CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 11/11/2004

Experimenters: Jason Marshall

ClientType: Manufacturers of Precision Parts and Assemblies

ProjectNumber: Project #1

Substrates: Aluminum

PartType: Coupon

Contaminants: Lubricating/Lapping Oils

Cleaning Methods: Low Pressure Spray

Analytical Methods: Gravimetric

Purpose: To reevaluate alternative cleaners under modified conditions

Experimental Procedure: The four alternative contact cleaners were used at full strength at room temperature. Two of the four products were in supplied to the lab in spray cans. Two products had to be applied using a manual spray pump. (The Ak225 does come in a spray can but was not available at the time of testing).

Twelve of the previously cleaned 6061 aluminum coupons were contaminated with Fuch's Lubricants Renocut 6515 NC (mineral oil, vegetable oil). Three coupons were sprayed with each contact cleaner for an additional 30 seconds and allowed to air dry. The coupons sprayed with the Gemtek product were briefly sprayed with compressed air. Final clean weights were recorded and efficiencies were calculated.

Results: All four of the products improved with the added cleaning time, removing over 97% of the lubricant. The Gemtek product had the greatest improvement with the added air blow off, increasing form 67% to 97%. The table below lists the initial amount of soil added, the final amount remaining after the second cleaning and the resulting efficiency for each coupon cleaned.

Cleaner	Initial wt	Final wt	% Removed
Heavy Duty Degreaser C	0.2651	0.0034	98.72
	0.2505	0.0012	99.52
	0.1663	0.0025	98.50
Flux Remover C	0.3089	0.0034	98.90
	0.1857	0.0012	99.35
	0.3141	0.0015	99.52
SC Evaporative Electronics Cleaner	0.2403	0.0096	96.00
	0.3344	0.0050	98.50
	0.2086	0.0070	96.64
AK 225	0.3502	0.0035	99.00
	0.3829	0.0063	98.35
	0.2876	0.0054	98.12

Summary:

Substrates:	Aluminum				
Contaminants:	Lubricating/Lapping Oils				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Micro Care	Heavy Duty Degreaser C	100	98.91	☑	
Micro Care	Flux Remover C	100	99.26	☑	
Gemtek Products	SC Evaporartive Electronics Cleaner	100	97.05	☑	
AGA Chemical	AK 225	100	98.49	☑	

Conclusion: The alternative contact cleaners and the aqueous products will be evaluated on the supplied parts.