CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2004

DateRun: 05/16/2004

Experimenters: Jason Marshall

ClientType: Bicycle Manufacturer

ProjectNumber: Project #1

Substrates: Titanium

PartType: Coupon

Contaminants: Inks

Cleaning Methods: Manual Wipe

Analytical Methods: Gravimetric

Purpose: To evaluate successful products on the final supplied contaminant.

Experimental Procedure: Five cleaners were selected from the previous trial. The five cleaners from the previous trials were diluted to 5% using DI water in 600 ml beakers at room temperature.

Fifteen preweighed titanium coupons were coated with ink from a Sharpie marker. The ink was applied first in a side to side manner and then in an up and down direction. Coupons were then weighed a second time to determine the amount of soil added. Three coupons were cleaned for about 2 minutes using a Gardner Straight Line Washability unit. Three coupons were placed into a Gardner Straight Line Washability unit. A Professional Painter's Rag was immersed into a beaker of the cleaning solutions and then attached to the cleaning sled. The cleaning unit was run for 75 cycles (~2 minutes). At the end of the cleaning cycle, coupons were weighed again and efficiencies were calculated.

Results: Two of the products, SC Aircraft and Micro 90, removed over 80% of the ink during manual cleaning. The other three products removed under 75%. The table lists the amount of oil added, the amount remaining and the efficiency for each coupon.

Cleaner	Initial wt	Final wt	% Removed
SC Aircraft & Metal Cleaner	0.0021	0.0000	100.00
	0.0042	0.0001	97.62
	0.0028	0.0001	96.43
Micro 90	0.0021	0.0004	80.95
	0.0023	0.0002	91.30
	0.0018	0.0004	77.78
Daraclean 282 GF	0.0016	0.0002	87.50
	0.0022	0.0005	77.27
	0.0017	0.0007	58.82
Inproclean 3800	0.0031	0.0009	70.97
	0.0021	0.0011	47.62
	0.0024	0.0008	66.67
Beyond 2004	0.0020	0.0011	45.00
	0.0018	0.0004	77.78
	0.0012	0.0004	66.67

Summary:

Substrates:	Titanium
Contaminants:	Inks

Company Name:	Product Name:	Conc.:	Efficiency:	Effective:	Observations:
Gemtek Products	SC Aircraft & Metal Cleaner Super Concentrate	5	98.02	☑	
International Products Corporation	Micro 90 Conc.	5	83.34	☑	
Magnaflux	Daraclean 282 GF	100	74.53	☐	
Oakite Products	Inproclean 3800	5	61.75	☐	
Today & Beyond	Beyond 2004	5	63.15	☐	

Conclusion: The successful products will be used to clean some of the supplied parts.