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FILE NO.	SUBJECT	Analysis on Experimental Model Hagelin Device
TO AFSA-00T	FROM	AFSA-41
THRU AFSA-04 RCS	DATE	24 July 1951
	COMMENT NO.	1
		Major Croskery/ Ext. 372

1. The latest attempt by AFSA-31 at repairing the erratic stepping Hagelin device left by Mr. Boris Hagelin, Jr., has been unsuccessful. It has not been found possible to get the same stepping of the machine in each of two runs for as much as 100 positions. Only in rare instances will key check for as much as 25 positions.

2. Since the device will not produce stepping or key reliable enough for use in analytic studies, it will be returned to you. A new attempt will be made to derive key by other methods and to find means of establishing further facts about the system.

3. Studies to date indicate that key at least as flat as good M-209/^{key} can be obtained from the erratic stepping device. Overlaps have a different effect than in M-209, and it appears that setups using overlaps must be more carefully designed than in M-209 settings. There is no guarantee against very short cycles. The probability of short cycles will be investigated using IBM methods for producing key.



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