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*** MONOGRAPH NO.: M1B**
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ITEM: Meal, Ready-to-Eat (MRE)

NSN: 8970-00-149-1094 **ITEM SPECIFICATION:** MIL-M-44074

APPROXIMATE CALORIC VALUE: 1200 average per meal.

CHARACTERISTICS OF ITEM:

The MRE consists of individual meals that may be consumed with minimal preparation and is suitable for use in the combat zone and any other circumstances where resupply has been established or planned but operational conditions preclude other means of subsistence. The primary advantages of the MRE include its light weight, compactness, ease of preparation, and ease of carrying. From a quality standpoint, the MRE is superior to canned rations because
the heat penetration characteristics of the retort pouch (often called the flexible can) result in less heat processing to attain commercial sterility. Shelf stability is increased because the pouch is inert (i.e., will not react with the food as metal cans do) and there is greater variety of components in the MRE than in previous types of operational rations. The MRE carries with it some disadvantages. For example, it is susceptible to damage by rough handling (once in the
hands of the soldier) and to damage caused by rough handling at freezing temperatures (rupturing of the pouches).

A case of MREs normally contains twelve different menus; however, due to a multitude of logistical problems encountered since its inception, more than one of the same menu may be found in a case. A general rule of thumb to follow is that no more than two of any one type of menu and no less than eight different types of menus per case should be encountered. If either of these two rules is breached and there seems to be no evidence of special handling or reworking of the rations, either DPSC or the owner/manager of the rations should be informed of the findings.

The menu contents of the MRE were fairly standard from 1980 to 1987. In 1988, the new improved version of the MRE was introduced. The first acquisition of the MRE took place in 1980-1981, with field testing starting in 1983. Field studies/tests revealed that only about two-thirds of the food contained in the MRE was being consumed due to various reasons. Since the primary purpose of the MRE, like all other operational rations, is to maintain the health and effectiveness of the soldier and because the average calorie content of a ration is set with that goal in mind, the failure of the soldier to consume approximately 33% of the menu was alarmingly unsatisfactory. As a result of these findings, several initiatives aimed at increasing caloric intake and simultaneously increasing overall acceptability were embarked upon. In 1986, seven of the 12 menu entrees were increased from five to eight ounces. In 1987, cold beverage mixes and hot pepper sauce were added

In 1988, nine new entrees and a new vegetable replaced the original ones, including two new breakfast items. The introduction of commercial candy components also came to fruition in 1988. The contents of the MRE from 1980 to 1988 are listed in Table S, Section IV.

DEFECTS LIKELY TO OCCUR: The defects most likely to occur for each component are addressed in the individual component Monographs.

UNIQUE EXAMINATION/TEST PROCEDURES: These are addressed in the individual Monographs.

SPECIAL NOTES: It is extremely important for all to understand that variations in menu variety and even in individual menu content have occurred over the years for several reasons. Unless the variations are significant, there is no need to report them to DPSC or the owner/manager of the rations. For example, the freeze dehydrated fruits, jellies, beverage base components, and cakes have several flavors that are interchangeable. Other variations such as substitution of brownies for cookies and vice-versa, cheese for peanut butter and vice-versa, one type of candy for another, and one accessory packet for another (although this should not be encountered often) have also been allowed over the years.

The MRE is a complex composite operational ration composed of a variety of components that deteriorate at different rates, making overall shelf-life determinations based on remaining shelf-life alone unrealistic, impractical and virtually impossible. Additionally, the relative value of each component in a meal varies greatly, making serviceability decisions much more difficult than they are for homogeneous items (e.g., canned green beans). The difficulty in deciding the best disposition of deteriorating MREs is commensurate with the complexity of the ration and is not a decision that should be taken lightly.