DIETARY MODULE
With
REFRIGERATION UNIT

(3/77) P 757570-091

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LIST OF ILLUSTRATIONS

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SAFETY PRECAUTIONS

The following *safety precautions* should be observed when operating or servicing this equipment. The page (or pages) on which the precautions appear in this manual is indicated by the number in the lower right-hand corner of each item.

CAUTION: Use care when loading. The plastic liner has a durable finish coat which will provide long service and resist normal abrasion, scratches, etc., but puncturing the liner could cause moisture absorption and render the unit inoperative. 2-2

CAUTION: When moving the Dietary Module, do not use the doors for handholds; use the push-pull bar on the side panel. Damage to the doors could result if this caution is not observed. 2-3

CAUTION: The Refrigeration unit should be plugged in only when it is latched to the Dietary Module. Otherwise, excessive frost buildup could occur on the evaporator coils. 2-3

CAUTION: When using cleaners such as *AMSCO STAINLESS STEEL CLEANER AND POLISH* or *AMSCO PRY CLEANER*, rub in a back-and-forth motion (in the same direction as the surface grain). Do not rub with a rotary or circular motion. Do not use these cleaners on painted surfaces. Follow directions on the containers. 3-3

WARNING: HAVE A QUALIFIED REFRIGERATION SERVICEMAN CHECK AND SERVICE ANY ITEMS WHICH AFFECT THE REFRIGERANT CHARGE (Table 4-1). UNDER NO CIRCUMSTANCES SHOULD UNQUALIFIED PERSONS ATTEMPT TO PERFORM SUCH SERVICE. 3-3, 3-4, 4-1

CAUTION: To avoid scratching the surface when removing silicone sealant, use a flat instrument. Do not use the corner of say a putty knife or sharp instrument. 4-2

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SECTION 1

GENERAL INFORMATION

The product literature included in this section contains factual data relating to the principal descriptive and identifying characteristics of Dietary Modules and Refrigeration Units. It describes and illustrates general concepts of the equipment, its purpose, capabilities, limitations, and technical specifications. □ □

Service Bulletin Number						

AMSCO

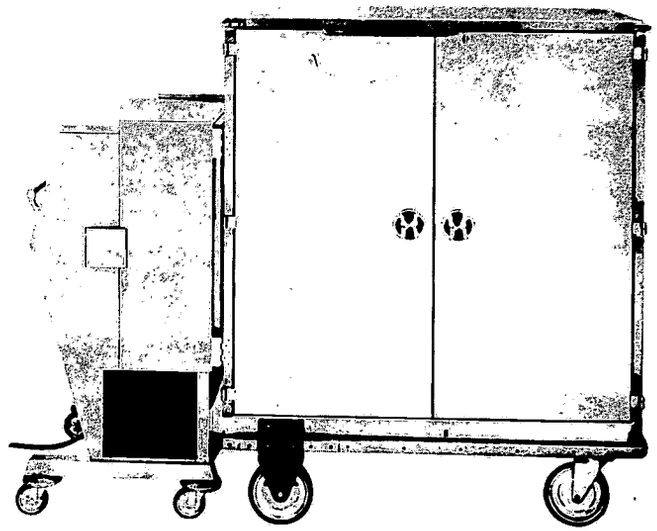
INSULATED DIETARY MODULE and REFRIGERATION UNIT

TECH DATA

SD-146

APPLICATION

The Refrigeration Unit, when coupled to our Insulated Dietary Module, safely refrigerates precooked food (placed in the Module), maintaining it at 38 ±5 F. After cooling the food and detaching the Refrigeration Unit, the Module is then used to transport the food to the nursing floor pantry area. Thereupon, the Module is attached to another Refrigeration Unit to maintain the food at proper temperature until heating and/or serving time.



Typical only – some details may vary.

DESIGN AND CONSTRUCTION

Dietary Module

Dietary Module is insulated and fully enclosed. Overall dimensions are 53″ wide by 26-3/16″ deep by 63-9/16″ high. Its capacity is either 30 standard trays at 4-5/8″ height intervals or 33 trays at 4-1/16″ intervals, as specified.

- **Outer shell** is a welded, stainless-steel, box-like structure. Front and back panels are notched and reinforced at the door hinges for added strength. Joints are flush welded and ground smooth. Exposed surfaces are polished to a satin finish.

  A stainless-steel bar, recessed in the back panel provides a hand-hold for maneuvering the Module. An easy-to-mark-and-erase destination plate is also on the back panel. Rubber bumpers on the outside corners provide collision-damage protection.

- **Inner liner** is scratch- and abrasion-resistant, fiberglass-reinforced plastic, bonded and sealed against peeling and leaks. The liner has coved corners to facilitate cleaning. Fire-retardant, non-toxic, polyurethane foam insulation is between the liner and outer shell. Joints, crevices or openings between liner and outer shell are effectively sealed against moisture.

- **Racking.** Stainless-steel-rod racks divide the Module interior into three sections. Each section will accommodate either ten or eleven dietary trays depending upon the selected shelf arrangement. Racking is so arranged that it does not impede air circulation within the Module. Stops prevent the trays from striking the liner.

- **Hinged access doors** extend the width of the Module. Each door is of double-pan, insulated construction with cup-type door pull. A vacuum-formed liner on the inside covers the insulation. A drop-down latch bar seals the doors against a silicone-rubber gasket. Self-closing door braces hold the doors open while loading or cleaning the Module. When

(Continued on next page)

THE SELECTIONS CHECKED BELOW APPLY TO THIS EQUIPMENT

☐ Dietary Module with Refrigeration Unit Cutout to:
- ☐ Right of Hinged Access Doors
  - ☐ 30 Tray Capacity
    *Quantity:*_____
  - ☐ 33 Tray Capacity
    *Quantity:*_____
- ☐ Left of Hinged Access Doors
  - ☐ 30 Tray Capacity
    *Quantity:*_____
  - ☐ 33 Tray Capacity
    *Quantity:*_____

☐ Refrigeration Units
*Quantity:*_____

Item No. _____
Location(s) _____
_____
_____

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not in use, the braces swing out of the way, against the Module exterior.

- **Refrigeration unit cutout** is framed with stainless-steel angles, either to the right or left of the hinged access doors, as specified. The opening is covered with two stainless-steel, hinged, panel doors which engage the Refrigeration Unit latching mechanism. A latch bar (as for the Module doors) is also provided.

- **Transfer carriage.** The Module is bolted to a carriage having two fixed and two swivel casters. Each caster has heavy-duty polyurethane tread. A wrap-around bumper is provided.

Refrigeration Unit

This self-contained unit is designed especially for the Insulated Dietary Module. It will lower Module air temperature to 38 ±5 F within 40 minutes. The cabinet, with the exception of two removable access panels, is satin-finished stainless steel.

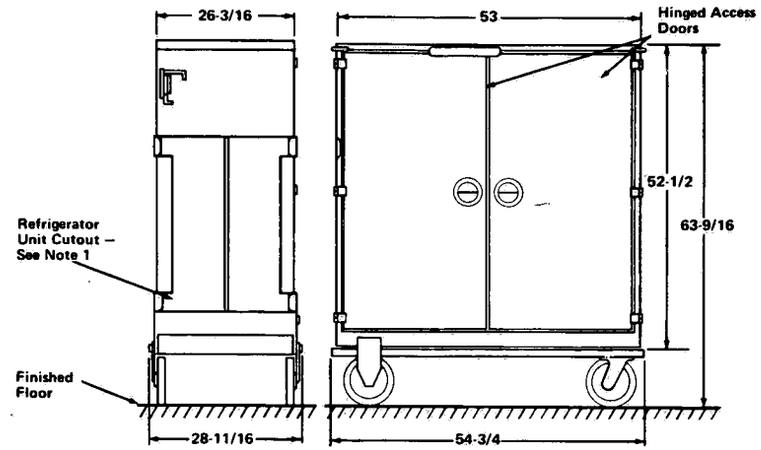
The rear of the refrigeration unit features textured-epoxy-coated-steel service access panels and stainless-steel pull bar. Overall dimensions of the Unit are 29" wide by 26" deep by 49-7/8" high.

- **Refrigeration system** is hermetically sealed and includes an air-cooled condenser. An evaporator coil, having 123 square feet of cooling surface and a four-blade fan, comprise the cooler. The cooler and condenser are listed by Underwriters' Laboratories, Incorporated. In addition, the cooler bears National Sanitation Foundation Testing Laboratory label. A dual-purpose circuit breaker/power switch and 10-foot long power cord are included.

- **Upper cabinet section** is divided into three segments. The center segment houses the cooler and forms an air duct through which the fan blows cold air into the Dietary Module. Air is drawn out of the Module through smaller ducts above and below the center duct. A polyester urethane foam gasket separates the air flow passages. The entire upper section is fully insulated for temperature protection.

- **Lower cabinet section** houses the condensing unit. Grilled openings in the sides of the cabinet allow proper air flow. Horizontal "legs" for maximum stability are securely bolted to cabinet recesses. Four swivel casters, with revolving rubber bumpers, provide easy maneuverability.

A framed, perforated, stainless-steel grill covers the air openings. Suitcase-type latches on each side of the Refrigeration Unit provides, quick and positive latching to the Dietary Module. These latches in combination with a soft-vinyl gasket provide positive seal of the two components even on floors with uneveness up to 1/16" per foot.

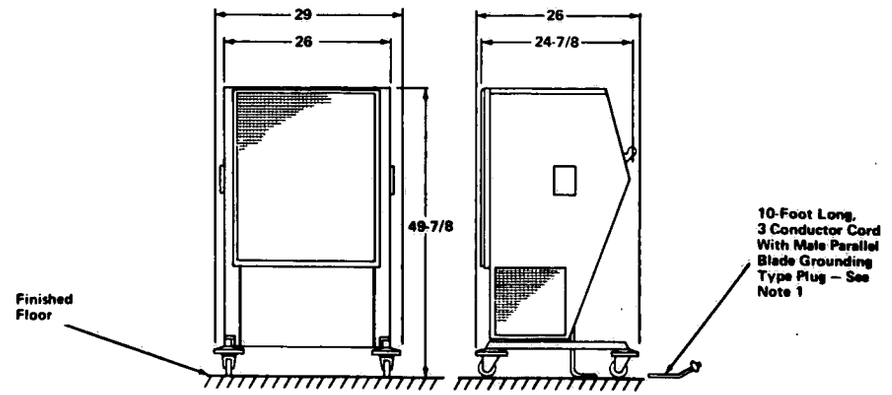


NOTES:

1. Left-hand unit shown. Dimensions for unit with Refrigeration Unit cutout to right of hinged access doors are identical.

2. Approximate weight: 400 lbs.

DIETARY MODULE



NOTES:

1. Electrical Requirement: 120 Volt, 60 Hz, Single Phase, 1.76 KW Power Consumption.

2. Approximate weight: 230 lbs.

REFRIGERATION UNIT

DIMENSIONS ARE INCHES – DRAWING IS NOT TO SCALE

This print is for guidance when planning space and utility services. Actual installation prints may be obtained from any AMSCO office or representative.

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APPLICATION

The Type B Dietary Module shall be an insulated, closed container, for transporting patient trays. It shall have a maneuverable carriage (with caster wheels) for loading onto and unloading from an AMSCAR or for moving about, when free of an AMSCAR.

It shall be used in conjunction with a Refrigeration Unit (not covered in this Specification).

When the doors on the Module are closed and latched, loads shall be protected from adverse environmental elements.

The Module capacity shall be 33 (15" x 20") trays; 30-, 27- or 24-tray Modules are optional.

DESIGN AND CONSTRUCTION

GENERAL

The Module shall consist essentially of a metal cabinet (sealed and insulated), hinged access doors, cutout for mating with Refrigeration Unit, internal racking and transfer carriage.

Doors shall latch externally when closed or when opened (for washing in an AMSCOMATIC AMSCAR/Module Processor).

Access doors shall be either on the right or left side, as specified.

SIZE AND CAPACITY

The Module shall be 53" long; 26-3/16" wide; and 63-5/8" high. It shall have a maximum load capacity of approximately 300 lbs.

CABINET

The cabinet shall be of double-wall construction. The outer shell shall be 18 gauge (type 304) stainless steel; the inner shell (liner) shall be of light blue fiberglass reinforced polyester; and sandwiched between the inner and outer shells shall be rigid, expanded, fire retardant, non-toxic, polyurethane foam insulation (2 lb. density).

All portions of the cabinet shall be suitably reinforced. Front and back panels shall be notched and reinforced at the door hinge locations to strengthen and mortise the hinges.

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The entire Module outer shell shall be sealed. All joints, crevices or openings through which moisture may pass (from outside into the cavity between shells) shall be sealed with RTV (Silicone Sealant) adhesive. Further bonding and sealing internally shall be by means of a rubber based mastic adhesive.

The inner liner shall flange outward at the face for bonding/sealing and attachment to the outer shell. Internal corners shall be coved for ease of cleaning. Screws on 6" centers shall pass through stainless-steel face trim strips.

The opening in the end for the Refrigeration Unit shall be trimmed and reinforced with a welded stainless steel frame assembly (made in two mating telescopic halves); one half shall be secured to the outer shell and the other secured to the liner and suitably sealed.

A metal handle, recessed in the back panel exterior, shall provide a convenient hand-hold for pushing the Module onto or pulling it from an AMSCAR, or for moving the Module about when free of an AMSCAR.

The cabinet shall have a rubber bumper assembly along each side and the back panel.

A rough-surface destination plate (on the back panel) shall be provided.

HINGED ACCESS DOORS

The Module shall have three double-pan stainless-steel doors, filled with open cell resin impregnated honeycomb.

The rear door (on the push handle end of the Module) shall comprise approximately one half of the face opening and shall be able to open 270°. It can be latched against the back panel for washing by the use of the brace rod furnished.

Two hinged doors, at the front, shall comprise the remaining portion of the Module face opening. One door shall be hinged to the front panel on one side and to the center door on the other side, forming a bifold door arrangement. This configuration allows them to be folded back around the AMSCAR control cabinet and fastened to the front of the Module (by brace rod) for washing.

A cup-type door pull shall be spot welded into the outside door pan; door latching shall be by means of a drop-down "J" slot type latch bar.

REFRIGERATION UNIT CUTOUT

In the front panel (adjacent to the bifold doors) shall be a cutout framed with stainless-steel angle members. It shall be sized and located to align with the air distribution section of the Refrigeration Unit.

The cutout shall be covered with two stainless-steel hinged flat panel doors which shall also be used to engage with the Refrigeration Unit latching mechanism in the open position. A "J" slot type latch bar is provided to hold the doors closed.

RACKING

The cabinet shall be divided into three sections with stainless round-rod racks provided in the liner interior to support patient trays.

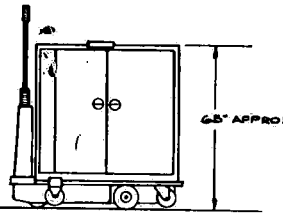
When spaced at 4-1/16" intervals (nominal), the racks shall hold 33 trays (15" x 20"). Rack spacing for optional 30, 27 or 24 trays are proportionately greater.

The racks shall be screwed to the liner with machine screws into suitable reinforcement in the liner; they shall support and locate the trays without impeding air flow in the Module and shall prevent trays from striking the rear of the liner by means of tray stops.

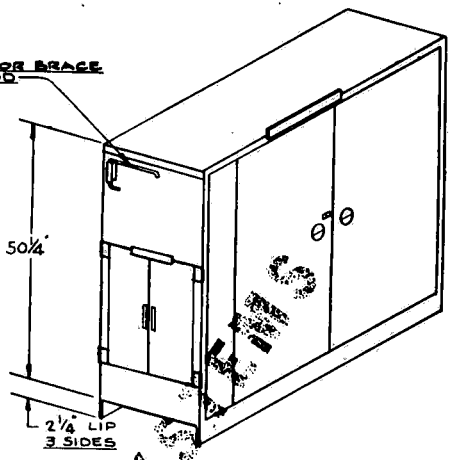
TRANSFER CARRIAGE

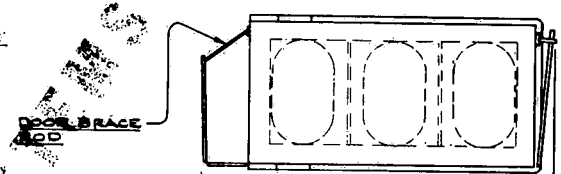
Refer to Specification ASCE-2011.

ITEM NO.	MODEL	TRAY CAPACITY	DIM. "A" TRAY SPACING
001	DL-B-C	24	NOM.
002	DR-B-C	24	NOM.
003	DL-B-C	27	NOM.
004	DR-B-C	27	NOM.
005	DL-B-C	30	4 5/16" NOM.
006	DR-B-C	30	4 5/16" NOM.
007	DL-B-C	33	4 1/16" NOM.
008	DR-B-C	33	4 1/16" NOM.

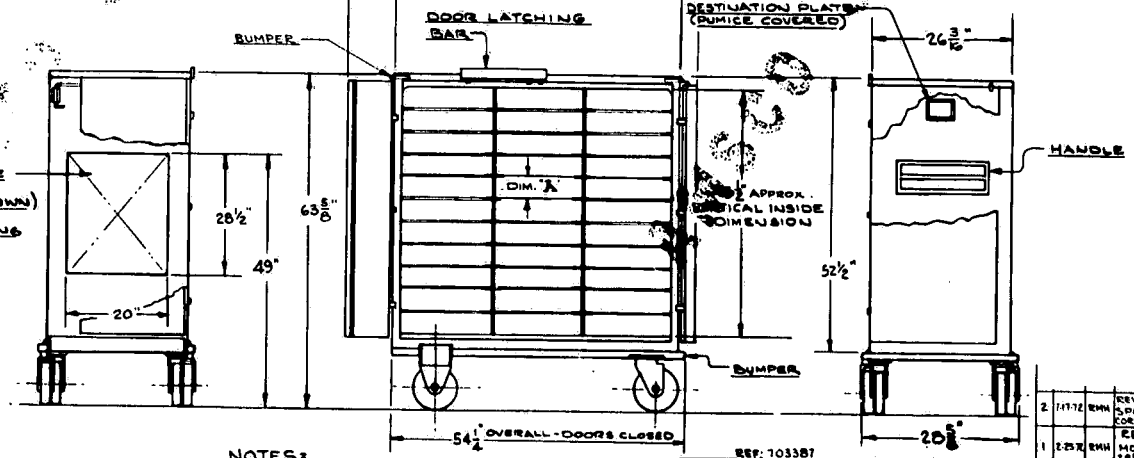


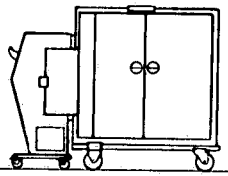
DL-B INSULATED MODULE (TYPE 'C') TRANSFER CARRIAGE ON AMSCAR. AMSCAR NOT PART OF THIS SPECIFICATION





MODEL DL-B-C SHOWN (DOORS ON LEFT SIDE)
MODEL DR-B-C SIMILAR EXCEPT DOORS ON RIGHT SIDE





INSULATED MODULE MATED TO REFRIGERATION UNIT. REFRIGERATION UNIT NOT IN THIS SPECIFICATION

NOTES:
1. MODULE IS INSULATED.
2. SHELVING FOR 15"x20" SIZE TRAYS.
3. MODULE SHOWN WITH DOORS OPEN.

REF: 703387

NO.	DATE	BY	REVISION
2	7-17-72	EHH	REV. TRAY SPACING, ADDED CORNER BUMPER
1	2-25-72	EHH	REVISED MODEL NOS. 005 THRU 008

AMSCO SYSTEMS COMPANY
AMSCO
3110 WEST 31ST STREET - ERIE, PENNSYLVANIA 16506

TITLE: AMSCAR MODULE, INSULATED DIETARY (MODEL DL-B-C & DR-B-C)
SCALE 1"=1'-0"
DRAWN B MJM
DWG. NO. 703319

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APPLICATION

The Amscar Transfer Carriage, Type C, shall carry an open or closed Module (General Purpose, Dietary, Linen, Pharmacy, etc.) which shall be bolted to its frame.

It shall enable a Module to be manually:

- loaded onto an AMSCAR;
- unloaded from an AMSCAR; and
- moved about when it is independent of the AMSCAR.

By placing a platform (optional feature) and a suitable handle over the open framework, the Carriage may also be employed to carry bulk goods and equipment.

DESIGN AND CONSTRUCTION

GENERAL

The Transfer Carriage shall be a dolly-type, maneuverable frame with two fixed caster assemblies and two swivel casters. It can become an integral part of the AMSCAR or can operate independently. When transferred onto an AMSCAR, it shall not increase the size of the AMSCAR beyond specified width restrictions.

DIMENSIONS AND WEIGHT

The overall length of the unit shall be 52-5/8"; width shall be 25-7/8"; and height shall be 12-15/16".

The weight of the Carriage shall be approximately 100 lbs.; load capacity shall not exceed 900 lbs. (maximum).

CASTER ASSEMBLIES

Four caster assemblies shall be rigidly attached to the frame. The front wheel casters shall be fixed; the rear wheel casters shall be swivel type for maneuvering the Carriage.

The casters shall be 8" diameter wheels with solid, heavy-duty tires.

TRANSFERRING CARRIAGE ONTO AMSCAR

The Carriage, with its load shall be transferred manually onto the AMSCAR. The rear swivel caster wheels shall assist an operator to initially align the front of the Carriage into position directly behind the AMSCAR. As the Carriage is pushed forward, two tapered guides mounted on the AMSCAR cover shall pilot the Carriage into proper loading position. The front wheel assembly shall raise off the floor.

The remaining portion of the Carriage shall slide over the AMSCAR cover with the rear wheels raised off the floor in the final position. When in final position, a locking device at the rear of the Carriage shall securely latch to the AMSCAR base.

Both the front and rear wheels shall be carried at a height (with loaded Module or bulk load) sufficient to ensure that the wheels do not engage the floor to the degree that the Carriage can become detached from the AMSCAR, provided the 6% maximum AMSCAR grade limitation is observed.

REMOVING CARRIAGE FROM AMSCAR

After an operator releases the locking device (by slight foot pressure), the Carriage, with its load, shall be manually slid back off the AMSCAR, engaging the rear wheels with the floor. The front wheel assembly shall engage the floor as the Carriage clears the AMSCAR.

MATERIALS

All exposed parts of the Carriage shall withstand deterioration from detergents and 200° F. water.

Frame - stainless steel

Mounting Rollers - molybdenum disulphide filled nylon, or equivalent such as phenolic

Casters - zinc plated steel

Tires - polyurethane, or equivalent

SECTION 2

OPERATING INSTRUCTIONS

2-1. GENERAL

The following instructions are intended to guide the serviceman: (1) when instructing operators in techniques designed to ensure optimum equipment performance; and (2) when verifying the validity of operator complaints. See Paragraph 3-6 TROUBLESHOOTING, if the Dietary Module or Refrigeration Unit is not operating properly. Refer to Section 1. GENERAL INFORMATION, for capabilities of the equipment.

2-2. DIETARY MODULE*

NOTE: The Dietary Module must be thoroughly cleaned before it is placed into operation . . . see Paragraph 3-4. The unit should be washed after each use.

Door Operation . . .

To open doors, place latch bar (located at the top center of Module) in the "UP" position (Fig. 2-1). The doors are then free to be opened.

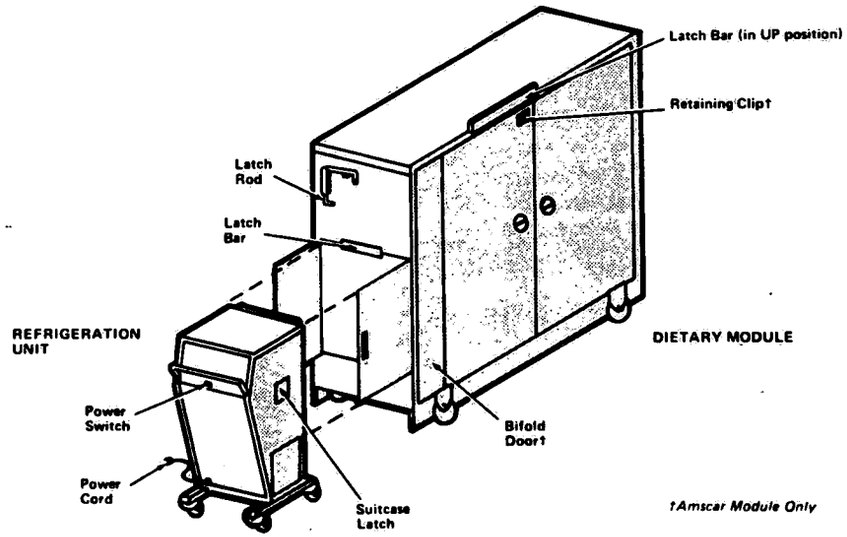

Figure 2-1. DIETARY MODULAR UNITS.

*When used hereinafter, designation may also include "Manual" for manually maneuvered Modules . . . or "Amscar" for especially designed Modules to be used with an AMSCAR.

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To latch doors in the open position, swing doors toward side panels. Lift latch rod (one on each side panel) and place rod in retaining clip, or over door.

NOTE: Special attention is required to ensure that Module doors are latched and latch rods are retracted and secured before Module is moved.

Loading . . .

The Dietary Module holds 15" x 20" trays. When loading unit, trays should be pushed onto rack until they contact stops on rack. Do not force trays beyond stops.

CAUTION: Use care when loading. The plastic liner has a durable finish coat which will provide long service and resist normal abrasion, scratches, etc.; puncturing the liner, however, could cause moisture absorption and render the unit inoperative.

Transporting

Manual Module . . .

Close and latch Module doors. Using push-pull bar recessed in Module side panel, push Module to its destination. Do not push on doors or panels.

Amscar Module . . .

Close and latch Module doors. Place Module on an AMSCAR by either of the following methods:

- align the two units and, using push-pull bar recessed in Amscar Module side panel, push Module onto the AMSCAR (Fig. 2-2). Do not push on doors or panels. A distinct latching sound will be heard when Amscar Module is fully engaged. (There should be a 3/8" space between Module and AMSCAR.)

or

- align the two units, lower rubber stops on the Amscar Module swivel casters against the floor; and then proceed to power the AMSCAR under the Module. Raise stops when two units are fully engaged. (There should be a 3/8" space between Module and AMSCAR.)

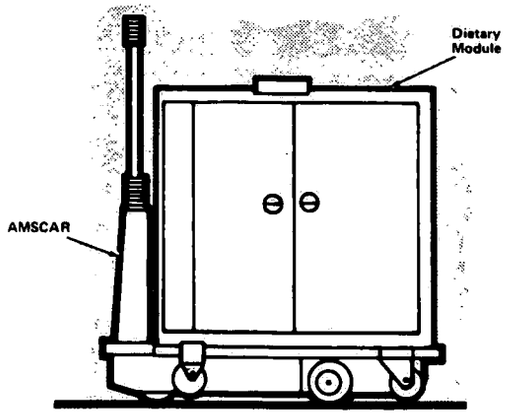

Figure 2-2. AMSCAR MODULE MOUNTED ON AMSCAR.

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Disengage Amscar Module and AMSCAR by either of the following methods:

- depress pedal at bottom of side panel; pull Amscar Module from AMSCAR, using the push-pull bar. Do not pull on doors or panels.

or

- depress pedal at bottom of side panel, lower caster stops against floor and then power the AMSCAR from under the Module. Stops may be raised when Amscar Module is free of AMSCAR.

CAUTION: When moving the Dietary Module, do not use doors for handholds: use push-pull bar on side panel. Damage to doors could result if this caution is not observed.

2-3. REFRIGERATION UNIT

CAUTION: The Refrigeration Unit should be plugged in only when it is latched to the Dietary Module. Otherwise, excessive frost buildup could occur on the evaporator coils.

Latching Refrigeration Unit Onto Dietary Module . . .

Lift latch bar on Dietary Module side panel to allow doors to be opened (Fig. 2-1). Open doors and align Refrigeration Unit with opening in Dietary Module side panel. So position Refrigeration Unit that its gasket is flush against the Dietary Module. Swing suitcase-type latches on sides of Refrigeration Unit outward and then forward to engage with side doors of Dietary Module. After engaging latches, swing them backward to lock the Units together . . . see Fig. 2-3.

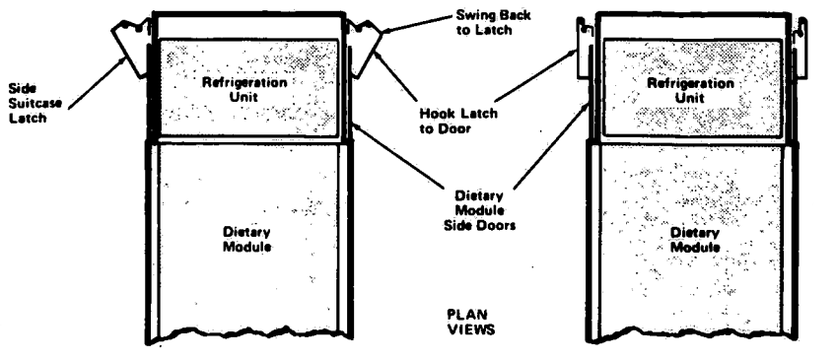

Figure 2-3. COUPLING THE UNITS.

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Operating the Refrigeration Unit . . .

Open Dietary Module doors and check contents of Module to ensure that no large objects will block or restrict air flow between the two units. Then close and latch Dietary Module doors.

Plug Refrigeration Unit power cord into a grounded, 120-volt, 60-Hz (20 amp) electrical outlet. Press power switch to ON . . . see Fig. 2-1.

NOTE: The Refrigeration Unit is preset to lower air temperature within the Dietary Module to 38 ± 5 F, approximately 40 minutes after electrical connection has been made. The thermostat will automatically maintain system at the preset temperature. The Dietary Module doors must remain shut during cooling period. □□

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SECTION 3

INSPECTION AND MAINTENANCE

3-1. GENERAL

The maintenance described in Paragraphs 3-2 through 3-5 should be performed periodically. The frequency, unless otherwise indicated, is determined by usage of the equipment. Should a problem occur with the equipment, or if it will not operate as described in Paragraph 3-2, refer to Paragraph 3-6. TROUBLESHOOTING.

3-2. PERFORMANCE VERIFICATION

1. Inspect Dietary Module and Refrigeration Unit for damage, faulty electrical connections or misaligned parts.

a. Tighten or replace loose fasteners and seal them with silicone adhesive (Par. 4-5) to prevent moisture entrapment between Module walls.

b. When replacing threaded fasteners, use "Locquic Primer" and "Loctite Stud Lock" (AMSCO Part R-5300-547 and R-5300-548 respectively, manufactured by Loctite Corporation) or equivalent thread-bonding agents to prevent the fasteners from loosening. Follow directions on the containers.

2. Open and close Module doors; check for smoothness of operation and proper hinge alignment. (Note: Do not use Module in dietary system if doors will not close and latch properly.)

3. Check condition of silicone sealant in corners of cabinet. Refer to Paragraph 4-5 if replacement is required.

4. Latch Refrigeration Unit onto Dietary Module (Par. 2-3); operate and test their performance at ambient of 75 to 90 F as follows:

a. Suspend a thermocouple within the Dietary Module approximately 3 to 4 inches below top, on side opposite Refrigeration Unit opening. Connect thermocouple lead wires to a potentiometer.*

b. Plug Refrigeration Unit power cord into a grounded 120-volt, 60-Hz (20 amp) electrical outlet. Press Power Switch to ON.

c. Observe potentiometric reading and note time required for Refrigeration Unit to lower Module air temperature to 38 F ± 5 F. (It should not exceed 40 minutes.) Continue to observe potentiometric reading to be sure the temperature is continuously maintained in this range.

d. Remove lower cover from switch side of Refrigeration Unit and check evaporator tray; it should not be overflowing. Replace the cover.

NOTE: Should the Refrigeration Unit not perform as described above, a probable cause would be one of the following items: (1) inadequate sealing of joints between Dietary Module and Refrigeration Unit; or (2) inadequate sealing of Module doors. Check these items before proceeding to troubleshoot the refrigeration system.

e. Press Power Switch to OFF and remove thermocouple from Dietary Module.

3-3. PREVENTIVE MAINTENANCE

Weekly . . .

Lubricate Module caster wheels with LUBRIPLATE NO. 630-AA (AMSCO Part R-6400-115, manufactured by Fiske Brothers Refining Co.), or equivalent. Wipe off excess.

IMPORTANT: Use lubricants sparingly. A program of minimum lubrication at more frequent intervals is recommended to prolong the life of components. Also it helps replace lubricants removed by mechanical washing equipment.

**Leeds and Northrup (Philadelphia, Pa.) Catalog No. 8693, or equivalent.*

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Monthly . . .

1. Apply a drop of pure mineral oil (such as 3 in 1, manufactured by Boyle-Midway Inc.) to edge of each roller on underside of Amscar Module Transfer Carriage.

2. Remove Refrigeration Unit front panel (one containing the power switch) for access to condensing unit coil. Vacuum or blow away any dust or dirt that may have accumulated on the coils. Examine electrical components for loose wires or improper connections. Replace the panel.

3. Vacuum compartment grilles on both the side and back of Refrigeration Unit.

Semi-Annually . . .

Lubricate Module caster swivels with LUBRI-PLATE NO. 630-AA (AMSCO Part R-6400-115, manufactured by Fiske Brothers Refining Co.), or equivalent. Wipe off excess.

3-4. CLEANING

NOTE: The Dietary Module must be kept clean to prevent the growth of microorganisms. Therefore it should be washed after each use.

To manually clean a Module:

1. Use a mild detergent solution such as Calgonite® (Calgon Corporation) to wash interior and non-stainless steel exterior surfaces.

2. Rinse with tap water using a sponge or damp cloth.

3. Wipe dry with a lint-free cloth.

To mechanically clean a Module:

Manual Module . . .

1. Open doors approximately 270°. Lift door hatch rods (Fig. 3-1) and pivot them over top of doors. Allow rods to drop, thus hooking doors and holding them open.

2. Position Module in an especially designed cart washer. Initiate the cycle.

3. After cycle is complete, remove Module from Washer and close Module doors.

Amscar Module . . .

1. Mount Amscar Module on an AMSCAR . . . see Paragraph 2-2.

2. Open large door approximately 270° (Fig. 3-1). Lift door latch rod and pivot it over top of door. Allow rod to drop thus hooking door and holding it open.

3. Open bifold doors to position shown in Figure 3-1. Lift latch rod and swing it to a position above center door retaining clip. Allow the rod to drop and engage in retaining clip.

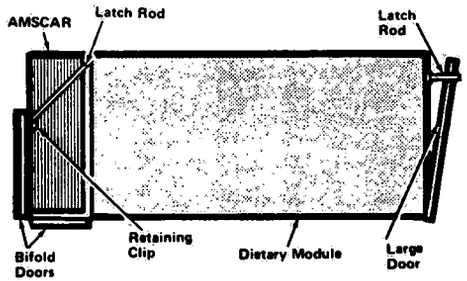

Figure 3-1. POSITIONING MODULE ON AMSCAR.

4. Position AMSCAR in an especially designed cart washer. Initiate the cycle.

5. After cycle is complete, remove AMSCAR from the washer; close Module doors.

3-5. POLISHING

Use *AMSCO STAINLESS STEEL CLEANER AND POLISH* on all Module and Refrigeration Unit stainless-steel surfaces. Apply cleaner with a damp cloth or sponge, thoroughly wipe off and then polish with a clean, dry cloth. Use *AMSCO PRY CLEANER* to remove stubborn stains.

CAUTION: When using *AMSCO STAINLESS STEEL CLEANER AND POLISH* or *AMSCO PRY CLEANER*, rub in a back-and-forth motion (in the same direction as the surface grain). Do not rub with a rotary or circular motion. Do not use these cleaners on painted surfaces. Follow directions on the containers.

3-6. TROUBLESHOOTING

1. Use operating procedures presented in Section 2 to verify trouble symptoms.

2. After a symptom has been verified, refer to Table 3-1. From the table, select the example that is most appropriate to your problem. Follow recommended correction.

3. Use electrical schematic (Fig. 3-2) as an aid in locating and understanding operation of the Refrigeration Unit.

4. Refer to Section 4, COMPONENT REPAIR AND REPLACEMENT. □□

TABLE 3-1. TROUBLESHOOTING CHART

PROBLEM	CORRECTION
1. Refrigeration Unit won't operate	a. Check for power at Wall Receptacle; be sure Refrigeration Unit is plugged in b. Press Power Switch to ON c. Check Thermostat, adjust, repair or replace, as necessary d. Have a qualified refrigeration serviceman check the Refrigeration System **WARNING: DO NOT ATTEMPT TO CHANGE THE REFRIGERANT CHARGE. HAVE THIS DONE BY A QUALIFIED REFRIGERATION SERVICEMAN.**
2. Refrigeration Unit starts but will not maintain Module at the proper temperature	a. Be sure Module Load is not blocking air flow between Module and Refrigeration Unit b. Be sure Module doors are closed and that Refrigeration Unit and Module are properly latched. c. Inspect Door Gaskets, replace, if necessary d. Vacuum the Refrigeration Unit Condensing Coil e. Check condition of Sealant in corners of Module Cabinet, remove and replace, if necessary

TABLE 3-1. CONTINUED

PROBLEM	CORRECTION
2. Continued	f. Check Thermostat operation: adjust, repair or replace, as necessary g. Have a qualified refrigeration serviceman check the Refrigeration System **WARNING: DO NOT ATTEMPT TO CHANGE THE REFRIGERANT CHARGE. HAVE THIS DONE BY A QUALIFIED REFRIGERATION SERVICEMAN.**
3. Dietary Module and Refrigeration Unit will not properly align	a. Be sure Module Load is not interfering with Refrigeration Unit alignment b. Be sure Module Side Doors are not bent and that Hinges are properly aligned c. Check Latches for tightness and proper alignment
4. Transfer Carriage does not latch on AMSCAR	a. Be sure end with Fixed Casters is being placed on AMSCAR first b. Be sure Carriage Block Assembly contacts Stop Block on AMSCAR c. Check AMSCAR Locking Mechanism: repair or replace, as necessary

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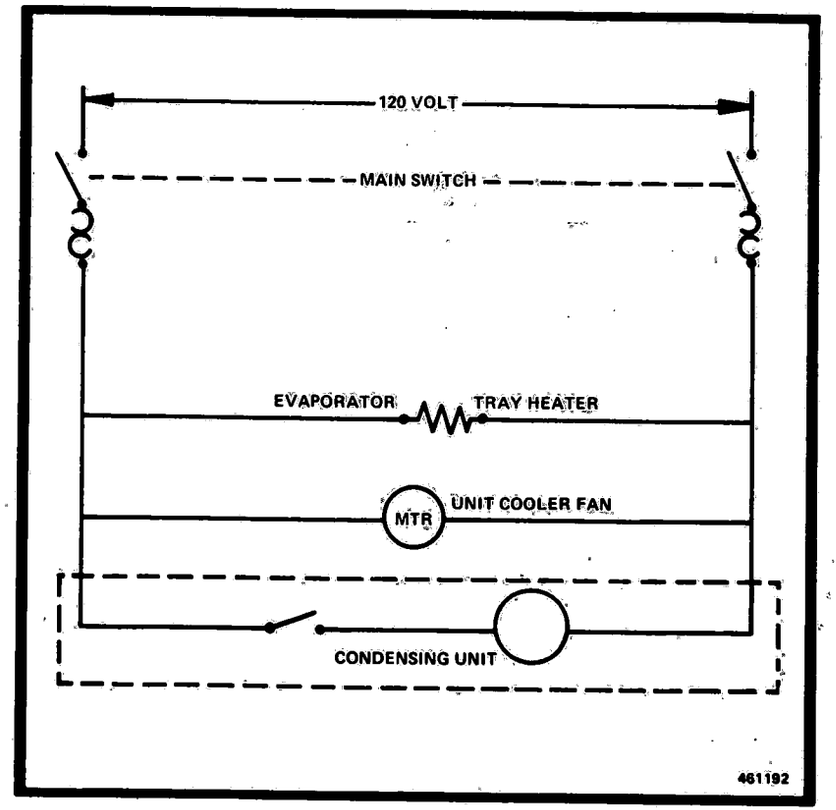

Figure 3-2. REFRIGERATION UNIT ELECTRICAL SCHEMATIC.

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SECTION 4

COMPONENT REPAIR AND REPLACEMENT

4-1. GENERAL

This section includes instructions for the disassembly, repair, and replacement of selected components. Illustrations of the various parts and assemblies referred to in this section are in Section 5.

4-2. REFRIGERATION ASSEMBLY (Fig. 5-2)

WARNING: HAVE A QUALIFIED REFRIGERATION SERVICEMAN CHECK AND SERVICE ANY ITEMS WHICH AFFECT THE REFRIGERANT CHARGE. (TABLE 4-1). UNDER NO CIRCUMSTANCES SHOULD UNQUALIFIED PERSONS ATTEMPT TO PERFORM SUCH SERVICE.

TABLE 4-1
REFRIGERATION ASSEMBLY SERVICE DATA

Type of Refrigerant	R-12
Refrigerant Charge	4 lbs +0, -4 oz
Pressure Control Settings	
Cut-in	35 lbs
Cut-out	17 lbs

4-3. REFRIGERATION UNIT POWER SWITCH (Fig. 5-2)

Replacement

1. Remove screws (7) which secure upper panel (containing power switch) to Refrigeration Unit.

2. Remove hex nuts and switch cover from back of panel.

3. Disconnect wiring at back of switch (9).

4. Remove the four screws (from front of panel) which secure switch and protective cover (18) to front panel.

5. Replace items in reverse order. Be sure protective cover is positioned between switch and panel.

4-4. REFRIGERATION UNIT GASKET (Fig. 5-2)

Replacement

1. Lift gasket (1) slightly to expose and remove the four (two top and two bottom) slot-head screws which secure grill assembly to Refrigeration Unit.

2. Lift gasket and remove remaining Phillips-head screws (2) from gasket perimeter.

3. Remove gasket from grill and clean the gasket area.

4. Place new gasket on grill. Lift front of gasket and drill (No. 36) thru gasket mounting surface using existing holes in grill as guides.

5. Mount gasket and grill on frame assembly with the screws removed in step 2.

6. Replace grill assembly with the screws removed in step 1.

4-5. DIETARY MODULE DOOR GASKET (Fig. 5-1)

Replacement

1. Open Module doors and remove screws (21) which secure gasket bars to face of plastic liner. Remove the bars.

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2. Carefully "peel" gasket (20) from liner. Use flat surface of a putty knife or similar instrument to remove silicone sealant.

CAUTION: Do not use corner of putty knife or any sharp instrument on the plastic liner.

3. Refer to Paragraph 4-7 and clean remaining sealant from liner and gasket bar surfaces.

4. Apply a thin coat of Silastic® No. 732 RTV or General Electric RTV-108 translucent silicone sealant (AMSCO Part 431178, manufactured by Dow Corning Corp. and General Electric Co. respectively) on liner gasket surface.

5. Position gasket on liner and secure with gasket bar and screws removed in step 1. Tighten screws just enough to hold gasket.

6. Tighten gasket bars alternately until almost snug.

7. If gasket appears firmly seated under gasket bars and is flat on liner surface, snug gasket bar retaining screws.

8. Remove excess sealant (Par. 4-7).

4-6. DIETARY MODULE DOOR LINER (Fig. 5-1)

Replacement

1. Remove screws which secure liner to inside of door pan (3, 5 or 12).

2. Remove liner and insulation sheet from door. Use flat side of a putty knife or similar instrument to separate silicone sealant. Save insulation for use with new liner. Do not discard old liner until step 4 is complete.

3. Refer to Paragraph 4-7 and clean remaining sealant from door pan and screws.

4. Use existing holes in old liner and guides, drill (No. 36) mounting holes around perimeter of new liner.

5. Apply a thin coat of Silastic® No. 732 RTV or General Electric RTV-108 translucent silicone sealant (AMSCO Part 431178, manufactured by the Dow Corning Corp. and General Electric Co. respectively) around inside perimeter of new liner and position liner and insulation sheet on door.

6. Apply a slight amount of sealant to each liner mounting hole and then replace and secure screws removed in step 1.

7. Remove excess sealant (Par. 4-7).

4-7. REMOVING AND REPLACING SILICONE SEALANT

1. Remove excess sealant with flat side of a putty knife or similar instrument.

CAUTION: To avoid scratching the surface when removing silicone sealant, use a flat instrument. Do not use the corner of say a putty knife or other sharp instrument.

2. Use Dow Corning® No. 1205 Primer (Dow Corning Corporation) or equivalent to remove remaining sealant and to prepare the surface for a new application of sealant. Follow directions on container.

3. Apply Silastic® No. 732 RTV or General Electric RTV-108 translucent silicone sealant (AMSCO Part 431178, manufactured by the Dow Corning Corp. and General Electric Co. respectively) sparingly; remove excess sealant with primer mentioned in step 2.

4-8. REMOVING AND REPLACING RIVETED FASTENINGS

1. Be sure rivet pin is below opening in rivet head.

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2. Using a 7/32" or 1/4" high-carbon steel drill (rivets are stainless steel), remove pin by drilling through opening in rivet head. Use caution: Drill only far enough to remove rivet.

3. Remove and replace item which was secured by the rivets.

4. Use only stainless-steel pop rivets (Fig. 5-1, 18) or self-tapping screws when replacing fastener. □ □

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SECTION 5

ILLUSTRATIONS AND PARTS LISTS

The following pages contain an illustrated parts breakdown for the Dietary Module, Refrigeration Unit and Transfer Carriage.

Index numbers are not assigned to parts with little or no maintenance replacement frequency, nor to commercial hardware. Such are illustrated merely to aid in the various assembly and disassembly procedures covered in this manual. Parts not identified should either be ordered from AMSCO (by description) or procured locally as the situation dictates. When ordering by description, include (from the parts list) the number of the assembly on which the part is located.

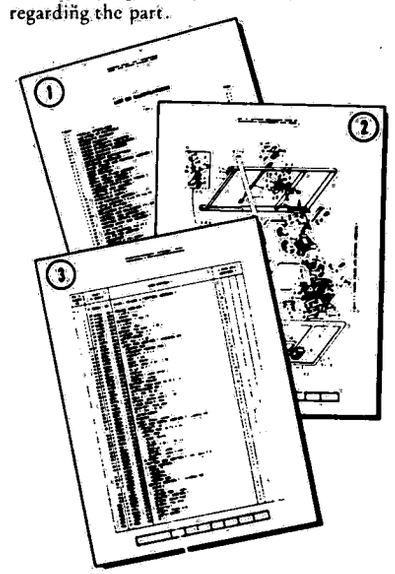
The numbers, descriptions and quantities of the parts listed on the subsequent pages are those required for a single Dietary Module, Refrigeration Unit or Transfer Carriage. The UNITS PER ASSEMBLY column, specific to a given assembly or subassembly, is indicated by an asterisk.

HOW TO USE THE ILLUSTRATED PARTS BREAKDOWN

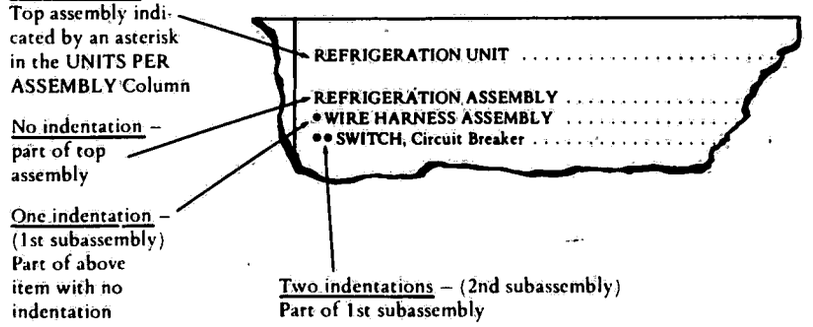
1. Determine the function and application of the parts required. Turn to the List of Illustrations and select the most appropriate title. Note the illustration page number.

2. Turn to the page indicated and locate the desired part on the illustration.

3. From the illustration, obtain the index number assigned to the part desired. Refer to the accompanying description for specific information regarding the part.



DEFINITION OF INDENTATIONS:



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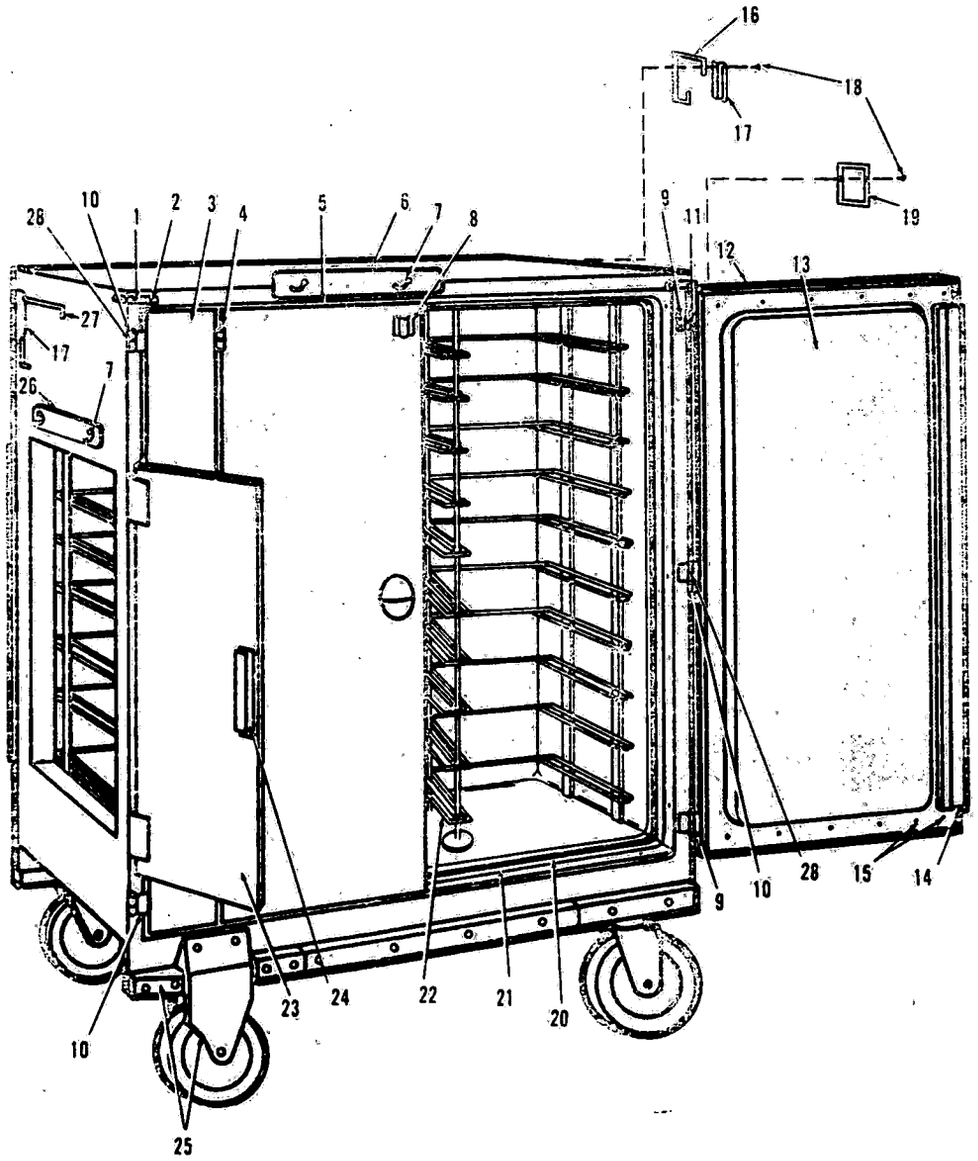

Figure 5-1. DIETARY MODULE, Left-hand Unit† Shown.

† Refrigeration Unit opening to left when facing Module doors.

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-1-		DIETARY MODULE, AMSCAR (Left Hand)	*			
		DIETARY MODULE, AMSCAR (Right Hand)		*		
		DIETARY MODULE, Manual Push (Left Hand)			*	
		DIETARY MODULE, Manual Push (Right Hand)				*
1	P-453048-091	BUMPER	2	2	2	2
2	P-431201-091	SCREW, Round-head (No. 6x1/2", Type B)	8	8	8	8
3	P-465880-001	DOOR, Small	1	1		
	P-465869-001	•LINER, Inner (Not Shown)	1	1		
	P-430364-091	•SCREW, Phillips-head (No. 6-32, Spec. Oval) – Not Shown	17	17		
	P-453441-091	•GASKET, Door Edge (Not Shown)	1	1		
4	P-461101-091	HINGE ASSEMBLY	2	1		
	P-461102-091	HINGE ASSEMBLY	1	2		
5	P-467847-001	DOOR, Center	1			
	P-467847-002	DOOR, Center		1		
	P-465956-002	DOOR, Left Hand			1	1
	P-465869-002	•LINER, Inner (Not Shown)	1	1		
	P-465869-003	•LINER, Inner (Not Shown)			1	1
	P-430364-091	•SCREW, Phillips-head (No. 6-32, Spec. Oval) – Not Shown	12	12	14	14
6	461325-001	BAR, Latching	1	1	1	1
7	P-453080-001	STUD, Latching Bar	4	4	4	4
8	P-451960-091	STRAP, Door Retaining	1	1		
9	P-461099-091	HINGE ASSEMBLY	3	3	3	3
10	P-461100-091	HINGE ASSEMBLY	3	3	3	3
11	P-452518-091	SCREW, Flat-head (No. 10-32x1/2")	36	36	24	24
12	465881-001	DOOR, Right Hand	1		1	1
	465881-002	DOOR, Left Hand		1		
13	465869-003	•LINER, Inner	1	1	1	1
14	P-453441-001	•GASKET, Door Edge	1	1	1	1
15	P-430364-091	•SCREW, Phillips-head (No. 6-32, Spec. Oval)	25	25	25	25
16	P-452371-091	ROD, Door Brace	1	1	1	1
17	P-460880-091	STRAP, Case Retaining	2	2	2	2
18	P-451422-091	RIVET, Pop – Stainless-steel	84	84	84	84
19	P-452527-091	PLATE, Destination	1	1	1	1
20	P-453084-001	GASKET, Door	1	1	1	1
21	P-430364-091	SCREW, Phillips-head (No. 6-32, Spec. Oval)	74	74	74	74
22	467877-001	RACK ASSEMBLY, 30 Tray Capacity	A/R	A/R	A/R	A/R
	467887-002	RACK ASSEMBLY, 33 Tray Capacity	A/R	A/R	A/R	A/R
23	P-461179-001	PANEL, Cover	2	2	2	2
24	453249-001	•FLAP, Rubber	2	2	2	2
25	707390-001	CARRIAGE, Transfer – See Figure 5-3	1	1		
	707431-001	CARRIAGE, Transfer – See Figure 5-3			1	1
26	P-460877-091	BAR, Latching	1	1	1	1
27	P-451959-091	ROD, Door Brace	1	1		
	P-452371-091	ROD, Door Brace			1	1
28	P-452443-001	WASHER, Shim (0.031" Thick)	A/R	A/R	A/R	A/R
	P-452443-002	WASHER, Shim (0.046" Thick)	A/R	A/R	A/R	A/R
	P-452443-003	WASHER, Shim (0.062" Thick)	A/R	A/R	A/R	A/R
	P-452443-004	WASHER, Shim (0.093" Thick)	A/R	A/R	A/R	A/R

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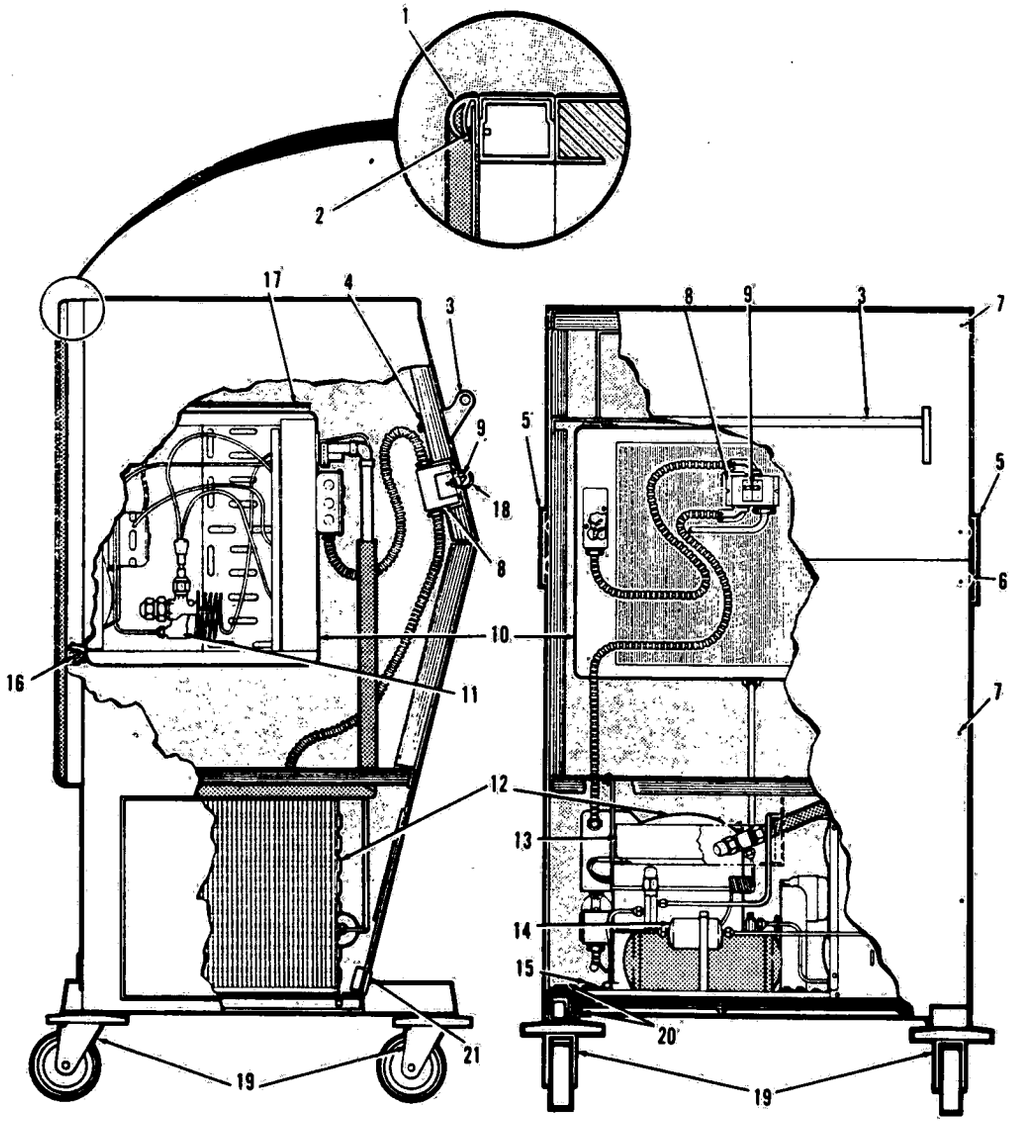

Figure 5-2. REFRIGERATION UNIT.

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY
5-2-	P-467724-001	REFRIGERATION UNIT	*
1	P-453052-091	GASKET, Grill Assembly	1
2	P-48063-042	SCREW, Phillips-head (No. 6x3/8", Type A)	12
	P-430361	SCREW, Oval-head (No. 6x1-1/2", Type A)	4
3	P-452400-001	BAR, Pull	1
4	430347	BOLT, Hex-head (1/4-20x5/8")	2
5	461190-001	LATCH, Cart	2
6	P-430383-042	SCREW, Pan-head (No. 8-32x3/8", Type 1)	10
7	P-430405	SCREW, Phillips-head (No. 8x1/2", Type A, Spec. Oval)	10
	P-467811-001	REFRIGERATION ASSEMBLY	1
8	465815-001	•WIRE HARNESS ASSEMBLY	1
9	P-453487-001	••SWITCH, Circuit Breaker	1
10	P-461156-091	•UNIT COOLER	1
11	452989-001	•VALVE, Expansion	1
12	460892-001	•CONDENSING UNIT	1
13	452397-001	•EVAPORATOR	1
14	P-452551-091	•FILTER DRYER	1
15	P-4003-051	SCREW, Round-head (1/4-20x1-1/4")	4
16	P-460895-001	GASKET, Cooler	1
17	P-430344-091	SCREW, Button-head (No. 8-32x1/2", Type A)	4
18	453488-001	COVER, Protective	1
19	P-453057-001	CASTER, Swivel	4
20	430383	SCREW, Round-head (No. 10-24x1/2")	14
21	430202	GASKET, Power Cord (5-1/2" Long)	1

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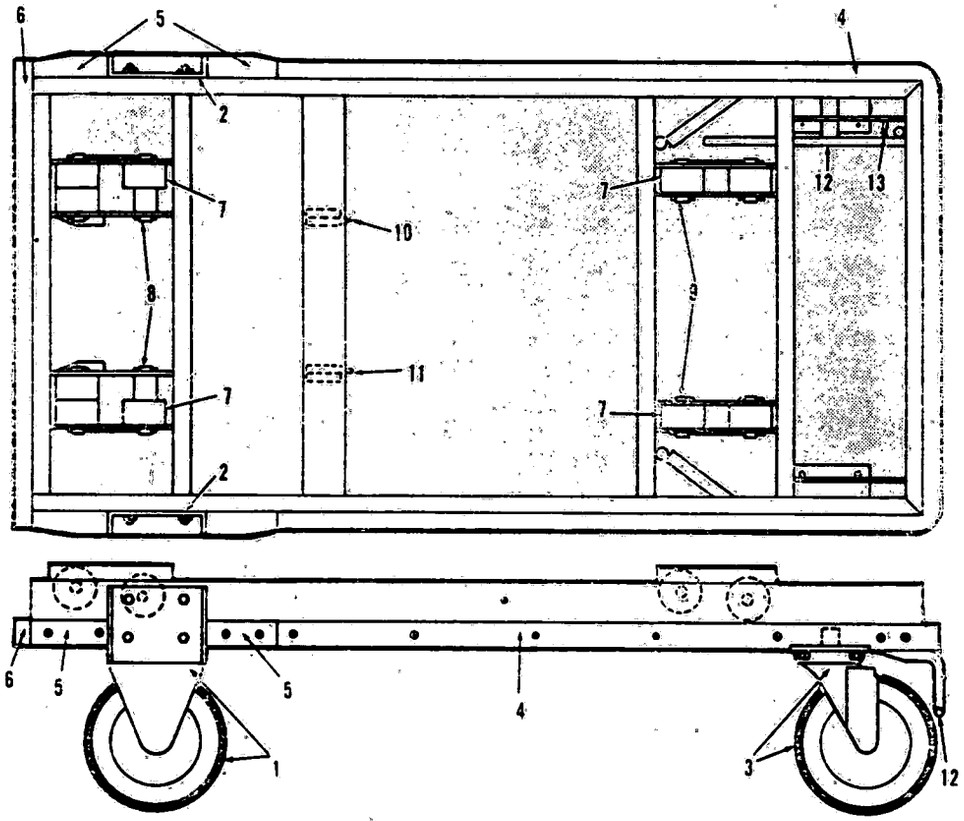

Figure 5-3. TRANSFER CARRIAGE.

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FIG. & INDEX NO.	PART NUMBER	DESCRIPTION	UNITS PER ASSEMBLY			
5-3-	707390-001	TRANSFER CARRIAGE, AMSCAR	*			
	707431-001	TRANSFER CARRIAGE, Manual Push		*		
1	P-703333-091	CASTER ASSEMBLY, Rigid	2	2		
2	701916	SPACER, Shim	3	3		
3	P-707337-091	CASTER ASSEMBLY, Swivel	2			
	707345	CASTER ASSEMBLY, Swivel		2		
4	P-707335-091	BUMPER, Wrap-around	1	1		
5	P-701915-091	BUMPER, Short	4	4		
6	703412	BUMPER, Front		1		
7	P-701229-091	ROLLER	10			
8	701225	AXLE, Double Roller	4			
9	701231	AXLE, Single Roller	4			
10	701908	GUIDE BLOCK, Left	2			
11	701904	GUIDE BLOCK, Right	2			
12	707388	LATCH ASSEMBLY	1			
13	P-701235-091	SPRING	1			

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(REV. 3/77)

AMSCO SERVICE

DIETARY MODULE WITH REFRIGERATION UNIT
P-757570-002

(3/77)