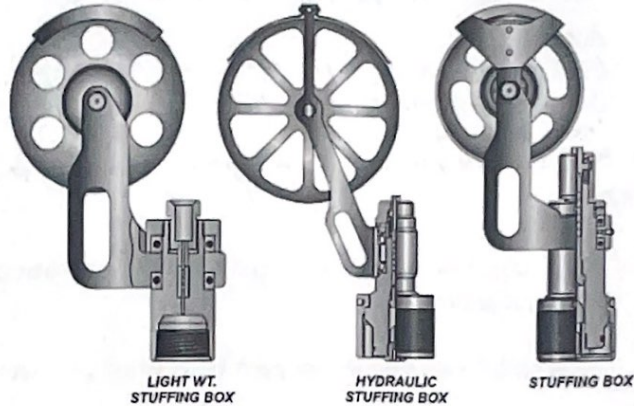




B. SURFACE EQUIPMENT

1. Stuffing Box



What is Stuffing Box

- Stuffing box is to ensure sealing off around moving or stationary solid wireline at the upper end of the lubricator during wireline operations.

What is the purpose of stuffing Box

- Allow the wireline to enter the well under pressure and provide a seal should be wireline break and be blown out of packing. Is a primary pressure barrier.

How to operate Stuffing Box

- Positioned at the uppermost point of the pipe string. A male quick union assembly are supplied with the stuffing box as standard. Available for a full range of wire sizes and from 5,000 psi to 15,000 psi working pressure. Consist of a chamber which contains packing with an external adjustable nut. Wire passes through the packing and the nut is hydraulically tightened to the point. Packing nut a gland located at top of stuffing box can be adjusted to compress the packing and seal on wireline. When hydraulic pressure is applied to area above piston. Piston force is transmitted against force spring. Piston is transmitted for upper packing gland.

- Packings not worn out. Steave the correct size. Upper and lower glands packing. Check for wear, if worn oversized should replace. Top flange check for freed wear of vertical movement. Steave staff check for freedom of swivel movement. Steave bearing check for free spinning. Steave guard make sure tight and adjustable to choose.

What is safety precaution required for Stuffing Box

- Check the O-ring before use it.

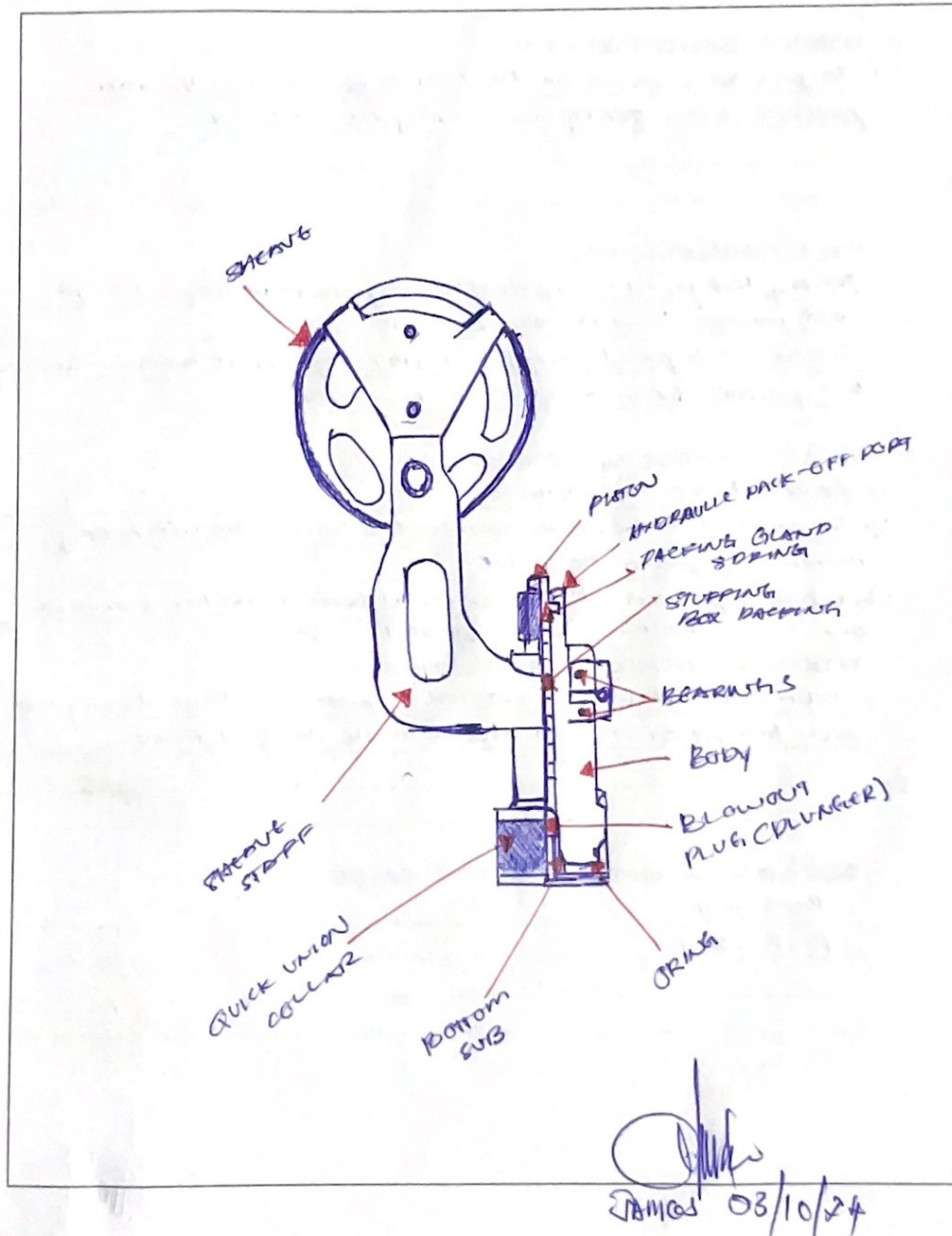
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JAMES 03/10/24



What is potential hazard during handling Stuffing Box

- Back pain
- pinch point

Draw & name each part of stuffing box





2. Lubricator

What is Lubricator

- Lubricators (also known as risers) are an series of inter connected lengths of pipe.

What is the purpose of Lubricator

- To provide a space for the tool to be contained in under pressure when opening and closing the wellhead.

How to operate Lubricator

- Primary test period (low pressure) raise pressure to 300 psi + 20 psi
- Hold pressure for a minimum of 5 min
- Secondary test period (high pressure) raise to pressure to minimum working pressure.
- Hold pressure for a minimum of 15 minutes.

What is maintenance required for Lubricator

- 1) General damage and corrosion.
- 2) The condition of the needle valves on the lower section. If necessary redress or replace the valve.
- 3) Visual inspection of the external bore of the for corrosion and "wire fracturing" wear grooves.

What is safety precaution required for Lubricator

- Lubricator should be enclosed in protective cage during use and transportation and stored in the transport frame.

What is potential hazard during handling Lubricator

- Back pain
- Pinch point

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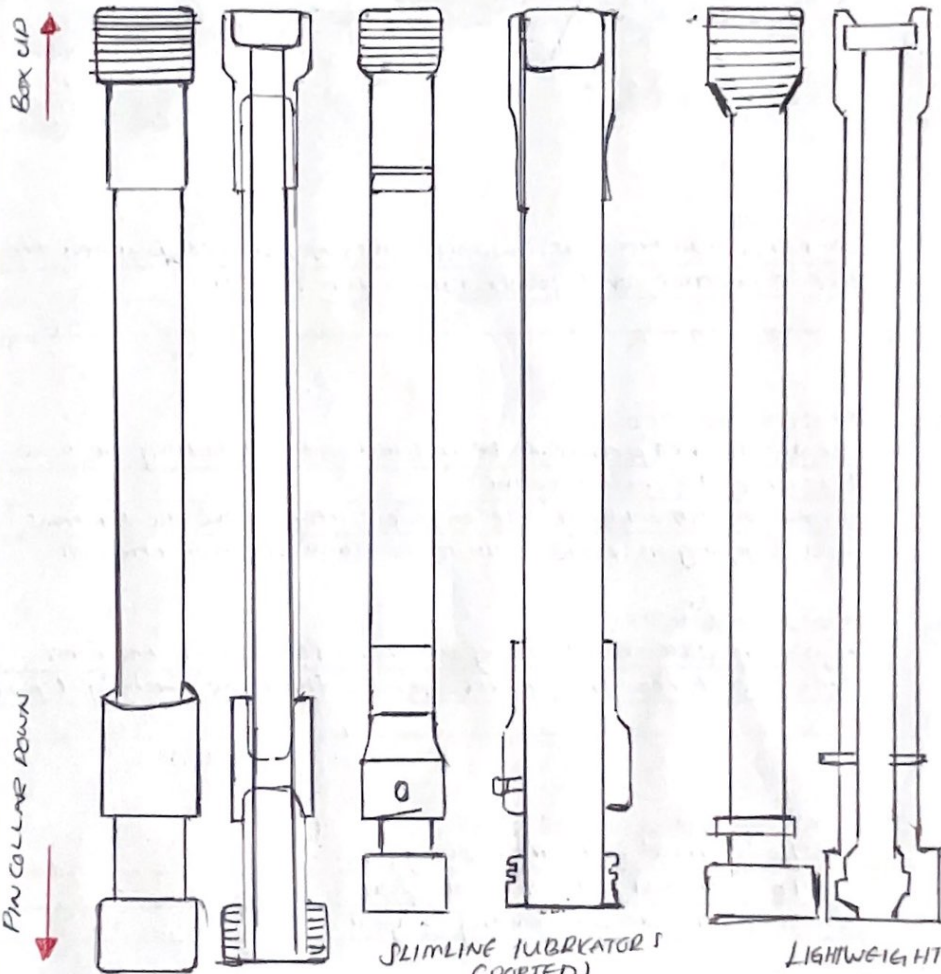


Draw & name each part of Lubricator

NOTES :-

ID - 0.15"/0.25" larger than CD TOOL

Length - 5FT (Lubricator - 4FT, 2FT CRIP)



CONVENTIONAL
LUBRICATOR
(NON PORTED)

SLIMLINE LUBRICATOR
(PORTED)
PRESSURE RATING OF LUBRICATOR

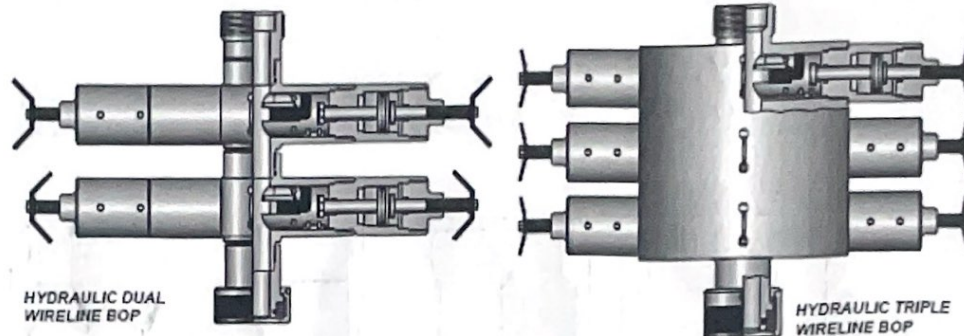
LIGHTWEIGHT
LUBRICATOR
(PORTED)

WORKING PRESSURE (WP) PSI	TEST PRESSURE (TP) PSI
3000	41500
5000	71500
10,000	151,000
15,000	221500

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3. Blowout Preventer (BOP)



What is BOP

- A BOP (also known as a wireline valve) is installed between the tree connection and lower lubricator section.

What is the purpose of BOP

- Enable the well pressure to be isolated without cutting the wire by closing to master valve.
- Permit the assembly of the wireline cutter above the BOP rams and dropping it if the toolstring becomes stuck in the well.

How to operate BOP

- A pressure differential acting on cross-section of the rams creates a force that makes opening the rams extremely difficult.

What is maintenance required for BOP

- To be carried out after every job.
- To be carried out once a year.
- To be carried out every 5 years.

What is safety precaution required for BOP

- Ensure the rod has an enlarged diameter below the ram to prevent it being blown out during testing.

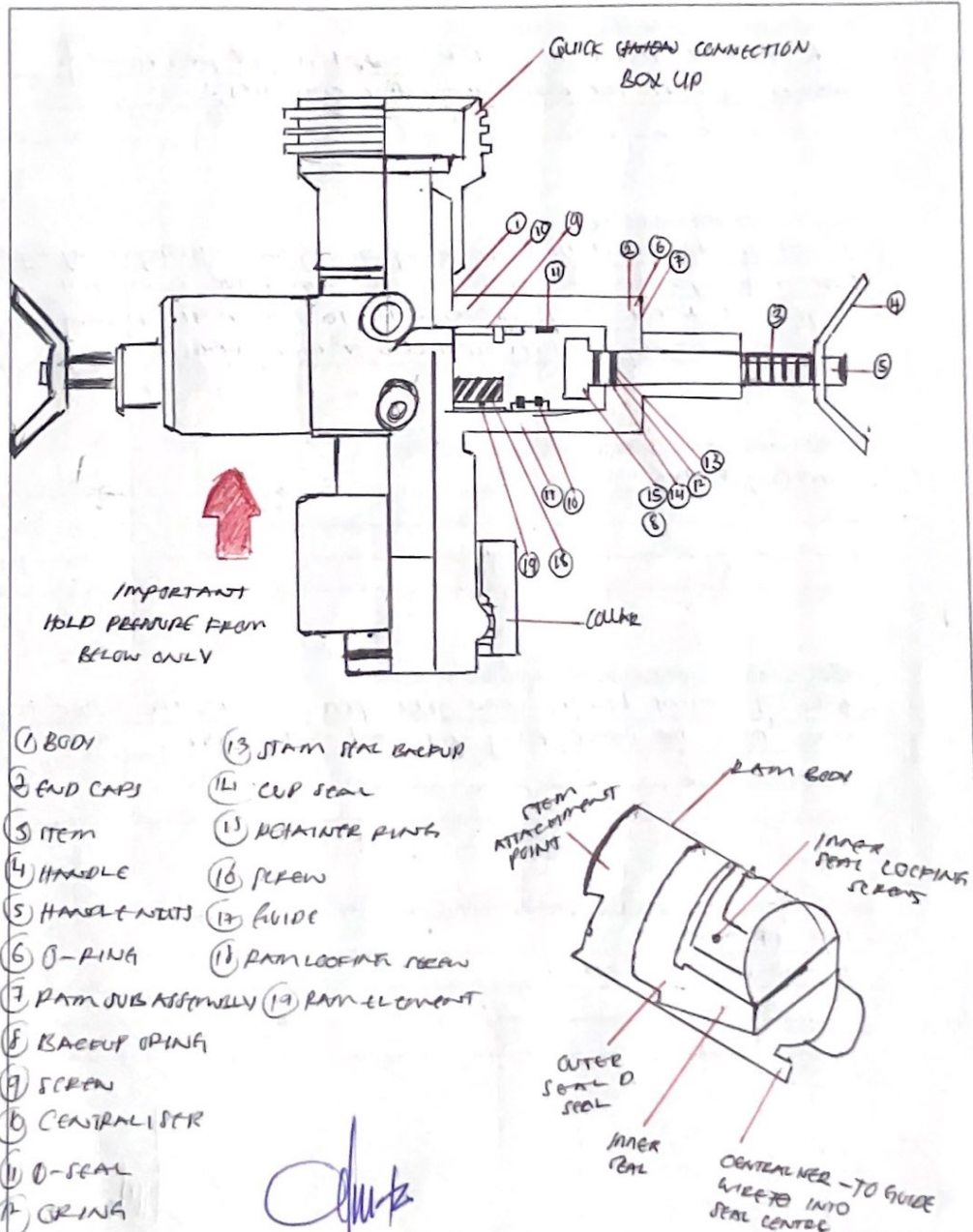
Chapz
James 03/10/24



What is potential hazard during handling BOP

- heavy equipment
- pinch point

Draw & name each part of BOP



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4. X-Mas Tree

What is x-mas tree

- Valved installed on the wellhead to control the flow fluids from the well

What is the purpose of x-mas tree

- Surface valve manifold used to control flow of well fluids & process access for well intervention activities.

How to operate x-mas tree

- Do not overtighten the valve during opening and closing. Many types have a shear pin between the handle and stem. Valve is internal component. Never use the master valve to shut in the flowing well, except in emergency situation use rwhab or wing valve.

What is maintenance required for x-mas tree

- Greasing valve.

What is safety precaution required for x-mas tree

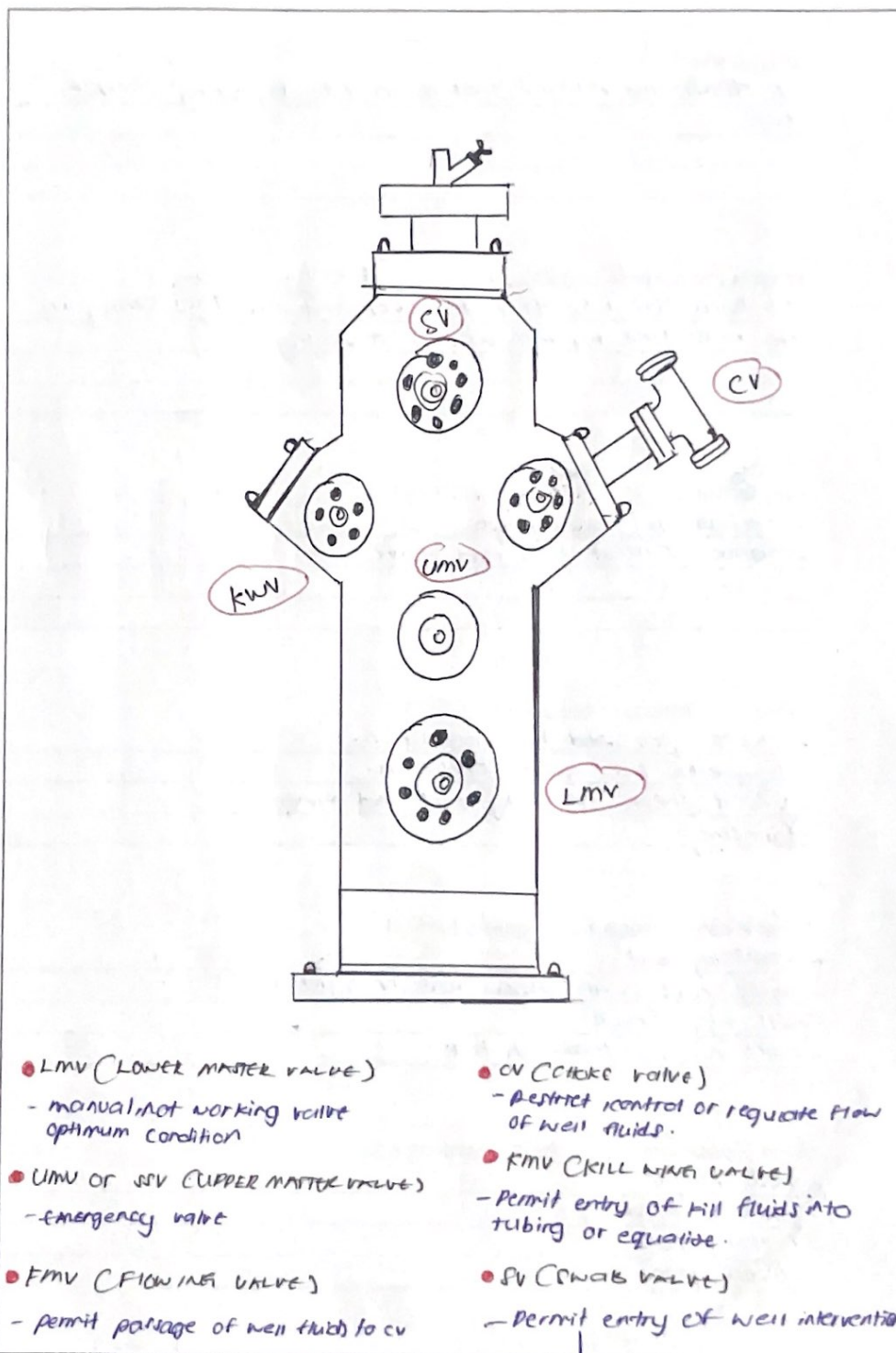
- Always count before and after open or close the valve to make sure the valve fully open and fully close.

What is potential hazard during handling x-mas tree

- Live of wire
- Flammable release.

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Draw & name each part of x-mas tree



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

What is RSU

- To deliver and retrieve tool down hole by using slickline wire.

What is the purpose of RSU

- To turn the wire drum to lower and rise tool string in the well that require wireline servicing.

How to operate RSU

- operate by power pack
- manual control gear and valve

What is maintenance required for RSU

- Check gear and box condition.
- Hydraulic hose good condition.
- Visual check on body part and frame
- Greasing

What is safety precaution required for RSU

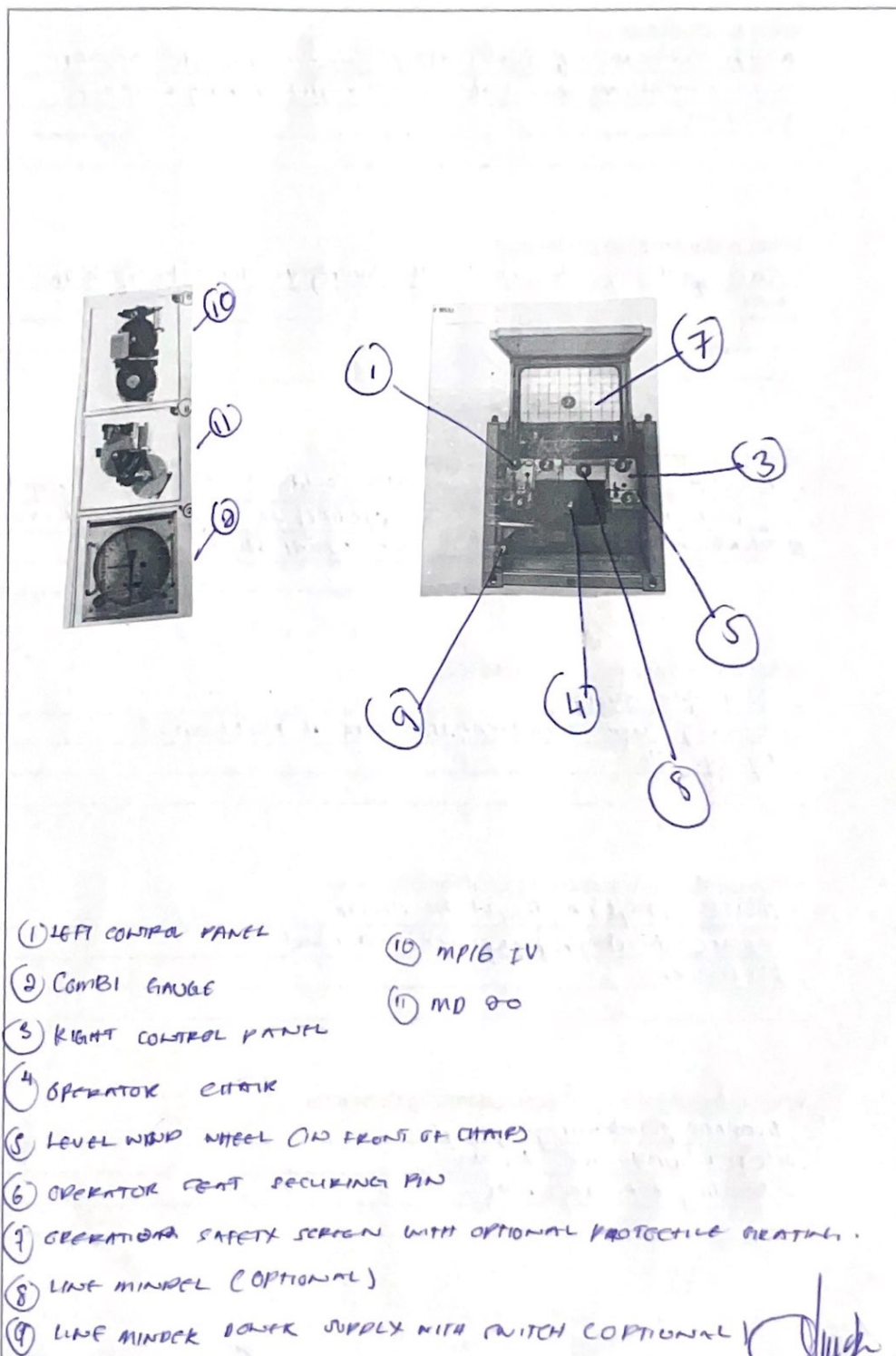
- mounting part.
- make sure connection hose is tighted
- use whip check
- make sure no leak on hose.

What is potential hazard during handling RSU

- hole burr.
- manual handling
- moving part
- pinch point.

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Draw & name each part of RSU



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6. Odometer

What is Odometer

- use to measuring depth into well

What is the purpose of Odometer

- For operator took depth well and know about depth in well

How to operate Odometer

- can be operated when connect odometer cable into the right angle drive. Right angle drive connect to counter wheel and odometer perform when counter wheel start spinning.

What is maintenance required for Odometer

- Greasing
- checking meter odometer make sure it function.

What is safety precaution required for Odometer

- Glass odometer should be clear
- make sure odometer number can read
- pin broken.

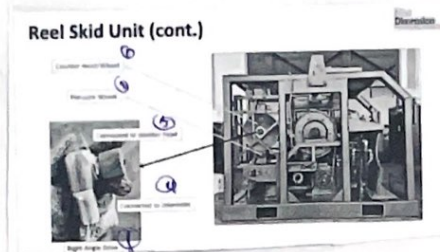
What is potential hazard during handling Odometer

- pinch point
- Glass odometer broke.
- Reading not accurate.

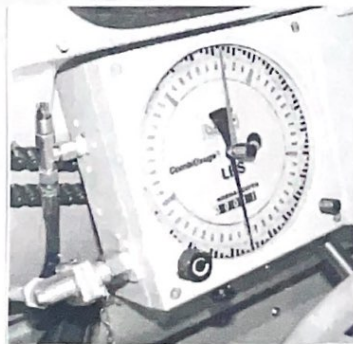
Chris James 03/10/21



Draw & name each part of Odometer



- (1) COUNTER HEAD (4) CONNECTED TO ODOMETER
(2) PRESSURE WHEEL (5) RIGHT ANGLE DRIVE
(3) CONNECTED TO COUNTER HEAD



- (1) CONNECTION CABLE
ODOMETER TO
METER FRAME

(2) ZERO DEPTH

* COUNTER CABLE IS A
CABLE THAT CONNECT
BOTH ODOMETER AND
RIGHT ANGLE DRIVE
AT RSU WHICH
CONVERTS THE COUNTER
WHEEL ROTATION TO
DEPTH WITH.

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7. Weight indicator (200 lbs and 4000 lbs)

What is Weight Indicator

- weight indicator system are desgreted to provide accurate measurement of downhole tool weight during wicking operation

What is the purpose of Weight Indicator

- As a guide operation during running tool into the well

How to operate Weight Indicator

- Connect weight indicator with load cell
- Load cell connect with tag pulley

What is maintenance required for Weight Indicator

- Calibrate gauge
- Remove bubble in the hose
- Topup oil

What is safety precaution required for Weight Indicator

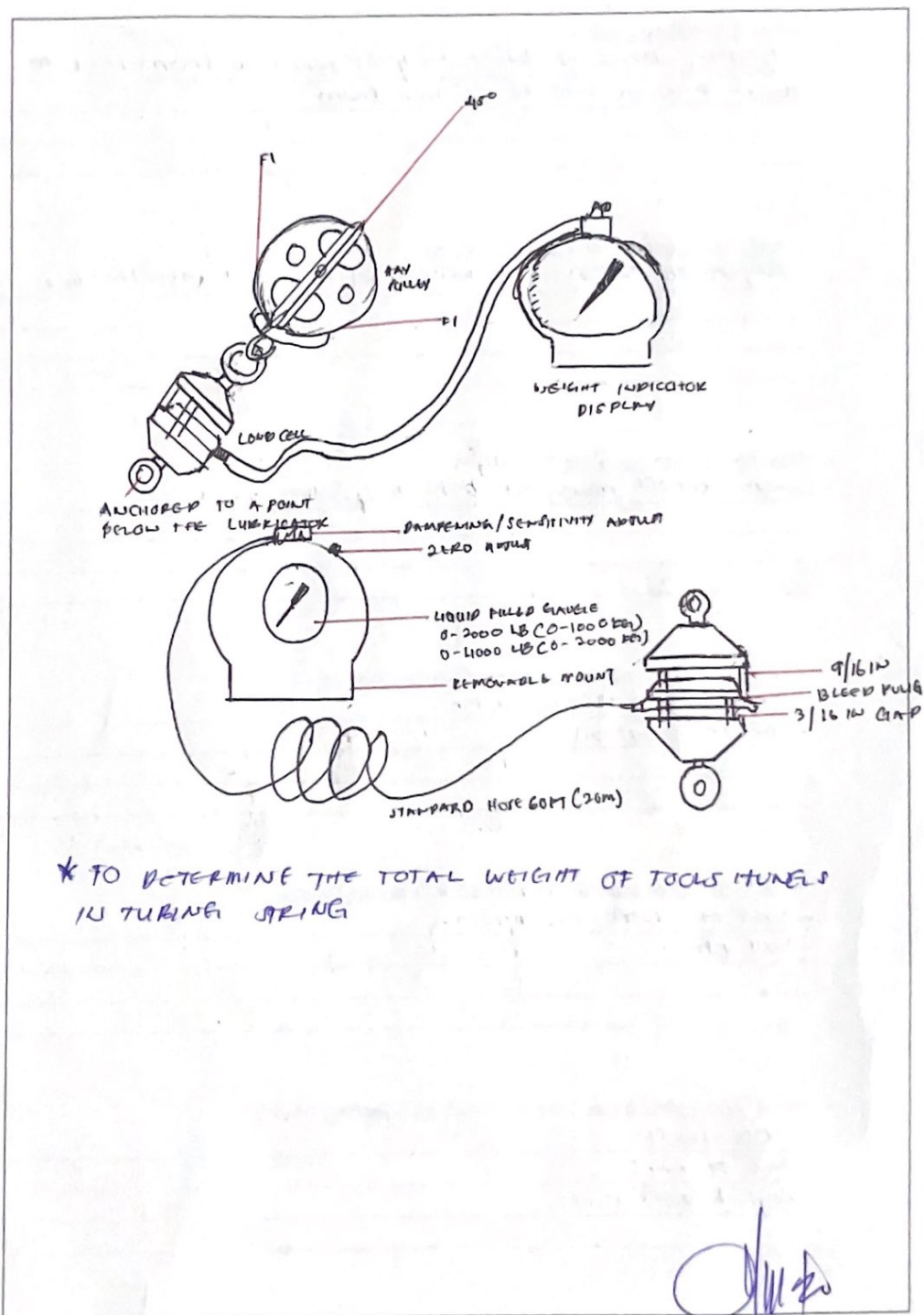
- Secure proper gauge
- Secure hose properly

What is potential hazard during handling Weight Indicator

- Incorrect reading - gauge
- Hose part

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Draw & name each part of Weight Indicator



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8. Spooling Device

What is Spooling Device

- Spooling device is device to spool new wire from reel to down or drum wire to another drum.

What is the purpose of Spooling Device

- Purpose the tension wire while spool new unit into the drum.

How to operate Spooling Device

- must connect powerpack hose to spooling device.

What is maintenance required for Spooling Device

- Check hydraulic regulator
- Check gear oil

What is safety precaution required for Spooling Device

- Barricade work area.
- Full PPE.

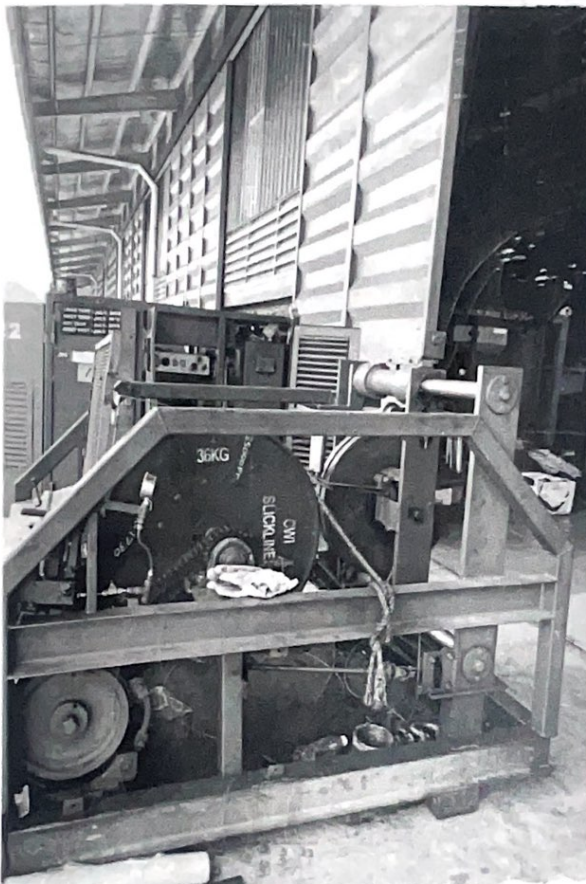
What is potential hazard during handling Spooling Device

- Hose burst
- Line of wire
- High tension wire.

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Draw & name each part of Spooling Device



- SPOOLER DRUM
- DRIVE SPOCKET
- PRE-SET SPOOLING
- DOUBLE BRAKE IN SPOCKET

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03/10/24



9. Control Panel

What is Control Panel

- Control panel are supply hydraulic.

What is the purpose of Control Panel

- Used to operate a number of valves normally operated in slickline operations. (Hmv 155v)

How to operate Control Panel

- Connect air to supply air for control panel.
- Using regulator to pressure up line.

What is maintenance required for Control Panel

- Check gauge
- Check hose
- Check all tubing and connection
- Check hydraulic oil.

What is safety precaution required for Control Panel

- Secure all hoses connection.
- Don't stand at line of wire.
- Check all connection and fitting.

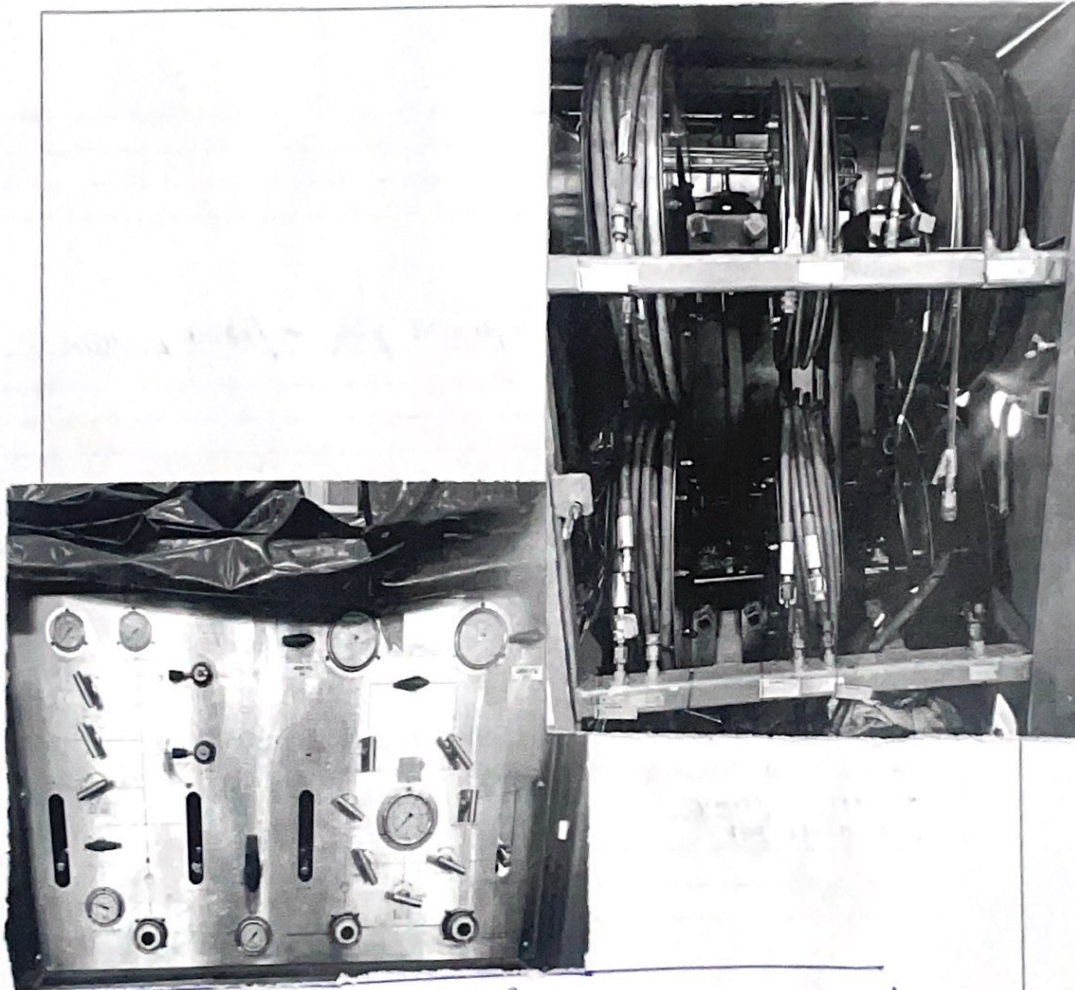
What is potential hazard during handling Control Panel

- Hose tubing burst
- Tubing leaking / parted.
- High pressure.

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Draw & name each part of Control Panel



SYSTEM	PUMP TYPE	WORKING PRESSURE
① JCSSV	AIR / HYDRAULIC	0-101000 PSI (620 BAR)
② HMU	" "	0-6000 PSI (415 BAR)
③ TWO BOP	" "	0-51000 PSI (3415 BAR)
④ STUFFING BOX	DANUAL / HYDRAULIC	0-51000 PSI (3415 BAR)
⑤ TEST LINE	AIR / HYDRAULIC	0-101000 PSI (690 BAR)

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10. Huskel Drum

What is Huskel Drum

- Generate fluid pump

What is the purpose of Huskel Drum

- To convert air supply to hydraulic pressure / fluid pressure.

How to operate Huskel Drum

- Air supply to control by air regulator.

What is maintenance required for Huskel Drum

- Service pump
- Pedress kit.

What is safety precaution required for Huskel Drum

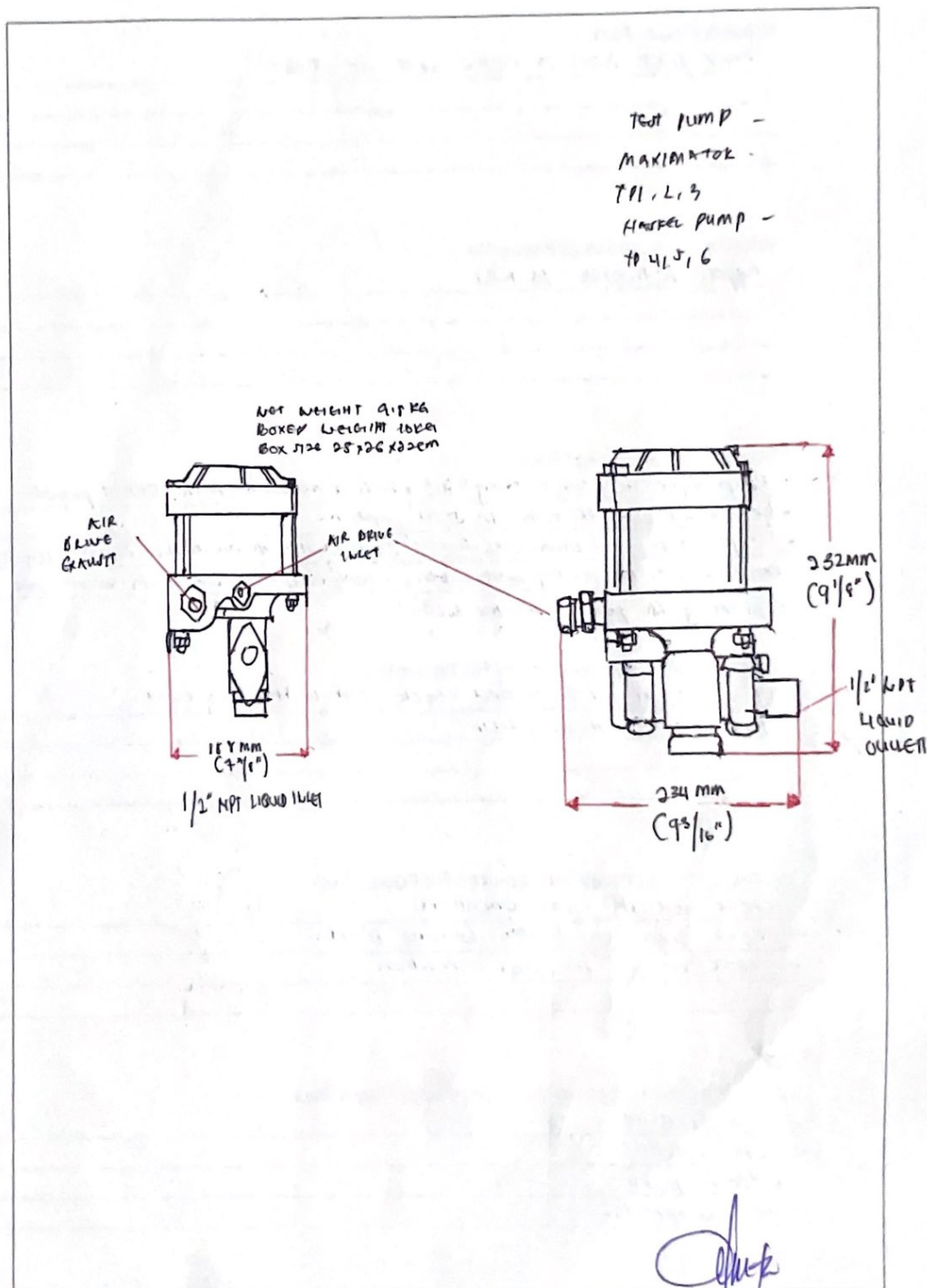
- Barricade area while function test.

What is potential hazard during handling Huskel Drum

- Air tort burst.
- Trap pressure.
- Life of wire.

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Draw & name each part of Huskel Drum



[Signature]

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11. Power Pack (Electrical & Diesel)

What is Power Pack

- Power pack have a engine and use diesel.

What is the purpose of Power Pack

- Supply hydraulic to RPU

How to operate Power Pack

- Keep engine stop cable fully "in" which is mounted on the control panel.
- Keep diesel cut off valve in start position.
- Keep winch unit drum directional control valve in neutral or centre position.
- Start engine by pulling and holding inlet overspeed cut down valve and depressing the pedal master switch.

What is maintenance required for Power Pack

- Change engine oil filter and check drain water on tank.
- Service when running hour.

What is safety precaution required for Power Pack

- Check hose in good condition.
- Check engine oil later before start.
- Check engine in good condition.

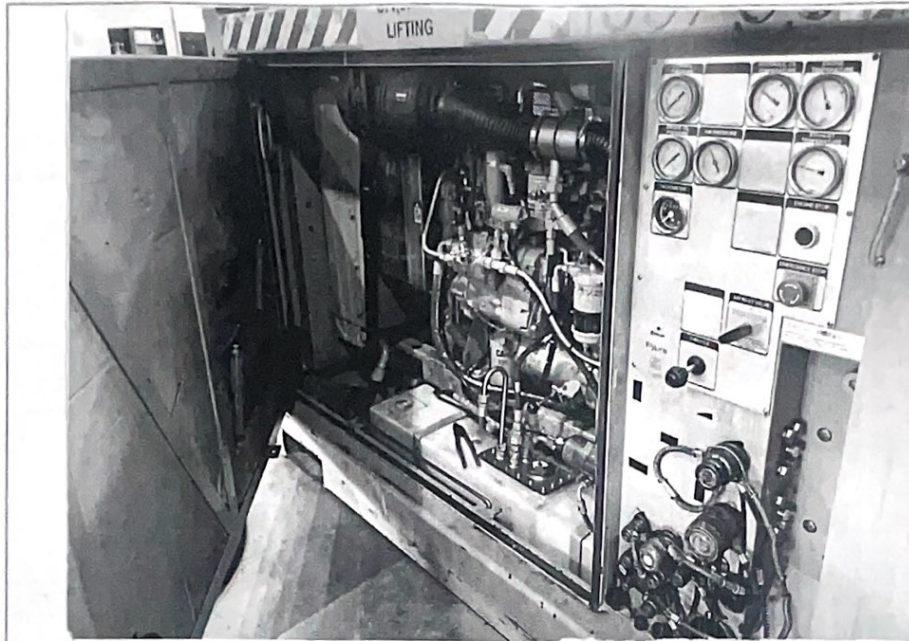
What is potential hazard during handling Power Pack

- High pressure
- Noise sound
- Rotating part
- Hot equipment.

James Olupe 23/10/27



Draw & name each part of Power Pack



- | | |
|---|-------------------------------------|
| (1) EXHAUST SILENCER | (14) ENGINE OIL PUMP KUMP |
| (2) PNEUMATIC AND HYDRAULIC CONNECTIONS | (15) FUEL PUMP |
| (3) ENGINE FRONT-REAR BREATHER VALVE | (16) ENGINE OIL FILTER |
| (4) FUEL TANK | (17) ENGINE OIL INTAKE SAFETY VALVE |
| (5) FUEL SAFETY (SEATING) VALVE | (18) AIR INLET VALVE CONTROL HANDLE |
| (6) SPRINK STRUTTER | (19) EXHAUST |
| (7) FUEL FINE FILTER | (20) EXHAUST |
| (8) ELECTRIC JUNCTION BOX | (21) EXHAUST |
| (9) ENGINE AIR INTAKE FILTER (NATURALLY POWER PACK) | (22) EXHAUST |
| (10) BATTERY ISOLATION SWITCH | |
| (11) CONTROL PANEL | |
| (12) FUEL FILTER & WATER SEPARATOR | |
| (13) SPRINK STRUTTER CRANE HANDLE | |

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03/10/21



12. Air Compressor

What is Air Compressor

- Air compressor as a engine and use diesel

What is the purpose of Air Compressor

- Air compressor to supply compressed air

How to operate Air Compressor

- keep diesel cut of valve in start position.
- Recoil spring starter by turning on clock wise direction until the indicator turns red
- start engine by pulling and holding inlet overspeed shutdown valve and releasing the spring starter start lever.
- keep and continue holding the inlet overspeed shutdown valve until oil pressure is built.

What is maintenance required for Air Compressor

- Change engine oil, filter, coolant and water
- Check hose in good condition.

What is safety precaution required for Air Compressor

- make sure engine in good condition
- Be aware when rotating equipment / part

What is potential hazard during handling Air Compressor

- Noise sound
- High pressure air
- More burst

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Draw & name each part of Air Compressor

Air Compressor (cont.)

Parts

Dimension
Ref: SL/FORM-SCIP-12

① RADIATOR

② DIESEL TANK

③ HYD FILTER

④ FUEL TANK

⑤ AIR TANK

⑥ INSTRUMENTAL PANEL

⑦ CONNECTION POINT (SUPPLY)

James *[Signature]* 03/10/24