

# Peter Jühren

Corporate Service Manager  
Morrow Equipment Co. L.L.C.  
Salem, OR USA



**You have a Quality Control and  
Quality Assurance program.**

**You build or maintain your cranes  
to high standards you set**

**But does your program really  
work, and is it effective and meets  
the goals you have set?**

**And how do you manage your  
Quality control Quality control?**

# Quality Control 1.0



“a system for verifying and maintaining a desired level of quality in a new or existing product or service by careful planning, use of proper equipment, continued inspection, and corrective action as required.”

# Quality Control 2.0

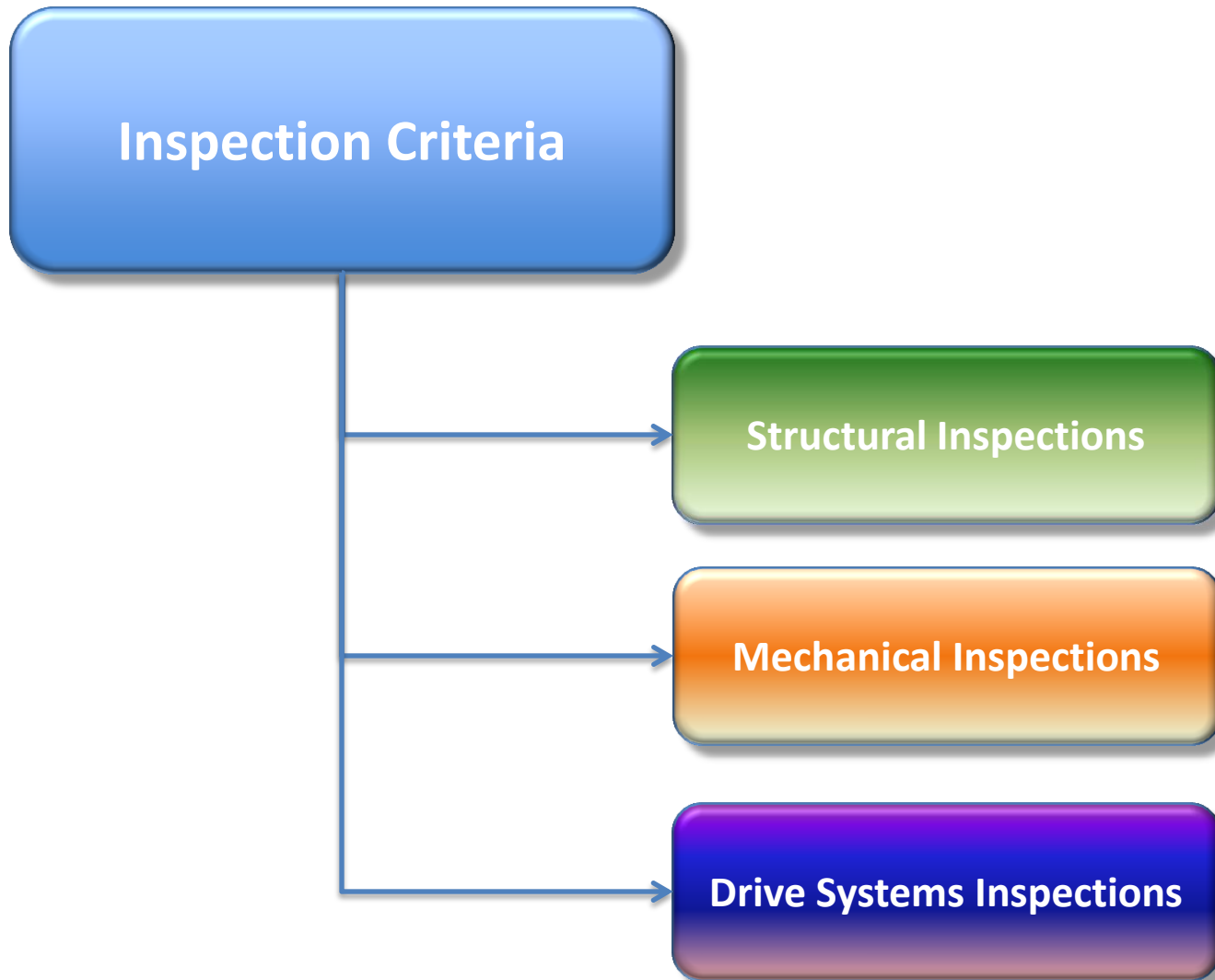


# Breaking down your QC/QA into manageable groups for evaluation, modification, and verification

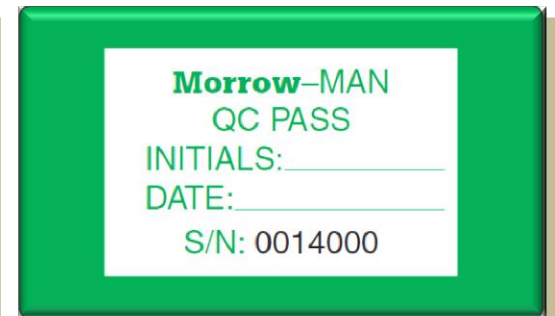
Technical  
Specifications

Inspection  
Criteria

Documentation



## Structural Inspections



Initially, the Blue tags were also serial numbered. After recommendations from our Quality Control personnel, we determined this had no tracking benefit, and the serial numbers were removed accordingly



Doc #: <b>ACW-322</b>		<b>Equipment Discrepancy &amp; Repair Report</b>	
Component: 1317	Jib Section 3 - #622		
Model: 1800C	Serial #: 1275	RED QC Tag: 13351	Status: WAITING FOR REPAIR
<b>PART 1: Assessment</b>	Initial inspection date: 6/11/2012	<b>PART 2: Repair / Re-Inspection</b>	Date: 6/18/2012
Inspected by: Scroy, Neil	Est. completion date: 7/2/2012	Re-inspected / approved by: Price, Gregory	
<b>Description of damage:</b> :1-RIGHT SIDE ALIGNMENT INNER END STRUT BENT BEYOND REPAIR. :2-RIGHT SIDE UPPER PIN CONNECTION HAMMER MARKS AROUND HOLE. :3-RIGHT SIDE LOWER CORD INSIDE FACE STRESS CRACKS FROM INNER END TO OUTER END. :4-RIGHT SIDE UPPER CORD THERE ARE THREE DENTS AT PENDANT BAR ATTACHMENT POINT. :5-RIGHT SIDE LACING #2 FROM INNER END IS DENTED. :6-RIGHT SIDE UPPER CORD THERE ARE NUMEROUS IMPURITIES IN STEEL. :7-RIGHT SIDE DIAGONAL LACING #4 FROM INNER END THERE ARE GOUGES. :8-RIGHT SIDE DIAGONAL LACING #5 FROM INNER END THERE ARE GOUGES. :9-RIGHT SIDE DIAGONAL LACING #8 FROM INNER END THERE ARE GOUGES. :10-RIGHT SIDE LOWER CORD THERE IS A GOUGE IN THE END OF PIN HOLE LUG OUTER END. :11-LEFT SIDE LOWER CORD INNER END THERE IS A GOUGE ON THE PIN LUG. :12-LEFT SIDE FIRST DIAGONAL LACING THERE ARE TWO DENTS. :13-LEFT SIDE LOWER CORD THERE ARE FOUR DENTS ON INNER END. :14-LEFT SIDE DIAGONAL LACING #2 THERE ARE SEVERAL DENTS. :15-LEFT SIDE UPPER CORD THERE ARE NUMEROUS GOUGES. :16-LEFT SIDE DIAGONAL LACING #3 THERE ARE SEVERAL DENTS. :17-LEFT SIDE DIAGONAL LACING #4 THERE ARE SEVERAL DENTS. :18-LEFT SIDE DIAGONAL LACING #6 THERE ARE SEVERAL DENTS. :19-LEFT SIDE DIAGONAL LACING #7 THERE ARE SEVERAL DENTS. :20-LEFT SIDE UPPER CORD THERE ARE TWO DENTS AT PENDANT BAR ATTACHMENT POINT. SIDE :21-LEFT SIDE DIAGONAL LACING #8 THERE ARE SEVERAL DENTS. :22-BOTTOM SIDE FIRST HORIZONTAL LACING EDGE IS GOUGED. :23-BOTTOM SIDE THE 1st & 3rd DIAGONAL LACING ON RIGHT SIDE BENT BEYOND REPAIR. :24-BOTTOM SIDE DIAGONAL LACING #8 IS BENT. :25-BOTTOM SIDE DIAGONAL LACING #1, #2, & #4 LEFT SIDE ARE BENT. :26-BOTTOM SIDE HORIZONTAL LACING #3 IS GOUGED. :27-BOTTOM SIDE DIAGONAL LACING #7 & #8 ON LEFT SIDE ARE BENT BEYOND REPAIR. :28-BOTTOM SIDE HORIZONTAL LACING #5 IS BENT. :PAINT IS FADED. :SEE ATTACHED REPAIR FORM FOR LOCATION OF DAMAGE LISTED ABOVE.		<b>Description of repair:</b> -ALL REPAIRS WERE CARRIED OUT IN ACCORDANCE WITH MORROW EQUIPMENT CO LLC WELDING FIELD REPAIR GUIDE 2011. :1-REPLACED ALIGNMENT STRUT RIGHT SIDE INNER END. :2-REPAIRED HAMMER MARKS RIGHT SIDE UPPER PIN CONNECTION. :3-REPAIRED CRACKS IN RIGHT SIDE LOWER CORD INSIDE FACE FROM INNER END TO OUTER END. :4-REPAIRED DENTS TO PENDANT BAR ATTACHMENT POINT TOP CORD RIGHT SIDE. :5-REPAIRED DENT IN LACING #2 RIGHT SIDE. :6-GOUGED OUT IMPURITIES IN STEEL & REWELED RIGHT SIDE LOWER CORD. :7-REPAIRED GOUGES IN DIAGONAL LACING #4 RIGHT SIDE. :8-REPAIRED GOUGES IN DIAGONAL LACING #5 RIGHT SIDE. :9-REPAIRED GOUGES IN DIAGONAL LACING #8 RIGHT SIDE. :10-REPAIRED GOUGE IN LOWER CORD PIN HOLE LUG RIGHT SIDE. :11-REPAIRED GOUGE IN LOWER CORD PIN HOLE LUG LEFT SIDE. :12-REPAIRED DENTS IN FIRST DIAGONAL LACING LEFT SIDE. :13-REPAIRED DENTS IN LOWER CORD INNER END LEFT SIDE. :14-REPAIRED DENTS IN DIAGONAL LACING #2 LEFT SIDE. :15-REPAIRED GOUGES IN UPPER CORD LEFT SIDE. :16-REPAIRED DENTS TO LACING #3 LEFT SIDE. :17-REPAIRED DENTS TO LACING #4 LEFT SIDE. :18-REPAIRED DENTS TO LACING #6 LEFT SIDE. :19-REPAIRED DENTS TO LACING #7 LEFT SIDE. :20-REPAIRED DENTS TO UPPER CORD PENDANT BAR ATTACHMENT POINT LEFT SIDE. :21-REPAIRED DENTS TO LACING #8 LEFT SIDE. :22-REPAIRED GOUGED EDGE OF FIRST HORIZONTAL LACING BOTTOM SIDE. :23-REPLACED RIGHT SIDE DIAGONAL LACINGS #1 & #3 BOTTOM. :24-REPAIRED LEFT SIDE BOTTOM LACING #8. :25-REPAIRED LEFT SIDE DIAGONAL LACINGS #1, #2, & #3 BOTTOM SIDE. :26-REPAIRED GOUGE IN HORIZONTAL LACING #3 BOTTOM SIDE. :27-REPAIRED LEFT SIDE DIAGONAL LACING #7 & #8 BOTTOM SIDE. :28-REPAIRED HORIZONTAL LACING #5 BOTTOM SIDE. :ALL REPAIRS WERE PAINTED WITH RUST PREVENTIVE PRIMER. :JIB SECTION WAS PREPPED FOR PAINT. :PAINTED JIB SECTION MEC YELLOW.	
<b>Inspector notes:</b> JIB SECTION IS READY FOR FLEET USE. (QC PASS TAG 95285)			
<b>District manager notes:</b>			

Document all structural repairs



# Mechanical Inspections

Since the inception of Morrow’s QC/QA program in 2008, there have been 209 changes to the 20 different maintenance checklists Morrow uses to document the work done on our fleet. Each checklist averages 10 categories and 22 pages of comprehensive inspections

Doc #: ACW-34		Maintenance Checklist - Liebherr LC, HC, EC-H		Save	Scan/Upload	View	Print	Exit			
A/R #:	11903	FLY & FORM STRUCTURES, INC.		Status: FINISHED							
Mode:	316ECH-LITRON	Serial #:	44.474	Hook Height:	118	Hook Reach:	246	Date:	02/22/2013	Inspector:	Price, Gregory
Base Tower Section	Tower Sections	Cabin Section	Trolley Assembly	Counterjib							
Tower Top	Hoist Unit	Jib Assembly	Hook Block	PLC Crane Settings/Tech. bull							
JP	5. Condition of resistor bank: Springs	N/A	Plates	OK	OK- Dump bank						
N/A	6. Condition of resistor coil eddy current brake	316 Litty									
JP	7. Condition of lead wires and ends to resistors	OK-Dump Bank									
JP	8. Top lid raised and screened for ventilation of resistance box	OK									
JP	9. Door fasteners	OK									
JP	10. Mounting frame in good condition	OK									
JP	11. S-2 panel heater OK and thermostat set to	10	deg C	OK							
JP	12. S-2 panel ventilator OK and thermostat set to	30	deg C	OK							
JP	13. Door interlock switches functional	OK									
JP	14. Condition of contactors and points	OK									
JP	15. All warning decals installed in correct locations and in readable condition	OK									
JP	16. S-1 to S-2 power cord: Length	FACTORY	size	FACTORY	type ends	PLUG	OK				
JP/EB	17. Wiring in panel OK	<input checked="" type="checkbox"/>	all loose wires taped	<input checked="" type="checkbox"/>	all arc shields and covers in place	<input checked="" type="checkbox"/>	OK				
JP	18. Cycle all non-testable breakers, function test all testable breakers (push trip buttons)	OK									
JP	19. Hoist limit switch OK	OK									
JP	20. Hoist limit switch protective cover	OK									
JP	21. Hoist rope: Length	1000'	Cond.	NEW	Dia.	22mm	Type	RHL	OK		
N/A	22. Erection rope clamped onto end of hoist rope	NOT REQUIRED									
JP	23. Gearbox(es)	OK									

# Drive Systems Inspections

**Doc #:** HOU-134    **Maintenance Checklist - Liebherr LC, HC, EC-H**                   

**A/R #:** 12206    E. E. REED CONSTRUCTION, LP    **Status:** FINISHED

**Model:** 550ECH20-LITRO    **Serial #:** 45.232    **Hook Height:** 199    **Hook Reach:** 202    **Date:** 08/24/2013    **Inspector:** Meza, Philip

Base Tower Section	Tower Sections	Cabin Section	Trolley Assembly	Counterjib
Tower Top	Hoist Unit	Jib Assembly	Hook Block	PLC Crane Settings/ Tech. bull

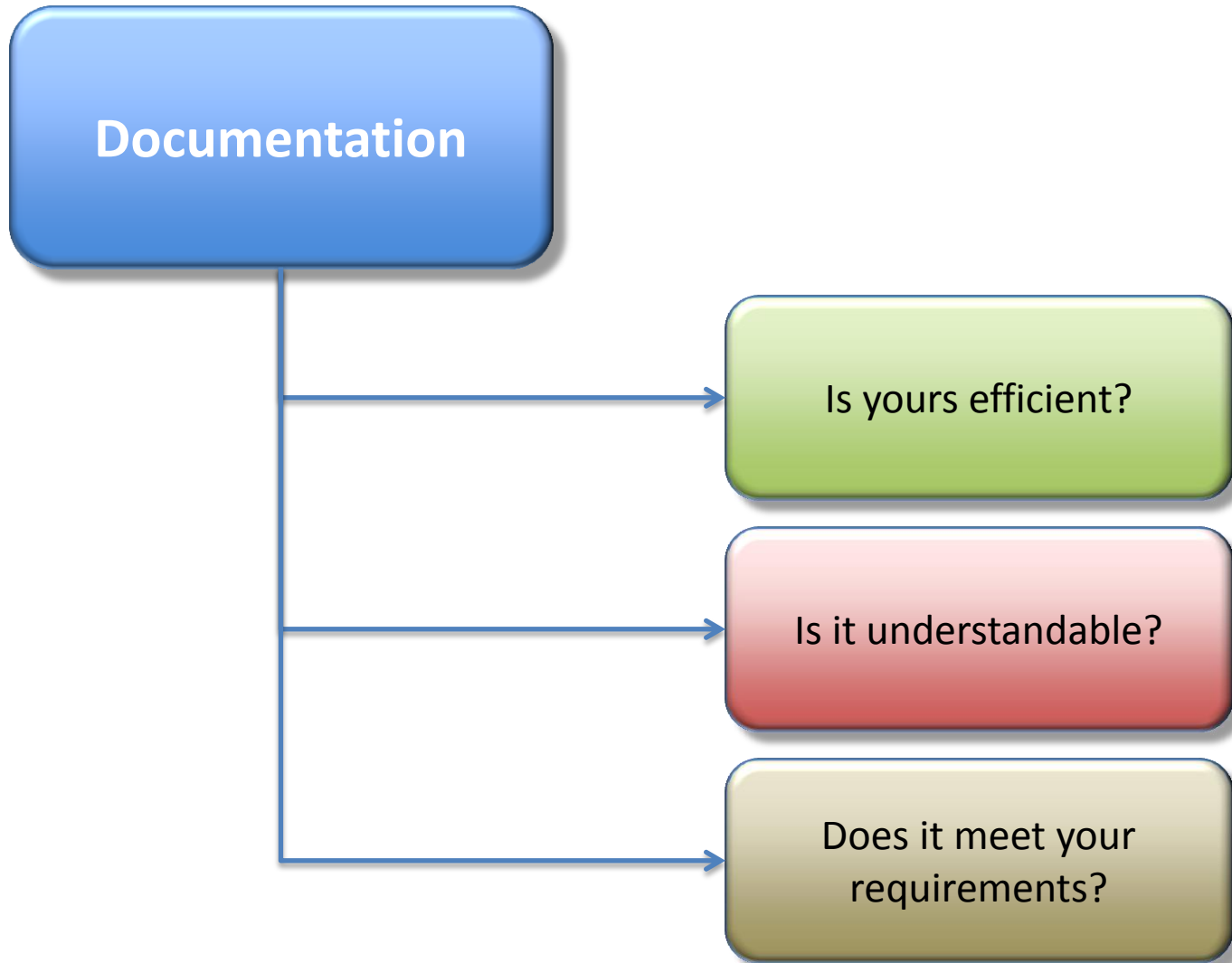
  

**PLC Crane Settings**

Initial	Description/Task	Comments
TR	1. EMS Boot	1.5
TR	2. EMS AC31-S	1.31
TR	3. KT94S	3.05
TR	4. KT98	3.03
TR	5. KT98-SMC	3.07
TR	6. KT98 Battery date 8/22/13 (replace if more than 4 years old)	NEW

Comments

As technology changes, so should your documentation. We track 61 different software versions for our fleet of Liebherr Litronic cranes



How we Improved our documentation

Committed Accessories for #11538 - SHEEDY DRAYAGE CO.  
Date Printed: 11/27/2012

Customer ID: 11538  
Class: TOWER CRANES  
Manufacturer: LIEBHERR  
Model: 550E2H2-LTRONIC  
Serial #: 46.024

Location: SHEEDY DRAYAGE CO. LUCILLE KARD LINDS PITAL ROAD CH, CA

Initial Item: 142

**Auto-assign QC Tag Numbers**

Starting Number: 35000

Ending Number:  Assign Straight Sequence

Stop After:

Crane Tracking Remarks:

Auto-assign QC Tag #s QC Tags Entry

Line	Action	Comp ID	Tags	Location	Qty	Model	Desc 1	Desc 2	CO #	WT	Climb Date
1	2735	0	11216	1	550E2H2-LTRONIC	Slewing Assembly (Complete)			C053.007-411.000	37700	4/17/2013
2	2737	0	11216	1	550E2H2-LTRONIC	Tower Top (Complete)			C053.007-944.000	11040	4/17/2013
3	2738	0	11216	1	550E2H2-LTRONIC	Counterjib Section #1	[Tower]		C053.007-548.111	6370	4/17/2013
4	2741	0	11216	3	550E2H2-LTRONIC	Counterjib Section #3	[Litter] W/ fixed 1" block		C053.007-711.211	19070	4/17/2013
5	3009	0	11216	1	550E2H2-LTRONIC	Auxiliary Crane W/O Winch	(Consisting of 4 Piece)		0040.004-792.111/112	355	4/17/2013
6	2747	0	11216	1	550E2H2-LTRONIC	AC Hoist Unit W/Frame (VFD)	147HP (110 KW)			14110	4/17/2013
7	2750	0	11216	4	550E2H2-LTRONIC	Jib Section 1	#611		C053.004-641.111	9760	4/17/2013
8	2781	0	11216	1	550E2H2-LTRONIC	Jib Section 2	#631		C053.004-629.111	6630	4/17/2013
9	2782	0	11216	1	550E2H2-LTRONIC	Jib Section 3	#631		C053.001-631.111	5290	4/17/2013
10	2783	0	11216	1	550E2H2-LTRONIC	Jib Section 4	#635		C053.004-635.111	2735	4/17/2013
11	2758	0	11216	1	550E2H2-LTRONIC	Jib Section 5	#641		C053.001-641.111	764	4/17/2013
12	2762	0	11216	1	550E2H2-LTRONIC	Jib Pendant Eac				430	4/17/2013
13	2763	0	11216	1	550E2H2-LTRONIC	Jib "A" Fla				1500	4/17/2013
14	2764	0	11216	1	550E2H2-LTRONIC	Jib Pendant				400	4/17/2013
15	2765	0	11216	1	550E2H2-LTRONIC	Jib Pendant				200	4/17/2013
16	2766	0	11216	1	550E2H2-LTRONIC	Jib Pendant				760	4/17/2013
17	2767	0	11216	1	550E2H2-LTRONIC	Jib Pendant				530	4/17/2013
18	2772	0	11216	1	550E2H2-LTRONIC	Trolley				1010	4/17/2013
19	2773	0	11216	1	550E2H2-LTRONIC	2-Part Pul				2200	4/17/2013
20	2676	0	11216	2	550E2H2-LTRONIC	Counterjib				10580	4/17/2013
21	2662	0	11216	2	550E2H2-LTRONIC	Counterjib				400	4/17/2013
22	2662	0	11216	4	550E2H2-LTRONIC	Counterjib				1100	4/17/2013
23	2664	0	11216	2	550E2H2-LTRONIC	Counterjib				600	4/17/2013
24	2677	0	11216	2	550E2H2-LTRONIC	Counterjib				1200	4/17/2013
25	2658	0	11216	8	550E2H2-LTRONIC	Counterjib				800	4/17/2013
26	2656	0	11216	1	550E2H2-LTRONIC	Jib Section				4260	4/17/2013
27	2694	0	11216	1	550E2H2-LTRONIC	Jib Section				4080	4/17/2013
28	2685	0	11216	1	550E2H2-LTRONIC	Jib Section				3405	4/17/2013
29	2684	0	11216	1	550E2H2-LTRONIC	Jib Pendant				200	4/17/2013
30	2665	0	11216	2	550E2H2-LTRONIC	Jib Pendant				2000	4/17/2013
31	2659	0	11216	2	550E2H2-LTRONIC	Jib Pendant				400	4/17/2013
32	3818	0	11216	1	550E2H2-LTRONIC	Jib Card 3rd Plate	[Tower] 9'-3" Long or 550E2H2-20		C053.001-812-141	0	4/17/2013
33	3819	0	11216	1	550E2H2-LTRONIC	Tower Top Joint Plate	Jib Side 2'-8" Long or 550E2H2-20		C032.001-812-211	0	4/17/2013
34	2674	0	11216	2	550E2H2-LTRONIC	Jib Pendant Eac	30'6" x 12" Long or 550E2H2-20		C032.001-812-231	1460	4/17/2013

68 QC Tags were automatically generated and added.

When Morrow original designed this system, quality control tag numbers had to be entered manually. After our QA inspectors advised this was a big administrative burden, we found a way to auto number the tags and assign them to each component.

Customer ID: 11538

Class: TOWER CRANES  
 Manufacturer: LIEBHERR  
 Model: 550ECH20-LITRONIC  
 Serial #: 46.029

Crane Tracking Remarks:

[Auto-assign QC Tag #s](#) [QC Tags Entry](#)

Line	Action	Comp ID	Tags	Location	Qty	Model
1	<input type="checkbox"/>	2735	1	11210	1	550ECH20
2	<input type="checkbox"/>	2737	1	11210	1	550ECH20
3	<input type="checkbox"/>	2738	1	11210	1	550ECH20
4	<input type="checkbox"/>	2741	1	11210	1	550ECH20
5	<input type="checkbox"/>	3009	1	11210	1	550ECH20
6	<input type="checkbox"/>	2747	1	11210	1	550ECH20
7	<input type="checkbox"/>	2750	1	11210	1	550ECH20
8	<input type="checkbox"/>	2751	1	11210	1	550ECH20
9	<input type="checkbox"/>	2752	1	11210	1	550ECH20
10	<input type="checkbox"/>	2753	1	11210	1	550ECH20
11	<input type="checkbox"/>	2758	1	11210	1	550ECH20
12	<input type="checkbox"/>	2762	1	11210	1	550ECH20
13	<input type="checkbox"/>	2763	1	11210	1	550ECH20
14	<input type="checkbox"/>	2764	1	11210	1	550ECH20
15	<input type="checkbox"/>	2765	1	11210	1	550ECH20
16	<input type="checkbox"/>	2766	1	11210	1	550ECH20
17	<input type="checkbox"/>	2767	1	11210	1	550ECH20
18	<input type="checkbox"/>	2772	1	11210	1	550ECH20
19	<input type="checkbox"/>	2773	1	11210	1	550ECH20
20	<input type="checkbox"/>	2676	2	11210	2	550ECH40
21	<input type="checkbox"/>	2662	2	11210	2	550ECH40
22	<input type="checkbox"/>	2663	4	11210	4	550ECH40
23	<input type="checkbox"/>	2664	2	11210	2	550ECH40
24	<input type="checkbox"/>	2677	2	11210	2	550ECH40
25	<input type="checkbox"/>	2658	8	11210	8	550ECH40
26	<input type="checkbox"/>	2696	1	11210	1	550ECH40
27	<input type="checkbox"/>	2694	1	11210	1	550ECH40
28	<input type="checkbox"/>	2695	1	11210	1	550ECH40
29	<input type="checkbox"/>	2684	1	11210	1	550ECH40
30	<input type="checkbox"/>	2660	2	11210	2	550ECH40
31	<input type="checkbox"/>	2659	2	11210	2	550ECH40
32	<input type="checkbox"/>	3818	1	11210	1	550ECH40
33	<input type="checkbox"/>	3819	1	11210	1	550ECH40
34	<input type="checkbox"/>	2674	2	11210	2	550ECH40

### Quality Control Tags

Close

*\*\* All fields on this screen save by themselves after entry.*

Line	Comp	QC Tags
1	2735 Slewing Assembly (Complete)	0035000 <input checked="" type="checkbox"/> Inspected - NOT yet used on BOL
2	2737 Tower Top (Complete)	0035001 <input checked="" type="checkbox"/> Inspected - NOT yet used on BOL
3	2738 Counterjib Section #1 (Inner)	0035002 <input checked="" type="checkbox"/> Inspected - NOT yet used on BOL
4	2741 Counterjib Section #3 (Outer) W/Fixed "D" Block	0035003 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
5	3009 Auxiliary Crane W/O Winch (Consisting of 4 Piece)	0035004 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
6	2747 AC Hoist Unit W/Frame (VFD) 147HP (110 KW)	0035005 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
7	2750 Jib Section 1 #611	0035006 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
8	2751 Jib Section 2 #621	0035007 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
9	2752 Jib Section 3 #631	0035008 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
10	2753 Jib Section 4 #635	0035009 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
11	2758 Jib Section 5 #641	0035010 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
12	2762 Jib Pendant Bar 18' 10 3/8" Long	0035011 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
13	2763 Jib "A" Frame	0035012 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
14	2764 Jib Pendant Bar 15' 3" Long	0035013 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
15	2765 Jib Pendant Bar 5' 6 1/2" Long	0035014 <input type="checkbox"/> NOT Inspected - NOT yet used on BDL
16	2766 Jib Pendant Bar 22' 3 3/8" Long	

ETE - NO Missing QC Tags for DEN

#	Wt	Climb Date
53.007-411.000	37700	4/17/2013
53.007-541.000	11680	4/17/2013
53.007-541.111	6170	4/17/2013
53.007-711.211	15070	4/17/2013
48.001-782.111/112	355	4/17/2013
	14110	4/17/2013
53.001-611.111	9700	4/17/2013
53.001-621.111	6820	4/17/2013
53.001-631.111	5290	4/17/2013
53.001-635.111	2735	4/17/2013
53.001-641.111	704	4/17/2013
32.001-812.222	450	4/17/2013
53.008-602.111	1500	4/17/2013
32.001-812.223	400	4/17/2013
53.001-812.316	200	4/17/2013
53.001-812.312	700	4/17/2013
53.001-812.511	350	4/17/2013
56.020-661.111	1810	4/17/2013
H200ET001-063	2200	4/17/2013
53.001-712.111	10580	4/17/2013
53.001-814.141	400	4/17/2013
53.001-814.121	1100	4/17/2013
53.001-814.201	600	4/17/2013
53.001-814.111	1200	4/17/2013
32.001-814.131	800	4/17/2013
53.001-632.111	4080	4/17/2013
53.001-633.111	4080	4/17/2013
53.001-634.111	3405	4/17/2013
32.001-812.111	300	4/17/2013
32.001-812.121	2000	4/17/2013
32.001-812.131	400	4/17/2013
53.001-812.141	0	4/17/2013
32.001-812.211	0	4/17/2013
32.001-812.221	1400	4/17/2013

In order to maintain the integrity of our program with auto-assigned tags, we needed a way to insure the QA inspector signed off that each component was inspected and met the quality levels established.

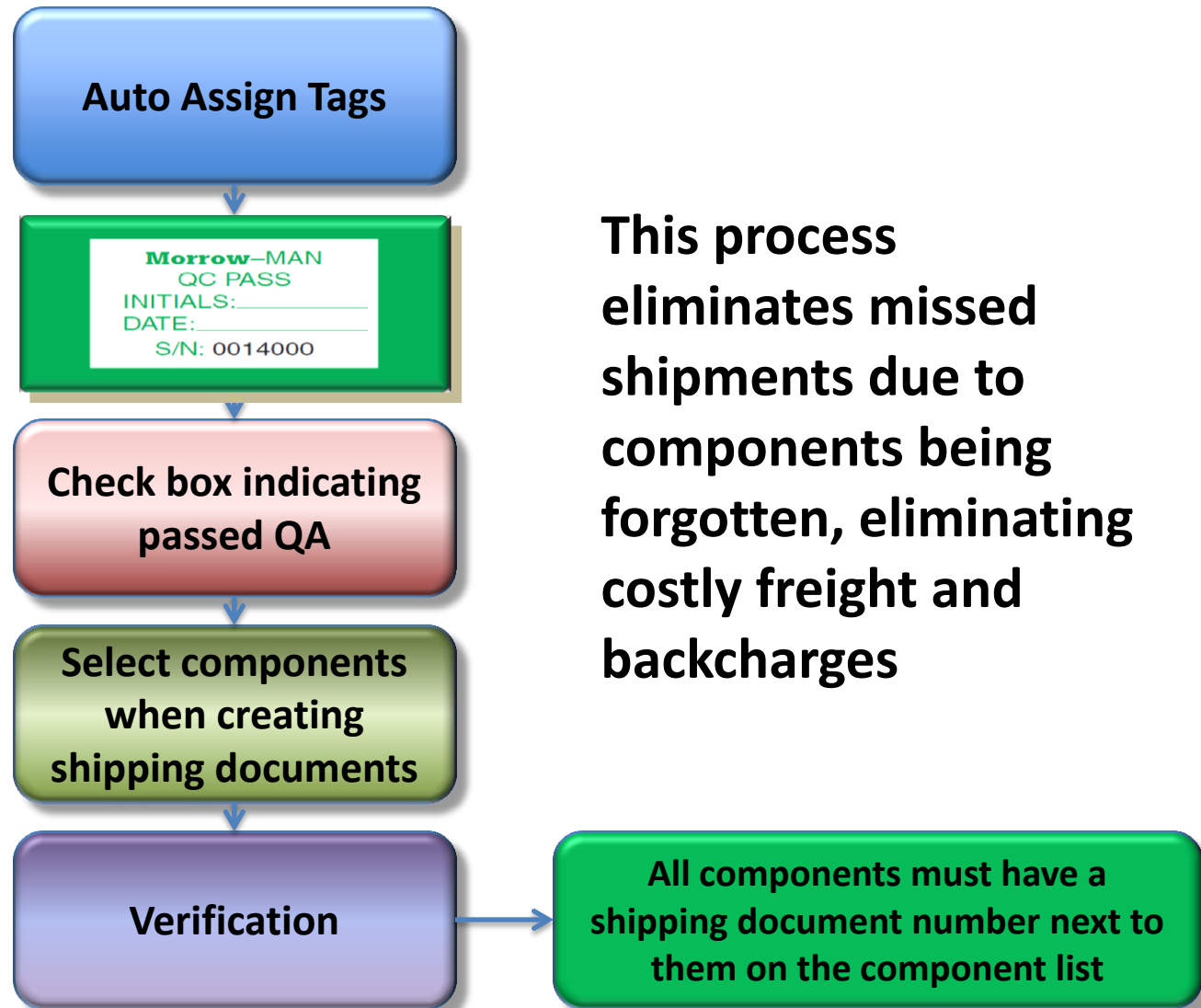
**Quality Control Tags**

Close

*\*\* All fields on this screen save by themselves after entry.*

Line	Comp	QC Tag
1	2735	Slewing Assembly (Complete)
		0035000 <input checked="" type="checkbox"/> Inspected - 9-75
		0035000 <input checked="" type="checkbox"/> Inspected - 9-75
2	2737	Tower Top (Complete)
		0035001 <input checked="" type="checkbox"/> Inspected - 9-75
		0035001 <input checked="" type="checkbox"/> Inspected - 9-75
3	2738	Counterjib Section #1 (Inner)
		0035002 <input checked="" type="checkbox"/> Inspected - NOT yet used on BOL
4	2741	Counterjib Section #3 (Outer) W/Fixed "D" Block
		0035003 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
5	3009	Auxiliary Crane W/O Winch (Consisting of 4 Piece)
		0035004 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
6	2747	AC Hoist Unit W/Frame (VFD) 147HP (110 KW)
		0035005 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
7	2750	Jib Section 1 #611
		0035006 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
8	2751	Jib Section 2 #621
		0035007 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
9	2752	Jib Section 3 #631
		0035008 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
10	2753	Jib Section 4 #635
		0035009 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL
11	2758	Jib Section 5 #641
		0035010 <input type="checkbox"/> NOT Inspected - NOT yet used on BOL

This also enabled us to make the shipping process less cumbersome by allowing the shipping manager to “drag and drop” items from the committed list directly to the shipping documents, eliminating the need for double data entry



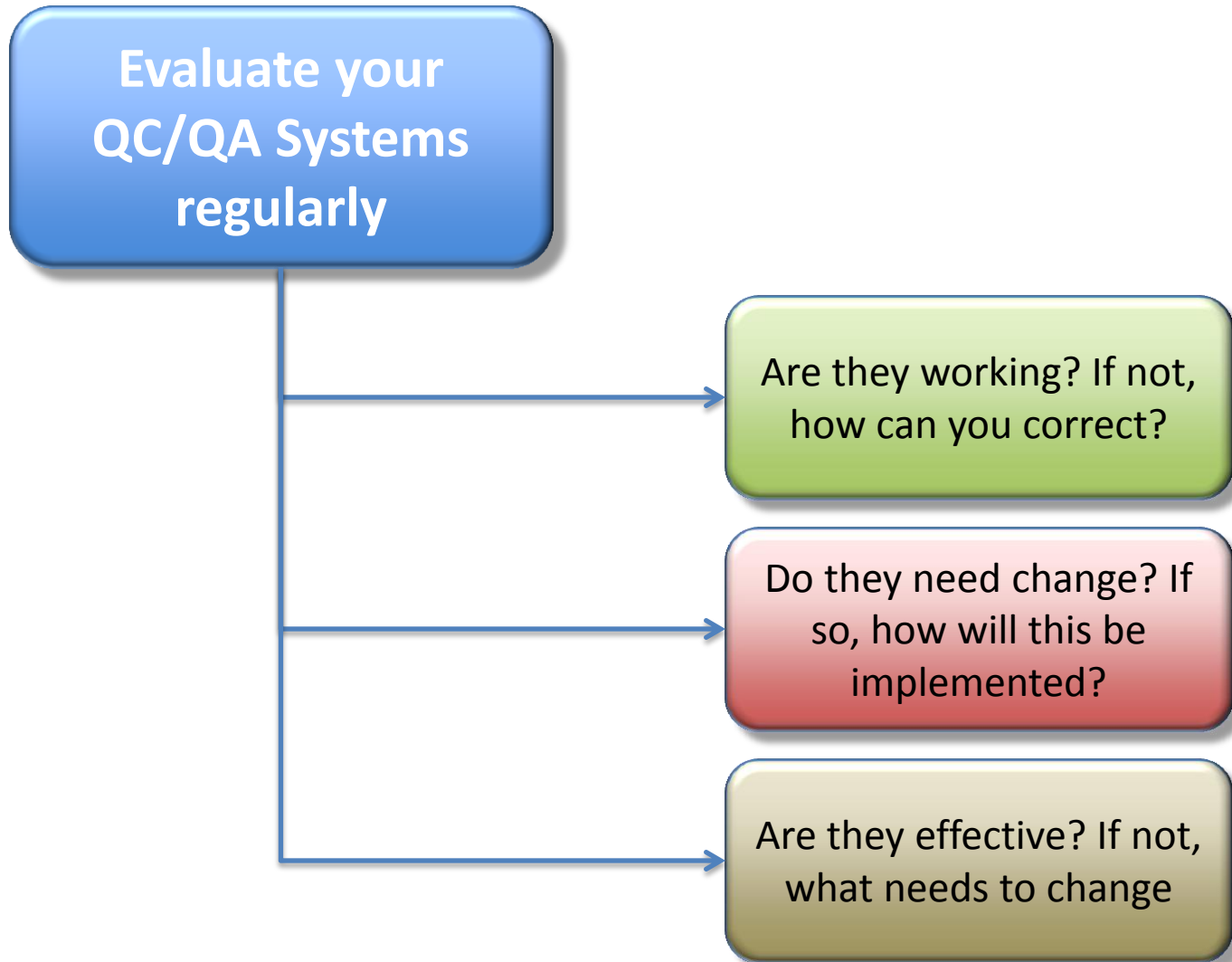
**This process eliminates missed shipments due to components being forgotten, eliminating costly freight and backcharges**

**Committed Component Chooser**  
for DUP Climb Date:11/2/2013

Line	Location	Component	QC Tags
1	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148280 ** Used on this BOL -</b> <input type="button" value="Remove"/>
2	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148281 ** Used on this BOL -</b> <input type="button" value="Remove"/>
3	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148282 ** Used on this BOL -</b> <input type="button" value="Remove"/>
4	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148283 ** Used on this BOL -</b> <input type="button" value="Remove"/>
5	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148284 ** Used on this BOL -</b> <input type="button" value="Remove"/>
6	DUP	2964	FC7100-12 Cable Guide (Upper) <b>0148285 ** Used on this BOL -</b> <input type="button" value="Remove"/>
7	DUP	2956	FC7100-12 Cable Guide (Middle) With Strain Relief <b>0148286 ** Used on this BOL -</b> <input type="button" value="Remove"/>
8	DUP	2955	FC7100-12 Cable Guide (Lower) <b>0148287 ** Used on this BOL -</b> <input type="button" value="Remove"/>
9	DUP	2955	FC7100-12 Cable Guide (Lower) <b>0148288 ** Used on this BOL -</b> <input type="button" value="Remove"/>
10	DUP	2955	FC7100-12 Cable Guide (Lower) <b>0148289 ** Used on this BOL -</b> <input type="button" value="Remove"/>
11	DUP	2955	FC7100-12 Cable Guide (Lower) <b>0148290 ** Used on this BOL -</b> <input type="button" value="Remove"/>
12	DUP	2955	FC7100-12 Cable Guide (Lower) <b>0148291 ** Used on this BOL -</b> <input type="button" value="Remove"/>

Every component now shows the shipping document it was shipped on, ensuring no shortages at delivery





The most important action in ensuring your program is working;

## **LISTEN TO YOUR PEOPLE**

The people you entrust to manage your program, implement it, and ensure that the product or service you deliver is up to the standards you set, are your best advisers when things are not working as planned.

Having a quality control and quality assurance program that is cumbersome and difficult to administer makes “rubber stamping” inevitable.



**“Quality in a service or product is not what you put into it.**

***It is what the client or customer gets out of it.”***

Peter Drucker



Building   
Success

**Peter Juhren**

Corporate Service Manager  
Morrow Equipment Co. L.L.C.  
Salem, OR USA  
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**Thank You**