CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2023

DateRun: 01/31/2023

Experimenters: Amelia Wagner

ClientType: Brass Instrument Manufacturer

ProjectNumber: Project #2

Substrates: Brass

PartType: Coupon

Contaminants: Greases, Lubricating/Lapping Oils, Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To evaluate the effectiveness of aqueous and non aqueous cleaners in removing a variety of oil and grease soils from brass.

Experimental Procedure: Eighteen brass coupons, three per soil per cleaner, were weighed to record their initial weights. The coupons were then soiled with their respective soils; LMKT lapping compound, Honing oil, and slide gel lubricant. About 0.5 grams of each soil was spread on the bottom third of each coupon with a swab. The dirty weights of the coupons were then recorded. The coupons were then subjected to 15 minutes of unheated ultrasonics in their respective cleaners. Once cleaned, each coupon was dried with air blow off for about 3 minutes. After drying, the clean weights of the coupons were recorded.

Results:

Cleaner	Soil	Initial wt of cont.	Final wt of cont.	%Cont Removed	% AVG	% Overall
Surface Cleanse 930 10%	LMKT Lapping Compound	0.0064	0.0024	62.50	59.09	69.42
		0.0082	0.0030	63.41		
		0.0037	0.0018	51.35		
	Honing Oil	0.0266	0.0052	80.45	80.62	
		0.0306	0.0029	90.52		
		0.0189	0.0055	70.90		
	Slide Gel	0.0366	0.0119	67.49	68.54	
		0.0376	0.0116	69.15		
		0.0216	0.0067	68.98		
Shopmaster LPH 10%	LMKT Lapping Compound	0.0189	0.0031	83.60	74.27	58.04
		0.0094	0.0014	85.11		
		0.0061	0.0028	54.10		
	Honing Oil	0.0108	0.0030	72.22	62.78	
		0.0090	0.0038	57.78		
		0.0120	0.0050	58.33		
	Slide Gel	0.0162	0.0145	10.49	37.07	
		0.0248	0.0147	40.73		
		0.0230	0.0092	60.00		

Summary:

Conclusion: There are too many outliers to make a conclusion on the efficacy of these cleaners.