



DALMIA CEMENT (B) LIMITED



ARIYALUR

MECHANICAL

Issue No. 01	Rev. No: 00	Effective Date: 01-11-2019	SOP/MECH/192
Issued By: M.R		Approved By: HOD (Mech)	
SOP-JSA FOR COMPRESSOR SPIDER REPLACING			

Scope : This SOP is applicable to Safe working for COMPRESSOR SPIDER COUPLING replacing .

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. Hand Gloves.
7. Nose mask.

Tools:

1. Box Spanner set
2. Ring Spanner set
3. Hammer.
4. Chain block.
5. Belt sling.
6. Steel rod.
7. Nylon rope.
8. Motor moving tray and stand.



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Hazards:

Risks associated

Electrical shock

Pressurized air release

Hot oil spillage

Fall of objects

Mitigating Measures

1.Safe and tested tools and tackles

2. on job training

3. LOTO for motor.

1. Mechanical LOTO for outlet valves.

2.Release the air through drain valve and kept it open till the job done.

1.Proper draining of oil.

1. Usage of certified lifting tools.

Training needs:

1. Fire fighting
2. Emergency preparedness
3. Electrical prevention training
4. Assembly procedure
5. Lubricant handling.
6. Lifting of heavy objects.



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Procedure:

By removing the motor:

1. Take the LOTO for compressor and outlet valves.
2. The LOTO and permit paper should be with the person who is working in the site.
3. Release the pressure through drain valve and kept it open till the job completed.
4. Loosen the base bolts of motor.
5. Fix the chain block above the compressor motor on eye bolt for lifting and sliding.
6. Lift and slide the motor backwards along with the stand till getting a clearance on the coupling area.
7. Remove the damaged spider and clean the coupling.
8. Replace with new spider .
9. Slide back the motor to original position.
10. Firmly fix the motor over the base bolt .



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11. Confirm the position of spider placement.
12. Gently tight the base bolt
13. Close the drain valve.
14. Clear the electrical and mechanical LOTO.
15. Take the trial note the current of motor and vibration reading.

By removing the screw element:

1. Take the LOTO for compressor and outlet valves.
2. The LOTO and permit paper should be with the person who is working in the site.
3. Release the pressure through drain valve and kept it open till the job completed.
4. Drain the oil on screw element.
5. Remove the oil pipeline and hoses on screw element.



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6. Loosen the base bolt of screw element.
7. Lift and slide the screw element outwards.
8. Remove the damaged spider and clean the coupling.
9. Replace with new spider .
10. Slide back the screw element to the original position.
11. Firmly fix it over the base bolt.
12. Re-fix the oil pipeline and hoses.
13. Close the drain valve. Clear the electrical and mechanical LOTO.
14. Take the trial note the current of motor and vibration reading.

Emergency / Emergency Shut OFF:

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



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Records/Annexure:

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

JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job: COMPRESSOR SPIDER REPLACING	Date: 04- 05 - 2020	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 Mechanical
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
Chain block fixing	Major injury/Fatal	Proper holding of the chain block and proper tie on the safe location	May be fall down Tools will be slip	Maintaining a distance on the below while placing
Sliding of motor	Electrical shock/Fall on leg	Electrical LOTO and proper support while moving.	May be fall down on the leg	Proper lifting and certification on lifting tools
Hot lubricant handling	Resource usage/hand injury	Rubber hand glove usage/Usage of proper tools.	May be a injury/burn/land contamination.	Proper lubricant handling.



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Isolation Matrix:

SL No	Activity			Isolation Matrix for Utility & General Equipment.							
				Isolation Type							
				Electrical Energy				Other Energy			
1	COMPRESOR SPIDER replacing		Pyro and dense phase compressor-441CP1-4, 421CP1 Cement mill and Fly ash unloading compressor-K21CP1-2 , N2 COMPRESSOR	Isolate the Related other energy isolation					Isolate or closed the valves		