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**Space Shuttle Food-System Summary
1981 - 1986**

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ACRONYMS

ASTP	Apollo-Soyuz Test Project
CDR	commander
DC	direct current
DOD	Department of Defense
EVA	extravehicular activity
HSP	health stabilization program
IM	intermediate moisture
JSC	Lyndon B. Johnson Space Center
KSC	John F. Kennedy Space Center
MS	mission specialist
NF	natural form
OFT	orbital flight test
OPS	operational missions
OV	Orbiter vehicle
OWDA	operational water-dispensing assembly
PLT	pilot
PS	payload specialist
psi	pounds per square inch
RDA	recommended dietary allowance
SST	Space Transportation System
SSV	Space Shuttle vehicle
VAFB	Vandenberg Air Force Base

INTRODUCTION

The launch of the Space Shuttle Columbia (OV-102) on April 12, 1981 marked the beginning of an era in the history of manned space flight. It was the first time the United States had put a man in space since the joint United States/Soviet Union flight in 1975 (the Apollo-Soyuz Test Project (ASTP)). More importantly, Columbia was the first vehicle in the history of space flight to perform as both a spacecraft and an aircraft. The Space Shuttle Orbiter vehicle (OV) launches as a rocket (fig. 1), orbits the Earth as a spacecraft, and lands as a glider aircraft (fig. 2). The first four flights of the Space Shuttle (table I) comprised the manned orbital flight test (OFT) program of the Space Shuttle vehicle (SSV). The OFT program's primary objective was to evaluate and demonstrate safe ascent, on-orbit operation, and return of the Orbiter and its crew under progressively more demanding conditions (ref. 1). With the advent of operational missions (OPS) and the STS-5 mission in November 1982, the primary focus of Space Shuttle flights shifted from exploring SSV flight characteristics and maneuverability to conducting scientific experiments and ferrying payloads and materials into space for commercial use. The size of Space Shuttle crews doubled, tripled, and eventually quadrupled to meet this objective and included mission specialist astronauts (MS) and payload specialists (PS) from private industry and foreign countries in addition to the two pilot (PLT) astronauts who had previously formed the crew on all OFT missions (tables I and II). The MS's and PS's were responsible for scientific experiments and payloads on the OPS. The purpose of this paper is to describe the food system and associated hardware used on Space Shuttle missions from 1981 to 1986.

ORBITAL FLIGHT TESTS

Since the Space Shuttle was the first U.S. spacecraft to be placed into orbit without previous unmanned, orbital, flight testing, the first flight of the Space Transportation System (STS-1) was conservatively planned in the interest of safety. The primary purpose of STS-1 was to demonstrate the safe ascent and return of the Orbiter and its 2-man crew (ref. 2). Two days after lift-off from the NASA/John F. Kennedy Space Center (KSC), Florida, Columbia became the first vehicle in the history of space flight to complete a wheels-down, airplane-like landing from Earth orbit, touching down on the dry, lake bed at Edwards Air Force Base, California, on April 14, 1981.

Seven months later, the STS-2 flight was successfully completed on November 14, 1981 (table I). Although this flight was shorter than anticipated due to a malfunctioning fuel cell, STS-2 demonstrated the SSV's reusable capabilities for the first time. The moving and grapple capabilities of the Canadian-built, remote manipulator (Canadarm) were also evaluated during STS-2. Thermal response testing of the Orbiter was conducted during STS-3; the Canadarm grappled its first payload in orbit, and the first Space Shuttle student experiment was flown. The STS-4 carried the first commercial and military payloads into orbit. The successful fourth landing of OV-102 on July 4, 1982 completed the OFT program and opened the way for OPS to begin. Highlights from the first six flights (STS-1 through STS-6) are summarized in appendix 1.

SPACE SHUTTLE FOOD AND PACKAGING

Development Concepts

Development concepts and constraints for the Space Shuttle food system were basically the same as those for the Apollo and ASTP food systems and are summarized in table III. Food safety must be addressed during the design, manufacture, and use of any aerospace food system (ref. 3) and, thus, was an essential aspect of the Space Shuttle food system. Food used onboard the Space Shuttle was processed in a manner that significantly reduced the probability of pathogenic and food-spoilage bacteria, yeasts, and molds being present. The microbiological specifications for non-thermostabilized foods are indicated in table IV.

Weight and volume have always been primary design factors for not only the food system but for every system or hardware item launched into space, and the Space Shuttle was no exception. For example, although the Space Shuttle Orbiter had the capacity to transport a crew of 7 and a payload of 30 tons into Earth orbit for up to 30 days, no refrigerator or freezer was onboard, and the total food allowance was limited to 3.4 lbs per person per day plus a contingency food supply of 3.4 lbs per person per day for 3 extra days. This total included the packaging, which accounted for 1 lb per person per day. Table V shows the weight of the food system for each Space Shuttle flight.

Food service onboard the Space Shuttle was designed around commercially available food products which were individually packaged and stowed to promote ease of handling in microgravity. All food in the Space Shuttle food system was precooked and/or processed so it required no refrigeration and was either ready-to-eat or could be prepared for consumption by simply adding water and/or heating. The only exception was the fresh fruit and vegetables stowed in a fresh food locker. Since there was no refrigeration, items in the fresh food locker such as carrots and celery had to be eaten within the first 2 or 3 days of the flight or else had to be discarded in the trash compartment located beneath the middeck floor.

Sensory Evaluation

The sensory qualities of potential foods were evaluated both by a technical, sensory-evaluation panel and by the Space Shuttle astronauts during the process of selecting items for the Space Shuttle food system. Parameters evaluated included appearance, color, odor, flavor, and texture plus an overall rating which was a general-acceptability score. A 9-point, hedonic scale was used in which a rating of "1" meant "dislike extremely", "9" meant "like extremely", and "5" was a neutral rating meaning "neither like nor dislike". A mean overall score of 6 or higher was required on technical panels before an item was either offered to the astronauts for evaluation or considered as a candidate for the Space Shuttle food system. Since it was uncertain whether or not food-warming capabilities would be available for the first few Space Shuttle flights, astronauts evaluated food items which

would normally be consumed hot at both elevated and ambient temperatures. The mean overall scores from these evaluations are summarized in table VI.

Food Types

In addition to fresh foods, five food types were flown on the Space Shuttle. These included rehydratable food and beverages, natural-form (NF) foods, thermostabilized foods, intermediate-moisture (IM) foods, and some irradiated meat and bread items. Since the Space Shuttle food system relied heavily on commercially available food products, the items available for flight changed from time to time as old products were discontinued or modified by their manufacturers and new products were marketed that were requested for flight by the astronauts. Foods that were available for flight during the first 25 Space Shuttle missions are listed in table VII; beverages and condiments which also were flown are itemized in table VIII. Appendix 2 lists the Space Shuttle food vendors and the products each vendor supplied.

Package Types

Packages employed in the Space Shuttle OFT food system included the Apollo Spoonbowl for rehydratable foods and the Skylab beverage container for rehydratable beverages. Beginning with STS-5, a square package was used for both rehydratable food and beverages. Transparent plastic pouches, flexible foil-retort pouches, and aluminum and bimetallic cans were used throughout the first 25 Space Shuttle program missions (ref. 4). The types of space food in their flight packages are illustrated in figure 3.

Rehydratable Foods

Beverages

Over half of the total food items launched onboard the Space Shuttle were rehydratable food and beverage products (table IX). One way to conserve weight in the food system was to launch dehydrated foods. Water was restored to the food during flight just prior to consumption. Water for rehydration came from the Orbiter fuel cells which produced electricity by combining hydrogen and oxygen (ref. 5). Since ample water was produced by the fuel cells during flight to rehydrate all of the food, it was advantageous to launch the food in a dry form when possible and use the water produced during flight for rehydration (ref. 6). Beverages constituted the largest category of consumables in the Space Shuttle food system, accounting for 33 percent of the total food items flown (table IX). Beverages were launched as dry, beverage-powder mixes packed in rehydratable-food containers. The beverages flown on each Space Shuttle mission are listed in appendix 3 for the menus and in appendix 4 for the pantries. The concept of Space Shuttle menus and pantries is explained in the "Food System Design and Stowage" section beginning on page 9 of this document. Salt tablets and

beverages were assembled into entry kits to support a medical study beginning with STS-3. The contents of the entry kits are listed in table X.

Foods

Rehydratable foods made up the second-largest category of consumables in the Space Shuttle food system, constituting 22 percent of the total food items flown (table IX). Rehydratable foods included soups (cream of mushroom and chicken consomme), casseroles (Chili Mac and chicken and rice), appetizers (shrimp cocktail), and breakfast items (scrambled eggs and breakfast cereals). Breakfast cereals were prepackaged with nonfat dry milk and sugar if needed. Milk was reconstituted by adding water to the package just before consuming the cereal. Freeze-dried bananas and pears were used on OFT flights as snack items, but peach ambrosia and strawberries were the only freeze-dried fruit items included in the Space Shuttle OPS food system except for blueberries in one granola product.

Freeze Drying

Foods were prepared for freeze drying by processing them to the ready-to-eat stage and quick freezing them. The quick-frozen product was placed in a commercial freeze-dehydration unit on shelves that could be heated (fig. 4) and subjected to a vacuum in the closed chamber. While under vacuum, heat was slowly applied to the frozen product. Application of heat at this reduced pressure caused sublimation of the ice in the product. The moisture in the food was thus vaporized and condensed on cold plates at the bottom and along the sides of the vacuum chamber. The final freeze-dried product retained its original shape but was lighter and more easily reconstituted than were products dehydrated by most other methods (ref. 7). The rehydratable food items flown on each Space Shuttle mission are listed in appendix 5 for the menus and in appendix 6 for the pantries.

Rehydratable-food Packages

Skylab Beverage Container

Beverages for OFT were packaged in the Skylab beverage container which consisted of a collapsible, plastic, bellows bottle that expanded accordion-style when water was added to the package through a one-way, spring-loaded valve (fig. 5). The container was designed as a non-spill device for micro-gravity. Fluid was removed from it by inserting a plastic mouthpiece into the valve to depress the spring. Fluid was then forced through the valve into the mouth by compressing the collapsible, bellows package (refs. 8 and 9).

Apollo Spoonbowl

During OFT, rehydratable foods were packaged in transparent, plastic pouches called Apollo Spoonbowl packages (fig. 6). The Spoonbowl was designed for convenient food preparation and consumption in microgravity. Water was injected from the spacecraft water dispenser into the pouch through a one-way, spring-loaded valve. After the food was completely rehydrated, the astronaut opened the pouch by cutting along the black line at the top of the package, inserted his fingers through the finger loops, and ate the food in a conventional manner with a spoon (refs. 8, 10, 11, and 12). For OFT flights, a gun-type, water-dispensing device was used to rehydrate the products. This dispenser interfaced with the one-way water valves in the Spoonbowl and beverage packages; however, water volume was not measured, so the astronauts had to develop a method of visually determining the amount of water to add to the packages.

Square Space Shuttle Package

New packaging was developed for rehydratable foods and beverages to replace both the Apollo Spoonbowl and the Skylab beverage containers (fig. 7). This packaging's square, nestable shape was designed for maximum stowage efficiency and minimum cost. The new package consisted of an injection-molded, rigid, opaque base designed to serve as a bowl with a clear, flexible, thermoformed film lid which provided visibility during mixing. Food was placed in the bowl and the lid was heat sealed to the base in a vacuum chamber. Water was introduced without breaking the package seal via a hollow needle inserted through a silicone-rubber septum in the base of the cup. The food could be heated after it was completely rehydrated. At meal times, the package lid was removed with a knife or scissors and the food was consumed directly from the container with conventional eating utensils (fig. 8). Beverages were consumed by inserting a polyethylene straw into the package through the septum after the beverage was rehydrated (ref. 8). Rehydratable foods and beverages were first packaged in the new container for dinner on day 3 for STS-3, and for dinner on days 3, 4, and 5 for STS-4.

In general, the square, rehydratable-food package functioned very well. No problems were encountered during flight with the needle-septum rehydration concept, and the package design facilitated eating by allowing consumption from an open container with normal utensils. The STS-3 crew found that a clamp on the straw was necessary for some beverages in order to prevent fluid from flowing out of the package (fig. 9). When liquids are allowed to float freely in microgravity, they form spherical shapes since surface tension forces the liquid to make the most compact shape possible (fig. 10). The only disadvantage reported with the square, food package was that it generated a larger volume of trash than did the Spoonbowls. All rehydratable foods and beverages were packaged in the square container for STS-5 and subsequent missions. The square units on each Space Shuttle flight are enumerated in appendix 7.

Natural-form (NF) Foods

Foods such as nuts, granola bars, and cookies were classified as NF foods and comprised 15 percent of the Space Shuttle food system (table IX). The NF foods were ready-to-eat items packaged in flexible pouches which required no further preparation for in-flight consumption. These foods were vacuum-packaged in transparent, flexible pouches following a nitrogen flush. The pouches were opened with scissors to access the food. The NF foods flown on each Space Shuttle mission are listed in appendix 8 for the menu and in appendix 9 for the pantry.

Thermostabilized (T) Foods

Thermostabilized foods are heat processed to destroy deleterious microorganisms and enzymes (ref. 13). Individual servings of thermostabilized foods are commercially available in aluminum or bimetallic cans or in flexible, laminated-foil, retort pouches. The cans open either with easy-open, full-panel, pull-out lids or with can openers. Most of the fruits used on the Space Shuttle, all of the puddings, and fish such as tuna fish and salmon were thermostabilized in cans. Food was eaten directly from the cans with a spoon or fork.

Most Space Shuttle entree items were packaged in flexible, laminated-foil, retort pouches. These included products such as beef and gravy, sliced beef with barbecue sauce, turkey and gravy, frankfurters, and ham. After the pouches were heated, they were opened with scissors and the food was eaten directly from the containers using conventional eating utensils. Thermostabilized foods made up 14 percent of the total Space Shuttle food system (table IX). The number of thermostabilized food items flown on each Space Shuttle mission are listed in appendix 10 for the menu and in appendix 11 for the pantry. The retort pouches flown on the Space Shuttle are listed for each flight in appendix 12.

Intermediate-moisture (IM) Foods

Intermediate-moisture (IM) foods are preserved by restricting the amount of water available for microbial growth while retaining sufficient water so the food has a soft texture and can be eaten without further preparation. This is accomplished by removing and/or restricting the water in the product with a water-binding substance such as sugar, as in dried apricots and peaches, or salt, as in dried beef. The IM foods usually range from 15 to 30 percent moisture, but the water present is chemically bound and is not available to support microbial growth (refs. 9, 14, and 15). The IM foods were packaged in the same pouches as the NF foods; however, the fruit products were not flushed with nitrogen. The IM foods comprised 8 percent of the Space Shuttle food system (table IX). The IM food items flown on the Space Shuttle are enumerated in appendix 13 for each flight.

Fresh Foods

A fresh food locker was introduced into the Space Shuttle food system on STS-6. This locker contained loaves of fresh bread, fruit, and vegetables such as apples, bananas, oranges, carrots, and celery sticks. Items flown in the fresh food lockers for each Space Shuttle mission are listed in appendix 14.

Irradiated (I) Meat and Bread Products

Irradiated food comprised 3 percent of the food flown on the Space Shuttle (table IX). The items flown are listed for each mission in appendix 15. Meat items were cooked, packaged in flexible laminated-foil pouches, and sterilized by exposure to ionizing radiation so they were stable at ambient temperature. Individual bread slices were packaged in clear, flexible pouches following a nitrogen flush and frozen prior to irradiation to inhibit mold growth. Frozen breakfast rolls without icing were purchased individually packaged in clear, flexible pouches and irradiated. When the fresh food locker was introduced into the Space Shuttle food system, bread and breakfast rolls were no longer irradiated. Loaves of bread were purchased in Florida and placed in the fresh food locker in their original commercial packages. Individually packaged, iced, breakfast rolls were kept frozen until they were stowed in the fresh food locker.

Condiments

Commercial, individual portion packets of catsup, mustard, mayonnaise, taco sauce, and hot pepper sauce were supplied on all Space Shuttle flights (fig. 3) (app. 16). Polyethylene dropper bottles contained bulk supplies of liquid pepper, liquid salt, and toothpicks for flight use (fig. 11). Since granular salt and pepper could not be dispensed in microgravity, salt was dissolved in water and pepper extract was suspended in vegetable oil. The toothpick container had an enlarged opening so individual toothpicks could be dispensed with a gentle, shaking motion.

Insuit Fruit Bars

Fruit bars were designed for consumption within the pressure suit during extravehicular activity (EVA) since an astronaut could be without access to food for up to 8 hours during EVA procedures. The bars were made by compressing sheets of fruit leather together and cutting 2.5 × 22.9 × 0.6 cm bars out of the compressed material. Fruit leather is a thin, flat product made from fruit pulp, corn syrup solids, and pectin. Each formed bar weighed approximately 50 g and provided 170 kcal. The bars were covered with an edible starch film to reduce stickiness and inserted into an elastic, nylon food dispenser. Velcro® patches were attached to the nylon for anchoring the dispenser and bar to the neck ring of the pressure suit. The fruit bar was consumed by grasping it with the teeth and withdrawing it from the dispenser before biting off a piece (ref. 16). A typical bar is shown

in figure 11. Insuit fruit bars flown on each Space Shuttle flight are listed in appendix 16.

Launch Snacks

Frozen sandwiches were prepared in the Food Facility at the NASA/Lyndon B. Johnson Space Center (JSC) in Houston and shipped to KSC for STS-1, -2, and -3. Flight beverage packages were filled with water the night before launch and refrigerated. On launch morning, the water and frozen sandwiches were placed in a mesh bag brought onboard by the astronauts and later used for on-orbit helmet storage. These sandwiches constituted the astronauts' first in-flight snack; however, they had to be consumed within 6 hours of launch or discarded.

Beginning with STS-4, sandwiches were prepared at KSC the evening prior to launch, sealed in polyethylene bags, and refrigerated until they were placed into the astronaut's helmet bag. A fresh apple for each astronaut was also included on STS-4. Launch snacks are enumerated in appendix 17 for each flight.

Foreign Foods

When the French PS, Patrick Baudry, and the Saudi Arabian PS, Sultan Salman Abdul Azize Al Saud, flew on STS 51-G, their menus and the pantry included some types of French food which had been used when the French Cosmonaut-Investigator, Jean-Loup Chretien, flew on Soyuz T-6. Twenty-nine French food packages and 9 packages of Saudi Arabian dates stuffed with whole almonds were flown on STS 51-G. On STS 61-A, individually packaged bread from Germany and Edam cheese from the Netherlands were flown. Several Amaranth products from Mexico were flown on STS 61-B. Foreign food items flown on the Space Shuttle are listed in appendix 18.

Frozen and Chilled Foods

A very small, experimental freezer was placed onboard for the STS-4 mission to bring biological samples back from orbit. At launch, the freezer was filled to capacity with three servings of vanilla ice cream, hand-packed in the new square rehydratable packages, and one filet mignon which had been broiled, packaged in a laminated-foil pouch, and quick frozen in the JSC Food Facility. These frozen items were scheduled for consumption during the first 2 days of flight since, on the second day, the freezer was to be turned off for test and evaluation purposes. After the tests were completed, the freezer was reactivated at a refrigerator temperature and used to chill beverages, fruits, and puddings. According to the crew, this food-chilling capability greatly enhanced food palatability. They found that beverages, especially, were much more appealing when chilled.

FOOD SYSTEM DESIGN AND STOWAGE

Menu Design

In order to support and sustain the Orbiter crews, the food system was designed to be safe and nutritious, convenient for busy astronauts to prepare and manipulate in microgravity, appeal to the palate, and facilitate cleanup chores. The Space Shuttle food system was designed to provide 28 man-days of food to support a crew of 4 for 7 days, and had the additional flexibility of accommodating changes in the number of crewmembers from 2 to 7 and a preplanned flight duration of up to 30 days. Personal-preference menus had been designed and flown for each astronaut on all previous U.S. manned programs. However, this is an extremely cumbersome procedure due to the logistics involved in supplying food to the spacecraft (refs. 17 and 18). To simplify this task, a standard 4-day menu cycle, which included 3 meals and supplied a total of 3000 kcal per person per day, was designed for Space Shuttle OFT flights. The standard OFT menu is shown in table XI. Beginning with STS-9, however, the standard menu was changed to a 7-day cycle (app. 19) and the daily caloric level was reduced to 2800 kcal since crewmembers were not using 3000 kcal of food per day and both the weight and volume of the food system were critical issues.

To maintain good nutritional levels, the standard menu also provided the recommended dietary allowance (RDA) of vitamins and minerals for adults (table XII) (refs. 4, 6, 19, and 20). At first, only the standard menu was available during flight; but, beginning with STS 41-D, the astronauts could use the standard menu, could make substitutions in the standard menu to accommodate their own food preferences, or could design their own menu for flight if so desired. Astronaut-designed menus were checked to ensure that they provided the RDA. If any nutrient was found to be in short supply, suggestions were made to the astronaut for menu adjustments to bring the nutrient level up to the recommended RDA amount. Beginning with STS 41-D when individual menus were available, each astronaut's food allotment was identified by a color code affixed to each food package. Appendix 19 contains the menus that were flown on each of the first 25 Space Shuttle flights.

Pantry

In addition to the nominal menu, a supplementary food supply, which provided approximately 2100 kcal per person for 3 extra days during OFT and for 2 extra days during OPS, was stowed onboard the Space Shuttle for each flight. The pantry was used to accommodate individual food preferences prior to STS 41-D and also functioned as a contingency food supply in case the flight was unexpectedly extended. During flight, this food supply was used as a pantry providing extra beverages and snacks. Pantry items could also be exchanged for menu items during flight, but all unused food packages were retained in the pantry so they would be available in case they were needed later. Appendix 20 lists the pantries that were flown on each of the first 25 Space Shuttle flights. Empty beverage containers were provided for drinking water

containers. Color-coded straws were supplied so crewmembers could identify their pantry beverages after rehydration (fig. 11).

Food Lockers

Food was stowed onboard the Orbiter in locker trays with individual meal components packaged in single-meal overwraps and labeled according to day and meal for OFT (fig. 12). Similar items were overwrapped together in trays containing the pantry items. Overwrapping was later discontinued and food packages were simply arranged in the order in which they appeared in the menu for locker trays containing meals or were grouped with like items in trays containing the pantry. Overwrapped meals and pantry items were arranged in their respective locker trays in three rows. Initially, each row was restrained by an elastic strap extending across the locker tray (fig. 13), but, as the tray was emptied, food packages shifted and floated out of the tray between the straps in microgravity. Later, a net restraint which covered the top of the locker tray was used, but food packages floated out of the locker when the net was opened to remove the contents. Finally, a three-section net restraint was developed which kept food packages from floating out of the locker in microgravity while still allowing for high-visibility of individual food items (fig. 14). Sections of the net were secured to each other by Velcro[®] for ease of opening, making each food item readily accessible.

Food was packaged and stowed in the locker trays at JSC about 1 month before launch. Food lockers and shipping containers were refrigerated at JSC until approximately 2 weeks prior to launch. The food lockers were then shipped to KSC where they were refrigerated until 2 days before launch when they were installed in the forward modular lockers of the Orbiter middeck. In addition to the meal and pantry food lockers, one fresh food locker was packed at KSC and installed on the Space Shuttle 18 hours prior to launch beginning with STS-6.

FOOD SYSTEM ACCESSORIES

Space Shuttle Galley

An electric galley connected to the Orbiter ambient and chilled water system was developed for use on Space Shuttle missions to facilitate meal preparation by providing a centralized location for one individual to handle all food preparation activities for a given meal (fig. 15) (refs. 4, 6, and 7). The galley weighed 164 lbs and was mounted to the middeck floor and wall at the portside of the vehicle forward of the side hatch. It was a modular unit that could be removed for special missions that were weight-critical or that required extra middeck space (fig. 16).

The galley contained a personal hygiene station, a water dispenser, an oven, condiments, wet wipe and meal tray stowage space, and a food preparation area. The personal hygiene station was designed to provide an area for

washing hands, cleaning small items, and sponge bathing in microgravity without allowing water to escape into the spacecraft atmosphere (fig. 17). It consisted of a plastic bubble with two cylindrical ports on each side for hand insertion. A lever located inside the left arm port could be depressed by the forearm to release water from a spigot inside the top of the bubble. A vacuum-activated drain was located at the bottom of the bubble. The personal hygiene station was used only one or two times during flight, however, because crewmembers found that some water escaped through the arm ports and tended to run up their arms. They recommended that water spigots and vacuum drains could be located around the inside circumference of the bubble, but the arm-access ports needed to fit more snugly to prevent water from running up their arms.

The galley doors initially were lined with metallic strips. Individual crewmember aluminum meal trays were fitted with magnets on their undersides for attachment to the galley doors, thus providing meal assembly areas. In microgravity, however, people and objects could float into the galley doors, and even a slight jar would send the meal trays and food packages flying. Subsequently, the metallic strips and magnets were replaced with Velcro[®] strips which held the trays more securely.

Water Dispensers

Galley

The galley water-dispensing unit was designed to operate in conjunction with the square, rehydratable-food package. The square package was inserted into a metal package holder and pushed forward so the stainless steel, needle-type water dispenser penetrated the package through the silicone-rubber septum in the base of the package (fig. 18). The appropriate water volume was dial-selected, and button activation released measured quantities of either hot ($160^{\circ}\pm 5^{\circ}\text{F}$, 70°C) or cold ($50^{\circ}\pm 5^{\circ}\text{F}$, 10°C) water into the package. The package holder was basically a drawer with a cutout that automatically aligned the food container with the needle. The holder was attached to the rehydration station on sliding, parallel rods so it could be moved away from the needle for installation or removal of containers or moved toward the needle for rehydration.

A transparent, Lexan[®] shield encircled the needle area and was of sufficient diameter to accommodate the package holder, thus protecting the needle while simultaneously providing user observation of the food package during filling. Water could be dispensed only when a package was connected to the needle. A flowmeter, valves, and plumbing related to dispensing water were located behind the panel. Dispensing system controls consisted of 1 rotary switch for volume selection of 0.5 to 8 oz of water in 0.5-oz increments and 2 pushbutton switches for hot and cold water, respectively. The switches were located on the control panel above the rehydration station (ref. 21).

Operational Water-dispensing Assembly (OWDA)

An OWDA which operated in a similar manner to the galley was used when a galley was not onboard (fig. 19). The OWDA was a compact system which weighed 13.5 lbs, was mounted on the middeck wall prior to launch, and was connected to the Orbiter ambient and chilled potable water systems via quick disconnects. Quick disconnects were located on the Orbiter middeck forward of the side hatch. The water dispenser provided the crew with either ambient water of 65°F to 75°F (18°C to 24°C) or chilled water of 45°F to 55°F (7°C to 13°C) for food rehydration and drinking. Hot water was not available when the galley was not flown.

The OWDA consisted of a rehydration unit and housing assembly. The rehydration unit consisted of an electronic system for dispensing measured quantities of water into the square, rehydratable-food and beverage containers through a replaceable needle. A spare needle was stowed at the rear of the rehydration unit. Either needle could be removed or installed with a 3/8-in., open-end wrench. The housing assembly measured 12.75 × 8.6 × 3.75 in. (32.4 × 21.8 × 9.53 cm) and encased the water-dispenser components (ref. 21).

The OWDA rehydration-unit components included a power switch, rotary switch, fill switch, bypass valve, waterlines, microbial check valve, and an ambient/chilled water-selection valve (figs. 19 and 20). Power was supplied to the water dispenser through a power cable provided with the unit.

The operational water dispenser required 28 V DC power from the middeck utility power panel. The power switch on the OWDA (fig. 19) provided power to the electronic, food-rehydration system. The ambient/chilled water-selection valve was a 3-position, manual valve on the upper, right-hand corner of the OWDA (fig. 19) that controlled water flow to the rehydration unit.

The rotary switch (fig. 19) was a 4-position, rotary dial that provided for a 2-, 3-, 4- or 8-oz water-quantity selection. After selection, the fill switch activated the electronic filling mechanism, and water was dispensed by a pressure regulator and solenoid valve arrangement (fig. 20). Inlet water with a normal system pressure range of 12.0 to 22.0 pounds per square inch (psi) was reduced to a constant pressure of 12.0 psi by the regulator. Downstream of the solenoid valve, an electronic controller governed the time of flow. The timed shutoff coupled with constant flow rates provided specific water quantities for accurate food and beverage rehydration. During filling, the fill switch was lighted (fig. 19). When filling was completed, the light switched off automatically and the system deactivated (ref. 21).

A mechanical bypass line with a continuous-flow capability was also provided in the event a failure occurred in the solenoid valve or the pressure regulator. This line was regulated by a bypass toggle valve (figs. 19 and 20) that could be activated by either depressing or lifting the toggle. The toggle valve could be used in place of the automatic fill mechanism described above to supply varying amounts of water to food or beverage packages in unmeasured amounts as long as it was activated. It was sometimes

used to dispense small additional amounts of water into the food packages when individuals preferred additional dilution, or it could be used to fill empty beverage containers with drinking water.

A personal hygiene, quick-disconnect fitting was located on the side of the dispenser where the 12-ft, personal-hygiene hose and water-dispensing valve could be attached. The OWDA contained one microbial check valve for the hygiene dispenser line (fig. 20). The microbial check valve prevented back contamination of the water system. It was contained in the assembly housing of the OWDA and held in place by a set of clips. After approximately four or five flights, the microbial check valve was refurbished (ref. 21).

Contingency Water Dispenser

The contingency water dispenser (fig. 21) was a simple, manually-actuated toggle valve with a rehydration needle attached. It was designed to supply water in the event of either a galley or an OWDA failure. It could be attached to a contingency water hose which supplied water to the Orbiter. The dispenser consisted of a toggle valve, male coupling, and needle assembly. Water was delivered by activating the toggle valve lever which permitted water to flow through the replaceable needle (ref. 21).

Food Heaters

Galley Oven

A forced-air convection oven for warming foods in the square, rehydratable-food packages and in flexible, laminated-foil pouches was contained within the upper midsection of the galley. The oven was divided into two principal compartments: a lower compartment designed for use with the square, rehydratable-food package and an upper compartment for the thermostabilized flex pouches (fig. 22). In the lower compartment, square containers were retained by seven pairs of tracks. Two containers fit in each pair of tracks so the maximum capacity of the oven was 14 square packages. In the upper compartment, flex pouches were retained against the lower surface of the heat sink by four spring-loaded aluminum plates. Spring loading was required to ensure adequate contact with the heat sink since flex pouches were heated mainly by conduction.

The oven heaters were connected with the water heaters and were always powered. The oven was thermostatically controlled to operate at approximately 150°F to 180°F (66°C to 82°C). Since all of the food was precooked before it was packaged, the oven did not have to cook food, only warm it to serving temperatures. Heating of the square, rehydratable-food packages was accomplished by forced-air convection provided by three fans that circulated air over a finned heat sink at the top of the oven and down over the food containers (fig. 23). The fans were operated by an on/off switch located directly below the oven (fig. 22).

The oven door was hinged at the top and could be stowed in a recessed compartment above the oven (fig. 22). The door was kept closed during heating by a special latch that could be operated by squeezing it with one hand. For launch and entry, a snap strap was used to further secure the oven door in the closed position (fig. 24) (ref. 21).

Portable Food Warmer

A portable, aluminum, suitcase-type food and beverage warmer was developed for use during Space Shuttle flights (fig. 25) when the galley was not flown (ref. 13). The conductive food warmer, which was attached to either the outside of a stowage locker or the spacecraft wall during the orbital phase of flight (fig. 26), contained a thermostatically-controlled electric heater in a central plate. Food packages were held in place by urethane-foam insulation with recessed cutouts to retain the rehydratable-food and beverage packages by friction fit. The upper surface of the rehydratable-food package was inserted into the recessed cutouts with the base of the package facing the heating element. A maximum of 14 rehydratable-food packages could be installed in the food warmer. A maximum of 6 flexible, laminated-foil pouches could be heated in conjunction with 12 rehydratable-food packages. The flex pouches could be stacked 3-deep. The food warmer simultaneously heated meals for up to 4 crewmembers to a desirable serving temperature (170°F, 76°C) in 15 to 20 minutes. The packaged food became too hot to handle or eat in 30 minutes.

A power cable was provided with the unit to supply power to the food warmer. On later flights when no galley was available, two food warmers were flown to accommodate larger crews and provide redundancy. A special "Y" cable permitted their use with one outlet. The food warmer required two phases of alternating current power provided by vehicle utility outlets. The power cable was stowed within the food warmer (fig. 27) which was placed in a middeck, forward modular locker for launch and entry (ref. 21).

Meal Trays and Eating Utensils

Meal trays provided each crewmember with a dining surface containing restraints for food packages and associated dining accessories. They enabled the astronaut to consume food from several open containers in meal fashion (fig. 28) as opposed to opening the containers one at a time and completely consuming the contents of one container before opening another.

OFT Meal Tray

At meal time, food containers were held on an anodized aluminum meal tray that could be restrained on the lap by a Velcro® strap. During OFT flights, the tray consisted of a flat sheet of aluminum with upturned edges. Twelve 1-in. squares of Velcro® were attached to the tray to restrain the food packages (fig. 29). Eating utensils could be restrained by springs which were secured along the edge of the meal tray (fig. 30).

OPS Meal Tray

The OFT meal tray worked well with the Spoonbowl packages used for rehydratable food during OFT missions. However, the square, rehydratable-food and beverage packages were somewhat cumbersome to handle on the flat OFT tray, so the meal tray was redesigned for OPS (fig. 31). The OPS tray had two cutouts: one designed to hold a maximum of three rehydratable-food containers, the other designed with rubber strips to accommodate food packages and cans of assorted sizes (fig. 32). The tray included a number of spring clips and two 3/4-in.-wide binder clips for retaining condiment packets, wet-wipes, etc. Two magnetic strips held the stainless steel eating utensils to the tray. Velcro® strips on the tray bottom held it against the galley or locker doors during meal preparation. Velcro® straps were also attached to the bottom of the tray, allowing crewmembers to secure the tray to their leg while dining (fig. 33) or permitting attachment to a wall during flight (fig. 34). The OPS trays were color coded for each crewmember to facilitate meal setup and preparation procedures. Since each astronaut's food was identified by a colored dot, meals for each crewmember could be quickly sorted out by matching colors.

Meal trays were stowed for launch and landing in a galley storage compartment above the oven (fig. 16). A strap restrained the trays in the compartment. For non-galley flights, meal trays were stowed in the middeck storage locker with the food warmer.

Eating Utensils

Eating utensils consisted of a knife, a fork, two spoons (a teaspoon and a soup spoon), and a pair of scissors for opening packages. Eating utensils were color coded for each crewmember, and each set was stowed within a soft, reusable, plastic, color-coded pouch with a Velcro®-snap cover. Wash-'n-Dri® wipes were used to clean the eating utensils after use. When the galley was not flown, 21 wipes were packed in a cloth dispenser. The galley dispenser held 115 wipes (fig. 35). Following a meal, food containers were discarded into large plastic bags (fig. 36) and placed in the trash compartment below the middeck floor. Eating utensils and food trays were cleaned with premoistened towelettes.

PREFLIGHT FOOD SERVICE

Preflight food service was provided for each crew beginning 1 week prior to their scheduled launch when the isolation period of the health stabilization program (HSP) went into effect. The health stabilization program was designed to minimize infectious disease exposure for all flight crews. Two prime factors in minimizing crew exposure to infectious agents were a reduction of the number of direct crew contacts and medical health certification of these contacts (ref. 22). During the isolation period, crewmembers lived and worked in specific areas designated as primary areas and only individuals identified as "primary contacts" were allowed access to these areas when the crew was present. Housing and food service were provided for

crewmembers at JSC, KSC, and Vandenberg Air Force Base (VAFB), California, throughout the isolation period until launch. Meals were prepared and served to the crew and their guests in a mobile home at JSC (fig. 37). Three days prior to launch, the flight crew transferred to their quarters in the Operations and Checkout Building at KSC and the food service program was transferred with them. On the occasions when the commander (CDR) and pilot flew to VAFB to practice landings, food was sent with them.

The JSC mobile home kitchen (fig. 38) was equipped with a larger than usual refrigerator, a portable dishwasher, and two long tables for extra counter space (fig. 39) in addition to the standard mobile home stove and sink. A microwave oven, chest freezer, and standard mobile home refrigerator were located in the rear bedroom. The dining area was adjacent to the kitchen and could comfortably accommodate eight people. The rear wall of the dining-room was eventually removed, expanding the dining area to include the adjoining bedroom so larger groups could be accommodated. Selective menus were provided during the preflight isolation period. The crews chose their menus for the next day following the dinner meal. Meat for the preflight food service was obtained from a meat supplier in Houston. The remainder of the food was obtained from grocery stores in either Texas or Florida. Frozen foods were obtained from a Houston source in case-lot quantities.

Meal service schedules varied with each flight as crewmembers shifted their own schedules during the preflight period to coincide with their in-flight schedules. Usually meals were served at normal meal times, but, for flights that either required crews to work in shifts to maintain a 24-hour operation or provided satellite launches that demanded a marked shift in daily work schedules, the meal service was adjusted to comply with these requirements.

IN-FLIGHT NUTRIENT INTAKE

There were no requirements to determine nutritional intake during preflight or in-flight phases of any Space Shuttle missions except during STS-4. On STS-4, two student experiments required nutritional-intake data both pre-flight and in-flight. For STS-4, the nutrient intake of each crewmember was estimated during the 7 days immediately preceding launch and throughout the flight. During the STS-4 preflight period, all food was weighed for each crewmember and nutrient intakes were determined using a computerized United States Department of Agriculture data base. During the STS-4 flight, the crew kept a log of their food intake.

Although measurements of in-flight nutrient intake were not required for any other flights, food consumption was estimated for all other flights from an inventory of unused food packages returned in locker trays and used containers returned in the trash. This was a fairly effective procedure when trash was available since missing food packages could be determined, were assumed not to have been used, and, therefore, were not included in the nutrient calculations. On some flights, the number of missing food packages was quite substantial. In addition, visual estimates could be made of any food residues. The residual food also could be quite substantial. On several flights, the commander was actively interested in maintaining adequate

nutritional intakes for each crewmember. Accordingly, on these flights it was mandatory that the entire planned meal for each crewmember would be consumed insofar as possible. On other flights, the cook-for-the-day would confirm which items were actually desired for any given meal with each crewmember. In such cases, the amount of food returned in the trash was usually less. Trash, however, was returned to Houston and available for examination on only about 50 percent of the flights. The remainder of the time it was sent either to Ames Research Center for various trash management studies or to the United States Air Force following Department of Defense (DOD) flights.

The food-package inventory from STS-4 was compared with the crew's onboard food log to maximize accuracy in assessing in-flight nutrient intake. On missions prior to STS 41-D, when each astronaut's food was not identified by color coding and the returned packages were not labeled in any way to indicate crew usage, it was impossible to estimate individual nutrient intake. Tables XIII through XVIII summarize the number of Space Shuttle food items provided and returned from STS-1 through STS 51-L. The tables are categorized according to food type. Appendixes 21 through 31 list the number of food items returned from Space Shuttle flights STS-1 through STS 51-L.

The nutritional composition of Space Shuttle food and beverages was analyzed in the Medical Sciences Laboratory at JSC and is listed in appendixes 32 and 33. The mean daily in-flight nutrient intake was estimated for each Space Shuttle crew and is listed in table XIX. The difficulties in trying to estimate nutrient intake for flight crews when the crews do not keep food-intake logs and when used and unused food packages are not available for inventory are apparent.

The mean caloric intake per person for the 5-man crew of STS 51-C was estimated in excess of 3800 kcal per day. The STS 51-C mission was planned and food was stowed for a 7-day flight. However, the STS 51-C mission was a DOD mission and the exact landing time was not revealed until a few hours prior to touchdown. The mission actually lasted 3 days, but so much food was not returned from flight that the crew's intake levels appear to be grossly over estimated. Without access to the trash, it was impossible to determine what packages were used and what packages were missing, so all food items that were not returned were calculated as food eaten.

The mean daily caloric intake on STS 61-C was estimated in excess of 3300 kcal per person, but appendixes 5 and 21 show that only 7 of the 187 rehydratable foods flown (3.7 percent) were returned. An average of 28 percent of the rehydratable food provided for all Space Shuttle flights, STS-1 through STS 61-C, was returned (table XIV). This would seem to imply that, on STS 61-C, all of the food was probably prepared for all of the meals, but this does not necessarily mean that all of it was actually consumed.

Food consumption was lowest during STS-2 due to the impact of a fuel-cell failure. The STS-2 crew experienced several problems which affected their in-flight health and well-being and which resulted in a lower than optimum food intake. Neither crewmember slept for more than 2.5 uninterrupted hours during the mission due to the many alarms and warnings that were continually

activated, and neither crewmember consumed adequate fluids because the potable water supply did not function properly as a result of the fuel cell failure. This fuel-cell failure produced water that was filled with gas bubbles and reduced the flow rate to the degree that approximately 5 minutes were required to fill an 8-oz beverage container (ref. 23). As a result of the time involved in obtaining water, the crew's fluid intake was inadequate. In microgravity, gas bubbles do not rise to the surface of a liquid and escape. Instead, they remain suspended and are consumed with the fluids. In addition, because crewmembers were busily working spacecraft-related problems and performing test procedures, they did not have sufficient time to consume a full meal during the flight and subsisted primarily on snacks as time permitted (refs. 24 and 25).

Similarly, although adequate food was included on STS-3 to support a 4000-kcal intake for one of the two crewmembers based on previous flight history, food consumption was somewhat lower than anticipated because both crewmembers reported symptoms of space or motion sickness during the first 3 days of flight. The STS-4 mission was the only flight where any attempt was made in-flight to record food intake; however, during a postflight debriefing, the crew indicated that they felt some reluctance to get food from the pantry because they often did not have time and/or it was not convenient to record it.

SUMMARY

All food in the Space Shuttle food system was precooked and processed so no refrigeration was required and meals were either ready-to-eat or could be prepared for consumption by simply adding water and/or heating. A gun-type water dispenser and a portable, suitcase-type heater were used to support this food system during OFT. When square, rehydratable food packages were introduced on STS-5, the gun-type water dispenser was replaced with a needle-injection water dispenser compatible with the new packages. The needle-injection dispenser measured water as it entered the packages. A modular galley was developed to facilitate the meal preparation process onboard the Space Shuttle. This galley initially flew on STS-9. A personal hygiene station, a hot/cold water dispenser, a convection oven, and meal assembly areas were included in the galley.

Crews reported that the Space Shuttle food system functioned well in space. The food system consisted of familiar, appetizing, well-accepted food items which could be quickly and easily prepared for consumption. A full meal for a crew of four could be set up by one person in about 5 minutes. Reconstituting and heating the food took an additional 20 to 30 minutes. Food was assembled on meal trays in its primary package and eaten directly from the package with conventional eating utensils. All food packages were disposable, so the meal tray and eating utensils were the only items that required cleaning after a meal. Food service onboard the Space Shuttle was convenient and easy for busy astronauts to handle in the microgravity environment. Highlights of the food system during the first 25 Space Shuttle flights are summarized in appendix 34.

The Space Shuttle missions provided an opportunity to evaluate a new concept in menu design for U.S. manned space missions. All previous space food systems provided personal-preference menus for each astronaut. Due to the complex logistics involved in providing personal-preference menus, a standard menu providing the RDA for adults was substituted on all Space Shuttle flights from STS-1 through STS 41-C. The menu was supplemented with a crew-approved pantry that accommodated personal food preferences and also served as a contingency food supply. After sufficient experience was gained in supplying food for Space Shuttle missions and crews became more diversified in their food preferences, the option of personal-preference menus was re-introduced beginning with STS 41-D.

Mean daily nutrient intake was estimated for each mission from an inventory of food packages returned unused in locker trays, and, when available, used containers in the trash were examined and inventoried. Difficulties in accurately estimating crew nutrient intake in the absence of food-intake logs were apparent in the results.

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November 16, 1984

TABLE I.- SPACE SHUTTLE FLIGHT CREWS (1981-1984)

STS-1 Columbia
April 12-14, 1981
John Young, CDR
Robert L. Crippen, PLT

STS-2 Columbia
November 12-14, 1981
Joe Engle, CDR
Richard Truly, PLT

STS-3 Columbia
March 22-29, 1982
Jack Lousma, CDR
Gordon Fullerton, PLT

STS-4 Columbia
June 27-July 4, 1982(DOD)
Ken Mattingly, CDR
Henry W. Hartsfield, PLT

STS-5 Columbia
November 11-16, 1982
Vance D. Brand, CDR
Robert Overmyer, PLT (Col. USMC)
Joseph P. Allen, Ph.D., MS
William Lenoir, Ph.D., MS

STS-6 Challenger (EVA)
April 4-9, 1983 (1:30 pm Launch)
Paul J. Weitz, CDR (USN, Ret)
Karol J. Bobko, PLT (Col., USAF)
Donald Peterson, MS (USAF, Ret)
Story Musgrave, MD, MS

STS 7 Challenger
June 18-24, 1983 (7:30 am Launch)
Robert L. Crippen, CDR (Capt. USN)
Fredrick H. Hauck, PLT (Capt. USN)
John M. Fabian, MS (Col., USAF)
Sally K. Ride, Ph.D., MS
Norman Thagard, M.D., MS

STS-8 Challenger
August 30-September 5, 1983 (2:30 am)
Richard Truly, CDR (Cdr., USN)
Dan Brandenstein, PLT (Lt Cdr, US)
Guion Bluford, Jr., MS (Maj, USAF)
Dale Gardner, MS (Lt. Cdr. USN)
William Thornton, M.D., MS

STS-9 Spacelab I Columbia
November 28-December 8, 1983 (11:00am)
John Young, CDR
Brewster Shaw, PLT (Capt. USAF)
Owen K. Garriott, Ph.D., MS
Robert Parker, Ph.D., MS
Byron Lichtenberg, Ph.D, PS (M.I.T)
Ulf Merbold, ESA, PS

41-B Challenger (STS-11)(EVA-MMU) KSC Landing
February 3-11, 1984 (8:00 AM Launch)
Vance D. Brand, CDR
Robert (Hoot) Gibson, PLT (Lt. Cdr., USN)
Bruce McCandless, MS (Capt., USN)
Robert (Bob) Stewart, MS (Maj., USAF)
Ronald (Ron) McNair, Ph.D., MS

41-C Challenger (STS-13) (EVA-MMU Solar Max)
April 6-13, 1984
Robert L. (Bob) Crippen, CDR (Capt., USN)
Francis (Dick) Scobee, PLT (Maj USAF, Ret)
George D. (Pinkie) Nelson, Ph.D., MS
Terry J. (T.J.) Hart, MS
James D. (Ox) Van Hoften, Ph.D., MS

41-D Discovery (STS-14)
August 30-September 5, 1984 (8:45 AM Launch)
Henry (Hank) Hartsfield, CDR (USAF, Ret)
Michael (Mike) Coats, PLT (Lt. Cdr., USN)
Richard M. (Mike) Mullane, MS-1 (Maj. USAF)
Steven A. (Steve) Hawley, Ph.D., MS-2
Judith A. (J.R.) Resnik, Ph.D., MS-3
Charles D. (Charlie) Walker PS
(McDonnell Douglas, St. Louis)

41-G Challenger (STS-17) (EVA)
October 5-13, 1984 7:00 AM Launch; KSC Land
Robert L. Crippen, CDR (Capt., USN)
Jon A. McBride, PLT (Cdr, USN)
Kathryn D. Sullivan, Ph.D., MS-1
Sally K. Ride, Ph.D., MS-2
David C. Leestma, MS-3 (Lt. Cdr., USN)
Marc Garneau, PS (Canada)
Paul D. Scully-Power, PS(Navy, New London)

STS 51-A Discovery (STS-19) launch 7:17 am EST
November 8-16, 1984 KSC landing w/ 2 satalite
Frederick H. (Rick) Hauck, CDR (Capt. USN)
David M. Walker, PLT, (Cdr. USN)
Joseph P. Allen, Ph.D., MS-1
Anna L. Fisher, MD.D, MS-2
Dale A. Gardner, MS-3 (Lt. Col., USN)

January 31, 1986

TABLE II.- SPACE SHUTTLE FLIGHT CREWS (1985-1986)

STS 51-C Discovery (STS-20)(DOD)
January 24-27, 1985 (launch 2:50 pm EST)
Ken Mattingly, II, CDR (Capt., USN)
Loren Shriver, PLT (Lt. Col., USMC)
Ellison Onizuka, MS-1 (Maj., USAF)
James Buchli, MS-2 (Lt. Col., USMC)
Gary Payton, PS-1 (USAF)

STS 51-D Discovery (STS-23)
April 12-19, 1985 (Launch 8:59 am EST)
Karol (Bo) Bobko, CDR (Col. USAF)
Donald (Don) Williams, PLT (Cdr USN)
Jeffrey Hoffman, Ph.D., MS-1
S. David Griggs, MS-2
Rhea Seddon, M.D., MS-3
Charles D. Walker, PS-1 (MDAC, St. Louis)
Senator Jake Garn, PS-2

STS 51-B Challenger Spacelab 3 (STS-24)
April 29-May 6, 1985 (Launch 12:04 PM EDT)
Robert F. Overmyer, CDR (Col., USMC)
Fredrick D. Gregory, PLT (Col., USAF)
Don L. Lind, Ph.D., MS-1
Norman E. Thagard, M.D., MS-2
William E. Thornton, M.D., MS-3
Taylor G. Wang, Ph.D., PS-1
(Jet Propulsion Lab, CA)
Lodewijk van den Berg, PS-2
(EG&G, Inc., Goleta, CA)

STS 51-G Discovery (STS-25)
June 17-24, 1985
Daniel C. Brandenstein, CDR (Capt., USN)
John (J.O.) Creighton, PLT (Cdr., USN)
John M. Fabian, MS-1 (Col., USAF)
Steven R. Nagel, MS-2 (Lt. Col., USAF)
Shannon W. Lucid, Ph. D., MS-3
Patrick Baudry, French PS
Sultan Salman Abdul Azize Al-Saud, Saudi PS

STS 51-F Challenger Spacelab 2 (STS-26)
July 29-Aug 6, 1985 3:00 PM EDT Launch
Charles (Gordo) Fullerton, CDR (Col. USAF)
Roy D. Bridges, Jr., PLT (Col. USAF)
Karl G. Henize, Ph. D., MS-1
F. Story Musgrave, M.D., MS-2
Anthony W. (Tony) England, MS-3
Loren W. Acton, PS-1
John-David Bartoe, PS-2

STS 51-I Discovery (STS-27)
August 27-Sept 3, 1985 6:57 AM EDT Launch
Joe Henry Engle, CDR (Col., USAF)
Richard O. Covey, PLT (Lt. Col., USAF)
James D. Van Hoften, Ph.D., MS-1
John M. (Mike) Lounge, MS-2
William F. (Bill) Fisher, M.D., MS-3

STS 51-J Atlantis (DOD) (STS-28)
October 3-7, 1985 (Launch 11:40 am EST)
Karol J. (Bo) Bobko, CDR (Col. USAF)
Ronald J. Grabe, PLT (Lt. Col., USAF)
David C. Hilmers, MS-1 (Maj., USMC)
Robert L. Stewart, MS-2 (Col. USAF)
William Pails, PS (Maj., USAF)

STS 61-A Challenger Spacelab D-1 (STS-30)
October 30-November 6, 1985 (Launch Noon)
Henry (Hank) Hartsfield, CDR (USAF, Ret.)
Steven R. Nagel, PLT (Lt. Col., USAF)
Bonnie S. Dunbar, Ph.D., MS-1
James F. Buchli, MS-2 (Lt. Col. USAF)
Guion Bluford, Jr., MS-3 (Col., USAF)
Ernst Messerschmid, PS-1 (West Germany)
Reinhard Furrer, PS-2 (West Germany)
Wubbo Ockels, Ph.D., PS-3 (ESA, Holland)

STS 61-B Atlantis (STS-31)(Launch 7:28 pm EST)
November 26-December 3, 1985
Brewster H. Shaw, CDR (Lt. Col., USAF)
Bryan D. O'Connor, PLT (Lt. Col., USMC)
Sherwood (Woody) Spring, MS-1 (Lt. Col. USAF)
Mary Cleave, Ph.D., MS-2
Jerry L. Ross, MS-3 (Maj., USAF)
Charles D. Walker, PS-1 (MDAC, St. Louis)
Rudolfo Neri Vela, PS-2 (Mexico)(Morelos)

STS 61-C Columbia (STS 32)(Launch 6:55 am EST)
January 12-18, 1986
Robert (Hoot) Gibson, CDR (Cdr., USN)
Charles F. Bolden, Jr., PLT (Lt. Col. USMC)
George D. (Pinky) Nelson, Ph.D., MS-1
Steven A. Hawley, Ph. D., MS-2
Franklin R. Chang-Dias, Ph.D., MS-3
Robert J. Cenker, PS-1 (RCA, New Jersey)
Bill Nelson, PS-2 (FL Congressman)

STS 51-L Challenger (STS-33)
January 28, 1986 (Launch 11:36 am EST)
Francis R. (Dick) Scobee, CDR
Michael J. Smith, PLT (Cdr. USN)
Ellison S. Onizuka, MS-1 (Maj. USAF)
Judith A. Resnik, Ph.D., MS-2
Ronald E. McNair, PhD, MS-3
Sharon Christa (Chris) Mc Auliffe, PS-1
Gregory Jarvis, PS-2 (Hughes Aircraft)

TABLE III.- SOURCES OF CONSTRAINTS ON SPACE FOOD SYSTEMS

Biological	Operational	Engineering
Safety	Vehicle Interface	Weight
Nutrition	Stability	Volume
Sensory Qualities	Packaging	Water for Rehydration
Personal Hygiene	Storage	Pressure
Ingestion	Preparation	Temperature
Digestion	Servicing	Relative Humidity
Absorption	Waste Disposal	Acceleration
Gastroenterology	Schedules	Vibration
Crew Idiosyncracies	Crew Time	Power
	Cost	

TABLE IV.- MICROBIOLOGICAL SPECIFICATIONS FOR NON-THERMOSTABILIZED FOOD

Organism	Limits
Total Aerobic Count	Not greater than 10,000
Fecal Coliform/ <i>Escherichia Coli</i>	None in 1 gm
Coagulase Positive <i>Staphylococci</i>	None in 5 gm
<i>Salmonellae</i>	None in 25 gm
<i>Clostridium Perfringens</i>	Not greater than 100/gm
Yeast and mold	not greater than 100/gm

TABLE V.- WEIGHT OF SPACE SHUTTLE FOOD SYSTEM (CONSUMABLES)

STS Flight #	Food System w/o Fresh Food lbs	Crew Size #	Length Planned # Days	Length Flown # Days
1		2	2	2
2		2	5	2
3		2	7	8
4	72.68 ^a	2	7	7
5	116.3 ^a	4	5	5
6	118.5 ^b	4	6	5
7	151.11 ^b	5	6	6
8	106.1 ^b	5	6	6
9	199.98 ^b	6	8	9
41-B	160.2 ^b	5	8	8
41-C	125.1 ^b	5	6	7
41-D	157.47 ^b	6	7	6
41-G	191.55 ^c	7	8	8
51-A	162.6 ^b	5	8	8
51-B	216.41 ^b	5	7	3
51-C	115.14 ^b	7	7	7
51-D	180.17 ^b	7	5	7
51-F	226.28 ^b	7	6	7
51-G	184.06 ^b	7	7	7
51-I	176.01 ^b	5	7	7
51-J	148.27 ^b	5	7	4
61-A	201.41 ^b	8	7	7
61-B	191.56 ^b	7	7	7
61-C	142.16 ^c	7	5	5
51-L	154.6 ^b	7	6	0

^aNo fresh food locker

^bFresh food locker was sent but not included in the food system weight

^cTwo fresh food lockers were sent but not included in the food system weight

TABLE VI.- SENSORY EVALUATION OF SPACE SHUTTLE FOOD

FOOD ITEM	SHUTTLE ASTRONAUTS		TECHNICAL EVALUATION mean	ASTRONAUT RATINGS FROM PRIOR PROGRAMS mean
	Hot mean±S.D.	Ambient mean±S.D.		
Applesauce(T)		7.3 ± 1.2	7.4	7.5
Apricots(IM)		7.4 ± 1.3	8.0	7.6
Asparagus(R)	6.9 ± 0.9	6.7 ± 1.2	7.0	7.3
Bananas(FD)		7.1 ± 1.3	7.5	
Beef Almondine(R)	6.3 ± 2.0	5.5 ± 1.6	6.9	6.6
Beef, Corned(I)	7.2 ± 0.8	7.3 ± 0.8		
Beef & Gravy(T)	6.0 ± 1.6	4.1 ± 1.7	6.8	6.8
Beef, Ground w/Pickle Sauce(T)	7.1 ± 0.8	6.7 ± 1.2		6.4
Beef Jerky(IM)		7.2 ± 1.3		6.8
Beef, Patties(R)	7.2 ± 0.9	6.5 ± 1.0		6.7
Beef, Sliced w/BBQ Sauce(T)	8.0 ± 0.0	7.7 ± 0.6	6.4	8.2
Beef Steak(I)	8.3 ± 0.7	7.5 ± 0.9	7.0	8.1
Beef Stew(T)	7.3 ± 0.8	5.8 ± 1.2		4.2
Beef Stew(R)	6.5 ± 0.6	5.3 ± 1.8		5.9
Beef Stroganoff w/Noodles(R)	7.7 ± 0.4	6.9 ± 1.2	7.4	
Bread, Seedless Rye(I)		7.4 ± 0.5	7.2	7.2
Broccoli au Gratin(R)	7.1 ± 1.0	6.2 ± 1.2	7.3	
Breakfast Roll(I)			7.7	8.0
Carrots(R)	5.3 ± 1.3	5.8 ± 1.6	6.6/4.4	
Cauliflower w/Cheese(Baked)(R)	7.7 ± 0.7	5.7 ± 1.7	6.6	
Cauliflower w/Cheese(Boiled)(R)	6.3 ± 0.7	5.2 ± 1.5	7.1	
Cereal, Bran Flakes(R)				6.7
Cereal, Cornflakes(R)			6.2	7.4
Cereal, Granola(R)		5.9 ± 1.6	8.1	8.0
Cereal, Granola w/Blueberries(R)		6.5 ± 1.4	8.3	
Cereal, Rice Krispies(R)				6.4
Cereal, Oatmeal w/Raisins(R)			7.6	6.4
Cheddar Cheese Spread(T)		7.1 ± 0.7		7.7
Chicken ala King(T)	6.2 ± 0.8	4.7 ± 1.0	8.0	6.3
Chicken Chop Suey(R)	6.7 ± 1.3	5.3 ± 1.7	7.4	
Chicken & Noodles(R)	6.4 ± 1.1	6.0 ± 1.2	7.9	
Chicken & Rice(R)	6.5 ± 0.6	6.0 ± 0.0	7.8	7.2
Chili Mac w/Beef(R)	6.6 ± 1.1	5.6 ± 0.9	7.3	6.8
Chinese Vegetables(R)	5.0 ± 1.4	4.5 ± 1.9	7.2	
Cookies, Pecan(NF)		8.0 ± 0.0	7.9	7.5
Cookies, Shortbread(NF)		7.4 ± 1.1	7.6	7.2
Corn(R)	6.5 ± 1.4	4.7 ± 1.0	6.4	6.8
Crackers, Graham(NF)		6.4 ± 1.1	7.8	7.5
Eggs, Scrambled(R)	4.5 ± 2.8	4.0 ± 2.6	8.1	6.5
Food Bar, Almond Crunch(NF)		5.8 ± 1.9	6.0	
Food Bar, Chocolate Chip(NF)		6.5 ± 1.3	6.9	
Food Bar, Chocolate Crunch(NF)		6.7 ± 0.7	7.5	
Food Bar, Granola(NF)		6.5 ± 1.0	7.7	
Food Bar, Granola/Raisins(NF)		7.5 ± 0.7	7.6	

TABLE VI.- Continued

FOOD ITEM	SHUTTLE ASTRONAUTS		TECHNICAL EVALUATION mean	ASTRONAUT RATINGS FROM PRIOR PROGRAMS mean
	Hot mean±S.D.	Ambient mean±S.D.		
Food Bar, Peanut Butter/Granola(NF)		6.5 ± 0.9	7.2/7.6	
Frankfurters(Vienna Sausage)(T)	7.7 ± 0.4	7.0 ± 0.8		6.8
Fruitcake(T)		6.8 ± 1.6		7.1
Fruit Cocktail(R)		7.2 ± 0.4		7.6
Fruit Cocktail(T)		7.8 ± 1.1		7.6
Green Beans, French w/Mushrooms(R)	7.5 ± 0.9	7.0 ± 1.7	7.5	7.3
Green Beans(R)	5.5 ± 1.5	5.1 ± 1.4		4.0
Green Beans & Broccoli(R)	7.1 ± 1.1	7.3 ± 1.2	7.2	
Ham(I)	7.1 ± 0.9	6.9 ± 0.7		8.0
Ham(T)	6.4 ± 1.1	6.2 ± 0.8		
Jam/Jelly(T)				7.3
Macaroni & Cheese(R)	6.2 ± 2.8	5.4 ± 2.5	7.1	6.8
Meatballs w/BBQ Sauce(T)	7.3 ± 0.4	6.2 ± 1.5		7.5
Nuts, Almonds(NF)		7.5 ± 1.0	8.4	8.2
Nuts, Cashews(NF)		8.0 ± 1.2	7.9	6.7
Nuts, Peanuts(NF)		7.5 ± 1.3	7.6	7.3
Peach Ambrosia(R)		7.5 ± 3.0	7.5	6.7
Peaches(IM)		7.2 ± 0.9	7.8	8.2
Peaches(R)		7.7 ± 0.7	8.2	7.7
Peaches(T)		7.8 ± 0.5	7.2	7.7
Peanut Butter(IM)				7.4
Pears(FD)		7.0 ± 1.7	6.9	
Pears(T)				8.0
Peas w/Butter Sauce(R)	7.4 ± 0.9	6.3 ± 1.0	7.0	6.8
Pineapple, Crushed(T)		7.3 ± 1.0	7.6	7.6
Pork & Potatoes(R)				6.2
Potatoes au Gratin(R)	7.0 ± 1.4	5.0 ± 1.8	6.4	
Potatoes, Mashed(R)			7.7	6.9
Potato Patties(R)	5.7 ± 1.4	3.2 ± 0.4		6.7
Potatoes, Scalloped(R)	5.4 ± 1.5	4.2 ± 1.9	7.2	
Pudding, Butterscotch(R)				7.0
Pudding, Chocolate(R)		6.8 ± 1.9		6.9
Pudding, Lemon(R)			7.2	
Pudding, Vanilla(R)		7.2 ± 0.8		
Rice Pilaf(R)	7.2 ± 1.3	5.7 ± 1.3	7.0	
Salad Spreads, Chicken(T)		5.5 ± 1.9		5.6
Salad Spreads, Ham(T)				5.6
Salad Spreads, Tuna(T)		5.5 ± 1.9		6.5
Salmon(T)		6.5 ± 0.6	6.8	7.7
Sausage Patties(R)	7.3 ± 0.8	5.8 ± 1.2	6.0	6.8
Shrimp Creole(R)	7.7 ± 0.7	7.3 ± 1.0	7.9	
Shrimp Cocktail(R)		6.7 ± 0.6		6.8
Shrimp Cocktail(R)		7.3 ± 1.5	7.7	
Soup, Beef Noodle(R)	6.4 ± 1.6	5.1 ± 1.6	5.2	

TABLE VI.- Concluded

FOOD ITEM	SHUTTLE ASTRONAUTS		TECHNICAL EVALUATION mean	ASTRONAUT RATINGS FROM PRIOR PROGRAMS mean
	Hot mean±S.D.	Ambient mean±S.D.		
Soup, Chicken Noodle(R)	5.1 ± 1.9	4.5 ± 2.1	6.9	
Soup, Cream of Mushroom(R)	6.8 ± 1.9	5.4 ± 2.8	6.6/7.1	6.8
Soup, Pea(R)	6.4 ± 1.2	4.2 ± 1.9	6.4	6.3
Soup, Potato(R)				7.5
Soup, Chowder(R)	5.5 ± 1.0	5.0 ± 0.7	7.0	
Soup, Tomato(R)	6.2 ± 1.5	5.2 ± 1.8	7.0	6.5
Spaghetti w/Meat Sauce(R)	6.7 ± 0.6	5.7 ± 1.2	6.8	7.0
Spaghetti w/Meatless Sauce(R)	6.3 ± 1.5	6.2 ± 1.3	6.9	
Spinach w/Sauce(R)	2.2 ± 1.3	2.8 ± 2.5		6.1
Strawberries(R)		8.4 ± 0.5	7.0	7.7
Tomatoes, Stewed(T)	6.0 ± 2.8	5.5 ± 2.4		7.2
Tuna(T)		6.7 ± 1.2		7.8
Tuna ala Neptune(R)	6.6 ± 0.5	5.4 ± 1.8	6.6/7.5	
Turkey & Gravy(T)	6.2 ± 2.3	4.3 ± 1.6		6.9
Turkey, Smoked Sliced(I)	6.9 ± 1.7	6.4 ± 1.7		
Turkey Tetrazzini(R)	7.8 ± 0.8	6.6 ± 1.1	7.7	
Veal w/BBQ Sauce(R)			6.8	6.8
Vegetables, Mixed Italian(R)	7.7 ± 0.7	7.0 ± 1.6	7.5	
Vegetable Stew(R)	5.0 ± 0.8	4.5 ± 1.0	6.7	
BEVERAGES				
Apple Cider		7.8 ± 0.4	6.9	
Apple Drink		7.9 ± 0.5	7.3	7.9
Cocoa(A)	6.8 ± 1.8	6.4 ± 2.3	7.6	
Cocoa(B)	7.2 ± 1.8	6.9 ± 1.6		7.7
Coffee, Black				7.7
Coffee w/Sugar				7.6
Coffee w/Cream & Sugar				8.8
Grape Drink		6.0 ± 2.9	6.8	7.5
Grapefruit Drink		7.2 ± 0.6	7.6	7.3
Instant Breakfast, Chocolate			6.7	6.4
Instant Breakfast, Chocolate Malt	6.5 ± 1.1	6.1 ± 1.5	6.2	
Instant Breakfast, Vanilla		7.2 ± 0.9	7.0	
Lemonade		7.6 ± 0.8	7.2	
Milk		5.9 ± 1.4	7.0	
Orange Drink		7.3 ± 0.7	7.9	7.5
Orange-Grapefruit Drink		6.6 ± 1.1	7.6	7.0
Orange-Pineapple Drink		6.2 ± 0.8	5.9	7.0
Strawberry Drink		6.5 ± 1.5	7.0	7.9
Tea	6.2 ± 1.3	5.6 ± 1.7		6.9
Tea w/Lemon & Sugar(A)		5.0 ± 2.4		7.5
Tea w/Lemon & Sugar(B)		5.5 ± 1.8		
Tropical Punch		6.0 ± 1.3	7.1	

TABLE VII.- FOOD ITEMS USED DURING THE FIRST 25 SPACE SHUTTLE FLIGHTS

Almond Crunch Bar(NF)	Eggs, Scrambled(R)	Peaches, Dried(IM)
Almonds(NF)	Eggs, Seasoned Scrambled(R)	Peanut Butter, Creamy(IM)
Applesauce(T)	Eggs, Mexican Scrambled(R)	Peanut Butter, Crunchy(IM)
Apricots, Dried(IM)	Frankfurters(T)	Peanuts, Dry Roasted(NF)
Asparagus(R)	Fruit Bars, Insuit(IM)	Pears, Diced(T)
Bananas, Dried Sliced(FD)	Fruitcake(T)	Pears, Dried(IM)
Beef Almondine(R)	Fruit Cocktail(T)	Pears, Dried Sliced(FD)
Beef w/BBQ Sauce(T)	Graham Crackers(NF)	Peas w/Butter(R)
Beef & Gravy(T)	Granola Cereal(R)	Pecan Cookies(NF)
Beef, Ground w/Spice Sauce(T)	Granola w/Blueberries(R)	Pineapple(T)
Beef Patty(R)	Granola w/Raisins(R)	Potatoes au Gratin(R)
Beef Steak(I)	Granola Bar(NF)	Potato Patty(R)
Beef Stroganoff w/Noodles(R)	Granola/Raisin Bar(NF)	Pudding, Banana(T)
Bran Flakes(R)	Green Beans & Broccoli(R)	Pudding, Butterscotch(T)
Bread(NF)	Green Beans w/Mushrooms(R)	Pudding, Chocolate(T)
Breakfast Roll(NF)	Grits w/Butter(R)	Pudding, Lemon(T)
Broccoli au Gratin(R)	Gum(NF)	Pudding, Tapioca(T)
Brownies(NF)	Ham, Sliced(T)	Pudding, Vanilla(T)
Butter Cookies(NF)	Ham Salad Spread(T)	Rice & Chicken(Soup)(R)
Candy Coated Chocolates(NF)	Italian Vegetables(R)	Rice Krispies(R)
Candy Coated Mints(NF)	Jam/Jelly(T)	Rice Pilaf(R)
Candy Coated Peanuts(NF)	Life Savers(NF)	Salmon(T)
Cashews(NF)	Macadamia Nuts(NF)	Sausage Patty(R)
Cauliflower w/Cheese(R)	Macaroni & Cheese(R)	Shortbread Cookies(NF)
Cheddar Cheese Spread(T)	Meatballs w/BBQ Sauce(T)	Shrimp Cocktail(R)
Chicken a la King(T)	Mushroom Soup(R)	Shrimp Creole(R)
Chicken Consomme(R)	Noodles & Chicken(R)	Soda Crackers(NF)
Chicken Salad Spread(T)	Oatmeal w/Brown Sugar(R)	Spaghetti w/Meat Sauce(R)
Chicken, Sweet'n Sour(R)	Oatmeal w/Raisins(R)	Spinach, Creamed(R)
Chicken Teriyaki(R)	Peach Ambrosia w/Pecans(R)	Strawberries(R)
Chili Mac w/Beef(R)	Peaches, Diced(T)	Tomatoes, Stewed(T)
Chocolate Chip Bar(NF)		Trail Mix(IM)
Chocolate Covered Cookie(NF)		Tuna in Water(T)
Corn Beef(I)		Tuna Salad Spread(T)
Cornflakes(R)		Turkey & Gravy(T)
Corn, Green Beans & Pasta(R)		Turkey Salad Spread(T)
Dried Beef(IM)		Turkey, Sliced Smoked(I)
		Turkey Tetrazzini(R)

(NF) Natural Form

(T) Thermostabilized

(IM) Intermediate Moisture

(R) Rehydratable

(FD) Freeze Dried, not rehydrated for consumption

(I) Irradiated

2/06/87

TABLE VIII.- BEVERAGES AND CONDIMENTS USED DURING THE FIRST 25 SPACE SHUTTLE FLIGHTS

Apple Cider	Orange Drink
Apple Cider w/A/S	Orange Drink w/A/S
Apple Drink	Orange Drink Mix
Cherry Drink w/A/S	Orange Juice
Citrus Drink	Orange-Grapefruit Drink
Cocoa	Orange-Mango Drink
Coffee, Black	Orange-Pineapple Drink
Coffee w/A/S	Peach Drink
Coffee w/Cream	Peach-Apricot Drink
Coffee w/Cream & A/S	Pineapple Drink
Coffee w/Cream & Sugar	Strawberry Drink
Coffee w/Sugar	Tea
Coffee, Kona Black	Tea w/A/S
Coffee, Kona w/A/S	Tea w/Cream
Coffee, Kona w/Cream	Tea w/Lemon
Coffee, Kona w/Cream & A/S	Tea w/Lemon & A/S
Coffee, Kona w/Cream & Sugar	Tea w/Lemon & Sugar
Coffee, Kona w/Sugar	Tea w/Sugar
Decaffeinated Coffee, Black	Tropical Punch
Decaffeinated Coffee w/A/S	Tropical Punch w/A/S
Decaffeinated Coffee w/Cream	
Decaffeinated Coffee w/Cream & A/S	
Decaffeinated Coffee w/Cream & Sugar	
Decaffeinated Coffee w/Sugar	
Grape Drink	<u>CONDIMENTS</u>
Grape Drink w/A/S	Catsup(T)
Grapefruit Drink	Liquid Pepper
Instant Breakfast, Chocolate	Liquid Salt
Instant Breakfast, Strawberry	Mayonnaise(T)
Instant Breakfast, Vanilla	Mexican Pepper Sauce(T)
Lemonade	Mustard(T)
Lemonade w/A/S	Tabasco Sauce(T)
Lemon-Lime Drink	

A/S Artificial Sweetner

(T) Thermostabilized

TABLE IX.- TYPES OF FOOD USED IN THE SPACE SHUTTLE FOOD SYSTEM

FOOD TYPE	TOTAL ITEMS SENT	FOOD SYSTEM COMPOSITION %
Irradiated Food	609	3
Fresh Food	1333	6
Intermediate Moisture Food	1894	8
Thermostabilized Food	3385	14
Natural Form Food	3532	15
Rehydratable Food	5289	22
Rehydratable Beverages	<u>7677</u>	33
Total	23,719	

TABLE X.- ENTRY KITS FLOWN ON SPACE SHUTTLE FLIGHTS STS-3 THROUGH STS 61-C

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Salt Tablets					16	32		40	40	48	40	40	48	56	40	56	40	56	56	56	40	40	64	56	56	56	976
BEVERAGES																											
Grapefruit Drink																											4
Lemonade																											33
Lemonade w/A/S																											4
Lemon-Lime Drink																											52
Orange-Grapefruit Drink					8	8	14	16																			8
Orange Drink																											2
Orange Juice Mix																											8
Orange-Mango Drink																											14
Strawberry Drink																											2
Tea w/Lemon																											2
Water Containers w/Long Straws																											2
																											395
Beverage Container Total	8	8	8	30	16	20	20	24	20	20	24	20	24	28	20	28	20	28	28	26	20	20	32	28	28	28	524

TABLE XI.- STANDARD 4-DAY MENU CYCLE FOR THE SPACE SHUTTLE

MEAL	DAY 1*,5	DAY 2,6**	DAY 3***,7	DAY 4,8****
A	<p>Peaches, Diced(T) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)</p>	<p>Applesauce(T) Dried Beef(IM) Granola(R) Breakfast Roll(I) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B)</p>	<p>Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drink(B)</p>	<p>Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)</p>
B	<p>Frankfurters(T) Turkey Tetrazzini(R) Rye Bread(2X)(I) Bananas(FD) Almond Crunch Bar(NF) Apple Drink(2X)(B)</p>	<p>Corned Beef(I) Asparagus(R) Rye Bread(2X)(I) Pears, Diced(T) Peanuts, Dry Roasted(NF) Lemonade(2X)(B)</p>	<p>Ham(T) Cheddar Cheese Spread(T) Rye Bread(2X)(I) Green Beans & Broccoli(R) Crushed Pineapple(T) Shortbread Cookies(NF) Cashews(NF) Tea w/Lemon & Sugar(2X)(B)</p>	<p>Grd Beef w/Pickle Sce(T) Noodles & Chicken(R) Stewed Tomatoes(T) Pears(FD) Almonds(NF) Strawberry Drink(B)</p>
C	<p>Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Broccoli w/Cheese(R) Fruit Cocktail(T) Buttersch Pudding(T) Grape Drink(B)</p>	<p>Beef w/BBQ Sauce(T) Cauliflower w/Cheese(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Pecan Cookies(NF) Cocoa(B)</p>	<p>Mushroom Soup(R) Smoked Turkey(I) Italian Vegetables(R) Vanilla Pudding(T) Strawberries(R) Tropical Punch(B)</p>	<p>Tuna(T) Macaroni & Cheese(R) Peas w/Butter Sauce(R) Peach Ambrosia(R) Chocolate Pudding(T) Lemonade(B)</p>

*Day 1 (launch day) consists of Meals B and C only

T - Thermostabilized Food
 R - Rehydratable Food
 B - Rehydratable Beverage

I - Irradiated

FD - Freeze-Dried, not rehydrated for consumption
 NF - Natural Form
 IM - Intermediate Moisture

TABLE XII.- MINIMUM DAILY NUTRIENT LEVELS SUPPLIED BY SPACE SHUTTLE MENUS

Nutrient	Amount	Nutrient	Amount
Kilocalories	2800	Vitamin A	5000 IU
Protein	56 gm	Vitamin D	400 IU
Calcium	800 mg	Vitamin E	15 IU
Phosphorus	800 mg	Ascorbic Acid	45 mg
Sodium	150 mEq	Folacin	400 ug
Potassium	70 mEq	Niacin	18 mg
Iron	18 mg	Riboflavin	1.6 mg
Magnesium	350 mg	Thiamin	1.4 mg
Zinc	15 mg	Vitamin B ₆	2.0 mg
		Vitamin B ₁₂	3.0 ug

TABLE XIII.- SUMMARY OF REHYDRATABLE BEVERAGES SENT AND RETURNED FROM SPACE
SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

FOOD ITEM	M E N U			P A N T R Y			R E E N T R Y			T O T A L		
	Total Sent #	Total Returned		Total Sent #	Total Returned		Total Sent #	Total Returned		Total Sent #	Total Returned	
		#	%		#	%		#	%		#	%
Apple Drink	435	179	41	76	41	54	511	220	43	511	220	43
Cherry Drink w/A/S	24	10	42	17	9	53	41	19	46	41	19	46
Citrus Drink	34	2	6	31	5	16	65	7	11	65	7	11
Cocoa	366	155	42	95	71	75	461	226	49	461	226	49
Coffee	102	28	27	487	174	36	589	202	34	589	202	34
Coffee w/A/S	7	0	0	60	19	32	67	19	28	67	19	28
Coffee w/Cream	33	7	21	65	31	48	98	38	39	98	38	39
Coffee w/Cream & A/S	8	2	25	8	0	0	16	2	12	16	2	12
Coffee w/Cream & Sugar	44	6	14	220	75	34	264	81	31	264	81	31
Coffee w/Sugar	16	0	0	78	44	56	94	44	47	94	44	47
Coffee, Kona, Black	60	19	32	100	52	52	160	71	44	160	71	44
Coffee, Kona w/Cream				10	10	100	10	10	100	10	10	100
Coffee, Kona w/Cream & A/S	7	4	57	15	13	87	22	17	77	22	17	77
Coffee, Kona w/Cream & Sug	16	9	56	60	30	50	76	39	51	76	39	51
Decaffeinated Coffee	2	2	100									
Decaf Coffee w/Cream & A/S	7	2	29	11	5	45	2	2	100	2	2	100
Decaf Coffee w/Cream & Sug	9	1	11				18	7	39	18	7	39
Decaf Coffee w/Sugar	14	9	64	15	7	47	9	1	11	9	1	11
Grape Drink	129	54	42	16	6	38	29	16	55	29	16	55
Grape Drink w/A/S	21	10	48	3	0	0	145	60	41	145	60	41
Grapefruit Drink	199	50	25	244	83	34	24	10	42	24	10	42
Instant Breakfast, Chocolate	129	59	46	40	29	72	4	0	0	447	133	30
Instant Breakfast, Strawberry	4	3	75	9	4	44	13	7	54	169	88	52
Instant Brkfst, Vanilla	112	44	39	20	15	75	13	7	54	13	7	54
Lemonade	541	153	28	246	55	22	33	0	0	132	59	45
Lemonade w/A/S	85	13	15	136	46	34	4	0	0	820	208	25
Lemon-Lime Drink	2	0	0	40	11	28	52	0	0	225	59	26
Milk	2	1	50	10	8	80	94	11	12	94	11	12
Orange Drink	149	18	12	63	26	41	2	0	0	12	9	75
Orange Drink w/A/S	35	7	20	28	0	0	63	7	11	214	44	21
Orange Drink Mix	24	0	0	13	0	0	63	7	11	63	7	11
Orange Juice Mix	176	23	13	149	36	24	8	0	0	37	0	0
Orange-Grapefruit Drink	214	34	16	45	0	0	8	0	0	333	59	18
							8	0	0	267	34	13

TABLE XIII.- Concluded

FOOD ITEM	M E N U			P A N T R Y			R E E N T R Y			T O T A L		
	Total Sent #	Total Returned		Total Sent #	Total Returned		Total Sent #	Total Returned		Total Sent #	Total Returned	
		#	%		#	%		#	%		#	%
Orange-Mango Drink	115	12	10	142	19	13	14	0	0	271	43	16
Orange-Pineapple Drink	198	34	17	22	8	36				220	42	19
Peach Drink	4	1	25	10	0	0				14	1	7
Peach-Apricot Drink	7	7	100	39	9	23				46	16	35
Pineapple Drink	13	2	15							13	2	15
Strawberry Drink	122	60	49	35	14	40	2	0	0	159	74	47
Tea Bag (Earl Gray)				7	0	0				7	0	0
Tea Bag (Earl Gray) w/A/S				10	9	90				10	9	90
Tea Bag (Early Riser)				10	2	20				10	2	20
Tea Bag (Formosa Oolong)				5	2	40				5	2	40
Tea Bag (Lapsang Souchong)				12	11	92				12	11	92
Tea	78	23	29	167	104	62				245	127	52
Tea w/A/S	48	21	44	71	49	69				119	70	59
Tea w/Cream	12	6	50							12	6	50
Tea w/Lemon	79	28	35	63	38	60	2	0	0	144	66	46
Tea w/Lemon & A/S	162	39	24	92	34	37				254	73	29
Tea w/Lemon & Sugar	313	164	52	82	49	60				395	213	54
Tea w/Sugar	9	5	56	36	15	42				45	20	44
Tea, Lapsang Souchong w/Cream & A/S	2	1	50							2	1	50
Tea, Silver Jasmine	9	4	44							9	4	44
Tropical Punch	102	29	28	5	3	60				107	32	30
Tropical Punch w/A/S	24	10	42	13	5	38				37	15	41
Total	4303	1350	31	3231	1276	39	129	0	0	7663	2638	34

31% of the Rehydratable Beverages Flown in Shuttle Menus was Returned.
 39% of the Rehydratable Beverages Flown in Shuttle Pantries was Returned.
 34% of all the Rehydratable Beverages Flown on Shuttle was Returned.

TABLE XIV.- SUMMARY OF REHYDRATABLE FOOD SENT AND RETURNED FROM SPACE
SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

FOOD ITEM	M E N U			P A N T R Y			T O T A L		
	Total Sent	Total Returned		Total Sent	Total Returned		Sent	Returned	
	#	#	%	#	#	%	#	#	%
Asparagus	175	78	45	5	5	100	180	83	46
Beef Almondine	10	1	10	2	0	0	12	1	8
Beef Patty	249	59	24	30	24	80	279	83	30
Beef Stroganoff	30	7	23	16	15	94	46	22	48
Bran Flakes	92	38	41	12	11	92	104	49	47
Broccoli au Gratin	146	42	29	31	18	58	177	60	34
Brown Rice				8	6	75	8	6	75
Cauliflower w/Cheese	143	37	26				143	37	26
Chicken Consomme	18	6	33	90	51	57	108	57	53
Chicken, Sweet'n Sour	20	5	25	25	15	60	45	20	44
Chicken, Teriyaki	29	11	38	22	12	55	51	23	45
Chili Mac w/Beef	2	1	50				2	1	50
Cornflakes	123	48	39	6	5	83	129	53	41
Corn, Green Beans & Pasta	26	5	19	31	24	77	57	29	51
Eggs, Scrambled	201	53	26	12	7	58	213	60	28
Eggs, Seasoned Scrambled	181	23	13				181	23	13
Eggs, Mexican Scrambled	134	31	23				134	31	23
Granola Cereal	151	57	38				151	57	38
Granola w/Blueberries	135	52	39	3	0	0	138	52	38
Granola w/Raisins	84	31	37				84	31	37
Green Beans & Broccoli	141	59	42	5	5	100	146	64	44
Green Beans w/Mushrooms	229	48	21	74	53	72	303	101	33
Grits w/Butter	20	7	35	8	0	0	28	7	25
Italian Vegetables	144	45	31	17	12	71	161	57	35
Macaroni & Cheese	91	32	35				91	32	35
Mushroom Soup	37	17	46	89	57	64	126	74	59
Noodles & Chicken	43	14	33				43	14	33
Oatmeal w/Brown Sugar	7	2	29				7	2	29
Oatmeal w/Raisins	13	3	23	7	7	100	20	10	50
Peach Ambrosia	138	50	36	36	28	78	174	78	45
Peas w/Butter	11	6	55	4	4	100	15	10	67
Potatoes au Gratin	133	19	14	14	9	64	147	28	19
Potato Patty	188	44	23	17	11	65	205	55	27
Rice & Chicken	130	44	34	96	51	53	226	95	42
Rice Krispies	4	0	0				4	0	0
Rice Pilaf	190	48	25	21	8	38	211	56	27
Sausage Patty	254	50	20	16	15	94	270	65	24
Shrimp Cocktail	252	51	20	115	23	20	367	74	20
Shrimp Creole	12	4	33	4	4	100	16	8	50
Spaghetti w/Meat Sauce	22	8	36	46	31	67	68	39	57
Spinach, Creamed	19	4	21	2	2	100	21	6	29
Strawberries	172	33	19	68	26	38	240	59	25
Turkey Tetrazzini	131	46	35	27	26	96	158	72	46
Total	4330	1219	28	959	565	59	5289	1784	34

28% of the Rehydratable Food Flown in Shuttle Menus was Returned.
59% of the Rehydratable Food Flown in Shuttle Pantries was Returned.
34% of all the Rehydratable Food Flown on Shuttle was Returned.

TABLE XV.- SUMMARY OF THERMOSTABILIZED FOOD SENT AND RETURNED FROM SPACE SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

FOOD ITEM	M E N U			P A N T R Y			T O T A L		
	Total Sent	Total Returned		Total Sent	Total Returned		Sent	Returned	
	#	#	%	#	#	%	#	#	%
Applesauce	161	82	51	17	12	71	178	94	53
Beef w/BBQ Sauce	148	38	26				148	38	26
Beef & Gravy	80	28	35	4	4	100	84	32	38
Beef, Grd w/Spice Sce	95	32	34	3	3	100	98	35	36
Cheddar Cheese Spread	113	69	61				113	69	61
Chicken ala King	115	36	31				115	36	31
Chicken Salad Spread	69	38	55	23	8	35	92	46	50
Frankfurters	107	42	39	58	35	60	165	77	47
Fruitcake	67	33	49	21	4	19	88	37	42
Fruit Cocktail	166	64	39				166	64	39
Ham, Sliced	225	133	59	47	43	91	272	176	65
Ham Salad Spread	18	3	17	32	17	53	50	20	40
Meatballs w/BBQ Sauce	90	26	29	23	20	87	113	46	41
Peaches, Diced	160	74	46	7	6	86	167	80	48
Pears, Diced	200	81	40				200	81	40
Pineapple	122	67	55				122	67	55
Pudding, Banana	11	0	0				11	0	0
Pudding, Butterscotch	152	51	34	10	7	70	162	58	36
Pudding, Chocolate	216	70	32	13	5	38	229	75	33
Pudding, Lemon	119	55	46	15	5	33	134	60	45
Pudding, Tapioca	4	0	0				4	0	0
Pudding, Vanilla	193	95	49	23	11	48	216	106	49
Salmon	89	39	44	23	17	74	112	56	50
Tomatoes, Stewed	18	11	61				18	11	61
Tuna, Water Pack	87	52	60	4	1	25	91	53	58
Tuna Salad Spread	33	10	30	34	13	38	67	23	34
Turkey & Gravy	112	36	32	35	23	66	147	59	40
Turkey Salad Spread	15	5	33	8	6	75	23	11	48
Total	2985	1270	42	400	240	61	3385	1510	45

42% of the Thermostabilized Food Flown in Shuttle Menus was Returned.
61% of the Thermostabilized Food Flown in Shuttle Pantries was Returned.
45% of all the Thermostabilized Food Flown on Shuttle was Returned.

TABLE XVI.- SUMMARY OF NATURAL-FORM FOOD SENT AND RETURNED FROM SPACE SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

FOOD ITEM	M E N U			P A N T R Y			T O T A L		
	Total Sent	Total Returned		Total Sent	Total Returned		Sent	Returned	
	#	#	%	#	#	%	#	#	%
Almond Crunch Bar	30	24	80				30	24	80
Almonds	124	53	43	228	86	38	352	143	41
Bananas(FD)	22	17	77	2	2	100	24	19	79
Brownies	82	20	24	7	2	29	89	49	55
Butter Cookies	148	36	24	192	83	43	340	115	34
Candy Coated Chocolate	8	1	12	197	62	31	205	57	28
Candy Coated Mints	10	1	10	120	40	33	130	53	41
Candy Coated Peanuts	18	3	17	170	33	19	188	41	22
Cashews	164	65	40	262	100	38	426	158	37
Chocolate Chip Bar				11	9	82	11	9	82
Choc Covered Cookies	90	34	38	57	17	30	147	51	35
Graham Crackers	3	1	33	48	27	56	51	18	35
Granola Bar	78	33	42	155	82	53	233	114	49
Granola/Raisin Bar				27	23	85	27	23	85
Macadamia Nuts	39	9	23	141	17	12	180	26	14
Peanut Butter Granola Bar				8	8	100	8	8	100
Peanuts, Dry Roasted	147	73	50	176	101	57	323	171	53
Pears(FD)	14	7	50	2	2	100	16	9	56
Pecan Cookies	149	67	45	81	37	46	230	104	45
Shortbread Cookies	150	56	37	123	73	59	273	129	47
Soda Crackers	13	2	15	236	154	65	249	148	59
	1289	502	39	2243	958	43	3532	1469	42

FD - Freeze dried, not rehydrated for consumption.

39% of the Natural Form Food Flown in Shuttle Menus was Returned.
 43% of the Natural Form Food Flown in Shuttle Pantries was Returned.
 42% of all the Natural Form Food Flown on Shuttle was Returned.

TABLE XVII.- SUMMARY OF INTERMEDIATE-MOISTURE AND IRRADIATED FOODS SENT AND RETURNED FROM SPACE SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

FOOD ITEM	M E N U			P A N T R Y			T O T A L		
	Total Sent	Total Returned		Total Sent	Total Returned		Sent	Returned	
	#	#	%	#	#	%	#	#	%
INTERMEDIATE MOISTURE FOOD									
Apricots, Dried	216	74	34	160	95	59	376	169	45
Beef, Dried	144	50	35	215	97	45	359	147	42
Jelly, Apple (Individual)	66	40	61	47	44	94	113	84	74
Jelly, Grape (Jar)				2	2	100	2	2	100
Jelly, Strawberry (Jar)				6	5	83	6	5	83
Peaches, Dried	293	119	41	142	91	65	435	210	48
Peanut Butter, Creamy	69	42	61	58	49	84	127	91	72
Peanut Butter, Crunchy (Jar)				13	8	62	13	8	62
Pears, Dried	166	81	49	18	13	72	184	94	51
Trail Mix	<u>102</u>	<u>26</u>	25	<u>177</u>	<u>48</u>	27	<u>279</u>	<u>74</u>	27
Total	1056	432	41	838	452	54	1894	884	47
IRRADIATED FOOD									
Beef Steak	124	27	22	107	40	37	231	67	29
Bread, Seedless Rye	128	92	72	24	16	67	152	108	71
Breakfast Rolls	78	21	27	3	3	100	81	24	30
Corned Beef	29	18	62	12	12	100	41	30	73
Turkey, Smoked	<u>30</u>	<u>14</u>	47	<u>74</u>	<u>37</u>	50	<u>104</u>	<u>51</u>	49
Total	389	172	44	220	108	49	609	280	46

41% of the Intermediate Moisture Food Flown in Shuttle Menus was Returned.
 54% of the Intermediate Moisture Food Flown in Shuttle Pantries was Returned.
 47% of all the Intermediate Moisture Food Flown on Shuttle was Returned.

44% of the Irradiated Food Flown in Shuttle Menus was Returned.
 49% of the Irradiated Food Flown in Shuttle Pantries was Returned.
 46% of all the Irradiated Food Flown on Shuttle was Returned.

TABLE XVIII.- SUMMARY OF FRESH FOOD SENT AND RETURNED FROM SPACE SHUTTLE
FLIGHTS STS-6 THROUGH STS 61-C

FOOD ITEM	Total Sent	Total Returned	
	#	#	%
Apples, Granny Smith	82	5	6
Apples, Red Delicious	127	12	9
Bananas	118	2	2
Beef Jerky, pkg	2	0	0
Beef Sticks (Frenches)	42	0	0
BREAD:			
Cracked Wheat	1	1	100
Cocktail Pumpernickle	2	1	50
Cocktail Rye	2	1.5	75
Raisin Pumpernickel Indiv Pkg	19	16	84
Rye, Individual Pkgs	39	0	0
Seedless Rye	9	1	11
White	8	0	0
Whole Wheat, Indiv Pkg	72	23	32
Whole Wheat, Loaves	30	3.5	12
Breakfast Rolls(Z)	234	14	6
Butter Thins, Box	1	0	0
Cake, Chocolate	1	0	0
Cake, Pumpkin	1	7/8	88
Carbonated Beverages	8	0	0
Carrot Sticks (Ziplock Bag)	49	11	22
Celery Sticks (Ziplock Bag)	33	2	6
Cheese, Cracker Barrel (2oz)	150	28	19
Chocolate Chip Dipps	36	13	36
Cranberry Juice (Brik Paks)	1	0	0
Cran Orange Sauce (Packets)	7	0	0
Fiber Crackers	15	9	60
Goldfish Crackers, Plain, 45gm	135	38	28
Grapefruit	9	0	0
Halloween Candy, 2 1/2 lbs	1	0	0
Hearty Wheat, box	1	0	0
Malted Milk Balls, 5 oz	1	2/5	40
Marshmallows, pkg	1	0	0
Mint Chocolate Chip Dipps	6	2	33
Nectarines	4	0	0
Oranges	54	6	11
Pears	1	0	0
Raisins	7	3	43
Pickles, Candied Dill Strips (jar)	1	0	0
Pickles, Kosher Dill (pkg)	6	6	100
Tortillas, pkg	5	0	0
Tostitos Chips, Ziplock Bag	2	0	0
Wheat Thins, Ziplock Bag	10	5.5	55
Total	1333	204.8	15

TABLE XIX.-- ESTIMATED MEAN DAILY IN-FLIGHT NUTRIENT CONSUMPTION PER PERSON DURING SPACE SHUTTLE FLIGHTS STS-1 THROUGH STS 61-C

STS Flight	Days #	Crew		RH ₂ O ₁ gm	NH ₂ O ₂ gm	KCal	Prot gm	Fat gm	CHO gm	Ca mg	Phos mg	Na mg	K mg	Iron mg	Mg mg	Mn mg	Cu mg	Zn mg		
		M	F																	
1	2	2			2656	106.8	83.1	358.6	1210	1706	4506	3238	27	387					8	
2	2	2		1134	1100	58.5	28.0	152.0	687	916	1782	1362	12	154					9	
3	8	2		1393	1910	66.1	49.6	280.2	885	1210	3010	2244	17	229		1.6	1.9	10		
4	7	2		1711	2446	85.6	73.5	319.2	954	1474	3506	2558	20	286		2.2	2.2	12		
5	5	4		1378	2322	73.2	59.7	338.0	931	1464	3333	2415	22	272		2.6	2.6	9		
6	5	4		1324	1957	75.7	52.1	281.1	787	1227	2829	2226	18	227		1.1	1.5	8		
7	6	4	1	1983	2535	86.7	76.1	339.4	995	1841	3818	2567	20	336		4.2	3.4	12		
8	6	5		1445	2517	90.3	67.4	359.3	1026	1729	3697	2822	20	309		2.6	2.4	11		
9	9	6		1083	291	1945	68.6	55.7	267.7	833	1382	3138	2393	15	212		1.9	1.9	10	
41-B4	8	5		1428	411	2684	94.3	81.1	353.4	857	1740	3956	3532	18	355		4.2	3.2	13	
41-C	7	5		1687	364	2673	91.5	83.3	344.5	954	1766	3784	3226	16	369		4.0	3.2	13	
41-D4	6	5	1	1666	382	2143	85.5	63.0	275.8	886	1658	3565	2549	15	303		2.9	2.8	11	
41-G	8	5	2	2069	367	2994	103.9	92.1	393.1	1003	1956	4379	3512	19	382		4.7	3.4	13	
51-A	8	4	1	1502	283	2383	83.5	73.4	319.8	974	1681	3367	2548	13	273		2.9	2.7	11	
51-C5	3	5		1937	348	3838	119.7	170.9	395.1	1201	2503	5123	4127	23	543		6.1	3.9	17	
51-D4	6	7	6	1414	282	2219	72.6	74.3	288.6	891	1500	3433	2653	14	315		2.8	1.7	11	
51-B4	7	7		1551	438	2862	90.0	87.6	396.2	968	1761	3698	3684	20	356		3.1	2.4	14	
51-G4	7	6	1	1785	487	3423	107.7	126.1	397.6	1025	4728	4099	19	454		4.1	2.7	19		
51-F4	7	7		1840	363	2783	91.4	91.7	361.2	905	1692	3975	3387	16	362		3.9	2.1	13	
51-I4	7	5		1841	431	2958	105.5	105.2	356.9	980	1779	4547	3630	17	404		4.1	2.3	15	
51-J4	8	4	5	1240	549	2839	95.4	92.3	378.4	942	1671	3860	3336	16	363		3.8	2.1	13	
61-A4	7	7	1	1751	418	3287	114.5	116.8	401.5	1224	2008	5654	3517	20	422		4.2	2.3	15	
61-B4	7	6	1	1137	301	2659	93.4	99.2	312.9	806	1484	4244	2785	15	327		3.6	1.9	15	
61-C4	7	5	7	1772	482	3367	116.1	118.8	411.1	1029	1944	5589	3803	20	431		5.0	2.6	17	
Mean (All Flights) ⁹				1589	374	2692	92.8	87.8	346.2	957	1715	4037	3132	18	346		3.5	2.5	13	
Mean (588 Man Days) ¹⁰				1491	355	2476	85.7	78.0	327.1	911	1606	3673	2913	17	316		3.1	2.4	12	
Recommended Minimum Levels						56				800	800	3450	2737	18	350					
Percent of Calories:						14.6% Prot	31.0% Fat	54.4% CHO												

¹RH₂O = Rehydration Water ²NH₂O = Moisture in Food ³M = Males ⁴F = Females

⁴Estimated from returned food only. Trash given to Ames and not inventoried.

⁵5000 flight, food was packed for 7 days but they returned after only 3 days. Trash given to Air Force and not inventoried.

⁶6Mission extended 2 days. ⁷Launch sandwiches not included.

⁸No launch sandwiches sent with STS 51-J. ⁹Mean for all flights included 799 man days. ¹⁰Mean omitting flights with unrealistically high caloric intakes i.e., 3000 Kilocalories or more (STS 41-G, 51-C, 51-G, 61-A, 61-C).

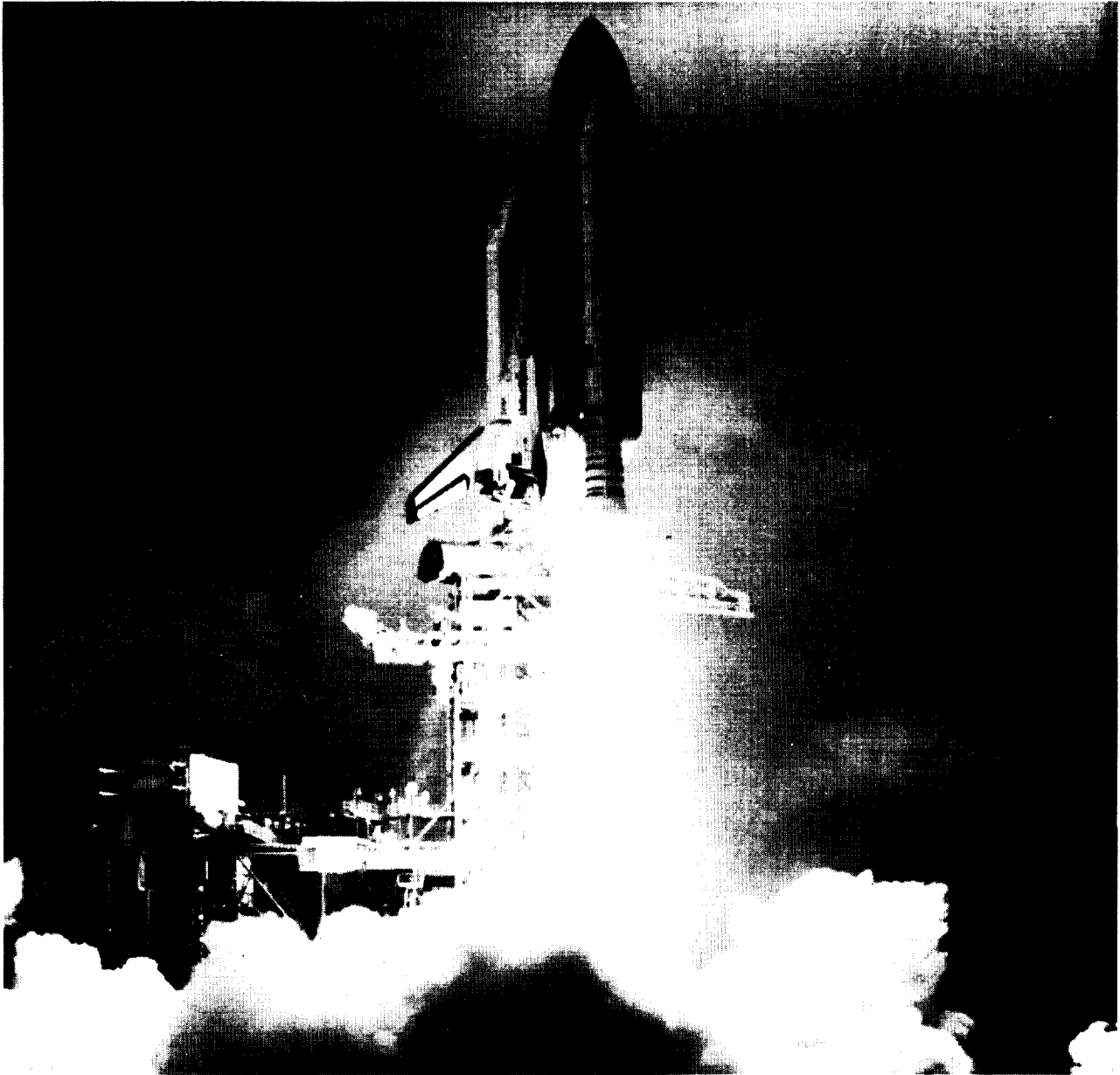


Figure 1.- The Space Shuttle Orbiter launches as a rocket.

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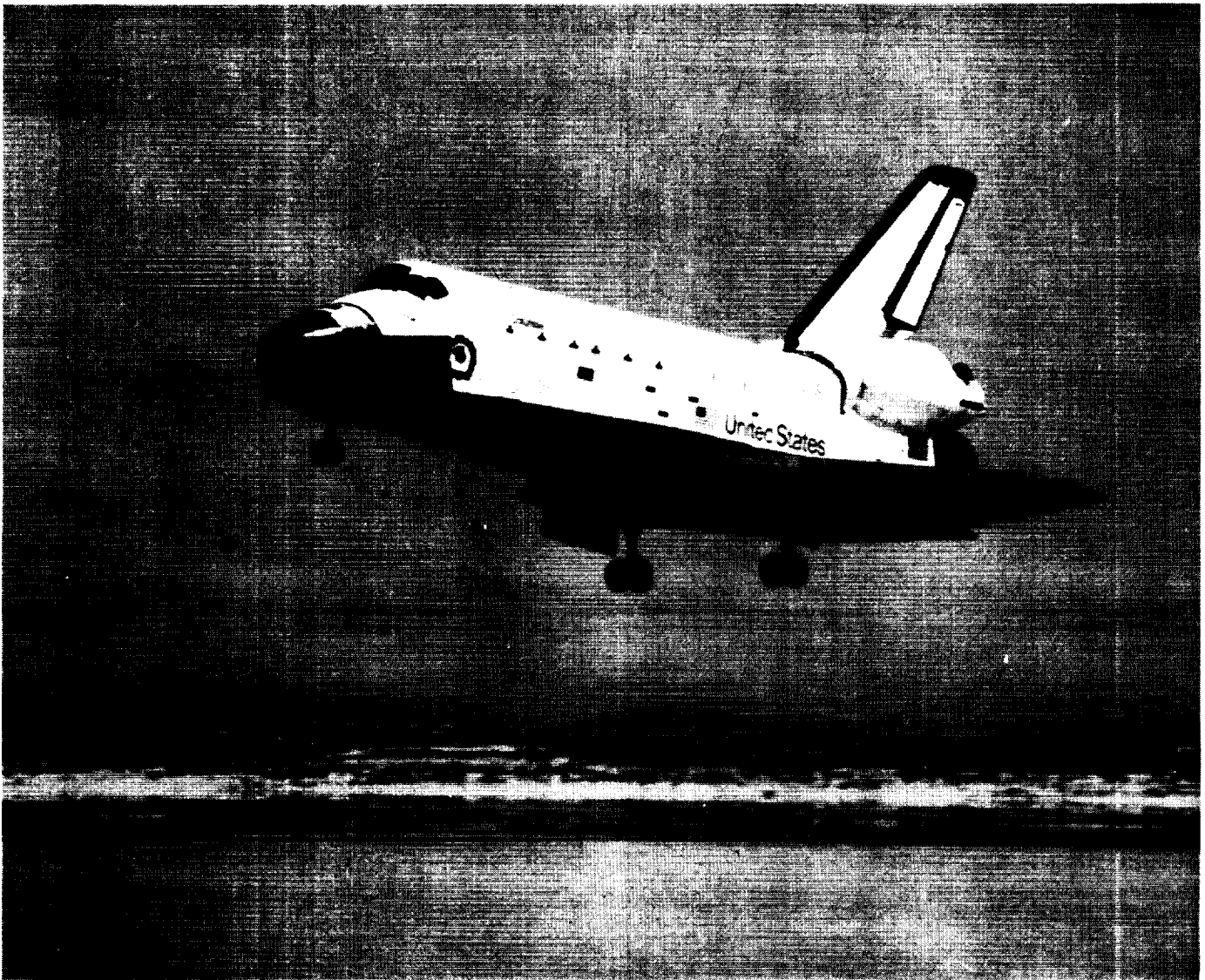


Figure 2.- The Space Shuttle Orbiter lands as a glider aircraft.

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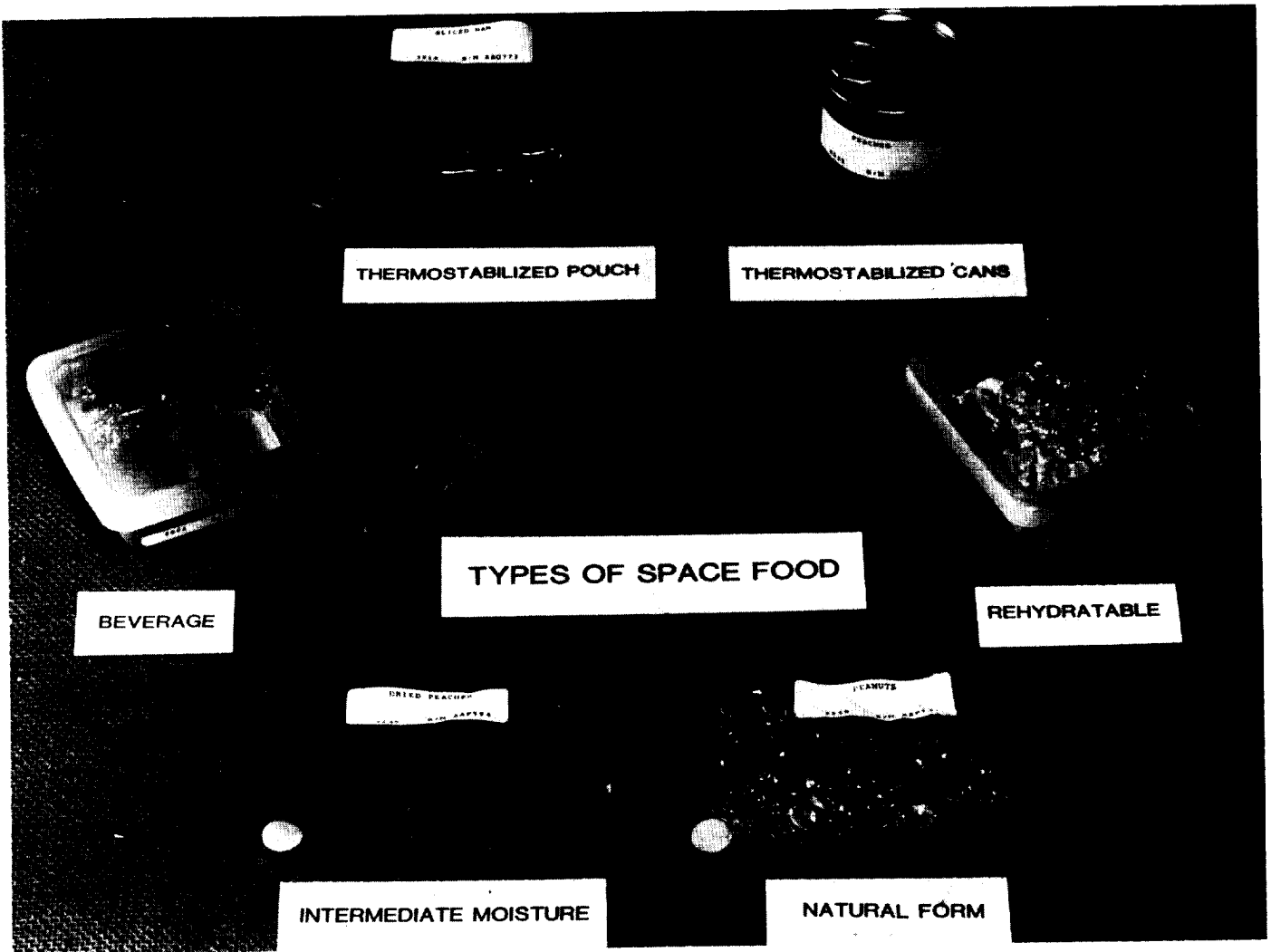


Figure 3.- Types of food used on the first 25 Space Shuttle missions included thermostabilized foods in flex pouches or cans, rehydratable foods and beverages in square packages, and IM and NF foods in transparent plastic pouches.

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Figure 4.- In order to freeze-dry food for the Space Shuttle, the food was frozen in trays and placed inside a freeze dryer. After a vacuum was drawn, heat was applied to the product through the shelves to increase the rate of sublimation of the ice; but the pressure was held low enough so water could exist in liquid form, i.e., below the triple point of water, so the frozen food did not melt. The final freeze-dried product retained its original shape and was easier to reconstitute than products dehydrated by most other methods.

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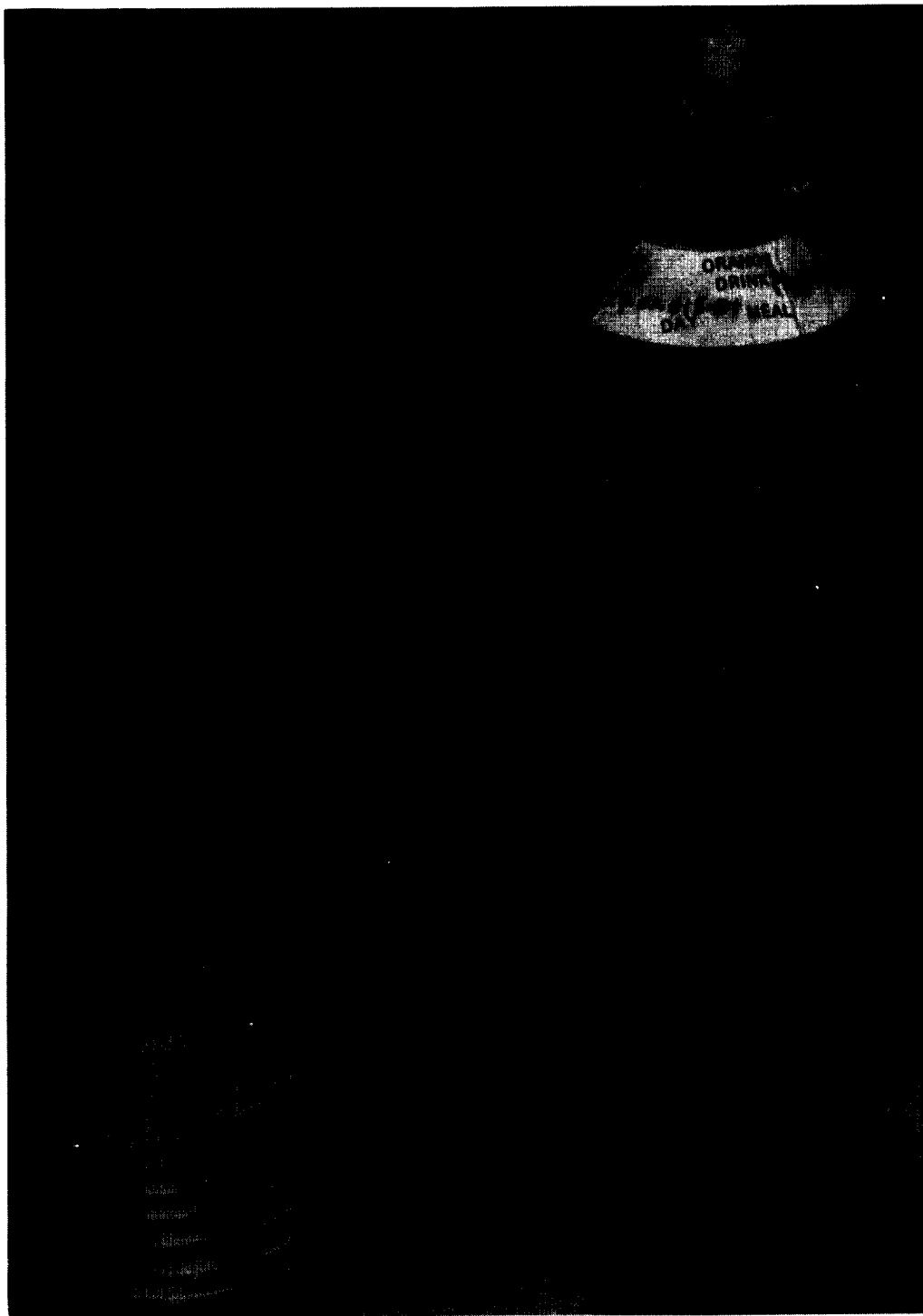


Figure 5.- The Skylab beverage container was used on Space Shuttle OFT flights. It was a collapsible, plastic, bellows bottle that expanded accordian-style when water was added to the package through a one-way, spring-loaded valve.



Figure 6.- The Apollo Spoonbowl package was used for rehydratable foods during Space Shuttle OFT flights. Food was rehydrated by inserting water through the spring-loaded valve with a gun-type water dispenser. Rehydrated food was consumed by using a spoon after the top was cut open with scissors.

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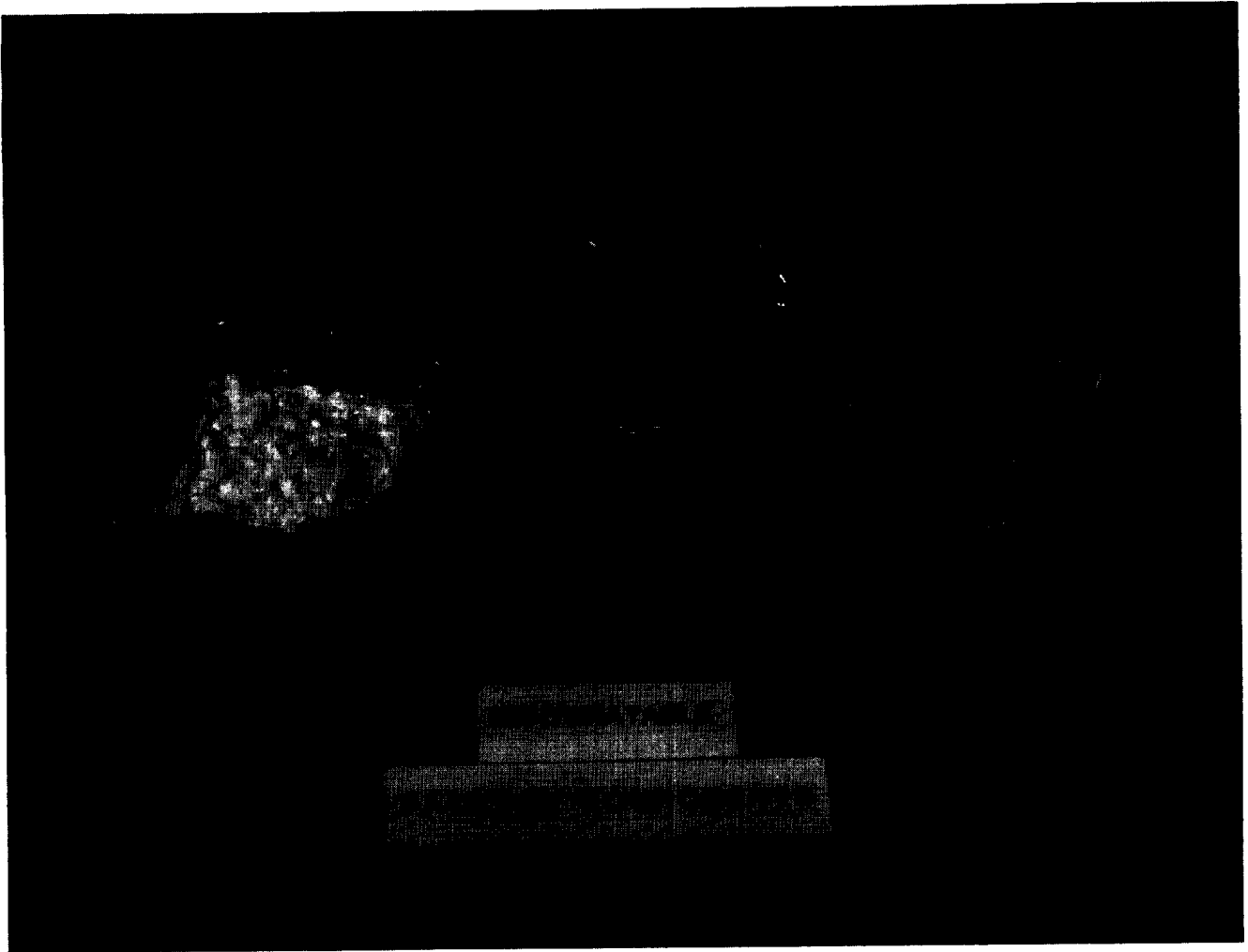


Figure 7.- Rehydratable food and beverages were packaged in a square, nestable container. The package consisted of a rigid, opaque base designed to serve as a bowl with a clear, flexible, film lid which provided visibility while mixing food and water. Dry food was placed within the white bowl and the lid was heat sealed to the base in a vacuum.

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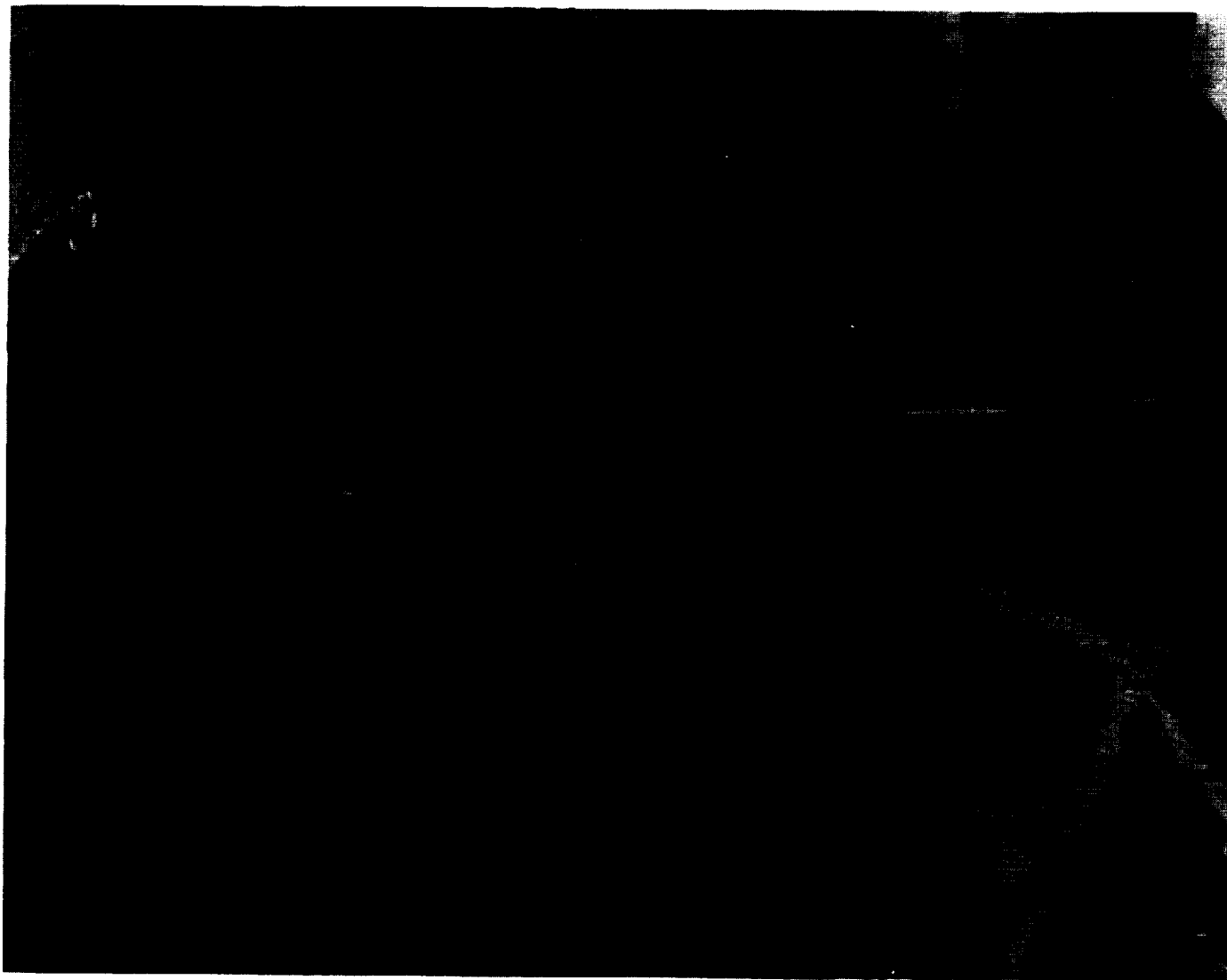


Figure 8.- Astronaut Robert Crippen is shown removing the package lid with scissors so food could be consumed directly from the container with a spoon during STS 41-G.

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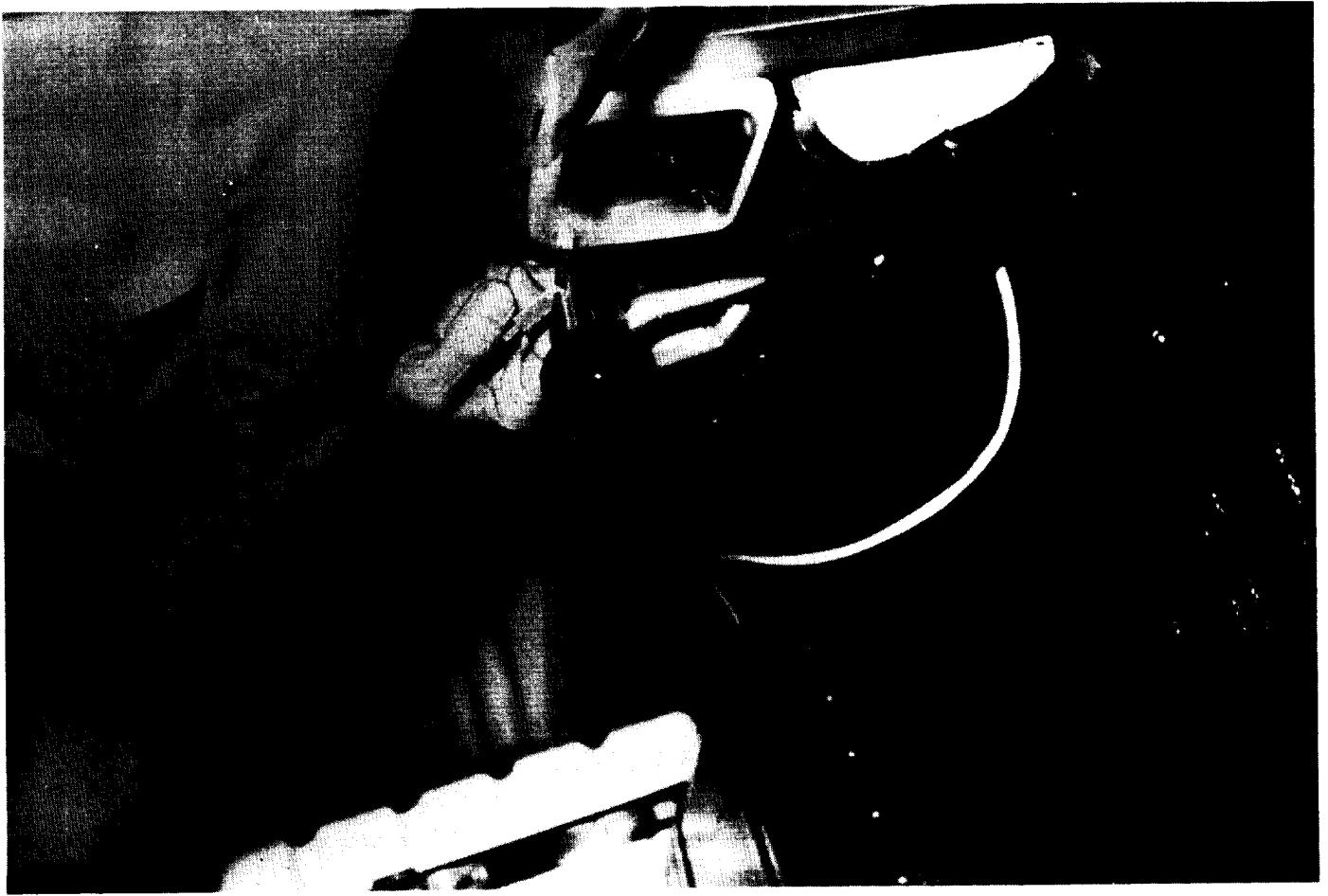


Figure 9.- Beverages were consumed by inserting a polyethylene straw into the package through the septum after the beverage was rehydrated. On STS-5, Astronaut Robert Overmyer demonstrated that fluid can independently flow out of the package through the straw in micro-gravity. A clamp on the straw was used to prevent any unexpected fluid flow.

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Figure 10.- Astronaut Joe Allen is shown with a sphere of orange drink on STS-5. Astronaut Allen forced the orange drink out of the container through the straw. Liquids form solid, spherical shapes when allowed to float freely in microgravity because surface tension forces the liquid to make the most compact shape possible.

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Figure 11.- Each astronaut had his own set of color-coded eating utensils which were stowed in a reusable plastic pouch. Eating utensils consisted of a knife, a fork, two spoons, and a pair of scissors for cutting open the packages. Insuit fruit bars for use during EVA were inserted into elastic, nylon, food dispensers which attached to the neck ring of the pressure suit. The accessory food kit contained commercial packages of gum and Life Savers[®] for each crewmember. Straws for drinking the beverages were color coded for each astronaut so they could identify their own beverage. Polyethylene, dropper bottles contained bulk supplies of liquid pepper, liquid salt, and toothpicks for flight use. Empty drink containers were provided so the astronauts could fill them during flight when they wanted a drink of water.

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Figure 12.- Meals used for OPS included rehydratable foods and beverages packaged in square packages, irradiated foods in laminated-foil pouches, and thermostabilized foods in both aluminum cans and laminated-foil pouches. Food packages comprising a meal were overwrapped together for spacecraft stowage during OFT missions. The practice of overwrapping meals was discontinued during OPS.

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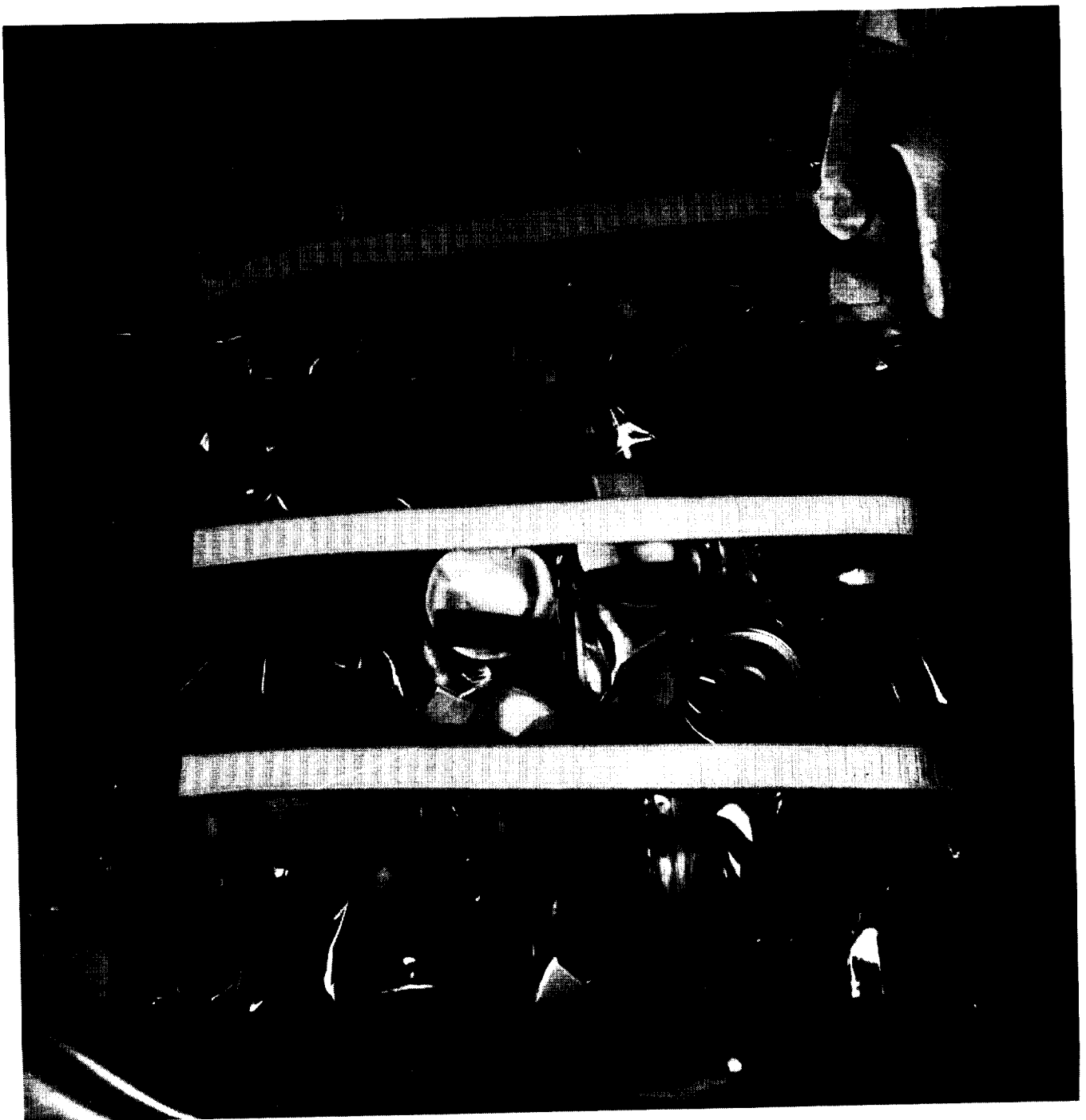


Figure 13.- A food-locker tray stowed for STS-1 is shown. Overwrapped meals were stowed in locker trays arranged in three rows across the tray. For OFT missions, each row was restrained by an elastic strap which extended across the locker tray.

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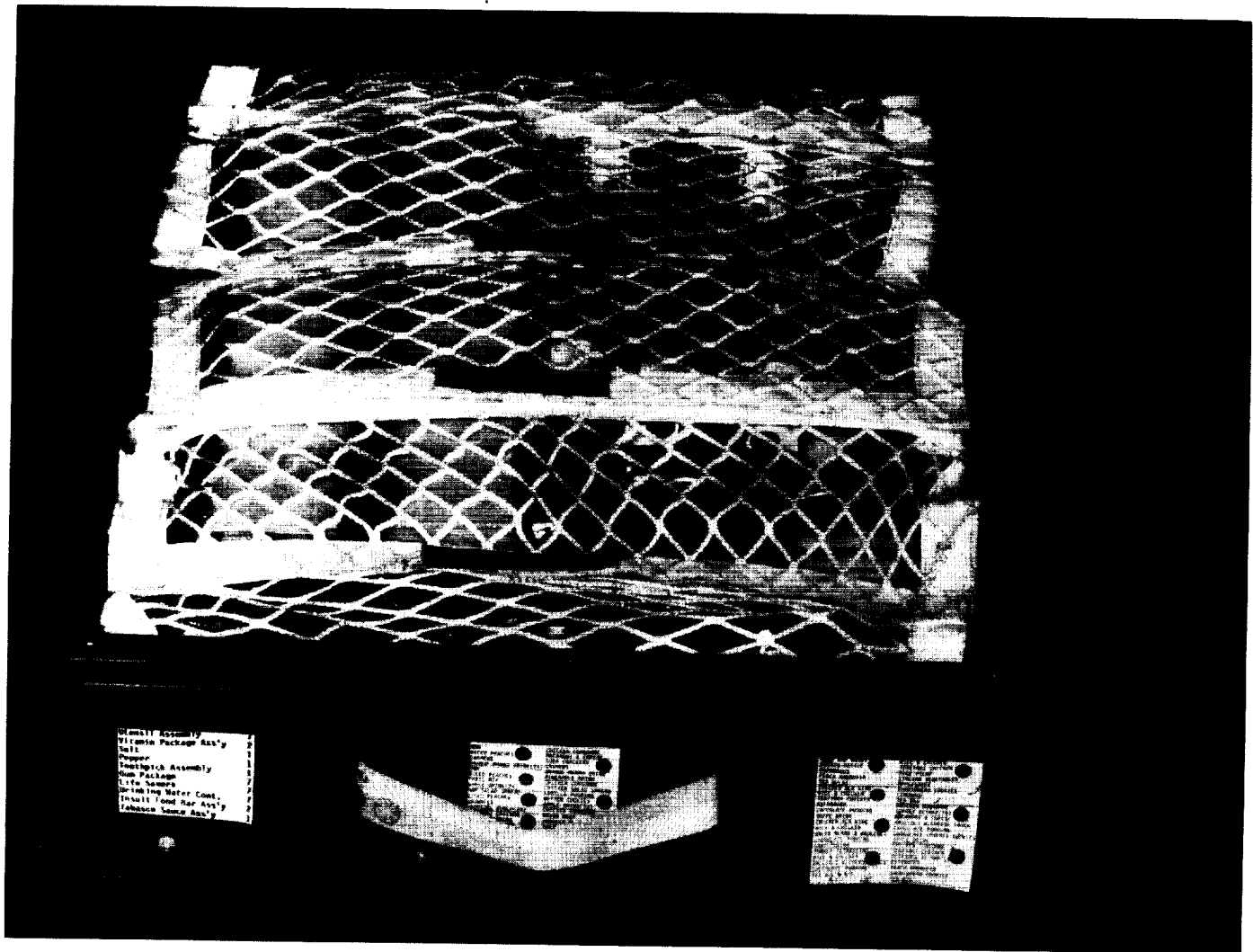


Figure 14.- Meals were stowed onboard the Orbiter in locker trays with food packages arranged in the order in which they would be used. Labels on the front of the locker tray listed the locker contents and identified each crewmember's menu by color-coded dots. A three-section net restraint covered the top of the locker tray to keep food packages from floating out of the locker in microgravity while allowing high visibility of individual food items. Sections of the net were secured by Velcro® so the net could be easily opened, making each food item readily accessible to the astronauts.

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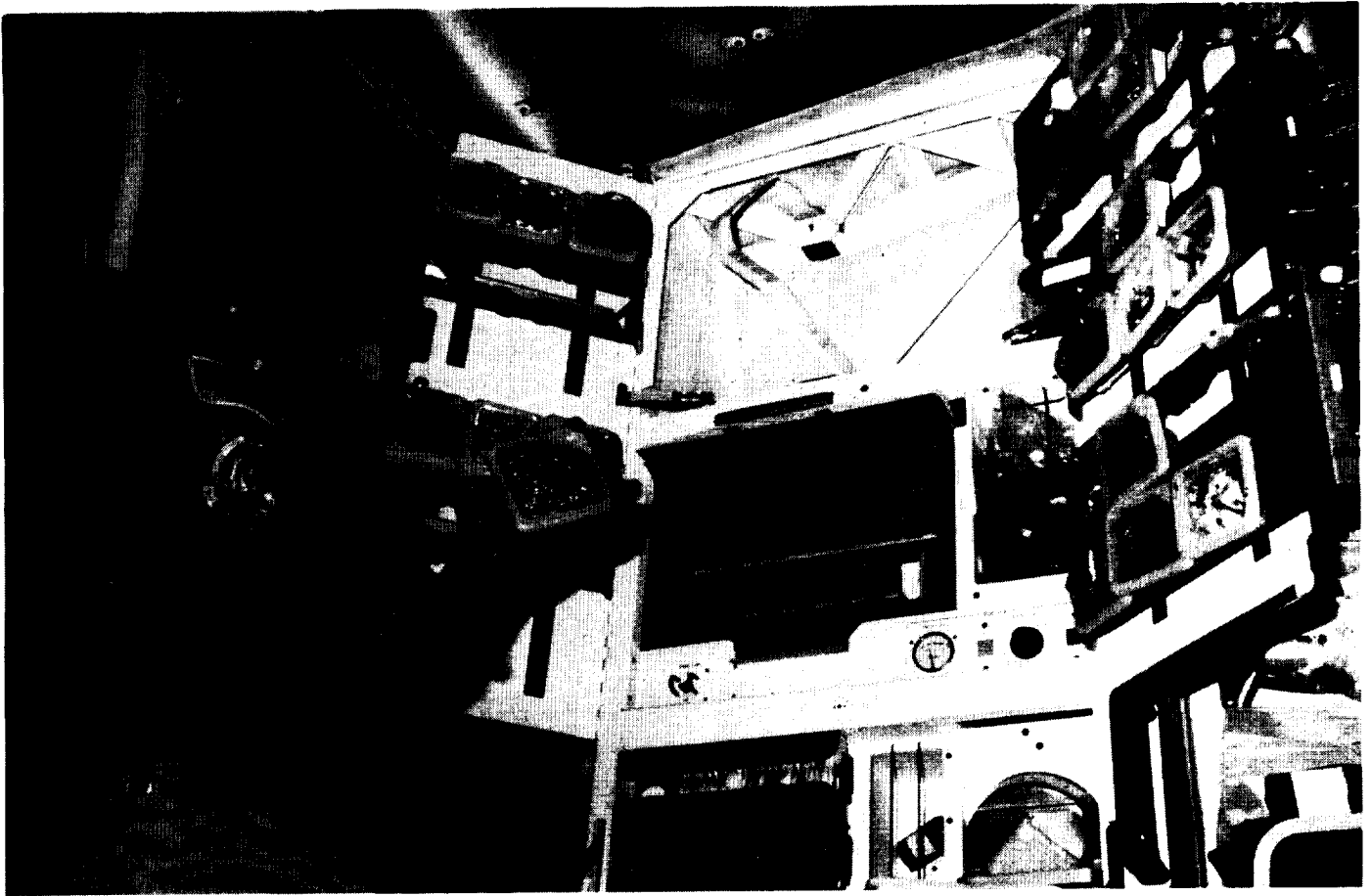


Figure 15.- Astronaut George "Pinky" Nelson uses the modular galley on STS 41-C to prepare a meal for the five crewmembers. Meal trays containing rehydrated orange drink and other packages were attached to the galley doors. Premoistened towelettes, condiment packages, and a polyethylene dropper bottle of liquid pepper were stowed in the midsection of the galley. The galley flew for the first time in November 1983 on STS-9.

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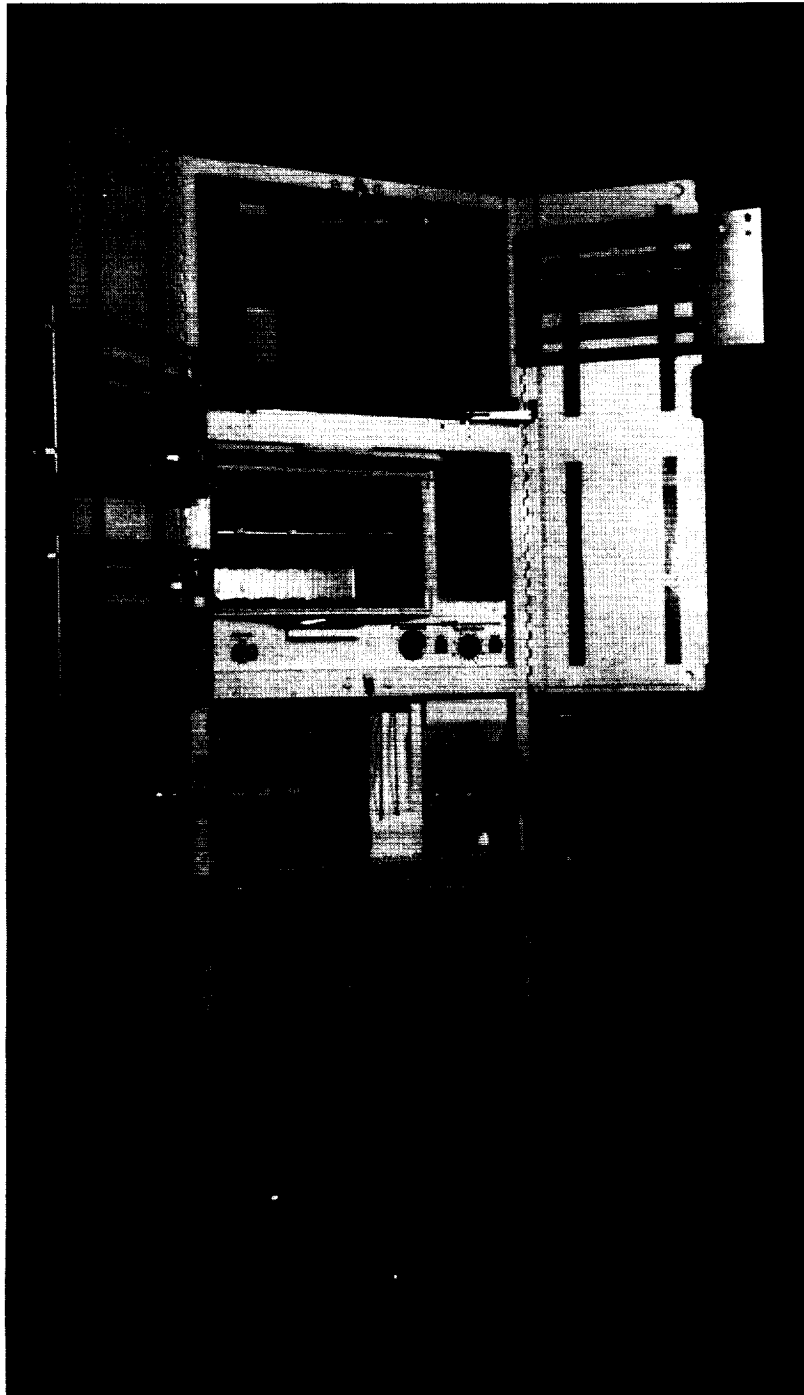


Figure 16.- An electric galley provided a centralized location for one crewmember to handle all food preparation activities for a meal. It contained a personal hygiene station, a water dispenser, an oven, condiment and tray stowage areas, and a food preparation area.



Figure 17.- Astronaut Rhea Seddon is shown demonstrating the personal hygiene station which was a galley component. The plastic bubble was designed to prevent water from escaping into the spacecraft atmosphere while washing hands or utensils or taking a sponge bath in microgravity.

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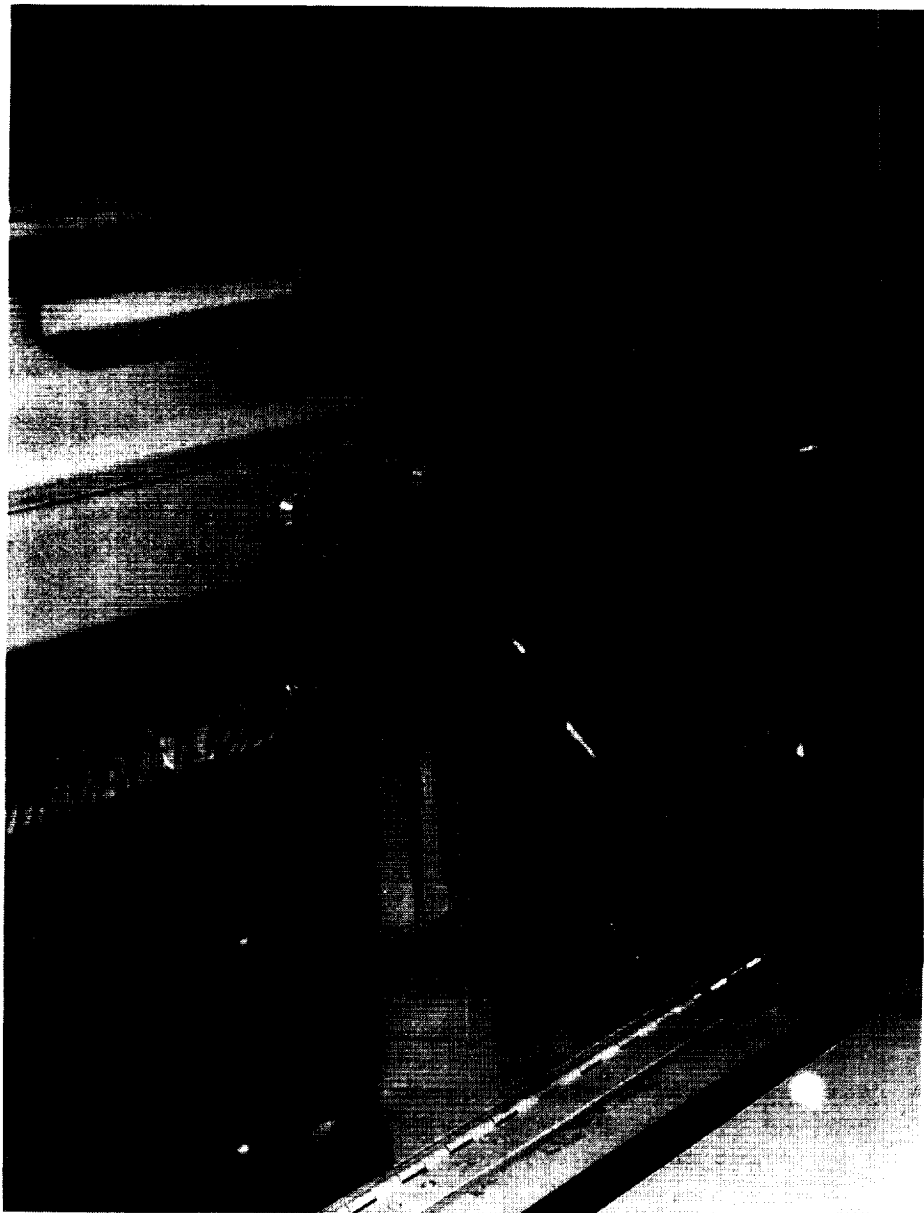


Figure 18.- The water-dispensing unit in the galley was designed to operate in conjunction with the square, rehydratable-food and beverage package. The package was inserted into a metal package holder and pushed forward so the needle-type water dispenser was inserted into the package through the septum. The appropriate volume of water was selected on the water-volume dial and either the hot or cold button was pushed to release water into the package. A thermometer monitored the temperature of the hot water. The maximum hot water temperature was 160°F (71°C).

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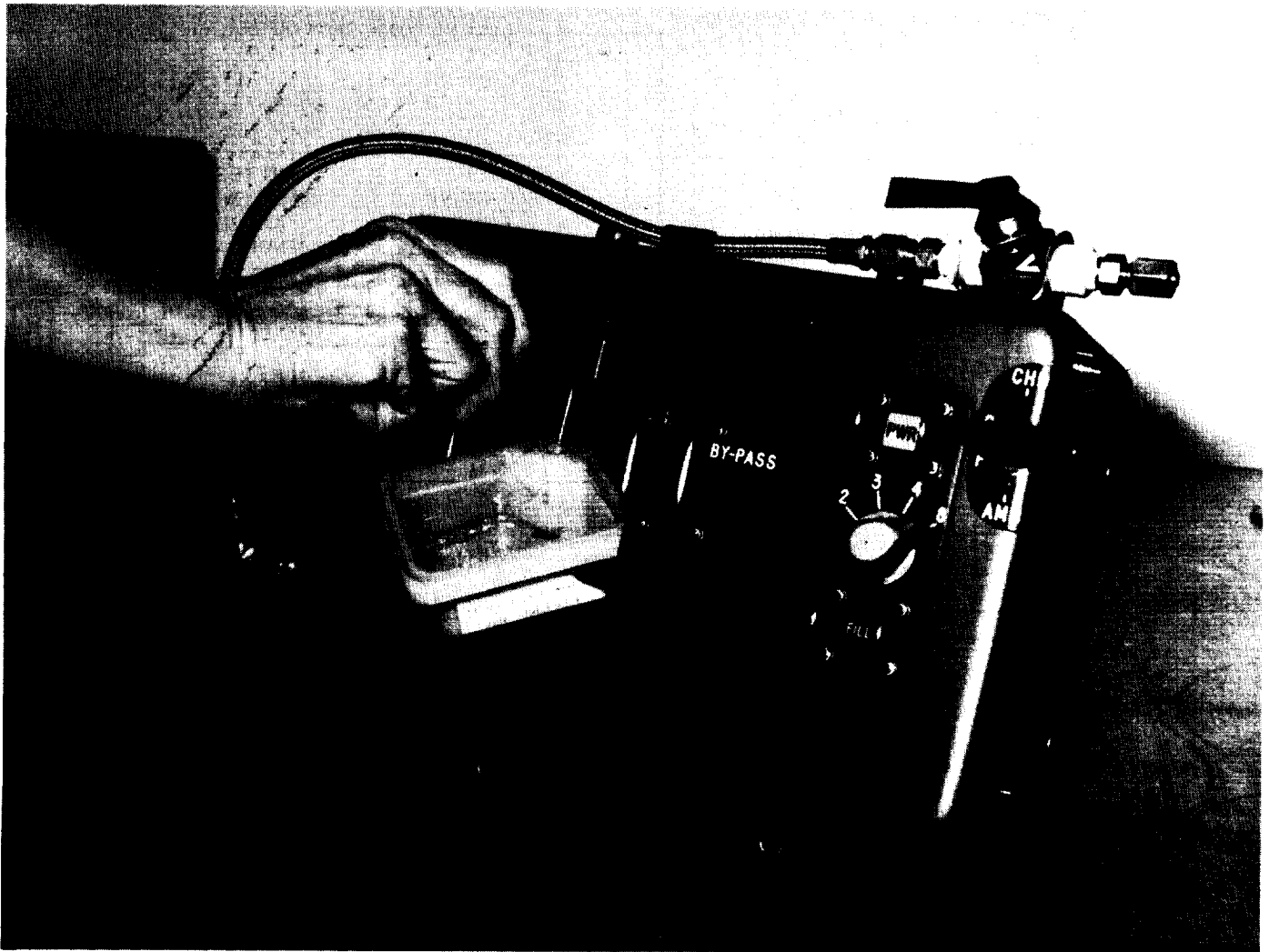


Figure 19.- An OWDA provided the crew with either ambient or chilled water for food and beverage rehydration and drinking when the galley was not flown. Components of the OWDA included the ambient/chilled water selection valve in the upper right-hand corner of the unit, a 4-position, rotary dial that provided for 2-, 3-, 4-, or 8-oz water quantity selections, a power button which turned the unit on, a fill button which activated the electronic filling mechanism, and a bypass toggle switch which bypassed the automatic fill mechanism and supplied water to the package in unmeasured amounts as long as it was activated.

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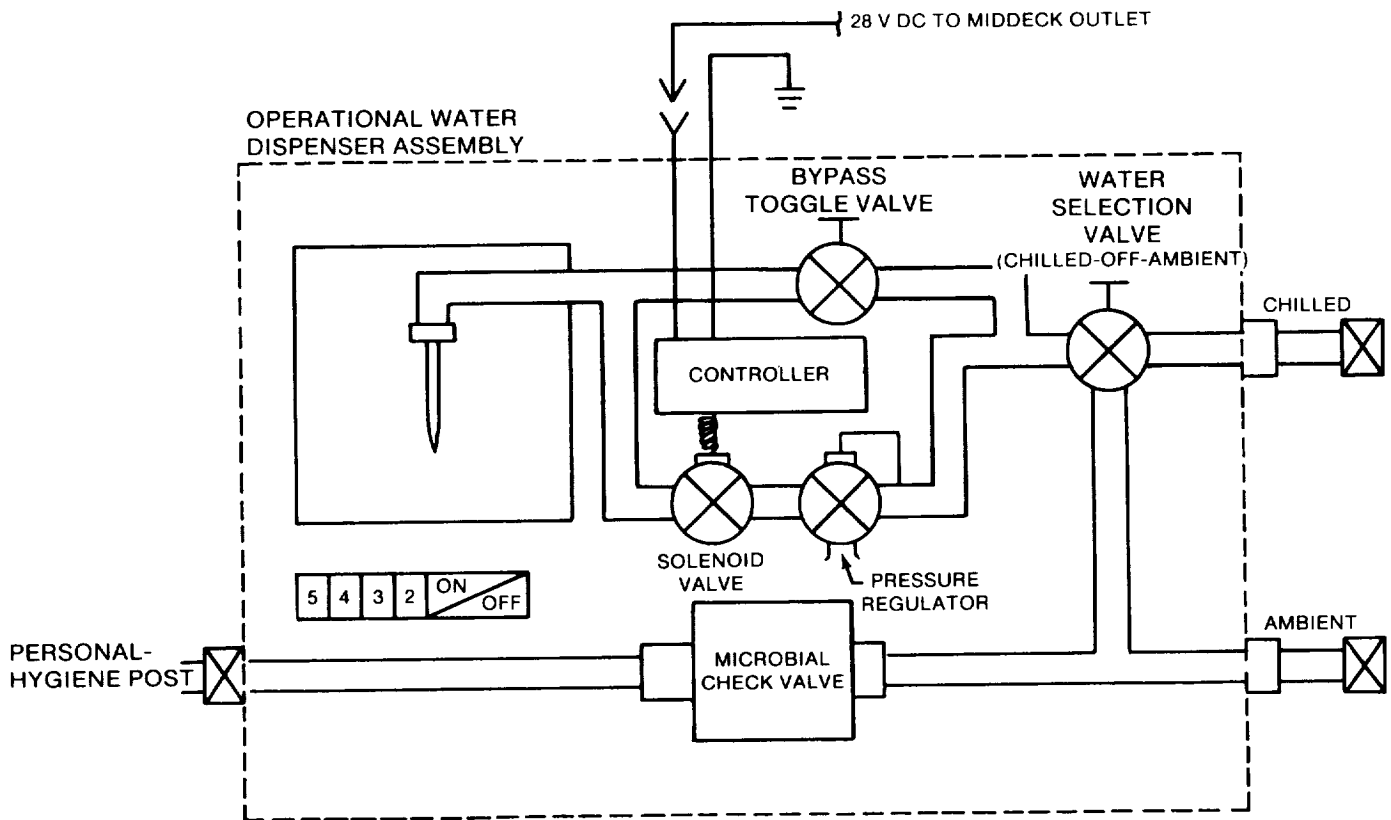


Figure 20.- The OWDA was an electronic system for dispensing 2, 3, 4, or 8 oz of water into the square, rehydratable-food and beverage containers through a replaceable needle. Water was dispensed by a pressure regulator and solenoid valve arrangement. Inlet water with a normal system pressure range of 12.0 to 22.0 psi was reduced to a constant pressure of 12.0 psi by the regulator. An electronic controller governed the time of flow. The timed shutoff with constant flow rates provided specific water quantities for accurate food and beverage rehydration. A mechanical bypass line with a continuous-flow capability was also provided in the event a failure occurred in the solenoid valve or the pressure regulator.

On the left side of the dispenser, there was a personal-hygiene, quick-disconnect fitting where the 12-ft, personal-hygiene hose and water-dispensing valve could be attached. A microbial check valve in the hygiene-dispenser line prevented back contamination of the water system.

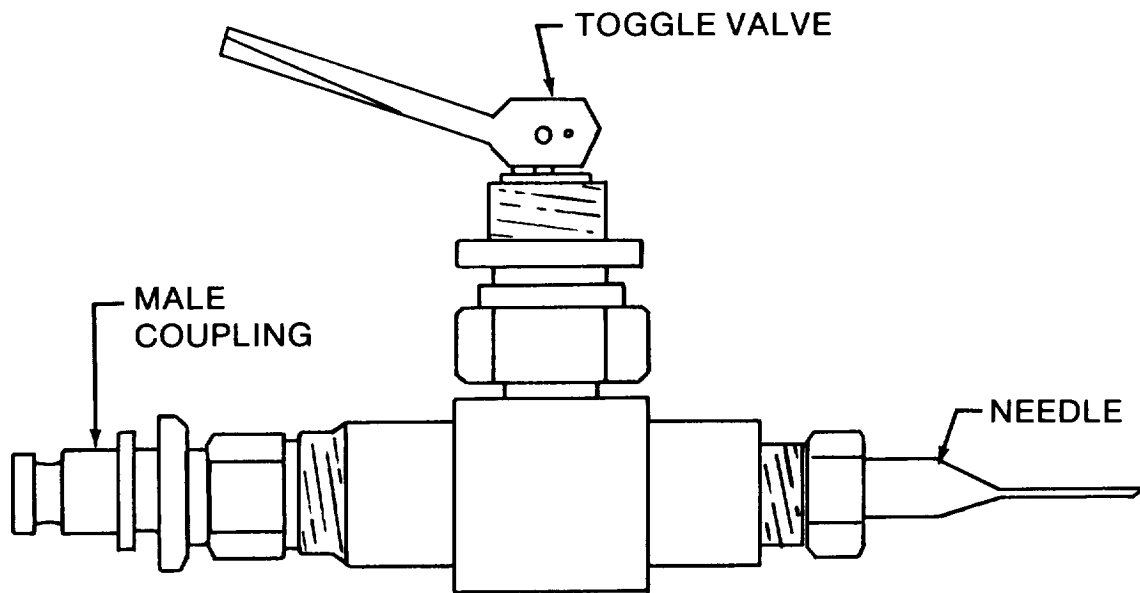


Figure 21.- The contingency water dispenser was a manually operated toggle valve with a needle attached which was designed to supply water for food and water rehydration in the event of a galley or an OWDA failure. The contingency water dispenser could be attached directly to the Orbiter water supply port through a contingency water hose. Both the contingency water dispenser and hose were a part of the in-flight maintenance kit stowed in the middeck lockers.



Figure 22.- Food in a retort pouch was inserted into the upper compartment of the forced-air convection oven located in the Space Shuttle galley. Rehydrated vegetables and soups in plastic containers were heated in the lower portion of the oven.

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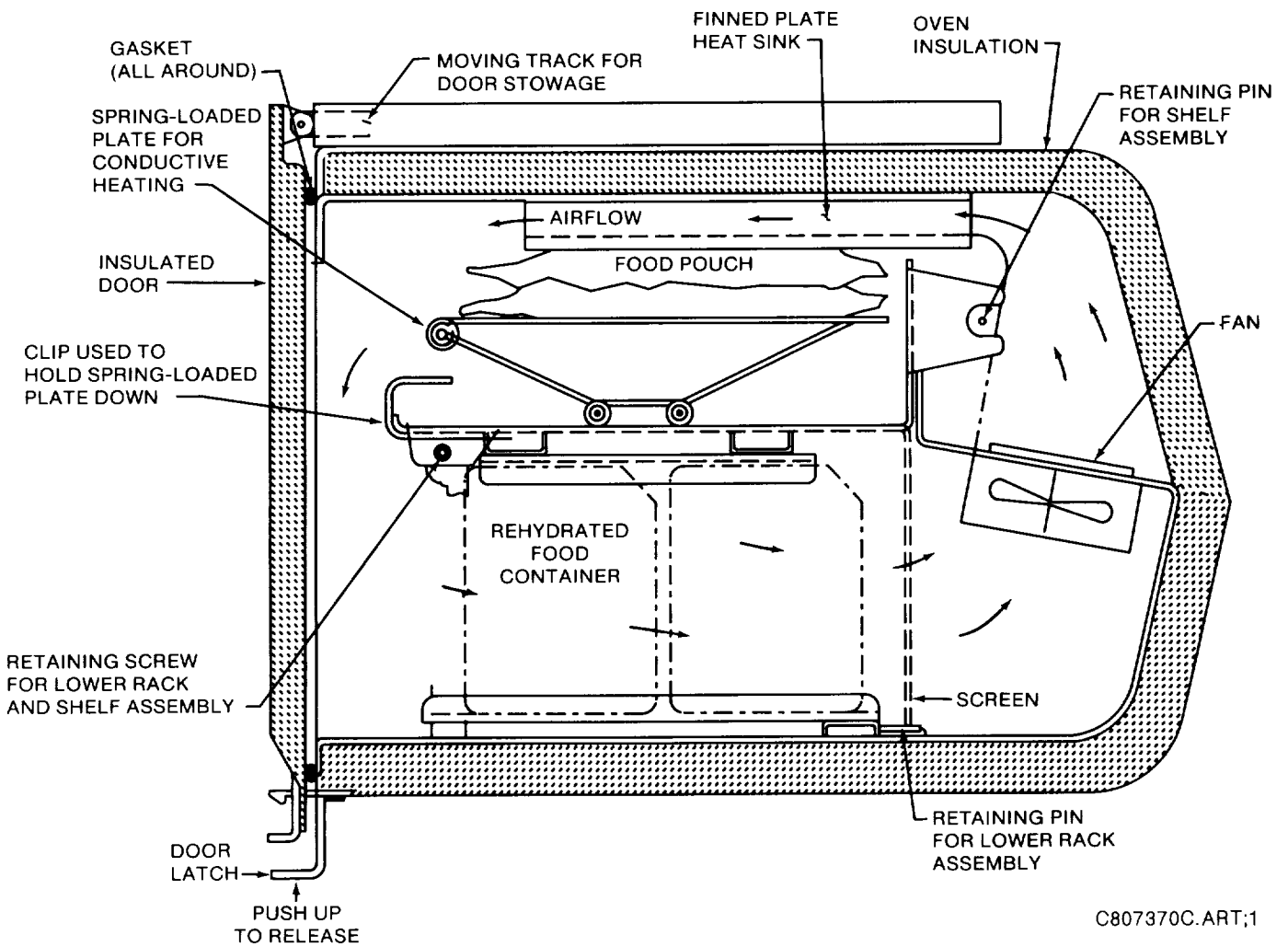


Figure 23.- A side view of the galley oven shows the path of circulated air over the finned heat sink at the top of the oven and down over the square containers of rehydrated food. Flex pouches were held against the heat sink by spring-loaded aluminum plates.

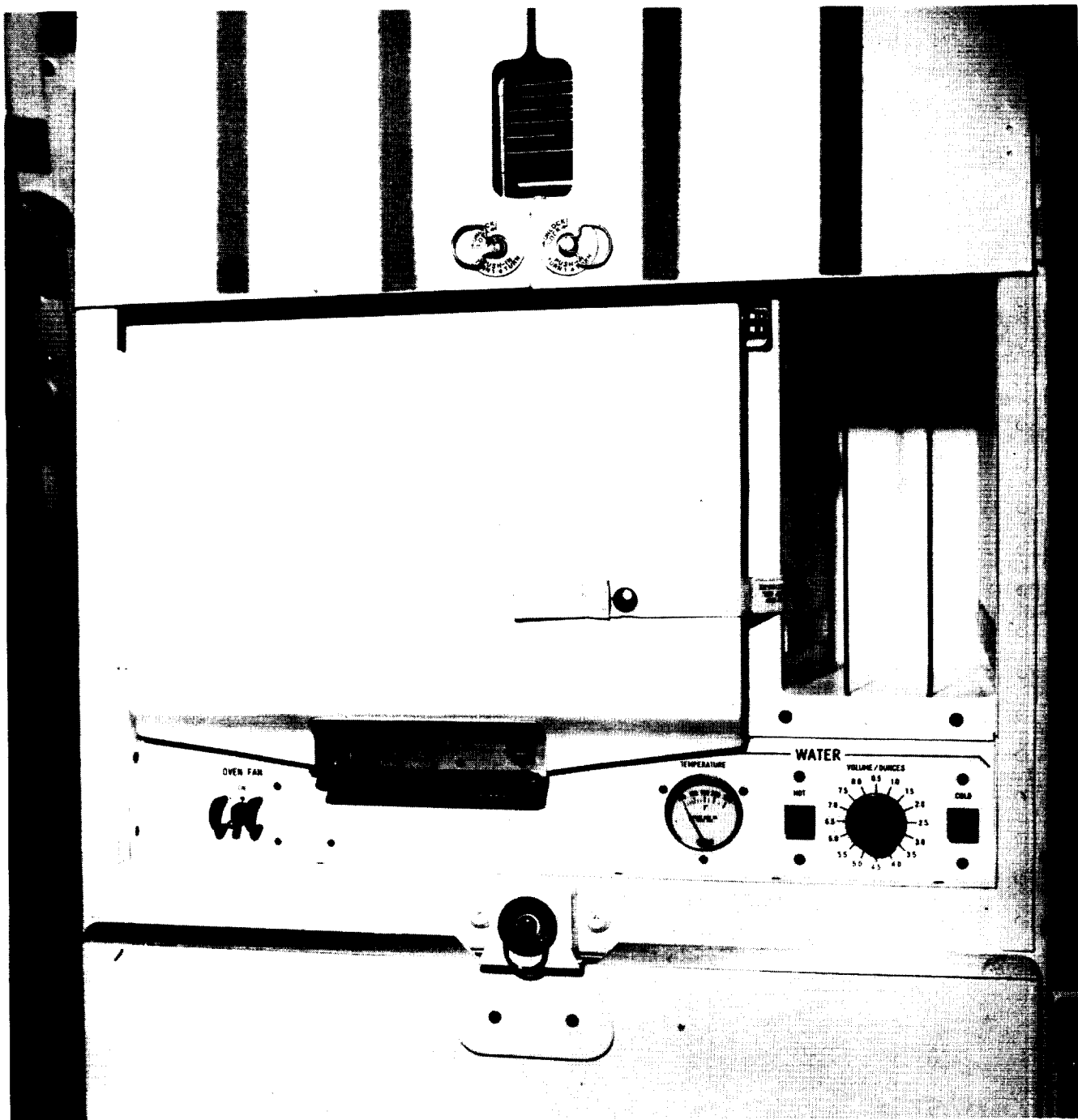


Figure 24.- During launch and reentry, a strap with a snap was used to secure the galley oven door in the closed position.

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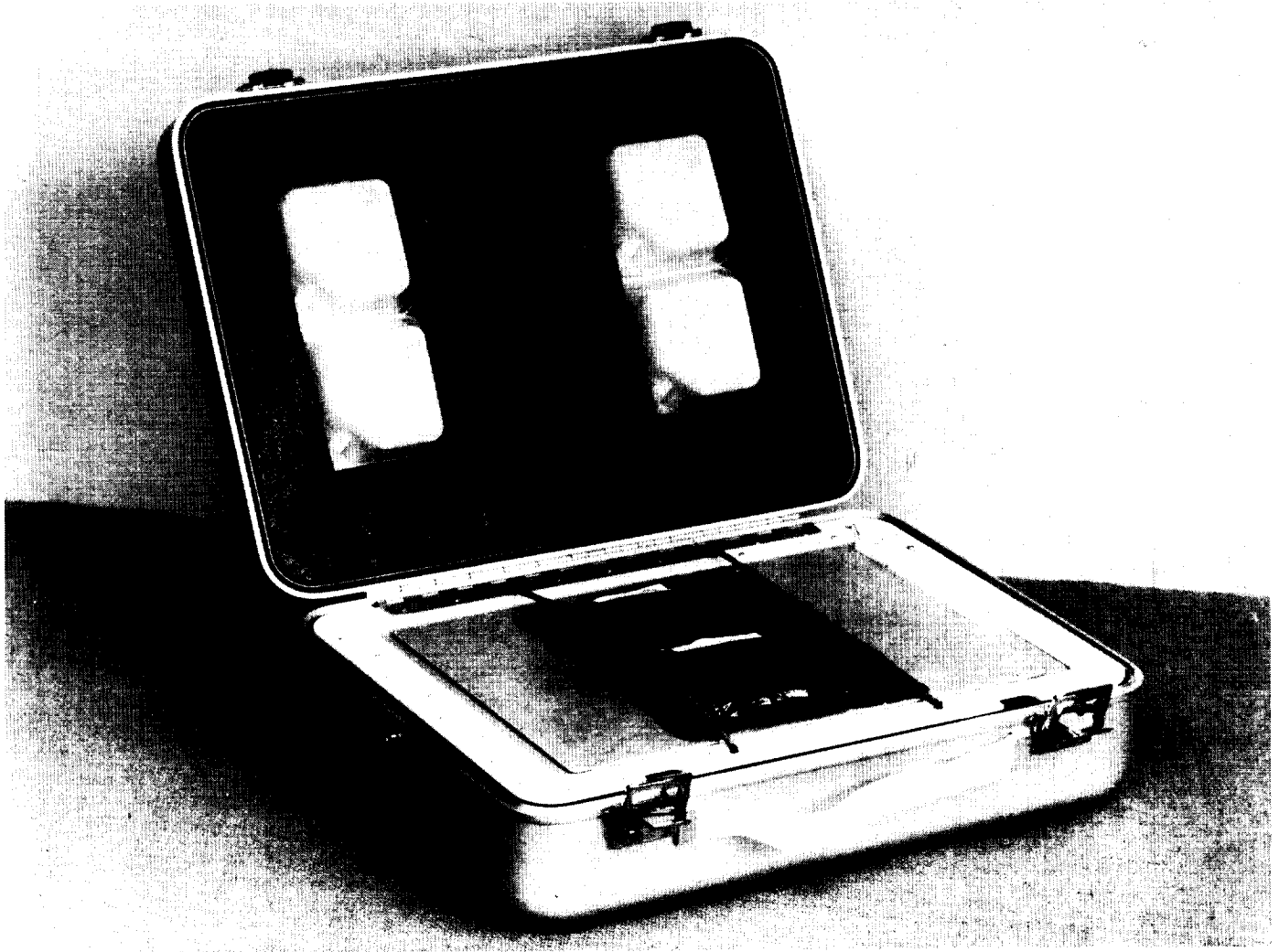


Figure 25.- A portable, suitcase-type food and beverage warmer was used on Space Shuttle flights when the galley was not available. Food packages were placed adjacent to a heater in a central plate and held in position by insulating foam. The food warmer heated food to desirable serving temperature in 15 to 20 minutes.

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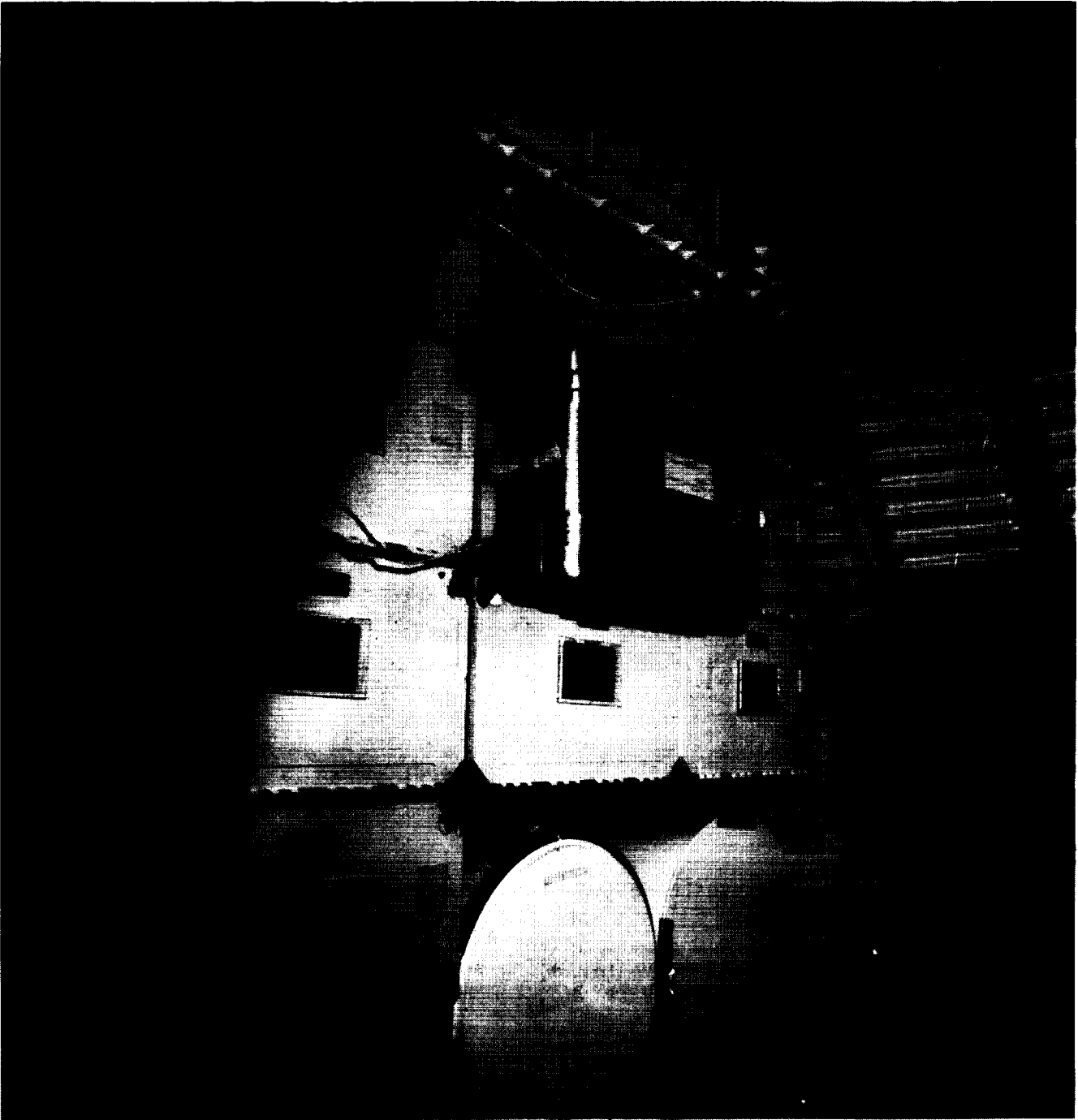


Figure 26.- The food and beverage warmer was attached to either the outside of a stowage locker or the spacecraft wall during the orbital phase of flight.

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Figure 27.- The power cable was stowed inside the food and beverage warmer for launch and entry.

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Figure 28.- Astronaut Francis Scobee eats from a meal tray strapped to his lap on STS 41-C.

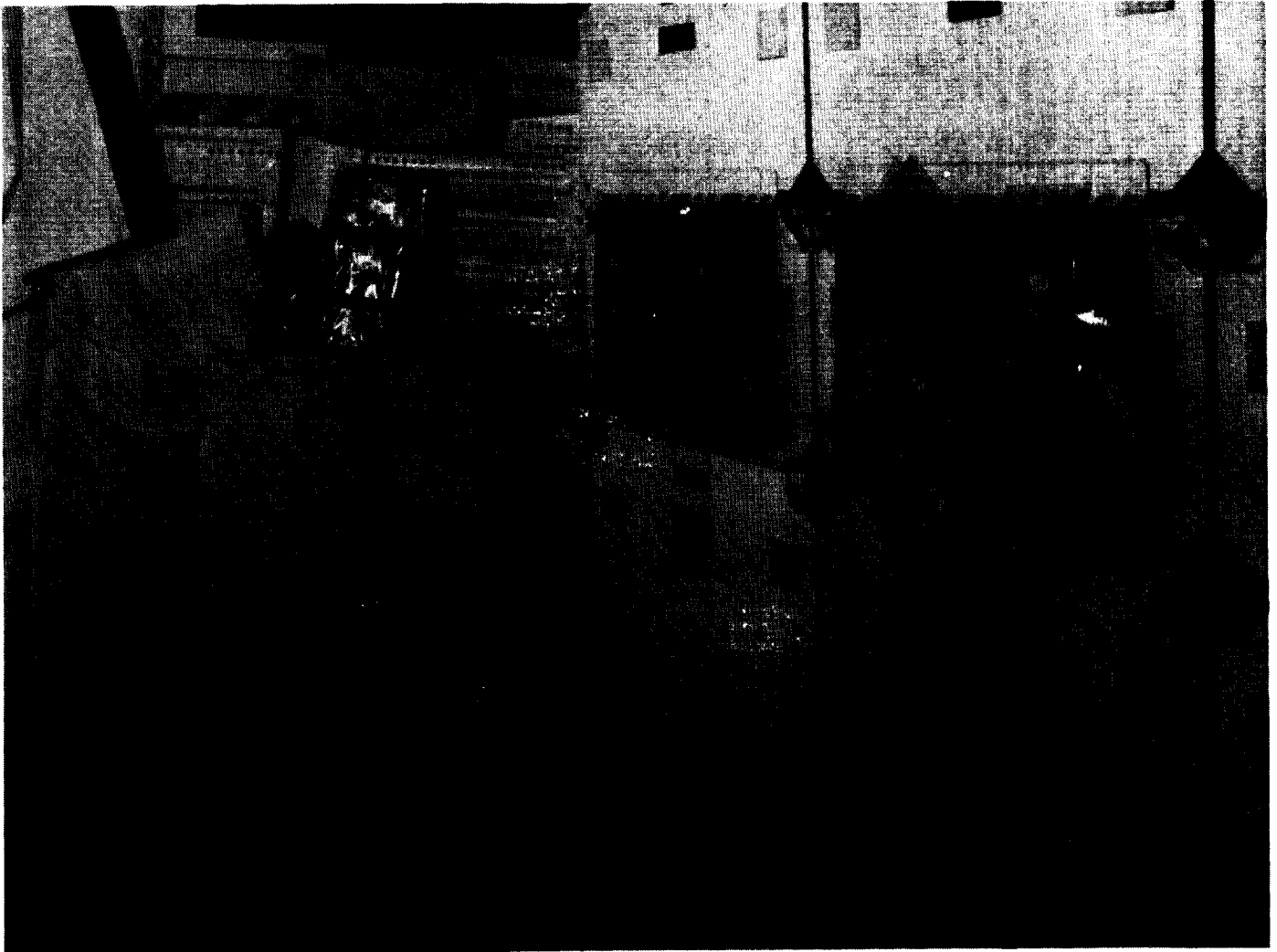


Figure 29.- The meal tray used during OFT missions consisted of 1-in.-square Velcro[®] patches affixed to a sheet of anodized aluminum which had springs attached to the edges. Food packages were attached to the Velcro[®] patches on the tray.

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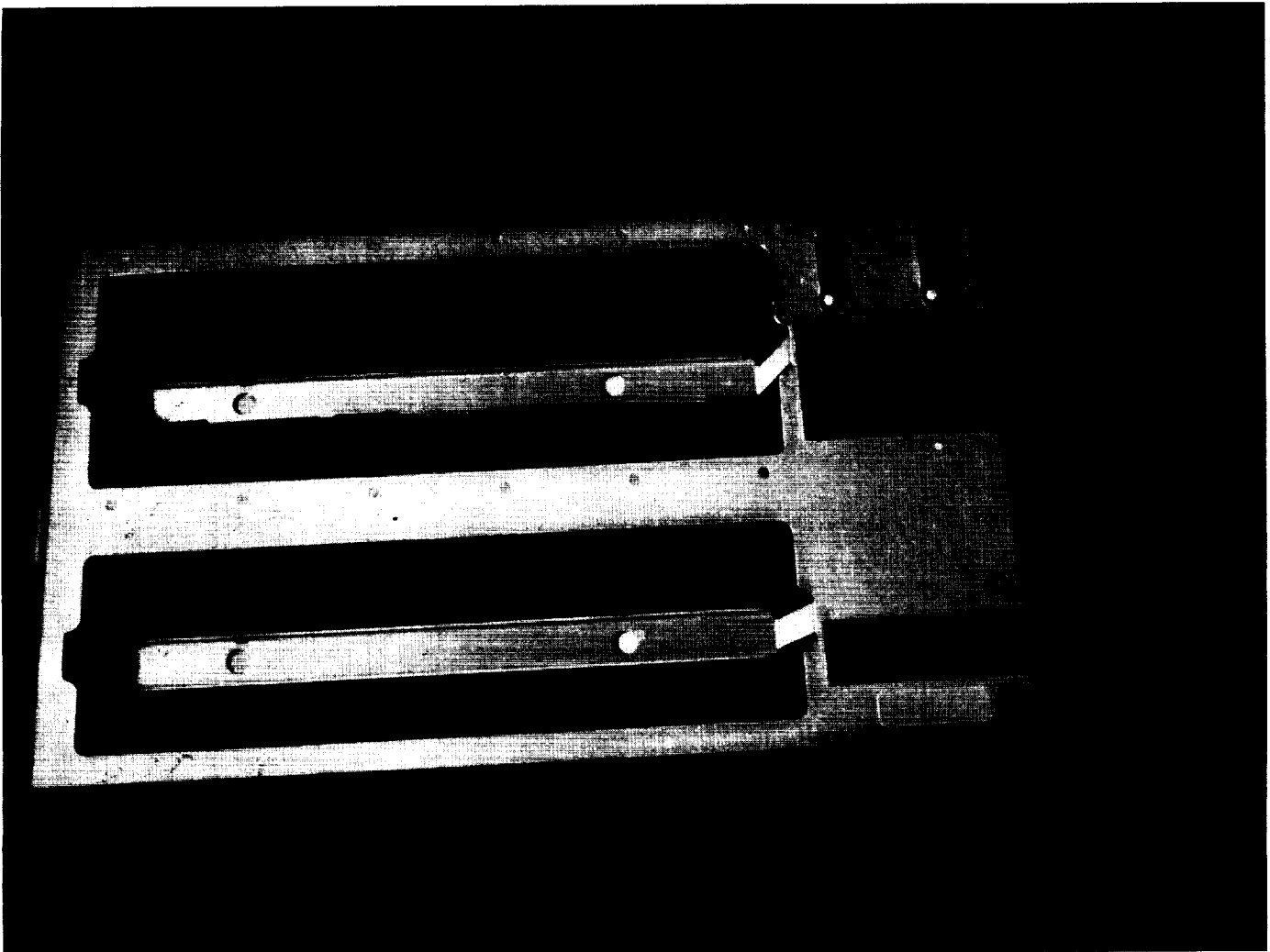


Figure 30.- This top view shows that the OPS meal tray had two cutouts: one designed to hold a maximum of three rehydratable-food containers and the other designed with rubber tabs to adapt to various-sized food packages and cans.

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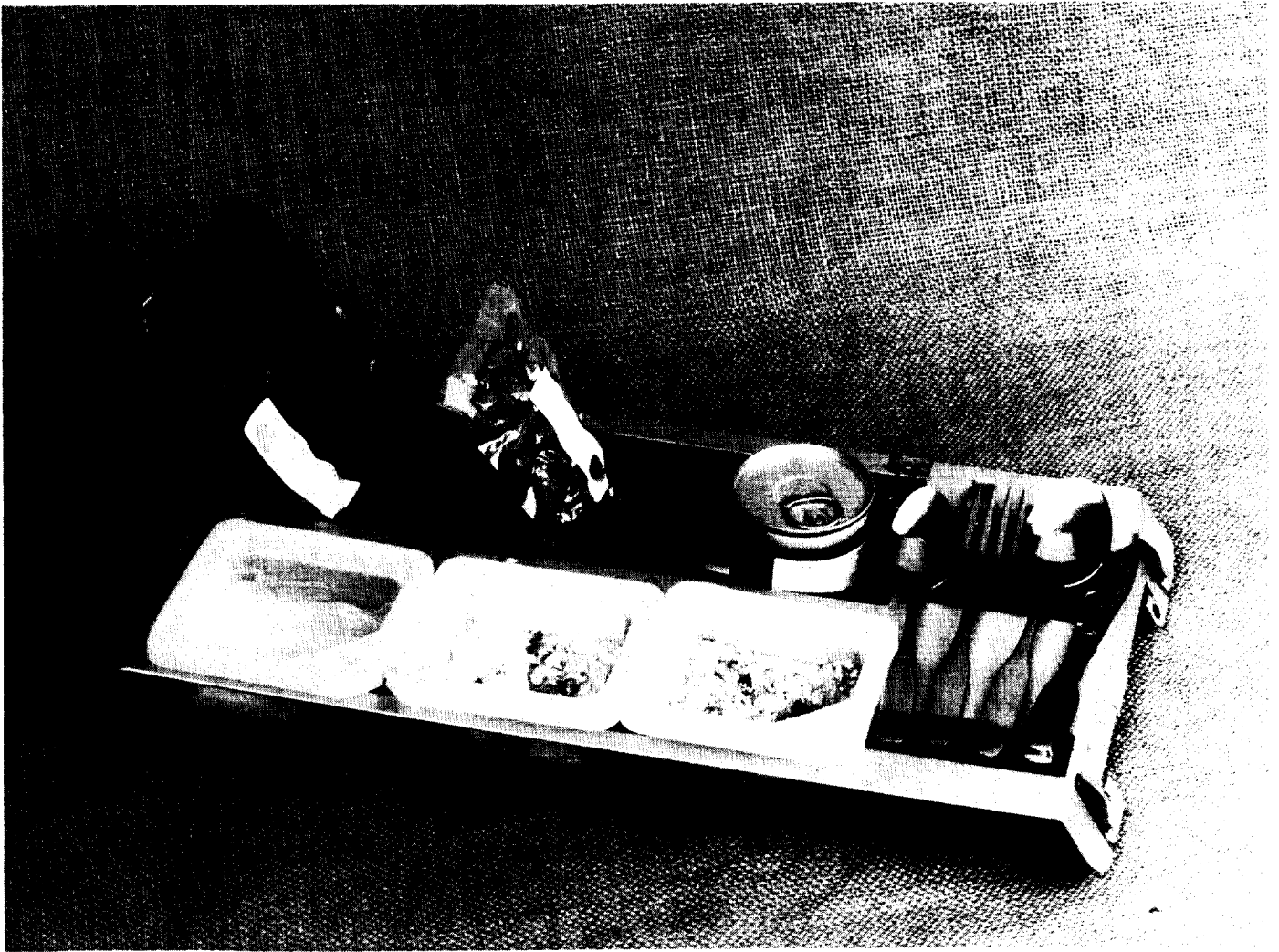


Figure 31.- Plastic, metal, and pouch food containers were held in the OPS meal tray by a friction fit in either the rubber tabs or the cutouts. Stainless steel eating utensils were retained on the tray by a magnet.

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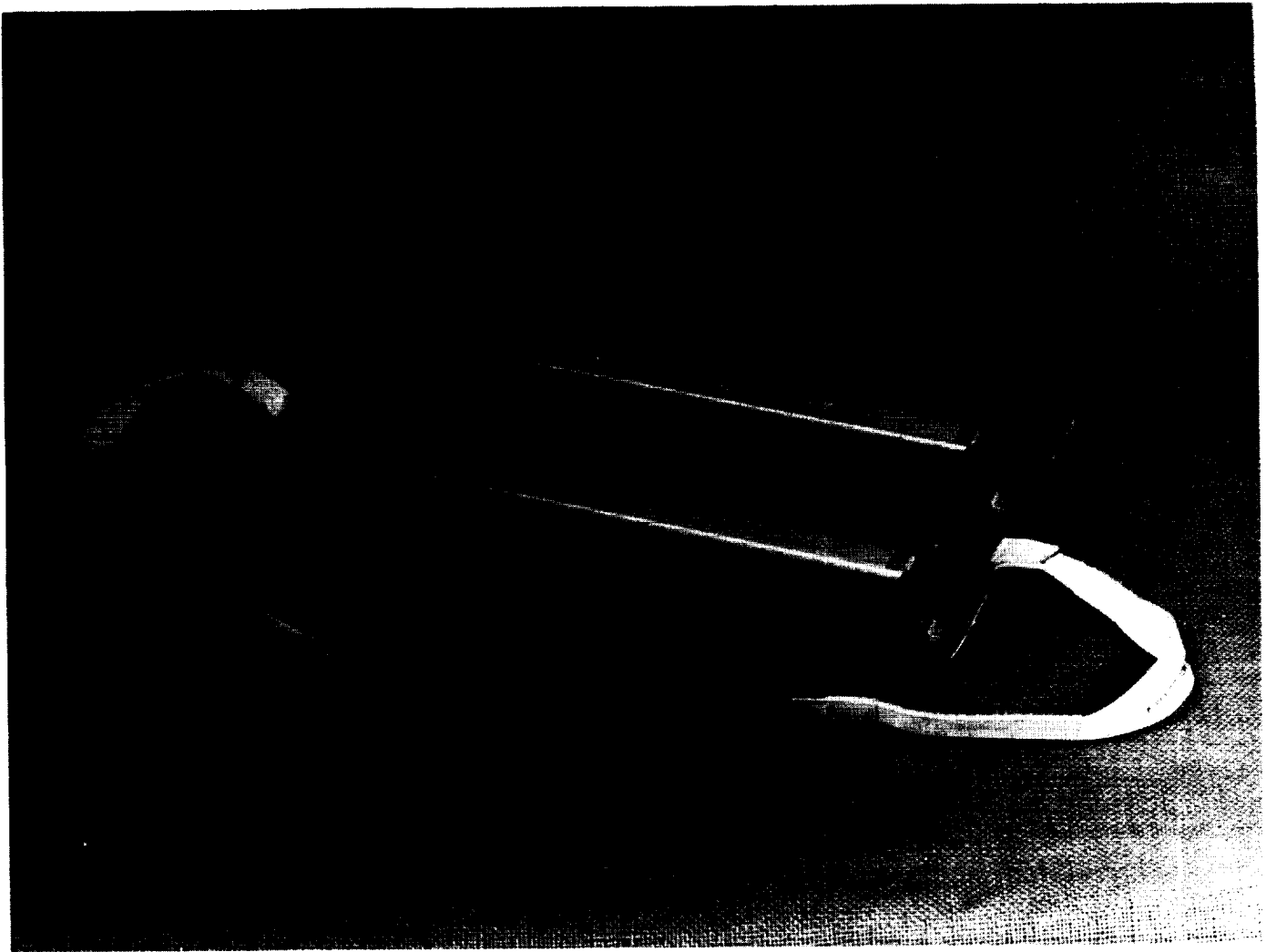


Figure 32.- Two Velcro® straps attached to the bottom of the OPS meal tray provided the capability of restraining the food tray to the crewmember's leg while dining.

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Figure 33.- Astronaut Sally Ride eats from a meal tray attached to the ceiling of the Orbiter during STS-7. Astronaut Ride floated unrestrained near her meal tray while she ate.



Figure 34.- Meal trays were stowed in a middeck locker with the food warmer on nongalley flights. In this illustration, Astronaut Sally Ride demonstrates that the food warmer has already been removed from the stowage locker and attached to the ceiling where it was used during the mission.



Figure 35.- Wash 'n Dri[®] wipes are shown in their flight dispenser.

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Figure 36.- Following a meal, food containers were discarded into large, plastic, trash bags and placed in the trash compartment located below the middeck floor. Astronaut Jack Lousma is shown with the filled trash bags.

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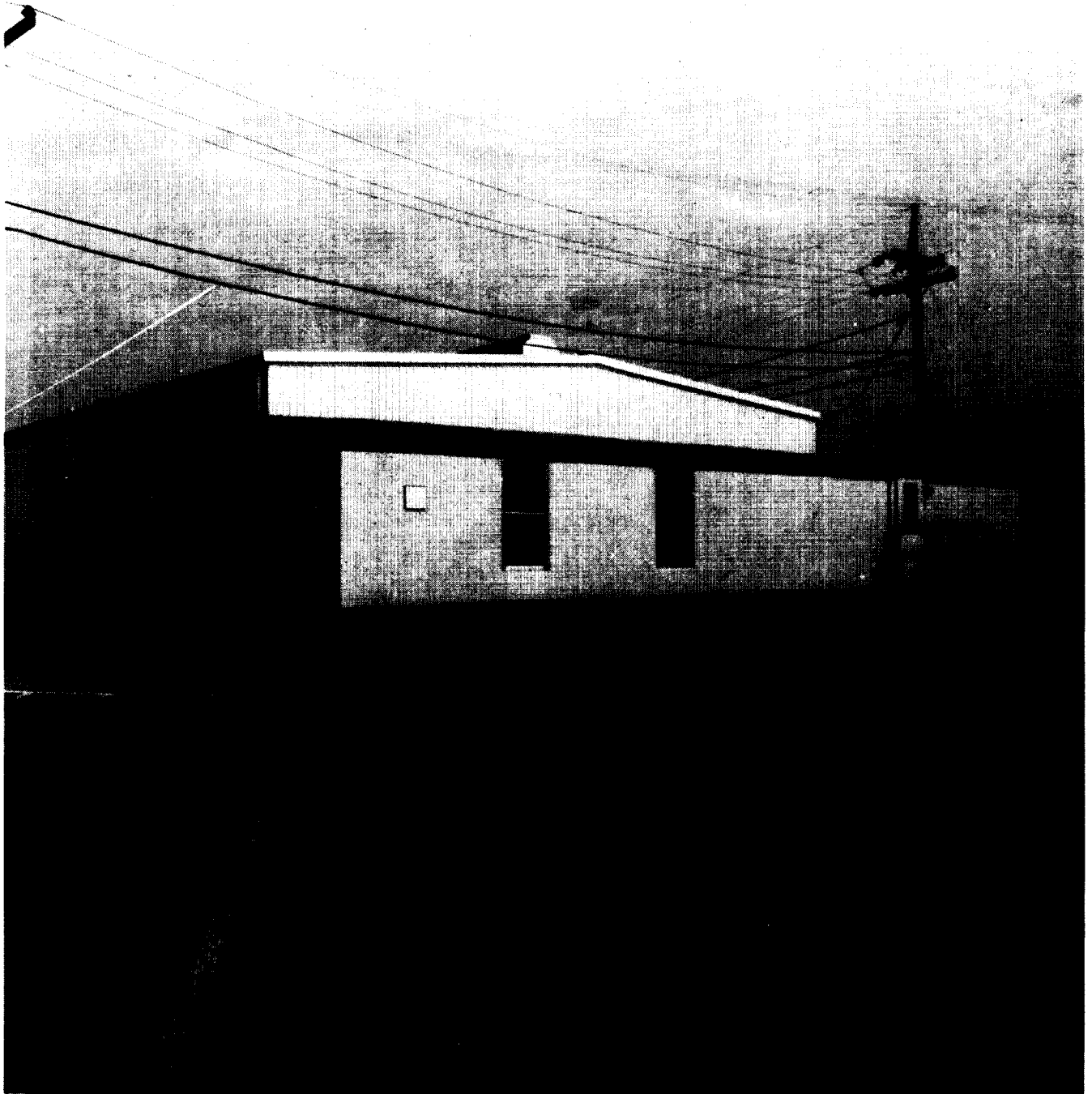


Figure 37.- Meals were prepared and served for each crew in a mobile home at JSC beginning 1 week before their scheduled launch when the isolation period for the health stabilization program went into effect.

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Figure 38.- The kitchen in the HSP mobile home used for preflight food service was equipped with a larger-size refrigerator than the standard mobile-home refrigerator and a portable dishwasher plus two long tables for extra counter space.

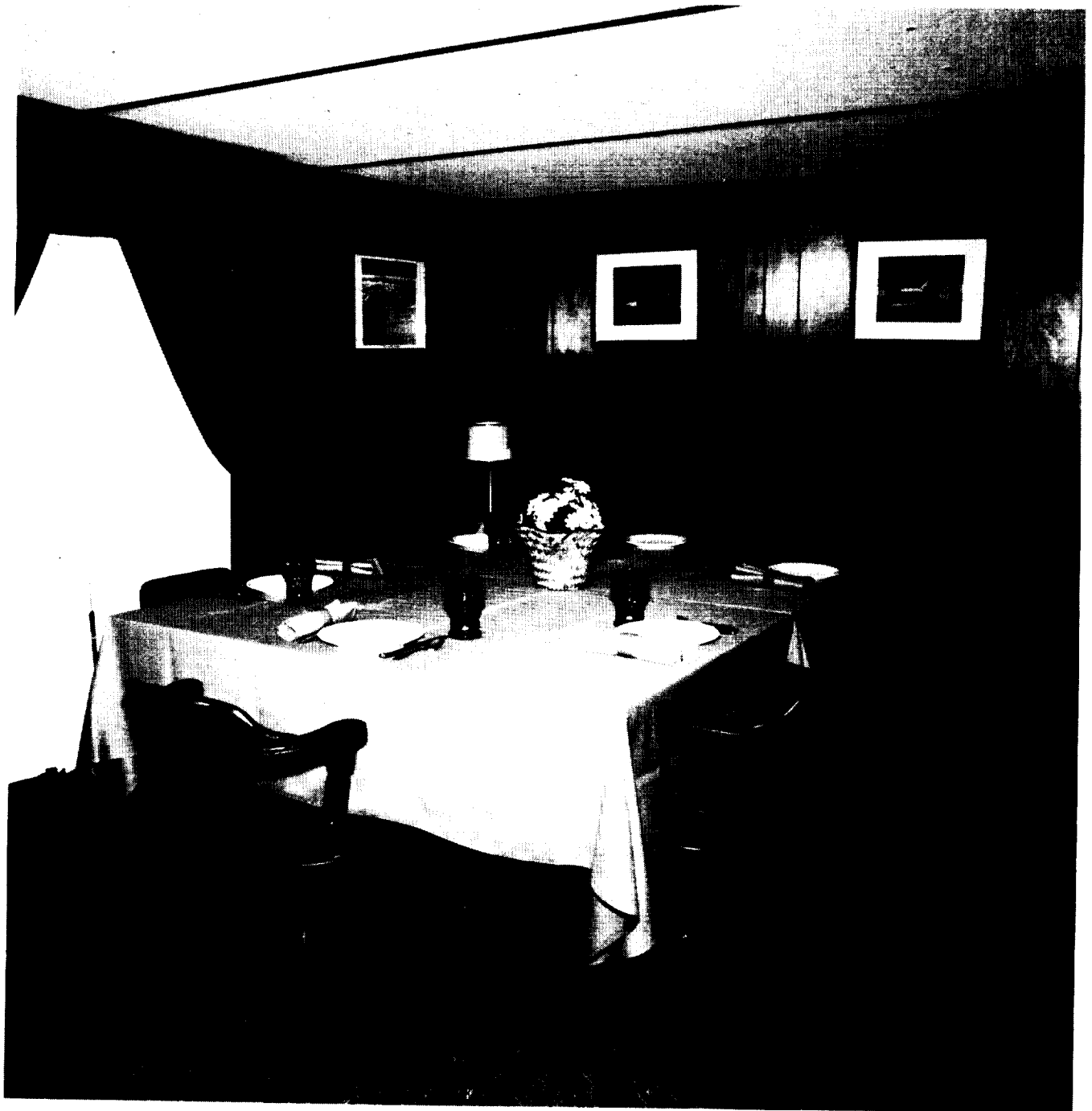


Figure 39.- The crew dining area was located adjacent to the kitchen in the HSP, food-service, mobile home at JSC and could comfortably accommodate eight people for a meal. Eventually, the rear wall of the dining room was removed, expanding the dining area to include the adjoining bedroom so larger groups could be accommodated.

APPENDIX 1
HIGHLIGHTS OF SPACE SHUTTLE FLIGHTS

Flight	Mission Highlights
STS-1 Columbia April 12-14, 1981	<p>First use of solid rockets on a manned vehicle Safe ascent into orbit Changed orbit during flight Checked out all systems Opened and closed cargo bay doors Carried the DFI (DFI) package which contained strain sensors and measuring devices to report on spacecraft performance and the stresses encountered during launch, flight and landing First airplane-like landing of a craft from orbit at Edwards Air Force Base(EAFB)</p>
STS-2 Columbia November 12-14, 1981	<p>First space vehicle to be used more than once One of three fuel cells that convert hydrogen and oxygen into electrical power for the spacecraft and drinking water for the crew malfunctioned shortening the mission from 5 to 2 days First test in space of a Canadian-built Remote Manipulator Arm (Canadarm) Carried the DFI package of special sensors to report on the performance of the spacecraft and its various systems Payload from the Office of Space and Terrestrial Applications (OSTA-1) at NASA</p>
STS-3 Columbia March 22-29, 1981	<p>Thermal tested Columbia Used the Canadarm to grasp and move the Plasma Diagnostics Package Experiment around outside and inside the cargo bay Carried the first Shuttle Student Involvement Project (SSIP) to find out how flying insects behave in a nearly gravity-free environment Flew a Spacelab pallet-mounted set of experiments called OSS-1 for the Office of Space Science and Applications at NASA Carried a Continuous Flow Electrophoresis System to investigate (CFES) to investigate separation of biological components Monodisperse Latex Reactor experiment to produce micron-sized latex particles of uniform diameter The DFI package was flown for the third time Landed at alternate landing site, Northrup Air Strip at White Sands, New Mexico</p>
STS-4 Columbia June 27- July 4, 1982	<p>Classified Air Force payload in the cargo bay First Getaway Special, a series of nine experiments prepared by students from Utah State University Carried the first experiment by a commercial firm, an engineering test of a second and larger Continuous Flow Electrophoresis System (CFES) designed by McDonnell Douglas Astronautics Co., St. Louis, Missouri Monodisperse Latex Reactor experiment</p>

Flight	Mission Highlights
STS-4 (con't)	Cloud-top lightning survey using hand-held cameras. Collected medical data on themselves for two student experiments Operated the Canadarm to move an Induced Environmental Contamination Monitor around the orbiter in space to gather data on any gases or particles being released by the orbiter Space Transportation System (STS) certified as a fully opera- tional carrier
STS-5	First operational flight Four astronaut crew
Columbia	Deployed two commercial communications satellites, Telesat-E and SBS-C Three SSIP experiments were conducted for student experimenters Monodisperse Latex Reactor test West German Getaway Special
STS-6	First Challenger flight Tracking and Data Relay (TDRS-1) satellite Two Mission Specialists completed planned spacewalks using new spacesuits Three Getaway Specials

September 30, 1987

APPENDIX 2
SPACE SHUTTLE FOOD VENDORS AND PRODUCTS

<u>VENDOR</u>	<u>PRODUCT</u>
Armanino Marketing Corporation 1945 Carroll Avenue San Francisco, CA 94124	San Francisco Seasoning (R) (ingredient in Seasoned Scrambled Eggs) Verdura Mexicana Mix (R) (ingredient in Mexican Scrambled Eggs)
Baltimore Spice Company P. O. Box 5858 Baltimore, MD 21208	Pepper, Liquid Black (NF)
Beatrice Hunt-Wesson Foods, Inc. 1225 North Loop West Houston, TX 77008	Lemon Pudding(T)
Borden, Inc. Industrial Products P.O. Box 5858 Baltimore, MD 21208	Lemonade w/Nutra Sweet(B) Tropical Punch w/Nutra Sweet(B) Wild Cherry w/Nutra Sweet(B) Wild Grape w/Nutra Sweet(B)
California Almond Growers Exchange P. O. Box 1768 Sacramento, CA 95808	Almonds, Smokehouse (NF)
Calreco, Inc. Research and Development 8015 Van Nuys Boulevard Van Nuys, CA 95808	Apple Drink(B)
Carnation Company 5045 Wilshire Blvd. Los Angeles, CA 90036	Chocolate Instant Breakfast (B) Non-fat Dry Milk (B) Strawberry Instant Breakfast (B) Vanilla Instant Breakfast (B)
Continental Mills Inc. Kent, WA 98032	Apple Cider (B) Apple Cider w/A/S (B)
Crystals International Inc. 1111 W. Haines Street Plant City, FL 33566	Orange Juice (B)
Del Monte Corporation Research Center 205 North Wiget Lane Walnut Creek, CA 94598	Applesauce (T) Banana Pudding (T) Butterscotch Pudding (T) Chocolate Pudding (T) Diced Pineapple (T) Diced Peaches (T) Diced Pears (T) Mixed Fruit (T) Tapioca Pudding (T) Vanilla Pudding (T)

(R) Rehydratable
(NF) Natural Form

(B) Rehydratable Beverage

(T) Thermostabilized

September 30, 1987

<u>VENDOR</u>	<u>PRODUCT</u>
Del Monte Corporation P.O. Box 3573 San Francisco, CA 94119	Dried Apricots (IM) Dried Peaches (IM) Dried Pears (IM)
Flavorite Laboratories, Inc. P. O. Box 1315 Memphis, TN 38101	Sweet n' Sour Sauce (R) (ingredient in Sweet-n-Sour Chicken) Teriyaki Sauce (R) (ingredient in Teriyaki Chicken)
General Foods Corporation Beverage & Breakfast Food Division 250 North Street White Plains, NY 10625	Citrus Blend Drink (B) Grape Drink (B) Grapefruit Drink (B) Orange Drink (B) Orange-Mango Drink (B) Orange-Pineapple Drink (B) Peach Drink (B) Peach-Apricot Drink (B) Pineapple Drink (B) Strawberry Drink (B) Sugar Free Orange Drink (B) Tropical Punch (B) Sanka (B)
General Foods Corporation Birds Eye Division 250 North Street White Plains, NY 10625	Green Beans & Broccoli(Z) Mixed Italian Vegetables(Z)
General Foods Corporation Technical Center Cranbury, NJ 08512	Green Beans w/Mushrooms(Z)
General Mills 9200 Wayzata Minneapolis, MN 55440	Granola Bar, Oats 'n Honey(NF)
The Gordon Company, Inc. 4800 W. 34th, Suite B-3 Houston, TX 77092	Tuna (T)
Kahn's & Company 3241 Spring Grove Cincinnati, OH 45225	Dried Beef (IM)

(IM) Intermediate Moisture (B) Rehydratable Beverage (NF) Natural Form
(R) Rehydratable (Z) Frozen (T) Thermostabilized

September 30, 1987

<u>VENDOR</u>	<u>PRODUCT</u>
Kitchens of Sara Lee 500 Waukegan Road Deerfield, IL 60015	Breakfast Roll (Z) (Cinnamon-Raisin Danish)
Kona Farmers Cooperative P.O. Box 309 Captain Cook, HA 96704	Macadamia Nuts (NF)
Kraft Foods Service 10 S. Trade Center Parkway Conroe, TX 77302	Mayonnaise (NF) Mustard (NF) Mexican Pepper Sauce (NF) Tomato Ketchup (NF)
McIlhenny Company Avery Island, LA 70513	Tabasco Sauce (T)
M & M Mars Division of Mars, Inc. Hackettstown, NJ 07840	M & M Peanuts (NF) M & M Plain (NF) M & M Royals (NF)
Mid-America Farms P. O. Box 1837 S.S.S. Springfield, MO 65805	Dehydrated Cheddar Sauce (R) Dehydrated Cheese Product (R) (ingredients in Scrambled Eggs)
L. J. Minor Corporation Cleveland, OH 44115	Chicken Style Consomme(R) Mushroom Base(R) Vegetarian Consomme(R)
Morrow's Nut House 1112 Baybrook Mall Friendswood, TX 77546	Trail Mix (IM)
Nabisco Inc. 6803 Almeda Road Houston, TX 77001	Granam Crackers(NF) Shortbread Cookies(NF)
Nabisco Inc. Planters Division 200 Johnson Avenue Suffolk, Virginia 23434	Dry Roasted Peanuts(NF) Whole Cashews(NF)
Nestles Company, Inc. 100 Bloomingdale Road White Plains, NY 10605	Coffee (B) Tea (B) Tea w/Artificial Sweetener (B)
(IM) Intermediate Moisture (Z) Frozen	(NF) Natural Form (R) Rehydratable (T) Thermostabilized

September 30, 1987

<u>VENDOR</u>	<u>PRODUCT</u>
Nestles Company, Inc. 100 Bloomingdale Road White Plains, NY 10605	Tea w/Lemon (B) Tea w/Lemon & Artificial Sweetener(B) Tea w/Lemon & Sugar (B)
Oregon Freeze Dry Foods, Inc. 770 W. 29th Street P. O. Box 1048 Albany, OR 97321	Beef Almondine (R) Beef Stroganoff w/Noodles (R) Chili Mac w/Beef (R) Granola w/Blueberries (R) Gulf Shrimp (R) Macaroni & Cheese (R) Noodles & Chicken (R) Rice & Chicken (R) Shrimp Cocktail (R) Shrimp Cocktail Sauce (R) Shrimp Creole (R) Spaghetti & Meat w/Sauce (R) Strawberries (R) Turkey Tetrazzini (R)
Pecan Producers International P.O. Box 1301 Corsicana, TX 75110	Shelled Pecans (NF) (ingredient in Peach Ambrosia)
Rubschlagler Baking Corporation 3220 West Grand Avenue Chicago, IL 60651	Pumpnickle Bread, Cocktail Loaf(NF) Raisin Pumpnickle Bread, Individual Packages(NF) Rye Bread, Cocktail Loaf(NF) Rye Bread, Individual Packages(NF) Whole Wheat Bread, Individual Package
Superior Coffee Company 99-910 Iwaena Street Aiea, Hawaii 96701	Royal Kona Freeze Dried Coffee (B)
U.S. Army Natick Research, Development and Engineering Center Natick, MA 01760	Beef & Gravy (T) Beef, Ground w/Spiced Sauce(T) Beef Pattie (R) Beef Slices w/BBQ Sauce (T) Brownie (NF) Cheddar Cheese Spread (T) Chicken a la King (T) Chocolate Covered Cookie (NF) Cocoa (B) Frankfurters (T) Fruitcake (T)

(B) Rehydratable Beverage (R) Rehydratable Food (NF) Natural Form

September 30, 1987

<u>VENDOR</u>	<u>PRODUCT</u>
U.S. Army Natick (Con't) Research, Development and Engineering Center Natick, MA 01760	Ham (T) Jelly (T) Meatballs w/BBQ Sauce (T) Peanut Butter (T) Potato Patties (R) Sausage Pattie (R) Soda Cracker (NF) Strawberries (R) Turkey & Gravy (T)
Washington Fish and Oyster Company P. O. Box 70739 Seattle, WA 98107	Salmon (T)
Local Stores, Miscellaneous	Apples, Red Delicious (NF) Apples, Granny Smith (NF) *Asparagus, Fresh (NF) Bananas (NF) **Beef Steak (Blue Ribbon) (NF)(I) Beef Sticks (Frenches) (NF) Bran Flakes (Kellogg's) (R) Bread, Cracked Wheat (Pepperidge Farm)(NF) Bread, Seedless Rye (Pepperidge Farm)(NF) Bread, White (NF)(Pepperidge Farm) Bread, Whole Wheat (Pepperidge Farm)(NF) *Broccoli au Gratin (Stouffer) (Z) Butter (Land O Lakes)(NF) Butter Cookies (Pepperidge Farm) (NF) Butterbuds (Cumberland Packing Corp.) (NF) Candy, Life Savers (Life Savers) (NF) Carrots, Fresh (NF) *Cauliflower w/Cheese (Stouffer) (Z) Celery, Fresh (NF) Cheddar Cheese, Cracker Barrel (NF) Chewing Gum (Trident) (NF) Chewing Gum (Dentyne) (NF) Chicken Salad Spread (Carnation) (T) Coffee Creamer (Carnation) (NF) *Corn, Green Beans & Pasta (Birds Eye) (Z) Cornflakes, Sugar Coated (Kellogg's) (R) Dipps, Chocolate Chip, Mint Choc Chip(NF) (Quaker Oats Co.) Fruit Rolls, Assorted Flavors(Flavor Tree(IM)

(T) Thermostabilized (R) Rehydratable (NF) Natural Form
*Frozen items processed and freeze dried for flight by FEPC/Boeing, Houston, TX
**Government Furnished Product

APPENDIX 3
REHYDRATABLE BEVERAGES FLOWN IN SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Apple Drink	4	8	8	8	16	16	20	20	42	35	25	16	14	24	21	24	24	2	1	28	17	14	14	21	16	435	
Cherry Drink w/A/S											11					6		2								4	24
Citrus Drink																											34
Cocoa	4	6	10	10	12	20	25	25	18	15	15	6	15	15	20	7	12	17	31	17	12	7	22	8	17	366	
Coffee											16			14	19	2				2	25	8	18			102	
Coffee w/A/S																21		7									7
Coffee w/Cream																											33
Coffee w/Cream & A/S																											8
Coffee w/Cream & Sugar																											44
Coffee w/Sugar																											16
Coffee, Kona, Black																											60
Coffee, Kona w/Crm & A/S																											7
Coffee, Kona w/Crm & Sug																											16
Decaffeinated Coffee																											2
Decaf Coffee w/Crm & A/S																											7
Decaf Coffee w/Crm & Sug																											2
Decaf Coffee w/Sugar																											7
Grape Drink	2	4	4	4	8	8	10	10	12	10	5	9	4	5	8	6				4	5	1	1	4	5	9	
Grape Drink w/A/S																											14
Grapefruit Drink	2	4	4	4	4	4	5	5	6	5	5	11	7	20	10	3	6	5	5	7	22	10	33	7	3	129	
Instant Breakfast, Choc	2	4	4	4	8	8	10	10	6	5	5	9	1	5	2	5				1	8	5	4	5	4	199	
Instant Breakfast, Straw																											4
Instant Brkfst, Vanilla	4	4	4	4	4	4	5	5	12	10	5	4	2	10	2	4	12	5	10	3	4					4	
Lemonade	4	10	10	10	12	16	25	25	36	25	25	16	20	35	35	7	18	26	30	55	18	30	23	22	18	112	
Lemonade w/A/S																											551
Lemon-Lime Drink																											34
Milk																											85
Orange Drink	2	2	2	2	4	4	5	5	18	10	10	5	6	15	2	2	8	5	7	8	6	17	6	2	2	2	
Orange Drink w/A/S																											149
Orange Drink Mix																											12
Orange Juice Mix																											35
																											11
																											13
																											24
																											176

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Orange-Grapefruit Drnk	2	4	4	4	8	8	10	10	12	10	10	4	11	15	13	6	12	7	21	9	11	8	6	5	4	214
Orange-Mango Drink													24	15	17		16			4	17	14	4	4	4	115
Orange-Pineapple Drink	2	2	4	4	4	8	10	10	12	10	5	8	20	10	14	6	7	4	17	5	10	9	7	8	2	198
Peach Drink												1					1					1		1		4
Peach-Apricot Drink															2	2		1						1	1	7
Pineapple Drink																	1	2				8	2			13
Strawberry Drink	2	4	4	4	8	8	5	5	12	10	10	2	4	8	1	12				8	9	8	2			122
Tea												9	16	3			8	7		7		19	1	8		78
Tea w/A/S												5				21			7			15				48
Tea w/Cream																	12									12
Tea w/Lemon												9	16				12		6	3	10	1				22
Tea w/Lemon & A/S													31				6	14	74	6	5	10				16
Tea w/Lemon & Sugar	4	4	8	8	8	8	20	20	30	25	20	7	26	25	17	3	5	7	15	15	14	10	10	4		313
Tea w/Sugar												3											1	5		9
Tea, Lapsang Souchong w/Cream & A/S																										2
Tea, Silver Jasmine																										9
Tropical Punch	2	2	4	4	4	4	10	10	6	5	5	2	2	5	3	3	6	2	1	4	8	1	7	2		102
Tropical Punch w/A/S												8				6	5	2	1			1	1	1	1	24
Total	26	54	70	70	100	112	160	160	234	185	155	200	285	185	241	188	180	233	236	201	159	258	241	172	208	4313

A/S - Artificial Sweetener

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Orange Juice Mix							16	15	8	5	5	6	20	5	14	5	7	7	7	7	5	12	12			149	
Orange-Mango Drink										5	5	3	25	9	21	10	7	6			10	12	12		7	10	142
Orange-Pineapple Drink				4	2					5	5				3	3										22	
Peach Drink										5	5															10	
Peach-Apricot Drink										5	5		7	5	7	3	4					5	8			39	
Strawberry Drink																										35	
Tea Bag (Earl Gray)				10	3	10	4	8							7		10									7	
Tea Bag (Earl Gray) w/A/S																										10	
Tea Bag (Early Riser)																										5	
Tea Bag (Formosa Oolong)																										12	
Tea Bag (Lapsang Souchong)																										12	
Tea, Instant	10						4	10	10	14	5	15	12	7	7	5	5	7		5	5	8	7	14	7	167	
Tea w/A/S							15	20			5	12								7	5	5		7		71	
Tea w/Lemon																										5	
Tea w/Lemon & A/S																										12	
Tea w/Lemon & Sugar																										63	
Tea w/Sugar																										92	
Tropical Punch																										82	
Tropical Punch w/A/S																										5	
Total	60	60	60	80	116	100	154	158	136	145	120	162	166	145	154	170	143	146	136	150	133	160	124	124	143	3245	

A/S - Artificial Sweetener
C - Cream

APPENDIX 5
REHYDRATABLE FOOD FLOWN IN SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	STS																										SUM
	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L		
Asparagus	2	4	4	4	8	8	5	5	12	10	5	8	12	10	7	3	7	8	18	10	4	8	5	5	3	1	175
Beef Almondine																											3
Beef Patty	2	3	2	4	4	4	5	5	18	15	15	9	13	15	24	15	6	14	10	14	12	16	15	5	8	249	
Beef Stroganoff																											4
Bran Flakes	2	2	2	4	4	4	5	5	6	5	5	11	6	5	5	1	7	1	3	10	4	3	3	4	2	92	
Broccoli au Gratin	4	4	4	8	8	10	10	6	6	4	9	5	7	6	14	7	14	7	5	4	9	10	2	8	146		
Cauliflower w/Cheese	2	4	4	4	8	10	10	6	6	5	5	4	11	5	8	4	7	5	7	5	4	7	8	4	4	143	
Chicken Consomme																										2	
Chicken, Sweet'n Sour																										20	
Chicken, Teriyaki																										6	
Chili Mac w/Beef																										2	
Cornflakes	2	4	4	4	8	10	10	6	6	5	5	4	12	5	9	2	6	1	13	3	5	3	1	3	1	123	
Corn, Green Beans & Pasta																										2	
Eggs, Scrambled	4	9	6	8	8	12	15	15	6	5	5	14	14	5	18	5	6	11	13	2	3	11	2	2	2	26	
Eggs, Seasoned Scrambled																										8	
Eggs, Mexican Scrambled																										181	
Granola Cereal	4	4	4	8	8	10	10	12	10	5	1	6	10	4	3	10	2	9	6	4	3	4	6	6	6	151	
Granola w/Blueberries	2	4	4	4	4	5	5	6	5	5	6	8	5	7	7	1	10	18	6	4	6	3	4	7	84		
Granola w/Raisins																										4	
Green Beans & Broccoli	2	4	4	4	4	10	10	6	5	5	6	7	5	7	5	6	3	8	4	5	7	4	9	7	141		
Green Beans w/Mushrooms	2	4	4	4	8	10	10	18	10	5	7	14	10	14	12	9	9	12	10	10	16	14	7	8	229		
Grits w/Butter																										20	
Italian Vegetables	2	4	4	4	4	10	10	6	5	5	7	10	5	7	4	5	6	6	7	5	5	6	6	7	8	144	
Macaroni and Cheese	2	2	2	4	4	4	5	5	6	5	6	7	5	3	8	3	8	3	3	5	3	9	3	3	1	91	
Mushroom Soup	2	4	4	4	4	4	4	4	2	2	1	2	2	3	1	3	1	3	3	3	1	3	1	3	1	37	
Noodles and Chicken	2	4	4	4	4	4	5	5	5	5	1	2	2	2	1	2	2	2	2	5	1	5	2	2	2	43	
Oatmeal w/Raisins																										13	
Oatmeal w/Brown Sugar																										7	
Peach Ambrosia	2	2	2	4	4	4	5	5	6	5	8	8	5	10	6	2	1	22	16	3	5	11	4	2	2	138	
Peas w/Butter	2	3	2	4	4	4	5	5	6	5	8	8	5	10	6	6	1	22	16	3	5	11	4	2	2	11	

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Potatoes au Gratin									12	5	5	10	9	5	7	8	7	6	14	5	4	10	11	4	11	133
Potato Patty			3				10	10	12	10	10	5	11	10	12	10	7	7	7	10	12	13	12	8	9	188
Rice & Chicken							12	10	12	10	4	4	4	4	4	4	7	6	15	8	5	5	14	4	9	130
Rice Krispies																										
Rice Pilaf	2	4	7	4	8	8	10	10	6	5	5	15	8	5	8	5	7	11	12	5	6	7	9	10	9	186
Sausage Patty	2	2	4	4	4	8	10	10	12	10	5	21	16	10	12	9	6	10	18	10	8	20	12	17	14	254
Shrimp Cocktail	2	4	5	4	8	8	10	10	6	5	21	10	5	8	15	1	25	14	12	5	33	10	16	15	252	
Shrimp Creole											3															
Spaghetti w/Meat Sce																2	1	9	6		1	2				12
Spinach, Creamed																	1	3	3	1	2	5	2	2	2	22
Strawberries	2	2	6	4	4	4	6	5	5	5	9	19	5	7	4	11	17	9	5	5	11	15	11	6	172	
Turkey Tetrazzini	2	4	5	4	8	8	10	10	6	5	5	1	5	5	6	5	7	6	1	5	5	7	3	4	4	131
Total	30	58	95	80	116	132	170	170	222	170	115	196	260	175	225	179	137	263	280	188	146	307	228	187	197	4326

APPENDIX 6
REHYDRATABLE FOOD FLOWN IN SPACE SHUTTLE PANTRIES STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Asparagus	3	2																								5
Beef Almondine																										2
Beef Patty	2	2	2	2	4	4	2	2	3	2																30
Beef Stroganoff																										16
Bran Flakes					2				10																	12
Broccoli au Gratin																										31
Brown Rice																										8
Chicken Consomme																										90
Chicken & Rice Soup																										96
Chicken, Sweet 'n Sour	4	2	4	4	4	4	3																			25
Chicken Teriyaki																										22
Cornflakes																										6
Corn, Green Beans & Pasta																										31
Eggs, Scrambled	2	2	4	4																						12
Granola w/Blueberries																										3
Green Beans w/Broccoli	3	2																								5
Green Beans w/Mushrooms	2	2																								74
Grits w/Butter																										8
Italian Vegetables	2	2																								17
Mushroom Soup																										92
Oatmeal w/Raisins																										7
Peach Ambrosia	3	2																								36
Peas w/Butter Sauce																										4
Potatoes au Gratin	2	2	2	4	4																					14
Rice Pillar																										17
Sausage Patty	2	2																								21
Shrimp Cocktail																										16
Shrimp Creole																										115
Spaghetti w/Meat Sauce																										4
Spinach Creamed																										46
Strawberries	2	4	4	4	4	5	5	5	5	5	5	5	5	4	7	3	4	7	7	7	7	7	7	7	7	68
Turkey Tetrazzini																										27
Total	15	18	16	22	39	36	32	25	30	25	30	34	45	35	49	36	52	56	56	47	47	68	70	35	44	962

APPENDIX 7
SQUARE REHYDRATABLE-FOOD AND BEVERAGE PACKAGES FLOWN ON THE SPACE SHUTTLE
STS-1 THROUGH STS 51-L

	STS 3*	STS 4*	STS 5	STS 6	STS 7	STS 8	STS 9	STS 41B	STS 41C	STS 41D	STS 41G	STS 51A	STS 51B	STS 51C	STS 51D	STS 51F	STS 51G	STS 51I	STS 51J	STS 61A	STS 61B	STS 61C	STS 51L	SUM	
Beverages Menu	2	6	100	112	160	160	234	185	155	200	285	185	241	188	180	233	236	201	159	258	241	172	208	4101	
Beverages Pantry		16	116	100	154	158	136	145	120	162	166	145	154	170	143	146	136	150	133	160	124	124	143	3001	
Rehydratable Food Menu	6	18	116	132	170	170	222	170	115	196	260	175	225	183	137	263	280	188	146	307	228	187	197	4091	
Rehydratable Food Pantry		39	36	32	25	30	30	25	30	34	45	32	49	36	52	56	56	47	47	68	70	35	44	888	
Water Containers		4	16	30	25	35	20	25	12	14	15	21	10	14	21	21	15	20	24	28	28	28	28	426	
Re-Entry Beverages	-	30	16	20	20	24	20	20	24	28	20	28	20	28	28	28	26	20	20	32	28	28	28	508	
Total	8	40	405	412	566	558	681	565	465	628	798	572	718	607	554	747	755	621	525	849	719	574	648	13015	
Beverage & Water Containers																								61.7%	
Food Containers																									38.3*

*Test Meals

APPENDIX 8
 NATURAL-FORM FOOD FLOW IN SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Almond Crunch Bar	2	4	4	4	8	8																				30
Almonds	2	4	4	4	4	4	4	5	5	6	5	5	14	7	5	7	4	14								124
Bananas(FD)	2	4	4	4	8																					22
Brownies																										82
Butter Cookies	1									6	5	5	1	7	5	6	2	8	3	14	4	5	11			148
Candy Coated Chocolates										12	5	5	6	7	5	9	5	7	12	15	5	4	13	18	12	7
Candy Coated Mints																										8
Candy Coated Peanuts																										10
Cashews	2	2	7	4	4	4	4	10	10	6	5	5	11	18	5	10	5	7	18							18
Choc Covered Cookies										6	5	3	6	5	7	2		6	2	2	9	6	15	8		164
Graham Crackers																										90
Granola Bar																										3
Macadamia Nuts																										3
Peanuts, Dry Roasted	2	4	4	4	8	8	10	10	6	5	5	11	19	5	8	3	7	4								78
Pears(FD)	2	4	4	4	4																					39
Pecan Cookies	2	2	6	4	4	8	10	10	12	10	5	3	13	10	6	4	6	12	14							149
Shortbread Cookies	2	2	4	4	4	4	4	5	5	6	5	3	6	5	7	3	20	10								150
Soda Crackers																										13
Total	12	22	38	32	44	36	50	50	60	45	35	59	88	45	62	51	60	95	54	46	49	60	94	50	52	1289

FD - Freeze dried, not rehydrated for consumption

APPENDIX 9
 NATURAL-FORM FOOD FLOWN IN SPACE SHUTTLE PANTRIES STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Almonds	2	4	2	3	7	8	15	10	8	6	10	15	10	10	10	10	10	21	14	10	10	12	7	7	7	228
Bananas(FD) 2																										2
Brownies																										7
Butter Cookies	3	3	5	4	5	5	5	6	7	7	16	10	5	14	10	10			33	10	10	8	7	7	7	192
Candy Coated Chocolates	4	3	4	4	10	10	8	4	5		17	10	10	10	7	14	25	10	10	8	10	7	7	7	7	197
Candy Coated Choc Mints					10	10	8	4	4	4	6	14	20	7	5	7										120
Candy Coated Peanuts	2	4	2	3	6	8	15	10	8	6	10	15	13	10	10	15	10	21	26	10	15	12	10	7	14	170
Cashews	2	4	2	3	6	8	15	10	8	6	10	15	13	10	10	15	10	21	26	10	15	12	10	7	14	262
Chocolate Chip Bar	5	2				4																				11
Chocolate Covered Cookies																										11
Graham Crackers	3	4	4	4	5	5	5	6	5	3	3	6							23							57
Granola Bar	4	4	4	4	5	5	10	4	6	7	5	14	5	7	14	14	10	10	8	14	6	7	7	7	48	
Granola/Raisin Bar	4	4	5	4	5	5	5	5	10	4	6	7	5	14	5	7	14	14	10	10	8	14	6	7	7	155
Macadamia Nuts																										27
Peanut Butter Granola Bar																										141
Peanuts, Dry Roasted	4	4	2	7	6	2	15	10	8	5	5	15	13	10	10	3	10									8
Pears(FD) 2																										2
Pecan Cookies	3	2	5	4	5	5	5	5	2																	81
Shortbread Cookies	4	4	5	4	5	5	5	6	5	4																123
Soda Crackers	4	4	4	3	4	4	15	10	12	5	12	28	20	21	10	7	14	14	10	5	16	7	7	7	7	236
Total	24	24	30	29	54	46	110	95	80	68	106	129	100	120	102	98	140	212	100	114	96	106	66	126	2243	

FD - Freeze dried, not rehydrated for consumption

APPENDIX 10
THERMOSTABILIZED FOOD FLOWN IN SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Applesauce	2	4	4	4	8	8	10	10	6	5	5	8	7	5	4	8	10	9	5	7	5	6	7	11	8	161	
Beef w/BBQ Sauce	2	2	4	4	4	8	10	10	12	5	5	5	9	5	7	4	7	4	13	6	5	5	5	2	5	148	
Beef & Gravy							10	10	6	5	4	5	5	5	5	7	4	4		3	5	4	5	1	1	80	
Beef, Grd w/Spice Sce	2	4	4	4	4	4	5	5	6	5	5	7	5	5	5	3	2	5	4	4	4	3	1	3	4	95	
Cheddar Cheese Spread	2	2	4	4	4	4	10	10	6	5	5	2	5	5	6	5	7	8	3	4	2	2	4	4	4	113	
Chicken ala King		2							12	10	5	7	10	10	5	4	6	2	12	4	5	6	6	3	6	115	
Chicken Salad Spread									6	3	5	5	9	5	5	6	1	4	1	5	6	4	2	5	2	69	
Frankfurters	2	4	4	4	8	8	10	10	6	5	5	3	3	5	6	4	5	1	1	1	1	2	7	4	2	107	
Fruitcake									6	5	5	3	2	5	6	4	6	5	3	3	4	4	1	3	3	67	
Fruit Cocktail	2	4	4	4	8	8	10	10	6	5	5	11	4	5	7	9	7	4	14	5	5	7	5	11	6	166	
Ham, Sliced	2	4	4	4	4	4	7	10	18	15	10	7	15	15	13	11	14	20	11	3	7	3	7	3	10	225	
Ham Salad Spread												3	1			2				3		2	5	1	1	18	
Meatballs w/BBQ Sauce		2							6	5	5	3	8	5	6	3	7	4	6	7	4	7	1	6	5	90	
Peaches, Diced	2	3	2	4	4	4			12	10	5	5	6	10	11	10	7	7	14	14	5	9	5	7	8	160	
Pears, Diced	2	4	4	4	8	8	10	10	18	10	10	6	5	10	15	11	6	5	7	10	10	7	4	7	9	200	
Pineapple	2	2	4	4	4	4	10	10	6	5	5	7	5	5	7	4	7	2	4	4	4	5	1	8	7	122	
Pudding, Banana																											
Pudding, Butterscotch	2	4	4	4	8	8	10	10	12	5	5	2	4	5	6	7	5	5	10	15	5	2	5	4	5	152	
Pudding, Chocolate	2	2	2	4	4	4			18	10	10	22	6	15	12	7	10	5	12	20	9	15	6	14	11	216	
Pudding, Lemon	2	2	4	4	4	4	8	10	6	5	5	8	2	5	8	3		5	5	3	5	5	4		6	119	
Pudding, Tapioca																											
Pudding, Vanilla	2	4	4	4	4	4	10	10	12	10	5	5	5	10	11	10	6	9	11	23	10	4	12	3	7	193	
Salmon									12	5	5	5	4	5	8	3	5	3	1	1	1	5	9	3	7	89	
Tomatoes, Stewed	2	4	4	4	4	4																				18	
Tuna, Water Pack	2	2	2	4	4	4	5	5	6	5	5	6	5	5	5	2	1	1	5	1	4	5	4	4	1	3	87
Tuna Salad Spread												3	6	1	1	1	1	1	1	8	1	4	2	4	1	33	
Turkey & Gravy	1						10	10	6	5	5	5	5	5	5	4	7	13	1	5	6	3	9	3	4	112	
Turkey Salad Spread												3	1		1	1	1	3		1	2	2			1	15	
Total	22	42	66	58	84	95	140	140	204	143	115	142	137	150	162	132	126	133	120	160	124	134	106	119	131	2985	

APPENDIX 11
 THERMOSTABILIZED FOOD FLOWN IN SPACE SHUTTLE PANTRIES STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Applesauce						2	4	4																		17	
Beef & Gravy						4																				4	
Beef, Grd w/Spice Sce												3														3	
Chicken Salad Spread									1	2	1	2	2	2	2	1	2	2	2	2	2	2	2	2	2	23	
Frankfurters			2	2	2				4	3	4	3	3	4	4	14	3	4	4	3	4	7	3	3	3	58	
Fruitcake																										21	
Ham Salad Spread									1	3	2	2	2	2	2	2	2	2	3	4	1	2	2	2	2	32	
Ham, Sliced																										47	
Meatballs w/BBQ Sauce													3													23	
Peaches, Diced																										7	
Pudding, Butterscotch																										10	
Pudding, Chocolate																										13	
Pudding, Lemon																										15	
Pudding, Vanilla																										23	
Salmon																										23	
Tuna, Water Pack																										4	
Tuna Salad Spread																										34	
Turkey & Gravy																										35	
Turkey Salad Spread																										8	
Total	10	6	8	10	24	22	23	22	9	10	10	10	16	17	14	16	15	12	22	32	19	8	12	35	13	15	400

APPENDIX 12
 REPORT POUCHES FLOWN IN SPACE SHUTTLE MENUS AND PANTRIES
 STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Beef Steak(I)	6	12	8	8	8	8	4	3	5	5	5	8	17	5	12	9	8	12	13	10	6	13	23	16	12	231	
Beef w/BBQ Sauce	2	2	4	4	4	4	10	10	12	5	5	5	9	5	7	4	7	4	13	6	5	5	2	5	5	152	
Beef and Gravy							10	10	6	5	5	4	5	5	5	7	4	4		3	3	5	4	5	1	1	80
Beef, Grd w/Spice Sce	2	4	4	4	4	4	5	5	6	5	5	10	5	5	5	3	2	5		4	4	4	3	1	3	4	98
Cheddar Cheese Spread	2	2	4	4	4	4	10	10	6	5	5	2	5	5	6	5	7	8		3	4	2	2	4	4	113	
Chicken ala King	2	4	4	4	4	4	10	10	12	10	5	7	10	10	5	4	6	2	12	4	5	6	6	3	6	115	
Corned Beef(I)	6	8	4	4	4	12	7																			41	
Frankfurters	2	4	6	6	10	8	10	15	6	5	7	7	8	10	7	8	5	4		4	4	1	6	14	7	5	165
Fruitcake	2	2	8	8	8	8	9	15	6	5	5	3	2	5	6	4	9	9	14	3	4	4	1	3	3	88	
Ham, Sliced	6	6	8	8	8	8	9	15	18	15	10	7	15	15	17	14	14	24	15	3	7	3	7	3	10	272	
Meatballs w/BBQ Sauce	4	4	2	2	4	2	4	5	6	5	5	6	8	5	6	3	7	4	6	7	4	7	1	6	5	113	
Turkey and Gravy	1	1	6	6	6	8	8	10	6	5	5	11	12	10	8	7	7	13	1	5	6	3	16	3	4	147	
Turkey, Smoked(I)	6	4	6	6	6	8	8	3	4	6	5	5	1	1	1	1	1	7	8	5	6	8	5			104	
Total	30	40	53	46	60	68	82	87	90	75	62	64	96	78	88	67	76	97	86	57	57	64	83	54	59	1719	

# Crew Members	2	2	2	2	4	4	5	5	6	5	5	6	7	5	7	5	7	7	7	5	5	8	7	7	7	132
# Days Planned	2	5	7	7	5	6	6	6	8	8	6	7	8	8	7	7	5	6	7	7	7	7	7	5	6	160
# Days Flown	2	2	8	7	5	5	6	6	9	8	7	6	8	8	7	3	7	7	7	7	4	7	7	5	0	148

APPENDIX 13
INTERMEDATE-MOISTURE FOOD FLOWN IN SPACE SHUTTLE MENUS AND PANTRIES
STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
MENU	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	STS	
Apricots, Dried	2	6	4	4	4	4	5	5	12	10	10	6	14	10	13	6	7	16	12	12	11	10	12	18	8	11	216
Dried Beef	2	4	4	4	8	10	10	6	5	5	2	6	5	9	4	6	17	5	5	8	4	2	3	5	4	2	144
Jam/Jelly	2	2	4	4	4	4	8	10	24	20	15	9	20	19	10	16	16	13	16	15	8	14	3	11	3	11	293
Peaches, Dried	2	2	4	4	4	4	8	10	24	20	15	9	20	19	10	16	16	13	16	15	8	14	3	11	3	11	293
Peanut Butter, Creamy																											
Pears, Dried																											
Trail Mix																											
Total	4	8	14	12	16	24	30	30	66	55	45	37	61	55	100	40	51	69	57	49	44	44	59	60	28	44	1058
PANTRY																											
Apricots, Dried	4	4	2	2	4	4	10	5	12	6	7	7	7	5	10	5	10	14	10	5	5	4	14	4	7	160	
Dried Beef	4	4	4	4	4	4	10	10	7	5	4	4	7	16	14	6	3	14	23	10	10	16	14	7	7	215	
Insuit Food Bar																											
Jelly (Individual)																											
Jelly, Grape (Jar)																											
Jelly, Strawberry (Jar)																											
Peaches, Dried	2	2	2	2	4	4	5	5	12	6	7	7	7	10	10	5	10	14	10	5	5	4	4	4	7	142	
Peanut Butter, Creamy	4	4	2	3	6	4	5	5	10	5	5	1	1	1	1	1	5	1	1	1	1			2	3	13	
Peanut Butter, Crunchy (Jar)																											
Pears, Dried																											
Trail Mix																											
Total	14	14	10	10	11	26	24	40	35	47	58	43	11	25	51	58	30	35	74	55	36	32	42	39	28	34	
Total	14	14	10	10	11	26	24	40	35	47	58	43	11	25	51	58	30	35	74	55	36	32	42	39	28	34	
872																											



APPENDIX 14
FRESH FOOD FLOW IN SPACE SHUTTLE PANTRIES STS-6 THROUGH STS 51-L

FOOD ITEM	STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS																SUM			
	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J		61A	61B	61C
Apples, Granny Smith						4	14		4	1	4	10	11	3	5	7	3	7	9	82
Apples, Red Delicious	8	4	5	18	5	5	8	9	7	13	3	5	5	6	10	5	4	3		123
Bananas	10		4	4	5	4	12		3	12	4	6	14	6	9	6		7	12	118
Beef Jerky, pkg																			2	2
Beef Sticks (Frenches)																42				42
BREAD:																				
Cracked Wheat	1																			1
Cocktail Pumpnickle												1					1			2
Cocktail Rye												1								1
Raisin Pumpnickel												19								19
Individual Pkgs												15								39
Seedless Rye																				9
White																				8
Whole Wheat, Indiv Pkg																				72
Whole Wheat, Loaves	3	3	2	3	1	1	2		4	1	1	1	2	1	1	1	1	1	1	30
Breakfast Rolls(Z)																				234
Butter Thins, Box																				1
Cake, Chocolate																				1
Cake, Pumpkin																				1
Carbonated Beverages																				8
Carrot Sticks (Ziplock Bag)	2	2	2	3	2	3	2	2	2	2	2	2	4	4	2	2	2	2	4	49
Celery Sticks (Ziplock Bag)	1	1	1	1	2	3	1	2	2	2	2	1	4	1	1	1	1	2	2	33
Cheese, Cracker Barrel (2oz)	8	8	8	12	8	8	8	10	10	10	5	10	10	5	5	5	5	5	10	150
Chocolate Chip Dippis																				36
Cranberry Juice (Brik Paks)																				1
Cran Orange Sauce (Packets)																				7
Fiber Crackers																				15

FOOD ITEM	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	SUM
Goldfish Crackers, Plain, 45gm																
Grapefruit																13
Halloween Candy, 2 1/2 lbs																9
Heartly Wheats, Box																1
Jelly Beans (bag)																1
Malted Milk Balls, 5 oz																1
Marshmallows, pkg																1
Mint Chocolate Chip Dippies																1
Nectarines								6								6
Oranges							4									4
Pears							3									4
Raisins							4									4
Pickles, Candied Dill Strips (jar)																54
Pickles, Kosher Dill (pkg)																1
Tortillas, pkg																7
Tostitos Chips, Ziplock Bag																1
Wheat Thins, Ziplock Bag																7
Teacher Experiment: 10 Marshmallows & 2 pkg M&M's in 10" x 10" Ziplock Bags																1
Total																1207

APPENDIX 15
IRRADIATED FOOD FLOWN IN SPACE SHUTTLE MENUS AND PANTRIES
STS-1 THROUGH STS 51-C

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM		
MENU																												
Beef Steak	2	4	4	4	4	8						8	10			5	4	1	12	13	5	1	5	15	9	5	124	
Seedless Rye	12	20	24	24	48																						128	
Breakfast Rolls	2	6	8	8	12	12	15	15																			78	
Corned Beef	2	4	4	4	8	7																					29	
Turkey, Smoked	2	2	4	4	4	4						1	1				1		1			1		5			30	
Total	20	36	44	44	80	31	15	15			9	11			5	4	2	12	14	5	2	5	21	9	5		389	
PANTRY																												
Beef Steak	4	8	4	4			4	3		5	5		7	5	7	5	7				5	5	8	7	7	7	107	
Bread, Rye Slices	8	8			8																						24	
Breakfast Rolls							3																				3	
Corned Beef	4	4	4	2	4	4	4	3	4	6	5	5			1				7	7	5	5	8				12	
Turkey, Smoked	4	2	2	2	4	4	4	4	3	4	5	5															74	
Total	20	22	6	6	16	4	10	7	6	10	10		7	5	8	5	7	7	7	10	10	16	7	7	7		220	

APPENDIX 16
CONDIMENTS FLOWN ON SPACE SHUTTLE STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Catsup	10	10	10	10	10	10	10	10	25	25	10	25	10	25	10	25	25	25	25	25	25	25	10	10	10	25	445
Gum, Dentyne	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	2	2	2	3	3	2	4	3	3	3	3	48
Gum, Trident	1	1	1	1	1	1	1	1	2	2	2	2	4	2	4	3	5	4	4	4	3	4	4	4	4	4	64
Life Savers	4	4	4	4	4	4	5	5	6	6	6	7	5	7	5	7	5	7	7	7	10	10	8	14	7	156	
Mayonnaise	8	8	8	8	8	8	8	8	25	20	10	20	10	20	20	20	20	20	20	20	20	20	10	10	10	20	369
Mexican Pepper Sca	8	8	8	8	8	8	8	8	20	20	8	20	8	20	20	20	20	20	20	20	20	20	8	8	8	20	356
Mustard	10	10	10	10	10	10	10	10	30	30	10	30	10	30	30	30	30	30	30	30	30	30	10	10	10	30	510
Pepper, Oil Base	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	26
Salt, Aqueous	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	26
Tabasco Sauce	8	8	8	8	8	8	8	8	12	12	8	12	8	12	8	12	12	12	12	12	12	12	8	8	8	12	252
Total	52	52	52	52	52	52	53	53	53	123	118	117	57	123	58	125	119	121	123	123	124	124	125	69	62	123	2252

APPENDIX 17
LAUNCH SNACKS FLOWN WITH CREW ON SPACE SHUTTLE STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
Almond Crunch Bar		2		4																						4	
Apple								1	1										2							6	
Carrot Sticks								1	1										2							5	
Celery Sticks								1	1										2							5	
Jalapeno Peppers					3																					3	
Trail Mix										5																5	
SANDWICHES																											
American Cheese										1																4	
Corned Beef Sandwich(Z)	2																	1								2	
Ham																										2	
Ham & American Cheese		2		4	3	1	1	7	3	1																41	
Ham Sandwich(Z)																										1	
Ham & Swiss Cheese																										24	
Peanut Butter & Jelly																										12	
Swiss Cheese																										1	
Turkey																										15	
Turkey Sandwich(Z)	2																									3	
Turkey & Swiss Cheese																										10	
Water	2	2	2	4	4	4	5	5	6	5	6	7	5	7	5	7	7	7	7	7	5	8	7	7	7	125	
Total	4	4	4	6	15	12	9	17	14	16	10	12	14	10	12	10	14	12	21	10	5	18	7	16	7	272	

Z - Frozen sandwiches used during OFT flights only (STS 1-3).

APPENDIX 18
FOREIGN FOOD FLOWN AND RETURNED ON SPACE SHUTTLE STS-1 THROUGH STS 51-L

FOOD ITEM	F O O D F L O W N				FOOD RETURNED			
	STS 51G	STS 61A	STS 61B	SUM	STS 51G	STS 61A	STS 61B	SUM
Amaranth Cake(NF)(Mexico)			1	1				
Amaranth Cookies(NF)(Mexico)			6	6			5	5
Amaranth Cookies w/Nuts(NF)(Mexico)			4	4			2	2
Amaranth Flakes(NF)(Mexico)			3	3			1	1
Bread, German Katenbrot(NF)		16		16		8		8
Bread, Rye(NF)(France)	1			1				
Cheese, Cantel(T)(France)	8			6				
Cheese, Gouda(NF)(Netherlands)		42		42				
Chocolate Pudding(T)(France)	3				1			1
Cocoa w/Amaranth(NF)(Mexico)			3	3			3	3
Crab Mousse(T)(France)	2							
Dates w/Almonds(NF)(Saudia Arabia)	9			9	4			4
Green Pepper Pie(T)(France)	1							
Jugged Hare A'lsacienne(T)(France)	4							
Lobster in American Sce(T)(France)	3							
Pates De Fruit(NF)(France)	7			7	4			4
Sausage Sticks(NF)(Germany)		3		3				
Total	38	61	17	101	9	8	11	28

APPENDIX 19

MENUS USED ON EACH OF THE FIRST 25 STS FLIGHTS
STS-1 THROUGH STS 51-L

TABLES

Table	Page	
19-I	SPACE SHUTTLE OFT MENU - STS-1, STS-2, STS-3+, AND STS-4	19-5
19-II	SPACE SHUTTLE OFT MENU - STS-3, CDR	19-6
19-III	SPACE SHUTTLE MENU - STS-5	19-7
19-IV	SPACE SHUTTLE MENU - STS-6	19-8
19-V	SPACE SHUTTLE MENU - STS-7 AND STS-8	19-9
19-VI	SPACE SHUTTLE STANDARD MENU - STS-9	19-10
19-VII	SPACE SHUTTLE MENU - STS 41-B* AND 41-C**	19-12
19-VIII	SPACE SHUTTLE MENU - STS 41-D (a) Henry Hartsfield, CDR (Red) (b) Michael Coats, PLT (Yellow) (c) Richard M. Mullane, MS-1 (Blue) (d) Steven A. Hawley, MS-2 (Green) (e) Judith A. Resnik, MS-3 (Orange) (f) Charles D. Walker (McDonnell Douglas, St. Louis, MO), PS (Brown)	19-14 19-16 19-18 19-20 19-22 19-24
19-IX	SPACE SHUTTLE MENU - STS 41-G (a) Robert L. Crippen, CDR (Red) (b) Jon A. McBride, PLT (Yellow) (c) Kathryn D. Sullivan, MS-1 (Blue) (d) Sally K. Ride, MS-2 (Green) (e) David C. Leestma, MS-3 (Orange) (f) Mark Garneau (Canada), PS-1 (Brown) (g) Paul D. Scully-Power (U.S. Navy, New London, CT), PS-2 (Purple)	19-26 19-28 19-30 19-32 19-34 19-36 19-38
19-X	SPACE SHUTTLE MENU - STS 51-A	19-40
19-XI	SPACE SHUTTLE MENU - STS 51-B (a) Robert Overmyer, CDR (Red) (Gold Team) (b) Fredrick D. Gregory, PLT (Yellow) (Silver Team) (c) Don Lind, MS-1 (Blue) (Gold Team) (d) Norman E. Thagard, M.D., MS-2 (Green) (Silver Team) (e) William E. Thornton, M.D., MS-3 (Orange) (Gold Team) (f) Taylor G. Wang (Jet Propulsion Laboratory, CA), PS-1 (Brown) (Gold Team) (g) Lodewijk Van Den Berg (EG&G Inc., Goleta, CA), PS-2 (Purple) (Silver Team)	19-42 19-44 19-46 19-48 19-48 19-50 19-52 19-54

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19-XII	SPACE SHUTTLE MENU - STS 51-C	19-56
	(a) Kent Mattingly, CDR (Red)	19-58
	(b) Loren Shriver, PLT (Yellow)	19-60
	(c) Ellison Onizuka, MS-1 (Blue)	19-62
	(d) James Buchli, MS-2 (Green)	19-64
	(e) Gary Payton (USAF), PS-1 (Orange)	
19-XIII	SPACE SHUTTLE MENU - STS 51-D	19-66
	(a) Karol J. Bobko, CDR (Red)	19-67
	(b) Donald E. Williams, PLT (Yellow)	19-68
	(c) Jeffrey A. Hoffman, MS-1 (Blue)	19-69
	(d) David Griggs, MS-2 (Green)	19-70
	(e) Rhea Seddon, MS-3 (Orange)	
	(f) Charles Walker (McDonnell Douglas, St. Louis, MO), PS-1 (Brown)	19-71
	(g) Senator Jake Garn (UT), PS-2 (Purple)	19-72
19-XIV	SPACE SHUTTLE MENU - STS 51-F	19-73
	(a) Gordon Fullerton, CDR (Red)	19-75
	(b) Roy D. Bridges, PLT (Yellow)	19-77
	(c) Karl G. Heinze, MS-1 (Blue)	19-79
	(d) Story Musgrave, MS-2 (Green)	19-80
	(e) Tony England, MS-3 (Orange)	19-82
	(f) Loren Acton, PS-1 (Brown)	19-84
	(g) John-David Bartoe, PS-2 (Purple)	
19-XV	SPACE SHUTTLE MENU - STS 51-G	19-96
	(a) General	19-88
	(b) Patrick Baudry (France), PS-1 (Brown)	
	(c) Sultan Salman Abdel Azize Al-Saud (Saudi Arabia), PS-2 (Purple)	19-90
19-XVI	SPACE SHUTTLE MENU - STS 51-I	19-92
	(a) Joe H. Engle, CDR (Red)	19-94
	(b) Richard Covey, PLT (Yellow)	19-96
	(c) James Van Hoften, MS-1 (Blue)	19-98
	(d) Mike Lounge, MS-2 (Green)	19-100
	(e) William Fisher, M.D., MS-3 (Orange)	
19-XVII	SPACE SHUTTLE MENU - STS 51-J	19-102
	(a) Karol J. Bobko, CDR (Red)	19-104
	(b) Ronald J. Grabe, PLT (Yellow)	19-106
	(c) David C. Hilmers, MS-1 (Blue)	19-108
	(d) Robert L. Stewart, MS-2 (Green)	19-110
	(e) William Pails (USAF), PS (Orange)	
19-XVIII	SPACE SHUTTLE MENU - STS 61-A	
	(a) Henry Hartsfield, CDR (Red) (Blue Team)	19-112
	(b) Steven R. Nagel, PLT (Yellow) (Blue Team)	19-114
	(c) Bonnie S. Dunbar, MS-1 (Blue) (Blue Team)	19-116

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(d) James F. Buchli, MS-2 (Green) (Red Team)	19-118
(e) Guion Bluford, Jr., MS-3 (Orange) (Red Team)	19-120
(f) Ernst Messerschmid (West Germany), PS-1 (Brown) (Red Team)	19-122
(g) Reinhard Furrer (West Germany), PS-2 (Purple) (Blue Team)	19-124
(h) Wubbo Ockels (ESA, Holland), PS-3 (Tan)	19-126
 19-XIX SPACE SHUTTLE MENU - STS 61-B	
(a) Brewster Shaw, CDR (Red)	19-128
(b) Bryan O'Connor, PLT (Yellow)	19-129
(c) Woody Spring, MS-1 (Blue)	19-130
(d) Mary Cleave, MS-2 (Green)	19-131
(e) Jerry Ross, MS-3 (Orange)	19-132
(f) Charles Walker (McDonnell Douglas, St. Louis, MO), PS-1 (Brown)	19-133
(g) Rudolfo Neri (Mexico), PS-2 (Purple)	19-135
 19-XX SPACE SHUTTLE MENU - STS 61-C	
(a) Robert (Hoot) Gibson, CDR (Red)	19-137
(b) Charles F. Bolden, PLT (Yellow)	19-138
(c) George D. (Pinky) Nelson, MS-1 (Blue)	19-139
(d) Steven A. Hawley, MS-2 (Green)	19-140
(e) Franklin R. Chang-Diaz, MS-3 (Orange)	19-141
(f) Robert J. Cenker (RCA, NJ), PS-1 (Brown)	19-142
(g) Congressman Bill Nelson (FL), PS-2 (Purple)	19-143
 19-XXI SPACE SHUTTLE MENU - STS 51-L	
(a) Francis R. (Dick) Scobee, CDR (Red)	19-144
(b) Michael J. Smith, PLT (Yellow)	19-146
(c) Ellison Onizuka, MS-1 (Blue)	19-148
(d) Judith A. Resnik, MS-2 (Green)	19-150
(e) Ronald E. McNair, MS-3 (Orange)	19-152
(f) Sharon Christa (Chris) McAuliffe (Teacher, NH), PS-1 (Brown)	19-154
(g) Gregory Jarvis (Hughes Aircraft), PS-2 (Purple)	19-156

TABLE 19-1.- SPACE SHUTTLE OFT MENU - STS-1, STS-2, STS-3+, AND STS-4

MEAL	DAY 1* <u>5</u>	DAY 2, <u>6</u> **	DAY 3*** <u>7</u>	DAY 4, <u>8</u> ****
A	Peaches, Diced(T) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)	Applesauce(T) Dried Beef(IM) Granola(R) Breakfast Roll(I) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)
B	Frankfurters(T) Turkey Tetrazzini(R) Rye Bread(2X)(I) Bananas(FD) Almond Crunch Bar(NF) Apple Drink(2X)(B)	Corned Beef(I) Asparagus(R) Rye Bread(2X)(I) Pears, Diced(T) Peanuts, Dry Roasted(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Rye Bread(2X)(I) Green Beans & Broccoli(R) Crushed Pineapple(T) Shortbread Cookies(NF) Cashews(NF) Tea w/Lemon & Sugar(2X)(B)	Grd Beef w/Pickle Sce(T) Noodles & Chicken(R) Stewed Tomatoes(T) Pears(FD) Almonds(NF) Strawberry Drink(B)
C	Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Broccoli w/Cheese(R) Fruit Cocktail(T) Buttersch Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Cauliflower w/Cheese(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Pecan Cookies(NF) Cocoa(B)	Mushroom Soup(R) Smoked Turkey(I) Italian Vegetables(R) Vanilla Pudding(T) Strawberries(R) Tropical Punch(B)	Tuna(T) Macaroni & Cheese(R) Peas w/Butter Sauce(R) Peach Ambrosia(R) Chocolate Pudding(T) Lemonade(B)

*Menu for PLT on STS-3
 *Day 1 (launch day) consists of Meals B and C only
 **STS-2 included Meals 1B through 6B only
 ***STS-1 included Meals 1B through 3C only
 ****Day 8 included Meals A and B only for STS-3 and STS-4

T - Thermostabilized
 R - Rehydratable
 B - Rehydratable Beverage
 I - Irradiated
 FD - Freeze-Dried, not rehydrated for consumption
 NF - Natural Form
 IM - Intermediate Moisture

TABLE 19-II.-- SPACE SHUTTLE OFT MENU - STS-3, CDR

MEAL	DAY 1*	DAY 2, 6	DAY 3, 7	DAY 4, 8**	DAY 5
A	Peaches, Diced(T) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)	Applesauce(T) Dried Beef(IM) Scrambled Eggs(R) Granola(R) Breakfast Roli(I) Choc Instant Brkfst(B) Orange-Grapefrt Drk(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drk(B)	Apricots, Dried(2X)(IM) Scrambled Eggs(R) Granola w/Blueberries(R) Breakfast Roli(2X)(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)	Peaches, Diced(2X)(T) Beef Patty(2X)(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)
B	Frankfurters(T) Turkey Tetrizzini(R) Rye Bread(2X)(I) Bananas(FD) Almond Crunch Bar(NF) Apple Drink(2X)(B)	Corned Beef(I) Meatballs w/BBQ Sce(T) Asparagus(R) Rye Bread(2X)(I) Pears, Diced(T) Pecan Cookies(NF) Peanuts, Dry Roast(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Rye Bread(2X)(I) Grn Beans & Broccoli(R) Crushed Pineapple(T) Shortbread Cookies(NF) Cashews(2X)(NF) Tea w/Lemon & Sug(2X)(B)	Grd Beef w/Pickle Sce(T) Noodles & Chicken(R) Stewed Tomatoes(T) Pears(FD) Almonds(NF) Strawberry Drink(B)	Frankfurters(T) Turkey Tetrizzini(2X)(R) Rye Bread(2X)(I) Pears, Diced(T) Bananas(FD) Almond Crunch Bar(NF) Cashews(NF) Apple Drink(2X)(B)
C	Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Broccoli w/Cheese(R) Fruit Cocktail(I) Buttersch Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potato Patty(R) Cauliflower/Cheese(R) Grn Beans w/Mushrms(R) Lemon Pudding(T) Pecan Cookies(NF) Cocoa(B)	Mushroom Soup(R) Smoked Turkey(I) Chicken ala King(T) Rice Pilaf(R) Italian Vegetables(R) Vanilla Pudding(T) Strawberries(2X)(R) Fruitcake(NF) Tropical Punch(B)	Tuna(T) Turkey & Gravy(T) Macaroni & Cheese(R) Potato Patty(R) Peas w/Butter(2X)(R) Peach Ambrosia(R) Chocolate Pudding(T) Lemonade(B)	Shrimp Cocktail(2X)(R) Beef Steak(I) Rice Pilaf(2X)(R) Broccoli w/Cheese(R) Fruit Cocktail(T) Buttersch Pudding(T) Butter Cookies(NF) Grape Drink(B)

*Day 1 (launch day) consists of Meals B and C only

**Day 8 included Meals A and B only

T - Thermostabilized

R - Rehydratable

B - Rehydratable Beverage

I - Irradiated

FD - Freeze-Dried, not rehydrated for consumption

NF - Natural Form

IM - Intermediate Moisture

TABLE 19-III.- SPACE SHUTTLE MENU - STS-5

<u>MEAL</u>	<u>DAY 1* 5</u>	<u>DAY 2, 6**</u>	<u>DAY 3</u>	<u>DAY 4</u>
A	Peaches, Diced(T) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(R) Orange Drink(R)	Applesauce(T) Dried Beef(IM) Granola(R) Breakfast Roll(I) Choc Instant Breakfast(R) Orange-Grapefruit Drk(R)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drink(R)	Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)
B	Frankfurters(T) Turkey Tetrazzini(R) Rye Bread(2X)(I) Bananas(FD) Almond Crunch Bar(NF) Apple Drink(2X)(B)	Corned Beef(I) Asparagus(R) Rye Bread(2X)(I) Pears, Diced(T) Peanuts, Dry Roasted(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Rye Bread(2X)(I) Green Beans & Broccoli(R) Crushed Pineapple(T) Shortbread Cookies(NF) Cashews(NF) Tea w/Lemon & Sugar(2X)(B)	Grd Beef w/Pickle Sce(T) Noodles & Chicken(R) Stewed Tomatoes(T) Pears(FD) Almonds(NF) Strawberry Drink(2X)(B)
C	Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Broccoli w/Cheese(R) Fruit Cocktail(T) Buttersch Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Cauliflower w/Cheese(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Pecan Cookies(NF) Cocoa(B)	Mushroom Soup(R) Smoked Turkey(I) Italian Vegetables(R) Vanilla Pudding(T) Strawberries(R) Tropical Punch(B)	Tuna(T) Macaroni & Cheese(R) Peas w/Butter Sauce(R) Peach Ambrosia(R) Chocolate Pudding(T) Lemonade(B)

*Day 1 (launch day) consists of Meals B and C only

**Day 6 consists of Meals A and B only

T - Thermostabilized

R - Rehydratable

B - Beverage

I - Irradiated

FD - Freeze-Dried, not rehydrated for consumption

NF - Natural Form

IM - Intermediate Moisture

TABLE 19-IV.- SPACE SHUTTLE MENU - STS-6

MEAL	DAY 1* <u>5</u>	DAY 2 <u>6</u>	DAY 3,7**	DAY 4
A	Peaches, Diced(T) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)	Applesauce(T) Dried Beef(IM) Granola(R) Breakfast Roll(I) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)
B	Frankfurters(T) Turkey Tetrazzini(R) Bread(NF) Fruit Cocktail(T) Almond Crunch Bar(NF) Apple Drink(2X)(B)	Corned Beef(I) Asparagus(R) Bread(NF) Pears, Diced(T) Peanuts, Dry Roasted(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Green Beans & Broccoli(R) Crushed Pineapple(T) Shortbread Cookies(NF) Cashews(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Noodles & Chicken(R) Stewed Tomatoes(T) Bread(NF) Almonds(NF) Strawberry Drink(2X)(B)
C	Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Broccoli w/Cheese(R) Buttersch Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Cauliflower w/Cheese(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Pecan Cookies(NF) Cocoa(B)	Mushroom Soup(R) Smoked Turkey(I) Italian Vegetables(R) Vanilla Pudding(T) Strawberries(R) Tropical Punch(R)	Grd Beef w/Pickle Sce(T) Macaroni & Cheese(R) Peas w/Butter Sauce(R) Peach Ambrosia(R) Chocolate Pudding(T) Lemonade(B)

*Day 1 (launch day) consists of Meals B and C only. Food for Meals 1B through 3B was stowed in sequential order in 2 trays. Food for Meals 3C through 7A was stowed pantry style with breakfast, lunch and dinner items each stowed in separate trays.

**Day 7 includes Meal A only

- T - Thermostabilized
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- FD - Freeze-Dried, not rehydrated for consumption
- I - Irradiated
- IM - Intermediate Moisture

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TABLE 19-V.- SPACE SHUTTLE MENU - STS-7 AND STS-8

MEAL	DAY 1* <u>5</u>	DAY 2 <u>6</u>	DAY 3 <u>7</u>	DAY 4
A	Pears, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink(B)	Applesauce(T) Dried Beef(IM) Granola(R) Breakfast Roll(I) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(I) Vanilla Inst Breakfast(B) Grapefruit Drink(B)
B	Turkey Tetrazzini(R) Bread(NF) Fruit Cocktail(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Beef w/BBQ Sauce(T) Bread(NF) Pears, Diced(T) Peanuts, DRY Roasted(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Green Beans & Broccoli(R) Pineapple(T) Cashews(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Noodles & Chicken(R) Bread(NF) Almonds(NF) Strawberry Drink(2X)(B)
C	Shrimp Cocktail(R) Beef & Gravy(T) Rice Pilaf(R) Broccoli w/Cheese(R) Buttersch Pudding(T) Grape Drink(B)	Turkey & Gravy(T) Cauliflower w/Cheese(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Granola Bar(NF) Cocoa(B)	Frankfurters(T) Potato Patty(R) Italian Vegetables(R) Vanilla Pudding(T) Tropical Punch(B)	Grd Beef w/Pickle Sce(T) Macaroni & Cheese(R) Asparagus(R) Peach Ambrosia(R) Shortbread Cookies(NF) Lemonade(B)

*Day 1 (launch day) consists of Meals B and C only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- T - Thermostabilized
- I - Irradiated

8/15/83

TABLE 19-VI.- SPACE SHUTTLE STANDARD MENU - STS-9

MEAL DAY 1*,8	DAY 2,9	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage Patty(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Dk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Orange-Grapefruit Drk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(R)	Salmon(T) Bread(NF) Peaches, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverages
- T - Thermostabilized
- NF - Natural Form

TABLE 19-VI.- Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage Patty(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scrambled Eggs(R) Choc Instant Breakfast(B) Orange-Grapefruit Drink(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sauce(T) Potato Patty(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverages
 NF - Natural Form
 T - Thermostabilized

TABLE 19-VII.- SPACE SHUTTLE MENU - STS 41-B* AND 41-C**

MEAL	DAY 1,8	DAY 2,9	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage Patty(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Dk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Orange-Grapefruit Drk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Reef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*STS 41-B included Meals 1B through 9A
**STS 41-C included Meals 1B through 7A

IM - Intermediate Moisture
R - Rehydratable
B - Beverages
T - Thermostabilized
NF - Natural Form

TABLE 19-VII.- Concluded

	<u>MEAL DAY 5</u>	<u>DAY 6</u>	<u>DAY 7</u>
A	Peaches, Dried(IM) Sausage Patty(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Inst Breakfast(B) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Reef w/Spice Sce(T) Potato Patty(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverages
 NF - Natural Form
 T - Thermostabilized

6/04/84

TABLE 19-VIII.- SPACE SHUTTLE MENU - STS 41-D

(a) Henry Hartsfield, CDR (Red)

MEAL	DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Sausage(R) Scrambled Eggs(R) Or-Pineapple Dk(2X)(B)	Sausage(R) Scrambled Eggs(R) Or-Pineapple Dk(2X)(B)	Sausage(R) Scrambled Eggs(R) Grapefruit Drink(2X)(B)	Sausage(R) Scrambled Eggs(R) Grapefruit Drink(2X)(B)
B	Chicken Sld Spread(T) Bread(NF) Pineapple(T) Peanuts(2X)(NF) Candy Ctd Peanuts(NF) Cherry Dk w/A/S(2X)(B)	Tuna Salad Spread(T) Bread(NF) Pears, Diced(T) Almonds(2X)(NF) Lemonade w/A/S(2X)(B)	Ham Salad Spread(T) Bread(NF) Pears, Diced(T) Peanuts(2X)(NF) Butter Cookies(NF) Cherry Dk w/A/S(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pineapple(T) Almonds(2X)(NF) Butter Cookies(NF) Lemonade w/A/S(2X)(B)
C	Turkey & Gravy(T) Rice Pilaf(R) Italian Vegetables(R) Strawberries(R) Chocolate Pudding(T) Tea w/A/S(R)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Potatoes au Gratin(R) Cauliflower w/Cheese(R) Lemon Pudding(T) Tropical Punch w/A/S(R)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Turkey Tetrazzini(R) Grn Beans & Broccoli(R) Strawberries(R) Grape Drink w/A/S(B)	Shrimp Cocktail(R) Chicken ala King(T) Rice Pilaf(R) Grn Beans w/Mushrooms(R) Lemon Pudding(T) Tea w/A/S(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- A/S - Artificial Sweetener

6/04/84

TABLE 19-VIII.-- Continued
(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Sausage(R) Scrambled Eggs(R) Grapefruit Drink(2X)(B)	Sausage(R) Scrambled Eggs(R) Grapefruit Drink(2X)(B)	Sausage(R) Scrambled Eggs(R) Orange Juice Mix(2X)(B)
B	Ham Salad Spread(T) Bread(NF) Fruit Cocktail(T) Peanuts, Dry Rst(2X)(NF) Butter Cookies(NF) Grape Drink w/A/S(2X)(B)	Chicken Sld Spread(T) Bread(NF) Applesauce(T) Almonds(NF) Candy Coated Peanuts(NF) Cherry Drnk w/A/S(2X)(B)	Tuna Salad Spread(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Butter Cookies(NF) Almonds(2X)(NF) Grape Drk w/A/S(2X)(B)
C	Shrimp Cocktail(R) Beef & Gravy(T) Rice Pilaf(R) Cauliflower w/Cheese(R) Lemon Pudding(T) Tea w/A/S(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Tea w/A/S(B)	Shrimp Cocktail(R) Reef Steak(I) Rice Pilaf(R) Grn Beans w/Mshrooms(R) Strawberries(R) Tea w/A/S(B)

R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener
I - Irradiated

5/01/84

TABLE 19-VIII.- Continued
 (b) Michael Coats, PLT (Yellow)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Peaches, Dried(IM) Beef Patty(R) Mexican Scr Eggs(R) Cornflakes(R) Grapefruit Drink(B)	Peaches, Dried(IM) Bran Flakes(R) Breakfast Roll(NF) Grapefruit Drink(B)	Pears, Dried(IM) Mexican Scramb Eggs(R) Cornflakes(R) Orange Juice Mix(B)	Apricots, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange-Pineapple Dk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Cashews(NF) Chocolate Pudding(T) Lemonade(2X)(B)	Tuna(T) Bread(NF) Pears, Diced(T) Almonds(NF) Fruitcake(T) Lemonade(2X)(B)	Ham(T) Bread(NF) Fruit Cocktail(T) Peanuts, Dry Roastd(NF) Lemon Pudding(T) Grape Drink(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Shortbread Cookies(NF) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Potatoes au Gratin(R) Asparagus(R) Strawberries(R) Orange Drink(B)	Meatballs w/BBQ Sce(T) Potato Patty(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Apple Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Rice Pilaf(R) Grn Beans & Broccoli(R) Strawberries(R) Lemonade(B)	Beef Steak(I) Potatoes au Gratin(R) Grn Beans & Mushrms(R) Peach Ambrosia(R) Grape Drink(B)

*Day 1 consists of Meals B and C. Day 8 consists of Meal A only

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 I - Irradiated

TABLE 19-VIII.-- Continued
(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Cornflakes(R) Orange Juice Mix(B)	Pears, Dried(IM) Sausage(R) Mexican Scr Eggs(R) Or-Grapefruit Dk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Bran Flakes(R) Or-Pineapple Drnk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Almonds(NF) Vanilla Pudding(T) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Peanuts, Dry Rst(NF) Fruitcake(T) Grape Drink(2X)(B)	Ham(T) Bread(NF) Fruit Cocktail(T) Cashews(NF) Chocolate Pudding(T) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Shrimp Creole(R) Italian Vegetables(R) Strawberries(R) Lemonade(B)	Beef w/Gravy(T) Macaroni & Cheese(R) Broccoli au Gratin(R) Peach Ambrosia(R) Apple Drink(B)	Shrimp Cocktail(R) Chicken ala King(T) Shrimp Creole(R) Asparagus(R) Strawberries(R) Apple Drink(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form

4/25/84

TABLE 19-VIII.- Continued

(c) Richard M. Mullane, MS-1 (Blue)

	<u>MEAL DAY 1, 8*</u>	<u>DAY 2</u>	<u>DAY 3</u>	<u>DAY 4</u>
A	Peaches, Dried(IM) Beef Patty(R) Granola w/Blueberries(R) Apple Drink(B) Cocoa(B)	Peaches, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Apple Drink(B) Cocoa(B)	Apricots, Dried(IM) Bran Flakes(R) Orange Juice Mix(B) Tea w/Sugar(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Apple Drink(B) Cocoa(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Cashews(NF) Apple Drink(B) Orange Drink(B)	Salmon(T) Bread(NF) Pears, Diced(T) Almonds(NF) Grape Drink(B) Strawberry Drink(B)	Tuna(T) Bread(NF) Fruit Cocktail(T) Peanuts, Dry Roastd(NF) Apple Drink(B) Grape Drink(B)	Chicken Sld Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Orange Drink(B) Strawberry Drink(B)
C	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Potato Patty(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Rice Pilaf(R) Cauliflower w/Cheese(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Smoked Turkey(I) Potatoes au Gratin(R) Grn Beans & Broccoli(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
I - Irradiated

TABLE 19-VIII.-- Cont Inued
(c) Concluded

<u>MEAL</u>	<u>DAY 5</u>	<u>DAY 6</u>	<u>DAY 7</u>
A	Peaches, Dried(IM) Beef Patty(R) Granola w/Raisins(R) Orange Juice Mix(B) Tea w/Sugar(B)	Apricots, Dried(IM) Beef Patty(R) Apple Drink(B) Cocoa(B)	Pears, Dried(IM) Beef Patty(R) Bran Flakes(R) Orange Juice Mix(B) Tea w/Sugar(B)
B	Ham Salad Spread(T) Bread(NF) Applesauce(T) Almonds(NF) Apple Drink(B) Peach Drink(B)	Tuna Salad Spread(T) Bread(NF) Chocolate Pudding(T) Peanuts, Dry Roast(NF) Grape Drink(B) Tropical Punch(B)	Turkey Salad Spread(T) Bread(NF) Chocolate Pudding(T) Cashews(NF) Apple Drink(B) Grape Drink(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Rice Pilaf(R) Broccoli au Gratin(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Turkey & Gravy(T) Potatoes au Gratin(R) Asparagus(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Cauliflower w/Cheese(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 I - Irradiated

4/25/84

TABLE 19-VIII. - Continued
(d) Steven A. Hawley, MS-2 (Green)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Bran Flakes(R) Grapefruit Drink(B) Choc Inst Brkfst(B)	Pears, Dried(IM) Granola(R) Breakfast Roll(NF) Orange-Grapefruit Drk(B) Choc Instant Breakfast(B)	Pears, Dried(IM) Scrambled Eggs(R) Bran Flakes(R) Orange Juice Mix(B) Cocoa(B)	Pears, Dried(IM) Sausage(R) Breakfast Roll(NF) Grapefruit Drink(B) Choc Inst Brkfst(B)
B	Ham (T) Bread(NF) Applesauce(T) Pecan Cookies(NF) Tea(2X)(B)	Salmon(T) Bread(NF) Fruit Cocktail(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Applesauce(T) Shortbread Cookies(NF) Tea(2X)(B)	Ham(T) Cheddar Cheese Spd(T) Bread(NF) Fruit Cocktail(T) Cashews(NF) Tea(2X)(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Chicken & Rice(R) Asparagus(R) Chocolate Pudding(T) Apple Drink(B)	Beef w/BBQ Sauce(T) Rice Pilaf(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Vanilla Pudding(T) Tropical Punch(B)	Mballs w/BBQ Sce(T) Macaroni & Cheese(R) Asparagus(R) Chocolate Pudding(T) Lemonade(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

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4/25/84

TABLE 19-VIII.- Continued
(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Grapefruit Drink(B) Choc Inst Breakfast(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Grapefruit Drink(B) Choc Instant Breakfast(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Bran Flakes(R) Grapefruit Drink(B) Choc Inst Breakfast(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Almonds(NF) Tea(2X)(B)	Tuna(T) Bread(NF) Chocolate Pudding(T) Butter Cookies(NF) Apple Drink(2X)(B)	Chicken Sld Spread(T) Bread(NF) Chocolate Pudding(T) Shrtbread Cookies(NF) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Turkey & Gravy(T) Rice Pilaf(R) Cauliflower w/Cheese(R) Butter Cookies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Vanilla Pudding(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Broccoli au Gratin(R) Chocolate Cookies(NF) Tea(B)

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5/01/84

TABLE 19-VIII.- Continued
(e) Judith A. Resnik, MS-3 (Orange)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Sausage(R) Granola w/Raisins(R) Vanilla Inst Brkfst(B) Orange Drink w/A/S(B)	Sausage(R) Granola w/Raisins(R) Vanilla Inst Brkfst(B) Orange Drink w/A/S(B)	Sausage(R) Granola w/Blueberries(R) Choc Instant Breakfast(B) Orange Drink w/A/S(B)	Sausage(R) Granola w/Raisins(R) Vanilla Inst Brkfst(B) Orange Drink w/A/S(B)
B	Peanut Butter(IM) Jelly(IM) Bread(NF) Applesauce(T) Vanilla Pudding(T) Trop Punch w/A/S(2X)(B)	Salmon(T) Bread(NF) Fruit Cocktail(T) Chocolate Pudding(T) Cherry Dk w/A/S(2X)(B)	Tuna(T) Bread(NF) Peaches, Diced(T) Lemon Pudding(T) Cashews(NF) Trop Punch w/A/S(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Applesauce(T) Buttersch Pudding(T) Lemonade w/A/S(2X)(B)
C	Beef w/BBQ Sauce(T) Rice Pilaf(R) Grn Beans w/Mshrooms(R) Peach Ambrosia(R) Lemonade w/A/S(B)	Beef Steak(I) Potatoes au Gratin(R) Italian Vegetables(R) Butterscotch Pudding(T) Lemonade w/A/S(B)	Grd Beef w/Spice Sce(T) Rice Pilaf(R) Grn Beans & Broccoli(R) Peach Ambrosia(R) Lemonade w/A/S(B)	Meatballs w/BBQ Sce(B) Rice Pilaf(R) Grn Beans w/Mushrms(R) Strawberries(R) Cherry Drink w/A/S(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

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TABLE 19-VIII.-- Continued
(e) Concluded

<u>MEAL</u>	<u>DAY 5</u>	<u>DAY 6</u>	<u>DAY 7</u>
A	Sausage(R) Granola w/Blueberries(R) Choc Instant Breakfast(B) Orange Drink w/A/S(B)	Sausage(R) Granola w/Raisins(R) Vanilla Inst Brkfst(R) Orange Drink w/A/S(B)	Sausage(R) Granola w/Blueberries(R) Choc Instant Breakfast(B) Orange Drink w/A/S(B)
B	Salmon(T) Bread(NF) Fruit Cocktail(T) Lemon Pudding(T) Trop Punch w/A/S(2X)(B)	Tuna(T) Bread(NF) Peaches, Diced(T) Chocolate Pudding(T) Cashews(NF) Lemonade w/A/S(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Applesauce(T) Vanilla Pudding(T) Cherry Drnk w/A/S(2X)(B)
C	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans & Broccoli(R) Chocolate Pudding(T) Lemonade w/A/S(B)	Grd Beef w/Spice Sce(T) Rice Pilaf(R) Grn Beans w/Mshrooms(R) Strawberries(R) Lemonade w/A/S(B)	Beef Steak(I) Shrimp Creole(R) Italian Vegetables(R) Peach Ambrosia(R) Lemonade w/A/S(B)

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4/25/84

TABLE 19-VIII.- Continued

(f) Charles D. Walker (McDonnell Douglas, St. Louis, MO), PS (Brown)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Peaches, Dried(IM) Beef Patty(R) Bran Flakes(R) Orange Jce Mix(2X)(B)	Apricots, Dried(IM) Bran Flakes(R) Breakfast Roll(NF) Or-Grapefruit Dk(2X)(B)	Peaches, Dried(IM) Seasoned Scr Eggs(R) Granola w/Raisins(R) Or-Pineapple Drink(2X)(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange Juice Mix(2X)(B)
B	Chicken Sld Spread(T) Bread(NF) Fruit Cocktail(T) Almonds(NF) Candy Coated Mints(NF) Grape Drk w/A/S(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pears, Diced(T) Cashews(NF) Brownies(NF) Tea w/Lemon(2X)(B)	Tuna(T) Bread(NF) Pineapple(T) Choc Covered Cookies(NF) Peanuts(NF) Lemonade w/A/S(2X)(B)	Ham Salad Spread(T) Bread(NF) Fruit Cocktail(T) Chocolate Pudding(T) Cashews(NF) Grape Drk w/A/S(2X)(B)
C	Beef Steak(I) Potatoes au Gratin(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon(B)	Turkey & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mshrooms(R) Fruitcake(T) Grape Drink w/A/S(B)	Chicken ala King(T) Rice Pilaf(R) Italian Vegetables(R) Strawberries(R) Tea w/Lemon(B)	Grd Beef w/Spice Sce(T) Chicken & Rice(R) Broccoli au Gratin(R) Lemon Pudding(T) Tea w/Lemon(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

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**TABLE 19-VIII.-- Concluded
(f) Concluded**

<u>MEAL</u>	<u>DAY 5</u>	<u>DAY 6</u>	<u>DAY 7</u>
A	Peaches, Dried(IM) Scrambled Eggs(R) Granola w/Blueberries(R) Grapefruit Drink(2X)(B)	Apricots, Dried(IM) Sausage(R) Seasoned Scramb Eggs(R) Orange Juice Mix(2X)(B)	Pears, Dried(IM) Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B)
B	Salmon(T) Bread(NF) Pineapple(T) Candy Coated Mints(NF) Granola Bar(NF) Lemonade w/A/S(2X)(B)	Chicken Salad Spread(T) Bread(NF) Lemon Pudding(T) Almonds(NF) Choc Covered Cookies(NF) Grape Drink w/A/S(2X)(B)	Tuna Salad Spread(T) Bread(NF) Fruit Cocktail(T) Pecan Cookies(NF) Candy Ctd Chocolate(NF) Tea w/Lemon(2X)(B)
C	Turkey & Gravy(T) Potatoes au Gratin(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon(B)	Chicken ala King(T) Macaroni & Cheese(R) Italian Vegetables(R) Pecan Cookies(NF) Tropical Punch w/A/S(R)	Beef & Gravy(T) Potatoes au Gratin(R) Grn Beans & Broccoli(R) Chocolate Pudding(T) Tea w/Lemon(B)

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3/22/84

TABLE 19-IX.- SPACE SHUTTLE MENU - STS 41-G

(a) Robert L. Crippen, CDR (Red)

MEAL	DAY 1, 9*			
	DAY 2	DAY 3	DAY 4	DAY 4
A	Peaches, Dried(IM) Sausage(R) Seasoned Scram Eggs(R) Orange Juice Mix(B) Coffee(B)	Apricots, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Orange Juice Mix(B) Coffee(B)	Peaches, Dried(IM) Sausage(R) Mexican Scram Eggs(R) Cocoa(B) Coffee(B)	Apricots, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange Juice Mix(B) Coffee(B)
B	Shrimp Cocktail(R) Frankfurters(T) Bread(NF) Broccoli au Gratin(R) Tea(2X)(B)	Beef w/BBQ Sauce(T) Asparagus(R) Shortbread Cookies(NF) Tea w/Lemon(2X)(B)	Beef w/Gravy(T) Cauliflower w/Cheese(R) Granola Bar(NF) Butter Cookies(NF) Tea w/Lemon(2X)(B)	Meatballs w/BBQ Sce(T) Grn Beans w/Mushrms(R) Trail Mix(NF) Strawberries(R) Tea(2X)(B)
C	Beef Steak(I) Potatoes au Gratin(R) Grn Beans & Broccoli(R) Peach Ambrosia(R) Tea w/Lemon(2X)(R)	Grd Beef w/Pickle Sce(T) Rice Pilaf(R) Broccoli au Gratin(R) Strawberries(R) Tea(2X)(B)	Chicken a la King(T) Potato Patty(R) Italian Vegetables(R) Brownie(NF) Tea(2X)(B)	Beef Steak(I) Potatoes au Gratin(R) Asparagus(R) Peach Ambrosia(R) Tea w/Lemon(2X)(B)

*Day 1 consists of Meals B and C, Day 9 consists of Meal A only

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3/22/84

TABLE 19-IX.- Continued
(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	<p>Peaches, Dried(IM) Beef Patty(R) Mexican Scramb Eggs(R) Grapefruit Drink(B) Coffee(B)</p>	<p>Apricots, Dried(IM) Sausage(R) Seasoned Scramb Eggs(R) Orange Juice Mix(B) Coffee(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Mexican Scrambl'd Eggs(R) Cocoa(B) Coffee(B)</p>	<p>Apricots, Dried(IM) Sausage(R) Seasoned Scrm Eggs(R) Granola w/Raisins(R) Orange Juice Mix(B) Coffee(B)</p>
B	<p>Mushroom Soup(R) Ham Salad Spread(T) Soda Crackers(NF) Bread(NF) Pecan Cookies(NF) Tea(2X)(B)</p>	<p>Dried Beef(IM) Turkey Salad Spread(T) Bread(NF) Italian Vegetables(R) Trail Mix(IM) Tea w/Lemon(2X)(B)</p>	<p>Mushroom Soup(R) Shrimp Cocktail(R) Tuna Salad Spread(T) Soda Crackers(NF) Bread(NF) Tea w/Lemon(2X)(B)</p>	<p>Ham(T) Potato Patty(R) Asparagus(R) Almonds(NF) Tea(2X)(B)</p>
C	<p>Beef w/BBQ Sauce(T) Rice Pilaf(R) Cauliflower w/Cheese(R) Strawberries(R) Tea w/Lemon(2X)(B)</p>	<p>Meatballs w/BBQ Sce(R) Potato Patty(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Tea(2X)(B)</p>	<p>Grd Beef w/Spiced Sce(T) Rice Pilaf(R) Grn Beans & Broccoli(R) Pecan Cookies(NF) Tea(2X)(B)</p>	<p>Beef Steak(I) Potatoes au Gratin(R) Italian Vegetables(R) Lemon Pudding(T) Tea w/Lemon(2X)(B)</p>

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3/22/84

TABLE 19-IX.- Continued

(b) Jon A. McBride, PLT (Yellow)

MEAL DAY 1, 9*	DAY 2	DAY 3	DAY 4
A	Apricots Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Orange Juice Mix(B) Coffee w/Crm & Suger(B)	Apricots, Dried(IM) Scrambled Eggs(R) Bran Flakes(R) Orange Juice Mix(B) Coffee w/Crm & Sugar(B)	Peaches, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Crm & Suger(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Cashews(NF) Orange-Mango Dk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Orange-Mango Dk(2X)(B)	Tuna Salad Spread(T) Bread(NF) Peaches, Dried(T) Cashews(NF) Orange-Mango Dk(2X)(B)
C	Smoked Turkey(I) Potato Patty(R) Asparagus(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Beef w/BBQ Sauce(T) Macaroni & Cheese(R) Grn Beans & Mushrms(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Meatballs w/BBQ Sce(T) Macaroni & Cheese(R) Italian Vegetables(R) Strawberries(R) Tea w/Lemon & Sugar(B)

*Day 1 consists of Meals B and C, Day 9 consists of Meal A only

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3/22/84

TABLE 19-IX.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Orange Juice Mix(B) Coffee w/Crm & Sugar(B)	Apricots, Dried(IM) Beef Patty(R) Mexican Scramb Eggs(R) Grapefruit Drink(B) Coffee w/Crm & Suger(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scramb Eggs(R) Cornflakes(R) Orange-Mango Drink(B) Coffee w/Crm & Suger(B)	Apricots, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Bran Flakes(R) Grapefruit Drink(B) Coffee w/Crm & Suger(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Orange-Grpfrt Dk(2X)(B)	Ham(T) Bread(NF) Fruit Cocktail(T) Cashews(NF) Orange Drink(2X)(B)	Tuna Salad Spread(T) Bread(NF) Peaches, Diced(T) Cashews(NF) Orange Drink(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Orange-Mango Dk(2X)(B)
C	Turkey & Gravy(T) Chicken & Rice(R) Cauliflower w/Cheese(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Beef Steak(I) Potato Patty(R) Asparagus(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Grn Beans w/Mushrms(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef Steak(I) Italian Vegetables(R) Strawberries(R) Tea w/Lemon & Sugar(B)

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3/22/84

TABLE 19-IX.- Continued
(c) Kathryn D. Sullivan, MS-1 (Blue)

MEAL DAY 1,9*	DAY 2				DAY 3				DAY 4				
		A	B	C									
	Pears, Dried(IM) Scrambled Eggs(R) Cornflakes(R) Orange-Pineapple Drnk(B) Coffee w/Cream & Sugr(B)	Ham(T) Bread(NF) Chocolate Pudding(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Chicken ala King(T) Chicken & Rice(R) Asparagus(R) Coffee w/Cream & Sugr(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Orange-Pineapple Drnk(B) Coffee w/Cream & Sugr(B)	Tuna(T) Bread(NF) Trail Mix(IM) Butter Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Reef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Coffee w/Cream & Sugr(B)	Apricots, Dried(IM) Seasond Scrambl'd Eggs(R) Bran Flakes(R) Orange-Mango Drink(B) Coffee w/Cream & Sugr(B)	Chicken Salad Spread(T) Bread(NF) Strawberries(R) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)	Pears, Dried(IM) Breakfast Roll(NF) Orange-Pineapple Drnk(B) Coffee w/Cream & Sugr(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Cashews(NF) Chocolate Pudding(T) Tea w/Lemon & A/S(2X)(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Coffee w/Cream & Sugr(B)		

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3/22/84

TABLE 19-IX.- Continued
(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	<p>Peaches, Dried(IM) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Orange-Mango Drink(B) Coffee w/Cream & Suger(B)</p>	<p>Apricots, Dried(IM) Seasond Scrambled Eggs(R) Orange-Pineapple Drnk(B) Coffee w/Cream & Suger(B)</p>	<p>Peaches, Dried(IM) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Coffee w/Cream & Suger(B)</p>	<p>Pears, Dried(IM) Seasond Scrambled Eggs(R) Cornflakes(R) Orange-Pineapple Drnk(B) Coffee w/Cream & Suger(B)</p>
B	<p>Turkey Salad Spread(T) Bread(NF) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Tuna(T) Bread(NF) Trail Mix(IM) Shortbread Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Chicken Salad Spread(T) Bread(NF)(2X) Peanuts, Dry Roasted(NF) Choc Covered Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Ham(T) Bread(NF)(2X) Cashews(NF) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>
C	<p>Beef Steak(I) Cauliflower w/Cheese(R) Coffee w/Cream & Suger(B)</p>	<p>Shrimp Cocktail(R) Broccoli au Gratin(R) Coffee w/Cream & Suger(B)</p>	<p>Shrimp Cocktail(R) Grn Beans w/Mushrooms(R) Coffee w/Cream & Suger(B)</p>	<p>Chicken a la King(T) Chicken w/Rice(R) Asparagus(R) Coffee w/Cream & Suger(B)</p>

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TABLE 19-IX.- Continued
(d) Sally K. Ride, MS-2 (Green)

MEAL	DAY 1, 9*	DAY 2	DAY 3	DAY 4
A	Scrambled Eggs(R) Cornflakes(R) Orange Juice Mix(B) Coffee(B)	Cornflakes(R) Breakfast Roll(NF) Orange-Grapefruit DK(B) Coffee(B)	Scrambled Eggs(R) Bran Flakes(R) Orange Juice Mix(B) Cocoa(B)	Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)
B	Chicken Salad Spread(T) Bread(NF) Cashews(NF) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Salmon(T) Bread(NF) Peanuts, Dry Roastd(NF) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Peanuts, Dry Roasted(NF) Cashews(NF) Tea w/Lemon & A/S(2X)(B)	Tuna Salad Spread(T) Bread(NF) Butter Cookies(NF) Cashews(NF) Lemonade(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Cauliflower w/Cheese(R) Strawberries(R) Tea w/Lemon & A/S(R)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Brownies(NF) Tea w/Lemon & A/S(B)	Beef Steak(I) Macaroni & Cheese(R) Grn Beans & Broccoli(R) Strawberries(R) Tea w/Lemon & A/S(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)

*Day 1 consists of Meals B and C, Day 9 consists of Meal A only

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TABLE 19-IX. - Continued
(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Scrambled Eggs(R) Cornflakes(R) Orange-Pineapple Drnk(B) Coffee(B)	Scrambled Eggs(R) Orange-Grapefruit Dk(B) Coffee(B)	Scrambled Eggs(R) Cornflakes(R) Orange Juice Mix(B) Coffee(B)	Scrambled Eggs(R) Cornflakes(R) Orange-Pineapple Drnk(B) Cocoa(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Pecan Cookies(NF) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)	Tuna(T) Bread(NF) Almonds(NF) Shortbread Cookies(NF) Lemonade(2X)(B)	Chicken Salad Sprd(T) Bread(NF) Shortbread Cookies(NF) Cashews(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Peanuts, Dry Roasted(NF) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Coffee(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)	Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrms(R) Peach Ambrosia(R) Tea w/Lemon & A/S(R)	Chicken ala King(T) Chicken & Rice(R) Cauliflower w/Cheese(R) Strawberries(R) Tea w/Lemon & A/S(B)

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TABLE 19-IX.- Continued

(e) David C. Leestma, MS-3 (Orange)

MEAL	DAY 1, 9*	DAY 2	DAY 3	DAY 4
A	Sausage(R) Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Cocoa(B)	Granola(R) Breakfast Roll(NF) Orange-Mango Drink(B) Cocoa(B)	Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) Cocoa(B)	Sausage(R) Breakfast Roll(NF) Orange-Pineapple Drk(B) Cocoa(B)
B	Ham(T) Bread(NF) Pears, Diced(T) Pecan Cookies(NF) Peanuts, Dry Roasted(NF) Orange-Mango Drnk(2X)(B)	Salmon(T) Bread(NF) Pineapple(T) Butter Cookies(NF) Cashews(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Pears, Diced(T) Candy Coated Mints(NF) Peanuts, Dry Roasted(NF) Orange-Mango Drink(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Choc Covered Cookies(NF) Cashews(NF) Orange-Mango Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Broccoli au Gratin(R) Chocolate Pudding(T) Tea w/Lemon & Sugar(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Tea w/Lemon & Sugar(B)	Beef Steak(I) Potato Patty(R) Cauliflower w/Cheese(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Brownies(NF) Tea w/Lemon & Sugar(B)

*Day 1 consists of Meals B and C, Day 9 consists of Meal A only

R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
I - Irradiated

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TABLE 19-IX.- Continued
(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Sausage(R) Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Cocoa(B)	Beef Patty(R) Seasoned Scramb Eggs(R) Orange-Mango Drink(B) Cocoa(B)	Sausage(R) Mexican Scrambl'd Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(R) Cocoa(B)	Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Orange-Pineapple Dk(B) Cocoa(B)
B	Chicken Salad Spread(T) Bread(NF) Applesauce(T) Choc Covered Cookies(NF) Peanuts, Dry Roasted(NF) Or-Pineapple Drnk(2X)(B)	Turkey Salad Spread(T) Bread(NF) Butterscotch Pudding(T) Pecan Cookies(NF) Almonds(NF) Orange-Mango Drk(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Cashews(NF) Or-Pineapple Drnk(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Candy Coated Mints(NF) Peanuts, Dry Roast(NF) Orange-Mango Drink(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Vanilla Pudding(T) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Beef Stroganoff(R) Broccoli au Gratin(R) Strawberries(R) Tea w/Lemon & Sugar(B)	Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Turkey Tetrazzini(R) Broccoli au Gratin(R) Brownies(NF) Tea w/Lemon & Sugar(B)

R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-IX.- Continued

(f) Mark Garneau (Canada), PS-1 (Brown)

MEAL	DAY 1*,8	DAY 2,9**	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage Patty(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Dk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Orange-Grapefruit Dnk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(R)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverages

T - Thermostabilized

NF - Natural Form

TABLE 19-IX.- Cont Inued

(f) Concluded

MEAL	DAY 5		DAY 6		DAY 7	
	A	B	A	B	A	B
	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfast(B) Orange-Grapefruit Dk(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Pears, Diced(T) Orange Drink(B)			Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverages
 NF - Natural Form
 T - Thermostabilized

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TABLE 19-IX.- Continued

(g) Paul D. Scully-Power (U.S. Navy, New London, CT), PS-2 (Purple)

MEAL	DAY 1*	DAY 2,9**	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Coffee w/Sugar(B) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Coffee w/Sugar(B) Orange Grapefrt Drk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Coffee w/Sugar(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Sugar(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(R)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Cashews(NF) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Peanuts, Dry Roast(NF) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Almonds(NF) Tropical Punch(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-IX.- Concluded
(9) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Coffee w/Sugar(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Coffee w/Sugar(B) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Shortbread Cookies(NF) Almonds(2X)(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

TABLE 19-X.- SPACE SHUTTLE MENU - STS 51-A

MEAL	DAY 1* ₈	DAY 2 _{9**}	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrt Drk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange Juice Mix(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Grapefruit Dk(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Rutter Cookies(NF) Lemonade(2X)(R)	Peanut Rutter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Citrus Drink(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Orange-Mango Drnk(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Buttersch Pudding(T) Citrus Drink(B)	Frankfurters(T) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Orange-Grapefrt Drk(B)

*Day 1 consists of Meals B and C
**Day 9 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-X.- Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scrambled Eggs(R) Choc Inst Breakfast(B) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange-Mango Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

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TABLE 19-XI.- SPACE SHUTTLE MENU - STS 51-B
(a) Robert Overmyer, CDR (Red) (Gold Team)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B) Coffee w/Cream(B)	Peaches, Dried(IM) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Grapefrt Drk(B) Coffee w/Cream(B)	Apricots, Dried(IM) Scrambled Eggs(R) Beef Patty(R) Orange Juice Mix(B) Coffee w/Cream(B)	Apricots, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Cream(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Cashews(NF) Butter Cookies(NF) Strawberry Drink(B) Coffee w/Cream(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Peanuts, Dry Roast(NF) Lemonade(B) Coffee w/Cream(B)	Chicken Salad Spread(T) Whole Wheat Bread(NF) Fruit Cocktail(T) Cashews(NF)(T) Butterscotch Pudding(T) Coffee w/Cream(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(B) Coffee w/Cream(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grapefruit Drink(R) Coffee w/Cream(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Butterscoch Pudding(T) Orange Drink(B) Coffee w/Cream(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Strawberry Drink(B) Coffee w/Cream(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Orange Drink(B) Coffee w/Cream(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only for the Gold Team

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
I - Irradiated

TABLE 19-XI.- Continued
(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cashews(NF) Orange-Pineapple Drk(B) Coffee w/Cream(B)	Apricots, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Grapefrt Dk(B) Coffee w/Cream(B)	Peaches, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange Juice Mix(B) Coffee w/Cream(B)
B	Salmon(T) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Lemon-Lime Drink(B) Coffee w/Cream(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbrd Cookies(NF) Almonds(NF) Apple Drink(B) Coffee w/Cream(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(B) Coffee w/Cream(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Orange-Pineapple Drk(B) Coffee w/Cream(B)	Beef Steak(I) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B) Coffee w/Cream(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B) Coffee w/Cream(B)

IM - Intermediate Moisture
 R - Rehydratable
 NF - Natural Form
 B - Beverage
 T - Thermostabilized
 I - Irradiated

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TABLE 19-XI.- Continued

(b) Fredrick D. Gregory, PLT (Yellow) (Silver Team)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(R) Or-Pineapple Drnk(R)	Peaches, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Strawberry Inst Rkfst(R) Orange-Grapefruit Drk(R)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(R) Orange Juice Mix(R)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Trail Mix(IM) Pecan Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Trail Mix(IM) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Trail Mix(IM) Fruitcake(T) Orange-Mango Drk(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Trail Mix(IM) Strawberry Drk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(R)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meal C only, Day 8 consists Meals B and C for the Silver Team

IM - Intermediate Moisture
R - Rehydratable
R - Beverage
T - Thermostabilized
NF - Natural Form

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TABLE 19-XI.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scrambled Eggs(R) Strawberry Inst Brkfst(B) Orange-Grapefruit Drink(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Trail Mix(IM) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Trail Mix(IM) Almonds(NF) Apple Drink(2X)(R)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Trail Mix(IM) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Ground Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

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TABLE 19-XI.- Continued
(c) Don Lind, MS-1 (Blue) (Gold Team)

MEAL	DAY 1, 8*			
	DAY 2	DAY 3	DAY 4	DAY 4
A	Pears, Dried(IM) Sausage (R) Scrambled Eggs(R) Cornflakes(R) Trail Mix(IM) Cocoa(B) Orange-Mango Drink(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Trail Mix(IM) Vanilla Inst Brkfst(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Scrambled Eggs(R) Bran Flakes(R) Trail Mix(IM) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(MF) Trail Mix(IM) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Trail Mix(IM) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Trail Mix(IM) Peach-APricot Drink(B) Lemonade(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Trail Mix(IM) Orange-Mango Dk(2X)(B)
C	Teriyaki Chicken(R) Cauliflower w/Cheese(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Turkey Tetrazzini(R) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Lemon Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Orange-Mango Drink(R)	Teriyaki Chicken(R) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only for the Gold Team

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XI.- Continued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Trail Mix(IM) Cocoa(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Trail Mix(IM) Choc Inst Breakfast(B) Orange-Mango Drink(B)	Peaches, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Granola w/Blueberries(R) Trail Mix(IM) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Trail Mix(IM) Peach-Apricot Drink(B) Lemonade(R)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbrd Cookies(NF) Almonds(NF) Trail Mix(IM) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)
C	Beef Steak(I) Turkey Tetrizzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Teriyaki Chicken(R) Potato Patty(R) Broccoli au Gratin(R) Peach Ambrosia(R) Orange Drink(B)	Shrimp Cocktail(R) Sweet'n Sour Chicken(R) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Orange-Mango Drink(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized
 I - Irradiated

1/25/85

TABLE 19-XI.- Continued

(d) Norman E. Thagard, M.D., MS-2 (Green) (Silver Team)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drink(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfast(B) Orange-Grapefruit Dk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(2X)(B)	Ham(T) Cheddar Cheese Sprd(R) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meal C only, Day 8 consists Meals B and C for the Silver Team

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

1/25/85

TABLE 19-X1.- Continued
(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Inst Breakfast(B) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrizzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

3/25/85

TABLE 19-XI.- Continued

(e) William E. Thornton, M.D., MS-3 (Orange) (Gold Team)

MEAL	DAY 1, 8*	DAY			
		2	3	4	
A	Pears, Dried(IM)	Peaches, Dried(IM)	Apricots, Dried(2X)(IM)	Pears, Dried(IM)	
	Sausage(R)	Sausage(R)	Beef, Dried(IM)	Beef Patty(R)	
	Cornflakes(R)	Granola(R)	Bran Flakes(R)	Peach Ambrosia(R)	
	Or-Pineapple Dk(2X)(B)	Breakfast Roll(NF)	Orange Juice Mix(B)	Breakfast Roll(NF)	
B	Ham(T)	Orange-Grapeft Drk(B)	Tea/Lpsg Schng/C&A/S(B)	Grapefruit Drink(B)	
	Bread(NF)	Tuna Salad Spread(T)	Peanut Butter(IM)	Ham(T)	
	Peaches, Diced(T)	Bread(NF)	Jelly(IM)	Cheddar Cheese Sprd(T)	
	Pecan Cookies(NF)	Pears, Diced(T)	Bread(NF)	Bread(NF)	
	Orange Jce Mix(2X)(B)	Butter Cookies(NF)	Fruit Cocktail(T)	Pineapple(T)	
		Lemonade(2X)(B)	Fruitcake(T)	Cashews(NF)	
C	Beef Steak(I)		Orange-Mango Drk(2X)(B)	Or-Grapefruit Dk(2X)(B)	
	Rice Pilaf(R)	Beef w/BBQ Sauce(T)			
	Asparagus(R)	Potatoes au Gratin(R)	Frankfurters(T)	Meatballs w/BBQ Sce(T)	
	Chocolate Pudding(T)	Grn Beans w/Mshrms(R)	Potato Patty(R)	Rice Pilaf(R)	
	Citrus Drink(B)	Buttersch Pudding(T)	Grn Beans & Broccoli(R)	Italian Vegetables(R)	
		Orange Drink(B)	Strawberries(R)	Chocolate Pudding(T)	
			Vanilla Pudding(T)	Tea/Lpsg Schng/C&A/S(B)	
		Lemonade(B)			

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only for the Gold Team

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- I - Irradiated

Lpsng Schng - Lpsng Souchong Tea Bag
 C&A/S - Cream & Artificial Sweetener

TABLE 19-XI.- Continued

(e) Concluded

MEAL	DAY 5		DAY 6		DAY 7	
	A	B	A	B	A	B
	<p>Peaches, Dried(IM) Sausage(R) Breakfast Roll(NF) Granola w/Raisins(R) Peach Ambrosia(R) Orange-Pineapple Drk(B)</p>	<p>Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Lemonade(2X)(B)</p>	<p>Apricots, Dried(2X)(IM) Beef Patty(R) Cornflakes(R) Trail Mix(IM) Or-Grapefruit Dk(2X)(B)</p>	<p>Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Or-Pineapple Drk(2X)(B)</p>	<p>Peaches, Dried(2X)(IM) Beef Patty(R) Granola Bar(NF) Granola w/Blueberries(R) Orange Juice Mix(B)</p>	<p>Dried Beef(2X)(IM) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Macadamia Nuts(NF) Lemonade(2X)(B)</p>
	<p>Shrimp Cocktail(R) Beef Steak(I) Potato au Gratin(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)</p>		<p>Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)</p>	<p>Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Orange-Mango Drink(B)</p>		

IM - Intermediate Moisture
R - Rehydratable
NF - Natural Form
B - Beverage
T - Thermostabilized
I - Irradiated

2/25/85

TABLE 19-XI.- Continued

(f) Taylor G. Wang (Jet Propulsion Laboratory, CA), PS-1 (Brown) (Gold Team)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Cornflakes(R) Orange-Grapefrt Drk(B)	Apricots, Dried(IM) Sausage(R) Seasoned Scram Eggs(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(B) Tea, Silver Jsmn(R)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(B) Tea, Silver Jasmine(B)	Tuna(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(B) Orange-Mango Drink(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(B) Tea, Silver Jasmine(B)
C	Chicken ala King(T) Tuna(T) Asparagus(R) Trail Mix(IM) Grape Drink(B) Tea, Silver Jsmn(R)	Beef w/BBQ Sauce(T) Chicken & Rice(R) Grn Beans w/Mushrms(R) Butter Cookies(NF) Orange Drink(B) Tea, Instant(B)	Frankfurters(T) Spaghetti w/Meat Sce(R) Grn Beans & Broccoli(R) Strawberries(R) Trail Mix(IM) Tropical Punch(B) Tea, Silver Jasmine(B)	Meatballs w/BBQ Sce(T) Noodles & Chicken(R) Italian Vegetables(R) Peaches, Diced(T) Apple Drink(B) Tea, Silver Jasmine(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only for the Gold Team

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XI.- Continued

(f) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Breakfast Roll(NF) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lemon & Sugar(B) Orange-Mango Drink(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(B) Tea, Silver Jasmine(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(B) Tea, Instant(B)
C	Turkey & Gravy(T) Teriyaki Chicken(R) Cauliflower w/Cheese(R) Trail Mix(NF) Lemonade(B) Tea, Silver Jasmine(B)	Grd Beef w/Spice Sce(T) Salmon(T) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B) Tea, Silver Jasmine(B)	Shrimp Cocktail(R) Beef & Gravy(T) Spaghetti w/Meat Sauce(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea, Instant(B) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

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TABLE 19-XI.- Continued

(g) Lodewijk Van Den Berg (EG&G Inc., Goleta, CA),
PS-2 (Purple) (Silver Team)

MEAL DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Diced(T) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Trail Mix(IM) Cocoa(B)	Peaches, Diced(T) Scrambled Eggs(R) Breakfast Roll(NF) Trail Mix(IM) Cocoa(B) Orange-Mango Drink(R)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Bran Flakes(R) Trail Mix(IM) Cocoa(B) Orange Juice Mix(R)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Trail Mix(IM) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Peaches, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Trail Mix(IM) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice Pilaf(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meal C only, Day 8 consists Meals B and C for the Silver Team

- T - Thermostabilized
- R - Rehydratable
- IM - Intermediate Moisture
- B - Beverage
- NF - Natural Form

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TABLE 19-XI.- Concluded

(g) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Diced(T) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Trail Mix(IM) Cocoa(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Trail Mix(IM) Cocoa(B) Orange-Mango Drink(B)	Peaches, Diced(T) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Trail Mix(IM) Cocoa(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Trail Mix(IM) Tea w/Lemon & Sugar(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Trail Mix(IM) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice See(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

- T - Thermostabilized
- R - Rehydratable
- IM - Intermediate Moisture
- B - Beverage
- NF - Natural Form

11/29/84

TABLE 19-XII.-- SPACE SHUTTLE MENU - STS 51-C

(a) Kent Mattingly, CDR (Red)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drink(R) Kona Coffee(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(R) Orange-Grapefrt Drk(B) Kona Coffee(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Rran Flakes(R) Cocoa(B) Orange Juice Mix(B) Kona Coffee(B)	Pears, Dried(IM) Reef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Kona Coffee(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(R) Kona Coffee(B)	Salmon(T) Bread(NF) Pears, Diced(T) Rutter Cookies(NF) Lemonade(B) Kona Coffee(B)	Peanut Rutter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(B) Kona Coffee(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(B) Kona Coffee(B)
C	Chicken ala King(T) Chicken & Rice(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(R) Kona Coffee(B)	Reef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Ruttersch Pudding(T) Orange Drink(R) Kona Coffee(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B) Kona Coffee(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B) Kona Coffee(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

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TABLE 19-XII.- Continued

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(R) Orange-Pineapple Drk(B) Kona Coffee(B)</p>	<p>Apricots, Dried(IM) Reef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfast(B) Orange-Grapefruit Dk(B) Kona Coffee(B)</p>	<p>Peaches, Dried(IM) Reef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) Kona Coffee(B)</p>
B	<p>Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lemon & Sugar(B) Kona Coffee(B)</p>	<p>Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(B) Kona Coffee(B)</p>	<p>Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(B) Kona Coffee(B)</p>
C	<p>Turkey & Gravy(T) Turkey Tetrzzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B) Kona Coffee(B)</p>	<p>Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B) Kona Coffee(B)</p>	<p>Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B) Kona Coffee(B)</p>

IM - Intermediate Moisture
R - Rehydratable
R - Beverage
NF - Natural Form
T - Thermostabilized

12/03/84

TABLE 19-XII.- Continued

(b) Loren Shriver, PLT (Yellow)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Apricot-Peach Drink(B) Decaf Coffee w/Sugar(B)	Peaches, Diced(T) Breakfast Roll(NF) Granola Bar(NF) Cherry Drink w/A/S(R) Decaf Coffee w/Sugar(R)	Pears, Diced(T) Reef Patty(R) Seasoned Scramb Eggs(R) Apricot-Peach Drink(B) Decaf Coffee w/Sugar(R)	Pears, Diced(T) Beef Patty(R) Breakfast Roll(NF) Granola Bar(NF) Grape Drink(B) Decaf Coffee w/Sugar(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Chicken Salad Sprd(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Grape Drink(B) Decaf Coffee w/Sugar(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Cherry Drink w/A/S Decaf Coffee w/Sugar(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Fruit Cocktail(T) Cashews(NF) Tropical Punch(2X)(B)
C	Rice & Chicken Soup(R) Chicken ala King(T) Grn Beans w/Mshrooms(R) Vanilla Pudding(T) Grape Drink(B) Decaf Coffee w/Sugar(B)	Shrimp Cocktail(R) Reef Steak(I) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Apple Drink(B)	Mushroom Soup(R) Sweet'n Sour Chicken(R) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Shrimp Cocktail(R) Beef & Gravy(T) Rice Pilaf(R) Italian Vegetables(R) Butterscotch Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener
I - Irradiated

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TABLE 19-XII.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Diced(T)	Pears, Diced(T)	Applesauce(T)
	Sausage(R)	Beef Patty(R)	Beef Patty(R)
	Scrambled Eggs(R)	Seasoned Scramb Eggs(R)	Scrambled Eggs(R)
	Granola Bar(NF)	Breakfast Roll(NF)	Granola Bar(NF)
	Grape Drink(R)	Grape Drink(R)	Cherry Drink w/A/S(B)
	Decaf Coffee w/Sugar(B)	Decaf Coffee w/Sugar(B)	Decaf Coffee w/Sugar(B)
B	Dried Reef(IM)	Tuna Salad Spread(T)	Chicken Salad Spread(T)
	Bread(NF)	Bread(NF)	Bread(NF)
	Applesauce(T)	Butterscotch Pudding(T)	Vanilla Pudding(T)
	Peanuts, Dry Roast(NF)	Shortbread Cookies(NF)	Pecan Cookies(NF)
	Cherry Drink w/A/S(B)	Almonds(NF)	Grape Drink(2X)(B)
	Decaf Coffee w/Sugar(B)	Apple Drink(2X)(B)	
C	Mushroom Soup(R)	Rice & Chicken Soup(R)	Shrimp Cocktail(R)
	Turkey & Gravy(T)	Grd Beef w/Spice Sce(T)	Beef & Gravy(T)
	Turkey Tetrazzini(R)	Potato Patty(R)	Macaroni & Cheese(R)
	Butter Cookies(NF)	Broccoli au Gratin(R)	Grn Beans w/Mushrooms(R)
	Decaf Coffee w/Sugar(B)	Pears, Diced(T)	Peach Ambrosia(R)
		Cherry Drink w/A/S(B)	Decaf Coffee w/Sugar(B)

- T - Thermostabilized
- R - Rehydratable
- NF - Natural Form
- B - Beverage
- IM - Intermediate Moisture
- A/S - Artificial Sweetener

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TABLE 19-XII.- Continued
(C) Ellison Onizuka, MS-1 (Blue)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Fruit Cocktail(T) Ham(T) Seasoned Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drink(B) Kona Coffee(B)	Applesauce(T) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrt Drk(B) Kona Coffee(B)	Pineapple(T) Frankfurters(T) Granola Bar(NF) Cocoa(B) Orange Juice Mix(B) Kona Coffee(B)	Peaches, Diced(T) Beef Patty(R) Granola w/Blueberries(R) Breakfast Roll(NF) Grapefruit Drink(B) Kona Coffee(B)
B	Beef Stroganoff(R) Peaches, Diced(T) Pecan Cookies(NF) Macadamia Nuts(NF) Apple Drink(2X)(B)	Salmon(T) Rice & Chicken(R) Pears, Diced(T) Butter Cookies(NF) Lemonade(B) Coffee(B)	Dried Beef(IM) Rice & Chicken(R) Fruit Cocktail(T) Fruitcake(T) Macadamia Nuts(NF) Tea w/Lemon(2X)(B)	Ham(T) Potatoes au Gratin(R) Pineapple(T) Cashews(NF) Trail Mix(IM) Tea w/Lemon(2X)(B)
C	Shrimp Cocktail(R) Teriyaki Chicken(R) Rice Pilaf(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon(2X)(B)	Beef & Gravy(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Buttersch Pudding(T) Tea w/Lemon(2X)(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Teriyaki Chicken(R) Rice Pilaf(R) Asparagus(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

T - Thermostabilized
R - Rehydratable
B - Beverage
NF - Natural Form
IM - Intermediate Moisture
I - Irradiated

TABLE 19-XII.-- Cont Inued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Fruit Cocktail(T) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drk(B)</p>	<p>Applesauce(T) Beef Patty(R) Seasoned Scrambled Eggs(R) Choc Instant Breakfast(B) Orange-Grapefruit Drink(B) Kona Coffee(B)</p>	<p>Peaches, Diced(T) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) Kona Coffee(B)</p>
B	<p>Dried Beef(IM) Potatoes au Gratin(R) Applesauce(T) Peanuts, Dry Roastd(NF) Tea w/Lemon(2X)(R)</p>	<p>Beef Almondine(R) Beef Stroganoff(R) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)</p>	<p>Macaroni & Cheese(R) Noodles & Chicken(R) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)</p>
C	<p>Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)</p>	<p>Shrimp Cocktail(R) Beef w/BBQ Sauce(R) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea w/Lemon(B)</p>	<p>Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon(B)</p>

T - Thermostabilized
 R - Rehydratable
 B - Beverage
 IM - Intermediate Moisture
 NF - Natural Form

10/24/84

TABLE 19-XII.- Continued
(d) James Buchli, MS-2 (Green)

MEAL DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Peaches, Diced(T) Sausage(R) Scrambled Eggs(R) Choc Inst Breakfast(B) Kona Coffee w/C&A/S(B)	Peaches, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Kona Coffee w/C&A/S(B)	Apricots, Dried(IM) Ham(T) Seasoned Scramb Eggs(R) Milk(B) Kona Coffee w/C&A/S(B)
B	Ham(T) Macaroni & Cheese(R) Peach Ambrosia(R) Macadamia Nuts(NF) Tea w/A/S(2X)(B)	Mushroom Soup(R) Salmon(T) Soda Crackers(NF) Butter Cookies(NF) Candy Coated Peanuts(NF) Macadamia Nuts(NF) Tea w/A/S(2X)(B)	Frankfurters(T) Macaroni & Cheese(R) Trail Mix(NF) Macadamia Nuts(NF) Tea w/A/S(2X)(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Rice & Chicken(R) Broccoli au Gratin(R) Chocolate Pudding(T) Tea w/A/S(2X)(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Tea w/A/S(2X)(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sce(T) Potatoes au Gratin(R) Italian Vegetables(R) Chocolate Pudding(T) Tea w/A/S(2X)(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

T - Thermostabilized
 R - Rehydratable
 B - Beverage
 C&A/S - Cream & Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

TABLE 19-XII.- Cont Inued

(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Apricots, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola Bar(NF) Milk(B) Kona Coffee w/Crm & A/S(B)</p>	<p>Pears, Dried(IM) Ham(T) Seasoned Scrambled Eggs(R) Choc Inst Breakfast(R) Kona Coffee w/Crm & A/S(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Kona Coffee w/Crm & A/S(B)</p>
B	<p>Turkey Tetrazzini(R) Green Beans w/Mushrooms(R) Butterscotch Pudding(T) Cashews(NF) Macadamia Nuts(NF) Tea w/A/S(2X)(B)</p>	<p>Rice & Chicken Soup(R) Noodles & Chicken(R) Cheddar Cheese Spread(T) Soda Crackers(NF) Tea w/A/S(2X)(B)</p>	<p>Teriyaki Chicken(R) Potato Patty(R) Vanilla Pudding(T) Macadamia Nuts(NF) Tea w/A/S(2X)(B)</p>
C	<p>Shrimp Cocktail(R) Beef Stroganoff(R) Creamed Spinach(R) Candy Coated Peanuts(NF) Tea w/A/S(2X)(B)</p>	<p>Beef Steak(I) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea w/A/S(2X)(B)</p>	<p>Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/A/S(2X)(B)</p>

IM - Intermediate Moisture
R - Rehydratable
NF - Natural Form
B - Beverage
A/S - Artificial Sweetener
T - Thermostabilized
I - Irradiated

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TABLE 19-XII.-- Continued

(e) Gary Payton (USAF), PS-1 (Orange)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Orange-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Granola Bar(NF) Vanilla Inst Brkfst(R) Orange-Grapefrt Drk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Granola Bar(NF) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Granola Bar(NF) Grapefruit Drink(B)
R	Turkey Salad Spread(T) Bread(NF) Peaches, Diced(T) Trail Mix(IM) Apple Drink(2X)(B)	Ham Salad Spread(T) Bread(NF) Applesauce(T) Trail Mix(IM) Lemonade w/A/S(2X)(B)	Chicken Salad Spread(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Apple Drink(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade w/A/S(2X)(B)
C	Chicken ala King(T) Chicken & Rice(R) Cauliflower w/Cheese(R) Chocolate Pudding(T) Cherry Drink w/A/S(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Fruit Cocktail(T) Orange Drink w/A/S(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Trail Mix(IM) Tropical Punch w/A/S(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Trail Mix(IM) Apple Drink (B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener

TABLE 19-XII.- Concluded

(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)</p>	<p>Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Granola Bar(NF) Orange-Grapefruit Dk(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)</p>
B	<p>Ham Salad Spread(T) Bread(NF) Applesauce(T) Macadamia Nuts(NF) Tropical Punch w/A/S(2X)(B)</p>	<p>Chicken Salad Spread(T) Bread(NF) Lemon Pudding(T) Almonds(NF) Trail Mix(IM) Apple Drink(2X)(B)</p>	<p>Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Trail Mix(IM) Lemonade w/A/S(2X)(B)</p>
C	<p>Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Trail Mix(IM) Lemonade w/A/S(B)</p>	<p>Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink w/A/S(B)</p>	<p>Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tropical Punch w/A/S(B)</p>

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener

3/12/85

TABLE 19-XIII.- SPACE SHUTTLE MENU - STS 51-0

(a) Karol J. Bobko, CDR (Red)

MEAL	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrnt Drk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drnk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Turkey, Smoked(I) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Buttersctch Pudding(T) Orange Drink(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

I - Irradiated

3/12/85

TABLE 19-XIII.- Continued

(b) Donald E. Williams, PLT (Yellow)

	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrt Drk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shortbrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Butterscoch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Grn Beans w/Mushrms(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

3/12/85

TABLE 19-XIII.- Continued

(c) Jeffrey A. Hoffman, MS-1 (Blue)

MEAL	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried (IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Dk(B) Tea w/Cream(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrt Drk(B) Tea w/Cream(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B) Tea w/Cream(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Tea w/Cream(B)	Pears, Dried (IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drk(B) Tea w/Cream(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(B) Tea w/Cream(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(B) Tea w/Cream(B)	Mushroom Soup(R) Tuna(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Cream(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(B) Tea w/Cream(B)	Grd Beef w/Spice Sce(T) Spaghetti w/Meat Sce(R) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Cream(2X)(B)
C	Swt'n Sour Chicken(R) Rice & Chicken(R) Asparagus(R) Strawberries(R) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Peach Ambrosia(R) Citrus Drink(B)	Beef Stroganoff(R) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Applesauce(T) Peach Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Applesauce(T) Strawberries(R) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

3/12/85

TABLE 19-XIII.- Continued
(d) David Griggs, MS-2 (Green)

MEAL	DAY 2,6**				
	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Granola Bar(NF) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Coffee(B)	Peaches, Dried(IM) Granola Bar(NF) Breakfast Roll(NF) Orange-Grapefruit Dk(B) Coffee(B)	Apricots, Dried(IM) Granola Bar(NF) Bran Flakes(R) Orange Juice Mix(B) Coffee(B)	Pears, Dried(IM) Granola Bar(NF) Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)	Pears, Dried(IM) Granola Bar(NF) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Coffee(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only
**Day 6 consists of Meal A only

IM - Intermediate Moisture
NF - Natural Form
R - Rehydratable
B - Beverage
T - Thermostabilized

TABLE 19-XIII.- Continued

(e) Rhea Seddon, MS-3 (Orange)

MEAL	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfast(R) Orange-Grapefruit Dk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drnk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Grd Beef w/Spice Sce(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & A/S(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(2X)(B)	Dried Beef(IM) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Strawberries(R) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Corn, Grn Beans & Pasta(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Corn, Grn Bns & Pasta(R) Brownie(NF) Lemonade w/A/S(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

A/S - Artificial Sweetener

3/12/85

TABLE 19-XIII.- Continued

(f) Charles Walker (McDonnell Douglas, St. Louis, MO). PS-1 (Brown)

MEAL	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B) Coffee (B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefruit Dnk(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(R) Coffee(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drnk(B) Coffee (B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(B) Coffee(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(B) Coffee(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sugar(B) Coffee(B)	Ham(T) Cheddar Cheese Sprd(R) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(B) Coffee(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

3/12/85

TABLE 19-XIII.- Concluded

(g) Senator Jake Garn (UT), PS-2 (Purple)

MEAL	DAY 1*	DAY 2,6**	DAY 3	DAY 4	DAY 5
A	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Dk(B)	Peaches, Dried(IM) Oatmeal w/Brwn Sugar(R) Breakfast Roll(NF) Vanilla Inst Brkfast(B) Orange Drink(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Peaches, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange Juice Mix(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drk(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Applesauce(T) Butter Cookies(NF) Lemonade(2X)(B)	Chicken Sld Spread(T) Bread(NF) Fruit Cocktail(T) Shortbread Cookies(NF) Apple Drink(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drink(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Apple Drink(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Strawberries(R) Pineapple Drink(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans w/Mushrms(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Brownies(NF) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownie(NF) Lemonade(B)

*Day 1 consists of Meals B and C only

**Day 6 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

C-3

12/03/84

TABLE 19-KIV.- SPACE SHUTTLE MENU - STS 51-F
(a) Gordon Fullerton, CDR (Red)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	<p>Pears, Diced(T) Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Grapefruit Drink(B)</p>	<p>Peaches, Diced(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Orange-Grapefruit Drk(B)</p>	<p>Apricots, Dried(IM) Seasoned Scramb Eggs(R) Sausage Patty(R) Cocoa(B) Orange Juice Mix(B)</p>	<p>Peaches, Diced(T) Beef Patty(R) Granola w/Blueberries(B) Breakfast Roll(NF) Grapefruit Drink(B)</p>
B	<p>Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Trail Mix(IM) Apple Drink(2X)(B)</p>	<p>Chili Mac w/Beef(R) Rice Pilaf(R) Pears, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)</p>	<p>Beef Stroganoff(R) Italian Vegetables(R) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)</p>	<p>Ham(T) Cheddar Cheese Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Citrus Drink(2X)(B)</p>
C	<p>Chicken ala King(T) Rice & Chicken(R) Broccoli au Gratin(R) Chocolate Pudding(T) Orange Drink(B)</p>	<p>Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Pecan Cookies(NF) Orange Drink(B)</p>	<p>Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)</p>	<p>Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Shortbread Cookies(NF) Apple Drink(B)</p>

T - Thermostabilized
R - Rehydratable
B - Beverage
NF - Natural Form
IM - Intermediate Moisture
I - Irradiated

TABLE 19-XIV.- Continued
(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambl'd Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Breakfst(B) Orange-Grapefruit Drk(B)	Peaches, Dried(IM) Reef Patty(R) Mexican Scrambl'd Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Shrimp Cocktail(R) Tuna Salad Spread(T) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Teriyaki Chicken(R) Corn, Grn Bns & Pasta(R) Fruit Cocktail(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Teriyaki Chicken(R) Bread(NF) Fruitcake(T) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Strawberries(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(R)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form

6/21/85

TABLE 19-XIV.- Continued

(b) Roy D. Bridges. PLT (Yellow)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	<ul style="list-style-type: none"> Beef Patty(R) Mexican Scr Eggs(R) Orange Juice Mix(B) 	<ul style="list-style-type: none"> Applesauce(T) Breakfast Roll(NF) Oatmeal w/Raisins(R) Vanilla Inst Brkfst(B) Orange-Pineapple Dk(R) 	<ul style="list-style-type: none"> Sausage(R) Scrambled Eggs(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefruit Dk(B) 	<ul style="list-style-type: none"> Beef Patty(R) Seasoned Scram Eggs(R) Breakfast Roll(NF) Orange Juice Mix(B)
B	<ul style="list-style-type: none"> Ham(T) Cheddar Cheese Sp(T) Beef Stroganoff(R) Bread(NF) Peach Ambrosia(R) Cashews(NF) Lemonade w/A/S(B) Tea(B) 	<ul style="list-style-type: none"> Ham(T) Cheddar Cheese Sprd(T) Macaroni & Cheese(R) Bread(NF) Peanuts, Dry Roast(NF) Pecan Cookies(NF) Apple Drink(B) Tea(B) 	<ul style="list-style-type: none"> Salmon(T) Beef Stroganoff(R) Bread(NF) Butter Cookies(NF) Cashews(NF) Lemonade w/A/S(B) Tea(R) 	<ul style="list-style-type: none"> Ham(T) Cheddar Cheese Sprd(T) Rice & Chicken(R) Bread(NF) Butter Cookies(NF) Almonds(NF) Tea w/Lemon(B) Orange-Mango Drink(B)
C	<ul style="list-style-type: none"> Chicken ala King(T) Rice & Chicken(R) Vanilla Pudding(T) Grape Drink w/A/S(B) 	<ul style="list-style-type: none"> Beef w/BBQ Sauce(T) Noodles & Chicken(R) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Strawberries(R) Shrtbread Cookies(NF) Orange Drink w/A/S(B) 	<ul style="list-style-type: none"> Shrimp Cocktail(R) Reef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Peach Ambrosia(R) Tropical Punch w/A/S(B) 	<ul style="list-style-type: none"> Beef & Gravy(T) Rice Pilaf(R) Italian Vegetables(R) Vanilla Pudding(T) Pecan Cookies(NF) Grape Drink w/A/S(B)

R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 A/S - Artificial Sweetener
 I - Irradiated

TABLE 19-XIV.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B)	Sausage(R) Mexican Scramb Eggs(R) Breakfast Roll(NF) Orange Juice Mix(B)	Sausage(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange Juice Mix(B)
R	Tuna(T) Turkey Tetrazzini(R) Bread(NF) Cashews(NF) Lemonade w/A/S(B) Tea(B)	Frankfurters(T) Rice & Chicken(R) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Grape Drink w/A/S(B) Tea(B)	Tuna(T) Noodles & Chicken(R) Bread(NF) Butter Cookies(NF) Cashews(NF) Grape Drink w/A/S(B) Tea(B)
C	Turkey & Gravy(T) Potato Patty(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade w/A/S(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pecan Cookies(NF) Orange Drink w/A/S(B)	Shrimp Cocktail(R) Beef Steak(I) Rice Pilaf(R) Grn Beans w/Mshrms(R) Peach Ambrosia(R) Shrtbread Cookies(NF) Tea(B)

R - Rehydratable
 NF - Natural Form
 B - Beverage
 T - Thermostabilized
 A/S - Artificial Sweetener
 I - Irradiated

11/20/84

TABLE 19-XIV.- Continued

(c) Karl G. Henize, MS-1 (Blue)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	Scrambled Eggs(R) Cheddar Cheese Spread(T) Bread, Rye(NF) Breakfast Roll(NF) Orange-Pineapple Drnk(B) Coffee(B)	Ham(T) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Grapefrt Drk(B) Coffee(B)	Ham(T) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Mango Dk(B) Coffee(B)	Scrambled Eggs(R) Sausage(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)
B	Ham(T) Bread, Rye(NF) Cashews(NF) Cocoa(R) Coffee(B)	Cheddar Cheese Sprd(T) Bread, Rye(NF) Peach Ambrosia(R) Almonds(NF) Lemonade(B) Coffee(B)	Tuna(T) Bread, Rye(NF) Cashews(NF) Cocoa(B) Coffee(B)	Cheddar Cheese Spread(T) Bread, Rye(NF) Granola Bar(NF) Lemonade(B) Coffee(B)
C	Chicken Consomme(R) Spag w/Meat Sauce(2X)(R) Chocolate Pudding(T) Choc Covered Cookies(NF) Cocoa(B)	Shrimp Cocktail(R) Turkey Tetrazzini(R) Rice Pilaf(R) Broccoli w/Cheese(R) Peach Ambrosia(R) Pecan Cookies(NF) Cocoa(B)	Shrimp Cocktail(R) Shrimp Creole(R) Rice Pilaf(R) Chocolate Puding(T) Pecan Cookies(NF) Cocoa(B)	Mushroom Soup(R) Teriyaki Chicken(R) Potatoes au Gratin(R) Peach Ambrosia(R) Fruitcake(T) Cocoa(B)

R - Rehydratable
T - Thermostabilized
NF - Natural Form
B - Beverage

TABLE 19-XIV.- Continued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Scrambled Eggs(R) Ham(T) Breakfast Roll(NF) Orange-Grapefruit Drk(R) Coffee(B)	Sausage(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Mango Drink(B) Coffee(B)	Ham(T) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Grapefruit Drk(B) Coffee(B)
B	Salmon(T) Bread, Rye(NF) Trail Mix(IM) Orange-Mango Drink(R) Cocoa(B)	Ham(T) Bread, Rye(NF) Cashews(NF) Lemonade(2X)(B)	Tuna(T) Bread, Rye(NF) Granola Bar(NF) Cocoa(B) Coffee(B)
C	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potato Patty(R) Broccoli w/Cheese(R) Lemon Pudding(T) Choc Covered Cookies(NF) Cocoa(B)	Rice & Chicken(R) Sweet'n Sour Chicken(R) Rice Pilaf(R) Peach Ambrosia(R) Pecan Cookies(NF) Cocoa(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sce(T) Potato Patty(R) Lemon Pudding(T) Choc Covered Cookies(NF) Cocoa(B)

R - Rehydratable
T - Thermostabilized
NF - Natural Form
B - Beverage
IM - Intermediate Moisture

TABLE 19-XIV.- Continued

(d) Story Musgrave, MS-2 (Green)

MEAL DAYS 1-7

- A** Peaches, Dried(IM)
Pears, Dried(IM)
Dried Beef(IM)
Ham(T)
Bread, Wheat(NF)
Granola Bar(NF)
Orange Juice Mix(B)
Coffee w/Cream(B)
- B** Turkey & Gravy(T)
Broccoli au Gratin(R)
Peach Ambrosia(R)
Apricots, Dried(IM)
Almonds(NF)
Cashews(NF)
Lemonade(2X)(B)
- C** Shrimp Cocktail(R)
Beef Steak(I)
Spaghetti w/Meat Sauce(R)
Dried Beef(IM)
Asparagus(R)
Strawberries(R)
Apple Drink(B)

IM - Intermediate Moisture
T - Thermostabilized
NF - Natural Form
B - Beverage
R - Rehydratable
I - Irradiated

12/10/84

TABLE 19-XIV.- Continued
(e) Tony England, MS-3 (Orange)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	<p>Peaches, Diced(T) Breakfast Roll(NF) Granola w/Raisins(R) Orange Juice Mix(B) Coffee(B)</p>	<p>Apricots, Dried(IM) Breakfast Roll(NF) Granola w/Blueberries(R) Orange Juice Mix(B) Coffee(B)</p>	<p>Peaches, Diced(T) Breakfast Roll(NF) Oatmeal w/Raisins(R) Orange Juice Mix(B) Coffee(B)</p>	<p>Pears, Dried(IM) Breakfast Roll(NF) Granola w/Blueberries(R) Orange Juice Mix(B) Coffee(B)</p>
B	<p>Ham(T) Bread, Whole Wheat(NF) Butterscotch Pudding(T) Granola Bar(NF) Shortbread Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Dried Beef(IM) Bread, Whole Wheat(NF) Applesauce(T) Cashews(NF) Butter Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Peanut Butter(IM) Jelly(IM) Bread, Whole Wheat(NF) Lemon Pudding(T) Granola Bar(NF) Butter Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Salmon(T) Bread, Whole Wheat(NF) Applesauce(T) Trail Mix(NF) Graham Crackers(NF) Tea w/Lemon & A/S(2X)(B)</p>
C	<p>Shrimp Cocktail(R) Beef Stroganoff(R) Cauliflower w/Cheese(R) Chocolate Pudding(T) Pecan Cookies(NF) Orange Drink w/A/S(B)</p>	<p>Shrimp Cocktail(R) Turkey & Gravy(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Shortbread Cookies(NF) Tropical Punch w/A/S(B)</p>	<p>Shrimp Cocktail(R) Beef Almondine(R) Broccoli au Gratin(R) Chocolate Pudding(T) Butter Cookies(NF) Cherry Drink w/A/S</p>	<p>Shrimp Cocktail(R) Sweet'n Sour Chicken(R) Italian Vegetables(R) Butterscotch Pudding(T) Shortbread Cookies(NF) Tropical Punch w/A/S(B)</p>

T - Thermostabilized
NF - Natural Form
R - Rehydratable
B - Beverage
A/S - Artificial Sweetener
IM - Intermediate Moisture

TABLE 19-XIV.- Continued

(e) Concluded

MEAL DAY 5	DAY 6	DAY 7
A	<ul style="list-style-type: none"> Pears, Diced(T) Breakfast Roll(NF) Granola w/Raisins(R) Orange Juice Mix(B) Coffee(B) 	<ul style="list-style-type: none"> Applesauce(T) Breakfast Roll(NF) Granola w/Blueberries(R) Orange Juice Mix(B) Coffee(B)
B	<ul style="list-style-type: none"> Ham(T) Bread, Whole Wheat(NF) Butterscotch Pudding(T) Butter Cookies(NF) Almonds(NF) Tea w/Lemon & A/S(2X)(B) 	<ul style="list-style-type: none"> Ham(T) Bread, Whole Wheat(NF) Butterscotch Pudding(T) Almonds(NF) Shortbread Cookies(NF) Tea w/Lemon & A/S(2X)(B)
C	<ul style="list-style-type: none"> Shrimp Cocktail(R) Chili Mac w/Beef(R) Corn, Grn Bns & Pasta(R) Applesauce(T) Fruitcake(T) Tropical Punch w/A/S(B) 	<ul style="list-style-type: none"> Shrimp Cocktail(R) Turkey Tetrazzini(R) Broccoli au Gratin(R) Peach Ambrosia(R) Pecan Cookies(NF) Cherry Drink w/A/S(B)

T - Thermostabilized
 NF - Natural Form
 R - Rehydratable
 B - Beverage
 A/S - Artificial Sweetener
 IM - Intermediate Moisture

2/25/85

TABLE 19-XIV.- Continued
(f) Loren Acton, PS-1 (Brown)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Mango Dk(B) Kona Coffee(B)	Peaches, Dried(IM) Scrambled Eggs(R) Granola(R) Breakfast Roll(NF) Orange-Grapefrt Drk(B) Kona Coffee(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) Kona Coffee(B)	Pears, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B) Kona Coffee(B)
B	Beef Steak(I) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Or-Mango Drink(2X)(B)	Mushroom Soup(R) Soda Crackers(NF) Fruit Cocktail(T) Macadamia Nuts(NF) Tea w/Lemon & Sug(2X)(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Bread(NF) Strawberries(R) Cashews(NF) Tea w/Lemon(2X)(B)
C	Teriyaki Chicken(R) Rice Pilaf(R) Asparagus(B) Strawberries(R) Kona Coffee(R)	Beef & Gravy(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Peach Ambrosia(R) Kona Coffee(B)	Turkey Tetrazzini(R) Whole Wheat Bread(NF) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Kona Coffee(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Peach Ambrosia(R) Kona Coffee(B)

IM - Intermediate Moisture
R - Rehydratable
NF - Natural Form
B - Beverage
I - Irradiated
T - Thermostabilized

TABLE 19-XIV.- Continued

(f) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Orange-Pineapple Drink(B) Kona Coffee(B)</p>	<p>Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Breakfast Roll(NF) Orange-Grapefruit Dk(B) Kona Coffee(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) Kona Coffee(B)</p>
B	<p>Dried Beef(IM) Bread(NF) Applesauce(T) Granola Bar(NF) Orange-Mango Drnk(2X)(B)</p>	<p>Beef Steak(I) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)</p>	<p>Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Tea w/Lemon(2X)(B)</p>
C	<p>Turkey & Gravy(T) Corn, Grn Beans & Pasta(R) Cauliflower w/Cheese(R) Brownies(NF) Kona Coffee(B)</p>	<p>Grd Beef w/Spice Sce(T) Rice & Chicken(R) Broccoli au Gratin(R) Pears, Diced(T) Kona Coffee(R)</p>	<p>Shrimp Cocktail(R) Beef & Gravy(T) Corn, Grn Beans & Pasta(R) Bread(NF) Peach Ambrosia(R) Kona Coffee(B)</p>

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
NF - Natural Form
T - Thermostabilized
I - Irradiated

3/01/85

TABLE 19-XIV.- Continued

(g) John-David Bartoe, PS-2 (Purple)

MEAL	DAY 1	DAY 2	DAY 3	DAY 4
A	Apricots, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Cornflakes(R) Cocoa(B) Orange-Mango Drk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Orange-Mango Drink(B)
B	Chicken Std Sprd(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Apple Drink(2X)(B)	Turkey Salad Spread(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Pineapple Drink(2X)(B)
C	Shrimp Creole(R) Turkey & Gravy(T) Creamed Spinach(R) Peach Ambrosia(R) Peach-Apricot Dk(B)	Beef w/ABO Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Strawberries(R) Orange Drink(B)	Shrimp Cocktail(R) Sweet'n Sour Chicken(R) Creamed Spinach(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Peach Ambrosia(R) Apple Drink(B)

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XIV.- Concluded

(g) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Beef Patty(R) Seasoned Scram Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Vanilla Inst Brkfst(B) Orange-Mango Drink(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Mango Drink(B)
B	Chicken Sld Spread(T) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Citrus Drink(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Tea w/Lemon(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Grn Beans w/Mshrooms(R) Butter Cookies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Rice Pilaf(R) Creamed Spinach(R) Strawberries(R) Orange Drink(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sauce(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Citrus Drink(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form

TABLE 19-XV.- SPACE SHUTTLE MENU - STS 51-G

5/22/85

(a) General

MEAL DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Choc Instant Breakfast(B) Orange-Grapefruit Drnk(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Granola w/Blueberries(R) Cocoa(B) Orange Juice Mix(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Spaghetti w/Meat Sauce(R) Pears, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)	Beef Stroganoff(R) Fruit Cocktail(T) Brownies(NF) Macadamia Nuts(NF) Tea w/Lemon & A/S(2X)(B)
C	Sweet'n Sour Chicken(R) Rice Pijlaf(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Butter Cookies(NF) Tea w/Lemon & A/S(B) Orange-Grapefruit Drnk(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tea w/Lemon & A/S(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Green Beans w/Mushrooms(R) Butterscotch Pudding(T) Lemonade(B)

*Day 1 consists of Meal C, Day 8 consists of Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- A/S - Artificial Sweetener
- T - Thermostabilized
- I - Irradiated

TABLE 19-XV.- Continued

5/22/85

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	<p>Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange-Pineapple Drnk(B)</p>	<p>Pears, Dried(IM) Beef Patty(R) Granola w/Blueberries(R) Breakfast Roll(NF) Grapefruit Drink(B)</p>	<p>Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Granola w/Blueberries(R) Cocoa(B) Orange Juice Mix(B)</p>
B	<p>Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)</p>	<p>Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Lemon Pudding(T) Lemonade(2X)(B)</p>	<p>Beef Stroganoff(R) Fruit Cocktail(T) Brownies(NF) Trail Mix(IM) Tea w/Lemon & A/S(2X)(B)</p>
C	<p>Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Orange-Grapefruit Drk(B)</p>	<p>Shrimp Cocktail(R) Beef Steak(I) Broccoli au Gratin(R) Asparagus(R) Peach Ambrosia(R) Vanilla Pudding(T) Tea w/Lemon & A/S(B)</p>	<p>Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Green Beans w/Mushrooms(R) Butterscotch Pudding(T) Lemonade(B)</p>

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener
I - Irradiated Foods

5/22/85

TABLE 19-XV.- Continued

(b) Patrick Baudry (France), PS-1 (Brown)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange Drink w/A/S(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Coffee(R)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Chocolate Instant Brkfast(B) Coffee(B)	Apricots, Dried(IM) #Cantal Cheese(T) Scrambled Eggs(R) Granola w/Blueberries(R) Cocoa(B) Orange Drink w/A/S(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	#Lobster in Armoricain Sce(T) Pears, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade w/A/S(2X)(B)	#Jugged Hare a l'Alsacienne(T) Fruit Cocktail(T) Brownies(NF) Macadamia Nuts(NF) Tea w/Lemon & A/S(2X)(B)	#Jugged Hare a l'Alsacienne(T) Fruit Cocktail(T) Brownies(NF) Macadamia Nuts(NF) Tea w/Lemon & A/S(2X)(B)
C	Turkey Tetrazzini(R) Rice Pilaf(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Butter Cookies(NF) Tea w/Lemon & A/S(B) Lemonade w/A/S(B)	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Tropical Punch w/A/S(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tea w/Lemon & A/S(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Green Beans w/Mushrooms(R) #Chocolate Pudding(T) Lemonade w/A/S(B)

*Day 1 consists of Meal C, Day 8 consists of Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- NF - Natural Form
- T - Thermostabilized
- # - French Food
- I - Irradiated

TABLE 19-XV.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) #Crab Mousse(T) Sausage(R) Scrambled Eggs(R) Cocoa(B) Grape Drink w/A/S(B)	Pears, Dried(IM) #Lobster In Armonicain Sauce(T) Granola w/Blueberries(R) Breakfast Roll(NF) Cherry Drink w/A/S(B)	Apricots, Dried(IM) Seasoned Scrambled Eggs(R) Granola w/Blueberries(R) Cocoa(B) Tropical Punch w/A/S(B)
B	Turkey & Gravy(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Meatballs w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) #Chocolate Pudding(T) Lemonade w/A/S(2X)(B)	#Jugged Hare a l'Alsacienne(T) Fruit Cocktail(T) Brownies(NF) Trail Mix(IM) Tea w/Lemon & A/S(2X)(B)
C	#Jugged Hare a l'Alsacienne(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Lemonade w/A/S(B)	Shrimp Cocktail(R) Beef Steak(I) #Green Pepper Pie(T) Broccoli au Gratin(R) Asparagus(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)	Beef w/BBQ Sauce(T) #Crab Mousse(T) Potatoes au Gratin(R) Green Beans w/Mushrooms(R) Lemonade w/A/S(B)

IM - Intermediate Moisture

- # - French Food
- T - Thermostabilized
- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- NF - Natural Form
- I - Irradiated

5/22/85

TABLE 19-XV.- Continued

(c) Sultan Salman Abdel Azize Al-Saud (Saudi Arabia), PS-2 (Purple)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Beef Patty(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drink(B) Tea w/A/S(B)	Strawberries(R) Cornflakes(R) Granola Bar(NF) Orange Drink w/A/S(B) Tea w/A/S(B)	Beef Patty(R) Granola(R) Choc Instant Breakfast(B) Orange-Grapefruit Drink(B) Tea w/A/S(B)	Beef Patty(R) Granola(R) Strawberry Inst Breakfast(B) Orange Drink w/A/S(B) Tea w/A/S(B)
B		Tuna Salad Spread(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Spaghetti w/Meat Sauce(R) Pears, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade w/A/S(2X)(B)	#Lobster in Armoricain Sce(T) Fruit Cocktail(T) Brownies(NF) Macadamia Nuts(NF) Tea w/Lemon & A/S(2X)(B)
C	Sweet'n Sour Chicken(R) Corn, Grn Beans & Pasta(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Butter Cookies(NF) Decaf Coffee w/Crm &A/S(B)	Chicken ala King(T) Rice & Chicken(R) Creamed Spinach(R) Peach Ambrosia(R) Decaf Coffee w/C& A/S(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Decaf Coffee w/Crm &A/S(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Creamed Spinach(R) #Chocolate Pudding(T) Decaf Coffee w/Cream &A/S(B)

*Day 1 consists of Meal C, Day 8 consists of Meal A only

- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- NF - Natural Form
- C - Cream
- T - Thermostabilized
- IM - Intermediate Moisture
- I - Irradiated
- # - French Food

TABLE 19-KV.- Concluded

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Pears, Dried(IM) #Crab Mousse(T) Cornflakes(R) Strawberry Instant Brkfast(B) Orange-Pineapple Drink(B) Tea w/A/S(B)	Strawberries(R) Beef Patty(R) Granola(K) Choc Instant Breakfast(B) Orange Drink w/A/S(B) Tea w/A/S(B)	Beef Patty(R) Granola(R) Granola Bar(NF) Orange Drink w/A/S(B) Tea w/A/S(B)
B	Tuna(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Tea w/Lemon & A/S(2X)(B)	Salmon(T) Rice & Chicken(R) Italian Vegetables(R) #Cantel Cheese(T) Lemonade w/A/S(2X)(B)	Chicken Salad Spread(T) Bread(NF) Fruit Cocktail(T) Brownies(NF) Trail Mix(IM) Tea w/Lemon & A/S(2X)(B)
C	#Jugged Hare a l'Alsacienne(T) Rice & Chicken(R) Broccoli au Gratin(R) Peach Ambrosia(R) Decaf Coffee w/Cream & A/S(B)	Shrimp Cocktail(R) Teriyaki Chicken(R) Corn, Grn Beans & Pasta(R) Creamed Spinach(R) Peach Ambrosia(R) Decaf Coffee w/Crm &A/S(B)	Smoked Turkey(I) Potatoes au Gratin(R) Green Beans & Broccoli(R) Candy Coated Peanuts(NF) Butter Cookies(NF) Decaf Coffee w/Cream &A/S(B)

IM - Intermediate Moisture

- French Food

T - Thermostabilized

R - Rehydratable

B - Beverage

A/S - Artificial Sweetener

NF - Natural Form

I - Irradiated

7/09/85

TABLE 19-XVI.- SPACE SHUTTLE MENU - STS 51-I

(a) Joe H. Engle, CDR (Red)

MEAL	DAY 1* 8	DAY 2, 9**	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Dk(B)	Peaches, Dried(IM) Granola(R) Bread(NF) Vanilla Inst Bkfst(B) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Tuna Sld Spread(T) Bread(NF) Peaches, Diced(T) Granola Bar(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Soda Crackers(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Granola Bar(NF) Tea w/Lemon & Sug(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Tea w/Lemon(2X)(B)
C	Beef Steak(I) Rice & Chicken(R) Asparagus(R) Vanilla Pudding(T) Lemonade(R)	Beef w/RRQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Vanilla Pudding(T) Orange Drink(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tea w/Lemon(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

I - Irradiated

TABLE 19-XVI.- Continued

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambl'd Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambl'd Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(R)	Tuna(T) Bread(NF) Lemon Pudding(T) Granola Bar(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Beef Steak(I) Potato Patty(R) Broccoli w/Cheese Sce(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef Steak(I) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

NF - Natural Form

T - Thermostabilized

I - Irradiated

7/15/85

TABLE 19-XVI.- Continued

(b) Richard Covey, PLT (Yellow)

MEAL	DAY 1* <u>.8</u>	DAY 2 <u>.9**</u>	DAY 3	DAY 4
A	Pears, Diced(T) Sausage(R) Seasoned Scram Eggs(R) Cornflakes(R) Cocoa(B) Orange-Mango Drink(B)	Peaches, Diced(T) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfast(B) Orange-Grapefrt Drnk(B)	Apricots, Dried(IM) Seasoned Scr Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Diced(T) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham Salad Spread(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Lemonade(2X)(B)	Shrimp Creole(R) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Butter Cookies(NF) Lemonade(2X)(B)	Ham Salad Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Tea(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Tea(B)	Teriyaki Chicken(R) Potato Patty(R) Creamed Spinach(R) Strawberries(R) Vanilla Pudding(T) Tea(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Tea(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

T - Thermostabilized

R - Rehydratable

B - Beverage

NF - Natural Form

IM - Intermediate Moisture

TABLE 19-XVI.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Diced(T) Sausage(R) Seasoned Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Mango Drnk(B)	Apricots, Dried(IM) Reef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfast(B) Orange-Grapefruit Dk(B)	Peaches, Diced(T) Reef Patty(R) Seasoned Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Lemonade(2X)(B)	Tuna Salad Spread(T) Bread(NF) Butterscotch Pudding(T) Shortbread Cookies(NF) Almonds(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Butterscotch Pudding(T) Tea (B)

T - Thermostabilized

R - Rehydratable

B - Beverage

IM - Intermediate Moisture

NF - Natural Form

7/16/85

TABLE 19-XVI.- Continued

(c) James Van Hoften, MS-1 (Blue)

MEAL	DAY 1* ₈	DAY 2 _{9**}	DAY 3	DAY 4
A	Apricots, Dried(IM) Sausage(R) Seasoned Scr Eggs(R) Cocoa(B) Or-Pineapple Drnk(R)	Peaches, Dried(IM) Sausage(R) Breakfast Roll(NF) Orange-Grapefrt Drk(B) Cocoa(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Breakfast Roll(NF) Cocoa(B) Orange Juice Mix(B)	Mexican Scramb Eggs(R) Beef Patty(R) Breakfast Roll(2X)(NF) Grapefruit Drink(B)
B	Peanut Butter(IM) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Chicken Sid Spread(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Tuna Salad Spread(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Turkey Salad Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Beef Almondine(R) Teriyaki Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrms(R) Rutterscoch Pudding(T) Orange Drink(B)	Shrimp Cocktail(R) Sweet'n Sour Chicken(R) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C
**Day 9 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
NF - Natural Form
* - Thermostabilized

TABLE 19-XVI.- Cont Inued

(c) Concluded

MEAL	DAY 5			DAY 6			DAY 7		
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Cocoa(B) Orange-Pineapple Drk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfst(B) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Orange Juice Mix(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Lemonade(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Shortbread Cookies(NF) Lemonade(2X)(B)	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mshrooms(R) Peach Ambrosia(R) Lemonade(2X)(B)
B									
C									

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

NF - Natural Form

T - Thermostabilized

TABLE 19-XVI.- Continued

(d) Mike Lounge, MS-2 (Green)

MEAL	DAY 1*,8	DAY 2,9**	DAY 3	DAY 4
A	Pears, Dried(IM) Beef Patty(R) Seasoned Scram Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Mango Drink(B)	Peaches, Dried(IM) Granola w/Blueberries(R) Breakfast Roll(NF) Vanilla Inst Breakfast(B) Grapefruit Drink(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Fruit Cocktail(T) Beef Patty(R) Oatmeal w/Raisins(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Peanut Butter(IM) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Apple Drink(2X)(B)	Tuna Salad Spread(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade w/A/S(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & A/S(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade w/A/S(2X)(B)
C	Meatballs w/BBQ Sce(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Orange Drink(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch w/A/S(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

NF - Natural Form

T - Thermostabilized

A/S - Artificial Sweetener

I - Irradiated

TABLE 19-XVI.- Continued

(d) Concluded

<u>MEAL DAY 5</u>	<u>DAY 6</u>	<u>DAY 7</u>	
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambl'd Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Mango Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfast(B) Grapefruit Drink(B)	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(R)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Tuna Salad Spread(T) Bread(NF) Vanilla Pudding(T) Candy Coated Chocolate(NF) Lemonade w/A/S(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade w/A/S(R)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea w/Lemon & A/S(B)	Shrimp Cocktail(R) Beef w/BRQ Sauce(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

NF - Natural Form

T - Thermostabilized

A/S - Artificial Sweetener

7/15/85

TABLE 19-XVI.- Continued

(e) William Fisher, M.D., MS-3 (Orange)

MEAL	DAY 1*8	DAY 2,9**	DAY 3	DAY 4
A	Pears, Dried(IM) Scrambled Eggs(R) Oatmeal w/Rr Sug(R) Cornflakes(R) Cocoa(B) Lemonade(2X)(B)	Peaches, Dried(IM) Oatmeal w/Raisins(R) Granola(R) Breakfast Roll(NF) Van Inst Bkst(2X)(B) Lemonade(2X)(R)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Oatmeal w/Brown Sugar(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Oatmeal w/Raisins(R) Breakfast Roll(NF) Tea w/Lemon & Sug(2X)(B)
B	Tuna Salad Sprd(T) Bread(NF) Peaches, Diced(T) Pecan Cookies(NF) Buttrsch Pdg(2X)(T) Apple Drink(2X)(B)	Tuna Salad Spread(T) Bread(NF) Vanilla Puddng(2X)(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Chocolate Pudding(2X)(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Ham(T) Cheddar Cheese Spread(T) Bread(NF) Butterscotch Pudg(2X)(T) Cashews(NF) Lemonade(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Choc Pudding(2X)(T) Lemonade(2X)(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Buttersch Pdg(2X)(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(2X)(T) Lemonade(2X)(B)	Shrimp Cocktail(R) Meathalls w/BBQ Sauce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(2X)(T) Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 9 consists of Meal A only

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

T - Thermostabilized

NF - Natural Form

TABLE 19-XVI.- Concluded

(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Oatmeal w/Brwn Sugar(R) Granola w/Raisins(R) Cocoa(R) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Oatmeal w/Raisins(R) Choc Instant Breakfast(B) Tea w/Lemon & Sug(2X)(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambl Eggs(R) Oatmeal w/Brown Sugar(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Vanilla Pudding(2X)(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Tuna(T) Bread(NF) Vanilla Pudding(2X)(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(R)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(2X)(T) Candy Ctd Chocolate(NF) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Butterscotch Pud(2X)(T) Lemonade(2X)(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Chocolate Pudding(2X)(T) Orange Drink(B)	Shrimp Cocktail(R) Reef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mshrooms(R) Vanilla Pudding(2X)(T) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture

R - Rehydratable

B - Beverage

NF - Natural Form

T - Thermostabilized

9/13/85

TABLE 19-XVII.-- SPACE SHUTTLE MENU - STS 51-J

(a) Karol J. Bobko, CDR (Red)

MEAL	DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brfst(B) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shrtbrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Smoked Turkey(I) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Ham(T) Cheese Spread(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Puddng(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butterscotch Puddg(T) Orange Drink(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- I - Irradiated

TABLE 19-XVII.- Continued

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasond Scramb Eggs(R) Choc Instant Brkfst(B) Orange-Grapefrt Drnk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(B)(2X)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

9/13/85

TABLE 19-XVII.- Continued

(b) Ronald J. Grabe, PLT (Yellow)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Brkfst(B) Orange-Grapefrt Drk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Turkey Sld Sprd(T) Bread(NF) Peaches, Diced(T) Shrtbrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sg(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butterscotch Puding(T) Orange Drink(B)	Turkey & Gravy(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form

TABLE 19-XVII.- Continued

(b) Concluded

MEAL	DAY 5		DAY 6		DAY 7	
A	<ul style="list-style-type: none"> Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B) 	<ul style="list-style-type: none"> Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfast(B) Orange-Grapefruit Dk(B) 	<ul style="list-style-type: none"> Peaches, Dried(IM) Reef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B) 			
B	<ul style="list-style-type: none"> Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B) 	<ul style="list-style-type: none"> Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B) 	<ul style="list-style-type: none"> Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Lemonade(2X)(B) 			
C	<ul style="list-style-type: none"> Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade(B) 	<ul style="list-style-type: none"> Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B) 	<ul style="list-style-type: none"> Shrimp Cocktail(R) Beef & Gravy(T) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B) 			

IM - Intermediate Moisture
R - Rehydratable
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NF - Natural Form
T - Thermostabilized

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TABLE 19-XVII.- Continued

(c) David C. Hilmers, MS-1 (Blue)

MEAL DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Granola Bar(NF) Or-Pineapple Drk(B)	Peaches, Dried(IM) Granola(R) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Granola Bar(NF) Orange Juice Mix(B)
B	Tuna Sld Spread(T) Bread(NF) Peaches, Diced(T) Shrtbrd Cookies(NF) Grapefrt Drk(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Grapefruit Drk(2X)(B)	Turkey Salad Spread(T) Bread(NF) Fruit Cocktail(T) Shortbread Cookies(NF) Grapefruit Drink(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Puddng(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Orange Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Grapefruit Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
 NF - Natural Form
 B - Beverage
 T - Thermostabilized
 R - Rehydratable

9/13/85

TABLE 19-XVII.- Continued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Granola w/Raisins(R) Orange-Pineapple Drink(B)	Apricots, Dried(IM) Granola Bar(NF) Orange-Grapefruit Jk(B)	Peaches, Dried(IM) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Grapefruit Drink(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Grapefruit Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Grapefruit Drink(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Grape Drink(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Orange Juice Mix(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

9/13/85

TABLE 19-XVII.- Continued

(d) Robert L. Stewart, MS-2 (Green)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Breakfast Roll(NF) Or-Grapefrt Drk(B) Cocoa(B) Orange Juice Mix(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Cornflakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shortbrd Cookies(NF) Grapefruit Dk(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Shrtbd Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Ham(T) Bread(NF) Pineapple(T) Almonds(NF) Strawberry Drk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Chocolate Pudding(T) Grape Drink(B)	Beef Stroganoff(R) Potato Patty(R) Applesauce(T) Pears, Diced(T) Lemon-Lime Drnk(B)	Teriyaki Chicken(R) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Noodles & Chicken(R) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Grapefruit Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XVII.-- Continued

(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Choc Inst Breakfast(B) Orange-Grapefrt Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shrtbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Potato Patty(R) Choc Covered Cookies(NF) Lemonade(B)	Beef w/BBQ Sauce(T) Potato Patty(R) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Orange-Grapefrt Dk(B)	Shrimp Cocktail(R) Beef & Gravy(T) Rice Pilaf(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

9/13/85

TABLE 19-XVII.- Continued

(e) William Pails (USAF), PS (Orange)

	<u>MEAL DAY 1,8*</u>	<u>DAY 2</u>	<u>DAY 3</u>	<u>DAY 4</u>
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drink(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Bkfst(B) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shrtbread Cookies(NF) Apple Drink(2X)(R)	Salmon(T) Bread(NF) Peaches, Diced(T) Butter Cookies(NF) Tea w/Lemon(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Tea w/Lemon(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butterscotch Puding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XVII.- Concluded
(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scram Eggs(R) Choc Inst Breakfast(R) Orange-Grapefrt Drnk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

9/26/85

TABLE 19-XVIII.- SPACE SHUTTLE MENU - STS 61-A

(a) Henry Hartsfield, CDR (Red) (Blue Team)

MEAL DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Sausage(R) Scrambled Eggs(R) Grits w/Butter(R) Or-Pineapple Drink(B) Coffee w/A/S(B)	Grits w/Butter(R) Seasoned Scr Eggs(R) Pineapple Drink(B) Coffee w/A/S(B)	Beef Patty(R) Grits w/Butter(R) Scrambled Eggs(R) Orange-Mango Drink(B) Coffee w/A/S(B)
B	Salmon(T) Pears, Diced(T) Butter Cookies(NF) Or-Mango Drink(2X)(B)	Tuna Salad Spread(T) Fruit Cocktail(T) Fruitcake(T) Tea w/Lemon & Sug(2X)(B)	Ham Salad Spread(T) Pineapple(T) Cashews(NF) Strawberry Drk(2X)(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Rice & Chicken(R) Grn Beans w/Mshrms(R) Banana Pudding(T) Grape Drink(B)	Shrimp Cocktail(R) Beef Steak(T) Potatoes au Gratin(R) Grn Beans w/Broccoli(R) Strawberries(R) Lemon Pudding(T) Orange Drink(B) Tropical Punch(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Banana Pudding(T) Orange-Mango Drink(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Blue Team consist of Meal C on Day 1 and Meal A only on Day 8.

- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- T - Thermostabilized
- NF - Natural Form
- I - Irradiated

TABLE 19-XVIII.- Continued

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Sausage(R) Scrambled Eggs(R) Grits w/Butter(R) Orange-Pineapple Drnk(B) Coffee w/A/S(B)	Beef Patty(R) Seasoned Scramb Eggs(R) Grits w/Butter(R) Pineapple Drink(B) Coffee w/A/S(B)	Beef Patty(R) Mexican Scramb Eggs(R) Grits w/Butter(R) Orange Juice Mix(B) Coffee w/A/S(B)
B	Chicken Salad Spread(T) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Tuna Salad Spread(T) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Pineapple Drink(2X)(B)	Chicken Sld Spread(T) Lemon Pudding(T) Butter Cookies(NF) Pineapple Drink(2X)(B)
C	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Banana Pudding(T) Lemonade(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pineapple(T) Orange-Mango Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrms(R) Banana Pudding(T) Tea w/Lemon & Sugar(B)

R - Rehydratable
B - Beverage
A/S - Artificial Sweetener
T - Thermostabilized
NF - Natural Form

9/25/85

TABLE 19-XVIII.- Continued

(b) Steven R. Nagel, PLT (Yellow) (Blue Team)

MEAL	DAY 1, 8*			
	DAY 2	DAY 3	DAY 4	DAY 4
A	Beef Patty(R) Mexican Scramb Eggs(R) Orange-Pineapple Drk(B) Coffee w/Sugar(B)	Beef Patty(R) Seasoned Scramb Eggs(R) Grits w/Butter(R) Orange-Pineapple Drnk(B) Coffee w/Sugar(B)	Pears, Diced(T) Breakfast Roll(NF) Orange-Grapefruit Dk(B) Coffee w/Sugar(B)	Seasoned Scr Eggs(R) Grits w/Butter(R) Granola(R) Orange Juice Mix(B) Coffee w/Sugar(B)
B	Noodles & Chicken(R) Peaches, Diced(T) Shortbread Cookies(NF) Almonds(NF) Lemonade(2X)(B)	Dried Beef(IM) Spaghetti w/Meat Sce(R) Peaches, Diced(T) Butter Cookies(NF) Trail Mix(IM) Lemonade(2X)(B)	Beef Stroganoff(R) Macaroni & Cheese(R) Fruit Cocktail(T) Shrtbread Cookies(NF) Macadamia Nuts(NF) Coffee w/Sugar(B)	Beef Stroganoff(R) Macaroni & Cheese(R) Fruit Cocktail(T) Shrtbread Cookies(NF) Macadamia Nuts(NF) Coffee w/Sugar(B)
C	Noodles & Chicken(R) Rice Pilaf(R) Cauliflower w/Cheese(R) Peaches, Diced(T) Candy Ctd Chocolate(NF) Lemonade(B)	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Choc Covered Cookies(NF) Orange-Grapefruit Drk(B)	Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R) Shortbread Cookies(NF) Coffee w/Sugar(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Banana Pudding(T) Lemonade(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Blue Team consist of Meal C on Day 1 and Meal A only on Day 8.

- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- IM - Intermediate Moisture
- I - Irradiated

TABLE 19-XVIII.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Sausage(R) Seasoned Scr Eggs(R) Or-Pineapple Drnk(B) Coffee w/Sugar(B)	Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Sugar(B)	Pears, Diced(T) Seasoned Scr Eggs(R) Grits w/Butter(R) Orange Juice Mix(B) Coffee w/Sugar(B)
B	Salmon(T) Peaches, Diced(T) Butter Cookies(NF) Almonds(NF) Lemonade(2X)(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Banana Pudding(T) Cashews(NF) Lemonade(2X)(B)	Dried Beef(IM) Beef Stroganoff(R) Applesauce(T) Trail Mix(IM) Lemonade(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Butter Cookies(NF) Or-Grapefruit Drnk(R)	Beef Steak(I) Broccoli au Gratin(R) Peach Ambrosia(R) Candy Ctd Chocolate(NF) Coffee w/Sugar(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butter Cookies(NF) Lemonade(B)

- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- I - Irradiated
- IM - Intermediate Moisture

9/17/85

TABLE 19-XVIII.- Continued

(c) Bonnie S. Dunbar, MS-1 (Blue) (Blue Team)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Apricots, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola Bar(NF) Orange Drink(B) Coffee(B)	Peaches, Dried(IM) Grits w/Butter(R) Breakfast Roll(NF) Orange-Grapefrt Dk(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Granola Bar(NF) Orange Juice Mix(B) Coffee(B)	Beef Patty(R) Grits w/Butter(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)
B		Salmon(T) Whole Wheat Bread(NF) Trail Mix(IM) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Whole Wheat Bread(NF) Trail Mix(IM) Candy Ctd Chocolates(NF) Tea w/Lemon & A/S(2X)(B)	Turkey Salad Spread(T) Whole Wheat Bread(NF) Pineapple(T) Trail Mix(IM) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Asparagus(R) Chocolate Pudding(T) Lemonade(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Lemonade(B)	Shrimp Cocktail(R) Frankfurters(T) Grn Beans & Broccoli(R) Strawberries(R) Chocolate Pudding(T) Apple Drink(B)	Shrimp Creole(R) Meatballs w/BBQ Sce(T) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Blue Team consist of Meal C on Day 1 and Meal A only on Day 8.

- IM - Intermediate Moisture
- R - Rehydratable
- NF - Natural Form
- B - Beverage
- T - Thermostabilized

TABLE 19-XVIII.- Continued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Apricots, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola Bar(NF) Orange-Pineapple Drink(B) Coffee(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scram Eggs(R) Orange-Grapefruit Drk(B) Coffee(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scram Eggs(R) Grits w/Butter(R) Orange Juice Mix(B) Coffee(B)
B	Dried Beef(IM) Whole Wheat Bread(NF) Applesauce(T) Trail Mix(IM) Tea w/Lemon & A/S(2X)(B)	Turkey Salad Spread(T) Whole Wheat Bread(NF) Chocolate Pudding(T) Trail Mix(IM) Apple Drink(2X)(B)	Chicken Sld Spread(T) Whole Wheat Bread(NF) Banana Pudding(T) Trail Mix(IM) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Lemonade(B)	Swt'n Sour Chicken(R) Potato Patty(R) Broccoli au Gratin(R) Strawberries(R) Lemonade(B)	Shrimp Cocktail(R) Beef & Gravy(T) Potato Patty(R) Grn Beans w/Mshrms(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)

IM - Intermediate Moisture
R - Rehydratable
NF - Natural Form
B - Beverage
T - Thermostabilized

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TABLE 19-XVIII.- Continued

(d) James F. Buchli, MS-2 (Green) (Red Team)

MEAL DAY 1*	DAY 2	DAY 3	DAY 4
A	Pears, Diced(T) Sausage(R) Seasoned Scrambl'd Eggs(R) Grits w/Butter(R) Orange-Mango Drink(R) Vanilla Inst Breakfast(B) Coffee w/Cream & A/S(B)	Peach Ambrosia(R) Sausage(R) Seasoned Scramb Eggs(R) Grits w/Butter(R) Cocoa(B) Coffee w/Cream & A/S(B)	Peaches, Diced(T) Sausage(R) Seasoned Scramb Eggs(R) Oatmeal w/Raisins(R) Vanilla Inst Brkfast(B) Coffee w/Cream & A/S(B)
B	Beef Stroganoff(R) Broccoli au Gratin(R) Fruit Cocktail(T) Macadamia Nuts(NF) Candy Coated Peanuts(NF) Tea w/A/S(2X)(R)	Mushroom Soup(R) Macaroni & Cheese(R) Macadamia Nuts(NF) Candy Coated Peanuts(NF) Tea w/A/S(B) Tropical Punch(B)	Turkey Tetrazzini(R) Broccoli au Gratin(R) Macadamia Nuts(NF) Candy Coated Peanuts(NF) Tea w/A/S(2X)(B)
C	Shrimp Cocktail(R) Teriyaki Chicken(R) Cauliflower w/Cheese(R) Peach Ambrosia(R) Choc Covered Cookies(NF) Tea w/A/S(B)	Shrimp Cocktail(R) Beef Almondine(R) Potatoes au Gratin(R) Asparagus(R) Choc Covered Cookies(NF) Tea w/A/S(B)	Shrimp Cocktail(R) Chicken a la King(T) Noodles & Chicken(R) Asparagus(R) Tapioca Pudding(T) Tea w/A/S(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Red Team begin with Meal A on Day 2.

- T - Thermostabilized
- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- NF - Natural Form
- ! - Irradiated

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TABLE 19-XVIII.- Cont Inued

(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Peach Ambrosia(R) Sausage(R) Seasoned Scramb Eggs(R) Choc Instant Brkfst(B) Coffee w/Cream & A/S(B)	Peaches, Diced(T) Sausage(R) Seasoned Scramb Eggs(R) Orange-Mango Drink(B) Cocoa(R) Coffee w/Cream & A/S(B)	Peach Ambrosia(R) Sausage(R) Seasoned Scramb Eggs(R) Choc Inst Breakfst(B) Coffee w/Cream & A/S(B)	Peaches, Diced(T) Sausage(R) Seasoned Scramb Eggs(R) Choc Instant Brkfst(B) Coffee w/Cream & A/S(B)
B	Chicken Noodle Soup(R) Sweet'n Sour Chicken(R) Macadamia Nuts(NF) Cndy Ctd Chocolates(NF) Tropical Punch(B) Tea w/A/S(B)	Mushroom Soup(R) Shrimp Creole(R) Macadamia Nuts(NF) Candy Coatl Peanuts(NF) Vanilla Inst Brkfst(B) Tea w/A/S(B)	Chicken & Noodles(R) Sweet'n Sour Chicken(R) Macadamia Nuts(NF) Tapioca Pudding(T) Tropical Punch(B) Tea w/A/S(B)	Mushroom Soup(R) Sweet'n Sour Chicken(R) Macadamia Nuts(NF) Candy Coatl Peanuts(NF) Coffee w/Cream & A/S(B) Tea w/A/S(B)
C	Shrimp Cocktail(R) Beef Stroganoff(R) Broccoli au Gratin(R) Tapioca Pudding(T) Tea w/A/S(B)	Shrimp Cocktail(R) Reef Steak(I) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Tapioca Pudding(T) Tea w/A/S(B)	Shrimp Cocktail(R) Beef Steak(I) Asparagus(R) Choc Covered Cookie(NF) Tea w/A/S(B)	

R - Rehydratable
 B - Beverage
 A/S - Artificial Sweetener
 NF - Natural Form
 T - Thermostabilized
 I - Irradiated

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TABLE 19-XVIII.- Continued

(e) Guion Bluford, Jr., MS-3 (Orange) (Red Team)

<u>MEAL DAY 1*</u>	<u>DAY 2</u>	<u>DAY 3</u>	<u>DAY 4</u>
A	Peaches, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Granola w/Raisins(R) Breakfast Roll(NF) Orange-Mango Drink(B)	Apricots, Dried(IM) Sausage(R) Seasoned Scram Eggs(R) Granola w/Blueberries(R) Cocoa(B) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Mexican Scram Eggs(R) Granola w/Raisins(R) Breakfast Roll(NF) Orange Juice Mix(B)
B	Shrimp Cocktail(R) Macaroni & Cheese(R) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Beef Stroganoff(R) Italian Vegetables(R) Fruit Cocktail(T) Fruitcake(T) Strawberries(R) Orange-Mango Drink(2X)(B)	Shrimp Creole(R) Grn Beans w/Mshrms(R) Pineapple(T) Cashews(NF) Strawberry Drk(2X)(B)
C	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Strawberries(R) Orange Drink(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Peach Ambrosia(R) Tropical Punch(B)	Meatballs w/BBQ(T) Rice Pilaf(R) Italian Vegetables(R) Peach Ambrosia(R) Apple Drink(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Red Team begin with Meal A on Day 2.

IM - Intermediate Moisture
 R - Rehydratable
 NF - Natural Form
 B - Beverage
 T - Thermostabilized

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TABLE 19-XVIII.-- Continued

(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Orange-Pineapple Drk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Granola w/Blueberries(R) Orange-Mango Drink(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Juice Mix(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drnk(B)
B	Beef Stroganoff(R) Grn Beans w/Mshrooms(R) Applesauce(T) Peanuts, Dry Roastd(NF) Strawberry Drink(2X)(B)	Shrimp Cocktail(R) Macaroni & Cheese(R) Butter Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Beef Almondine(R) Green Beans & Broccoli(R) Strawberries(R) Butter Cookies(NF) Lemonade(2X)(B)	Shrimp Cocktail(R) Beef Almondine(R) Peaches, Diced(T) Butter Cookies(NF) Apple Drink(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Strawberries(R) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Strawberries(R) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Peach Drink(B)	

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form

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TABLE 19-XVIII.- Continued

(f) Ernst Messerschmid (West Germany), PS-1 (Brown) (Red Team)

MEAL	DAY 1*	DAY 2	DAY 3	DAY 4
A		Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Van Inst Breakfst(B) Or-Grapefruit Drk(B)	Apricots, Dried(IM) Bran Flakes(R) Trail Mix(IM) Cocoa(R) Orange Juice Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B		Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Orange Jce Mx(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Or-Mango Drk(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C		Shrimp Creole(R) Potatoes au Gratin(R) Creamed Spinach(R) Butterscotch Pudg(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Asparagus(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Red Team begin with Meal A on Day 2.

IM - Intermediate Moisture
 R - Rehydratable
 NF - Natural Form
 B - Beverage
 T - Thermostabilized

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TABLE 19-XVIII.- Continued

(f) Concluded

MEAL	DAY 5	DAY 6	DAY 7	DAY 8
A	Peaches, Dried(IM) Sausage(R) Granola w/Raisins(R) Breakfast Roll(NF) Cocoa(B) Orange Juice Mix(B)	Apricots, Dried(IM) Beef Patty(R) Trail Mix(IM) Choc Inst Breakfast(B) Orange-Grapefrt Drk(B)	Peaches, Dried(IM) Beef Patty(R) Granola w/Blueberries(R) Bread(NF) Jelly(IM) Orange Juice Mix(B)	Pears, Dried(IM) Sausage(R) Cornflakes(R) Trail Mix(IM) Cocoa(B) Or-Pineapple Drink(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roastd(NF) Orange-Mango Drk(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Meatballs w/BBQ Sauce(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Orange Juice Mix(2X)(B)	Ham(T) Bread(NF) Peaches, Diced(T) Butter Cookies(NF) Apple Drink(2X)(B)
C	Ham Salad Spread(T) Turkey Tetrizzini(R) Cauliflower w/Cheese(R) Trail Mix(IM) Lemonade(B)	Meatballs w/BBQ Sce(T) Potato Patty(R) Creamed Spinach(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Corn, Grn Bns & Pasta(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	

IM - Intermediate Moisture
 R - Rehydratable
 NF - Natural Form
 B - Beverage
 T - Thermostabilized

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TABLE 19-XVIII.- Continued

(g) Reinhard Furrer (West Germany), PS-2 (Purple) (Blue Team)

MEAL	DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Cornflakes(R) Orange-Mango Drnk(B) Coffee(B)	Seasoned Scr Eggs(R) Whole Wheat Bread(NF) Pineapple Drink(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Orange Juice Mix(B) Coffee(B)	Pears, Dried(IM) Beef Patty(R) White Bread(NF) Grapefruit Drink(B)
B		Salmon(T) Bread(NF) Trail Mix(IM) Tea(2X)(B)	Tuna(T) Fruit Cocktail(T) Trail Mix(IM) Tea w/Lemon(B) Tea(B)	Ham(T) Bread(NF) Cashews(NF) Strawberry Drink(B) Tea(B)
C	Shrimp Cocktail(R) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon & Sug(R)	Shrimp Cocktail(R) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Tea(B)	Spaghetti w/Meat Sce(R) Potato Patty(R) Grn Beans & Broccoli(R) Vanilla Pudding(T) Tea w/Lemon & Sugar(B)	Shrimp Cocktail(R) Chicken Consomme(R) Rice Pilaf(R) Chocolate Pudding(T) Tea(B)

*STS 61-A is a Spacelab Mission with a 24-hour work schedule so meals for the Blue Team consist of Meal C on Day 1 and Meal A only on Day 8.

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XVIII.- Continued
(g) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Seasoned Scramb Eggs(R) Granola w/Raisins(R) Pineapple Drink(B) Coffee(R)	Apricots, Dried(IM) Cornflakes(R) Orange-Mango Drnk(B) Coffee(B)	Peaches, Dried(IM) Seasoned Scramb Eggs(R) Orange Juice Mix(B) Coffee(B)
B	Dried Beef(IM) Applesauce(T) Trail Mix(2X)(IM) Butter Cookies(NF) Tea w/Lemon & Sugar(B) Tea(B)	Tuna(T) Bread(NF) Trail Mix(IM) Tea w/Lemon & Sug(B) Tea(B)	Salmon(T) Bread(NF) Trail Mix(IM) Choc Covered Cookies(NF) Tea w/Lemon & Sug(2X)(B)
C	Turkey Salad Spread(T) Bread(NF) Grn Beans & Broccoli(R) Tea w/Lemon & Sugar(B)	Tuna Salad Spread(T) Potato Patty(R) Broccoli au Gratin(R) Tea(B)	Shrimp Cocktail(R) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Tea w/Lemon & Sugar(B)

R - Rehydratable
B - Beverage
IM - Intermediate Moisture
T - Thermostabilized
NF - Natural Form

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TABLE 19-XVIII.- Continued

(h) Hubbo Ockels (ESA, Holland), PS-3 (Tan)

MEAL	DAY 1, 8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Grapefruit Drink(B) Coffee(B)	Scrambled Eggs(R) Granola(R) Grapefruit Drink(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Bran Flakes(R) Grapefruit Drink(B) Coffee(B)	Pears, Dried(IM) Scrambled Eggs(R) Bread(NF) Grapefruit Drink(B) Coffee(B)
B		Salmon(T) Bread(NF) Trail Mix(IM) Tea(2X)(B)	Salmon(T) Bread(NF) Trail Mix(IM) Tea(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Trail Mix(IM) Cocoa(B) Tea(B)
C	Shrimp Cocktail(R) Chicken ala King(T) Asparagus(R) Chocolate Pudding(T) Coffee(B)	Shrimp Cocktail(R) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Chocolate Pudding(T) Coffee(B)	Shrimp Cocktail(R) Potato Patty(R) Corn, Grn Bns & Pasta(R) Strawberries(R) Vanilla Pudding(T) Coffee(B)	Shrimp Cocktail(R) Rice Pilaf(R) Corn, Grn Bns & Pasta(R) Chocolate Pudding(T) Coffee(B)

*STS 61-A was a Spacelab Mission with a 24-hour work schedule so Ockels ate his meals with the Blue Team which consisted of Meal C only on Day 1 and Meal A only on Day 8.

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XVIII.-- Concluded
(h) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Grapefruit Drink(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scr Eggs(R) Granola Bar(NF) Orange-Grapefrt Dk(B) Coffee(B)	Sausage(R) Seasoned Scramb Eggs(R) Granola w/Blueberries(R) Grapefruit Drink(B)
B	Salmon(T) Bread(NF) Trail Mix(IM) Tea(2X)(B)	Tuna(T) Bread(NF) Almonds(NF) Tea(2X)(B)	Chicken Salad Spread(T) Bread(NF) Trail Mix(IM) Tea(2X)(B)
C	Shrimp Cocktail(R) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Chocolate Pudding(T) Coffee(B)	Shrimp Cocktail(R) Potato Patty(R) Broccoli au Gratin(R) Chocolate Pudding(T) Coffee(B)	Shrimp Cocktail(R) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Chocolate Pudding(T) Coffee(B)

R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 IM - Intermediate Moisture

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TABLE 19-XIX.- SPACE SHUTTLE MENU - STS 61-B

(a) Brewster Shaw, CDR (Red)

MEAL DAY 1*,6

A Apricots, Dried(IM)
Sausage(R)
Seasoned Scram Eggs(R)
Choc Inst Breakfast(B)
Grapefruit Drink(B)
Coffee w/Crm & Sug(B)

B Ham(T)
Bread, Rye(NF)
Choc Cover Cookies(NF)
Apple Drink(2X)(B)

C Rice & Chicken Soup(R)
Chicken ala King(T)
Asparagus(R)
+Lemon Pudding(T)
Butter Cookies(NF)
Cocoa(B)

DAY 2,7

Peaches, Dried(IM)
Granola(R)
Breakfast Roll(NF)
Orange-Grapefrt Dk(B)
Coffee w/Crm & Sug(B)

Salmon(T)
Bread, Wheat(NF)
Pears, Diced(T)
Butter Cookies(NF)
Lemonade(2X)(B)

Shrimp Cocktail(R)
Beef Steak(I)
Potatoes au Gratin(R)
Broccoli w/Cheese(R)
Butterscotch Puding(T)
++Brownie(NF)
Grapefruit Drink(B)

DAY 3,8**

Apricots, Dried(IM)
Beef Patty(R)
Scrambled Eggs(R)
Orange Drink(B)
Cocoa(B)
Coffee w/Cream & Sug(B)

Chicken Consomme(R)
Smoked Turkey(I)
Corn, Grn Bns & Psta(R)
Cranberry Sauce(T)
Butter Cookies(NF)
Lemonade(B)

Frankfurters(T)
Potato Patty(R)
Grn Beans & Broccoli(R)
Strawberries(R)
Choc Covered Cookie(NF)
Grapefruit Drink(B)

DAY 4

Pears, Dried(IM)
Ham(T)
Breakfast Roll(NF)
Grapefruit Drink(B)
Choc Inst Breakfast(B)
Coffee w/Cream & Sug(B)

Rice & Chicken Soup(R)
Dried Beef(IM)
Soda Crackers(NF)
Fruit Cocktail(T)
Macadamia Nuts(NF)
Apple Drink(2X)(B)

Shrimp Cocktail(R)
Beef Steak(I)
Rice Pilaf(R)
Corn, Grn Bns & Psta(R)
Butterscotch Pudding(T)
Choc Covered Cookie(NF)
Apple Drink(B)

DAY 5

Apricots, Dried(IM)
Sausage(R)
Seasoned Scram Eggs(R)
Granola w/Raisins(R)
Orange Drink(B)
Cocoa(B)
Coffee w/Cream & Sug(B)

Dried Beef(IM)
Bread, Rye(NF)
Applesauce(T)
Peanuts, Dry Roast(NF)
Apple Drink(2X)(B)

Turkey & Gravy(T)
Turkey Tetrazzini(R)
Cauliflower w/Cheese(R)
Brownies(NF)
Lemonade(B)

*Day 1 consists of Meals B and C
**Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
+Delete Lemon Pudding for Day 1
I - Irradiated
++Brownie Day 2, Chocolate Covered Cookies Day 7

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TABLE 19-XIX.- Continued

(b) Bryan O'Connor, PLT (Yellow)

MEAL	<u>DAY 1*5</u>	<u>DAY 2*6</u>	<u>DAY 3*7</u>	<u>DAY 4*8**</u>
A	<p>Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Breakfast Roll(NF) Orange-Mango Drink(B) Coffee, Black(B)</p>	<p>Apricots, Dried(IM) Oatmeal w/Raisins(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Crm & Sugar(B) Coffee, Black(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Scrambled Eggs(R) Breakfast Roll(NF) Citrus Drink(B) Coffee, Black(B)</p>	<p>Apricots, Dried(IM) Breakfast Roll(NF) Oatmeal w/Raisins(R) Grapefruit Drink(B) Coffee, Black(B)</p>
B	<p>Cheddar Cheese Sprd(T) Soda Crackers(NF) Vanilla Pudding(T) Cashews(NF) Orange Drink(B) Coffee w/Crm & Sgr(B) Noodles & Chicken(R) Rice Pilaf(R) Creamed Spinach(R) Strawberries(R)</p>	<p>Ham Salad Spread(T) Bread, Rye(NF) Raisins(IM) Macadamia Nuts(NF) Orange-Mango Drink(B) Coffee, Black(B) Rice & Chicken Soup(R) Beef Steak(I) Potato Patty(R) Grn Beans & Broccoli(R)</p>	<p>Chicken Consomme(R) Smoked Turkey(I) Corn, Grn Bns & Pasta(R) Cranberry Sauce(T) Butter Cookies(NF) Tea(B) Frankfurters(T) Potato Patty(R) +Broccoli w/Cheese(R) Strawberries(R)</p>	<p>Peanut Butter(IM) Jelly(IM) Bread, Rye(NF) Peach Ambrosia(R) Macadamia Nuts(NF) Orange Drink(2X)(B) Beef Patty(R) Potatoes au Gratin(R) Creamed Spinach(R) Butterscotch Pudding(T)</p>
C	<p>Butter Cookies(NF) Or-Pineapple Drink(B) Decaf Coffee, Black(B)</p>	<p>Chocolate Pudding(T) Shortbread Cookies(NF) Orange Drink(B) Decaf Coffee w/Crm&S(B)</p>	<p>Vanilla Pudding(T) Orange Drink(B) Decaf Coffee w/Crm&S(B)</p>	<p>Brownies(NF) Grapefruit Drink(B) Decaf Coffee w/Crm&S(B)</p>

*Day 1 consists of Meals B and C
**Day 8 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
NF - Natural Form
B - Beverage
T - Thermostabilized
I - Irradiated
+Broccoli w/Cheese Day 3, Asparagus Day 7

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TABLE 19-XIX.- Continued
(c) Woody Spring, MS-1 (Blue)

MEAL	DAY 1*6	DAY 2.7	DAY 3.8**	DAY 4	DAY 5
A	Strawberries(R) Beef Patty(R) Granola w/Raisins(R) Grapefruit Drink(B) Cocoa(B)	Strawberries(R) Beef Patty(R) Granola w/Raisins(R) Breakfast Roll(NF) Grapefruit Drink(B) Cocoa(B)	Apricots, Dried(IM) Beef Patty(R) Granola w/Raisins(R) Cocoa(B) Kona Coffee w/C&S(B)	Peaches, Dried(IM) Beef Patty(R) Seasoned Scr Eggs(R) Breakfast Roll(NF) Cocoa(B)	Apricots, Dried(IM) Granola(R) Brownie(NF) Grapefruit Drink(B) Cocoa(B)
B	Dried Beef(IM) Grn Beans w/Mshrms(R) Apricots, Dried(IM) Candy Ctd Peanuts(NF) Grapefruit Drk(2X)(B)	Rice & Chicken Soup(R) Butter Cookies(NF) Broccoli w/Cheese(R) Orange-Mango Drk(B)(2X)	Chicken Consomme(R) Smoked Turkey(I) Corn, Grn Bns & Psta(R) Cranberry Sauce(T) Butter Cookies(NF) Tea w/Lemon & A/S(B)	Shrimp Cocktail(R) Dried Beef(IM) Italian Vegetables(R) Applesauce(T) Choc Cvrdr Cookies(NF) Grapefruit Drk(2X)(B)	Peaches, Dried(IM) Turkey & Gravy(T) Potatoes au Gratin(R) Vanilla Pudding(T) Choc Covered Cookie(NF) Grapefruit Drink(2X)(B)
C	Turkey & Gravy(T) Broccoli w/Cheese(R) Choc Cvrdr Cookies(NF) +Candy Ctd Peanuts(NF) Grapefruit Drink(B) ++Brownie(NF)	Shrimp Cocktail(R) Beef Steak(I) Grn Beans & Mshrooms(R) Cauliflower w/Cheese(R) ++Brownie(NF) Grapefruit Drink(B)	Beef Steak(I) Grn Beans w/Mshrooms(R) Strawberries(R) Brownie(NF) Grapefruit Drink(B)	Beef & Gravy(T) Potatoes au Gratin(R) Broccoli w/Cheese(R) Strawberries(R) Macadamia Nuts(NF) Grapefruit Drink(B)	Shrimp Cocktail(R) Beef Steak(I) Grn Beans w/Broccoli(R) Cauliflower w/Cheese(R) Almonds(NF) Grapefruit Drink(B)

*Day 1 consists of Meals B and C

**Day 8 consists of Meal A only

R - Rehydratable

B - Beverage

IM - Intermediate Moisture

NF - Natural Form

T - Thermostabilized

+Delete Candy Coated Peanuts for Day 1, Meal C

I - Irradiated

++Brownie Day 2, Chocolate Covered Cookies Day 7

C&S - Cream & Sugar

A/S - Artificial Sweetener

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TABLE 19-XIX.- Continued

(d) Mary Cleave, MS-2 (Green)

MEAL	<u>DAY 1*5</u>	<u>DAY 2*6</u>	<u>DAY 3*7</u>	<u>DAY 4*8**</u>
A	Apricots, Dried(IM) Breakfast Roll(NF) Granola Bar(NF) Kona Coffee(B)	Pears, Dried(IM) Breakfast Roll(NF) Granola Bar(NF) Kona Coffee(B)	Apricots, Dried(IM) Breakfast Roll(NF) Granola Bar(NF) Kona Coffee(B)	Pears, Dried(IM) Breakfast Roll(NF) Granola Bar(NF) Kona Coffee(B)
B	Rice & Chicken Sp(R) Ham(T) Bread, Rye(NF) +Brownies(NF) Cashews(NF) Citrus Drink(B) Kona Coffee w/C&S(B)	Rice & Chicken Soup(R) Peanut Butter(IM) Jelly(IM) Bread, Whole Wheat(NF) ++Butter Cookies(NF) Macadamia Nuts(NF) Lemonade(B) Kona Coffee w/C&S(B)	Chicken Consomme(R) Smoked Turkey(I) Corn, Grn Bns & Psta(R) Cranberry Sauce(T) Butter Cookies(NF) Tea w/Lemon & A/S(B)	Sweet'n Sour Chicken(R) Bread, Rye(NF) Strawberries(R) Trail Mix(IM) Cashews(NF) Citrus Drink(B) Kona Coffee w/C&S(B)
C	Beef Steak(I) Rice Pilaf(R) Grn Beans w/Mshrms(R) Candy Coatd Mints(NF) Kona Coffee w/C&S(B)	Chicken ala King(T) Rice Pilaf(R) Grn Beans & Mushrms(R) Choc Covrd Peanuts(NF) ++Shortbread Cookies(NF) Kona Coffee w/C&S(B)	Chicken Consomme(R) Beef Steak(I) Italian Vegetables(R) Candy Coated Mints(NF) Kona Coffee w/C&S(B)	Shrimp Cocktail(R) Turkey & Gravy(T) Corn, Grn Bns & Psta(R) Cashews(NF) Brownie(NF) Kona Coffee w/C&S(B)

*Day 1 consists of Meals B and C
**Day 8 consists of Meal A only

IM - Intermediate Moisture
NF - Natural Form
B - Beverage
R - Rehydratable
T - Thermostabilized
+Delete Brownies for Day 1
C&S - Cream & Sugar
I - Irradiated
++Delete Cookies for Day 2

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TABLE 19-XIX.- Continued
(e) Jerry Ross, MS-3 (Orange)

MEAL	DAY 1*5	DAY 2,5	DAY 3,7	DAY 4,8**
A	Pineapple(T) Beef Patty(R) Breakfast Roll(NF) Orange-Mango Drink(B) Cocoa(B)	Peaches, Diced(T) Dried Beef(IM) Breakfast Roll(NF) Citrus Drink(B) Cocoa(B)	Applesauce(T) Sausage(R) Breakfast Roll(NF) Orange-Mango Drink(B) Cocoa(B)	Applesauce(T) Ham(T) Scrambled Eggs(R) Granola Bar(NF) Orange Drink(B)
B	Ham Salad Spread(T) Bread, Wheat(NF) Vanilla Pudding(T) +Candy Ctd Peanuts(NF) Pineapple Drink(B) Tea w/Lemon & Sugar(B)	Frankfurters(T) Macaroni & Cheese(R) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)	Chicken Consomme(R) Smoked Turkey(I) Corn, Grn Bns & Psta(R) Cranberry Sauce(T) Butter Cookies(NF) Tea w/Lemon & Sugar(B) ++Citrus Drink(2X)(B)	Tuna Salad Spread(T) Rice & Chicken(R) Bread, Wheat(NF) Shrtbread Cookies(NF) Lemonade(2X)(B)
C	Chicken Consomme(R) Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Brownies(NF) Lemonade(B)	Beef Steak(I) Potatoes au Gratin(R) Cauliflower w/Cheese(R) Tea w/Lemon & Sugar(B)	Beef & Gravy(T) Potato Patty(R) Corn, Grn Bns & Psta(R) Choc Coverd Cookies(NF) Citrus Drink(NF)	Beef Steak(I) Potato Patty(R) Grn Beans w/Mshrms(R) Butter Cookies(NF) Vanilla Pudding(T) Orange-Mango Drink(B)

*Day 1 consists of Meals B and C
**Day 8 consists of Meal A only

T - Thermostabilized
R - Rehydratable
NF - Natural Form
B - Beverage
+Delete Candy Coated Peanuts for Day 1
IM - Intermediate Moisture
I - Irradiated
++Delete Citrus Drink for Day 3

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TABLE 19-XIX.- Continued

(f) Charles Walker (McDonnell Douglas, St. Louis, MO). PS-1 (Brown)

MEAL	DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cocoa(B) Orange-Pineapple Drnk(B)	Breakfast Roll(NF) Choc Inst Breakfast(B) Orange-Grapefrt Dk(B) Coffee w/Cream(R) Orange-Pineapple Drk(B) Coffee w/Cream(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Rice Krispies(R) Cocoa(B) Orange-Pineapple Drk(B) Coffee w/Cream(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Cream(B)
B	Chicken Consomme(R) Peaches, Diced(T) Tea w/Lemon & A/S(2X)(B)	Mushroom Soup(R) Pears, Diced(T) Lemonade w/A/S(2X)(B)	Chicken Consomme(R) Smoked Turkey(I) Corn, Grn Bns & Psta(R) Cranberry Sauce(T) Butter Cookies(NF) Tea w/Lemon & A/S(B)	Ham Salad Spread(T) Rye Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lem & A/S(2X)(B)
C	Chicken ala King(T) Asparagus(R) Grape Drink w/A/S(B)	Turkey and Gravy(T) Potatoes au Gratin(R) Grn Beans w/Mshms(R) Lemon Pudding(T) Orange Drink w/A/S(B)	Frankfurters(T) Potato Patty(R) Creamed Spinach(R) Strawberries(2X)(R) Tropical Punch w/A/S(B)	Teriyaki Chicken(R) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Orange-Mango Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- T - Thermostabilized
- A/S - Artificial Sweetener
- NF - Natural Form
- I - Irradiated

TABLE 19-XIX.- Continued

(f) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambl'd Eggs(R) Granola w/Blueberries(R) Cocoa(B) Orange-Pineapple Drnk(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Breakfast(B) Orange-Grapefruit Drk(B) Coffee w/Cream(B)	Pears, Dried(IM) Beef Patty(R) Mexican Scrambl'd Eggs(R) Granola w/Blueberries(R) Orange Drink w/A/S(B) Coffee w/Cream(B)
B	Dried Beef(IM) Rye Bread(NF) Fruit Cocktail(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & A/S(2X)(B)	Tuna(T) Rye Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Grape Drink w/A/S(B)(2X)	Chicken Salad Spread(T) Rye Bread(NF) Chocolate Pudding(T) Choc Covered Cookies(NF) Lemonade w/A/S(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade w/A/S(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Orange Drink w/A/S(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Trail Mix(NF) Tea w/Lemon & A/S(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized
 A/S - Artificial Sweetener

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TABLE 19-XIX.- Continued
 (g) **Rudolfo Meri (Mexico). PS-2 (Purple)**

MEAL DAY 1,8*	DAY 2	DAY 3	DAY 4
A	Peaches, Dried(IM) Sausage(R) Seasoned Scr Eggs(R) Cornflakes(R) Or-Pineapple Drnk(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Cocoa w/Amaranth(B) Orange-Grapefrt Drk(B)	Peaches, Dried(IM) Sausage(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Tuna(T) Bread(NF) Peaches, Diced(T) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Fruit Cocktail(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Amaranth Cookies(NF) Tea w/Lem & Sug(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Turkey & Gravy(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Orange Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 8 consists of Meal A only

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 I - Irradiated

TABLE 19-XIX.- Concluded

(g) Concluded

MEAL	DAY 5	DAY 6	DAY 7
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drnk(B)	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange-Mango Drink(B)	Peach Ambrosia(R) Sausage(R) Seasoned Scr Eggs(R) Choc Inst Brkfst(B) Or-Grapefruit Dk(B)
B	Tuna(T) Bread(NF) Applesauce(T) Peanuts, Dry Roasted(NF) Tea w/Lemon & Sug(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Amaranth Cookies(NF) Lemonade(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shrtbrd Cookies(NF) Almonds(NF) Apple Drink(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Brownies(NF) Lemonade(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)	Chicken ala King(T) Potato Patty(R) Asparagus(R) Peaches, Diced(T) Orange Drink(B)

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form

12/02/85

TABLE 19-XX.- SPACE SHUTTLE MENU - STS 61-C

(a) Robert (Hoot) Gibson, CDR (Red)

MEAL DAY 1* 5

- A Applesauce(T)
Beef Patty(R)
Seasoned Scr Eggs(R)
Breakfast Roll(NF)
Orange-Mango Drink(B)
Coffee(B)
- B Noodles & Chicken(R)
Chicken Sld Spread(T)
Whole Wheat Bread(NF)
Fruit Cocktail(T)
Candy Ctd Peanuts(NF)
Strawberry Drink(B)
Coffee(R)
- C Shrimp Cocktail(R)
Beef Steak(I)
Potato Patty(R)
Italian Vegetables(R)
Strawberries(R)
Shrtbread Cookies(NF)
Orange-Mango Drink(B)

DAY 2,6**

- Peaches, Diced(T)
Sausage(R)
Mexican Scramb Eggs(R)
Breakfast Roll(NF)
Orange Drink Mix(B)
Coffee(B)
- Turkey Tetrazzini(R)
Turkey Salad Spread(T)
Whole Wheat Bread(NF)
Chocolate Pudding(T)
Candy Coatd Peanuts(NF)
Peach Drink(B)
Coffee(B)
- Shrimp Cocktail(R)
Meatballs w/BBQ Sce(T)
Rice Pilaf(R)
Grn Beans & Broccoli(R)
Strawberries(R)
Choc Coverd Cookies(NF)
Lemonade(B)

DAY 3

- Applesauce(T)
Beef Patty(R)
Seasoned Scramb Eggs(R)
Breakfast Roll(NF)
Orange-Mango Drink(B)
Coffee(B)
- Rice & Chicken Soup(R)
Salmon(T)
Whole Wheat Bread(NF)
Apricots, Dried(IM)
Macadamia Nuts(NF)
Apple Drink(B)
Coffee(B)
- Shrimp Cocktail(R)
Beef w/BBQ Sauce(T)
Potato Patty(R)
Corn, Grn Bns & Psta(R)
Choc Coverd Cookies(NF)
Shortbread Cookies(NF)
Peach-Apricot Drink(B)

DAY 4

- Pineapple(T)
Sausage(R)
Mexican Scrambled Eggs(R)
Breakfast Roll(NF)
Orange Drink(B)
Coffee(B)
- Beef Almondine(R)
Chicken Salad Spread(T)
Whole Wheat Bread(NF)
Peaches, Diced(T)
Trail Mix(NF)
Orange-Mango Drink(B)
Coffee(B)
- Shrimp Cocktail(R)
Beef Steak(I)
Beef Stroganoff(R)
Grn Beans & Broccoli(R)
Strawberries(R)
Choc Coverd Cookies(NF)
Apple Drink(B)

*Day 1 consists of Meals B and C

**Day 6 consists of Meal A only

- T - Thermostabilized
- R - Rehydratable
- NF - Natural Form
- B - Beverage
- I - Irradiated
- IM - Intermediate Moisture

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TABLE 19-XX.- Continued

(b) Charles F. Bolden, PLT (Yellow)

MEAL	DAY 1,6*	DAY 2	DAY 3	DAY 4	DAY 5
A	Strawberries(R) Sausage(R) Mexican Scr Eggs(R) Trail Mix(IM) Or-Pineapple Drk(B)	Peaches, Dried(IM) Breakfast Roll(NF) Trail Mix(IM) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Seasoned Scramb Eggs(R) Rice Krispies(R) Orange Drink Mix(B)	Apricots, Dried(IM) Sausage(R) Breakfast Roll(NF) Grapefruit Drink(B)	Peaches, Dried(IM) Sausage(R) Mexican Scram Eggs(R) Granola w/Raisins(R) Cocoa(B) Or-Pineapple Drink(B)
B	Chicken Consomme(R) Tuna(T) Peaches, Diced(T) Shrtbrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Chicken Salad Spread(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea(2X)(R)	Ham(T) Pineapple(T) Cashews(NF) Strawberry Dk(2X)(B)	Salmon(T) Applesauce(T) Peanuts, Dry Rstd(NF) Tea(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Banana Pudding(T) Grape Drink(B)	Shrimp Cocktail(R) Reef w/Spice Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Strawberries(R) Orange Drink(B)	Shrimp Creole(R) Beef Steak(I) Rice Pilaf(R) Grn Beans & Broccoli(R) Strawberries(R) Tropical Punch(R)	Shrimp Cocktail(R) Teriyaki Chicken(R) Rice Pilaf(R) Italian Vegetables(R) Apple Drink(B)	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Grn Beans w/Mshrms(B) Choc Cvrnd Cookies(NF) Lemonade(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

- R - Rehydratable
- IM - Intermediate Moisture
- B - Beverage
- T - Thermostabilized
- NF - Natural Form
- I - Irradiated

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TABLE 19-XX.- Continued

(c) George D. (Pinky) Nelson, MS-1 (Blue)

MEAL DAY 1.6*	DAY 2	DAY 3	DAY 4	DAY 5	
A	Applesauce(T) Sausage(R) Mexican Scr Eggs(R) Breakfast Roll(NF) Cocoa(B) Or-Pineapple Dk(B) Coffee w/Crm & S(B)	Fruit Cocktail(T) Sausage(R) Seasoned Scr Eggs(R) Breakfast Roll(NF) Cocoa(B) Orange Drink Mix(B) Coffee w/Crm & Sug(B)	Pineapple(T) Sausage(R) Mexican Scram Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Crm & Sugr(B)	Fruit Cocktail(T) Beef Patty(R) Mexican Scram Eggs(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee w/Crm & Sugr(B)	Pineapple(T) Sausage(R) Mexican Scram Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Dpk(B)
B	Ham Salad Spread(T) Bread(NF) Peaches, Diced(T) Shrtbd Cookies(NF) Apple Drink(2X)(B)	Frankfurters(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Chicken Sld Spread(T) Bread(NF) Fruit Cocktail(T) Choc Cvrtd Cookies(NF) Coffee w/Crm & Sug(B)	Frankfurters(T) Bread(NF) Pineapple(T) Cashews(NF) Apple Drink(2X)(B)	Bread(NF) Applesauce(T) Peanuts, Dry Roastd(NF) Tea w/Lem & Sugr(2X)(B)
C	Shrimp Cocktail(R) Beef Steak(I) Asparagus(R) Chocolate Puddng(B) Grape Drink(B) Coffee w/Crm & S(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Buttersch Puddng(T) Orange Drink(B) Coffee w/Crm & S(B)	Beef Steak(I) Potato Patty(R) Grn Bns & Broccoli(R) Strawberries(R) Vanilla Puddng(T) Tropical Punch(B) Coffee w/Crm & Sug(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sce(T) Italian Vegetables(R) Chocolate Puddng(T) Apple Drink(B) Coffee w/Crm & Sugr(B)	Grd Beef w/Spice Sce(T) Cauliflower w/Cheese(R) Choc Coverd Cookies(NF) Lemonade(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

T - Thermostabilized
R - Rehydratable
NF - Natural Form
B - Beverage
S - Sugar
I - Irradiated

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TABLE 19-XX.- Continued

(d) Steven A. Hawley, MS-2 (Green)

MEAL	DAY 1,6*	DAY 2	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Bran Flakes(R) Grapefruit Drink(B) Choc Inst Brkfst(B)	Sausage(R) Scrambled Eggs(R) Granola(R) Orange-Grapefrt Dk(B) Choc Inst Brkfst(B)	Sausage(R) Scrambled Eggs(R) Bran Flakes(R) Orange Drink Mix(B) Cocoa(B)	Sausage(R) Scrambled Eggs(R) Grapefruit Drink(B) Choc Inst Breakfast(B)	Sausage(R) Scrambled Eggs(R) Cornflakes(R) Grapefruit Drink(B) Choc Instant Brkfst(B)
B	Ham (T) Bread(NF) Applesauce(T) Shortbrd Cookies(NF) Tea(2X)(B)	Salmon(T) Fruit Cocktail(T) Almonds(NF) Butter Cookies(NF) Lemonade(2X)(B)	Salmon(T) Bread(NF) Applesauce(T) Shortbrd Cookies(NF) Lemonade(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Fruit Cocktail(T) Cashews(NF) Tropical Punch(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Butter Cookies(NF) Almonds(NF) Tea(2X)(B)
C	Shrimp Cocktail(R) Beef Steak(I) Macaroni & Cheese(R) Chocolate Pudding(T) Lemonade(B)	Beef w/BBQ Sauce(T) Rice Pilaf(R) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Orange Drink(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Grn Beans & Broc(R) Chocolate Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Macaroni & Cheese(R) Creamed Spinach(R) Chocolate Pudding(T) Lemonade(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Rice Pilaf(R) Cauliflower & Cheese(R) Butter Cookies(NF) Lemonade(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
I - Irradiated

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TABLE 19-XX.- Continued

(e) Franklin R. Chang-Diaz, MS-3 (Orange)

MEAL	DAY 1,6*	DAY 2	DAY 3	DAY 4	DAY 5
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drk(B) Coffee(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Rkfst(B) Orange-Grapefrt Dk(B) Coffee(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink Mix(B) Coffee(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B) Coffee(B)	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Drk(B) Coffee(B)
B	Beef Steak(I) Bread(NF) Peaches, Diced(T) Shrtbrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lem & Sugr(2X)(B)	Meatballs w/BBQ Sce(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Rstd(NF) Tea w/Lem & Sug(B)(2X)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butterscotch Puding(T) Orange Drink(B)	Frankfurters(T) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
I - Irradiated
NF - Natural Form
T - Thermostabilized

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TABLE 19-XX.- Continued

(f) Robert J. Cenker (RCA, NJ), PS-1 (Brown)

MEAL DAY 1,6*

	<u>DAY 2</u>	<u>DAY 3</u>	<u>DAY 4</u>	<u>DAY 5</u>
A	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Coffee(B) Or--Pineapple Drink(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Coffee(B) Orange Drink Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)	Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola w/Raisins(R) Coffee(B) Orange-Pineapple Dk(B)
B	Tuna Salad Spread(T) Bread(NF) Peaches, Diced(T) Shrtbread Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Tuna Salad Spread(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lem & Sug(2X)(B)
C	Grd Beef w/BBQ Sce(T) Potato Patty(R) Asparagus(R) Chocolate Pudding(T) Grape Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Grn Beans w/Mshrms(R) Buttersch Pudding(T) Orange Drink(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Apple Drink(B)	Turkey & Gravy(T) Turkey Tetrazzini(R) Grn Bns & Broccoli(R) Brownies(NF) Lemonade(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

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TABLE 19-XX.- Concluded
(g) Congressman Bill Nelson (FL). PS-2 (Purple)

MEAL	DAY 1,6*	DAY 2	DAY 3	DAY 4	DAY 5
A	Peaches, Diced(T) Grits w/Butter(R) Granola Cereal(R) Whole Wheat Bread(NF) Orange Drink Mix(B) Decaf Coffee w/C&S(B)	Peaches, Diced(T) Grits w/Butter(R) Granola(R) Rye Bread(NF) Orange Drink Mix(B) Decaf Coffee w/C&S(B)	Pears, Diced(T) Peach Ambrosia(R) Oatmeal w/Brn Sugr(R) Grits w/Butter(R) Orange Drink Mix(B) Decaf Coffee w/C&S(B)	Pineapple(T) Granola(R) Grits w/Butter(R) Orange Drink Mix(B) Decaf Coffee w/C&S(B)	Applesauce(T) Oatmeal w/Raisins(R) Grits w/Butter(R) Orange Drink Mix(B) Decaf Coffee w/C&S(B)
B	Italian Vegetables(R) Whole Wheat Bread(NF) Soda Crackers(NF) Chocolate Pudding(T) Tea w/Sugar(2X)(B)	Mushroom Soup(R) Rice Pilaf(R) Grn Beans w/Mshrms(R) Whole Wheat Bread(NF) Butter Cookies(NF) Chocolate Pudding(T) Apple Drink(2X)(B)	Tuna(T) Macaroni & Cheese(R) Asparagus(R) Rye Bread(NF) Butter Cookies(NF) Chocolate Pudding(T) Lemonade(B) Tea w/Sugar(B)	Peanut Butter(IM) Jelly(IM) Whole Wheat Bread(NF) Corn, Grn Bns & Psta(R) Fruit Cocktail(T) Trail Mix(IM) Apple Drink(B) Tea w/Sugar(B)	Beef Almondine(R) Cheddar Cheese Sprd(T) Rye Bread(NF) Peach Ambrosia(R) Choc Coverd Cookies(NF) Peanuts, Dry Roast(NF) Lemonade(B) Tea w/Sugar(B)
C	Chicken Consomme(R) Teriyaki Chicken(R) Rice Pilaf(R) Broccoli au Gratin(R) Granola Bar(NF) Butter Cookies(NF) Apple Drink(B)	Rice & Chicken Sp(R) Teriyaki Chicken(R) Broccoli w/Cheese(R) Shrtbread Cookies(NF) Apple Drink(B)	Mushroom Soup(R) Swt'n Sour Chicken(R) Creamed Spinach(R) Strawberries(R) Granola Bar(NF) Apple Drink(B)	Chicken ala King(T) Rice Pilaf(R) Grn Beans & Broccoli(R) Butter Cookies(NF) Chocolate Pudding(T) Apple Drink(B)	Mushroom Soup(R) Teriyaki Chicken(R) Potatoes Au Gratin(R) Cauliflower w/Cheese(R) Butter Cookies(NF) Chocolate Pudding(T) Apple Drink(B)

*Day 1 consists of Meals B and C, Day 6 consists of Meal A only

T - Thermostabilized
NF - Natural Form
R - Rehydratable
B - Beverage
C&S - Cream & Sugar
IM - Intermediate Moisture

12/16/85

TABLE 19-XXI.- SPACE SHUTTLE MENU - STS 51-L

(a) Francis R. (Dick) Scobee, CDR (Red)

MEAL	DAY 1*	DAY 2	DAY 3	DAY 4
A	<p>Peaches, Dried(IM) Sausage(R) Scrambled Eggs(R) Granola Bar(NF) Cocoa(B) Grape Drink w/A/S(B)</p>	<p>Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Vanilla Inst Bkfst(B) Cherry Drink w/A/S(B)</p>	<p>Apricots, Dried(IM) Seasoned Scr Eggs(R) Granola Bar(NF) Cocoa(B) Orange Drink w/A/S(B)</p>	<p>Peaches, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grape Drink w/A/S(B)</p>
B	<p>Ham(T) Bread(NF) Peaches, Diced(T) Shortbread Cookies(NF) Lemonade w/A/S(2X)(B)</p>	<p>Chicken Sld Spread(T) Bread(NF) Pineapple(T) Butter Cookies(NF) Lemonade w/A/S(2X)(B)</p>	<p>Peanut Butter(IM) Cheddar Cheese Sprd(T) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lem & A/S(2X)(B)</p>	<p>Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade w/A/S(2X)(B)</p>
C	<p>Chicken ala King(T) Rice & Chicken(R) Grn Beans w/Mshrms(R) Chocolate Pudding(T) Grape Drink w/A/S(B)</p>	<p>Beef w/BBO Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Butterscoth Pudding(T) Orange Drink w/A/S(B)</p>	<p>Frankfurters(T) Potato Patty(R) Grn Bns & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch w/A/S(B)</p>	<p>Meatballs w/BBO Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Cherry Drink w/A/S(B)</p>

*Meals begin with Day 1 Meal B

- IM - Intermediate Moisture
- R - Rehydratable
- NF - Natural Form
- B - Beverage
- A/S - Artificial Sweetener
- T - Thermostabilized

TABLE 19-XXI.- Continued

(a) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange Drink w/A/S(B)	Apricots, Dried(IM) Beef Patty(R) Seasoned Scramb Eggs(R) Choc Instant Brkfst(B) Orange Drink w/A/S(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Drink w/A/S(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lem & A/S(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Cherry Drk w/A/S(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade w/A/S(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrzzini(R) Cauliflower w/Cheese(R) Choc Coverd Cookies(NF) Lemonade w/A/S(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Orange Drink w/A/S(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)

*Day 7 includes Meal A only

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- NF - Natural Form
- T - Thermostabilized

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TABLE 19-XXI.- Continued

(b) Michael J. Smith, PLT (Yellow)

MEAL	DAY 1*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange Drink Mix(B)	Peaches, Dried(IM) Granola(R) Breakfast Roll(NF) Choc Inst Breakfast(B) Orange Drink Mix(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Cocoa(B) Orange Drink Mix(B)	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Orange Drink Mix(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shrtbread Cookies(NF) Lemonade w/A/S(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Shortbread Cookies(NF) Tea w/Lem & A/S(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Shrtbread Cookies(NF) Lemonade w/A/S(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Lemonade w/A/S(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon & A/S(B)	Beef w/BRQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrooms(R) Butterscotch Pudding(T) Tea w/Lemon & A/S(B)	Teriyaki Chicken(R) Potato Patty(R) Grn Beans & Broccoli(R) Strawberries(R) Peanuts, Dry Roastd(NF) Tea w/Lemon & A/S(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Chocolate Pudding(T) Tea w/Lemon & A/S(B)

*Meals begin with Day 1 Meal B

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form
A/S - Artificial Sweetener

TABLE 19-XXI.- Continued

(b) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Peaches, Dried(IM) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange Drink Mix(B)	Apricots, Dried(IM) Sausage(R) Seasoned Scramb Eggs(R) Choc Instant Brkfst(B) Orange Drink Mix(B)	Peaches, Dried(IM) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Drink Mix(B)
B	Dried Beef(IM) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lem & A/S(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Lemonade w/A/S(2X)(B)	Chicken Salad Spread(T) Bread(NF) Banana Pudding(T) Shortbread Cookies(NF) Lemonade w/A/S(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade w/A/S(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea w/Lemon & A/S(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & A/S(B)

*Day 7 includes Meal A only.

- IM - Intermediate Moisture
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- T - Thermostabilized
- A/S - Artificial Sweetener

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TABLE 19-XXI.- Continued

(c) Ellison Onizuka, MS-1 (Blue)

MEAL	DAY 1*	DAY 2			DAY 3			DAY 4		
		DAY 1*	DAY 2	DAY 3	DAY 3	DAY 4	DAY 4	DAY 4	DAY 4	
A	Fruit Cocktail(T) Ham(T) Seasoned Scramb Eggs(R) Granola w/Blueberries(R) Orange-Pineapple Drnk(B) Kona Coffeee(B)		Applesauce(T)	Pineapple(T)	Peaches, Diced(T)	Beef Patty(R) Granola w/Blueberries(R) Breakfast Roll(NF) Grapefruit Drink(B) Kona Coffee(B)	Beef Patty(R) Granola w/Blueberries(R) Breakfast Roll(NF) Grapefruit Drink(B) Kona Coffee(B)	Pineapple(T) Seasoned Scr Eggs(R) Granola Bar(NF) Cocoa(B) Orange Drink Mix(B) Kona Coffee(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Macadamia Nuts(NF) Tea w/Lemon(2X)(B)	Ham(T) Potatoes au Gratin(R) Pineapple(T) Cashews(NF) Trail Mix(IM) Tea w/Lemon(2X)(B)
			Granola(R)	Granola Bar(NF)	Granola w/Blueberries(R)					
			Breakfast Roll(NF)	Cocoa(B)	Breakfast Roll(NF)					
			Vanilla Inst Bkfst(B)	Orange Drink Mix(B)	Breakfast Roll(NF)					
			Orange-Grapefrt Dk(B)	Kona Coffee(B)	Grapefruit Drink(B)					
	Reef Stroganoff(R) Peaches, Diced(T) Choc Covered Cookies(NF) Macadamia Nuts(NF) Apple Drink(2X)(B)		Salmon(T)			Ham(T) Potatoes au Gratin(R) Pineapple(T) Cashews(NF) Trail Mix(IM) Tea w/Lemon(2X)(B)	Ham(T) Potatoes au Gratin(R) Pineapple(T) Cashews(NF) Trail Mix(IM) Tea w/Lemon(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Macadamia Nuts(NF) Tea w/Lemon(2X)(B)	Ham(T) Potatoes au Gratin(R) Pineapple(T) Cashews(NF) Trail Mix(IM) Tea w/Lemon(2X)(B)	
			Rice & Chicken(R)							
			Pears, Diced(T)							
			Butter Cookies(NF)							
			Lemonade(B)							
Shrimp Cocktail(R) Teriyaki Chicken(R) Rice Pilaf(R) Asparagus(R) Chocolate Pudding(T) Tea w/Lemon(B)		Beef & Gravy(T)	Beef Steak(I)	Chicken ala King(T)	Chicken ala King(T) Rice Pilaf(R) Asparagus(R) Banana Pudding(T) Apple Drink(B)	Chicken ala King(T) Rice Pilaf(R) Asparagus(R) Banana Pudding(T) Apple Drink(B)	Beef Steak(I) Potato Patty(R) Grn Bns & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Chicken ala King(T) Rice Pilaf(R) Asparagus(R) Banana Pudding(T) Apple Drink(B)		
		Potatoes au Gratin(R)	Potato Patty(R)	Rice Pilaf(R)						
		Grn Beans w/Mshrms(R)	Grn Bns & Broccoli(R)	Rice Pilaf(R)						
		Buttersch Pudding(T)	Strawberries(R)	Asparagus(R)						
		Tea w/Lemon(B)	Vanilla Pudding(T)	Asparagus(R)						

*Meals begin with Day 1 Meal B

- T - Thermostabilized
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- IM - Intermediate Moisture
- I - Irradiated

TABLE 19-XXI.- Continued

(c) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Fruit Cocktail(T) Sausage(R) Mexican Scrambled Eggs(R) Granola w/Raisins(R) Kona Coffee(B) Orange-Pineapple Drink(B)	Applesauce(T) Beef Patty(R) Seasoned Scram Eggs(R) Choc Instant Brkfst(B) Or-Grapefruit Drink(B) Kona Coffee(B)	Peaches, Diced(T) Ham(T) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Drink Mix(B) Kona Coffee(B)
B	Beef Almondine(R) Applesauce(T) Graham Crackers(NF) Trail Mix(IM) Peanuts, Dry Roasted(NF) Tea w/Lemon(2X)(B)	Beef Stroganoff(R) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Macaroni & Cheese(R) Noodles & Chicken(R) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Shrimp Cocktail(R) Turkey & Gravy(T) Turkey Tetrazzini(R) Cauliflower w/Cheese(R) Choc Covered Cookies(NF) Lemonade(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(R) Potato Patty(R) Broccoli au Gratin(R) Pears, Diced(T) Tea w/Lemon(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Green Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon(B)

*Day 7 includes Meal A only

- T - Thermostabilized
- R - Rehydratable
- B - Beverage
- NF - Natural Form
- IM - Intermediate Moisture

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TABLE 19-KX1.- Continued

(d) Judith A. Resnik, MS-2 (Green)

MEAL DAY 1*	DAY 2	DAY 3	DAY 4
A Sausage(R) Choc Instant Brkfst(B) Orange Drink w/A/S(B)	Sausage(R) Choc Inst Breakfast(B) Orange Drink w/A/S(B)	Sausage(R) Choc Instant Brkfst(B) Orange Drink w/A/S(B)	Sausage(R) Choc Instant Brkfst(B) Orange Drink w/A/S(B)
B Lemonade w/A/S(2X)(B)	Salmon(T) Banana Pudding(T) Lemonade w/A/S(2X)(B)	Salmon(T) Chocolate Pudding(T) Lemonade w/A/S(2X)(B)	Salmon(T) Butterscotch Pudding(T) Lemonade w/A/S(2X)(B)
C Shrimp Cocktail(R) Rice Pilaf(R) Grn Bns w/Mshrms(2X)(R) Lemonade w/A/S(B)	Shrimp Cocktail(R) Teriyaki Chicken(R) Potatoes Au Gratin(R) Italian Vegetables(R) Lemonade w/A/S(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Rice Pilaf(R) Broccoli au Gratin(R) Lemonade w/A/S(B)	Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes Au Gratin(R) Grn Beans w/Mshrooms(R) Lemonade w/A/S(B)

*Menus begin with Day 1 Meal B

- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- T - Thermostabilized

TABLE 19-XXI.- Continued
(d) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Sausage(R) Choc Inst Breakfast(B) Orange Drink w/A/S(B)	Sausage(R) Choc Inst Breakfast(B) Orange Drink w/A/S(B)	Sausage(R) Choc Instant Brkfst(B) Orange Drink w/A/S(B)
B	Salmon(T) Banana Pudding(T) Lemonade w/A/S(2X)(B)	Salmon(T) Chocolate Pudding(T) Lemonade w/A/S(2X)(B)	Salmon(T) Butterscotch Pudding(T) Lemonade w/A/S(2X)(B)
C	Shrimp Cocktail(R) Teriyaki Chicken(R) Rice Pilaf(R) Broccoli au Gratin(R) Lemonade w/A/S(B)	Shrimp Cocktail(R) Beef Steak(I) Potatoes Au Gratin(R) Italian Vegetables(R) Lemonade w/A/S(B)	Shrimp Cocktail(R) Grd Beef w/Spice Sce(T) Rice Pilaf(R) Grn Beans w/Mshrooms(R) Lemonade w/A/S(B)

*Day 7 includes Meal A only

- R - Rehydratable
- B - Beverage
- A/S - Artificial Sweetener
- T - Thermostabilized
- I - Irradiated

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TABLE 19-XXI.-- Continued

(e) Ronald E. McHair, MS-3 (Orange)

MEAL	DAY 1*	DAY 2	DAY 3	DAY 4
A	Pears, Dried(IM) Sausage(R) Scrambled Eggs(R) Cornflakes(R) Cocoa(B) Or-Pineapple Drink(R)	Peaches, Dried(IM) Granola(R) Rice Krispies(R) Breakfast Roll(NF) Orange-Grapefrt Dk(B)	Apricots, Dried(IM) Seasoned Scram Eggs(R) Bran Flakes(R) Cocoa(R) Orange Drink Mix(B)	Pears, Dried(IM) Beef Patty(R) Breakfast Roll(NF) Grapefruit Drink(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Choc Cvrd Cookies(NF) Apple Drink(2X)(B)	Salmon(T) Bread(NF) Pears, Diced(T) Butter Cookies(NF) Lemonade(2X)(B)	Peanut Butter(IM) Jelly(IM) Bread(NF) Fruit Cocktail(T) Fruitcake(T) Tea w/Lem & Sug(2X)(B)	Ham(T) Cheddar Cheese Sprd(T) Bread(NF) Pineapple(T) Cashews(NF) Strawberry Drnk(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Grn Beans w/Mshrms(R) Chocolate Pudding(T) Grape Drink(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mshrms(R) Lemon Pudding(T) Orange Drink(B)	Frankfurters(T) Potatoes au Gratin(R) Grn Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tropical Punch(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Vanilla Pudding(T) Apple Drink(B)

*Meals begin with Day 1 Meal B

IM - Intermediate Moisture
R - Rehydratable
B - Beverage
T - Thermostabilized
NF - Natural Form

TABLE 19-XXI.-- Continued
(e) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Peaches, Dried(IM) Sausage(R) Mexican Scramb Eggs(R) Granola w/Raisins(R) Cocoa(B) Orange-Pineapple Dk(B)	Apricots, Dried(IM) Applesauce(T) Beef Patty(R) Seasoned Scramb Eggs(R) Orange-Grapefruit Dk(B)	Peaches, Dried(IM) Beef Patty(R) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Orange Drink Mix(B)
B	Teriyaki Chicken(R) Bread(NF) Applesauce(T) Peanuts, Dry Roast(NF) Tea w/Lem & Sug(2X)(B)	Tuna(T) Bread(NF) Lemon Pudding(T) Shortbread Cookies(NF) Almonds(NF) Apple Drink(2X)(B)	Chicken Salad Spread(T) Bread(NF) Vanilla Pudding(T) Choc Covered Cookies(NF) Lemonade(2X)(B)
C	Turkey & Gravy(T) Turkey Tetrazzini(R) Corn, Grn Bns & Psta(R) Banana Pudding(T) Lemonade(B)	Grd Beef w/Spice Sce(T) Potato Patty(R) Italian Vegetables(R) Pears, Diced(T) Orange Drink(B)	Shrimp Cocktail(R) Beef & Gravy(T) Macaroni & Cheese(R) Grn Beans w/Mushrooms(R) Peach Ambrosia(R) Tea w/Lemon & Sugar(B)

*Day 7 includes Meal A only

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 NF - Natural Form
 T - Thermostabilized

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TABLE 19-XXI.- Continued

(f) Sharon Christa (Chris) McAuliffe (Teacher, NH), PS-1 (Broom)

MEAL	DAY 1*	DAY 2	DAY 3	DAY 4
A	<p>Peaches, Dried(IM) Breakfast Roll(NF) Oatmeal w/Brown Sugar(R) Cocoa(B) Tea w/Lemon(B)</p>	<p>Apricots, Dried(IM) Breakfast Roll(NF) Granola w/Blueberries(R) Cocoa(B) Tea w/Lemon(B)</p>	<p>Peaches, Dried(IM) Breakfast Roll(NF) Granola w/Blueberries(R) Orange-Mango Drink(B) Cocoa(B)</p>	<p>Apricots, Dried(IM) Breakfast Roll(NF) Granola w/Raisins(R) Peach-Apricot Drink(B) Cocoa(B)</p>
B	<p>Rice & Chicken Soup(R) Peanut Butter(IM) Jelly(IM) Bread(NF) Orange(FF) Soda Crackers(NF) Grape Drink(2X)(B)</p>	<p>Rice & Chicken Soup(R) Turkey Salad Spread(T) Whole Wheat Bread(NF) Soda Crackers(NF) Almonds(NF) Lemonade(2X)(B)</p>	<p>Ham Salad Spread(T) Whole Wheat Bread(NF) Pineapple(T) Cashews(NF) Orange Drink Mix(2X)(B)</p>	<p>Chicken Salad Spread(T) Whole Wheat Bread(NF) Applesauce(T) Macadamia Nuts(NF) Lemonade(2X)(B)</p>
C	<p>Chicken Consomme(R) Rice & Chicken(R) Corn, Grn Bns & Pasta(R) Shortbread Cookies(NF) Tea w/Lemon(B)</p>	<p>Chicken Consomme(R) Macaroni & Cheese(R) Grn Beans & Broccoli(R) Butter Cookies(NF) Tea w/Lemon(B)</p>	<p>Shrimp Cocktail(R) Beef w/BBQ Sauce(T) Potatoes Au Gratin(R) Grn Beans w/Mushrooms(R) Choc Covered Cookies(NF) Tea w/Lemon(B)</p>	<p>Mushroom Soup(R) Teriyaki Chicken(R) Creamed Spinach(R) Choc Covered Cookies(NF) Tea w/Lemon(B)</p>

*Meals begin with Day 1 Meal B

IM - Intermediate Moisture
 NF - Natural Form
 R - Rehydratable
 B - Beverage
 FF - Fresh Food Locker
 T - Thermostabilized

TABLE 19-XXI.- Continued
(f) Concluded

MEAL	DAY 5	DAY 6	DAY 7*
A	Pears, Diced(IM) Breakfast Roll(NF) Granola w/Blueberries(R) Orange Drink Mix(B) Cocoa(B)	Apricots, Dried(IM) Breakfast Roll(NF) Granola w/Raisins(R) Grapefruit Drink(B) Cocoa(B)	Peaches, Dried(IM) Breakfast Roll(NF) Rice Krispies(R) Orange-Mango Drink(B) Cocoa(B)
B	Peanut Butter(IM) Jelly(IM) White Bread(NF) Chocolate Pudding(T) Almonds(NF) Orange-Mango Drink(2X)(B)	Turkey Salad Spread(T) Whole Wheat Bread(NF) Macadamia Nuts(NF) Candy Coated Mints(NF) Grape Drink(2X)(B)	Tuna Salad Spread(T) Macaroni & Cheese(R) Whole Wheat Bread(NF) Vanilla Pudding(T) Granola Bar(2X)(B) Lemonade(2X)(B)
C	Beef Stroganoff(R) Broccoli w/Cheese(R) Peach Ambrosia(R) Tea w/Lemon(B)	Shrimp Cocktail(R) Meatballs w/BBQ Sauce(T) Cauliflower w/Cheese(R) Butter Cookies(NF) Tea w/Lemon(B)	Chicken Consomme(R) Chicken ala King(T) Potatoes au Gratin(R) Creamed Spinach(R) Shortbread Cookies(NF) Tea w/Lemon(B)

*Day 7 includes Meal A only

IM - Intermediate Moisture
NF - Natural Form
R - Rehydratable
B - Beverage
T - Thermostabilized

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TABLE 19-XXI.- Concluded

(g) Gregory Jarvis (Hughes Aircraft). PS-2 (Purple)

MEAL	DAY 1*5	DAY 2*6	DAY 3*7**	DAY 4
A	Peaches, Dried(IM) Sausage(R) Mexican Scram Eggs(R) Granola w/Raisins(R) Cocoa(B) Apple Drink(B) Kona Coffee(B)	Peaches, Dried(IM) Mexican Scrambled Eggs(R) Granola(R) Breakfast Roll(NF) Apple Drink(B) Kona Coffee(B)	Apricots, Dried(IM) Mexican Scrambled Eggs(R) Granola w/Blueberries(R) Cocoa(B) Apple Drink(B) Kona Coffee(B)	Pears, Dried(IM) Sausage(R) Granola w/Blueberries(R) Breakfast Roll(NF) Apple Drink(B) Kona Coffee(B)
B	Ham(T) Bread(NF) Peaches, Diced(T) Shortbread Cookies(NF) Tea w/Lemon(2X)(B)	Spaghetti w/Meat Sauce(R) Diced Pears(T) Butter Cookies(NF) Lemonade(2X)(B)	Beef Stroganoff(R) Bread(NF) Fruit Cocktail(T) Choc Covered Cookies(NF) Tea w/Lemon(2X)(B)	Meatballs w/BBQ Sce(T) Rice Pilaf(R) Italian Vegetables(R) Lemon Pudding(T) Lemonade(2X)(B)
C	Chicken ala King(T) Rice & Chicken(R) Broccoli w/Cheese(R) Chocolate Pudding(T) Lemonade(B)	Shrimp Cocktail(R) Beef Steak(I) Potato Patty(R) Green Beans & Broccoli(R) Strawberries(R) Vanilla Pudding(T) Tea w/Lemon & A/S(B)	Beef w/BBQ Sauce(T) Potatoes au Gratin(R) Grn Beans w/Mushrooms(R) Butterscotch Pudding(T) Lemonade(B)	Shrimp Cocktail(R) Beef Steak(I) Creamed Spinach(R) Peach Ambrosia(R) Vanilla Pudding(T) Tea w/Lemon & A/S(B)

*Meals begin with Day 1 Meal B

**Day 7 includes Meal A only

IM - Intermediate Moisture
 R - Rehydratable
 B - Beverage
 T - Thermostabilized
 NF - Natural Form
 I - Irradiated

APPENDIX 20

PANTRIES USED ON EACH OF THE FIRST 25 STS FLIGHTS
STS-1 THROUGH STS 51-L

TABLES

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20-XXV	STS 51-L CONTINGENCY/PANTRY 20-29

TABLE 20-I.- STS-1 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Snacks</u>	<u>Qty</u>
Apple Drink	8	Almonds(NF)	2
Coffee, Black	12	Apricots, Dried(IM)	4
Coffee w/Cream & Sugar	8	Bananas(FD)	2
Grapefruit Drink	6	Bread, Seedless Rye(I)	4
Lemonade	8	Cashews(NF)	2
Orange Drink	8	Dried Beef(IM)	4
Tea	<u>10</u>	Granola/Raisin Bar(NF)	4
	Total 50	Peaches, Dried(IM)	2
		Peanut Butter(IM)	4
		Peanuts, Dry Roasted(NF)	
		Pears(FD)	2
		Shortbread Cookies(NF)	4
		Soda Crackers(NF)	<u>4</u>
		Total	42

<u>Rehydratable Food</u>		<u>Thermostabilized</u>	
Asparagus	3	Beef Steak(I)	4
Beef Patty	2	Corned Beef(I)	4
Green Beans & Broccoli	3	Ham, Sliced	4
Green Beans w/Mushrooms	2	Pudding, Butterscotch	2
Peach Ambrosia	3	Pudding, Lemon	2
Sausage Patty	<u>2</u>	Salmon	2
	Total 15	Turkey, Smoked(I)	<u>4</u>
		Total	22

NF - Natural Form
 IM - Intermediate Moisture
 FD - Freeze Dried
 I - Irradiated

5/22/81

TABLE 20-II.- STS-2 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Entrees</u>	<u>Qty</u>
Apple Drink	8	Beef Steak(I)	8
Coffee, Black	10	Corned Beef(I)	4
Coffee w/Cream & Sugar	10	Ham, Sliced(T)	4
Grapefruit Drink	6	Salmon(T)	2
Lemonade	8	Turkey, Smoked(I)	<u>2</u>
Orange Drink	8		
Tea	<u>10</u>		
		Total	20
Total	60		

<u>Rehydratable Food</u>	<u>Qty</u>
Asparagus	2
Beef Patty	2
Green Beans & Broccoli	2
Green Beans w/Mushrooms	2
Italian Vegetables	2
Peach Ambrosia	2
Potato Patty	2
Sausage Patty	2
Strawberries	<u>2</u>
Total	18

<u>Snacks</u>	<u>Qty</u>
Almonds(NF)	4
Apricots, Dried(IM)	4
Bread, Seedless Rye(I)	4
Cashews(NF)	4
Dried Beef(IM)	4
Granola/Raisin Bar(NF)	4
Peaches, Dried(IM)	2
Peanut Butter(IM)	4
Peanuts, Dry Roasted(NF)	4
Shortbread Cookies(NF)	4
Soda Crackers(NF)	<u>4</u>
Total	42

I - Irradiated
 T - Thermostabilized
 NF - Natural Form
 IM - Intermediate Moisture

12/14/81

TABLE 20-III.- STS-3 CONTINGENCY/PANTRY

Rehydratable Beverages Qty

Apple Drink	10
Grapefruit Drink	10
Lemonade	10
Orange Drink	10
Strawberry Drink	10
Tea w/Lemon & Sugar	<u>10</u>

Total 60

Rehydratable Food

Beef Patty	2
Chicken & Rice Soup	4
Eggs, Scrambled	2
Italian Vegetables	2
Peas w/Butter	2
Potato Patty	2
Rice Pilaf	2
Turkey Tetrazzini	<u>2</u>

Total 18

Entrees

Beef Steak(I)	4
Frankfurters(T)	2
Ham, Sliced(T)	4
Meatballs w/BBQ Sauce(T)	2
Turkey, Smoked(I)	<u>2</u>

Total 14

Snacks

Almonds(NF)	2
Apricots, Dried(IM)	2
Butter Cookies(NF)	3
Candy Coated Chocolate(NF)	4
Cashews(NF)	2
Chocolate Chip Bar(NF)	5
Dried Beef(IM)	4
Granola/Raisin Bar(NF)	5
Peaches, Dried(IM)	2
Peanut Butter(IM)	2
Peanuts, Dry Roasted(NF)	2
Pecan Cookies(NF)	3
Soda Crackers(NF)	<u>4</u>

Total 40

I - Irradiated
 T - Thermostabilized
 NF - Natural Form
 IM - Intermediate Moisture

4/22/82

TABLE 20-IV.- STS-4 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Snacks</u>	<u>Qty</u>
Coffee, Black	30	Almonds(NF)	3
Coffee w/Sugar	20	Apricots, Dried(IM)	2
Grape Drink	3	Butter Cookies(NF)	3
Grapefruit Drink	10	Candy Coated Chocolate(NF)	3
Instant Breakfast Chocolate	2	Cashews(NF)	3
Instant Breakfast, Vanilla	2	Chocolate Chip Bar(NF)	2
Lemonade	3	Dried Beef(IM)	2
Orange Drink	2	Graham Crackers(NF)	3
Strawberry Drink	3	Jelly(IM)	2
Tea w/Sugar	3	Peaches, Dried(IM)	2
Tea w/Lemon & Sugar	<u>2</u>	Peanut Butter, Creamy(IM)	3
Total	80	Peanuts, Dry Roasted(NF)	7
		Pecan Cookies(NF)	2
		Soda Crackers(NF)	<u>3</u>
		Total	40

<u>Rehydratable Food</u>		<u>Thermostabilized</u>	
Beef Patty	2	Beef Steak(I)	4
Chicken & Rice Soup	2	Frankfurters	2
Eggs, Scrambled	2	Ham, Sliced	4
Italian Vegetables	2	Meatballs w/BBQ Sauce	2
Peach Ambrosia	4	Pudding, Lemon	2
Peas w/Butter	2	Turkey, Smoked(I)	<u>2</u>
Potato Patty	2	Total	16
Strawberries	4		
Turkey Tetrazzini	<u>2</u>		
Total	22		

NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

TABLE 20-VI.- STS-6 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	6	Apples, Red	8
Cocoa	2	Bananas	10
Coffee w/Cream & Sugar	26	Bread, Cracked Wheat	1
Coffee w/Sugar	10	Bread, Whole Wheat	3
Grape Drink	4	Carrot Sticks	2
Grapefruit Drink	8	Celery Sticks	1
Instant Breakfast, Chocolate	2	Cheddar Cheese, 2oz	8
Instant Breakfast, Strawberry	2	Raisins (8oz pkgs)	2
Instant Breakfast, Vanilla	2		
Lemonade	6	Total	35
Lemon-Lime Drink	16		
Orange Drink	8	<u>Rehydratable Food</u>	
Orange-Grapefruit Drink	2	Beef Patty	4
Orange-Pineapple Drink	2	Beef Stroganoff	4
Strawberry Drink	4	Chicken & Rice Soup	4
Tea	4	Cornflakes	4
Tea w/Lemon & Sugar	4	Eggs, Scrambled	4
Tea w/Sugar	6	Peach Ambrosia	4
Tropical Punch	2	Potato Patty	4
		Shrimp Cocktail	4
Total	116	Strawberries	4
		Total	36
<u>Snacks</u>	<u>Qty</u>		
Almonds(NF)	8	<u>Thermostabilized</u>	
Apricots, Dried(IM)	4	Applesauce	4
Butter Cookies(NF)	4	Beef & Gravy	4
Candy Coated Chocolate(NF)	4	Ham, Sliced	2
Cashews(NF)	8	Meatballs w/BRQ Sauce	4
Chocolate Chip Bar(NF)	4	Salmon	4
Dried Beef(IM)	4	Turkey, Smoked(I)	4
Graham Crackers(NF)	4	Turkey & Gravy	4
Jelly(IM)	4		
Peaches, Dried(IM)	4	Total	26
Peanut Butter, Creamy(IM)	4		
Peanut Butter/Granola Bar(NF)	2		
Pears, Dried(IM)	4		
Pecan Cookies(NF)	4		
Shortbread Cookies(NF)	4		
Soda Crackers(NF)	4		
Total	70		

IM - Intermediate Moisture
 NF - Natural Form
 I - Irradiated

6/14/83

TABLE 20-VII.- STS-7 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	5	Apples, Red	4
Coffee, Black	70	Bread, Whole Wheat	3
Grapefruit Drink	5	Carrot Sticks	2
Lemonade	5	Celery Sticks	1
Lemon-Lime Drink	5	Cheddar Cheese, 2oz	8
Milk	8	Oranges	<u>2</u>
Orange Juice Mix	16		
Tea	10		
Tea w/Lemon & A/S	15		
Tea w/A/S	<u>15</u>		
	Total		Total 20
	154		
		<u>Rehydratable Food</u>	
<u>Snacks</u>	<u>Qty</u>	Beef Patty	2
Almonds(NF)	15	Beef Stroganoff	4
Apricots, Dried(IM)	10	Chicken & Rice Soup	4
Breakfast Roll(I)	3	Cornflakes	2
Butter Cookies(NF)	5	Mushroom Soup	4
Candy Coated Chocolate(NF)	10	Potatoes au Gratin	4
Candy Coated Mints(NF)	10	Shrimp Cocktail	4
Cashews(NF)	15	Spaghetti w/Meat Sauce	4
Dried Beef(IM)	10	Strawberries	<u>4</u>
Graham Crackers(NF)	5		
Granola Bar(NF)	5		
Granola/Raisin Bar(NF)	5		
Jelly(IM)	5		
Peaches, Dried(IM)	5		
Peanut Butter, Creamy(IM)	5		
Peanuts, Dry Roasted(NF)	15		
Pears, Dried(IM)	5		
Pecan Cookies(NF)	5		
Shortbread Cookies(NF)	5		
Soda Crackers(NF)	<u>15</u>		
	Total		Total 32
	153		
		<u>Thermostabilized</u>	
		Applesauce	4
		Beef Steak(I)	4
		Ham, Sliced	5
		Meatballs w/BBQ Sauce	5
		Pudding, Butterscotch	2
		Pudding, Vanilla	2
		Salmon	5
		Turkey, Smoked(I)	<u>3</u>
			Total 30
Drinking Water Containers	30		

A/S - Artificial Sweetener
 IM - Intermediate Moisture
 NF - Natural Form
 I - Irradiated

7/26/83

TABLE 20-VIII.- STS-8 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	5	Apples, Red	5
Cocoa	10	Bananas	4
Coffee, Black	20	Bread, White	1
Grapefruit Drink	15	Bread, Whole Wheat	2
Lemonade	15	Carrot Sticks	2
Lemon-Lime Drink	10	Celery Sticks	1
Orange Drink	8	Cheddar Cheese, 2oz	16
Orange Juice Mix	15	Oranges	3
Strawberry Drink	8		
Tea	10	Total	34
Tea w/Lemon & A/S	20		
Tea w/A/S	20		
Total	156		
		<u>Rehydratable Food</u>	
<u>Snacks</u>	<u>Qty</u>	Beef Stroganoff	3
Almonds(NF)	10	Chicken & Rice Soup	3
Apricots, Dried(IM)	5	Mushroom Soup	3
Butter Cookies(NF)	5	Potatoes au Gratin	3
Candy Coated Chocolate(NF)	10	Shrimp Cocktail	5
Candy Coated Mints(NF)	10	Spaghetti w/Meat Sauce	3
Cashews(NF)	10	Strawberries	5
Chocolate Covered Cookies(NF)	5	Total	25
Dried Beef(IM)	10		
Graham Crackers(NF)	5	<u>Thermostabilized</u>	
Granola Bar(NF)	5	Beef Steak(I)	4
Granola/Raisin Bar(NF)	5	Chicken Salad Spread	1
Jelly(IM)	5	Frankfurters	5
Peaches, Dried(IM)	5	Ham Salad Spread	1
Peanut Butter, Creamy(IM)	5	Ham, Sliced	5
Peanuts, Dry Roasted(NF)	10	Meatballs w/BBQ Sauce	5
Pears, Dried(IM)	5	Salmon	4
Pecan Cookies(NF)	5	Tuna Salad Spread	1
Shortbread Cookies(NF)	5	Turkey, Smoked(I)	3
Soda Crackers(NF)	10	Total	29
Total	130		
		Drinking Water Containers	25

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

11/28/83

TABLE 20-IX.- STS-9 CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	4	Apples, Red	18
Cocoa	6	Bananas	4
Coffee, Black	14	Bread, White	1
Coffee w/Cream & Sugar	26	Bread, Whole Wheat	3
Grapefruit Drink	10	Carrot Sticks	3
Instant Breakfast, Chocolate	10	Celery Sticks	1
Lemonade	12	Cheddar Cheese, 2oz	12
Lemon-Lime Drink	14	Oranges	<u>2</u>
Orange Drink	8		
Orange Juice Mix	8	Total	44
Tea	14		
Tea w/Sugar	<u>10</u>		
Total	136		
<u>Snacks</u>	<u>Qty</u>	<u>Rehydratable Food</u>	
Almonds(NF)	8	Beef Patty	3
Apricots, Dried(IM)	12	Bran Flakes	10
Butter Cookies(NF)	6	Brown Rice	8
Candy Coated Chocolate(NF)	8	Mushroom Soup	6
Candy Coated Mints(NF)	8	Sausage Patty	<u>3</u>
Cashews(NF)	8	Total	30
Dried Beef(IM)	10		
Fiber Crackers(NF)	15	<u>Thermostabilized</u>	
Graham Crackers(NF)	6	Chicken Salad Spread	3
Granola Bar(NF)	10	Ham Salad Spread	3
Jelly(IM)	3	Tuna Salad Spread	3
Peaches, Dried(IM)	12	Turkey, Smoked(I)	<u>6</u>
Peanut Butter, Creamy(IM)	10	Total	15
Peanuts, Dry Roasted(NF)	8		
Shortbread Cookies(NF)	6		
Soda Crackers(NF)	<u>12</u>		
Total	142		
Drinking Water Containers	35		
NF - Natural Form			
IM - Intermediate Moisture			
I - Irradiated			

1/12/84

TABLE 20-X.- STS 41-B CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Citrus Drink	5	Apples, Red	5
Cocoa	5	Bananas	5
Coffee, Black	45	Bread, Seedless Rye	1
Coffee w/A/S	15	Bread, White	1
Coffee w/Cream & Sugar	15	Bread, Whole Wheat	1
Grapefruit Drink	7	Carrot Sticks	2
Instant Breakfast, Vanilla	3	Celery Sticks	2
Lemonade	5	Cheddar Cheese, 2oz	8
Orange Juice Mix	5	Oranges	<u>5</u>
Orange-Mango Drink	5		
Orange-Pineapple Drink	5		
Peach Drink	5		
Tea	5		
Tea w/Lemon & Sugar	15		
Tea w/Sugar	<u>5</u>		
	Total		30
	145		
		<u>Rehydratable Food</u>	
		Green Beans w/Mushrooms	5
		Mushroom Soup	5
		Shrimp Cocktail	5
		Spaghetti w/Meat Sauce	5
		Strawberries	<u>5</u>
		Total	25
<u>Snacks</u>		<u>Thermostabilized</u>	
Almonds(NF)	6	Beef Steak(I)	5
Apricots, Dried(IM)	6	Ham Salad Spread	2
Butter Cookies(NF)	7	Pudding, Vanilla	2
Candy Coated Chocolate(NF)	4	Salmon	2
Candy Coated Mints(NF)	4	Tuna	2
Candy Coated Peanuts(NF)	10	Tuna Salad Spread	2
Cashews(NF)	6	Turkey, Smoked(I)	<u>5</u>
Chocolate Covered Cookies(NF)	3		
Dried Beef(IM)	7		
Graham Crackers(NF)	5		
Jelly(IM)	3		
Peaches, Dried(IM)	6		
Peanut Butter, Chunky(Jar)(IM)	1		
Peanut Butter, Creamy(IM)	5		
Peanut Butter/Granola Bar(NF)	3		
Peanuts, Dry Roasted(NF)	5		
Pecan Cookies(NF)	5		
Shortbread Cookies(NF)	5		
Soda Crackers(NF)	5		
Trail Mix(IM)	<u>30</u>		
	Total		20
	126		
Drinking Water Containers	35		

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

2/13/84

TABLE 20-XI.- STS 41-C CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	5	Apples, Red	5
Citrus Drink	5	Bananas	4
Coffee, Black	20	Bread, Seedless Rye	1
Coffee w/A/S	10	Bread, Whole Wheat	1
Coffee w/Cream	10	Carrot Sticks	2
Coffee w/Cream & Sugar	10	Celery Sticks	2
Grapefruit Drink	7	Cheddar Cheese, 2oz	8
Instant Breakfast, Vanilla	3	Cranberry Juice Cocktail, Brik Pak	1
Lemonade	5	Oranges	3
Orange Juice Mix	5		
Orange-Mango Drink	5	Total	27
Orange-Pineapple Drink	5		
Peach Drink	5		
Tea	15	<u>Rehydratable Food</u>	
Tea w/A/S	5	Beef Patty	2
Tea w/Sugar	5	Beef Stroganoff	3
Total	120	Mushroom Soup	5
		Shrimp Cocktail	10
		Spaghetti w/Meat Sauce	3
		Strawberries	5
		Sausage Patty	2
<u>Snacks</u>		Total	30
Almonds(NF)	10		
Apricots, Dried(IM)	7	<u>Thermostabilized</u>	
Butter Cookies(NF)	7	Beef Steak(I)	5
Candy Coated Chocolate(NF)	5	Frankfurters	2
Candy Coated Mints(NF)	4	Ham Salad Spread	2
Candy Coated Peanuts(NF)	8	Pudding, Chocolate	2
Cashews(NF)	10	Pudding, Vanilla	2
Chocolate Covered Cookies(NF)	3	Tuna Salad Spread	2
Dried Beef(IM)	5	Turkey, Smoked(I)	5
Graham Crackers(NF)	3	Total	20
Granola Bars(NF)	4		
Jelly, Apple(IM)	3		
Peaches, Dried(IM)	7		
Peanut Butter, Crunchy(Jar)(IM)	1		
Peanut Butter, Creamy(IM)	5		
Peanut Butter/Granola Bar(NF)	3		
Peanuts, Dry Roasted(NF)	5		
Pecan Cookies(NF)	2		
Shortbread Cookies(NF)	4		
Soda Crackers(NF)	5		
Trail Mix(IM)	10		
Total	111		
Drinking Water Containers	25		

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

6/12/84

TABLE 20-XII.- STS 41-D CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cherry Drink w/A/S	6	Apples, Granny Smith	4
Citrus Drink	3	Apples, Red	8
Cocoa	12	Bananas	12
Coffee, Black	15	Bread, Seedless Rye	1
Coffee w/A/S	15	Bread, White	1
Coffee w/Cream	12	Bread, Whole Wheat	2
Coffee w/Cream & Sugar	12	Carrot Sticks	2
Grape Drink	3	Celery Sticks	1
Grape Drink w/A/S	3	Cheddar Cheese, 2oz	8
Grapefruit Drink	6		
Instant Breakfast, Chocolate	6	Total	39
Lemonade	15		
Lemonade w/A/S	15		
Orange Juice Mix	6	<u>Rehydratable Food</u>	
Orange-Mango Drink	3	Chicken Consomme	6
Tea	12	Chicken & Rice Soup	5
Tea w/A/S	12	Green Beans w/Mushrooms	6
Tropical Punch	3	Italian Vegetables	6
Tropical Punch w/A/S	3	Mushroom Soup	6
Total	162	Turkey Tetrizzini	5
		Total	34
<u>Snacks</u>			
Almonds(NF)	15	<u>Thermostabilized</u>	
Butter Cookies(NF)	16	Ground Beef w/Spice Sauce	3
Candy Coated Mints(NF)	6	Ham Salad Spread	2
Candy Coated Peanuts(NF)	15	Meatballs w/BBQ Sauce	3
Cashews(NF)	15	Tuna Salad Spread	2
Chocolate Covered Cookies(NF)	6	Turkey & Gravy	6
Dried Beef(IM)	4	Total	16
Granola Bars(NF)	6		
Jelly, Apple(IM)	6		
Peanut Butter, Crunchy(Jar)(IM)	1		
Peanuts, Dry Roasted(NF)	15		
Soda Crackers(NF)	12		
Total	117		
Drinking Water Containers	12		

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture

9/14/84

TABLE 20-XIII.- STS 41-G CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Citrus Drink	7	Apples, Granny Smith	10
Cocoa	10	Apples, Red	4
Coffee, Black	16	Bread, Whole Wheat	6
Coffee w/Cream & Sugar	20	Carrot Sticks	2
Coffee w/Sugar	8	Celery Sticks	2
Grapefruit Drink	7	Cheddar Cheese, 2oz	10
Instant Breakfast, Chocolate	2	Oranges	7
Instant Breakfast, Vanilla	2		
Lemonade	21	Total	41
Orange Juice Mix	20		
Orange-Mango Drink	25		
Peach-Apricot Drink	7	<u>Rehydratable Food</u>	
Tea	7	Broccoli au Gratin	3
Tea w/Lemon & A/S	14	Chicken Consomme	7
Total	166	Chicken & Rice Soup	7
		Green Beans w/Mushrooms	4
<u>Snacks</u>		Italian Vegetables	3
Almonds(NF)	10	Mushroom Soup	7
Apricots, Dried(IM)	7	Shrimp Cocktail	7
Butter Cookies(NF)	10	Turkey Tetrazzini	7
Candy Coated Chocolates(NF)	17	Total	45
Candy Coated Mints(NF)	14		
Candy Coated Peanuts(NF)	17	<u>Thermostabilized</u>	
Cashews(NF)	13	Beef Steak(I)	7
Dried Beef(IM)	7	Chicken Salad Spread	1
Granola Bars(NF)	7	Frankfurters	4
Jelly, Apple(IM)	3	Ham Salad Spread	2
Peaches, Dried(IM)	7	Tuna Salad Spread	2
Peanut Butter, Crunchy(Jar)(IM)	1	Turkey & Gravy	7
Peanuts, Dry Roasted(NF)	13	Turkey Salad Spread	1
Soda Crackers(NF)	28		
Total	154	Total	24
Drinking Water Containers	14		

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

11/08/84

TABLE 20-XIV.- STS 51-A CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cocoa	5	Apples, Red	7
Coffee, Black	32	Bananas	3
Coffee w/Cream & Sugar	32	Bread, Whole Wheat	4
Grapefruit Drink	5	Carrot Sticks	2
Instant Breakfast, Chocolate	5	Celery Sticks	2
Lemonade	10	Cheddar Cheese, 2oz	<u>10</u>
Lemonade w/A/S	12		
Orange-Grapefruit Drink	5	Total	28
Orange Juice Mix	5		
Orange-Mango Drink	9	<u>Rehydratable Food</u>	
Peach-Apricot Drink	5	Broccoli au Gratin	5
Tea w/Lemon	5	Chicken Consomme	5
Tea w/Lemon & Sugar	5	Chicken & Rice Soup	5
Tea w/Lemon & A/S	<u>15</u>	Green Beans w/Mushrooms	5
Total	150	Mushroom Soup	5
		Shrimp Cocktail	5
<u>Snacks</u>		Turkey Tetrazzini	<u>5</u>
Almonds(NF)	10	Total	35
Apricots, Dried(IM)	5		
Butter Cookies(NF)	5	<u>Thermostabilized</u>	
Candy Coated Chocolates(NF)	10	Beef Steak(I)	5
Candy Coated Mints(NF)	20	Chicken Salad Spread	2
Candy Coated Peanuts(NF)	10	Frankfurters	3
Cashews(NF)	10	Ham Salad Spread	2
Dried Beef(IM)	16	Tuna Salad Spread	2
Granola Bars(NF)	5	Turkey & Gravy	<u>5</u>
Jelly, Apple(IM)	4	Total	19
Peaches, Dried(IM)	10		
Peanut Butter, Crunchy(Jar)(IM)	1		
Peanuts, Dry Roasted(NF)	10		
Soda Crackers(NF)	20		
Trail Mix(IM)	<u>10</u>		
Total	146		
Drinking Water Containers	15		
In-Suit Food Bars	4		

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

4/29/85

TABLE 20-XV.- STS 51-B CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Citrus Drink	7	Apples, Granny Smith	4
Cocoa	7	Apples, Red	13
Coffee, Black	14	Bananas	12
Coffee w/Cream	7	Bread, White	2
Coffee w/Cream & Sugar	7	Bread, Whole Wheat	1
Grapefruit Drink	14	Candied Dill Strips(Jar)	1
Instant Breakfast, Chocolate	4	Carrot Sticks	2
Instant Breakfast, Vanilla	3	Celery Sticks	2
Lemonade	21	Cheddar Cheese, 2oz	10
Orange Juice Mix	14	Kosher Dill Pickles	6
Orange-Mango Drink	21	Oranges	7
Peach-Apricot Drink	7		
Tea	7		Total 60
Tea, Bag Lapsang Souchong	7		
Tea, Earl Gray	7		
Tea w/Lemon & Sugar	7		
	Total 154	<u>Rehydratable Food</u>	
<u>Snacks</u>		Chicken Consomme	7
Almonds(NF)	10	Chicken & Rice Soup	5
Apricots, Dried(IM)	10	Green Beans w/Mushrooms	7
Butter Cookies(NF)	14	Mushroom Soup	7
Candy Coated Chocolates(NF)	10	Peach Ambrosia	7
Candy Coated Mints(NF)	7	Shrimp Cocktail	7
Candy Coated Peanuts(NF)	14	Spaghetti w/Meat Sauce	4
Cashews(NF)	10	Turkey Tetrazzini	3
Dried Beef(IM)	14		Total 47
Granola Bars(NF)	14	<u>Thermostabilized</u>	
Jelly, Strawberry(Jar)(IM)	1	Beef Steak(I)	7
Macadamia Nuts(NF)	10	Chicken Salad Spread	1
Peaches, Dried(IM)	10	Frankfurters	4
Peanut Butter, Chunky(Jar)(IM)	1	Ham, Sliced	4
Peanuts, Dry Roasted(NF)	10	Ham Salad Spread	2
Soda Crackers(NF)	21	Tuna Salad Spread	2
Trail Mix(IM)	20	Turkey & Gravy	3
	Total 176	Turkey Salad Spread	1
			Total 24
A/S - Artificial Sweetener		Drinking Water Containers	21
NF - Natural Form		In-Suit Food Bars	2
IM - Intermediate Moisture		Reentry Kit	
I - Irradiated		56 Salt Tablets	
		28 Longer Straws	
		24 Drinking Water Containers	
		4 Orange Juice Mix	

1/24/85

TABLE 20-XVI.- STS 51-C CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cherry Drink w/A/S	3	Apples, Granny Smith	1
Cocoa	4	Apples, Red	3
Decaffeinated Coffee w/Sugar	15	Bananas	4
Grape Drink	3	Bread, Seedless Rye	1
Grapefruit Drink	3	Bread, White	1
Instant Breakfast, Chocolate	4	Bread, Whole Wheat	1
Kona Coffee, Black	40	Carrot Sticks	1
Kona Coffee w/Cream & A/S	15	Celery Sticks	1
Lemonade	4	Cheddar Cheese, 2oz	5
Lemonade w/A/S	4	Pears	<u>1</u>
Orange-Grapefruit Drink	4		Total 19
Orange Juice Mix	5		
Orange-Mango Drink	10		
Orange-Pineapple Drink	3		
Peach-Apricot Drink	3		
Tea	5		
Tropical Punch w/A/S	<u>5</u>		
	Total 130		
		<u>Rehydratable Food</u>	
		Broccoli au Gratin	4
		Chicken Consomme	5
		Chicken & Rice Soup	5
		Green Beans w/Mushrooms	4
		Mushroom Soup	5
		Rice Pilaf	2
		Shrimp Cocktail	5
		Sweet 'n Sour Chicken	3
		Teriyaki Chicken	<u>3</u>
		Total 36	
<u>Snacks</u>		<u>Thermostabilized</u>	
Almonds(NF)	10	Beef Steak(I)	5
Apricots, Dried(IM)	5	Chicken Salad Spread	2
Butter Cookies(NF)	10	Frankfurters	3
Candy Coated Chocolates(NF)	10	Ham, Sliced	3
Candy Coated Mints(NF)	5	Ham Salad Spread	2
Candy Coated Peanuts(NF)	9	Tuna Salad Spread	2
Cashews(NF)	15	Turkey & Gravy	<u>3</u>
Dried Beef(IM)	6	Total 20	
Granola Bars(NF)	5		
Jelly, Grape(Jar)(IM)	1		
Macadamia Nuts(NF)	20		
Peaches, Dried(IM)	5		
Peanut Butter, Crunchy(Jar)(IM)	1		
Peanuts, Dry Roasted(NF)	3		
Pecan Cookies(NF)	5		
Soda Crackers(NF)	10		
Trail Mix(IM)	<u>10</u>		
	Total 130		
		Drinking Water Containers	10
		In-Suit Food Bars	2
		Reentry Kit	
		40 Salt Tablets	
		20 Long Straws	
		20 Drinking Water Containers	

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 I - Irradiated

4/11/85

TABLE 20-XVII.- STS 51-D CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	5	Apples, Granny Smith	4
Citrus Drink	4	Apples, Red	5
Cocoa	3	Bananas	6
Coffee, Black	18	Bread, Seedless Rye	1
Coffee w/Cream	10	Bread, Whole Wheat	1
Coffee w/Cream & Sugar	5	Carrot Sticks	2
Coffee w/Sugar	10	Celery Sticks	1
Grape Drink	3	Cheddar Cheese, 2oz	10
Grapefruit Drink	5	Chocolate Chip Granola Dipps	12
Instant Breakfast, Chocolate	3	Mint Chocolate Chip Dipps	6
Instant Breakfast, Strawberry	3	Oranges	2
Instant Breakfast, Vanilla	3		
Lemonade	7		
Lemonade w/A/S	14		Total 50
Orange-Grapefruit Drink	5		
Orange Juice Mix	7	<u>Rehydratable Food</u>	
Orange-Mango Drink	7	Broccoli au Gratin	7
Orange-Pineapple Drink	3	Chicken Consomme	7
Peach-Apricot Drink	4	Chicken & Rice Soup	7
Tea	5	Granola w/Blueberries	3
Tea Bag, Earl Gray w/A/S	14	Mushroom Soup	7
Tea Bag, Formosa Oolong	5	Rice Pilaf	7
Tea Bag, Lapsang Souchong	5	Shrimp Cocktail	7
Tea w/Lemon & A/S	7	Sweet 'n Sour Chicken	4
Tropical Punch w/A/S	5	Teriyaki Chicken	3
Total	160		Total 52
<u>Snacks</u>		<u>Thermostabilized</u>	
Almonds(NF)	10	Beef Steak(I)	7
Apricots, Dried(IM)	10	Chicken Salad Spread	2
Butter Cookies(NF)	10	Frankfurters	3
Candy Coated Chocolates(NF)	7	Fruitcake	3
Candy Coated Mints(NF)	7	Ham Salad Spread	2
Candy Coated Peanuts(NF)	7	Tuna Salad Spread	2
Cashews(NF)	10		
Dried Beef(IM)	3		Total 19
Graham Crackers(NF)	3		
Granola Bars(NF)	7		
Jelly(IM)	5	Drinking Water Containers	14
Macadamia Nuts(NF)	10	In-Suit Food Bars	2
Peaches, Dried(IM)	10	Reentry Kit	
Peanut Butter, Creamy(Jar)(IM)	5	56 Salt Tablets	
Peanuts, Dry Roasted(NF)	10	28 Long Straws	
Pecan Cookies(NF)	10	28 Drinking Water Containers	
Soda Crackers(NF)	14		
Total	138		
A/S - Artificial Sweetener			
NF - Natural Form			
IM - Intermediate Moisture			
I - Irradiated			

9/05/85

TABLE 20-XVIII.- STS 51-F CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cherry Drink w/A/S	4	Apples, Granny Smith	10
Cocoa	7	Apples, Red	5
Coffee, Black	18	Bananas	14
Coffee w/Cream	14	Bread, Cocktail Pumpernickel	1
Coffee w/Cream & Sugar	21	Bread, Cocktail Rye	1
Grapefruit Drink	10	Bread, Raisin/Pumpernickel	19
Kona Coffee, Black	7	Bread, Seedless Rye	1
Lemonade	11	Bread, Whole Wheat	1
Lemonade w/A/S	10	Breakfast Rolls	28
Orange Drink w/A/S	7	Carrot Sticks	3
Orange-Grapefruit Drink	7	Celery Sticks	1
Orange Juice Mix	7	Cheddar Cheese, 2oz	10
Orange-Mango Drink	6	Oranges	4
Tea	7		
Tea w/Lemon & Sugar	10		
		Total	98
Total	146		
<u>Snacks</u>		<u>Rehydratable Food</u>	
Almonds(NF)	21	Chicken Consomme	7
Apricots, Dried(IM)	14	Chicken & Rice Soup	7
Butter Cookies(NF)	14	Corn, Green Beans & Pasta	7
Candy Coated Chocolates(NF)	14	Green Beans w/Mushrooms	7
Candy Coated Peanuts(NF)	14	Peach Ambrosia	3
Cashews(NF)	21	Shrimp Cocktail	7
Dried Beef(IM)	14	Spaghetti w/Meat Sauce	7
Granola Bars(NF)	14	Strawberries	4
Jelly, Strawberry(Jar)(IM)	1	Sweet 'n Sour Chicken	4
Macadamia Nuts(NF)	14	Teriyaki Chicken	3
Peaches, Dried(IM)	14		
Peanut Butter, Crunchy(Jar)(IM)	1	Total	56
Pecan Cookies(NF)	14		
Shortbread Cookies(NF)	14	<u>Thermostabilized</u>	
Soda Crackers(NF)	14	Chicken Salad Spread	2
Trail Mix(IM)	28	Frankfurters	4
		Fruitcake	4
Total	226	Ham Salad Spread	3
		Ham, Sliced	4
Drinking Water Containers	21	Tuna Salad Spread	3
In-Suit Food Bars	2	Turkey Salad Spread	2
Reentry Kit		Turkey, Smoked(I)	7
56 Salt Tablets			
28 Long Straws		Total	29
18 Drinking Water Containers			
2 Grapefruit Drink		A/S - Artificial Sweetener	
4 Lemonade		NF - Natural Form	
2 Orange Drink		IM - Intermediate Moisture	
2 Orange-Grapefruit Drink		I - Irradiated	

TABLE 20-XVIII.- Concluded

2

6/17/85

STS51-F Reentry Kit (Fluid Loading)

Salt Tablets

28 Long Straws

28 Beverages or Water Containers (4 per person)

CDR (Red) 2 Orange Drink
Gordon Fullerton 2 Grapefruit Drink

PLT (Yellow) 4 Water Containers
Roy Bridges

MS1 (Blue) 2 Orange-Grapefruit Drink
Karl Henize 2 Water Containers

MS2 (Green) 4 Lemonade
Story Musgrave

MS3 (Orange) 4 Water Containers
Tony England

PS1 (Brown) 4 Water Containers
Loren Acton

PS2 (Purple) 4 Water Containers
John-David Bartoe

6/07/85

TABLE 20-XIX.- STS 51-G CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cherry Drink w/A/S	4	Apples, Granny Smith	11
Cocoa	7	Apples, Red	6
Coffee, Black	24	Bananas	6
Coffee w/Sugar	10	*Bread, Rye	1
Decaffeinated Coffee w/Cream & A/S	6	Bread, White	1
Grapefruit Drink	10	Bread, Whole Wheat	2
Lemonade	11	Breakfast Rolls	14
Lemonade w/A/S	10	Cake	1
Lemon-Lime Drink	6	*Cantal Cheese	6
Orange Drink w/A/S	7	Carrot Sticks	2
Orange-Grapefruit Drink	7	Celery Sticks	2
Orange Juice Mix	7	Chocolate Chip Dipps	24
Tea w/A/S	7	**Dates w/Almonds	9
Tea Bag, Early Riser	10	Nectarines	4
Tea w/Lemon	10	Oranges	3
		Tostito Chips	1
Total	136	Total	93

Snacks

Almonds(NF)	28
Apricots, Dried(IM)	10
Butter Cookies(NF)	33
Candy Coated Chocolates(NF)	25
Candy Coated Peanuts(NF)	14
Cashews(NF)	26
Chocolate Covered Cookies(NF)	23
Dried Beef(IM)	23
Granola Bars(NF)	14
Macadamia Nuts(NF)	14
Peaches, Dried(IM)	10
Pecan Cookies(NF)	21
Shortbread Cookies(NF)	14
Soda Crackers(NF)	14
*Pates De Fruit(IM)	7
Trail Mix(IM)	10
Total	286

Drinking Water Containers	21
In-Suit Food Bars	2
Reentry Kit	
56 Salt Tablets	
26 Long Straws	
9 Drinking Water Containers	
2 Grapefruit Drink	
9 Lemonade	
2 Lemon-Lime Drink	
2 Orange-Grapefruit Drink	
2 Tea w/Lemon	

Rehydratable Food

Chicken Consomme	7
Chicken & Rice Soup	7
Corn, Green Beans & Pasta	7
Green Beans w/Mushrooms	7
Rice Pilaf	7
Shrimp Cocktail	7
Strawberries	7
Sweet 'n Sour Chicken	4
Teriyaki Chicken	3
Total	56

Thermostabilized

Chicken Salad Spread	2
Frankfurters	4
Ham, Sliced	4
Pudding, Vanilla	6
Tuna Salad Spread	2
Turkey, Smoked(I)	7
Total	25

A/S - Artificial Sweetener
 NF - Natural Form
 IM - Intermediate Moisture
 *French Food
 **Saudi Arabian Food
 I - Irradiated

8/28/85

TABLE 20-XX.- STS 51-I CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Coffee, Black	32	Apples, Granny Smith	3
Grapefruit Drink	10	Apples, Red	10
Kona Coffee, Black	32	Bananas	9
Kona Coffee w/Cream & Sugar	16	Bread, Seedless Rye	1
Lemonade	10	Bread, Whole Wheat	1
Lemonade w/A/S	10	Breakfast Rolls	12
Orange Drink w/A/S	5	Carrot Sticks	2
Orange-Grapefruit Drink	5	Cheddar Cheese, 2oz	5
Orange Juice Mix	5	Crackers	5
Orange-Mango Drink	10	Oranges	4
Tea	5		
Tea w/Lemon	5		
Tea w/Lemon & Sugar	5		
			Total 52
	Total 150		
		<u>Rehydratable Food</u>	
<u>Snacks</u>		Chicken Consomme	5
Almonds(NF)	10	Chicken & Rice Soup	5
Apricots, Dried(IM)	5	Corn, Green Beans & Pasta	5
Butter Cookies(NF)	10	Green Beans w/Mushrooms	5
Candy Coated Chocolates(NF)	10	Mushroom Soup	5
Candy Coated Peanuts(NF)	10	Peach Ambrosia	3
Cashews(NF)	10	Shrimp Cocktail	5
Dried Beef(IM)	10	Spaghetti w/Meat Sauce	5
Granola Bars(NF)	10	Strawberries	3
Jelly, Strawberry(Jar)(IM)	1	Sweet 'n Sour Chicken	3
Macadamia Nuts(NF)	10	Teriyaki Chicken	3
Peaches, Dried(IM)	5		
Peanut Butter, Crunchy(Jar)(IM)	1		Total 47
Peanuts, Dry Roasted(NF)	10		
Shortbread Cookies(NF)	10	<u>Thermostabilized</u>	
Soda Crackers(NF)	5	Beef Steak(I)	5
Trail Mix(IM)	12	Chicken Salad Spread	1
	Total 129	Frankfurters	3
		Ham Salad Spread	1
Drinking Water Containers	20	Pudding, Butterscotch	4
In-Suit Food Bars	2	Pudding, Chocolate	4
Reentry Kit		Pudding, Vanilla	4
40 Salt Tablets		Tuna Salad Spread	1
20 Long Straws		Turkey Salad Spread	1
12 Lemonade		Turkey, Smoked(I)	5
4 Lemon-Lime Drink			
4 Orange-Mango Drink			Total 29
		A/S - Artificial Sweetener	
		NF - Natural Form	
		IM - Intermediate Moisture	
		I - Irradiated	

10/02/85

TABLE 20-XXI.- STS 51-J CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Coffee w/A/S	12	Apples, Granny Smith	5
Coffee w/Sugar	10	Apples, Red	5
Grapefruit Drink	20	Bananas	6
Lemonade	12	Bread, Seedless Rye	1
Lemonade w/A/S	10	Bread, Whole Wheat	1
Lemon-Lime Drink	5	Breakfast Rolls	8
Orange Drink w/A/S	5	Carrot Sticks	2
Orange-Grapefruit Drink	10	Celery Sticks	1
Orange Juice Mix	12	Cheddar Cheese, 2oz	5
Orange-Mango Drink	12	Crackers, Goldfish(bag)	5
Peach-Apricot Drink	5	Oranges	3
Tea	5	Tostitos	1
Tea w/A/S	5		
Tea w/Lemon	5		
Tea w/Lemon & Sugar	5		
		Total	43
Total	133	<u>Rehydratable Food</u>	
<u>Snacks</u>		Chicken Consomme	5
Almonds(NF)	10	Chicken & Rice Soup	5
Apricots, Dried(IM)	5	Corn, Green Beans & Pasta	5
Butter Cookies(NF)	10	Green Beans w/Mushrooms	5
Candy Coated Chocolates(NF)	10	Mushroom Soup	5
Candy Coated Peanuts(NF)	10	Peach Ambrosia	3
Cashews(NF)	15	Shrimp Cocktail	5
Dried Beef(IM)	10	Spaghetti w/Meat Sauce	5
Granola Bars(NF)	10	Strawberries	3
Macadamia Nuts(NF)	10	Sweet 'n Sour Chicken	3
Peaches, Dried(IM)	5	Teriyaki Chicken	3
Peanuts, Dry Roasted(NF)	10		
Shortbread Cookies(NF)	24	Total	47
Soda Crackers(NF)	5	<u>Thermostabilized</u>	
Trail Mix(IM)	10	Beef Steak(I)	5
		Chicken Salad Spread	2
Total	144	Ham Salad Spread	2
Drinking Water Containers	20	Tuna Salad Spread	2
In-Suit Food Bars	2	Turkey Salad Spread	2
Reentry Kit		Turkey, Smoked(I)	5
40 Salt Tablets			
20 Long Straws		Total	18
4 Lemonade			
16 Water Containers			
		A/S - Artificial Sweetener	
		NF - Natural Form	
		IM - Intermediate Moisture	
		I - Irradiated	

12/04/85

TABLE 20-XXII.- STS 61-A CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cocoa	8	Apples, Granny Smith	7
Coffee w/A/S	8	Apples, Red	4
Coffee, Black	16	Bananas	9
Coffee w/Cream & A/S	8	Beef Sticks	42
Coffee w/Cream & Sugar	16	Bread Cocktail Rye	1
Grapefruit Drink	24	*Bread, German Katenbrot	16
Lemonade	12	*Bread, Rubschlager, Rye	24
Lemonade w/A/S	10	*Bread, Whole Wheat Rubsch ⁺	46
Orange Juice Mix	12	Breakfast Rolls	13
Orange-Mango Drink	12	Carrot Sticks	2
Peach-Apricot Drink	8	Celery Sticks	1
Tea	8	Cheddar Cheese, 2oz	5
Tea w/Lemon	10	Crackers, Goldfish(pkg)	4
Tea w/Lemon & Sugar	8	German Sausage Sticks	3
		Gouda Cheese	42
		Halloween Candy(2.5lbs)	1
		Oranges	4
	<u>Total</u> 160		
			<u>Total</u> 224
<u>Snacks</u>		<u>Rehydratable Food</u>	
Almonds(NF)	12	Chicken Consomme	8
Apricots, Dried(IM)	4	Chicken & Rice Soup	8
Butter Cookies(NF)	8	Corn, Green Beans & Pasta	4
Candy Coated Chocolates(NF)	8	Green Beans w/Mushrooms	4
Candy Coated Peanuts(NF)	8	Grits w/Butter	8
Cashews(NF)	12	Mushroom Soup	8
Dried Beef(IM)	16	Peach Ambrosia	4
Granola Bars(NF)	8	Shrimp Cocktail	8
Macadamia Nuts(NF)	8	Spaghetti w/Meat Sauce	4
Peaches, Dried(IM)	4	Strawberries	4
Peanuts, Dry Roasted(NF)	8	Sweet 'n Sour Chicken	4
Shortbread Cookies(NF)	8	Teriyaki Chicken	4
Soda Crackers(NF)	16		
Trail Mix(IM)	16		
	<u>Total</u> 136		<u>Total</u> 68
Drinking Water Containers	24	<u>Thermostabilized</u>	
In-Suit Food Bars	2	Beef Steak(I)	8
Reentry Kit		Chicken Salad Spread	2
64 Salt Tablets		Frankfurters	4
32 Long Straws		Ham Salad Spread	2
8 Drinking Water Containers		Tuna Salad Spread	2
4 Lemonade		Turkey Salad Spread	2
4 Orange-Grapefruit Drink		Turkey, Smoked(I)	8
4 Orange Juice Mix			
10 Orange-Mango Drink			
2 Strawberry Drink			
			<u>Total</u> 28
A/S - Artificial Sweetener			
NF - Natural Form			
IM - Intermediate Moisture			
*Single Slices			
*Rubschlager			
I - Irradiated			

TABLE 20-XXIII.- STS 61-B CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Cocoa	14	Amaranth Cake	1
Grapefruit Drink	14	Amaranth Flakes	2
Kona Coffee w/Cream	10	Amaranth Cookies	4
Kona Coffee w/Cream & Sugar	30	Amaranth Cookies w/Nuts	4
Lemonade	14	Apples, Granny Smith	3
Lemonade w/A/S	14	Apples, Red	3
Tea	7	Bread, Seedless Rye	1
Tea w/Lemon	7	Bread, Whole Wheat	1
Tea w/Lemon & A/S	7	Breakfast Rolls	13
Tea w/Lemon & Sugar	7	Carrot Sticks	2
Total	124	Celery Sticks	1
		Cheddar Cheese, 2oz	5
<u>Snacks</u>		Cocoa w/Amaranth	3
Almonds(NF)	7	Crackers, Goldfish(bag)	4
Apricots, Dried(IM)	14	Crackers, Wheat Thins(bag)	3
Browines	7	Cran-Orange Sauce	7
Butter Cookies(NF)	7	Malted Milk Balls, 5oz	1
Candy Coated Chocolates(NF)	10	Oranges	1
Candy Coated Mints(NF)	7	Pumpkin Cake	1
Candy Coated Peanuts(NF)	10	Raisins, 85g	2
Cashews(NF)	10	Tortillas(pkg)	1
Chocolate Covered Cookies(NF)	7	Total	63
Dried Beef(IM)	14	<u>Rehydratable Food</u>	
Graham Crackers(NF)	3	Beef Patty	7
Granola Bars(NF)	14	Broccoli au Gratin	7
Macadamia Nuts(NF)	10	Chicken Consomme	7
Peanuts, Dry Roasted(NF)	7	Chicken & Rice Soup	7
Soda Crackers(NF)	7	Corn, Green Beans & Pasta	3
Trail Mix(IM)	7	Creamed Spinach	2
Total	141	Green Beans w/Mushrooms	2
		Oatmeal w/Raisins	7
<u>Thermostabilized</u>		Potatoes au Gratin	4
Applesauce	7	Potato Patty	3
Beef Steak(I)	7	Sausage Patty	7
Frankfurters	7	Shrimp Cocktail	7
Peaches, Diced	7	Strawberries	7
Pudding, Vanilla	7	Total	70
Turkey & Gravy	7	Drinking Water Containers	28
Total	42	In-Suit Food Bars	2
		Reentry Kit	
A/S - Artificial Sweetener		56 Salt Tablets	
NF - Natural Form		28 Long Straws	
IM - Intermediate Moisture		24 Drinking Water Containers	
I - Irradiated		4 Lemonade w/A/S	

1/14/86

TABLE 20-XXIV.- STS 61-C CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Apple Drink	5	Apples, Granny Smith	7
Coffee, Black	25	Bananas	7
Coffee w/Cream & Sugar	5	*Bread, Rubschlager Whole Wheat	16
Coffee w/Sugar	10	Bread, Seedless Rye	1
Decaffeinated Coffee w/Cream & A/S	5	Bread, Whole Wheat	1
Grapefruit Drink	7	Breakfast Rolls	16
Lemonade	7	Carrot Sticks	1
Lemonade w/A/S	7	Celery Sticks	1
Orange Juice	6	Cheddar Cheese, 2oz	5
Orange-Mango Drink	7	Crackers, Wheat Thins 11b (pkg)	7
Tea	14	Grapefruit	4
Tea w/A/S	7	Oranges	4
Tea w/Lemon	7	Raisins, box	6
Tea w/Sugar	7	Tortillas	1
	<u> </u>		<u> </u>
	Total 119		Total 77

<u>Snacks</u>		<u>Rehydratable Food</u>	
Almonds(NF)	7	Beef Almondine	2
Apricots, Dried(IM)	4	Beef Stroganoff	2
Butter Cookies(NF)	7	Chicken Consomme	7
Candy Coated Chocolates(NF)	7	Mushroom Soup	7
Candy Coated Mints(NF)	4	Shrimp Cocktail	7
Candy Coated Peanuts(NF)	7	Spaghetti w/Meat Sauce	3
Cashews(NF)	7	Strawberries	7
Chocolate Covered Cookies(NF)	3		<u> </u>
Dried Beef(IM)	7		Total 35
Granola Bars(NF)	6		
Jelly, Strawberry(Jar)(IM)	2		
Macadamia Nuts(NF)	7	<u>Thermostabilized</u>	
Peaches, Dried(IM)	4	Beef Steak(I)	7
Peanut Butter, Crunchy(Jar)(IM)	2	Frankfurters	3
Peanuts, Dry Roasted(NF)	7	Ham Salad Spread	2
Shortbread Cookies(NF)	4	Pudding, Chocolate	3
Trail Mix(IM)	7	Pudding, Vanilla	3
	<u> </u>	Tuna Salad Spread	2
	Total 92		<u> </u>

Drinking Water Containers	28		Total 20
In-Suit Food Bars	2		
Reentry Kit			
56 Salt Tablets		A/S - Artificial Sweetener	
28 Long Straws		NF - Natural Form	
28 Drinking Water Containers		IM - Intermediate Moisture	
		* - Single Slices	
		I - Irradiated	

1/26/86

TABLE 20-XXV.- STS 51-L CONTINGENCY/PANTRY

<u>Rehydratable Beverages</u>	<u>Qty</u>	<u>Fresh Food</u>	<u>Qty</u>
Grapefruit Drink	10	Apples, Granny Smith	9
Kona Coffee, Black	21	Bananas	12
Kona Coffee w/A/S	14	Beef Jerky, pkg	2
Kona Coffee w/Cream & Sugar	14	*Bread, Rubschlager Whole Wheat	10
Lemonade	8	Bread, Whole Wheat	1
Lemonade w/A/S	20	Breakfast Rolls	16
Orange Drink w/A/S	4	Carrot Sticks	2
Orange Juice	7	Celery Sticks	1
Orange-Mango Drink	10	Cheddar Cheese, 2oz	10
Tea	7	Crackers, Butter Thins, pkg	1
Tea w/Lemon	14	Crackers, Hearty Wheats, pkg	1
Tea w/Lemon & A/S	14	Grapefruit	5
	Total 143	Marshmallows, pkg (Large)	1
		Oranges	6
		Teacher Experiment	1
		Marshmallows, ea	10
		M&Ms, pkg	2
		10"x10" ziplock bag	
		Tortillas, pkg	3
		Total 93	
<u>Snacks</u>		<u>Rehydratable Food</u>	
Almonds(NF)	7	Broccoli au Gratin	5
Apricots, Dried(IM)	7	Chicken Consomme	7
Butter Cookies(NF)	7	Green Beans w/Mushrooms	5
Candy Coated Chocolates(NF)	7	Italian Vegetables	4
Candy Coated Mints(NF)	14	Mushroom Soup	7
Candy Coated Peanuts(NF)	7	Potatoes au Gratin	3
Cashews(NF)	14	Rice Pilaf	3
Chocolate Covered Cookies(NF)	7	Shrimp Cocktail	7
Dried Beef(IM)	7	Spaghetti w/Meat Sauce	3
Graham Crackers(NF)	7	Total 44	
Granola Bars(NF)	7		
Jelly, Strawberry(Jar)(IM)	1	<u>Thermostabilized</u>	
Macadamia Nuts(NF)	28	Beef Steak(I)	7
Peaches, Dried(IM)	7	Chicken Salad Spread	2
Peanut Butter, Crunchy(Jar)(IM)	3	Frankfurters	3
Peanuts, Dry Roasted(NF)	7	Ham Salad Spread	2
Shortbread Cookies(NF)	7	Pudding, Chocolate	2
Soda Crackers(NF)	7	Pudding, Lemon	2
Trail Mix(IM)	7	Pudding, Vanilla	2
	Total 158	Tuna Salad Spread	2
		Total 22	
Drinking Water Containers	28		
In-Suit Food Bars	2		
Reentry Kit			
56 Salt Tablets			
28 Long Straws			
28 Drinking Water Containers			
A/S - Artificial Sweetener			
NF - Natural Form			
IM - Intermediate Moisture			
* - Single Slices			
I - Irradiated			

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APPENDIX 21
 REHYDRATABLE BEVERAGES RETURNED FROM SPACE SHUTTLE MENUS
 STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61C	51L	SUM
Apple Drink	4	4	4	4	8	10	17	29	24	2	11	18	6	5	18	14	2	2	2	2	2	2	1	179	
Cherry Drink w/A/S										4														10	
Citrus Drink	6	6	3	20	10	13	2	2	5	4	2	2	7	4	3	8	21	3	7	1	11	4	4	155	
Cocoa																								28	
Coffee																								0	
Coffee w/A/S										1				5								1		7	
Coffee w/Cream																								2	
Coffee w/Crm & A/S																								2	
Coffee w/Cream & Sugar																								6	
Coffee w/Sugar																								0	
Coffee, Kona, Black																								19	
Coffee, Kona w/Cream & A/S																								4	
Coffee, Kona w/Cream & Sug																								9	
Decaffeinated Coffee																								2	
Decaf Coffee w/Cream & A/S																								2	
Decaf Coffee w/Cream & Sug																								1	
Decaffeinated Coffee w/Sug																								9	
Grape Drink	3																							54	
Grape Drink w/A/S																								10	
Grapefruit Drink	2	1	2	7	3	3	5	2	5	4	2	2	5	2	1	1	5	1	4	2	3	2		50	
Instant Breakfast, Choc																								59	
Instant Breakfast, Straw	2	1	2	1	2	1	2	5	4	1	10	6												3	
Instant Brkfst, Vanilla	14	5	9	1	1	9	18	11		7	4	14	12	7	5	16	16	1						44	
Lemonade										3														153	
Lemon-Lime Drink																								13	
Milk																								0	
Orange Drink																								1	
Orange Drink w/A/S	2																							18	
Orange Drink Mix																								7	
Orange Juice Mix																								0	
																								23	

FOOD ITEM	STS																										SUM
	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	51M	
Orange-Grapefruit Drink	1	2	1	4			1	2						6	1		2	1	4	6		3				34	
Orange-Mango Drink														2	1				2		2	5				12	
Orange-Pineapple Drink	2			3			1	1	6	2				3	6				8	1	1					34	
Peach Drink									1											5						7	
Peach-Apricot Drink																		1				1				2	
Pineapple Drink																		3	1	3	4	3	3			60	
Strawberry Drink	2	2		3	8		3	10	6	6	1	2	8				4	2	2		2	4				23	
Tea																			5							21	
Tea w/A/S																										6	
Tea w/Cream																										28	
Tea w/Lemon																										39	
Tea w/Lemon & A/S																										164	
Tea w/Lemon & Sugar	4	4	8	7	8	8	10	18	18	17			2	22	4	3	1	3		2	11	1	4	10		5	
Tea w/Sugar																										3	
Tea, Lapsang Souchong w/Cream & A/S																										1	
Tea, Silver Jasmine																										4	
Tropical Punch	2	2	2	2	4	4		9	1																	29	
Tropical Punch w/A/S																										10	
Total	7	47	30	25	52	68	25	83	95	87	25	68	12	64	54	131	43	53	62	68	113	35	68	35		1350	

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APPENDIX 22
REHYDRATABLE BEVERAGES RETURNED FROM SPACE SHUTTLE PANTRIES
STS-1 THROUGH STS 51-L

FOOD ITEM	STS 1	STS 2	STS 3	STS 4	STS 5	STS 6	STS 7	STS 8	STS 9	STS 41C	STS 41D	STS 41G	STS 51A	STS 51B	STS 51C	STS 51D	STS 51F	STS 51I	STS 51J	STS 61A	STS 61C	STS 51L	SUM
Apple Drink	8	7	2		3		5	4	3	1							1						41
Cherry Drink w/A/S										4								2					9
Citrus Drink									5														5
Cocoa										12	6	1	4	4	3	5	4				5	14	71
Coffee	9	8	6	9	2	32	6	7	16	7	24	7	11	16	2						4	17	174
Coffee w/A/S									4														19
Coffee w/Cream										8							8						31
Coffee w/Cream & A/S										8													0
Coffee w/Cream & Sugar	6	8		4	7			8	9	8	3	11	2			3	1						75
Coffee w/Sugar																10		2					44
Coffee, Kona																26	2						52
Coffee, Kona w/A/S																							0
Coffee, Kona w/Cream																							0
Coffee, Kona w/Cream & A/S																							10
Coffee, Kona w/Cream & Sugar																							13
Decaffeinated Coffee w/C&A/S																							30
Decaffeinated Coffee w/Sugar																			5				5
Grape Drink																							7
Grape Drink w/A/S										1													6
Grapefruit Drink	5	3																					0
Instant Breakfast, Choc										3	7	3	9	2									83
Instant Breakfast, Straw										6	2	3	2	3									29
Instant Brkfst, Vanilla																							4
Lemonade	8	6	3							3	3	2	1	2									15
Lemonade w/A/S										5													55
Lemon-Lime Drink																							46
Milk																							11
Orange Drink	8	7	2																				8
Orange Drink w/A/S																							26
Orange Drink Mix																							0

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Orange-Grapefruit Drink																										22
Orange Juice Mix																										36
Orange-Mango Drink																										19
Orange-Pineapple Drink																										8
Peach Drink																										0
Peach-Apricot Drink																										9
Strawberry Drink																										14
Tea Bag (Earl Gray)																										0
Tea Bag (Earl Gray) w/A/S																										9
Tea Bag (Earl Gray) w/A/S																										2
Tea Bag (Earl Gray) w/A/S																										2
Tea Bag (Earl Gray) w/A/S																										2
Tea Bag (Formosa Oolong)																										11
Tea Bag (Lapsang Souchong)																										104
Tea, Instant																										49
Tea, Instant																										38
Tea w/A/S																										34
Tea w/Lemon																										49
Tea w/Lemon & A/S																										38
Tea w/Lemon & Sugar																										49
Tea w/Sugar																										15
Tropical Punch																										3
Tropical Punch w/A/S																										5
Total	49	45	19	30	56	27	60	59	50	44	33	91	17	63	73	87	67	32	24	56	95	59	94	68	1298	

A/S - Artificial Sweetener
C - Cream

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APPENDIX 23
PEHYDRATABLE FOOD RETURNED FROM SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS STS															SUM										
	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B		51C	51D	51F	51G	51I	51J	61A	61B	61C	51L
Asparagus	4	4	2	2	7	8	4	3	2	1	5	1	1	1	1	1	5	7	6	8	4	3	3	3	3	78
Beef Almondine	2				2			1		5	4	7	10	3	3	3	1	5	1	3	8	7	3			59
Beef Patty																										7
Beef Stroganoff	2	2	2	1	4	4	6	1	1	1	6	2	3	3	5	1	2	1		2	3	1		2	38	
Bran Flakes	1	3	1	4	6	2	5	1	1	1	1	2	5	8			8				2	2	2		42	
Broccoli au Gratin	1	2		2	7			1	1	5	1	1	1	4			4	1			4		2		37	
Cauliflower w/Cheese	2																						1		6	
Chicken Consomme																									5	
Chicken, Sweet 'n Sour																									11	
Chicken, Teriyaki																									1	
Chili Mac w/Beef																									1	
Cornflakes	2	2	2	3	8	3	8	3	3	2	2	1	2	3	1	9	1	4			4			1	48	
Corn, Green Beans & Pasta	3	3			10		1				2	7	5	3	3	3	1	2	8	1	2	5	2		51	
Eggs, Scrambled											1						3	3	3	2	5	4	1		25	
Eggs, Seasoned Scrambled																	7	3	8		7	2			31	
Eggs, Mexican Scrambled	2	2	3	4	8	4	1	7		2	8	3	3	8	1	5	6	1	5	6	2	1	2		57	
Granola Cereal	2	2	2	2	4	4	1	2	3	1	3	1	5	6	1	1	6	3	2	3	3	2	2		52	
Granola w/Blueberries																									31	
Granola w/Raisins	2	2	4	4	4	3	8	10	2	1	1	2	3	2	2	2	2	2	4	4	3	1	1		59	
Green Beans & Broccoli																									48	
Green Beans w/Mushrooms	2	2	4	4	2	7	1			1	2	7	6			6	2		4	2	5	1			7	
Grits w/Butter																										7
Italian Vegetables	2	2	2	2	4	2	5	7	2	1	1	1	4			2	2		2	5	1				45	
Macaroni & Cheese	2	2	1	2	4	1		1	2	1	4	8				4	8	2	1	2		2			32	
Mushroom Soup	2	2	1	2	4	1			1		1	1	1			1	1								17	
Noodles & Chicken	2	2	1			4					2		2			2									14	
Oatmeal/Raisins & Spice																									3	
Oatmeal w/Brown Sugar	2										2	1	4	6			11	9			5	1			50	
Peach Ambrosia	2	1																							6	
Peas w/Butter																										

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	STS	STS	STS	STS	SUM
Potatoes au Gratin												1				2	3	3	2			3	4	1					19
Potato Patty											1					3	7	2				5	7	4	1				44
Rice & Chicken							5	7	1	4					1	2	4	6	3	5	6	4	5						40
Rice Krispies																													0
Rice Pilaf	4	3			5	5	1	5	1	1		2			1	5		4	4			5	5	2				48	
Sausage Patty	1	1			2	2	1	1	1			5		1	6	9			2	2		7	9					50	
Shrimp Cocktail	4	3			4	1		3			6	1		3	15		5				1	5						51	
Shrimp Creole												2						2										4	
Spaghettti w/Meat																		8										8	
Spinach, Creamed																	1								1	1		4	
Strawberries	2	2	1	2	2	4			2		3							10				2	3					33	
Turkey Tetrazzini			4	3	3	4	6		9	1			1			1	5	1				3	1					46	
Total	10	53	35	22	63	98	26	62	29	28	2	52	2	38	78	134	29	109	73	46	101	75	43	7				1215	

APPENDIX 24
REHYDRATABLE FOOD RETURNED FROM SPACE SHUTTLE PANTRIES
SIS-1 THROUGH SIS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Asparagus	3	2																								5
Beef Almondine	2	2	2	2	4	1	2	2																		0
Beef Patty	2	2	2	2	4	4	1	2	2																	24
Beef Stroganoff					2	4	4	3	9	3																15
Bran Flakes																										11
Broccoli au Gratin																										18
Brown Rice																										6
Chicken Consomme																										51
Chicken & Rice Soup																										55
Chicken, Sweet 'n Sour																										15
Chicken Teriyaki																										12
Cornflakes																										5
Corn, Green Beans & Pasta																										24
Eggs, Scrambled																										7
Granola w/Blueberries																										0
Green Beans w/Broccoli	3	2																								5
Green Beans w/Mushrooms	2	2																								53
Grits w/Butter																										0
Italian Vegetables	1	2																								12
Mushroom Soup																										0
Oatmeal w/Raisins																										57
Peach Ambrosia	3	2																								7
Peas w/Butter																										28
Potatoes au Gratin																										4
Potato Patty	2	2																								9
Rice Pilaf	2	2																								11
Sausage Patty	2	2																								8
Shrimp Cocktail																										15
Shrimp Creole																										23
Spaghetti w/Meat Sauce																										4
Spinach Creamed																										31
Strawberries	2	4	3	3																						2
Turkey Tetrazzini		2	2	3																						26
Total	15	17	10	22	35	24	25	14	25	1	11	32	37	22	24	17	9	26	33	40	35	40	51	4		569

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APPENDIX 25
THERMOSTABILIZED FOOD RETURNED FROM SPACE SHUTTLE MENUS
STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Applesauce	2	4	1	3	5	7	8	2	3	3	1	7	2	5	3	5	2	3	4	4	5	1	2	4	82	
Beef w/BBQ Sauce	2	2	2	4	4	4	5	1	1	1	2	1	3	3	3	2	2	2	1	1	4	1	2	1	38	
Beef & Gravy	2	2	2	3	4	4	1	5	1	1	3	3	1	5	5	6	2	2	2	1	1	2	1	1	28	
Beef, Grd w/Spice Sce	2	2	4	3	4	4	10	7	2	3	1	1	3	5	5	3	1	3	4	4	4	1	3	32		
Cheddar Cheese Spread	2	2	4	3	4	4	10	7	2	3	2	2	3	5	5	1	5	3	3	3	1	1	3	69		
Chicken ala King	2	2	4	3	4	4	10	7	2	3	2	2	3	5	2	1	5	3	3	3	1	1	3	36		
Chicken Salad Spread	3	3	3	2	4	7	5	10	2	2	4	3	3	5	2	6	3	3	3	3	5	5	3	38		
Frankfurters	2	2	2	4	3	4	7	5	10	2	5	3	1	2	2	2	2	1	1	1	1	1	1	42		
Fruitcake	2	2	2	4	3	4	5	7	6	11	10	7	5	1	7	6	9	10	15	2	1	6	1	7	2	133
Fruit Cocktail	2	2	4	3	4	5	7	6	11	10	7	5	1	7	6	9	10	15	2	1	6	1	7	2	133	
Ham, Sliced	2	2	4	3	4	5	7	6	11	10	7	5	1	7	6	9	10	15	2	1	6	1	7	2	133	
Ham Salad Spread	2	2	4	3	4	5	7	6	11	10	7	5	1	7	6	9	10	15	2	1	6	1	7	2	133	
Meatballs w/BBQ Sauce	1	4	3	1	2	7	6	4	1	1	2	1	3	2	1	3	3	1	1	1	4	3	1	1	3	
Peaches, Diced	2	3	1	4	4	7	5	6	7	4	3	5	5	2	3	5	8	7	2	2	10	3	2	4	1	26
Pears, Diced	2	4	2	4	4	7	5	6	7	4	2	4	2	4	5	8	1	5	8	1	5	5	1	1	74	
Pineapple	2	2	4	3	3	4	8	10	6	5	7	5	7	1	3	3	3	1	1	1	4	3	2	4	1	81
Pudding, Banana	1	4	3	1	2	7	6	4	1	1	2	1	3	2	1	3	3	1	1	1	4	3	1	1	67	
Pudding, Butterscotch	2	2	1	1	2	7	6	4	1	1	2	1	3	2	1	3	3	1	1	1	7	3	1	1	0	
Pudding, Chocolate	2	2	1	1	2	7	6	4	1	1	2	1	3	2	1	3	3	1	1	1	7	3	1	1	51	
Pudding, Lemon	2	2	3	2	2	7	7	4	3	4	5	2	5	3	4	6	2	4	16	3	2	2	1	3	70	
Pudding, Tapioca	2	2	2	2	2	7	7	4	3	4	5	7	5	3	3	3	3	3	1	1	5	5	1	1	55	
Pudding, Vanilla	2	2	2	1	2	3	6	7	6	5	1	4	2	8	8	5	5	3	1	12	8	2	2	2	0	
Salmon	2	2	2	4	2	3	1	2	5	5	1	1	1	1	2	1	3	2	1	1	5	3	2	2	95	
Tomatoes, Stewed	2	2	2	4	2	3	1	2	5	5	1	1	1	1	2	1	3	2	1	1	5	3	2	2	39	
Tuna, Water Pack	2	2	2	4	2	3	1	2	5	5	1	1	2	6	6	1	3	2	1	4	5	2	3	2	11	
Tuna Salad Spread	2	2	2	4	2	3	1	2	5	5	1	1	2	6	6	1	3	3	4	5	2	3	2	2	52	
Turkey & Gravy	1	1	1	1	1	3	3	2	5	5	1	3	5	1	2	4	2	9	2	2	2	2	2	2	10	
Turkey Salad Spread	1	1	1	1	1	3	3	2	5	5	1	3	5	1	2	4	2	9	2	2	2	2	2	2	36	
Total	15	39	40	27	42	77	77	78	81	45	43	74	23	59	74	93	56	73	15	79	83	20	31	26	1270	

APPENDIX 26
THERMOSTABILIZED FOOD RETURNED FROM SPACE SHUTTLE PANTRIES
SIS-1 THROUGH SIS 51-L

FOOD ITEM	STS																								SUM	
	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C		51L
Applesauce						1																				12
Beef & Gravy						4																				4
Beef, Grd w/Spice Sce																										3
Chicken Salad Spread																										8
Frankfurters			2	2	2		1							1	1											35
Fruitcake							5																			4
Ham Salad Spread																										17
Ham, Sliced																										43
Meatballs w/BBQ Sauce																										20
Peaches, Diced																										6
Pudding, Butterscotch																										7
Pudding, Chocolate																										5
Pudding, Lemon																										5
Pudding, Vanilla																										11
Pudding, Salmon																										17
Tuna, Water Pack																										1
Tuna Salad Spread																										13
Turkey & Gravy																										23
Turkey Salad Spread																										6
Total	10	5	6	9	14	15	22	21	4	2	1	16	10	11	12	11	5	15	9	15	3	2	22			240

APPENDIX 27
 THE NF FOOD RETURNED FROM SPACE SHUTTLE MENUS STS-1 THROUGH STS 51-L

FOOD ITEM	STS 1	STS 2	STS 3	STS 4	STS 5	STS 6	STS 7	STS 8	STS 9	STS 41B	STS 41C	STS 41D	STS 41G	STS 51A	STS 51B	STS 51C	STS 51D	STS 51F	STS 51I	STS 51J	STS 61A	STS 61B	STS 61C	STS 51L	SUM	
Almond Crunch Bar	4	3	3	3	6	8																				24
Almonds	2	1	2	2			1	3	4	4		13														54
Bananas(FD)	1	4	3	3	6																					17
Brownies																										20
Butter Cookies		1					4	3	1																	36
Candy Coated Chocolates																										1
Candy Coated Mints																										1
Candy Coated Peanuts																										1
Cashews	1	2	7	3	3	4	5	9																		1
Choc Covered Cookies																										1
Graham Crackers							4	1	2	3	4	5	2	2	5	2	7	2	3	1	2	3	1	2		3
Granola Bar																										65
Macadamia Nuts							7	3																		34
Peanuts, Dry Roasted																										1
Pears(FD)	4	4	1	5	6	4	6	3	7	5	5	6	3	2	4	1	5	3	1	5	3	1	5			33
Pecan Cookies	2	3	2																							9
Shortbread Cookies	1	2	5	1	7	1	5	6	2	3	3															73
Soda Crackers	2	2	4	1	4	4			3	3	2	2														7
Total	5	22	31	13	29	29	18	26	21	18	6	37	9	16	30	39	17	48	27	6	34	4	13	5		503

FD - Freeze Dried, not rehydrated for consumption

APPENDIX 28
THE NF FOOD RETURNED FROM SPACE SHUTTLE PANTRIES STS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM
Almonds	2	4	2	1	6	3	13	2	7																	86
Bananas(FD)	2																									2
Brownies																										2
Butter Cookies																										83
Candy Coated Chocolates	3	3	3	1	4	4	3	4	8	3	3	15	7	5	7	6	3	8	2	4	7				1	62
Candy Coated Choc Mints	4	4	3	1	4	4	1	7	7	4	4	1	10	1	10	1	5		1	1	5					40
Candy Coated Peanuts																										33
Cashews	2	4	2	3	6	8	5	6	6	1	13	10	4	1	2	2	12		3	3	2	3			100	
Chocolate Chip Bar																										9
Chocolate Covered Cookies																										17
Graham Crackers																										27
Granola Bar																										82
Granola/Raisin Bar	4	4	5	2																						23
Macadamia Nuts																										17
Peanut Butter Granola Bar																										8
Peanuts, Dry Roasted	4	4	2	7	4	2	9	7	4	3	2	13	8	4	5	1	5		10	9					101	
Pears(FD)	2																									2
Pecan Cookies																										37
Shorthread Cookies	4	4	1																							73
Soda Crackers	4	4	4	3	4	1	7	5	8	2	1	4	11	17	17	10	10	13	7	4	4	8	6		154	
Total	24	24	24	28	23	24	37	64	50	57	11	23	77	58	58	57	28	40	81	55	37	68	9	21	4	958

FD - Freeze dried, not rehydrated for consumption



APPENDIX 29
THE IM FOOD RETURNED FROM SPACE SHUTTLE MENUS AND PANTRIES
STS-1 THROUGH STS 51-L

FOOD ITEM	STS																										SUM
	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L		
MENU																											
Apricots, Dried	2	5																									
Dried Beef	1	3	2	3	5	2	2	1	3																		
Jelly, Apple																											
Peaches, Dried	1	2	2				4	7	2	5	4	2	2	3	2	3	2	3	2	3	2	3	2	3	2	3	1
Peanut Butter, Creamy											8	4	18	3	8	5	9	5	12	8	1	12	8	1	12	3	74
Pears, Dried																											50
Trail Mix							3	2		3	5	4	2	2	3	2	3	2	4	2	2	3	2	3	2	3	40
											6	12	1	5	4	6	2	10	5	5	8	4	8	4	8	4	42
Total	2	7	9	3	5	15	14	4	16	19	12	33	13	37	34	33	15	40	14	32	26	10	36	3	1	26	
PANTRY																											
Apricots, Dried	4	4	1	2	1	4	10	2	11	2	1	5	8	3	6	5	10	2	2	1	8	2				95	
Dried Beef	4	4	4	2	4	10	3	6	6	2	3	12	8	2	2	1	6	6	1	7	11	2				97	
Insuit Food Bar																										13	
Jelly (Individual)																										44	
Jelly, Grape (Jar)																										2	
Jelly, Strawberry (Jar)																										5	
Peaches, Dried	2																									91	
Peanut Butter, Creamy	4	2	3	5	4	3	3	9	3	4																49	
Peanut Butter, Crunchy (Jar)																										8	
Pears, Dried																										2	
Trail Mix																										13	
Total	14	14	7	9	14	22	37	18	38	16	22	12	8	38	33.5	14	23	33	28	14	17	4	20	9.5	1/2	465	

APPENDIX 30
 FRESH FOOD RETURNED FROM SPACE SHUTTLE PANTRIES STS-6 THROUGH STS 51-L

FOOD ITEM	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	SUM
Apples, Granny Smith										7								2			5
Apples, Red Delicious		2								1											12
Bananas				1																	2
Beef Jerky, pkg																					
Beef Sticks (Frenches)																					
BREAD:																					
Cracked Wheat		1																			1
Cocktail Pumpnickle														1							1
Cocktail Rye														1/2				1			1.5
Raisin Pumpnickel Indiv Pkg														16							16
Rye, Individual Pkgs																					0
Seedless Rye																					1
White																					0
Whole Wheat, Indiv. Pkg																		10			13
Whole Wheat, Loaves		2							1												23
Breakfast Rolls(Z)																					3.5
Butter Thins, Box																					14
Cake, Chocolate																					0
Cake, Pumpkin																			7/8		0
Carrot Sticks (Ziplock Bag)				1	1	1		1			2							2			11
Celery Sticks (Ziplock Bag)				1							1										2
Cheese, Cracker Barrel (2oz)		6			1	6	2	4			4										28
Chocolate Chip Dipps																					13
Cranberry Juice (Brik Paks)																					0
Cran Orange Sauce (Packets)																					0
Fiber Crackers																					9
Goldfish Crackers, Plain, 45gm																					0
Grapefruit																					0
Halloween Candy, 2 1/2 lbs																					0

FOOD ITEM	STS 6	STS 7	STS 8	STS 9	STS 41C	STS 41D	STS 41G	STS 51A	STS 51B	STS 51C	STS 51D	STS 51F	STS 51G	STS 51I	STS 51J	STS 61A	STS 61B	STS 61C	SUM
Hearty Wheats, Box																			0
Malted Milk Balls, 5 oz																		2/5	2/5
Marshmallows, pkg																			0
Mint Chocolate Chip Dipp																			2
Nectarines																			0
Oranges																			6
Pears																			6
Raisins																			0
Pickles, Candied Dill Strips (Jar)																			3
Pickles, Kosher Dill (pkg)																			0
Tortillas, pkg																			6
Tostitos Chips, Ziplock Bag																			0
Wheat Thins, Ziplock Bag																			0
Teacher Experiment: 10 Marshmallows & 2 pkg M&M's in 10" x 10" Ziplock Bags																			5.5
Total	12	2	3	11	13	2	5	1	11	10	7	20.5	8	16.5	4	19	8.25	8.5	71.75

APPENDIX 31
IRRADIATED FOOD RETURNED FROM SPACE SHUTTLE MENUS AND PANTRIES
SIS-1 THROUGH STS 51-L

FOOD ITEM	1	2	3	4	5	6	7	8	9	41B	41C	41D	41G	51A	51B	51C	51D	51F	51G	51I	51J	61A	61B	61C	51L	SUM	
MENU																											
Beef Steak												4		1	1		4										
Bread, Seedless Rye	6	19	24	12	31																						27
Breakfast Rolls	5	3		4	4	1	4																				92
Corned Beef	4	4	1	5	4																						21
Turkey, Smoked	2	2	3	2	1								1														18
Total	8	33	33	16	48	11	1	4				4	1	1	1		4										14
PANTRY																											
Beef Steak	4	7	3	4									3	1	4	2											40
Bread, Seedless Rye	8	8																									16
Breakfast Rolls																											3
Corned Beef	4	4			4																						12
Turkey, Smoked	4	2		2	3	2	3	2	4																		37
Total	20	21	3	6	7	2	10	2	4			3	3	1	4	2	5	6	1	5							108

APPENDIX 32
NUTRITIVE VALUE OF SPACE SHUTTLE FOOD

FOOD ITEM	SERVING SIZE gm	REHY- DRATION WATER oz	MOIS- TURE gm	KILO- CAL- ORIES	PROT- EIN gm	CAR- BOHY- DRATE		FIBER gm	ASH gm	CAL- CIUM mg	PHOS- PHOR- OUS mg	SOD- IUM mg	PO- TAS- SIUM mg	IRON mg	MAG- NES- IUM mg	MAN- GAN- ESE mg	COP- PER mg	ZINC mg
						FAT gm	FIBER gm											
Almond Crunch Bar(NF)	45.0		1.8	258	7.2	13.1	21.8	0.7	1.1	73	138	185	125	5.1	78	0.3	0.9	3
Almonds(NF)	45.0		1.0	315	10.5	24.0	7.5		2.0	140	250	260	356	1.8	105	1.1	0.5	2
Applesauce(T)	140.0		110.0	110	0.2		30.0		0.2	3	9	8	90	0.2	4		0.1	
Apricots, Dried(IM)	62.0		20.0	160	2.1	0.1	35.5	1.6	2.5	35	70	15	900	2.0	30	0.1	0.2	1
Asparagus(R)	8.4	2	0.3	35	3.0	0.2	3.9		0.8	20	60	100	245	0.6	12	0.1	0.1	1
Bananas, Sliced(FD)	12.0		0.1	47	0.4		11.2	0.1	0.2	3	6	5	115	0.4	11			
Beef Almondine(R)	31.0	4	0.3	171	6.2	4.6	18.2	0.7	1.6	23	96	484	129	1.6	23	0.2	0.2	2
Beef w/Barbeque Sauce(T)	140.0		94.7	223	22.7	10.1	8.8	1.3	3.8	55	181	995	645	2.5	41	0.4	0.2	4
Beef & Gravy(T)	135.0		92.9	189	29.0	6.6	3.8		2.8	14	259	592	533	3.8	35		0.4	6
Beef, Grd w/Spice Sce(T)	145.0		103.4	178	22.4	5.2	10.9		3.2	39	186	778	587	2.9	35		0.4	5
Beef Patty(R)	31.5	2	0.4	148	19.9	6.6	2.4		2.1	12	132	529	264	2.5	24		0.4	3
Beef Steak(I)	120.0		71.0	300	34.0	12.7	0.7		1.5	7	222	98	390	3.3	29		0.2	6
Beef Stroganoff(R)	34.0	4	0.6	201	6.0	11.6	14.0		1.8	41	91	555	163	1.1	11	0.1	0.1	1
Bran Flakes(R)	43.0		1.6	180	6.5	0.5	32.8		2.0	122	283	275	335	11.0	65	1.6	0.3	4
Bread, Seedless Rye(I)	30.0	2	11.9	81	2.9	0.4	14.1	0.2	0.7	21	46	185	7	1.9	10	0.3		
Breakfast Roll(NF)	100.0		23.3	404	6.2	16.5	53.2		1.3	32	99	429	89	1.8	14	0.4	0.1	1
Broccoli au Gratin(R)	20.0	2	0.6	110	5.6	5.4	6.8	0.6	1.7	129	126	358	197	0.6	18	0.2		1
Brownies(NF)	50.0		2.8	273	3.7	17.2	25.7		0.6	62	74	66	98	1.3	32			6
Butter Cookies(NF)	30.0		1.1	150	1.9	5.6	21.1		0.3	7	22	76	29	0.2	4	0.1		

(NF) Natural Form (IM) Intermediate Moisture (FD) Freeze Dried, not rehydrated for consumption (I) Irradiated
(T) Thermostabilized (R) Rehydratable

FOOD ITEM	SERVING SIZE	REHY-DRATION WATER	MOIS-TURE	KILO-CAL-ORIES	PROT-EIN	FAT	CAR-BOHY-DRATE	FIBER	ASH	CAL-CIUM	PHOS-PHOR-OUS	SOD-IUM	PO-TAS-SIUM	IRON	MAG-NE-SIUM	MAN-GAN-ESE	COP-PER	ZINC
Candy Coated Chocolate(NF)	30.0		0.5	153	2.1	6.2	20.6		0.5	54	64	27	106	0.5	18	0.1	0.1	
Candy Coated Peanuts(NF)	30.0		0.5	167	3.5	8.2	17.2		0.5	42	80	20	126	0.6	26	0.2	0.2	5
Cashews(NF)	45.0		0.7	313	9.1	23.4	10.2		1.6	20	240	270	313	2.4	86	0.6	0.9	3
Cauliflower w/Cheese(R)	16.0	3	0.4	86	2.5	3.8	8.0		1.4	62	84	315	200	0.4	12	0.2		
Cheddar Cheese Spread(T)	36.0		14.9	148	4.7	14.1	0.7		1.7	184	130	466	16	0.2	5			1
Chicken a la King(T)	139.0		105.6	144	18.2	5.0	6.9	0.1	3.3	62	242	792	515	0.3	30	0.4		1
Chicken Consomme(R)	5.0	6	0.1	11	0.4	0.3	1.8		2.4	3	4	960	13		1			
Chicken Salad Spread(T)	212.0		140.8	461	22.2	27.4	18.8		2.7	35	133	887	202	1.2	26	0.2	0.2	2
Chicken, Sweet/Sour(R)	36.0	3	1.1	184	21.4	2.0	10.3		1.2	9	156	236	209	0.4	21			1
Chicken Teriyaki(R)	36.0	3	1.5	174	22.0	2.6	7.0		2.9	29	160	955	245	0.8	24	0.1	0.1	1
Chili Mac w/Beef(R)	36.0	4	0.4	178	8.6	4.1	20.8		2.2	25	117	535	255	2.5	25	0.6	0.3	1
Chocolate Chip Bar(NF)	45.0		0.9	255	7.4	11.7	23.2	1.6	1.0	67	73	183	66	5.6	72	0.2	0.6	4
Chocolate Covered Cookie	55.0		0.8	284	3.6	16.1	33.8		0.8	84	95	94	116	1.1	32			5
Corn Beef(I)	80.0		48.1	146	25.7	4.1	0.5		1.6	10	119	480	86	2.2	13			
Cornflakes w/Dry Milk(R)	40.0	2	1.2	151	4.2	0.1	33.2	0.1	1.4	118	124	254	119	4.0	12			
Corn/Green Beans/Pasta(R)	30.0	3	1.4	149	3.7	5.7	17.6		1.6	52	70	456	172	0.4	20	0.3	0.1	
Dried Beef(IM)	30.0		17.4	68	10.0	0.5	1.0		1.1	3	89	321	134	1.6	10	0.1		2
Eggs, Scrambled(R)	34.5	3	0.9	221	12.3	12.7	6.5		2.2	140	250	524	328	1.4	18	0.1		1
Eggs, Seasoned Scrambled	35.0	3	0.6	216	11.7	12.4	7.6		2.5	130	301	712	230	1.4	17	0.1		1
Eggs, Mexican Scrambled(R)	36.0	3	0.7	223	13.7	12.2	6.8		2.6	140	314	618	262	1.9	21	0.1		
Frankfurters(T)	107.0		62.1	300	15.6	25.8	0.3		3.2	24	134	984	213	1.6	18			3
Fruit Bars, Insult(IM)	50.0		5.5	168	1.0	42.8			0.8	22	27	36	282	1.7	15	0.2	0.1	
Fruitcake(T)	80.0		13.0	336	6.0	15.0	44.5	2.8	1.4	114	142	220	290	1.4	47	1.8	0.4	1
Fruit Cocktail(T)	140.0		111.2	111	0.5	27.9			0.2	5	13	8	102		6			

(NF) Natural Form (R) Rehydratable (T) Thermostabilized (I) Irradiated (IM) Intermediate Moisture

FOOD ITEM	SERVING SIZE	REHY-DRATION WATER	MOIS-TURE	KILO-CAL-ORIES	PROT-EIN	FAT	CAR-BOHY-DRATE	FIBER	ASH	CAL-CIUM	PHOS-PHOR-OUS		SOD-IUM		PO-TAS-SIUM	IRON	MAG-NESIUM	MAN-GAN-ESE	COP-PER	ZINC
											gm	gm	gm	gm						
Graham Crackers(NF)	14.8		0.7	66	1.1	1.3	11.5	0.1	0.3	2	20	92	22	22	0.5	4	0.1			
Granola w/Nonfat Dry Milk	80.0	2	2.8	388	10.6	9.4	54.9		2.3	162	333	259	433	2.6	91	2.5	0.3			2
Granola w/Blueberries(R)	57.0	1 1/2	2.7	284	8.0	8.5	36.2	0.7	1.6	133	265	116	332	1.9	56	1.4	0.4			2
Granola w/Raisins & Milk	80.0	2	3.9	370	11.2	9.4	53.2		2.3	164	345	256	470	2.4	88	2.6	0.4			2
Granola Bar(Honey/Oats)	25.0		1.2	123	2.4	4.6	16.4	0.2	0.5	18	79	64	70	0.9	24	0.7	0.1			
Granola/Raisin Bar(NF)	45.0		2.8	239	7.6	10.3	23.1	0.9	1.2	46	101	219	231	5.2	76	0.6	1.0			3
Green Beans & Broccoli(R)	19.0	3	0.8	102	2.1	5.5	9.0	0.4	1.8	36	43	542	185	0.9	16	0.2	0.1			
Green Beans w/Mushrooms(R)	15.0	3	0.3	89	1.3	6.0	6.5		0.8	50	27	185	111	0.7	17	0.3	0.1			
Grits w/Butter(R)	50.0	3	4.5	190	3.7	0.5	38.9		2.3	20	51	858	65							
Ham, Sliced(T)	115.0		84.4	116	22.5	3.0	0.5		4.5	18	239	1371	384	0.1	25	0.6				3
Ham Salad Spread(T)	212.0		143.3	418	23.7	21.0	19.6		4.4	37	280	1333	412	1.8	33	0.2	0.2			3
Italian Vegetables(R)	18.0	3	0.6	97	1.6	5.2	9.2		1.2	28	39	479	121	0.6	15	0.2	0.1			
Jam/Jelly(IM)	14.2		4.8	36			9.4			1	7	60	0.1	1						
Life Savers(NF)	28.5		0.2	109			28.2		0.1	4		15								
Macadamia Nuts(NF)	45.0		0.4	370	4.6	33.1	6.0		0.9	21	91	138	140	0.9	51	1.3	0.2			1
Macaroni & Cheese(R)	32.0	3	0.6	174	6.9	6.9	15.6		2.0	162	222	539	96	0.6	15	0.1	0.1			1
Meatballs w/BBQ Sauce(T)	130.0		77.7	267	16.6	15.0	16.5	0.3	4.1	71	162	1099	551	1.3	36					4
Mushroom Soup(R)	27.0	6	1.1	157	3.3	10.8	8.8		2.9	64	65	1017	102	0.7	10	0.1	0.1			
Noodles & Chicken(R)	28.0	3	0.4	156	4.8	7.3	13.8	0.1	1.7	9	57	601	54	1.2	7	0.1	0.1			

(NF) Natural Form (R) Rehydratable (T) Thermostabilized (IM) Intermediate Moisture

FOOD ITEM	SERVING SIZE gm	REHY- DRA- TION WATER oz	MOIS- TURE gm	KILO- CAL- ORIES	PROT- EIN gm	FAT gm	CAR- BOHY- DRATE gm	FIBER gm	ASH gm	CAL- CIUM mg	PHOS- PHOR- OUS mg	SOD- IUM mg	PO- TAS- SIUM mg	IRON mg	MAG- NES- IUM mg	MAN- GAN- ESE mg	COP- PER mg	ZINC mg
Oatmeal w/Brown Sugar(R)	46.1	4	3.7	189	6.4	1.9	37.0		1.8	211	188	248	210	3.9	51	1.3	0.1	1
Oatmeal w/Raisins(R)	47.2	3	3.4	182	4.6	2.0	36.0		1.2	134	128	184	159	3.2	40	1.2	0.1	1
Peach Ambrosia w/Pecans(R)	36.0	2	1.7	132	1.1	0.1	32.4	0.5	0.7	17	24	9	307	1.0	21	0.6	0.2	
Peaches, Diced(T)	140.0		111.8	110	0.6		27.2		0.3	3	16	8	116		6		0.1	
Peaches, Dried(IM)	62.0		20.9	163	2.1	0.2	36.9		1.8	20	59	18	701	1.8	26	0.2	0.2	1
Peanut Butter, Creamy(IM)	36.0		0.4	230	8.9	18.6	6.9	0.7	1.3	31	130	177	196	0.5	59	0.6	0.2	1
Peanut Butter, Dry Roasted(NF)	45.0		0.8	316	12.6	22.6	7.1		1.8	27	180	424	317	0.8	72	0.8	0.3	1
Peanuts, Diced(T)	140.0		114.6	98	0.4		24.8		0.2	6	6	6	80		6		0.1	
Pears, Dried(IM)	62.0		16.8	184	1.8		38.5	1.2	0.8	20	47	6	328	1.2	21		0.1	
Pears, Dried, Sliced(FD)	6.0		0.3	24	0.1		5.6	0.3	0.1	3	3	4	24	0.1	2		0.1	2
Pears, Dried, Sliced(FD)	60.0		0.8	267	11.5	4.6	38.5	4.9	4.6	89	204	1445	273	3.8	65	0.7	0.7	2
Peas w/Butter(R)	62.0	6	1.8	358	3.5	19.7	36.2		0.8	11	76	224	47	1.6	12	0.2	0.2	1
Pecan Cookies(NF)	140.0		120.0	76	0.6		19.0		0.4	17	4	6	141	0.6	25	2.3	0.2	1
Pineapple(T)	30.0	3	0.8	155	4.4	7.4	14.9		2.5	105	133	654	382	0.4	20	0.1	0.1	1
Potatoes au Gratin(R)	28.5	2	0.6	139	1.8	6.9	17.6	0.4	1.6	13	47	416	277	1.5	16	0.1	0.2	
Potato Patty(R)	142.0		101.2	190	3.0	2.6	33.9		1.3	109	88	301	145		11			
Pudding, Banana(T)	144.0		103.6	184	3.0	1.9	34.1		1.3	114	88	258	126		11			
Pudding, Butterscotch(T)	144.0		102.0	194	4.0	2.8	33.8		1.4	126	116	259	215	1.0	27	0.2	0.1	1
Pudding, Chocolate(T)	135.0		95.7	174	0.1	2.1	36.7		0.3	11		60	66	0.2	3			
Pudding, Lemon(T)	142.0		100.9	188	2.9	2.1	35.0		1.0	118	84	176	147		13			
Pudding, Tapioca(T)	133.0		94.9	176	2.8	2.1	32.1		1.2	101	78	260	131		10			

(NF) Natural Form

(IM) Intermediate Moisture

(T) Thermostabilized

(R) Rehydratable
(FD) Freeze Dried, not rehydrated for consumption

FOOD ITEM	SERVING SIZE gm	REHY- DRATION WATER oz	MOIS- TURE gm	KILLO- CAL- ORIES	PROT- EIN gm	FAT gm	CAR- BOHY- DRATE gm	FIBER gm	ASH gm	PHOS-		SOD-		PO-		IRON mg	MAG- NES- IUM mg	MAN- GAN- ESE mg	COP- PER mg	ZINC mg
										CAL- CIUM mg	PHOR- OUS mg	SOD- IUM mg	TAS- SIUM mg							
Rice & Chicken(R)	33.0	3	0.6	159	5.2	4.9	20.6		1.7	8	54	640	64	1.1	7	0.1	0.1			
Rice Krispies(R)	40.0	2	1.4	160	4.8	32.2			1.5	127	126	279	190	1.3	18	0.3	0.1			1
Rice Pilaf(R)	25.0	3	1.0	104	2.2	1.7	18.9	0.1	1.2	9	36	430	36	1.0	6	0.1	0.1			
Salmon(T)	110.0		78.3	185	23.4	5.2			3.1	282	464	707	330	2.3	32	0.1	0.1			1
Sausage Patty(R)	33.0	2	0.5	176	16.6	10.8		0.4	1.9	10	129	489	224	1.0	20	0.3	0.3			2
Shortbread Cookies(NF)	30.0		1.6	155	2.0	6.7	19.3		0.4	5	26	134	29	0.9	4	0.1				
Shrimp Cocktail(R)	35.0	3	1.4	150	13.0	0.7	16.7		3.3	76	153	921	322	1.0	42	0.1	0.3			1
Shrimp Creole(R)	30.0	3	0.6	150	5.5	4.3	17.4		2.3	34	72	797	190	0.6	18	0.2	0.1			
Soda Crackers(NF)	44.0		0.5	213	4.3	5.4	32.7	0.2	1.1	9	48	320	52	2.7	10	0.2				
Spaghetti w/Meat Sauce(R)	30.0	3	0.8	144	6.5	3.2	17.3		2.1	31	102	640	323	1.6	27	0.2	0.2			1
Spinach, Creamed(R)	18.0	2	0.7	88	2.9	3.5	8.9		2.1	105	74	491	324	0.4	36	0.5	0.1			1
Strawberries(R)	23.8	2	1.5	88	1.6		20.1	1.0	0.6	27	47		216	0.8	20	0.5	0.1			
Tomatoes, Stewed(T)	144.0		131.3	47	1.3	0.1	9.6	0.6	1.8	65	28	411	281	0.9	13	0.1	0.2			
Trail Mix(IM)	62.0		6.2	289	4.0	12.6	38.5		0.8	36	97	20	248	1.2	48	0.6	0.4			
Tuna in Water(T)	95.0		73.3	106	19.6	0.2			1.8	5	372	497	261	1.2	25	0.1				
Tuna Salad Spread(T)	212.0		144.4	427	24.0	23.7	16.4		3.5	35	175	968	282	1.3	38	0.2	0.2			1
Turkey & Gravy(T)	131.0		98.5	132	27.4	1.9	0.3		2.8	15	142	893	203	0.3	21	0.5	0.2			2
Turkey Salad Spread(T)	212.0		143.5	452	23.4	26.8	15.6		2.8	30	152	813	240	1.1	26	0.2	0.2			2
Turkey, Sliced Smoked(I)	100.0		71.7	144	23.0	0.8	0.9		3.4	5	310	1060	278	0.4	25	0.1				1
Turkey Tetrazzini(R)	27.0	3	0.8	138	7.8	4.6	11.6	0.1	2.2	57	111	686	170	0.7	14	0.1				1
Catsup(T)	11.5		7.8	12	0.2		2.8		0.5	2	5	142	53	0.1	3					
Mayonnaise(T)	11.5		1.5	92	0.2	9.0	1.3		0.2	1	4	59	3							
Mexican Pepper Sauce(T)	11.2		9.2	4	0.1		1.5		0.4	2	4	120	30	0.1	2					
Mustard(T)	5.4		4.4	4	0.3	0.2	0.3		0.2	3	5	61	9	0.1	2					

(R) Rehydratable (T) Thermostabilized (NF) Natural Form (IM) Intermediate Moisture (I) Irradiated

APPENDIX 33
NUTRITIVE VALUE OF SPACE SHUTTLE BEVERAGES

FOOD ITEM	SERVING SIZE gm	REHY- DRATION WATER oz	MOIS- TURE gm	KILO- CAL- ORIES	PROT- EIN gm	FAT gm	CAR- BOHY- DRATE gm	FIBER gm	ASH gm	CAL- CIUM mg	PHOS- PHOR- OUS mg	SOD- IUM mg	PO- TAS- SIUM mg	IRON mg	MAG- NES- IUM mg	MAN- GAN- ESE mg	COP- PER mg	ZINC mg
Apple Cider	28.7	8	0.2	124	0.1		31.6		0.1		12	21	66		6			
Apple Cider w/A/S	3.9	8	0.2	124	4.1	7.3	36.4	0.7	1.8	153	205	194	458	0.7	42			1
Apple Drink	32.0	8			0.5		1.6		0.2	5	11	3	81	0.1	7			
Cherry Drink w/A/S	1.0	8			1.0		1.6		0.2	5	11	3	81	0.1	7			
Citrus Drink	31.9	8	0.1	118	0.5		1.6		0.2	5	27	5	100	0.2	6			
Cocoa	50.5	6	0.1	10	0.5		1.6		0.2	5	27	5	100	0.2	6			
Coffee, Black	2.4	8	0.1	10	0.5		1.6		0.2	5	27	5	100	0.2	6			
Coffee w/A/S	2.9	8	0.1	20	0.5	0.1	4.6		0.2	5	27	5	100	0.2	6			
Coffee w/Cream	5.9	8	0.1	20	1.0	0.1	4.6		0.2	5	27	5	100	0.2	6			
Coffee w/Cream & A/S	6.4	8	0.1	20	1.0	0.1	4.6		0.2	5	27	5	100	0.2	6			
Coffee w/ Cream & Sugar	16.9	8	0.2	74	1.0	0.1	15.3		0.3	13	28	8	116	0.2	6			
Coffee w/Sugar	13.4	8	0.1	54	0.4		12.7		0.2	13	9	3	88	0.2	6			
Coffee, Kona Black	1.5	8	0.2	6			1.1		0.1	3	5	1	55	0.2	6			
Coffee, Kona w/A/S	2.0	8	0.2	6	0.5		1.1		0.1	3	5	1	55	0.2	6			
Coffee, Kona w/Cream	5.0	8	0.2	16	0.4	0.1	4.1		0.2	3	21	3	74	0.1	6			
Coffee, Kona w/Cream & A/S	5.5	8	0.2	16	0.9	0.1	4.1		0.2	3	21	3	74	0.1	6			
Coffee, Kona w/Grm & Sugar	16.0	8	0.2	60	0.4	0.1	15.1		0.2	3	21	3	74	0.1	6			
Coffee, Kona w/Sugar	12.5	8	0.2	50			12.1		0.1	3	5	1	55	0.2	6			
Decaffeinated Coffee, Blk	2.5	8	0.2	10	0.4		1.8		0.2	6	17		137	0.2	14			
Decaffeinated Coffee w/A/S	3.0	8	0.2	10	0.9		1.8		0.2	6	17		137	0.2	14	0.1		
Decaffeinated Coffee w/Grm	6.0	8	0.2	20	0.8	0.1	4.8		0.2	6	33	2	156	0.2	14	0.1		
Decaf Coffee w/Cream & A/S	6.5	8	0.2	20	1.3	0.1	4.8		0.2	6	33	2	156	0.2	14	0.1		
Decaf Coffee w/Grm & Sugar	17.0	8	0.2	64	0.8	0.1	16.8		0.2	6	33	2	156	0.2	14	0.1		
Decaf Coffee w/Sugar	13.5	8	0.2	54	0.4		12.8		0.2	6	17		137	0.2	14	0.1		

FOOD ITEM	SERVING SIZE	REHY-DRATION WATER	MOIS-TURE	KILO-CAL-ORIES	PROT-EIN	FAT	CAR-BOHY-DRATE	FIBER	ASH	PHOS-			PO-			MAG-NESE	MAN-GAN-ISE	COP-PER	ZINC
										CAL-CIUM	PHOS-OROUS	PHOS-TAS-IUM	PO-TAS-IUM	IRON	SIUM				
	gm	oz	gm		gm	gm	gm	gm	gm	mg	mg	mg	mg	mg	mg	mg	mg	mg	
Grape Drink	32.2	8	0.1	121			31.7	0.4	0.4	142	203				0.3	1		0.1	
Grape Drink w/A/S	1.1	8		3	0.1		1.0					16	1						
Grapefruit Drink	32.2	8	0.1	120			31.7	0.5	0.5	149	186				0.3				
Instant Breakfast, Choc	55.8	6	2.0	231	14.6	0.6	35.0	3.6	3.6	450	515	237	749	6.8	71	0.2	0.8	4	
Instant Breakfast, Straw	55.8	6	1.8	229	14.4		36.0	3.6	3.6	521	514	280	719	5.4	79	0.1	0.7	5	
Instant Breakfast, Van	55.8	6	2.1	230	14.6		35.2	3.8	3.8	453	498	218	708	5.6	101		0.6	4	
Lemonade	32.0	8	0.3	121	0.1		31.3	0.3	0.3	76	39	9	35	0.1	3				
Lemonade w/A/S	2.4	8		7	0.1		2.2	0.1	0.1	5	3	37		0.1					
Lemon-Lime Drink	16.0	8	0.5	58			15.2	0.3	0.3		22	94	13						
Orange Drink	28.1	8	0.1	108			27.9	0.2	0.2	32	13								
Orange Drink w/A/S	2.3	8	0.1	6	0.1		1.9	0.3	0.3	49	42	1	1	0.1	1				
Orange Drink Mix	23.1	8		87			22.8	0.2	0.2	32	18	4	82	0.1		0.5	0.2		
Orange Juice	30.0	8	0.1	114	1.5		27.4	1.0	1.0	31	37		475	1.1	29	0.2	0.1		
Orange-Grapefruit Drink	30.6	8	0.1	116			30.1	0.3	0.3	101	65	5	13						
Orange-Mango Drink	33.6	8	0.1	120			33.2	0.3	0.3	84	35	34		0.1					
Orange-Pineapple Drink	31.9	8	0.1	119			31.5	0.3	0.3	68	38	46		0.2					
Peach Drink	33.6	8	0.1	132			33.2	0.2	0.2	64	32	14		0.1					
Peach-Apricot Drink	33.6	8	0.1	129			33.2	0.2	0.2	53	22	36		0.1	1				
Pineapple Drink	33.6	8	0.1	129			33.2	0.3	0.3	64	26	74							
Strawberry Drink	33.6	8	0.1	126			32.9	0.6	0.6	60	147	66	110	0.1					
Tea	1.0	8	0.1	3	0.2		0.6	0.2	0.2	1	6	3	77	0.1	2				
Tea w/A/S	1.5	8	0.1	4	0.1		1.3	0.1	0.1		2	2	22	0.1	1				

FOOD ITEM	SERVING SIZE	REHYDRATION WATER	MOISTURE	KILO-CALORIES	PROTEIN	FAT	CARBOHYDRATE	FIBER	ASH	CALCIUM	PHOSPHOROUS	SODIUM	POTASSIUM	IRON	MANGANESE	COPPER	ZINC
	gm	oz	gm		gm	gm	gm	gm	gm	mg	mg	mg	mg	mg	mg	mg	mg
Tea w/Cream	2.7	8	0.1	13	0.2	0.1	2.1	0.2	0.2	1	10	3	89	3	2	3	0.7
Tea w/Lemon	1.7	8	0.1	6	0.1	0.1	1.5	0.1	0.1	1	2	1	33	2	1	1	0.4
Tea w/Lemon & A/S	1.2	8	0.1	4	0.1	0.1	1.0	0.1	0.1	1	2	1	17	1	1	1	0.4
Tea w/Lemon & Sugar	21.0	8	0.1	82	0.2	0.2	20.7	0.1	0.1	1	15	3	33	0.3	4	4	1.0
Tea w/Sugar	13.5	8	0.1	53	0.2	0.2	13.0	0.2	0.2	1	6	3	84	0.3	4	4	1.0
Tropical Punch	25.0	8	0.1	96	0.3	0.1	24.6	0.3	0.3	67	106	6	6	0.1			
Tropical Punch w/A/S	1.4	8	0.1	5	0.1	0.1	1.2	0.1	0.1	34	2	34	2				

A/S Artificial Sweetner



APPENDIX 34
FOOD HIGHLIGHTS, SPACE SHUTTLE FLIGHTS STS-1 THROUGH STS 51-L

FLIGHT NUMBER	CREW M F ¹	DAYS PLANNED	DAYS FLOWN	COMMENTS
STS-1	2	2	2	Standard 4-day menu cycle Single meal overwraps Frozen sandwiches and water for launch snacks Irradiated bread and breakfast rolls Apollo spoonbowl and beverage packages used for rehydratables Gun-type water dispenser Meal tray was a flat aluminum tray with 12 one-inch squares of Velcro attached to restrain food packages
STS-2	2	5	2	Fuel cell failure inflight resulted in a malfunctioning water supply. Water supply was filled with gas bubbles Water flow rate was reduced from 1 oz/sec to 1 oz/38 sec so it took approximately 5 minutes to fill one 8 oz beverage container. Crew subsisted primarily on snacks because they did not have time to prepare and eat a full meal.
STS-3	2	7	8	New square packages were used for rehydratable food and beverages for dinner on Day 3. Supplemental food was provided to increase the caloric provisions for the CDR.
STS-4	2	7	7	Fresh sandwiches and water for launch snacks Fresh apples included for launch snacks. This was the first fresh fruit flown. New square packages were used for rehydratable food and beverages for dinner on Days 3-5. An experimental freezer was filled with three servings of vanilla ice cream and one frozen filet. Freezer was changed to a chiller inflight and was used to chill fruits, puddings and beverages inflight. The crewmembers maintained food intake records for a student experiment.
STS-5	4	5	5	Multimeal overwraps Three fresh jalapeno peppers New square packages were used for all rehydratables. Needle-type water dispenser replaced the gun-type dispenser. Aluminum meal tray with cutouts and rubber strips replaced the flat tray.

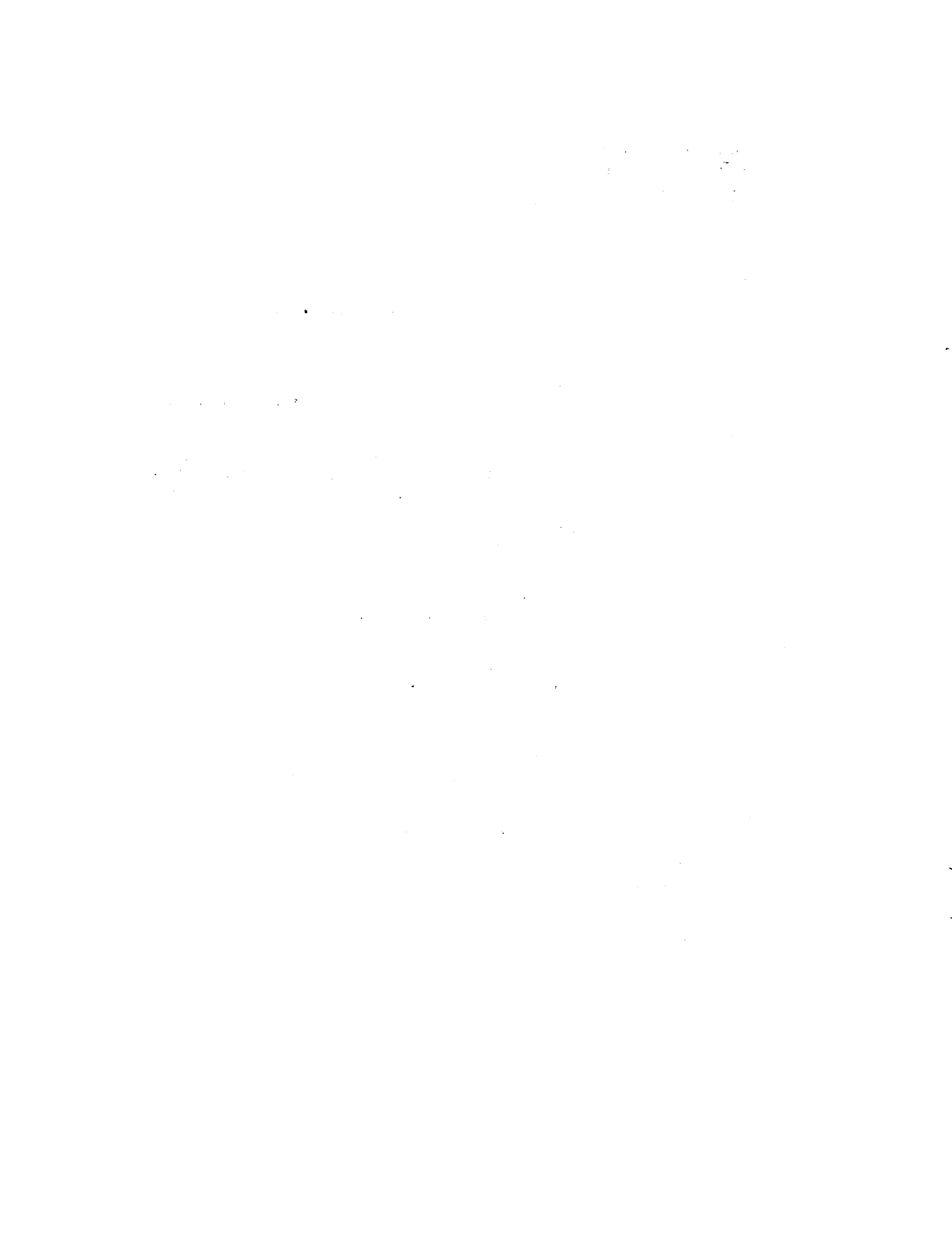
¹M=Males F=Females

FLIGHT NUMBER	CREW M F	DAYS PLANNED	DAYS FLOWN	COMMENTS
STS-6	4	6	5	Meals 1B-3B stowed in order of use without overwraps Meals 3C-7A stowed pantry style with all breakfasts together, lunches together and dinners together. Fresh food locker flew for the first time. Carrot sticks, celery sticks, cheddar cheese and bananas were flown for the first time. Loaf of bread replaced individually packaged slices of irradiated bread.
STS-7	4 1	6	6	Meal overwraps were discontinued. All meals stowed in order of use without overwraps. Jelly beans from the White House Oranges included in fresh food locker. Frozen breakfast rolls replaced irradiated ones.
STS-8	5	6	6	
STS-9	6	8	9	Standard menu was revised from a 4-day to a 7-day cycle. Galley flew for the first time.
STS 41B	5	8	8	First glass jar wrapped with tape was flown containing crunchy peanut butter. Trail mix flew for the first time. Galley Salad sprout experiment Artificial sweetener used in coffee for first time.
STS 41C	5	6	7	Started flying toothpicks in a polyethylene bottle. Galley One brick pack container of cranberry juice was flown as a test.
STS 41D	5 1	7	6	No galley The option of individual menus for each crewmember was initiated. Food packages were coded with colored dots to indicate which menu they belonged to. Artificially sweetened fruit flavored beverages flew for the first time.
STS 41G	5 2	8	8	Galley Taste perception test, Roberta Bondar, M.D., Canada

1M=Males F=Females

FLIGHT NUMBER	CREW M F ¹	DAYS PLANNED	DAYS FLOWN	COMMENTS
STS 51A	4 1	8	8	Galley
STS 51B	7	7	7	Galley
STS 51C	5	7	3	DOD Flight Galley Fresh pear flew for the first time.
STS 51D	6 1	5	7	No galley
STS 51F	7	6	7	Galley Coca Cola and Pepsi Cola were flown as an experiment
STS 51G	6 1	7	7	Galley First foreign food flew (France and Saudia Arabia). Cake baked in the Crew Quarters at KSC was flown. Tostitos flew in a ziplock bag for the first time.
STS 51I	5 1	7	7	Galley No launch snacks.
STS 51J	5	7	4	DOD Flight Galley Launch sandwiches resumed.
STS 61A	7 1	7	7	Galley Bread from Germany Cheese from the Netherlands
STS 61B	6 1	7	7	No galley No launch snacks. Amaranth products from Mexico Tortillas flew for the first time.
STS 61C	7	5	5	Galley Launch sandwiches resumed.
STS 51L	5 2	6	0	Galley

¹M=Males F=Females



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16. Abstract <p>All food in the Space Shuttle food system was precooked and processed so it required no refrigeration and was either ready-to-eat or could be prepared for consumption by simply adding water and/or heating. A gun-type water dispenser and a portable, suitcase-type heater were used to support this food system during the first four missions. On STS-5, new rehydratable packages were introduced along with a needle-injection water dispenser that measured the water as it was dispensed into the packages. A modular galley was developed to facilitate the meal preparation process aboard the Space Shuttle. The galley initially flew on STS-9. A personal hygiene station, a hot or cold water dispenser, a convection oven, and meal assembly areas were included in the galley.</p>		
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