CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2001

DateRun: 02/06/2001

Experimenters: Jason Marshall, John Brunelle

ClientType: Tool Manufacturer

ProjectNumber: Project #2

Substrates: Steel

PartType: Part

Contaminants: Abrasive, Buffing/Polishing Compounds, Greases

Cleaning Methods: Ultrasonics

Analytical Methods: Wipe

Purpose: To evaluate selected cleaners on supplied parts.

Experimental Procedure: Five cleaners from the previous testing performed at SCL were diluted to the concentrations listed below using DI water in 250 mL beakers. Each solution was heated to 160 F in a Crest 25 kHz ultrasonic tank filled with water. One ratchet was cleaned in each solution for 3 minutes. The parts were rinsed with a tap water spray for 30 seconds at 120 F. Parts were dried using a white paper towel. The towel was then evaluated for any signs of the contaminant mix. The parts were also observed in to determine how well they were cleaned.

SUBSTRATE MATERIAL: Steel Ratchet handles
CONTAMINANTS: Mix: Grease Stick (M.P. Iding Co, Fatty acid soap with Tallow), buffing compound (Jackson Lea Plastibrade F-18, 1332-58-7, 1344-09-8, 1344-28-1, 9000-70-8), Gritite (M.P. Iding Co.)

Results: Four of five cleaners were successful in removing all of contaminant from the parts. Only the Matchless product left some contamination on the side groove of the ratchet. Observations were made and points were assessed for each cleaner. Table 1 lists the point system used by SCL. The observations made are listed in Table 2.

Scale	Points
X	5
E	4.5
GE	4
G	3.5
OG	3
O	2.5
FO	2
F	1.5
PF	1
P	0.5
Gone	5

Table 2 Observations

25 kHz	160 deg F
Cleaner	Part 5
1	Gone
2	Gone
3	Gone
4	E
5	Gone
Points available:	5

Summary:

Substrates:	Steel				
Contaminants:	Abrasive, Buffing/Polishing Compounds, Greases				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Electrochemical Products Inc	E Kleen 196 A	10	0.00	☑	
Brulin Corporation	Formula 815 GD	5	0.00	☑	

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Valtech Corporation	Valtron SP 2250 2LF	5	0.00	☑	
Matchless Metal Polish Company	MC 132	5	0.00	☐	
Emkay Chemical Company	Safety Wash	5	0.00	☑	

Conclusion:

Using the 25 kHz ultrasonic cleaning tank proved to very effective in removing all of the contaminant from the supplied parts with in the three minutes. Four of five cleaners were successful in this trial. The cleaners were: EPI E-Kleen 196 A, Brulin 815 GD, Valtech Corp Valtron SP 2250 LF and Emkay Chemical Safety Clean. The Matchless MC 132 was almost as effective as the others, but the solutions left a small amount of the contaminant mix.