CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2009

DateRun: 11/11/2009

Experimenters: Johnny Le

ClientType: Ceramic Coating Company

ProjectNumber: Project #2

Substrates: Aluminum

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate top five products on eight supplied contaminant using manual cleaning

Experimental Procedure: Five products from the previous trials were selected based on performance. All were used at room temperature. Two alkaline aqueous cleaners were diluted to 5% using DI water in 300 ml beakers. Three cleaners were used at full strength. Fifteen preweighed aluminum coupons were coated with Lennox synthetic lubricant using a handheld swab. The contaminated coupons were weighed again to determine the amount of soil added.

Each cleaner tested with three coupons. Three coupons were placed into a Gardner Straight Line Washability unit. A Kimberly Clark Reinforced paper towel was attached to the cleaning sled and soaked with 5-7 sprays of cleaning solutions. Each coupon was sprayed 3 times with the same cleaning solution. First, Coupon was cleaned for 15 cycles two times; after coupon was cleaned for 15 cycles, experimenter changed the paper towel and soaked with 5 spray of same cleaning solution. At the end of the cleaning, coupons were dried at room temperature naturally. Final weights were recorded and efficiencies were calculated and recorded.

Results: All five worked well on the oil, removing more than 95%. The table lists the amount of oil added, the amount remaining and the efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Shopmater RC 100%			
	0.0713	0.0007	99.02
	0.0750	0.0005	99.33
	0.0800	0.0011	98.62
SC Aircraft metal cleaner 5%			
	0.0978	0.0039	96.01
	0.0859	0.0008	99.07
	0.0650	0.0000	100.00
Solsafe 245 100%			
	0.1140	0.0052	95.44
	0.0783	0.0033	95.79
	0.0786	0.0011	98.60
Detergent 8 5%			
	0.0602	0.0005	99.17
	0.0558	0.0005	99.10
	0.0572	-0.0017	102.97
Activeion			
	0.0547	0.0003	99.45
	0.0709	0.0088	87.59
	0.0595	-0.0018	103.03

Summary:

Substrates:	Aluminum				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Shopmaster RC	100	98.99	☑	
Gemtek Products		5	98.36		

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	SC Aircraft & Metal Cleaner Super Concentrate			☑	
Bio Chem Systems	Solsafe 245	100	96.61	☑	
Alconox Inc	Detergent 8	5	100.42	☑	
Activeion Cleaning Solutions LLC	Activeion Pro	100	96.69	☑	

Conclusion: Based on past performance on the previous contaminants, all five products will be tested on supplied parts under the same conditions.