to a handle on the front. A signature and a printed name block are located at the bottom right of the panel area.

QTS

Bop upper ram

Bop lower ram

Ball valve

T.C

Stuffing Box

Bleed of valve

Air regulator

CP DB-01

Bop valve

Bv valve

Accumulator valve

CP DB-01

Hand pump

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10. Huskel Drum

What is Huskel Drum ^{Pump}
 Huskel drum is a recognized leader in high pressure technology, manufacturing high pressure air driven liquid pump

What is the purpose of Huskel Drum ^{Pump}
 - Can hold virtually pressure with no flow or internal leakage
 - pump non lubricating fluids such as water to very high pressure.

How to operate Huskel Drum ^{Pump}
 - pneumatic

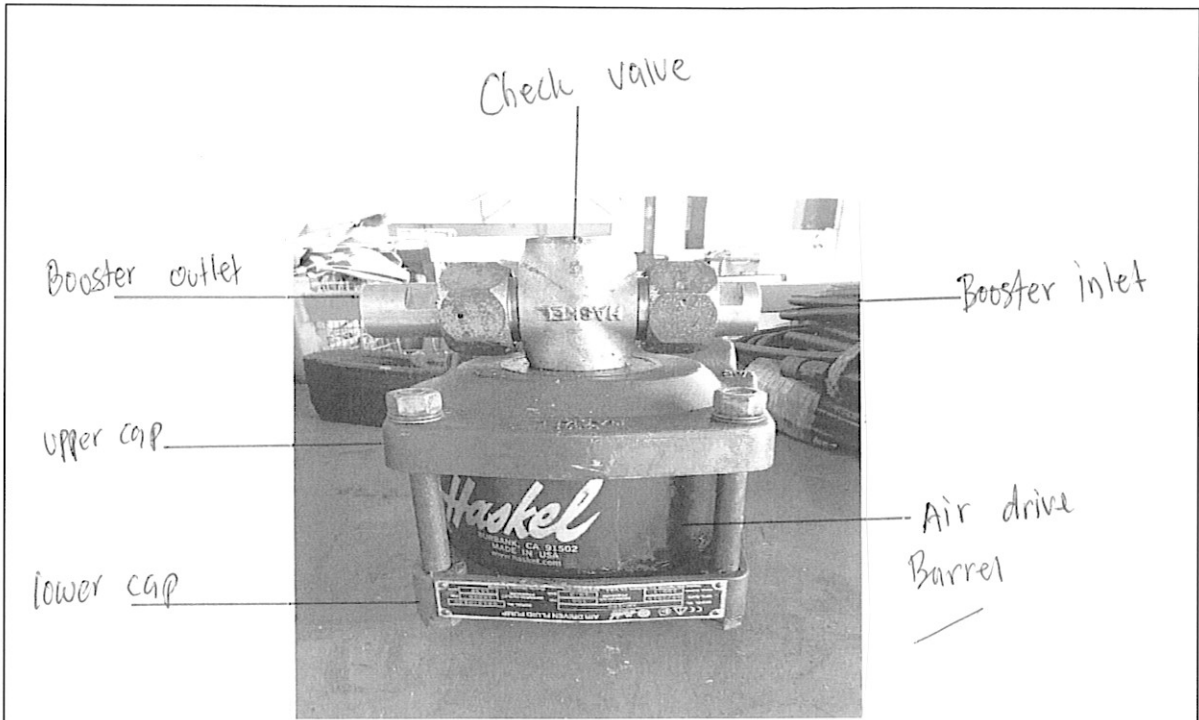
What is maintenance required for Huskel Drum ^{Pump}
 - o-ring

What is safety precaution required for Huskel Drum ^{Pump}
 - make sure tubing connection in good condition -
 - make sure o-ring in good condition -

What is potential hazard during handling Huskel Drum ^{Pump}
 - pinch point
 - tubing burst


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Draw & name each part of Huskel Drum pump - *Handwritten*



Handwritten Signature
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11. Power Pack (Electrical & Diesel)

What is Power Pack

PP is a machine that consist of electric motor or diesel engine that use to drive hydraulic pum to Rsv operation

What is the purpose of Power Pack

Supply hydraulic power to wL unit and WL Mast

How to operate Power Pack

- start engine by pulling and hading inlet over speed shut down valve and depressing the foot/pedal start switch
- keep and continue holding the inlet valve (to second until pressure is built
- release foot/pedal switch and the inlet over speed shut down valve

What is maintenance required for Power Pack

- Change engine oil
- change filter
- check all gauge
- check leaking
- Check the hpi Test.

What is safety precaution required for Power Pack

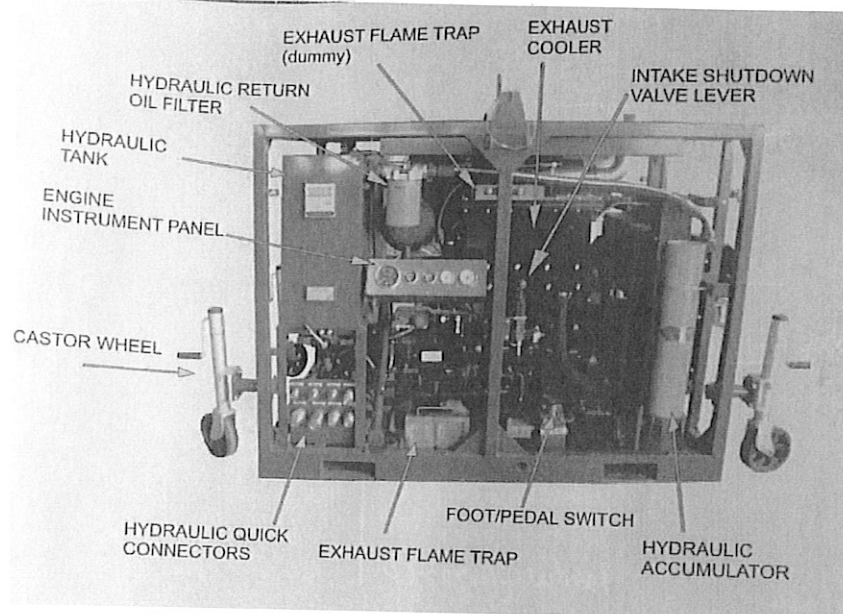
- Hydraulic hoses must be connected properly to avoid unexpected action that can lead to serious injuries
- Wear full PPE
- Avoid line of fire.

What is potential hazard during handling Power Pack

- pinch by cover
- hose burst
- Rotating fan

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Draw & name each part of Power Pack



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12. Air Compressor

What is Air Compressor

A machine that have a compressor driven by diesel engine.

What is the purpose of Air Compressor

Supply air to control panel, test pump, air starter engine

How to operate Air Compressor

The starting procedure is almost the same with power pack. The air compressor usually use the spring starter. To crank the starter rotate the shaft clockwise until indicator turn red, release the spring to start the engine.

What is maintenance required for Air Compressor

- check fan belt tension
- Change compressor oil
- Change filter

What is safety precaution required for Air Compressor

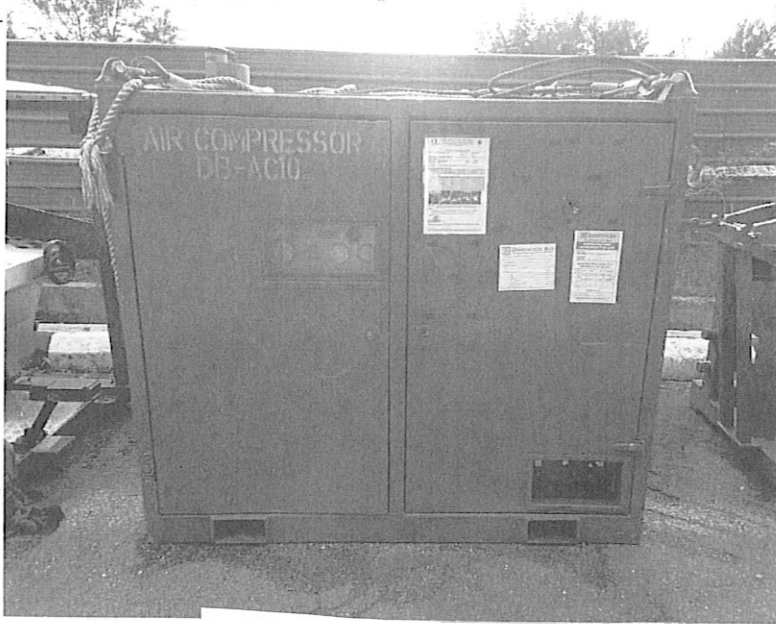
- Ensure safety valve is working (PRV) Pressure Release valve
- Ensure engine overspeed functioning

What is potential hazard during handling Air Compressor

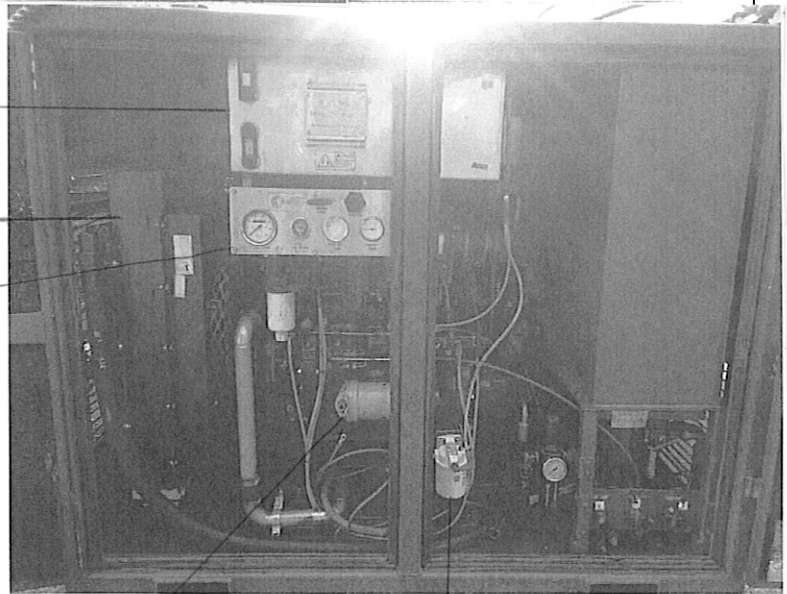
- Hose burst
- pinch point
- rotating equipment


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Draw & name each part of Air Compressor



Hydraulic tank
Radiator
engine
instrument panel



oil filter



Spring starter.
Accumulator
Air separator
Dyna Set
Cooler

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13. Drum

What is the purpose of Drum

To store wire

Do the right and wrong wire arrangement from drum to hay pulley

Wrong Method	Right Method
--------------	--------------

What is maintenance required for Drum

- Grease pillow bearing ✓
- Daily check the drum ✓
- check the sprocket ~~sprock~~ sprocket ✓
- ~~the~~ check the drive chain.

What is safety precaution required for Drum

- ensure pillow bearing is fitted properly ✓
- right size of drive chain ✓

What is potential hazard during handling Drum

- wire breaks ✓
- Bolt ported due to excessive drum wobbling ✓

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