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**GENERAL DYNAMICS**

**Land Systems Division**

P.O. Box 1901, Warren, Michigan 48090

Inter-Office Memo

1 December 1983

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J. Montgomery, G. E. Psaros

Subject: Test Results: M1 Vee Pac P/N 12287727

Jim Montgomery, Site Director Fort Knox, requested three M1 Vee Pacs P/N 12287727, be sent to Center Line for visual inspection and laboratory tests of the filter media.

These Pacs were removed from a fielded Fort Knox M1 Vehicle after becoming clogged with dirt. They were air cleaned and subsequently washed in a mild soap and water solution and air dried in a oven.

TM9-2350-264-20-1-3-1 Task 2, states that after air cleaning, the Pac must weigh 43 pounds or less for reuse. Fort Knox military personnel have not been successful in reducing the weight to 43 pounds by this method, resulting in dead lined vehicles.

Colonel King, Fort Knox Maintenance Officer requested three (3) Vee Pacs be washed in soap and water solution and thoroughly dried. Jim Montgomery and Colonel King were reluctant to install these Pacs in a vehicle after completing the task. There concern was that washing would degrade the media causing shredding and engine ingestion. This fact prompted action to send the Pacs to Center Line for examination and tests.

Analysis of test results show all three Pacs meet Spec. SC-X14422-B media requirements with a slight degradation in flame resistance as compared to new unused media.

The tests were completed 7 November 1983. The results are as follows:

<u>Paragraph</u>	<u>Requirement</u>	<u>Actual Based on Average</u>	
4.2.2.5	10 Psi	New Media	30 Psi
<u>Burst Strength</u>		Washed Media	30 Psi

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<u>Paragraph</u>	<u>Requirement</u>	<u>Actual Based on Average</u>
4.2.2.6 <u>Tensile Strength</u>	340 Psi Min.	New Media: Parallel to Pleat 2666 Psi Perpendicular To Pleat 890 Psi  Washed Media: Parallel to Pleat 1987 Psi Perpendicular to Pleat 1151 Psi
4.3.2 <u>Materials</u>	Self Extinguishing	New Media: Flame out on Removal of flame.  Washed Media: Flame out before timing mark.

Visual examination revealed no apparent defect or adverse condition of the media.

MIL-F-46736A(AT) Filter Element, intake air cleaner: Dry Type, covers single stage air cleaners from 40 CFM to 1000 CFM rated air flow. This specification has a durability test requiring immersion and agitation for six (6) hours in a solution of warm water and soap, flushed with cool water for three (3) minutes, allowed to drain for one (1) hour and placed in a circulating air oven for forty-five (45) minutes. The element then should be subjected to an efficiency test.

It should be noted that this specification is not addressed on the M1 Vehicle TDP and the rated air flow of the M1 Turbine is 10,000 CFM.

This memo does not constitute approval of the filter washing process by GDLS.

/tsk

  
T. A. Jones  
Quality Engineering

