

ZR	GR	AT

IAI Controller Repair by OEM

LINE:

Valve Body

PROCESS:

Final Visual VB Washer CK-200

1. PURPOSE

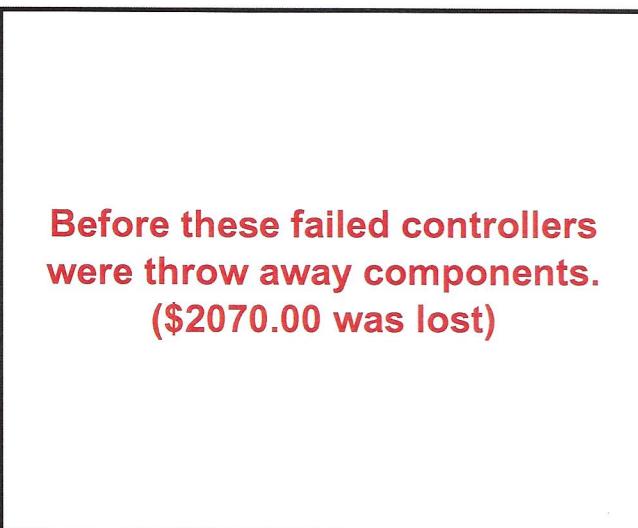
There was not a major breakdown because of this controller failing, but I wanted to get the OEM opinion on the cause of failure. This is so we could improve our process here at TMMWV or so IAI could build a better controller. **Currently there was a plan for ICR to designate a repair through another company rather than the OEM (IAI).** When a product fails within only 3 months or more, then there must be an underlying problem.

SAFETY
QUALITY
PRODUCTIVITY
COST
DEVELOPMENT
PREDICTIVE
PREVENTIVE
QUICK REPAIR

2. OBJECTIVE

I wanted the original equipment manufacturer to understand the issues that we were having so they could build a better product. I also wanted to investigate whether or not this device would be under the manufacturer's warranty since this had been a new controller for only a few months.

3. BEFORE



4. AFTER

Now the failed controllers have been repaired to meet the OEM product specification once again for less than 17 % of original value of a new controller. (Saved \$1720)

5. EFFECT

Reduced repair costs and notifying the OEM of a possible product defect.
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6. MAINTENANCE SUPPORT REQUIRED?

Work Order Number ? YES / NO	30607921
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7. COST	The controllers can be evaluated by the OEM (IAI), repaired, and returned to TMMWV for \$350.00 rather than ordering a new controller for \$2070.00
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Date Submitted for approval	Sign Off/Approvals					
	Orig	GL	Spec	AM	Coor	Mgr
		/		/		

Yokoten		
ZR	GR	AT

ZR	GR	AT

Lapper Pump Cost Savings Kaizen

LINE: DAT1 Gear Machining Differential PROCESS: Adds mixture of oil and Aluminum Oxide between tool/workpiece

1. PURPOSE

Reduce repair costs	SAFETY
Reduce lead time	QUALITY
Focus on making the lapper more reliable by focusing on different repair part options and repair procedures	PRODUCTIVITY
	COST
	DEVELOPMENT
	PREVENTIVE
	PREDICTIVE
	QUICK REPAIR

2. OBJECTIVE

Reduce the cost it takes in order to maintain DAT1 Gear Machining so they can have an optimum operational availability for production use and reduced manufacturing cost.

3. BEFORE



\$6,545.00

Lead Time: 60 Days

4. AFTER



\$1,100.00

Lead Time: 3-5 Days

5. EFFECT

By selecting a cheaper pump that is built to last, we have reduced the amount it costs to repair the machine and reduced Mean Time Between Failures (MTBF).

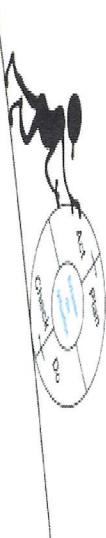
6. MAINTENANCE SUPPORT REQUIRED?

YES / NO	If Yes, Work Order Number:	28588270, 26950880
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7. COST This new pump was 16.8 % of the cost of the old pump and it lasts just as long. We applied this project to 8 machines. Instead of spending **\$52,360.00** we spent **\$8,800.00**

Date Submitted for approval	Sign Off/Approvals						Yokoten	
	Orig	GL	Spec	AM	Coor	Mgr		

MAINTENANCE KAIZEN FORM



Kaizen Title:		Cost Reduction Kaizen: Exo Lens Light		Category (Check One)		Ergonomics Kaizen		Cost Kaizen																																																																																																																																					
Shop:	DAT Machining MAINT.	Group/Cost Ctr:	P3410	Team Member Names & Titles:	Zachary Preston	Safety Kaizen		Process Kaizen																																																																																																																																					
Location of Kaizen:	TMMW DAT Maintenance	Date Submitted:	3/6/2019																																																																																																																																										
Description of Problem:		Before in order to fix the lighting in the robot camera picture, the whole light needed to be replaced. Therefore, a \$505.00 exo light would be replaced rather than the lens on the exo light.																																																																																																																																											
Picture / Sketch / Data / Key Points:																																																																																																																																													
After Kaizen		Description of Kaizen:		I found a way to restore a specialty light to OEM conditions by simply replacing the lens rather than the whole light that is located on the EOT on the housing pack out robot cell.																																																																																																																																									
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PICTURE / SKETCH / DATA / KEY POINTS:		<p>Mr. Zach Preston, zpreston@volvo.com Dedication: Excellent John Kuppen Sales Rep Toyota Motor Manufacturing West Virginia Benton, WV 26201 USA</p> <p>Item Code Description Quantity Price Disc. Net Total USD Estimated shipping date</p> <p>REF-COV-DIF-ISO8 REPLACEMENT CLEAR COVER AND DIFFUSER FOR ISO8 Exovlight insured shipping costs 8 90.00 30% 63.00 504.00 02/19/2018</p> <p>REF-COV-ISO8 REPLACEMENT CLEAR COVER AND DIFFUSER FOR ISO8 Exovlight insured shipping costs 1 75.00 75.00 02/19/2018</p>																																																																																																																																											
MEASURABLE IMPACT (i.e. Hazard and/or Severity Reduction, Injury/ESI Reduction, Time Savings, Quality Improvements, Cost Savings, Return on Investment Calculation, etc.)																																																																																																																																													
<p>Robot Camera Lighting System Repair</p> <p>Original Job Cost Was \$505 + Man Hours</p> <p>Job Cost</p> <p>90% Cost Reduction</p> <p>\$63.00 + Man Hours</p> <p>Original Job Cost Was \$505 + Man Hours</p>																																																																																																																																													
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ZR	GR	AT

Kaizen Cost Savings Euchner Magnetic Switch

LINE: DAT2 AHT

PROCESS: Unlock/ Lock Main Grinder Door

1. PURPOSE

Finding the most cost effective electronic parts that suppliers can supply.

SAFETY

QUALITY

PRODUCTIVITY

COST

DEVELOPMENT

PREVENTIVE

PREDICTIVE

QUICK REPAIR

2. OBJECTIVE

Save money on several safety door locks used on our grinding machines and others throughout our plant.

3. BEFORE

General Stores Switch Cost \$1160.00

YNA0190147 SWITCH,007262.22,EUCHNER SAFETY SWITCH TZ1RE024RC18VAB-C2163 007262.22

1,160.00 EA

4. AFTER

Switch cost from AIP of \$530.20



DIVISION OF OHIO TRANSMISSION CORPORATION

6644 TEAYS VALLEY RD
SCOTT DEPOT WV 25560
Phone: (304) 757-1070
Fax: (304) 757-1197

QUOTE

CUST #: 112267

ATTN:
BILL TO:
TMWMA
1 SUGAR MAPLE LN
BUFFALO, WV 25033

SHIP TO:
TMWMA GENERAL STORES
1 SUGAR MAPLE LN
BUFFALO, WV 25033

QUOTE NO.	QUOTE NO.
000000	66024951.00
QUOTE DATE	REQUEST NO.
12/13/18	PAGE #

QUOTED BY: Amy Johnson

Please refer to the Quote Number when ordering.

INSTRUCTIONS: PPV/ALLOWED			
SHIP TO:	WEIGHT	SCHEDULED DATE	TERMS
AIP AV	Our Truck	5% 10 Nov20	

THANK YOU FOR THE OPPORTUNITY TO PRESENT THE FOLLOWING QUOTE
THIS QUOTE IS VALID FOR 30 DAYS FOLLOWING THE INDICATED QUOTE DATE

LINE NO	PRODUCT AND DESCRIPTION	QUANTITY	GT	UNIT	PRICE	AMOUNT	NET
1 84243	EUCHNER SAFETY SWITCH	1	530.20	each	530.20	530.20	
					Subtotal	530.20	
					Subtotal May Not Include Freight or Tax Charges		

5. EFFECT

Cost savings of 1160.00-530.20 = \$629.80

6. MAINTENANCE SUPPORT REQUIRED?

YES / NO

If Yes, Work Order Number:

31705169

7. COST

\$629.80 less than what is listed in stores.

Date Submitted for approval	Sign Off/Approvals					
	Orig	GL	Spec	AM	Coor	Mgr

Yokoten		
ZR	GR	AT

Zach Preston

ZR	GR	AT
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Coolant Valve Cost Savings Kaizen

LINE: Valve Body Machining

PROCESS:

Rebuild Coolant Valves

1. PURPOSE

A new CKD CVE3-15A-35-0-B valve in general stores costs **\$560.00**

The rebuild kit with all the materials provided costs **\$45.82** per part.

SAFETY
QUALITY
PRODUCTIVITY
COST
DEVELOPMENT
PREVENTIVE
PREDICTIVE
QUICK REPAIR

2. OBJECTIVE

Rebuild valves to reduce cost and to stop coolant from leaking onto the ground which results in a poor 5S aduit.

3. BEFORE

We ordered coolant valves from stores costing \$560.00 per unit.

Coolant was leaking on the floor causing poor 5S audit findings.



4. AFTER

Now we are able to purchase rebuild kits for \$45.82 per kit.

Since the main valve casting is not a critical component of the operation of the valve, we can easily plan to rebuild these valves for nearly 10% of the original cost of the valve.

5. EFFECT

No more leaks in the valve body machining line
Major cost savings plan

6. MAINTENANCE SUPPORT REQUIRED?

/ NO

If Yes, Work Order Number:

26848873, 26848869, 26924169, 28278364,
28278378, 28278378, 28278381, 28278388, 28278396,
28278344, 28278352, 28278360

7. COST

We have 24 of these valves to replace costing **\$13,440**, but instead we are choosing to rebuild these valves costing **\$1099.68**. Depending on the man hours involved with rebuild, we could see a potential savings across all of the Toyota plants.

Date Submitted for approval	Sign Off/Approvals						Yokoten
	Orig	GL	Spec	AM	Coor	Mgr	
		/		/			ZR GR AT

ZR	GR	AT

Pillow Block Bearing Mount Project

LINE: DAT LINE 1/LINE 2 VB WASHERS

PROCESS: Washing Valve Body Parts

1. PURPOSE

- 1) To insure OA is not lost whenever the pillow block bearing base plate, shims, pusher block, and side rails fail due to rust from intense temperature and moisture conditions inside the washer.

	SAFETY
X	QUALITY
	PRODUCTIVITY
	COST
	DEVELOPMENT
X	PREDICTIVE
X	PREDICTIVE
X	QUICK REPAIR

2. OBJECTIVE

- 1) Design and machine consumeable parts that will last as long as the machine's life expectancy.
- 2) Insure that the changes made will not affect quality of washing parts.

3. BEFORE



Old vs. New
Base Plate

Old Side
Rails

4. AFTER



Shims were used
rather than lock
washers

Installed Materials

5. EFFECT

Old, structurally challenged parts were replaced with new stainless steel parts that will not corrode and should last as long as the machine lasts.

6. MAINTENANCE SUPPORT REQUIRED?

YES / NO

If Yes, Work Order Number:

26380692

7. COST

Project was completed here at TMMWV Machine shop and AT assembly group house.

Date Submitted for approval	Sign Off/Approvals					
	Orig	GL	Spec	AM	Coor	Mgr
		/	/	/		

Yokoten		
ZR	GR	AT