Sandalwood
Engineering & Ergonomics
Work Smarter. Work Safer.



Process Improvement

Process Impovement Reduces Assembly Time at Compressor Manufacturer

Client:
Compressor Manufacturer

Objectives:
1. Improve throughput by 30%
2. Identify & implement layout improvements
3. Identify & implement methods improvements
4. Identify & eliminate assembly waste

Project Description:
A cross functional Kaizen Productivity team, including Sandalwood personnel, used Lean Six Sigma (LSS) tools to identify and implement process improvements for final assembly. The team documented the current process layout, tools, Equipment, work element sequence and time to identify specific improvements and waste reduction enabling increased throughput.

Results:
- Overall throughput increased 50%
- New bearing press design reduced install time 30%
- New clearance measurement method and equipment eliminated manual measurement errors
- Costly and time consuming assembly “teardown” repairs were almost completely eliminated
- Layout & methods improvements reduced walk time
- New electric tools & equipment improved methods
- Organization and Housekeeping were improved through 5S implementation
- Written standardized work instructions were developed and implemented to assure sustainability

Similar results were obtained in other Assembly areas

		Product	Department	Area	Date	Sheet	OMS	Rev
		178 Bare	Lg Line Assembly: Assembler					
Step	Work Instruction	Cycle Time (s)	Key Point	Description				
1	Spray CRC Lubricant and rust retardant on rotor housing.	12						
2	Lift male rotor using hoist.	25						
3	Wipe male rotor with clean cloth.	43	Rotor must be free of burrs and debris.	Burrs and/or debris on rotors can fall off and potentially lock up the air end.				
4	Lower and install male rotor into rotor housing.	21	Handle rotors carefully and wear cut resistant gloves. Knack - Verify that rotor hsg is level.	Rotors can have sharp edges. Use caution when running hands along ridges to avoid injury. Knack - It is easiest to insert rotors into rotor hsg when hsg is level.				
5	Lift female rotor using hoist.	25						
6	Wipe female rotor with clean cloth.	52	Rotor must be free of burrs and debris.	Burrs and/or debris on rotors can fall off and potentially lock up the air end.				
7	Lower and install female rotor into rotor housing.	26	Handle rotors carefully and wear cut resistant gloves. Knack - Verify that rotor hsg is level.	Rotors can have sharp edges. Use caution when running hands along ridges to avoid injury. Knack - It is easiest to insert rotors into rotor hsg when hsg is level				
8	Remove eyebolts from both rotors.	30						
Total Cycle Time:		3 min 54 sec						
Work Instructions		TQC	WORK CONTENT	SAFETY	Approved By:			

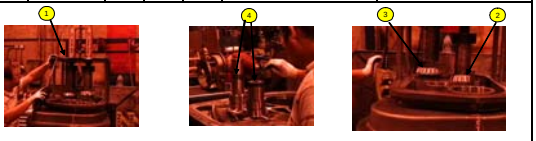
Process Documentation

Battery Tool Improved Housing Plug Installation

	MANUFACTURING WORK INSTRUCTION				0
					Document Revision:
STATION: Stand Assm.	FAMILY: High Pressure		MODEL: 297/250		Revision Date:
					OPTIONS:

ITEM	PART NUMBER	QUANTITY	TOOL	TRQ	Description
1	x	1			HP Bearing Press
2	39605203	2			Bearings - tapered HP F discharge
3	39489521	2			Bearings - tapered HP M discharge
4	x	x			Molycoat
5					
6					
7					
8					

TQC
WORK CONTENT
VERIFY



A. Install HP bearing press (#1) to FBH assembly with hoist

B. Apply molycoat (#4) to bearing id's and spray lube (#5) to HP rotor shafts

C. Stack bearings (#1&2) onto rotors and press on to M & F rotor shaft
D. Remove top bearing races & set aside
E. Remove HP Bearing press with hoist & place to cart

Standardized Work Instructions

Sandalwood is an engineering and ergonomics consulting firm. Since starting in 1989, Sandalwood has designed nearly 1,000 projects that have executed strategic solutions for manufacturers. By providing their knowledge, research, technology, and resources, Sandalwood supports its clients from the executive level to the factory floor so you can…

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