



MECHANICAL

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/189
Issued By: M.R		Approved By: HOD-Mechanical	
SOP-JSA FOR DIESEL ENGINE OPERATION (FIRE HYDRANT)			

Scope : This SOP is applicable to Safe working for Diesel engine operation.

Responsibility : **Section Engineer – Mech.**

Accountability : **Section Manager – Mech.**

PPE:

1. Helmet,
2. Safety shoe,
3. Ear plug,
4. Safety goggles.
5. Rubber hand Gloves.
6. Nose mask.

Tools:

1. Box Spanner set
2. Ring Spanner set
3. Waste oil collecting tray.
4. Waste oil collecting drum
5. Waste for cleaning

Hazards:



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Risks associated

Mitigating Measures

Body injury

1.Safe and tested tools and tackles

2. on job training

Training needs:

1. Fire fighting
2. Emergency preparedness
3. Lubrication handling
4. Assembly procedure

Procedure:

1. Take the inspection of diesel engine
2. The line clearance paper should be with the person who is working in the site.
3. To check the Diesel tank level & diesel tank out let valve condition.
4. Use PPE'S while working
5. Check the battery connecting terminal condition and bolt tightness. Charging condition also to be check.



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6. To check the oil level in the engine
7. To check the coolant level
8. To check the suction air filter conditions for engine.
9. To check the water inlet & out let valve open conditions
10. Pump & engine connecting coupling conditions.
11. Start the engine
12. Observe the engine running conditions parameters like oil temp. suction oil pressures and out let water pressure and not it done.
13. Running time check any oil / diesel/ water/ coolant leakages.
14. To stop the engine after 15 to 30 mints or required time after.
15. If not required closed the non-operation valves.

Emergency / Emergency Shut OFF:

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1. If body injury is there, First aid will be given and inform to the Safety department or Call Emergency number 3108/ 9865152222

Records/Annexure:

1. JSA is enclosed below.
2. Isolation Matrix.

JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job: Fire Hydrant diesel engine operation	Date: 12 – 09 - 2012	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Engineer	Department: Mech.	Section: UTILITY	Approved by: HOD Machanical
Req'd/recommended PPE: Safety helmet, Safety shoe, Safety goggles, Ear plug, nose mask & Rubber hand Gloves.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Valve operation	Hand injury / Fatal	Closed the out let valve and open the drain (manual) valve	System will be pressure raised it will blasting the system	Ensure valve condition before start the work
Open all the doors	Leg and hand injury	Use proper PPE and use the door opening key and spanner	Door will be fall down Tools will be slip	Ensure tools and tackles conditions
Removing of Air filter	Leg and hand injury		Air filter will be fall down	Proper handling of air filter
Cleaning of Air filter	Dust emission	First open the lock nut and use the both hands to remove the filter	Dust inhalation	Ensure using of nose mask and use low pressure air to clean the filter



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Re fixing of Air filter	Leg and hand injury	Use proper PPE and use 2 bar pressure to clean the air filter		Training to them to handling the material and using of recommended tools
Top up the lubricant oil	Leg injury	Using both hands to re fixing the air filter and lock the nut with using of recommended tools	Air filter will be fall down	Before opening the oil filling plug use the tray kept below the tank area
Closed the doors	Leg and hand injury	Use proper tray and funnel for handling the oil	Slip and oil spillage	Use the faunal to fill up the oil
Valve operation	Hand injury	Use faunal to fill up the oil	Slip and oil spillage	Ensure tools and tackles
		use the door opening key and spanner	Door will be fall down Tools will be slip	Ensure the valve condition after the work completion
		open the out let valve and closed the drain (manual) valve	System will be pressurized and material damaged	

Isolation Matrix:

SL No	Activity			Isolation Matrix for Utility & General Equipment.	
				Isolation Type	
				Electrical Energy	Other Energy



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1	Diesel Engine operation	Name and Tag for the Equipment	Isolate the Related compressor				Isolate the AIR valve & drain the air.			
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