



DALMIA CEMENT (B) LIMITED – ARIYALUR

MECHANICAL SOP

Issue No. 03	Rev. No: 01	Effective Date: 10/08/2022	SOP/MEC/085
Issued By: M.R		Approved By: HOD Mechanical	
ROOT BLOWER			

Scope:

This SOP is applicable for maintenance of Root Blower safely.

Responsibility : Section Engineer – Mech

Accountability : Section head – Mech

PPE:

1. Helmet,
2. Safety shoe,
3. Goggles
4. Gloves.
5. Nose mask

Tools:

1. Spanner set
2. Filler Gauge
3. Hammer

Hazards:

Risks associated

1. Body injury
2. Leg injury
3. Hand injury

Mitigating Measures

1. Safe and tested tools and tackles
2. On job training



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Isolation matrix:

Sl: No	Activity	Description	Electrical Energy	
01	Root Blower over hauling	Name and Tag for the Equipment	Blower Drive	Blower main drive

Procedure:

a) Dismantling:

- Take the line clearance with LOTO system
- The line clearance paper should be with the person who is working in the site.
- Use proper personal protective equipments
- Ensure proper tools and tackles
- Remove v belt guard and belts from the pulleys and take utmost care of the fingers as there is a chance of pressing of the fingers between the pulley and the belt
- Take out filters from the Blowers and clean the filters using proper PPE, change the filters if any damage found.
- Dismantle the suction line from the blower by chain block
- Remove discharge pipe line of the blower carefully
- Check the condition of the lobes of the blower as well as side clearance
- Remove dust particles from the lobes chamber with diesel by slow rotation
- Open oil chamber inspection doors and check the timing gear if required.



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m) Check the bearing condition and piston rings condition for replacement.

b) Assembly:

1. After thorough check of all the bearings and timing gears close all the inspection covers.
2. Assemble discharge and suction lines along with filters after cleaning
3. Fix V belts carefully by concentrating on your fingers as there may be the chance of pressing of the fingers between the pulley and the belt.
4. Fix the V belt guard and ensure tightness of all bolts.
5. Remove all unwanted scrap and spillage material from the area.
6. Cancel the line clearance for operation.

Emergency / Emergency Shut OFF:

If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222

Records/Annexure:

1. Refer Line clearance/permit in mech department.
2. JSA is enclosed below.

JOB SAFETY ANALYSIS :(JSA)



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Job Safety Analysis	Job: Root Blower Maintenance.	Date: 01/09/2014	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Head	Department: Mech	Section: PYRO	Approved by: HOD-Mechanical
Req'd/ recommended PPE: Safety helmet, Safety shoe, Gloves, Goggles, Gloves& Nose mask.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Remove v belt guard and belts from the pulleys and take utmost care of the fingers as there is a chance of pressing of the fingers between the pulley and the belt	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Take out filters from the Blowers	Leg, hand & body injury	Use goggles, proper tools & nose mask	During lowering dust may come out.	Ensure no body below the rotor assembly
Dismantle the suction line from the blower by chain block	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Remove discharge pipe line of the blower carefully	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Check the condition of the lobes of the blower as well as side clearance	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.



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Remove dust particles from the lobes chamber with diesel by slow rotation	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and chances of jamming hand between lobes	Ensure Use/working condition of TOOLS AND TACKLES.
Open oil chamber inspection doors and check the timing gear if required.	Health, Leg, hand & body injury	Use goggles, proper tools & nose mask	During opening gas may come out.	Ensure no body below the rotor assembly
Check the bearing condition and piston rings condition for replacement.	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Rotor may unbalance /slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Assemble inspection cover, Suction line& Discharge line	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg & negligence may lead to accident	Ensure Use/working condition of TOOLS AND TACKLES.
Fix the V belt guard and ensure tightness of all bolts.	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.
Remove all unwanted scrap and spillage material from the area.	Leg, hand & body injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg & negligence may lead to accident	Ensure Use/working condition of TOOLS AND TACKLES.
Remove all the energy isolation	Leg and hand injury	Use proper tools and tackles so that fasteners will not slip	Fasteners may slip and tools may hit to the hand and leg	Ensure Use/working condition of TOOLS AND TACKLES.