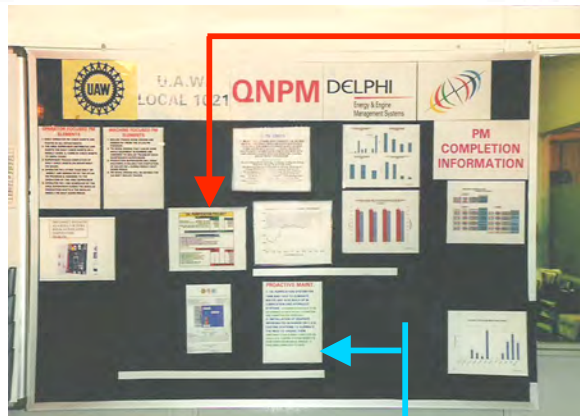




KAIZEN Event Board at Delphi

OilPure is a Continuous Improvement in KAIZEN for Lean Manufacturing.

OIL PURIFICATION PROJECT			
KNOWN SAVINGS			
	QTY	UNIT PRICE	TOTAL
CONOCO 80-90 W	238 Gals Mo	x \$5.18 Gal =	\$1,232.84
CONOCO HYDRO SUPER 68	683 Gals Mo	x \$2.79 Gal =	\$1,905.57
OIL RECLAIM COSTS=			\$2,000.00
EXMET DOWN TIME LABOR COST AT 18 Hrs x \$34.00 =		\$612.00	\$7,344.00
EXMET MAINTENANCE COSTS AT 12 Hrs x \$45.00 =		\$540.00	\$6,480.00
TOTAL KNOWN SAVINGS			\$5,290.41
UNKNOWN SAVINGS			
1- MAINTENANCE LABOR & PARTS FOR HYDRAULIC SYSTEMS IN MOLDING. 2- DOWN TIME IN MOLDING FOR HYDRAULIC SYSTEMS REPAIR. 3- LOST PRODUCTION COSTS IN MOLDING. 4- DOWN TIME IN EXMET FOR POOR QUALITY GRID (paste box jams etc.) 5- SCRAP GENERATED IN EXMET BECAUSE OF POOR QUALITY GRID. 6- LOST PRODUCTION COSTS IN ASSEMBLY DUE TO LACK OF PARTS. 7- UTILITY COSTS.			
COST FOR SYSTEMS			
	QUANTITY		COST
1- Oil recycling machine model: AST-200	1		\$45,000.00
2- Portable oil purifier model: ss-50	1		\$7,500.00
3- M3MS1(M3MS3/MPQ3/Q3/P2 PurePack Filter	1		\$540.00
4- M3MS1(M3MS3/Q3 PurePack for SS-50	1		\$300.00
5- Oil Strainer Element for AST-200 and SS-50	2		\$170.00
6- 5 Micron filter element	2		\$90.00
7- Vacuum Jet Dehydrator model: VJ-50	4		\$18,800.00
8- 5 Micron Filter Element model: CC-5	4		\$240.00
TOTAL COST =			\$72,640.00



Delphi Battery uses **OilPure** as a **Kaizen** in their **Lean Manufacturing** process. This **OilPure** In-House Oil Reclamation project **saves Delphi about \$72,640 annually**. This oil reclamation recovered leak hydraulic oil from injection molders in the floor and recycle for reuse.

Delphi also has **MB-50** for **oil dialysis** throughout their plastic injection molders to keep the hydraulic oil continuously clean. This is part of **TPM (Total Productive Maintenance)** program to reduce hydraulic equipment downtime and production loss.



Delphi also installs four dedicated units of VJ-50 Vacuum Jet Dehydrator on each Expander machine. Excessive coolant water leaks into battery cell expanding process at approximately 1.5 gallons each day.

Each Expander has 30 gallons of gear lube oil reservoir. This excessive water demands that Delphi replaces new gear oil everyday.

VJ-50 removes about 1.5 to 2 gallons of water from Expander each day. So Delphi does not have to replace new oil due to excessive coolant water.

PROACTIVE MAINT.
1- OIL PURIFICATION SYSTEM FOR 1446 AND 1453 TO ELIMINATE WATER AND ACID BUILD UP IN LUBRICATION AND HYDRAULIC SYSTEMS. (IMPLEMENTATION DATE TO BE DETERMINED AFTER A PROJECT IS WRITTEN AND SUBMITTED FOR APPROVAL)
2- INSTALLATION OF GRAPHITE IMPREGNATED BUSHINGS ON C.O.S. CASTING STATIONS TO ELIMINATE THE NEED TO GREASE THEM (IMPLEMENTATION IS BEING COMPLETED ON EACH C.O.S. CASTING STATION WHEN IT IS TORN DOWN FOR BIENNIAL REBUILD - 2 HAVE BEEN COMPLETED TO DATE)

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