

Q-M Matrix : JENOPTIK CRANK SHAFT GAGE OP 178

Machine Group	TELESIS LASER MARKER	TELESIS LASER MARKER	MEASURING SET UP	MEASURING SETUP	
Machine components	Telesis Theta Lense	Cognex Camera	Measuring Probe	Measuring Probe	
Parameters	100% Clear of Debris	Reset	Refer to schematic diagram for tolerances	100% Clear of Debris	
Measuring instruments	Tweezers Canned Compressed Air Lens Tissue and Isopropyl Alcohol	Manual reset button	Allen Wrench Set	Cleaning Brush Ethanol Detergent	
Specifications	P37	None	P33,P34	P35	
Frequency	18,000 Cycles	As Needed	As Needed	4500 Cycles	
Responsibility	Electrician	Electrician	MTTM	MTTM	
Q Points					
Operating Instructions	P37	None	P33,P34	P35	

Level of Analysis 1 = Original 2 = After Improvements

5QFZD			1	2	1	2	1	2	1	2	1	2	
	Is the condition clear and visible?	Fixed specification range is defined					1						
		An easy to check method exists			1								
		Visual - Easy to see at any time	1						1				
	Is it easy to set?	Difficult to set, measure by hands											
		Easy to adjust, fixed position			1		1						
		Preset, automatic set up for each product type	1						1				
	Is the value varying outside the specification range ?	During normal production in less than 1 shift											
		Modified at each set up											
		Exceptionally	1		1		1		1				
Is the variation visible ?	Low probability to see it			1		1							
	The Periodical inspection system has more than 90% probability to see the deviation occurred	1						1					
	A continuous monitoring ensuring immediate alert												
Is it easy to restore?	Difficult, almost an art, requires technical skills and downtime												
	Easy once a person is qualified	1		1		1		1					
	Automatic adjustment (closed loop)												
TOTAL		1	2	1	2		2	1	2	1	2		
		5	0	5	0	5	0	5	0	0	0		
		20%	0%	20%	0%	20%	0%	20%	0%	0%	0%		
Before Total Score													
After Total Score													
Total Points	600												