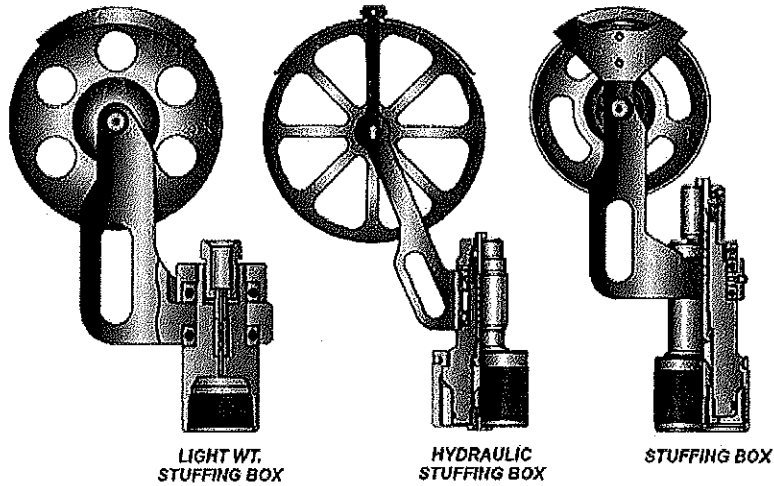




B. SURFACE EQUIPMENT

1. Stuffing Box



What is Stuffing Box

→ To control pressure, specially design for seal ground sold wireline to confine wellbore fluids and gases within the surface pressure equipment.

What is the purpose of stuffing Box

→ To trap wire which breaks on surface before it drop down.
 → To hold pressure from well while in wireline operation.
 → To guide wire during operation.

How to operate Stuffing Box

→ Packing
 → Pressure hydraulic hand pump.

What is maintenance required for Stuffing Box

→ Service every 6 month, to hydrotest and MPI.

yearly MPI/VI
Hydrotest

What is safety precaution required for Stuffing Box

→ Proper Lifting technique
 → Inspect every 6 Month.
 → In good condition and certified.

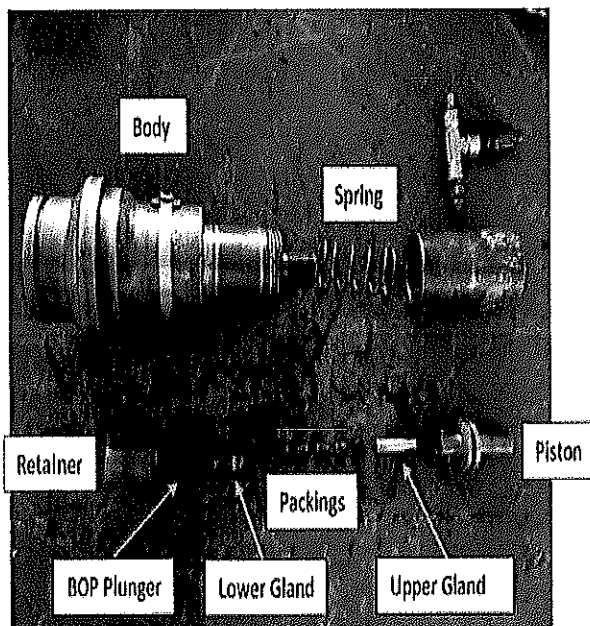


What is potential hazard during handling Stuffing Box

→ Pinch Point.

→ Back Pain.

Draw & name each part of stuffing box



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2. Lubricator

What is Lubricator

- Lubricator is the term used for sections of pressure tested pipe that act to seal in wireline tools during pressurization.

What is the purpose of Lubricator

- To allow the wireline tool string to be raised above the wellhead prior to and after wireline operation, thereby enabling the wellhead valve to be opened and closed, allowing entry and exit from the well bore.

How to operate Lubricator

- Check seal faces and O-ring.
- Check Lubricator pressure rating.

What is maintenance required for Lubricator

- Change O-ring.
- Check I.D.
- Check Pin and box collar.
- Pressure test.

What is safety precaution required for Lubricator

- O-ring in good condition.
- Collar thread no damaged / cracked.
- Check validity / inspect every 6 months.

What is potential hazard during handling Lubricator

- Back Pain.
- Pinch Point.
- Slings Parted.

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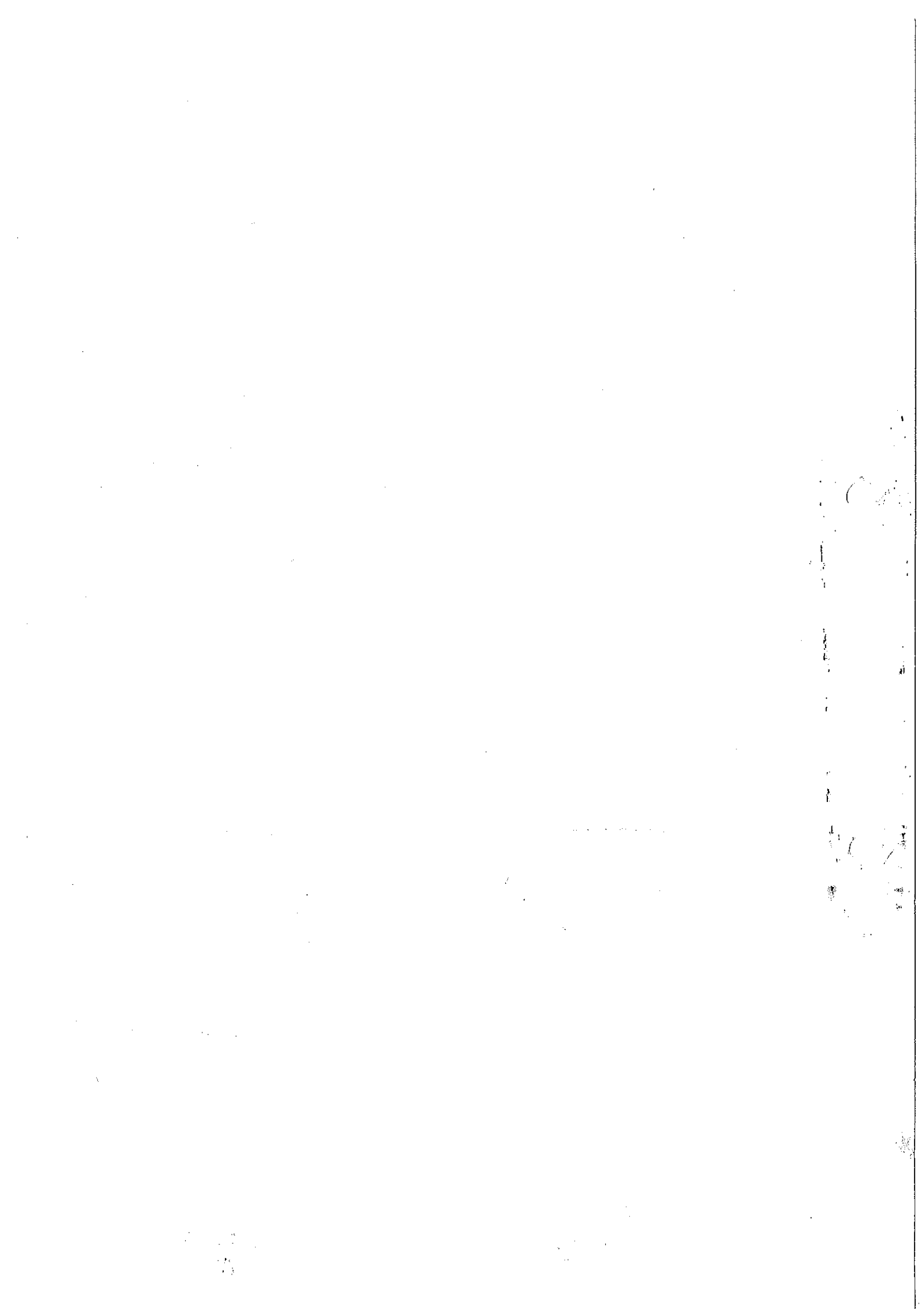
LUBRICATOR



Slimline Lubricators (ported)

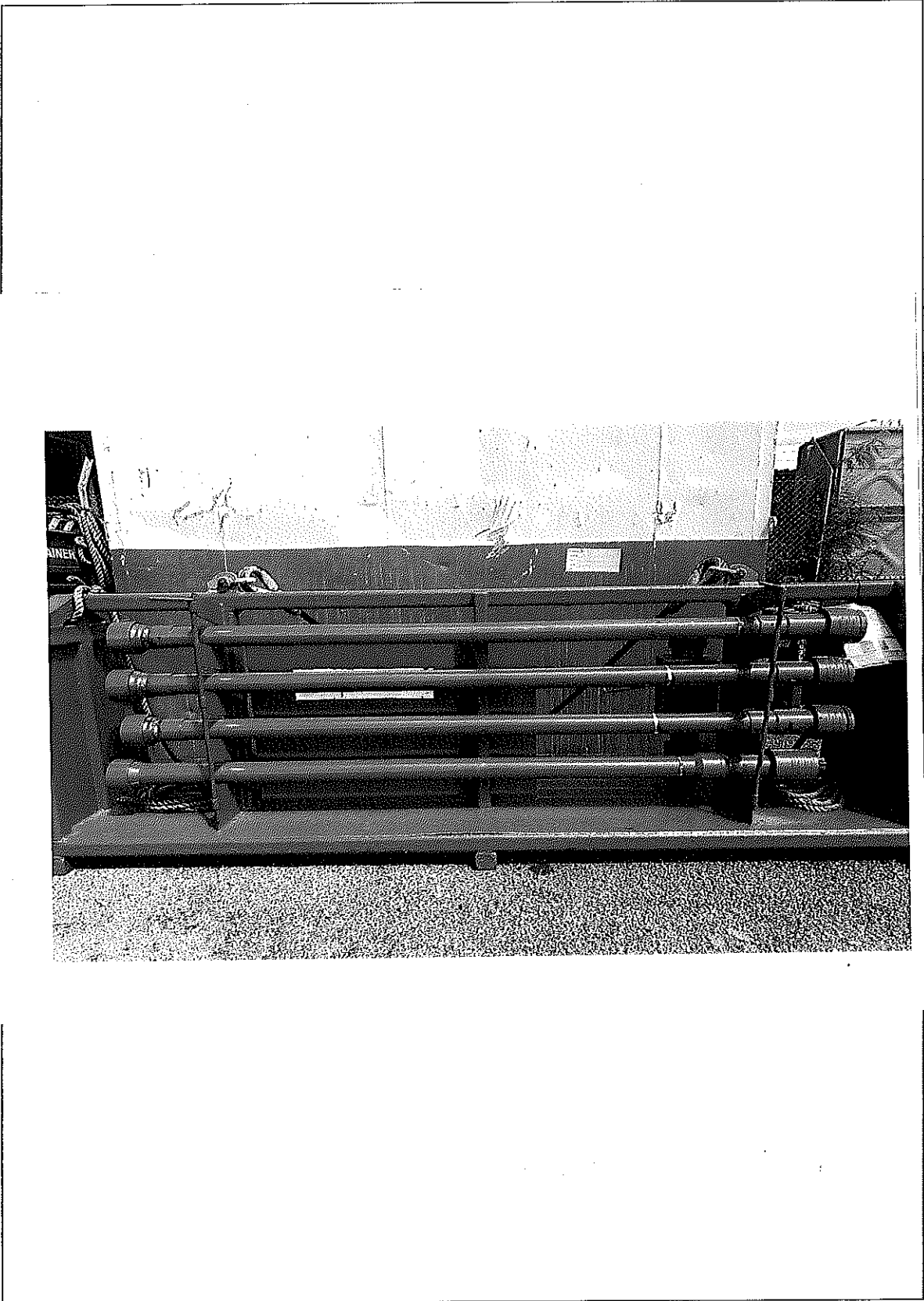
Lightweight Lubricators (ported)

The above data is courtesy of Hunting Well Intervention



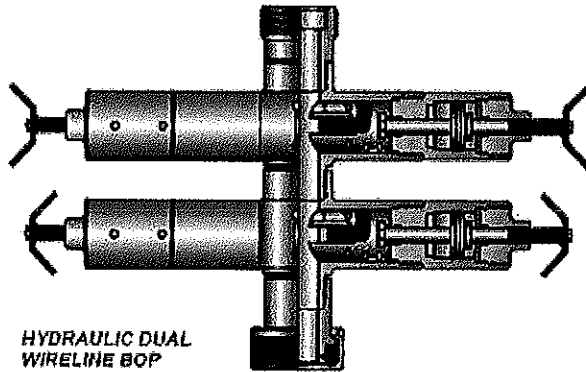


Draw & name each part of Lubricator

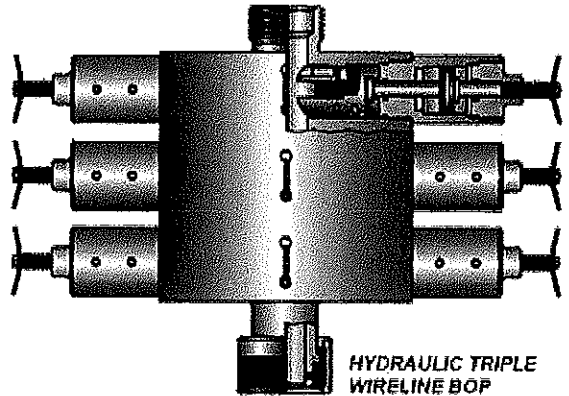




3. Blowout Preventer (BOP)



HYDRAULIC DUAL
WIRELINE BOP



HYDRAULIC TRIPLE
WIRELINE BOP

What is BOP

→ Specialized Valve or Similar mechanical device, used to seal, control and monitor oil and gas wells to prevent blown out.

What is the purpose of BOP

→ To prevent uncontrolled pressure / flow of formation fluids during drilling and completion operation.

How to operate BOP

→ Using hydraulic pressure
→ Control by Reel Skid unit and Control panel.

What is maintenance required for BOP

→ Change inner and outer seal.
→ Change o-ring.

What is safety precaution required for BOP

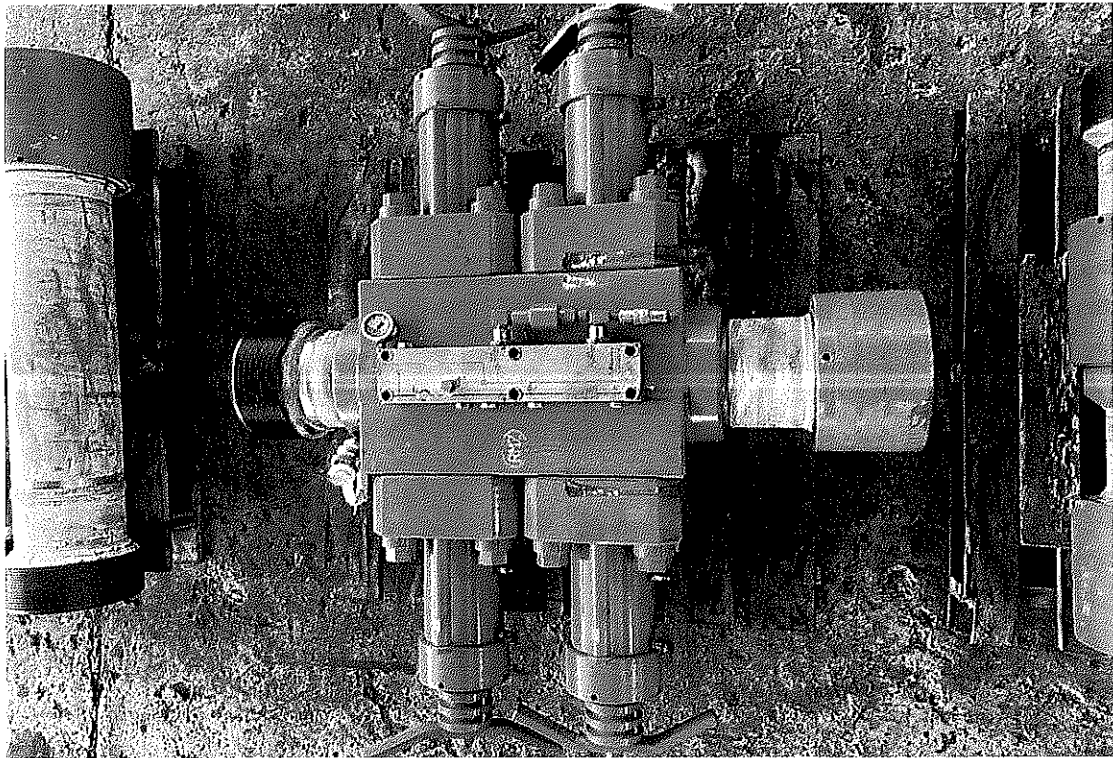
→ Release pressure before and after operation.



What is potential hazard during handling BOP

- Sling parted
- Pinch point.

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~~ ^{series} of valves installed on the wellhead to control the flow of fluid from the well.

What is the purpose of x-mas tree

→ Installed on the tubing spool is surface safety valve to control the pressure from below/wells.

How to operate x-mas tree

→ Can be operated hydraulically. The valve also can be turned manually. Always count the turn (18 turns)

What is maintenance required for x-mas tree

→ Valve Maintenance.

→ Flange Connection.

→ Body Painting.

What is safety precaution required for x-mas tree

→ Do not over tighten during opening and closing.

What is potential hazard during handling x-mas tree

→ Gas leak.

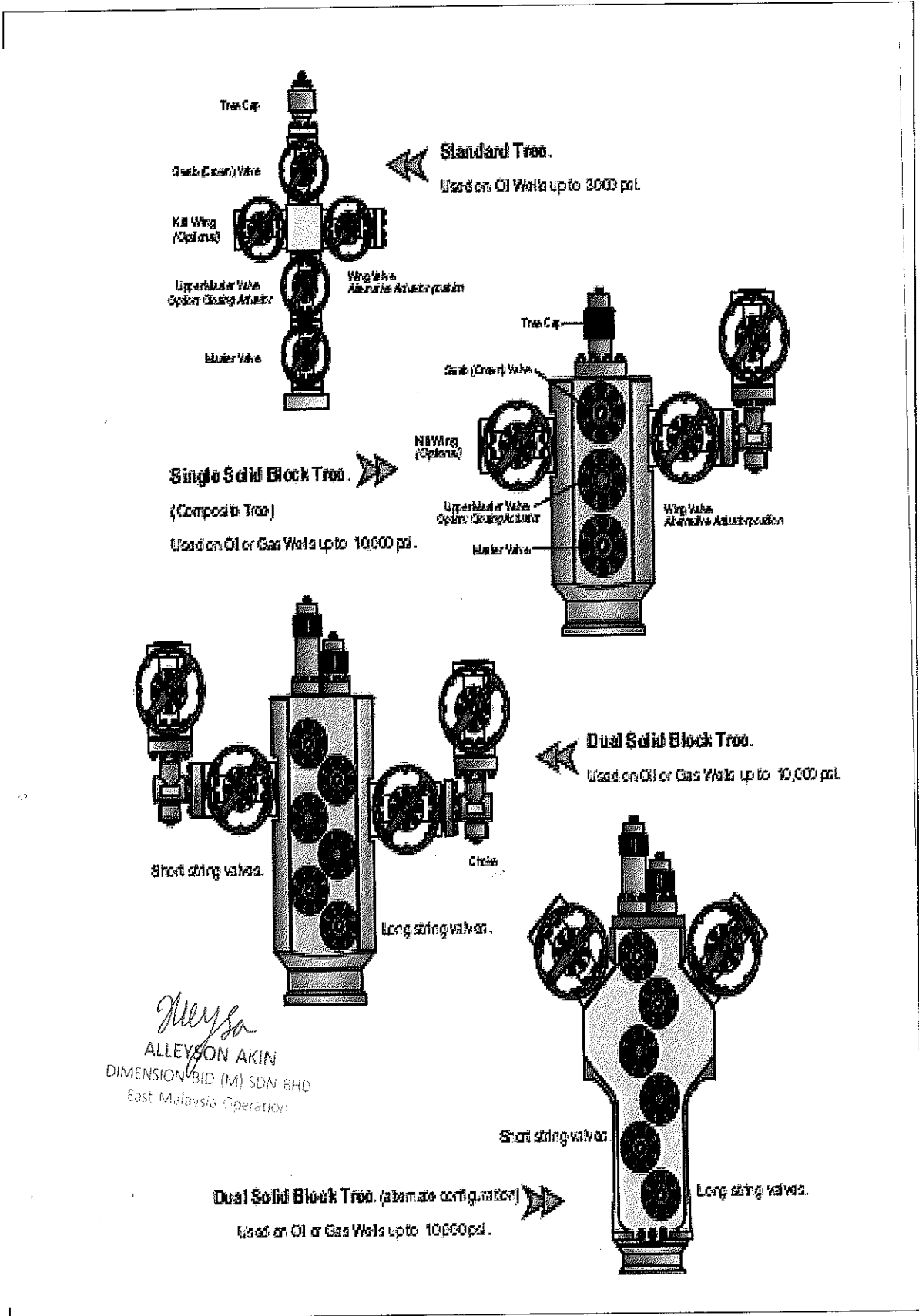
→ High pressure

→ Noise hazard.

→ Slip and fall.



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 Control drum direction and speed.
- Certified with Zone 2.
- Equiped with safety device.

What is the purpose of RSU

- To run in hole wireline Tool string inside the wells.

How to operate RSU

- Make sure pressure supply and pressure return hose from PP to RSU have been tighten and installed whip check.

What is maintenance required for RSU

- Check all hose condition.
- Change hydraulic filter. (TIS unit).

What is safety precaution required for RSU

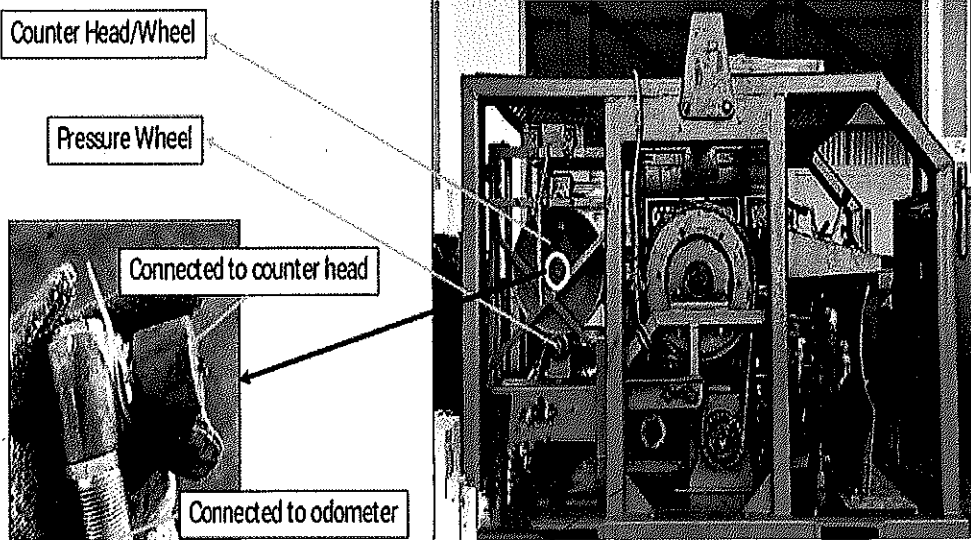
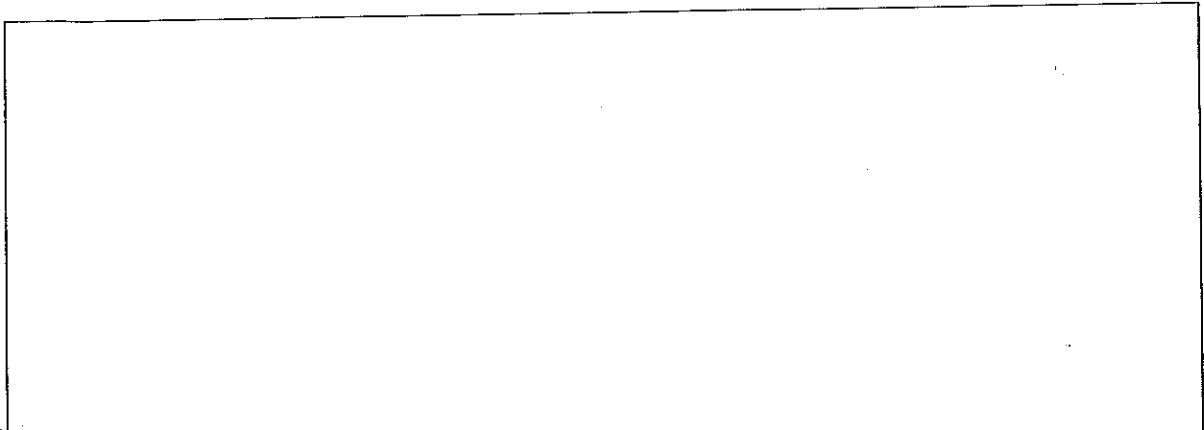
- Always check hose condition and connection before start operate RSU.
- Always install RSU cover.

What is potential hazard during handling RSU

- wire break
- Hose burst.



Draw & name each part of RSU



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6. Odometer

What is Odometer

→ Record and show current depth of tools during operation.

What is the purpose of Odometer

→ To indicate wireline depths.

How to operate Odometer

→ Connect odometer cable.

→ Ratio of 1:2

→ Press reset button to reset meter.

What is maintenance required for Odometer

→ Clean and spray cable and knob using anti-rust spray to prevent corrosion/rusty.

What is safety precaution required for Odometer

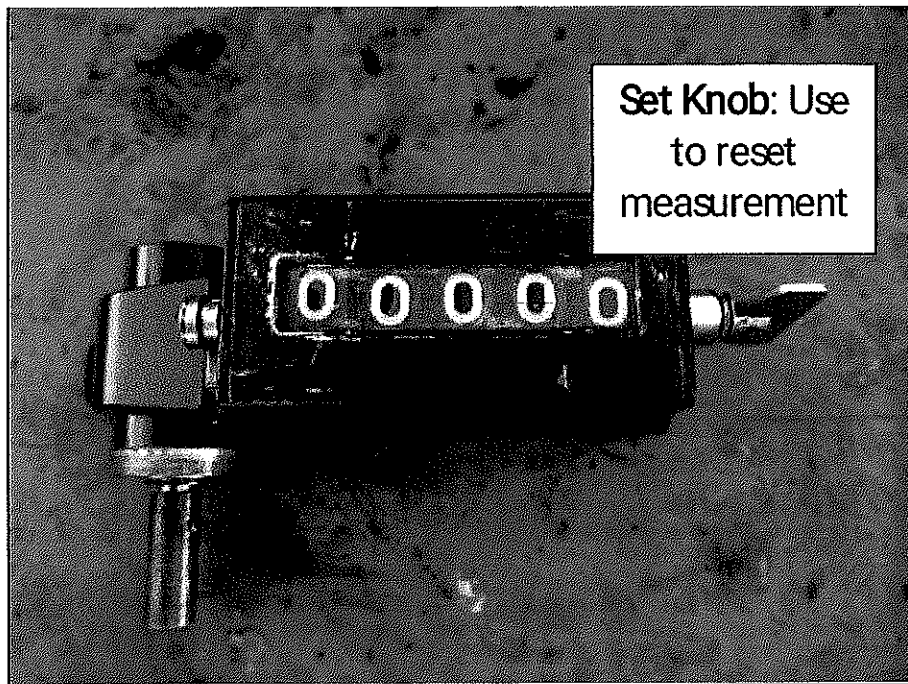
→ Make sure the cable gland is tighten.

What is potential hazard during handling Odometer

→ Pinch Point.



Draw & name each part of Odometer



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7. Weight indicator (200 lbs and 4000 lbs)

What is Weight Indicator

→ Completely sealed hydraulic system.

What is the purpose of Weight Indicator

→ Measurement of downhole tools weight during wireline operation and heel or floor blocks.

How to operate Weight Indicator

→ using hydraulic system.

What is maintenance required for Weight Indicator

→ Refill the w-15 fluid with y-pump.
→ check hose & change if there any leaks the tree and not kinked.

What is safety precaution required for Weight Indicator

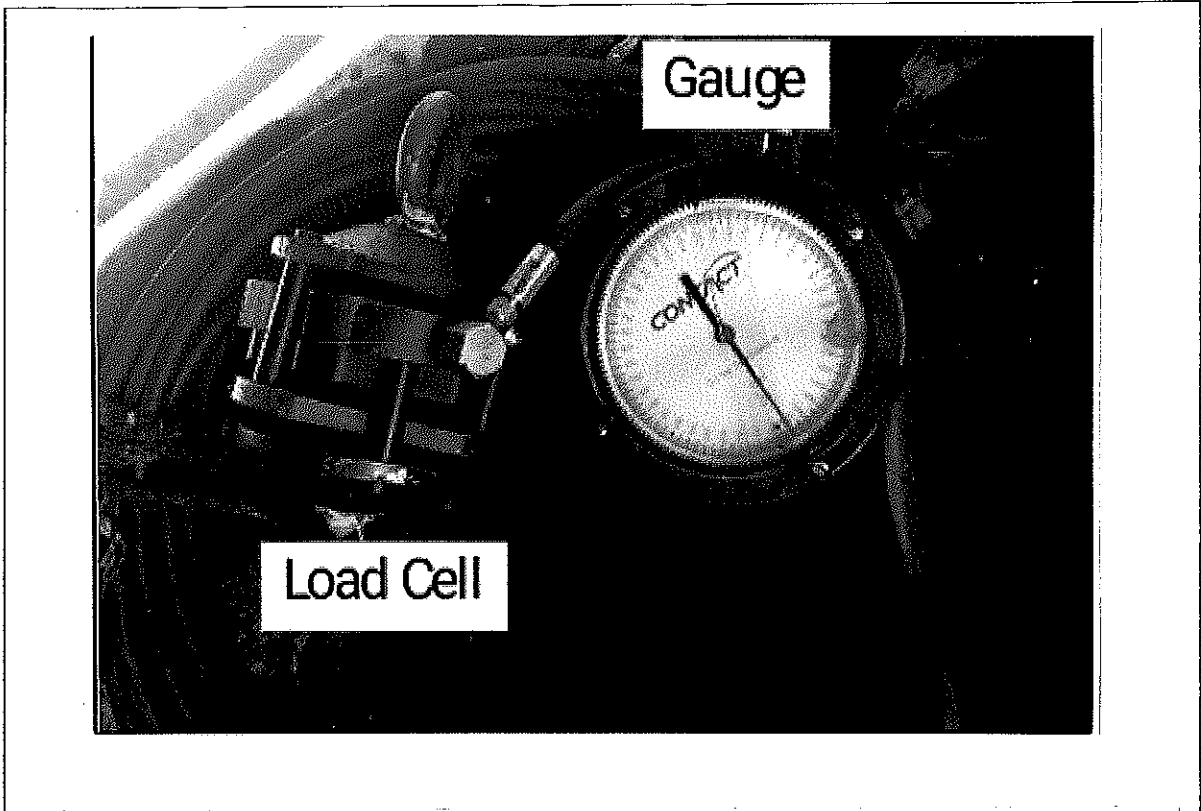
→ mount the load cell so that nose leaves the cell towards

What is potential hazard during handling Weight Indicator

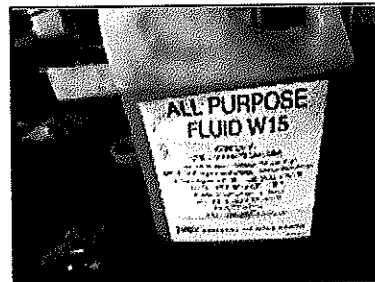
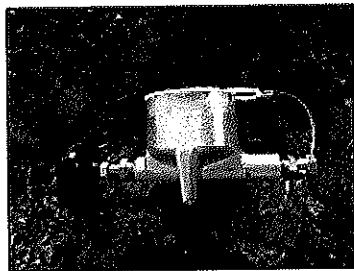
→ Drop Object



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.

How to operate Spooling Device

→ Assemble the reel, weight indicator and key Pulley is needed. Spooling device have a brake lever that will help to control the Line tension.

What is maintenance required for Spooling Device

→ Brake Servicing

→ Reel Painting

→ ~~the connection~~

What is safety precaution required for Spooling Device

→ Drum in good Condition.

→ ensure Flexi glass in good condition.

→ Barrier the Area during Spooling in progress.

What is potential hazard during handling Spooling Device

→ Pinch Point

→ Wire Parted.

Draw & name each part of Spooling Device



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9. Control Panel

What is Control Panel

→ Pump and gauges that use to control the equipment and the wellhead.

What is the purpose of Control Panel

→ To control BOP ram (open/close), stuffing box, safety valve, master valve and test line.
→ 15000 working pressure

How to operate Control Panel

→ Connect the control line to the equipment & open air supply. use the regulator to control pump and pressurized the line.

What is maintenance required for Control Panel

→ Check hydraulic hoses (any leaking/damage)
→ Check hydraulic fluid level.
→ Check low pressure warning system.
→ Clean air filter

What is safety precaution required for Control Panel

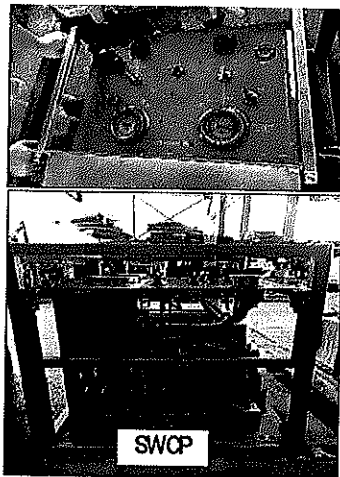
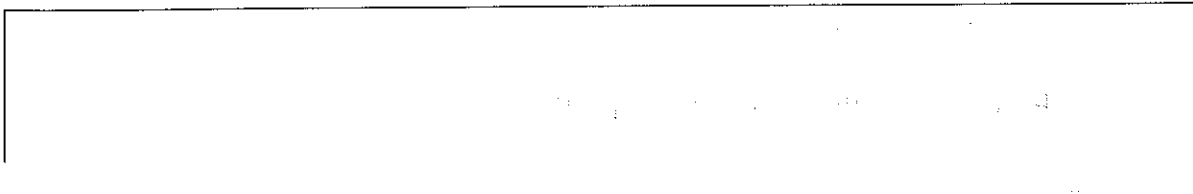
→ Bleed off fully before dismantle any connections.
→ Do not tighten/loosen any connection while still under pressure.
→ Make sure valve and regulators are in correct position.

What is potential hazard during handling Control Panel

→ Hose burst.
→ Hydraulic leak.



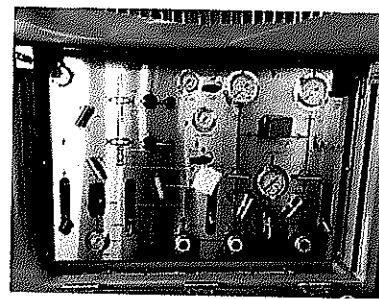
Draw & name each part of Control Panel



SWCP

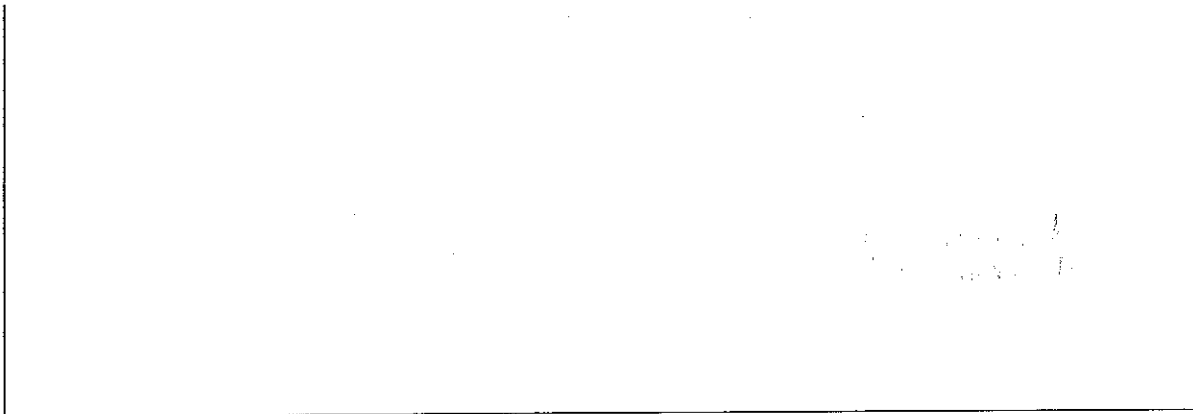


WCP



CP

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10. Huskel ^{Pump} Drum

What is Huskel Drum

→ Is an air driven ^{Pump} Pump.

What is the purpose of Huskel ^{Pump} Drum?

→ To drive the Hydraulic or water in Control Panel or test pump.

How to operate Huskel ^{Pump} Drum?

→ Operate from the knob or regulator at the end panel.
→ Allow the hydraulic piston to reciprocate without passing fluid into drive section.

What is maintenance required for Huskel ^{Pump} Drum?

→ Service Huskel ^{Pump} Pump -
→ Check O-Ring
→ Hydraulic Check Valve & Hybrid Seal repair.

What is safety precaution required for Huskel ^{Pump} Drum?

→ Make sure connection tubing in good condition
→ Check condition O-Ring.

What is potential hazard during handling Huskel Drum?

→ Pinch Point
→ Tubing Point.

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Draw & name each part of Huskel Drum



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11. Power Pack (Electrical & Diesel)

What is Power Pack

- Diesel driven.
- ~~Required to supply~~ To Supply Power hydraulic To RSU & W/LINE MAST.

What is the purpose of Power Pack

- To Generate Power for Wireline unit & Wireline Mast.
- Provide and Supply the hydraulic power to RSU

How to operate Power Pack

- Check diesel oil, hydraulic fluid, Water Coolant, or any leakage before start / operate Power Pack.
- Pump Manually hydraulic to 2000 psi for start Power Pack.

What is maintenance required for Power Pack

- Change gearbox fuel.
- Change Coolant.
- Service radiator.
- Check All Hose Connection fitting.

What is safety precaution required for Power Pack

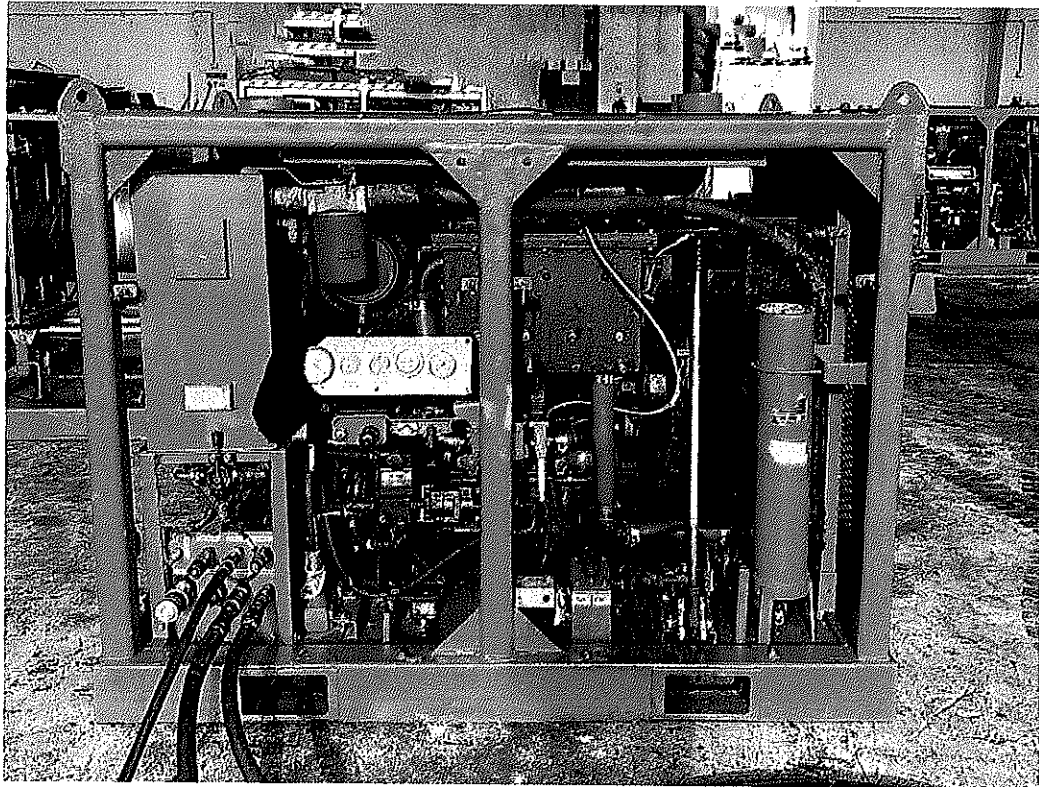
- Use SAE 40 oil for engine oil.
- Make sure No leak sign before operate.
- During Connecting Hose ~~from~~ ~~Power~~ Must Install Weep Check.

What is potential hazard during handling Power Pack

- Hand and finger injury.
- Pressure & Electric
- Hydraulic & Diesel oil.



Draw & name each part of Power Pack



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12. Air Compressor

What is Air Compressor

A machine that air being compressed driven by diesel engine.

What is the purpose of Air Compressor

To supply compressed air for control panel, test pump and air starter engine.

How to operate Air Compressor

Starting procedure almost same with Power Pack.
The air compressor usually spring starter.
To crank the starter rotates the shaft clockwise with indicator turn red.
Release spring to start engine.

What is maintenance required for Air Compressor

Change oil
Clean fan belt tension
Change filter.

What is safety precaution required for Air Compressor

Make sure hose has no leaking.
Ensure safety valve is fully functioning.

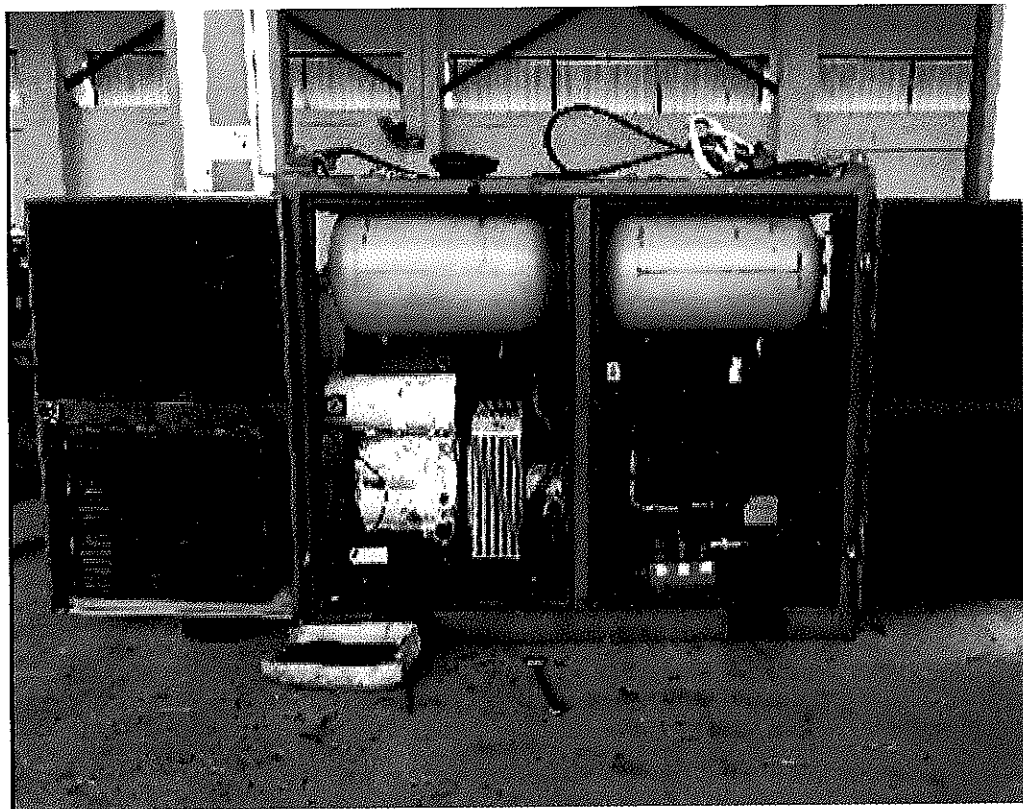
What is potential hazard during handling Air Compressor

Hot surface.
Hot dust.
Pinch point.

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Draw & name each part of Air Compressor



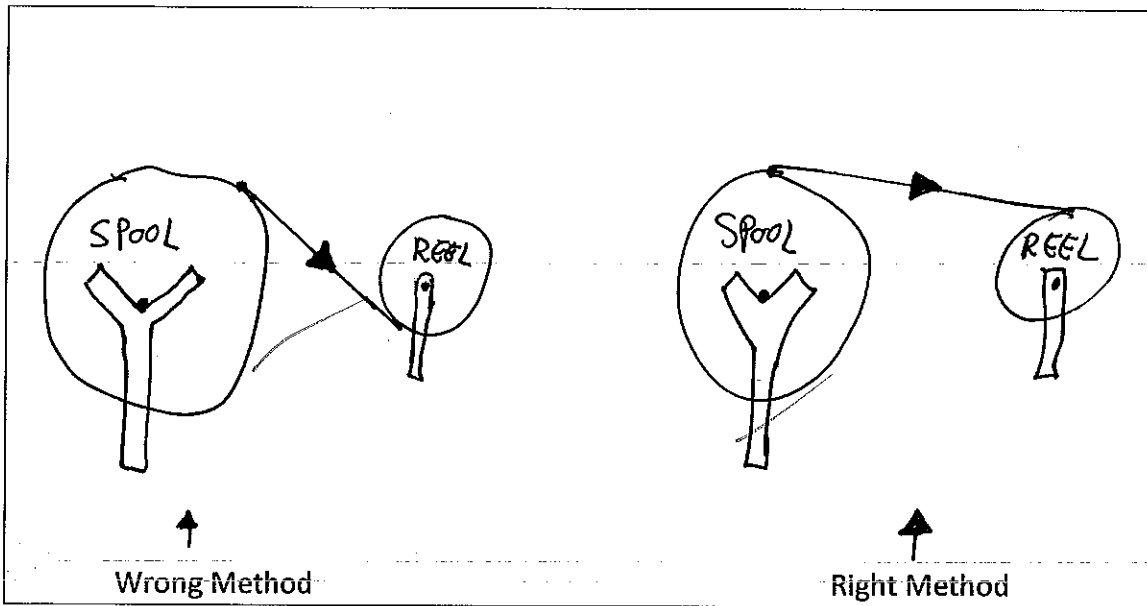
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13. Drum

What is the purpose of Drum

→ To spool the Wireline Wire.

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



What is maintenance required for Drum

→ Change if there ~~down~~ any broken/damage.
→ Service the drum bearing.

What is safety precaution required for Drum

→ Using proper PPE.
→ Use tag line or pull stick.

What is potential hazard during handling Drum

→ Pinch Point
→ Back Injury.

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