



INSTALLATION AND SERVICE MANUAL

**29425
CABINET**

Manual Part No. 29425-90001
Microfiche Part No. 29425-90004

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OPTIONS COVERED

This manual covers option 015 as well as the standard
HP 29425A and HP 29425B Cabinets.

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LIST OF EFFECTIVE PAGES

Changed pages are identified by a change number adjacent to the page number. Changed information is indicated by a vertical line in the margin of the page. Original pages (Change 0) do not include a change number. Insert latest changed pages and destroy superseded pages.

Change 0 (Original)NOV 1979

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CHANGE

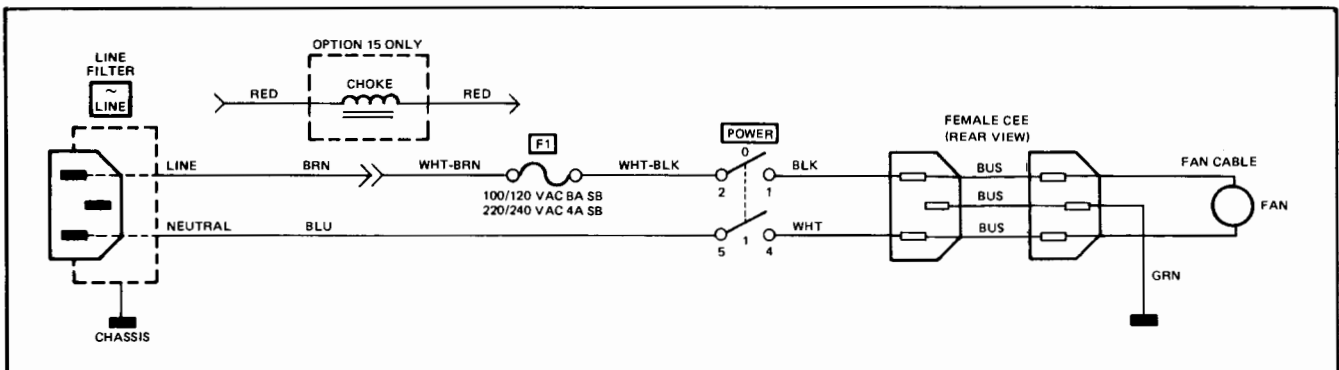
DESCRIPTION

- 1 Page 2-5, paragraph 2-12, step c. Delete the first four lines of the step and replace with the following:
Power panel assemblies, part no. 29425-60009 and 29425-60014, are supplied with a standard 120 Vac power cord. For the Option 015 power panels, part no. 29425-60010 and 29425-60015, an appropriate power cord is supplied with the disc drive.
- 2 Page 3-1, paragraph 3-4, line 12. Change sentence beginning "Figures 3-1, 3-2, . . ." to read:
"Figures 3-1 through 3-4 are wiring diagrams of the power panel assemblies."
- 3 Page 3-1, paragraph 3-5, line 6. Change "figure 3-4" to "figure 3-5".
- 4 Page 3-3, figure 3-3. After figure 3-3, insert figure 3-4 from this supplement.
- 5 Page 3-7, figure 3-4. Change "Figure 3-4" to "Figure 3-5".
- 6 Page 4-1, paragraph 4-1, lines 4 through 6. Change sentence beginning "Replaceable parts for the cabinet . . ." to read:
"Replaceable parts for the cabinet are listed in disassembly order in tables 4-1 through 4-7 and illustrated in figures 4-1 through 4-7."
- 7 Page 4-1, paragraph 4-1, step c, line 2. Change "table 4-7" to "table 4-8".
- 8 Page 4-1, paragraph 4-1, step d, line 2. Change "table 4-8" to "table 4-9".
- 9 Page 4-2, table 4-1, index no. 14. At end of entry (6th line), add the following:

HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
29425-60014*	* POWER PANEL ASSEMBLY (See figure 4-7)	28480	29425-60014	1
29425-60015*	* POWER PANEL ASSEMBLY (Option 015) (See figure 4-7)	28480	29425-60015	REF

* Used on 29425B Cabinets with serial numbers prefixed 2018 and later.

- 10 Page 4-2, table 4-1, notes at bottom of page. Change note identified by solid circle (●) to read:
Used on 29425B Cabinets with serial numbers prefixed 2017 and prior.
- 11 Page 4-12, table 4-6, note at bottom of page. Change note to read:
Used on 29425B Cabinets with serial numbers prefixed 2017 and prior.
- 12 Page 4-13, figure 4-6. After figure 4-6, add table 4-7 and figure 4-7 from this supplement.



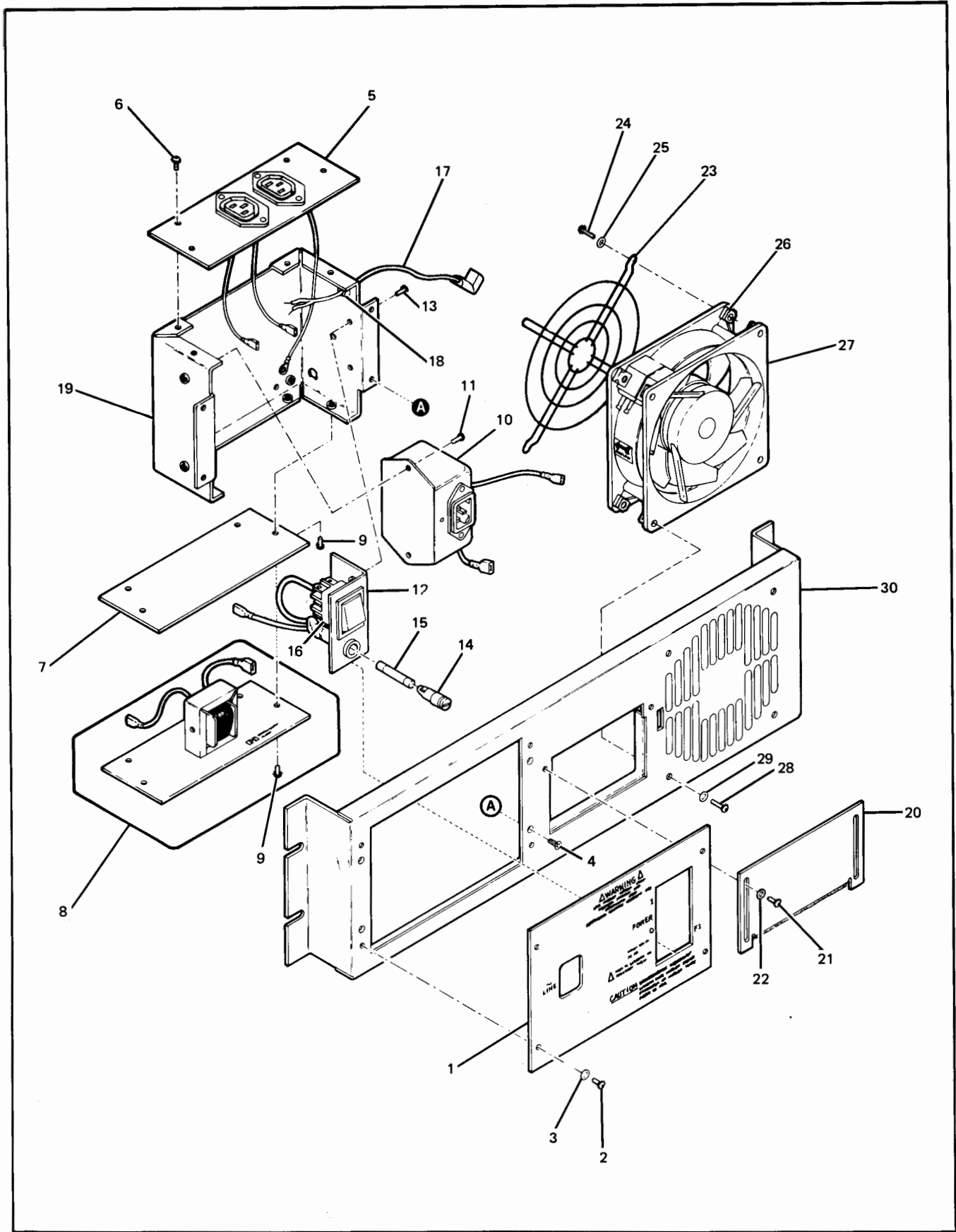
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Figure 3-4. Power Panel Assembly (Part no. 29425-60014 and 29425-60015), Wiring Diagram

Table 4-7. Power Panel Assembly (Part no. 29425-60014 and 29425-60015), Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
1	29425-60014 [▲]	POWER PANEL ASSEMBLY (14, figure 4-1)	28480	29425-60014	REF
	29425-60015 [▲]	POWER PANEL ASSEMBLY (Option 015) (14, figure 4-1)	28480	29425-60015	REF
	29425-00012	*ACCESS PLATE	28480	29425-00012	1
	29425-00013	*ACCESS PLATE (Option 015) (Attaching Parts)	28480	29425-00013	REF
2	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	4
3	3050-0407	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
4	2360-0181	*SCREW, machine, 82-deg fh, pozi, 6-32, 0.250 in. long	00000	OBD	4
5	29425-60016	*RECEPTACLE PLATE ASSEMBLY (Attaching Parts)	28480	29425-60016	1
6	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	4
7	29425-00014	*PLATE, bottom	28480	29425-00014	1
8	29425-60013	*INDUCTOR ASSEMBLY (Option 015) (Attaching Parts)	28480	29425-60013	REF
9	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	4
10	29425-60017	*LINE FILTER ASSEMBLY (Attaching Parts)	28480	29425-60017	1
11	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	2
12	29425-60018	*SWITCH ASSEMBLY (Attaching Parts)	28480	29425-60018	1
13	2360-0115	*SCREW, machine, ph, pozi, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	3
14	2110-0565	**CAP, fuseholder	28480	2110-0565	1
15	2110-0383	**FUSE, 8A, 250V, Slo-Blo	71400	MDA-8	1
	2110-0365	**FUSE, 4A, 250V, Slo-Blo (Option 015)	71400	MDA-4AMP	REF
16	3101-2399	**SWITCH, rocker, DPDT	02392	9221J3Z4Q	1
17	8120-1478	*CORD, fan	28480	8120-1478	1
18	0400-0013	*GROMMET	28480	0400-0013	1
19	29425-00017	*CHASSIS, power panel	28480	29425-00017	1
20	1600-0555	*SHUTTER (Attaching Parts)	28480	1600-0555	1
21	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	2
22	2190-0464	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	2
23	3160-0099	*GUARD, fan (Attaching Parts)	28480	3160-0099	1
24	2360-0123	*SCREW, machine, ph, pozi, 6-32, 0.625 in. long	00000	OBD	4
25	3050-0464	*WASHER, flat, no. 6	00000	OBD	4
26	0590-0653	*NUT, sheetmetal-U, 6-32 — — — x — — —	00000	OBD	4
27	3160-0341	*FAN, 120 Vac	28875	BS2107F-510H	1
	3160-0342	*FAN, 240 Vac (Option 015) (Attaching Parts)	28875	BS2107F-531H	REF
28	2360-0123	*SCREW, machine, ph, pozi, 6-32, 0.625 in. long	00000	OBD	4
29	2190-0464	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
30	29421-00006	*PANEL	28480	29421-0006	1

[▲] Used on HP 29425B Cabinets with serial numbers prefixed 2018 and later.



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Figure 4-7. Power Panel Assembly (Part no. 29425-60014 and 29425-60015), Exploded View

29425

US-5/US-6

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SAFETY CONSIDERATIONS

KEEP WITH MANUAL

GENERAL - This product and related documentation must be reviewed for familiarization with safety markings and instructions before operation.

SAFETY SYMBOLS



Instruction manual symbol: the product will be marked with this symbol when it is necessary for the user to refer to the instruction manual in order to protect the product against damage.



Indicates hazardous voltages.



Indicates earth (ground) terminal (sometimes used in manual to indicate circuit common connected to grounded chassis).

WARNING

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in injury. Do not proceed beyond a WARNING sign until the indicated conditions are fully understood and met.

CAUTION

The CAUTION sign denotes a hazard. It calls attention to an operating procedure, practice, or the like, which, if not correctly performed or adhered to, could result in damage to or destruction of part or all of the product. Do not proceed beyond a CAUTION sign until the indicated conditions are fully understood and met.

SAFETY EARTH GROUND - This is a safety class I product and is provided with a protective earthing terminal. An uninterruptible safety earth ground must be provided from the main power source to the product input wiring terminals, power cord, or supplied power cord set. Whenever it is likely that the protection has been impaired, the product must be made inoperative and be secured against any unintended operation.

BEFORE APPLYING POWER - Verify that the product is configured to match the available main power source per the input power configuration instructions provided in this manual.

If this product is to be energized via an auto-transformer (for voltage reduction) make sure the common terminal is connected to the earth terminal of the main power source.

SERVICING

WARNING

Any servicing, adjustment, maintenance, or repair of this product must be performed only by service-trained personnel.

Adjustments described in this manual may be performed with power supplied to the product while protective covers are removed. Energy available at many points may, if contacted, result in personal injury.

Capacitors inside this product may still be charged even when disconnected from its power source.

To avoid a fire hazard, only fuses with the required current rating and of the specified type (normal blow, time delay, etc.) are to be used for replacement.

GENERAL INFORMATION

SECTION

I

This section contains general information pertaining to HP 29425A and 29425B versions of the HP 29425 Cabinet. The only difference between the two versions is the power panel assembly. The information consists of a general description of the cabinet, specifications, and identification information. Unless otherwise specified, the information provided is applicable to both versions of the HP 29425 Cabinet.

1-1. GENERAL DESCRIPTION

The Hewlett-Packard Model 29425 Cabinet is configured to house HP cartridge disc components. These components are described in the following publications, as applicable:

- *HP 7905A Disc Drive Operator's Manual*, part no. 07905-90009.
- *HP 7906 Disc Drive User's Manual*, part no. 07906-90901.
- *HP 13037 Disc Controller Installation and Service Manual*, part no. 13037-90006.
- *HP 40019 Prefilter Assembly Installation and Service Manual*, part no. 40019-90901.

The HP 29425 Cabinet has a steel frame with equipment mounting and support rails, removable doors and side panels, a power panel assembly, and a removable table top. The vertical mounting rails receive the 483-millimetre (19-inch) mounting flanges of the disc controller and the support rails position and support the disc drive. The side panels and table top, when removed, allow easy access to the cabinet interior for equipment installation and service. Both doors have locks to prevent access by unauthorized personnel. An opening in the front door facilitates access to the controls of the disc drive and its removable disc cartridge.

The power panel assembly equips the cabinet with a complete electrical system and a fan for maintaining the internal cabinet temperature at the proper equipment operating level. In the HP 29425B version of the cabinet, the power panel assembly also includes a POWER on/off switch, line filter, and line fuse. The standard cabinet has an input power configuration to match a typical 120-Vac, 60-Hertz, single-phase, mains power source. Option 015 provides an input power configuration to match a typical 230-Vac, 50-Hertz, single-phase, power source. Mains

power brought into the power panel is distributed to the equipment in the cabinet via an outlet strip.

The cabinet is fitted with heavy-duty casters to facilitate movement over short distances and levellers to allow positioning at a permanent location. The cabinet table top is approximately 711 millimetres (28 inches) above floor level.

1-2. SPECIFICATIONS

See figure 1-1 for cabinet specifications and table 1-1 for electrical specifications.

1-3. IDENTIFICATION

Each cabinet has an identification label affixed to the inside of the rear right-hand column of the frame. This label identifies the cabinet model number, and also the serial number and option number of the cabinet.

1-4. SERIAL NUMBER

Each cabinet is uniquely identified by a 9-digit single-letter serial number (0000A00000). The first four digits are a serial number prefix used to indicate design changes. The letter designates the country in which the cabinet was manufactured ("A" indicates the United States). The remaining five digits are a sequential suffix number.

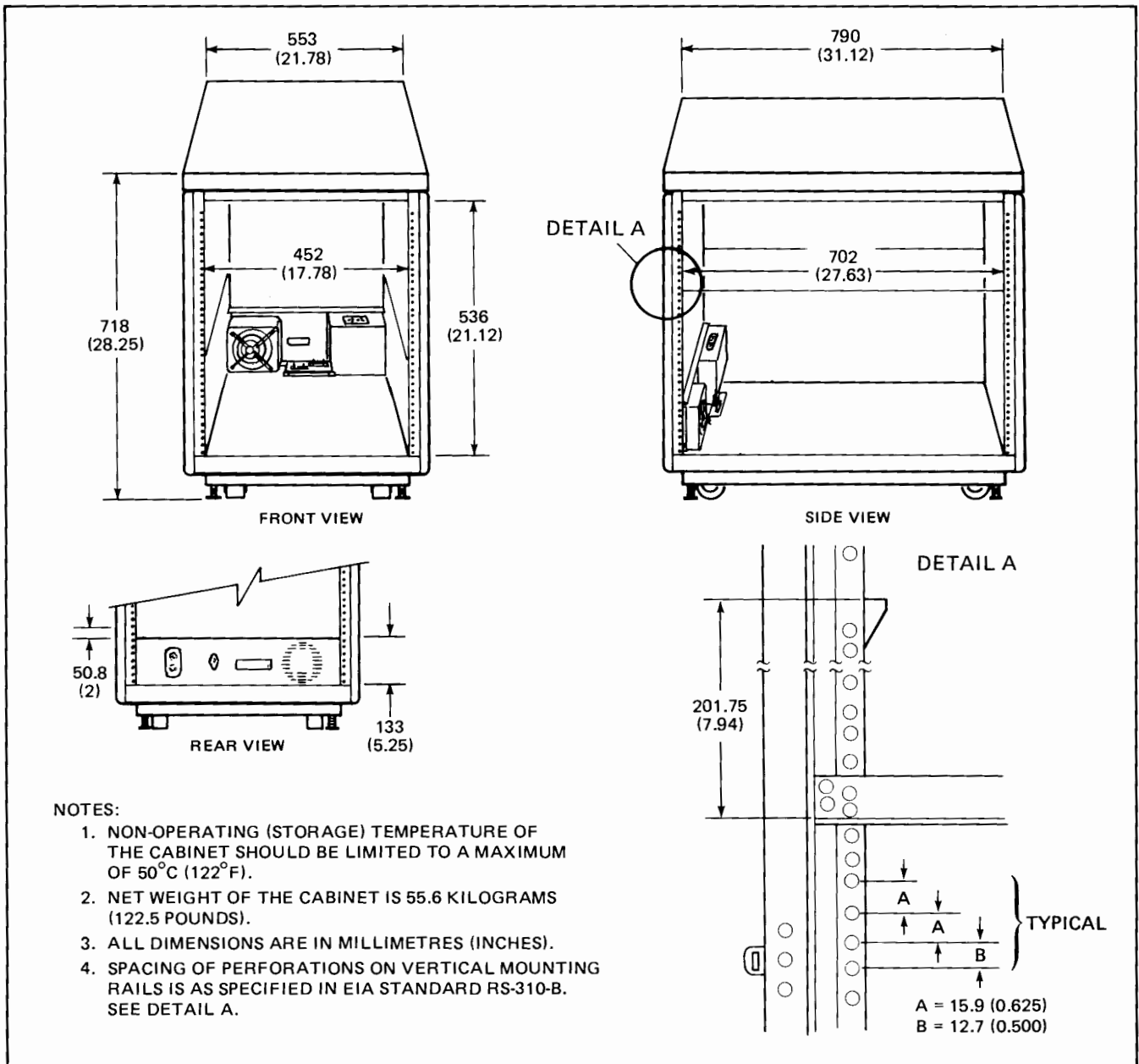
1-5. OPTION NUMBER

The option number of the cabinet is marked on the bottom of the identification label. When optional features are supplied for installation in the field, the appropriate option number should be listed in addition to the existing number.

1-6. CABINET OPTIONS

The following option is available for the HP 29425 Cabinet:

- Option 015 – Power panel assembly for a typical 230-Vac, 50-Hz, single-phase operation.



7604-1A

Figure 1-1. Cabinet Specifications

Table 1-1. Electrical Specifications

OPTION NUMBER	PRIMARY POWER INPUT	INTERNAL POWER
Standard	90 to 126 Vac, 47.5 to 66 Hz, single-phase, 2-wire plus earth ground. Power is connected via a cord terminated with a 20-ampere NEMA 5-20P plug.	100/120 Vac
015	180 to 252 Vac, 47.5 to 66 Hz, single-phase, 2-wire plus earth ground.	220/240 Vac

NOTE: Power consumption of the fan is 28.8 watts.

INSTALLATION

SECTION

II

This section contains information pertaining to unpacking, inspection, cabinet installation, claims procedure, and repacking for shipment. Also provided are power requirements and instructions for connecting to a power source.

2-1. UNPACKING AND INSPECTION

The cabinet is normally shipped in a reusable container with the disc components installed in the cabinet. When the shipment arrives, ensure that the container has been received as specified by the carrier's bill of lading. Inspect the shipping container immediately upon receipt for evidence of mishandling during transit. If the container is damaged or water-stained, request that the carrier's agent be present when the container is unpacked.

If the container appears to be received in satisfactory condition, proceed with the unpacking instructions. The cabinet is unpacked as follows:

- a. Using a large screwdriver, remove the climp fasteners that secure the top of the container to the base. (See figure 2-1.) Set the top aside and retain the fasteners.
- b. Locate the list of equipment supplied. Compare this list against the purchase order to verify that the shipment is correct.
- c. Remove the packing material from around the cabinet.
- d. Inspect the cabinet for damage such as dented corners, surface scratches, and loose components. Also check the rigid foam-plastic cushioning (if used) for any signs of deformation which could indicate rough handling during transit.
- e. At each corner of the container base, loosen the bolts that secure the leveling feet retainers. At the rear of the container base (rear of cabinet) ensure that the bolts are free from the threaded sleeves mounted in the container base.
- f. On the container base, as viewed from the rear of the cabinet, remove the two screws that secure the rear retaining member to the base and slide out the member.
- g. Cut the strap that secures the ramp to the cabinet and lift out the ramp.
- h. Position the ramp at the rear of the container base. Ensure that ramp is firmly seated on the base before proceeding with the unpacking procedure.
- i. Ensure that the leveling feet are fully threaded into the cabinet to prevent possible dragging or bending when the cabinet is rolled down the ramp and onto the floor.

WARNING

To avoid personal injury when moving the cabinet off the container base, do not position any part of the body in the path of the cabinet movement.

CAUTION

To avoid damage to the disc drive from a "runaway" condition when moving the cabinet off the container base, position a handler on each side of the cabinet.

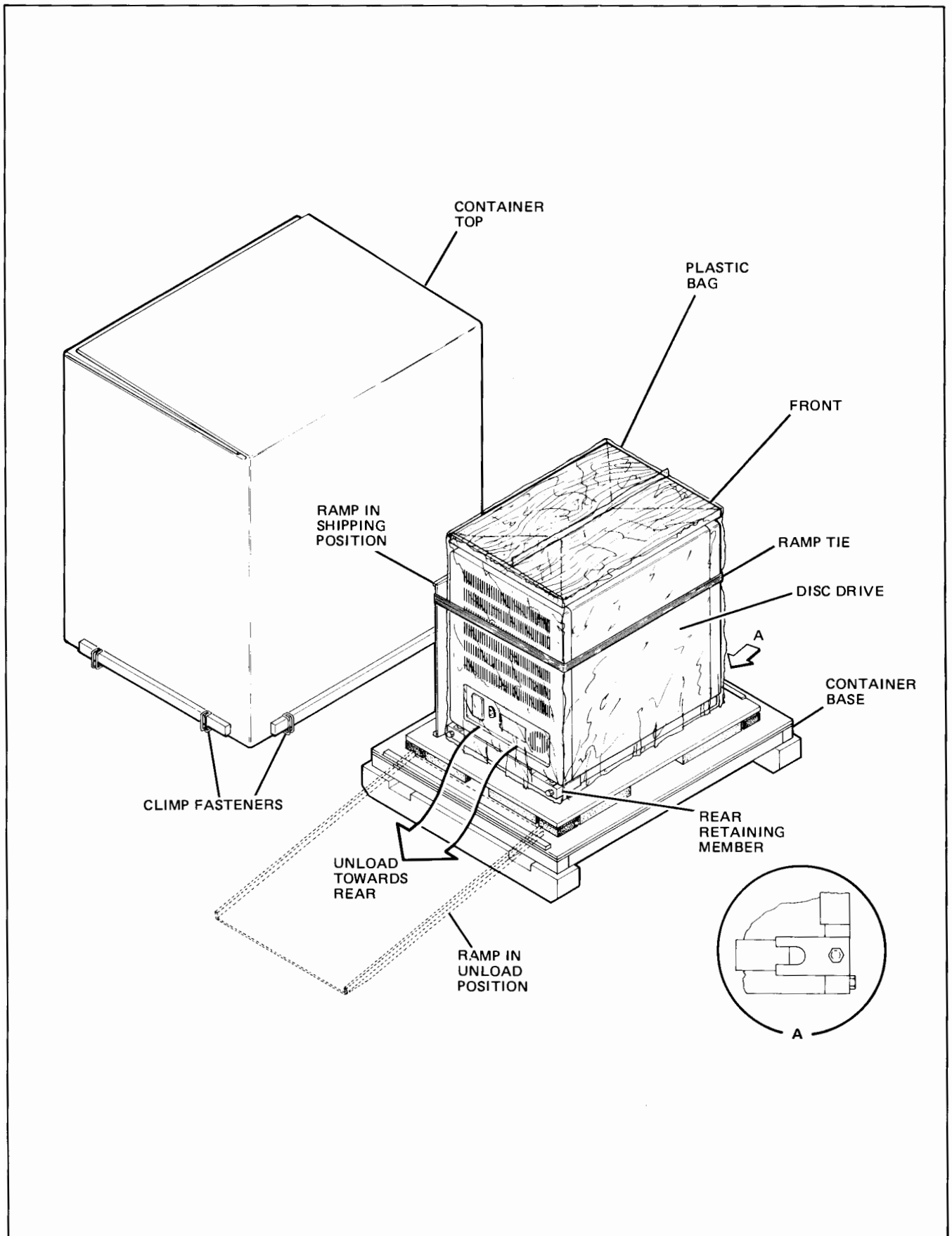
- j. Move the cabinet off the container base and onto the floor using the ramp.
- k. Open the front and rear doors and further inspect the unit for damage, such as broken controls, fuseholders, or loose components.
- l. If visual examination reveals any damage to the cabinet or mounted components, follow the claims procedures described in paragraph 2-20. Retain the shipping container and packing material for future use.
- m. Check to ensure that all manuals that are specified on the packing list have been received.

2-2. HANDLING

The cabinet is provided with four smooth-rolling heavy-duty casters to facilitate cabinet movement over short distances such as required for installation, maintenance, or relocation to another area. Four levellers adjacent to the casters permit the cabinet to be firmly positioned and leveled at its permanent location.

CAUTION

Do not place any objects on the table top when the cabinet's disc drive is energized. Vibrations produced by the disc drive may cause these objects to fall to the floor.



REF 7604-5

Figure 2-1. Cabinet Unpacking Details

2-3. CABINET SPACE REQUIREMENTS

A location for the cabinet should be selected that will afford adequate space for the doors to be fully opened. Refer to figure 2-2 for the radius and angle of door swing.

2-4. INSTALLATION

WARNING

To avoid the possibility of mechanical or electrical hazards, installation instructions are intended for service-trained personnel only. Do not proceed further in this section unless qualified to do so.

2-5. DOORS, SIDE PANELS, AND TABLE TOP

The cabinet's doors, side panels, and table top are removable, allowing easy access to the interior of the cabinet for equipment installation and service. Refer to section III of this manual for removal instructions.

2-6. VERTICAL MOUNTING RAILS

The cabinet has perforated mounting rails on its front and rear columns. Equipment is mounted inside the cabinet by securing the mounting flanges to the rails with no. 10-32 screws screwed into nut retainers (part no. 0590-0804) attached to the rails at the appropriate locations.

2-7. CABLE ACCESS

A cable entry opening, covered by a sliding shutter, is located in the center of the power panel assembly at the rear of the cabinet. Access to the opening is achieved by loosening the two screws securing the shutter and sliding it upwards. Following the installation of cables, the shutter should be closed as tightly as possible to prevent the entry of contaminants and secured in place with the two screws.

2-8. CABLE STRAIN RELIEF CLAMPS

Two sets of clamps, located inside the cabinet adjacent to the cable entry opening on the power panel assembly, provide strain relief for equipment cables entering the cabinet. A 3/8-inch hollow-shaft nutdriver is required for adjustment of the clamps.

2-9. DISC COMPONENTS

For instructions regarding installation and connection of the disc components, refer to the following publications, as applicable:

- *HP 7905A Disc Drive Installation and Service Manual*, part no. 07905-90007.
- *HP 7906 Disc Drive Installation Manual*, part no. 07906-90902.
- *HP 13037 Disc Controller Installation and Service Manual*, part no. 13037-90006.
- *HP 40019 Prefilter Assembly Installation and Service Manual*, part no. 40019-90901.

2-10. ELECTRICAL CONNECTION

2-11. POWER REQUIREMENTS

The mains power requirement is dependent upon the electrical option installed in the cabinet. The power panel assemblies available are designed to accommodate one of the following types of mains power:

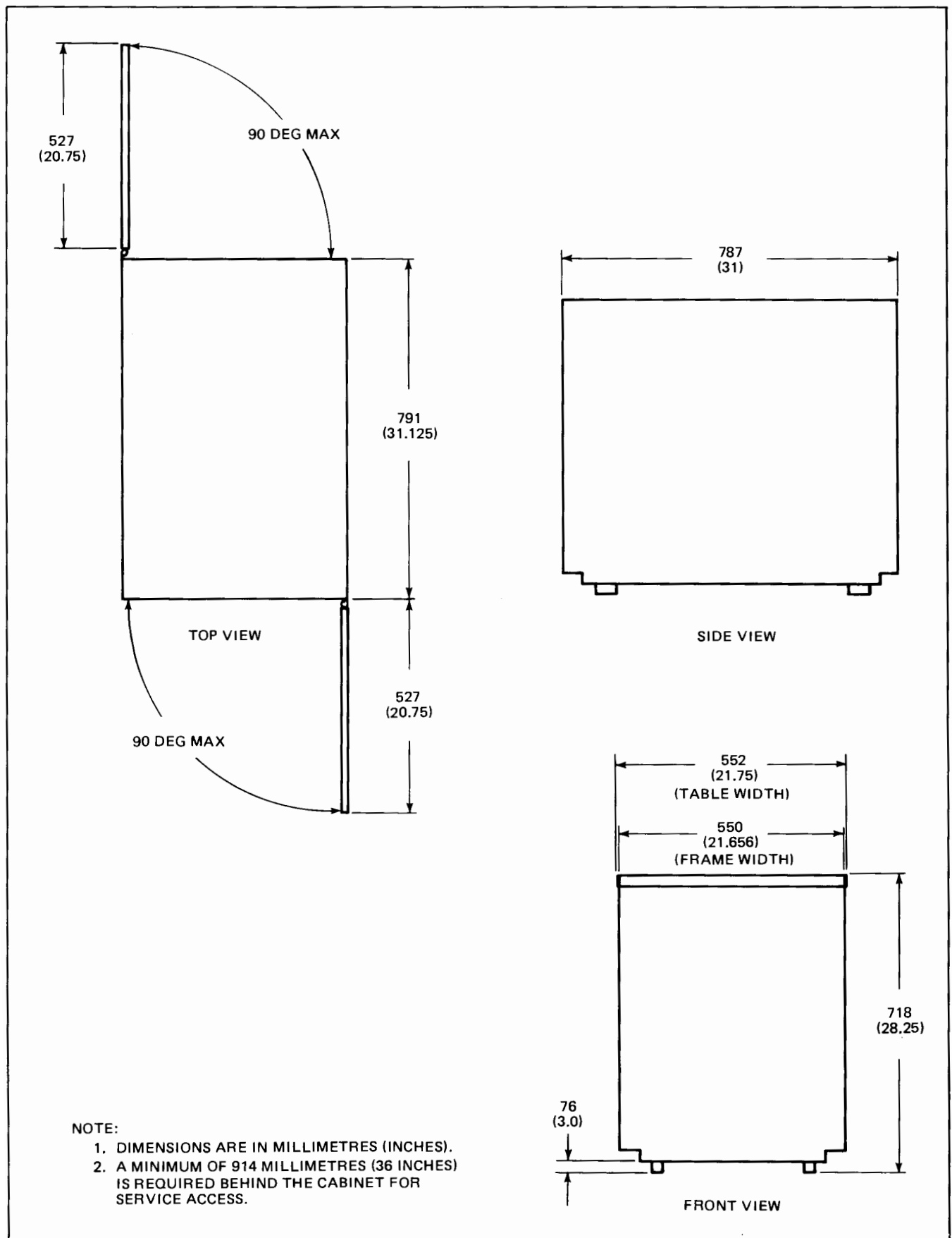
- a. 120 volts, 60 Hertz, 1 phase, 2-wire plus earth ground (standard).
- b. 230 volts, 50 Hertz, 1 phase, 2-wire plus earth ground (Option 015).

WARNING

To protect personnel against possible electrical shock and to meet local code requirements, a safety earth ground must be provided from the mains power source to the cabinet. The earthing (grounding) conductor must, as a minimum, be integral to the power cord, be continuous, and have sufficient capacity to carry the maximum possible fault current.

The dedicated mains power source, to be used to supply power to the cabinet, must be checked by a qualified electrician to ensure that it furnishes the proper voltage for which the cabinet is configured.

If the line voltage is in the correct range, have the electrician also check the source to ensure that it is correctly wired with respect to ac line, ac neutral, and earth ground. If the installation is improperly wired, correction must be made by a qualified electrician. Local electrical codes must be followed at all times.



7604-2A

Figure 2-2. Overall Cabinet Dimensions

2-12. CONNECTION TO AC POWER SOURCE

WARNING

The following must be performed by a qualified electrician. Use extreme caution when connecting the cabinet to the mains power source. Connect the power cable to the cabinet first and then connect it to the power source. Heed all WARNING signs on equipment.

CAUTION

Before connecting the cabinet to the mains power source, ensure that all of the disc components in the cabinet are configured for operation within the proper voltage range. Failure to observe this precaution may result in damage to the equipment. For information regarding input voltage configuration of these components, refer to the following publications, as applicable:

- *HP 7905A Disc Drive Installation and Service Manual*, part no. 07905-90007.
- *HP 7906 Disc Drive Installation Manual*, part no. 07906-90902.
- *HP 13037 Disc Controller Installation and Service Manual*, part no. 13037-90006.

Check the input ac voltage and the fuse ratings of the disc drive components before proceeding with the power cord installation. The cabinet may be equipped with one of three types of power panel assembly. To install the power cord on 29425A Cabinets with serial numbers prefixed 1740 and prior, proceed to step a. To install the power cord on 29425A Cabinets with serial numbers prefixed 1749 or greater, proceed to step b. To install the power cord on 29425B Cabinets, proceed to step c.

a. The power panel assembly, part no. 02940-60157, is supplied with a standard 120 Vac hardwired power cord. For the Option 015 power panel, part no. 02940-60156, the power cord must be installed locally. To install the power cord, proceed as follows:

- (1) Set circuit breaker (8, figure 4-4) on power distribution unit (7, figure 4-3) to OFF.
- (2) Using a Pozidriv screwdriver, remove four screws (23, figure 4-3) securing "WARNING" cover (22, figure 4-3) to power panel assembly and remove cover.
- (3) Prepare three-conductor power cable (minimum conductor size no. 14 AWG/1.5 mm²) by first

stripping off 230 millimetres (9 inches) of outer insulation from end of cable and then removing 13 millimetres (1/2 inch) of insulation from end of each conductor.

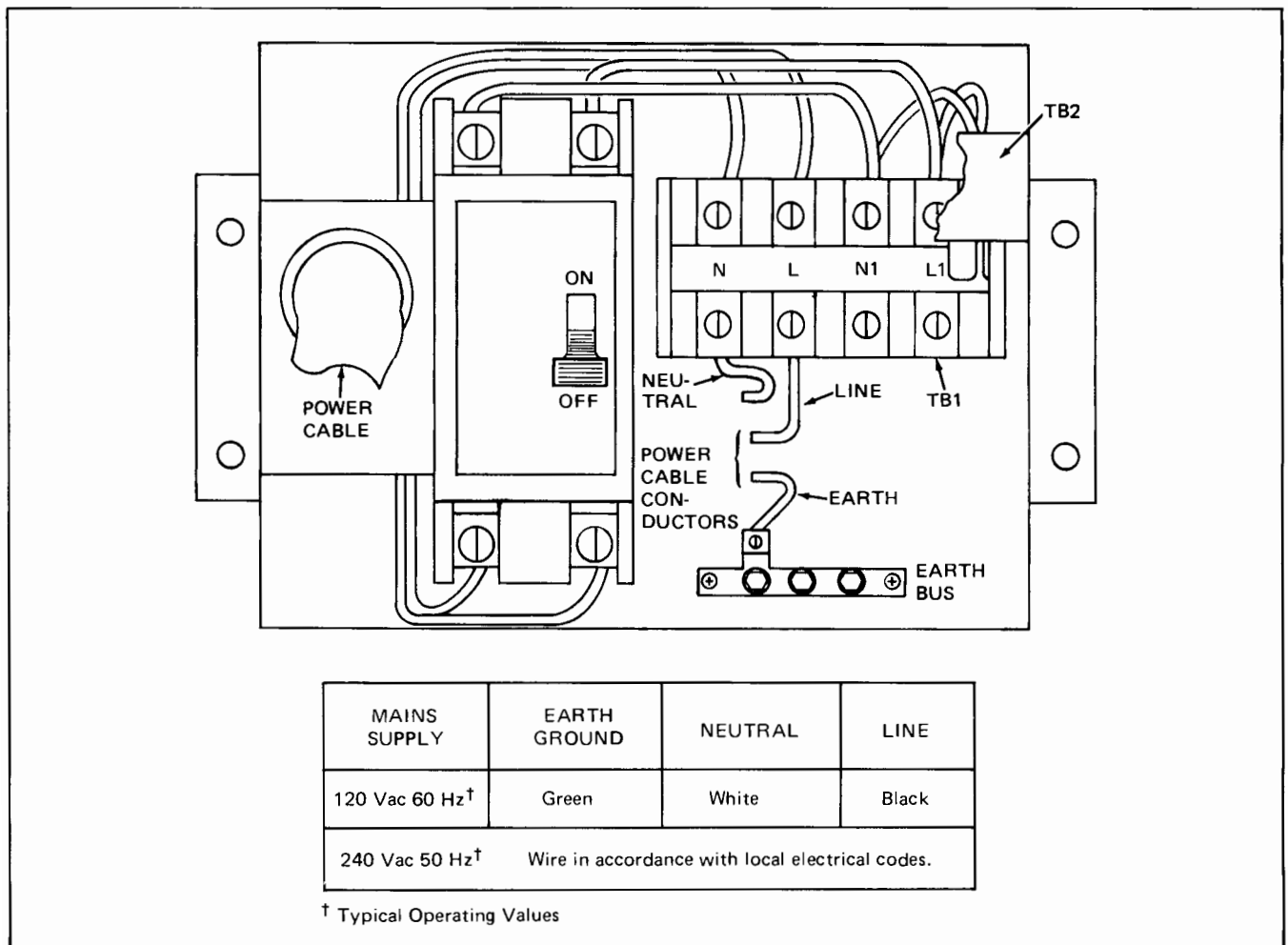
- (4) Pass prepared end of power cable through cable clamp (5, figure 4-3) into power distribution unit. Do not tighten clamp at this time.
- (5) Using a blade-type screwdriver, attach earth ground conductor of power cable to box lug on earth bus (7, figure 4-4).
- (6) Using a blade-type screwdriver, attach line (L) conductor of power cable to mating terminals on barrier block TB1 (1, figure 4-4) as shown in figure 2-3.
- (7) Dress power cable conductors within power distribution unit and tighten cable clamp on cable jacket.
- (8) Replace "WARNING" cover on power panel assembly.
- (9) Connect power cable to a suitable mains power source.
- (10) Set circuit breaker on power panel assembly to ON.

b. The power panel assembly, part no. 29425-60003, is supplied with a standard 120 Vac power cord. For the Option 015 power panel, part no. 29425-60004, an appropriate power cord is supplied with the disc drive. The various Option 015 power cords available are shown in figure 2-4. To attach a power cord, proceed as follows:

- (1) Set circuit breaker (14, figure 4-4) of the power panel assembly to the OFF position.
- (2) Plug the female end of the power cord into the ac power inlet on the power panel assembly.
- (3) Connect power cable to a suitable mains power source.
- (4) Set circuit breaker of the power panel assembly to the ON position.

c. The power panel assembly, part no. 29425-60009, is supplied with a standard 120 Vac power cord. For the Option 015 power panel, part no. 29425-60010, an appropriate power cord is supplied with the disc drive. The various Option 015 power cords available are shown in figure 2-4. To attach a power cord, proceed as follows:

- (1) Set POWER switch on the power panel assembly to 0 (off) position.



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Figure 2-3. Power Distribution Unit (Part no. 02940-60130)

- (2) Plug the female end of the power cord into the ac power inlet on the power panel assembly.
- (3) Connect power cable to a suitable mains power source.
- (4) Set POWER switch on the power panel assembly to 1 (on) position.

2-13. SIGNAL GROUND

The performance of a disc drive may be adversely affected by electrical noise if the cabinet is not properly grounded. Good grounding practice dictates that all disc drives in a multiple configuration be grounded at one central point. Series grounding (daisy-chaining) of the drives is not recommended. To facilitate grounding, the cabinet is fitted with two grounding posts and a 3-metre (10-foot) plastic-covered braided copper grounding strap is supplied with each cabinet.

2-14. REPACKING FOR SHIPMENT

2-15. REPACKING CABINET

CAUTION

These instructions are for packaging an empty HP 29425 Cabinet, *not* a cabinet containing disc components. Refer to paragraph 2-18 for repacking instructions for a cabinet containing disc components. Repacking instructions for the disc components are provided in paragraph 2-19.

2-16. SHIPMENT USING ORIGINAL PACKAGING. The container and materials used in factory packaging can be used for reshipment of the cabinet. Alternatively, information regarding a suitable container and packing materials may be obtained from Hewlett-

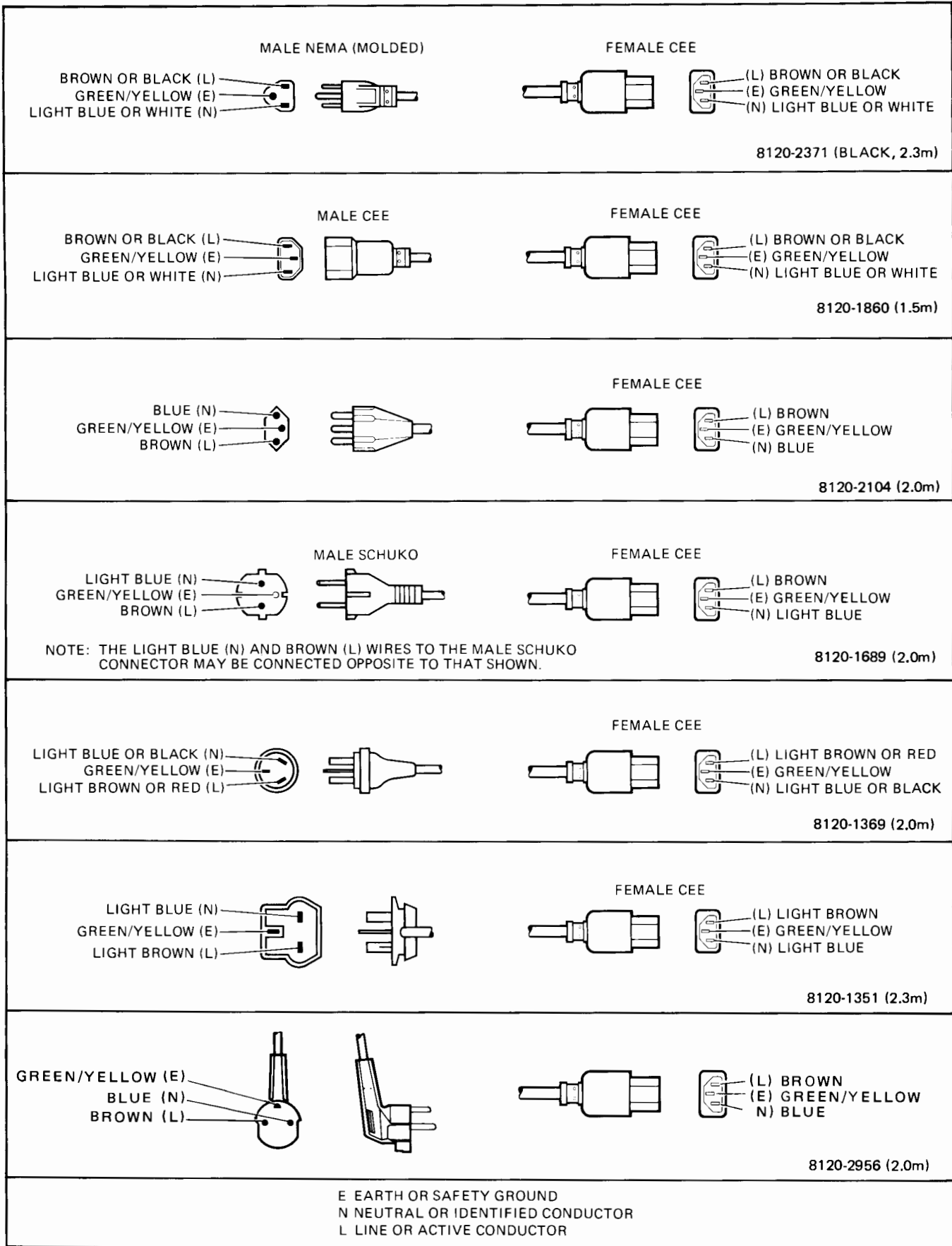


Figure 2-4. AC Power Cord Sets



This section contains information and instructions pertaining to preventive maintenance, troubleshooting, and repair of the cabinet. Instructions on how to access disc components mounted in the cabinet are also given.

WARNING

This section is intended for service-trained personnel only. To avoid potentially serious electrical shock, do not proceed further in this section unless qualified to do so.

3-1. PREVENTIVE MAINTENANCE

The cabinet requires a minimum of preventive maintenance. Table 3-1 lists the recommended schedule for periodic inspection and cleaning of the cabinet.

Table 3-1. Preventive Maintenance Schedule

ROUTINE	SCHEDULE
Inspection (paragraph 3-2)	Semi-annually*
Cleaning (paragraph 3-3)	Semi-annually*
* More frequent inspection and cleaning may be required if the cabinet is located in an adverse environment.	

3-2. INSPECTION

The cabinet should be checked by a qualified person for signs of electrical and mechanical defects. Electrical components that show evidence of overheating, frayed insulation, and other signs of deterioration should be checked and a thorough investigation made to verify proper operation. Mechanical parts should be inspected for excessive wear, looseness, misalignment, and corrosion.

3-3. CLEANING

The cabinet should be kept free of dust, moisture, grease, and foreign matter to ensure trouble-free operation of the disc components. A dry clean cloth, a soft bristle brush, or a cloth saturated with a mild detergent solution or similar cleaning compound may be used to clean the metal portions of the cabinet.

Note: A vacuum cleaner or other equipment that generates line noise should not be connected to the outlet strip in the cabinet while the disc drive is in operation. Erratic operation of the disc drive may result.

3-4. TROUBLESHOOTING

WARNING

Hazardous line voltages are present at various points within the cabinet. Use extreme caution when working on the cabinet with the protective covers removed.

Because most of the cabinet consists of mechanical parts, troubleshooting is confined to the power and ventilation systems. Checkout of the power system consists of making voltage and continuity checks at the power panel assembly and outlet strip, using a multimeter or equivalent instrument. Figures 3-1, 3-2, and 3-3 are wiring diagrams of the power panel assemblies. Checkout of the ventilation system consists of checking the fan for proper operation.

3-5. REMOVAL AND REPLACEMENT

The following paragraphs contain information pertaining to the removal and replacement of cabinet parts. Simple and obvious procedures are not included. Components mentioned in the removal and replacement procedures have reference numbers to correspond with the callouts in figure 3-4. Once removed, the parts may be replaced by performing the removal procedure in reverse order.

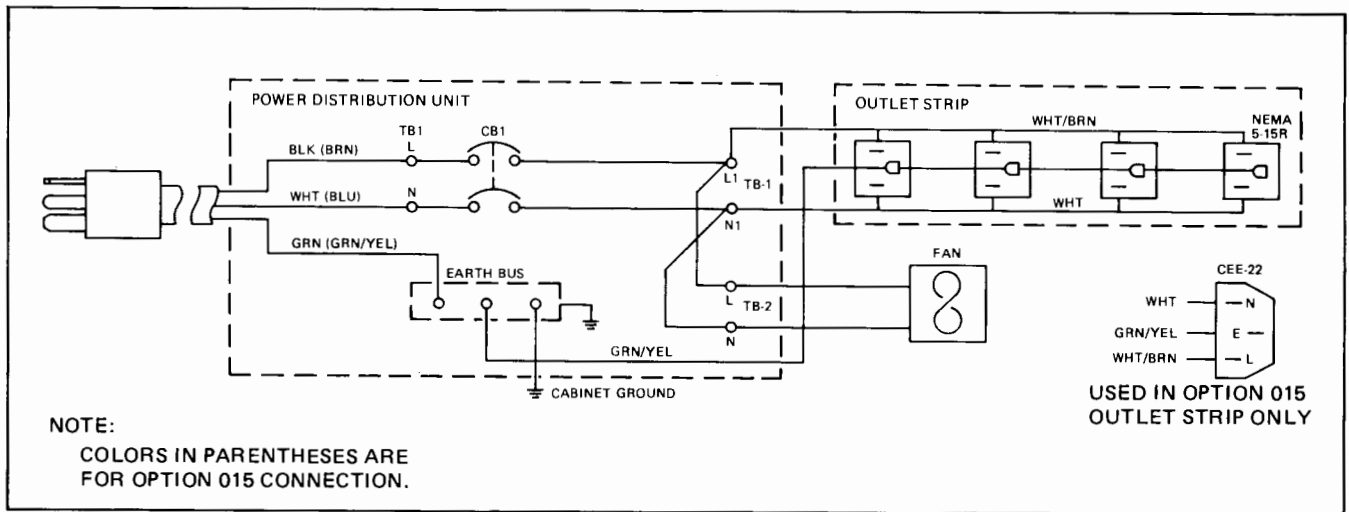
3-6. FRONT DOOR

To remove the front door (1) from the cabinet, proceed as follows:

- a. Unlock front door (1) and swing it fully open.
- b. Support weight of door with both hands and pull up until door hinge pins are free of hinge brackets.
- c. Close door until it is free of side panel and then lift door away from cabinet.

3-7. REAR DOOR

The rear door (2) is equipped with a spring-loaded hinge-pin for fast removal and replacement. To remove the door from the cabinet, proceed as follows:



REF 02940-90285-51, REV. B

Figure 3-1. Power Panel Assembly (Part no. 02940-60156 and 02940-60157) Wiring Diagram

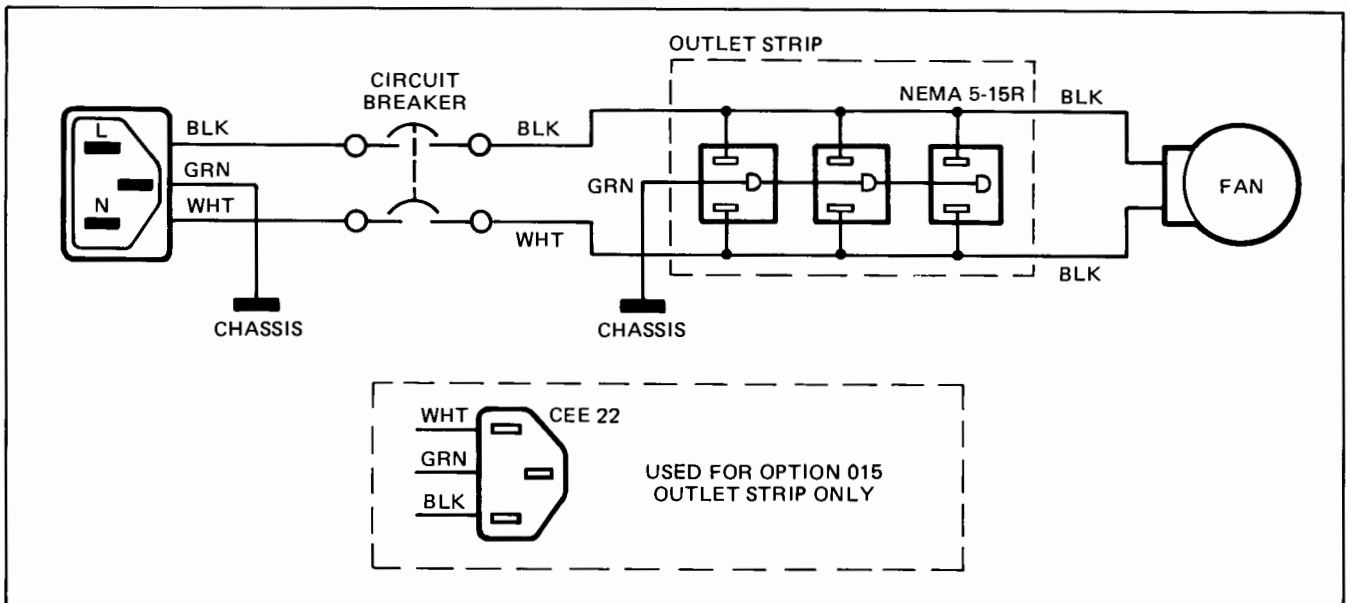


Figure 3-2. Power Panel Assembly (Part no. 29425-60003 and 29425-60004) Wiring Diagram

- a. Unlock rear door (2) and swing it open.
- b. Support weight of door with one hand and grasp upper hinge pin with other hand.
- c. Pull upper hinge pin down until it is free of hinge bracket and then move door away from hinge bracket. Now move door upwards until lower hinge pin is free of lower hinge bracket.
- d. Close door until it is free of side panel and then lift door away from cabinet.

Remove front door (when removing right panel) and rear door (when removing left panel) as described in paragraphs 3-6 and 3-7, respectively.

- b. Using a 5/16-inch nutdriver, remove two screws (5) attaching panel to frame of cabinet.
- c. Grasp panel with both hands and pull it a short distance away from bottom of cabinet to disengage centering tab (on inside of panel) from centering bracket (6) on frame crossmember. Lift panel up and away from cabinet.

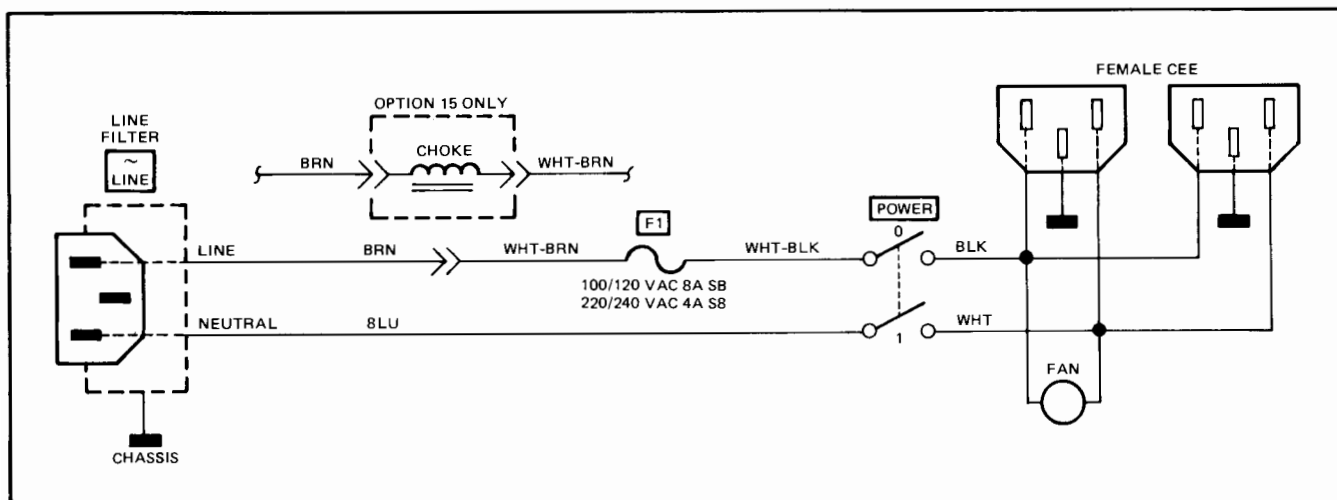
3-8. SIDE PANELS

To remove the side panels (3, 4) from the cabinet, proceed as follows:

- a. Unlock and open front (1) and rear (2) doors of cabinet.

3-9. TABLE TOP

To remove the table top (7) from the cabinet, proceed as follows:



7604-4A

Figure 3-3. Power Panel Assembly (Part no. 29425-60009 and 29425-60010) Wiring Diagram

- Using a 3/8-inch nutdriver, remove two screws (8) securing bottom surface of table top (7) to mounting brackets located at rear of cabinet.
 - Slide table top towards rear of cabinet until clamps (9) on bottom surface of table top are free of frame front crossmember.
 - Grasp table top with both hands and lift it away from cabinet.
- Note: When replacing the table top, ensure that the front clamps are engaged and the table is centered over the cabinet before tightening the two screws on the mounting brackets.
- Disconnect all cables passing through opening in power panel assembly to components. Using a 3/8-inch hollow-shaft nutdriver, loosen cable strain relief clamps (10) at bottom of cabinet and withdraw cables from cabinet.
 - Disconnect power cords attached to outlet strip (11) on power panel assembly.
 - Using a 3/8-inch nutdriver, disconnect power panel assembly grounding wire (yellow-green) from grounding stud (12) located at bottom rear of cabinet.
 - Using a Pozidriv screwdriver, remove four screws attaching power panel assembly to cabinet and remove assembly.

3-10. POWER PANEL ASSEMBLY

The following procedure describes how to remove the power panel assembly from the cabinet.

WARNING

Hazardous line voltages are present within the power panel assembly and the cabinet. Therefore, before performing the following procedure, ensure that mains power to the power panel assembly is disconnected and will not be reconnected by personnel unaware that work is being done on the equipment.

- Turn the power switch(es) off for the disc component(s).
- Remove the power cord from the ac mains power.

3-11. DISC COMPONENT ACCESS

Disc components mounted in the HP 29425 Cabinet require special access procedures and precautions during maintenance and service. The disc drive is mounted on side rails and bolted down. All disc drive maintenance and service can be carried out without removing it from the cabinet. If the disc drive must be removed from the cabinet, use extreme caution because the disc drive weighs 73.5 kg (162 lbs). Two or more people should be employed to handle the drive.

For specific test and maintenance procedures, refer to the appropriate *installation and service manual*. Procedures for access and removal of components housed in the HP 29425 Cabinet are provided in the following paragraphs. Removal details for cabinet parts, such as step-by-step instructions for front and rear doors, are provided in paragraphs 3-6 through 3-9 of this section. All components mentioned in the access procedures have reference numbers to correspond with the callouts in figure 3-4.

3-12. ACCESS FOR ABSOLUTE FILTER AIR PRESSURE TEST

One of the disc drive maintenance procedures is a regularly scheduled check of the absolute filter output air pressure. The test port (13) is located on the left side of the disc drive behind the cabinet left-side panel (4). To gain access to the test port, proceed as follows:

- a. Take off the cabinet rear door (2).
- b. Remove the two left-side panel retaining screws (5) using a 5/16-inch nutdriver.
- c. Grasping panel in both hands, pull bottom of panel (4) outward a short distance to slip the centering tab (on inside of panel) out of the centering bracket (6). Lift panel away from cabinet.
- d. After test, replace the side panel by reversing this procedure.

3-13. ABSOLUTE FILTER REMOVAL

The absolute filter unit may be removed for filter replacement through the front of the disc drive without removing any cabinet parts. This procedure is described in the *HP 7905A Disc Drive Installation and Service Manual*, part no. 07905-90007 and the *HP 7906 Disc Drive Service Manual*, part no. 07906-90903, as applicable.

3-14. DISC DRIVE TOP COVER REMOVAL

The top cover (14) of the disc drive may be removed for all top-of-drive maintenance and service, including inspection checks, cleaning, and alignment of the heads. To remove the top cover from an HP 7905A Disc Drive, follow the instructions given in paragraph 3-15; to remove the top cover from an HP 7906 Disc Drive, refer to the instructions given in paragraph 3-16.

3-15. HP 7905A DISC DRIVE TOP COVER REMOVAL. To remove the top cover from an HP 7905A Disc Drive, proceed as follows:

- a. Turn system power off with the POWER switch (circuit breaker) on the power panel (rear of cabinet).
- b. Open the rear door (2) of the cabinet.
- c. Remove cabinet table top (7) by taking out the two 3/8-inch hex head screws (8) securing bottom surface of table top to the two brackets protruding from the cabinet's top rear horizontal strut. Then pull the top toward the rear to disengage the front edge clamps (9) from the cabinet's top front horizontal strut.

WARNING

Use extreme caution when working on the disc drive with the covers removed to prevent contact with hazardous voltages which are present inside the mainframe when the ac power cord is connected to an active ac power source.

- d. The disc drive top cover (14) can now be taken off. The five top cover screws which would have been covered by the cabinet's vertical corner columns are absent so that the top cover can be removed while the disc drive is in the cabinet and bolted to the side rails. The procedure is as follows:
 - (1) Remove four screws (15) from the top rear edge of the top cover.
 - (2) Loosen, but do not remove, the screws and flat washers (16) visible along the lower right and left edges of the top cover.
 - (3) Carefully take off the top cover by slipping it out the top of the cabinet.

The disc drive top cover is replaced by reversing the above procedure. When replacing the screws in the cover, if the two top rear center screws are screwed in first the hole alignment of the remaining screws will be easier. When replacing the cabinet table top, ensure that the clamps are engaged and it is centered. The cabinet table top is slightly oversize compared to the cabinet frame so that adjacent cabinets will not scrape their sides together.

3-16. HP 7906 DISC DRIVE TOP COVER REMOVAL. To remove the top cover from an HP 7906 Disc Drive, proceed as follows:

- a. Turn system power off with the POWER switch (circuit breaker) on the power panel (rear of cabinet).
- b. Open the rear door (2) of the cabinet.
- c. Remove cabinet table top (7) by taking out the two 3/8-inch hex head screws (8) securing bottom surface of table top to the two brackets protruding from the cabinet's top rear horizontal strut. Then pull the top toward the rear to disengage the front edge clamps (9) from the cabinet's top front horizontal strut.

WARNING

Use extreme caution when working on the disc drive with the covers removed to prevent contact with hazardous voltages which are present inside the mainframe when the ac power cord is connected to an active ac power source.

- d. The disc drive top cover (14) can now be taken off. The procedure is as follows:

- (1) Remove the four screws (15) from the top rear edge of the top cover.
- (2) Remove the two screws (17) from the top front of the top cover.
- (3) Lift the top cover first from the front of the disc drive and then from the rear of the disc drive. When the top cover is clear of the side retaining screws (visible along the lower right and left edges of the top cover), carefully slip it out the top of the cabinet.

The disc drive top cover is replaced by reversing the order of the above procedure. When replacing the cabinet table top, ensure that the clamps are engaged and the table top is centered.

3-17. ACCESS TO BOTTOM OF DISC DRIVE

The prefilter duct assembly can be removed from the bottom of the disc drive without dismounting the drive from the cabinet. This allows servicing power supply PCA-A8. The following procedure is recommended:

- a. Turn system power off with the POWER switch (circuit breaker) on the power panel (rear of cabinet).
- b. Take off the front (1) and rear (2) doors.
- c. Remove the right side panel (3) and left side panel (4) by removing the two screws (5) in each using a 5/16-inch nutdriver. Grasping panel with both hands, pull bottom edge of panel out a short distance to disengage centering tab (on inside of panel) from centering bracket (6) on the frame. Lift panel away from cabinet.
- d. Remove prefilter duct assembly (18) from beneath the disc drive. The procedure is as follows:
 - (1) Remove filter element (19) from prefilter duct assembly (18).
 - (2) Disengage the two 1/4-turn fasteners in the prefilter duct opening using an offset blade-type screwdriver.
 - (3) Lower the front of the prefilter duct and after it has cleared the rubber gasket on the disc drive fan cover plate pull the duct out the front of the cabinet.
- e. If installed, remove the controller at the bottom of the cabinet as follows:
 - (1) Unplug controller power cable from rear panel.
 - (2) Loosen the two cable clamps at the bottom rear of the cabinet so the extra cable lengths will pull through in substep (4) below.
- (3) Remove controller front panel (20).
- (4) Remove the four rack-mounting flange screws (21) holding controller to cabinet and slide controller (22) out the front of the cabinet pulling the cable through the loosened cable clamps.
- f. Follow instructions in the *HP 7905A Disc Drive Installation and Service Manual*, part no. 07905-90007 and the *HP 7906 Disc Drive Service Manual*, part no. 07906-90903, as applicable, for bottom of drive procedures. The components removed in the above steps can be replaced by reversing the order of the procedure.

3-18. DISC DRIVE REMOVAL

WARNING

Side rails support the drive in the cabinet. The drive should not be removed from the cabinet unless proper precautions are taken. A platform elevated to exactly meet the bottom of the drive is required to receive the drive as it slides out the front. Without the platform, the cabinet could tip over. The disc drive weighs 73.5 kg (162 lbs). Two or more persons should always be employed in the drive removal operation.

Remove the disc drive by using the following procedure:

- a. Disconnect ac power to cabinet (or set circuit breaker on power unit to OFF).
- b. Remove front (1) and rear (2) doors.
- c. Remove the right side panel (3) and left side panel (4) by removing with a 5/16-inch nutdriver the two screws (5) in each. Grasping the panel with both hands, pull bottom edge of panel out a short distance to disengage the centering tab (on inside of panel) from the centering bracket (6) on the frame. Lift panel away from cabinet.
- d. Remove filter element (19) from prefilter duct assembly (18).
- e. Disengage the two 1/4-turn fasteners in the prefilter duct opening using an offset blade-type screwdriver.
- f. Lower the front of the prefilter duct and after it has cleared the rubber gasket on the disc drive fan cover plate pull the duct out the front of the cabinet.

- g. Reach under the disc drive (23) with a 3/8-inch socket wrench and take off the six screws (24) holding the disc drive frame rails (25) to the side rails (26).
- h. Remove the disc drive cables including power cable, data cable (plugged into connector A7P4 through a cutout in the rear panel), and the interconnection flat cable. Disconnect the flat cable at the terminator PCA on the terminator bracket (27). On an HP 7906H Disc Drive, disconnect the HP-IB cable from the rear cover of the drive.
- i. The disc drive can now slide out the front of the cabinet. Slide the drive carefully onto a platform positioned level with the bottom of the drive.

The disc drive is installed in the HP 29425 Cabinet by reversing the order of the above procedure. Be sure the drive is centered on the rails or the drive's front door will not open for disc cartridge insertion.

3-19. DISC DRIVE CARD CAGE REMOVAL

The card cage can be taken out while the disc drive is mounted in the HP 29425 Cabinet. The procedure is as follows:

- a. Remove disc drive top cover (14) according to the procedures in paragraphs 3-15 and 3-16, as applicable.
- b. Remove card cage as described in the *HP 7905A Disc Drive Installation and Service Manual*, part no. 07905-90007, and the *HP 7906 Disc Drive Service Manual*, part no. 07906-90903, as applicable, except as described below in step c.
- c. Instead of lifting the card cage up and away from the disc drive, carefully slip it out the rear of the cabinet.

On reinstalling the card cage, slide it back into position cautiously while lifting the interfering cables out of the way.

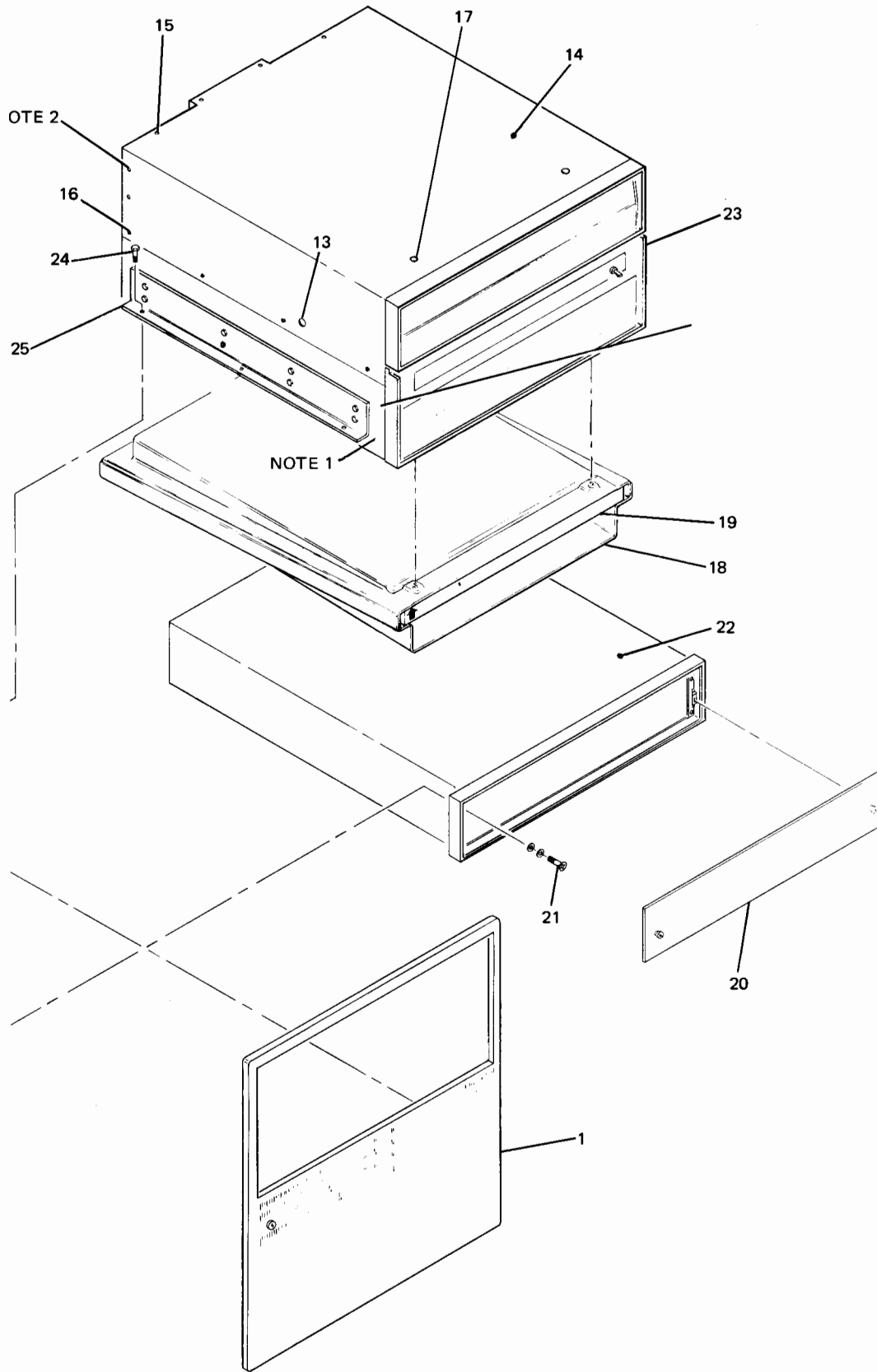
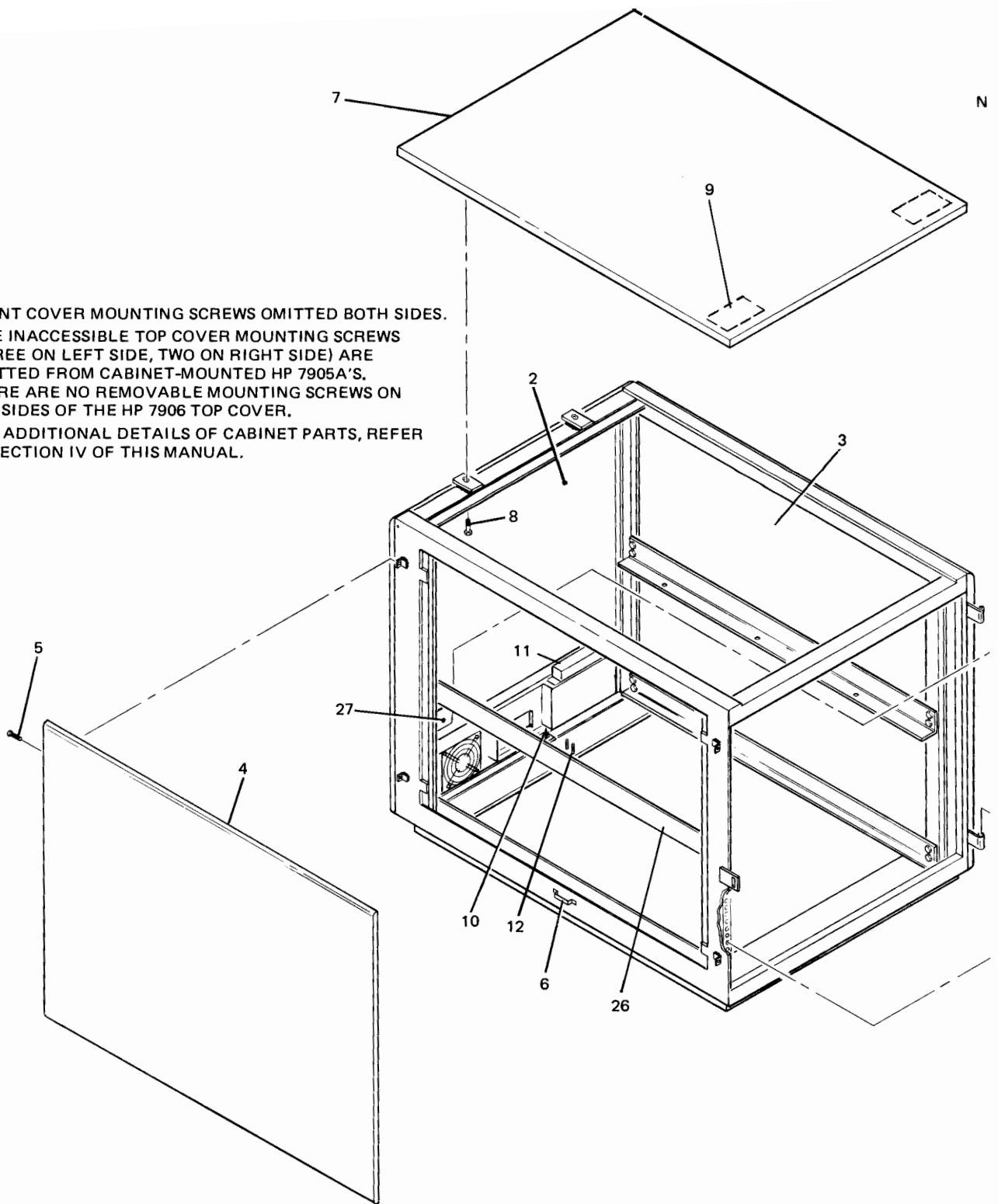


Figure 3-4. Exploded View of Cabinet and Disc Components

N

NOTES:

1. FRONT COVER MOUNTING SCREWS OMITTED BOTH SIDES.
2. FIVE INACCESSIBLE TOP COVER MOUNTING SCREWS (THREE ON LEFT SIDE, TWO ON RIGHT SIDE) ARE OMITTED FROM CABINET-MOUNTED HP 7905A'S. THERE ARE NO REMOVABLE MOUNTING SCREWS ON THE SIDES OF THE HP 7906 TOP COVER.
3. FOR ADDITIONAL DETAILS OF CABINET PARTS, REFER TO SECTION IV OF THIS MANUAL.



REPLACEABLE PARTS

SECTION

IV

4-1. INTRODUCTION

This section provides listings of all field-replaceable parts and an illustrated parts breakdown for the HP 29425 Cabinet, as well as replaceable part ordering information.

Replaceable parts for the cabinet are listed in disassembly order in tables 4-1 through 4-6 and illustrated in figures 4-1 through 4-6. In each listing, attaching parts are listed immediately after the item they attach. Items in the DESCRIPTION column are indented to indicate relationship to the next higher assembly. In addition, the symbol "— — — x — — —" follows the last attaching part for that item. Indentation is as follows:

MAJOR ASSEMBLY

*Replaceable Assembly

*Attaching Parts for Replaceable Assembly

**Subassembly or Component Part

**Attaching Parts for Subassembly or Component Part

The replaceable parts listings provide the following information for each part:

- a. FIG. & INDEX NO. The figure and index number which indicates where the replaceable part is illustrated.
- b. HP PART NO. The Hewlett-Packard part number for each replaceable part.
- c. DESCRIPTION. The description of each replaceable part. Refer to table 4-7 for an explanation of abbreviations used in the DESCRIPTION column.
- d. MFR CODE. The five-digit code that denotes a typical manufacturer of a part. Refer to table 4-8 for a listing of manufacturers that correspond to the codes.
- e. MFR PART NO. The manufacturer's part number of each replaceable part.
- f. UNITS PER ASSEMBLY. The total quantity of each part used in the major assembly.

The MFR CODE and MFR PART NO. for common hardware items are listed as 00000 and OBD (order by description), respectively, because these items can usually be purchased locally.

4-2. ORDERING INFORMATION

To order replaceable parts for the cabinet, address the order to your local Hewlett-Packard Sales and Service Office. Sales and Service Offices are listed at the back of this manual. Specify the following information for each part ordered:

- a. Model and full serial number.
- b. Hewlett-Packard part number.
- c. Complete description for each part as provided in the replaceable parts listings.



Table 4-1. HP 29425 Cabinet, Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-1-	29425	CABINET	28480	29425	
	07906-60027	*TABLE TOP ASSEMBLY (Attaching Parts)	28480	07906-60027	1
1	2940-0213	*SCREW, machine, hex hd, 1/4-20, 0.625 in. long, w/indented flange lock — — — x — — —	00000	OBD	2
2	1600-0542	**BRACKET, clamp (Attaching Parts)	28480	1600-0542	2
3	2940-0213	**SCREW, machine, hex hd, 1/4-20, 0.625 in.long, w/indented flange lock	00000	OBD	2
4	3050-0103	**WASHER, flat, no. 12	00000	OBD	2
5	1600-0545	**SPACER — — — x — — —	28480	1600-0545	1
6	7101-0396	**TABLE TOP	28480	7101-0396	1
7	07906-60024	*DOOR, front, pearl gray	28480	07906-60024	1
	7101-0391▲	*DOOR, front, mint gray	28480	7101-0391	1
8	07906-60025	*DOOR, rear, pearl gray	28480	07906-60025	1
	7101-0390▲	*DOOR, rear, mint gray	28480	7101-0390	1
9	07906-60026	*PANEL, side, pearl gray	28480	07906-60026	2
	7171-0392▲	*PANEL, side, mint gray (Attaching parts)	28480	7171-0392	2
10	2680-0244	*SCREW, machine, hex hd, 10-32, 0.375 in. long, w/indented flange lock — — — x — — —	00000	OBD	2
11	2740-0002	*NUT, hex, no. 10-32	00000	OBD	1
12	2190-0011	*WASHER, lock, int-tooth, no. 10	00000	OBD	2
13	8120-2880●	*CABLE, power, interconnecting	28480	8120-2880	1
14	02940-60157◆	*POWER PANEL ASSEMBLY (see figure 4-3)	28480	02940-60157	1
	02940-60156◆	*POWER PANEL ASSEMBLY (Option 015)(see figure 4-3)	28480	02940-60156	REF
	29425-60003■	*POWER PANEL ASSEMBLY (see figure 4-5)	28480	29425-60003	1
	29425-60004■	*POWER PANEL ASSEMBLY (Option 015)(see figure 4-5)	28480	29425-60004	REF
	29425-60009●	*POWER PANEL ASSEMBLY (see figure 4-6)	28480	29425-60009	1
	29425-60010●	*POWER PANEL ASSEMBLY (Option 015)(see figure 4-6) (Attaching Parts)	28480	29425-60010	REF
15	2680-0106	*SCREW, machine, fh, pozi, 100-deg, 10-32, 0.625 in. long	00000	OBD	4
16	3050-0007	*WASHER, cupped, no. 10	28480	3050-0007	4
17	3050-0248	*WASHER, finish, no. 10 — — — x — — —	28480	3050-0248	4
18	12682-01002	*PANEL, blank (Attaching Parts)	28480	12682-01002	1
19	2680-0106	*SCREW, machine, fh, pozi, 100-deg, 10-32, 0.625 in. long	00000	OBD	4
20	3050-0007	*WASHER, cupped, no. 10	28480	3050-0007	4
21	3050-0248	*WASHER, finish, no. 10 — — — x — — —	28480	3050-0248	4
22	1600-0549	*RAIL, controller (Attaching Parts)	28480	1600-0549	2
23	2680-0244	*SCREW, machine, hex hd, 10-32, 0.375 in. long, w/indented flange lock — — — x — — —	00000	OBD	2
24	No Number	*FRAME ASSEMBLY (see figure 4-2)	28480	No Number	1

- ▲ Used on 29425A Cabinets, serial numbers 1613A-00525 and prior.
- Used on 29425B Cabinets.
- ◆ Used on 29425A Cabinets with serial numbers prefixed 1740 and prior.
- Used on 29425A Cabinets with serial numbers prefixed 1749 and later.

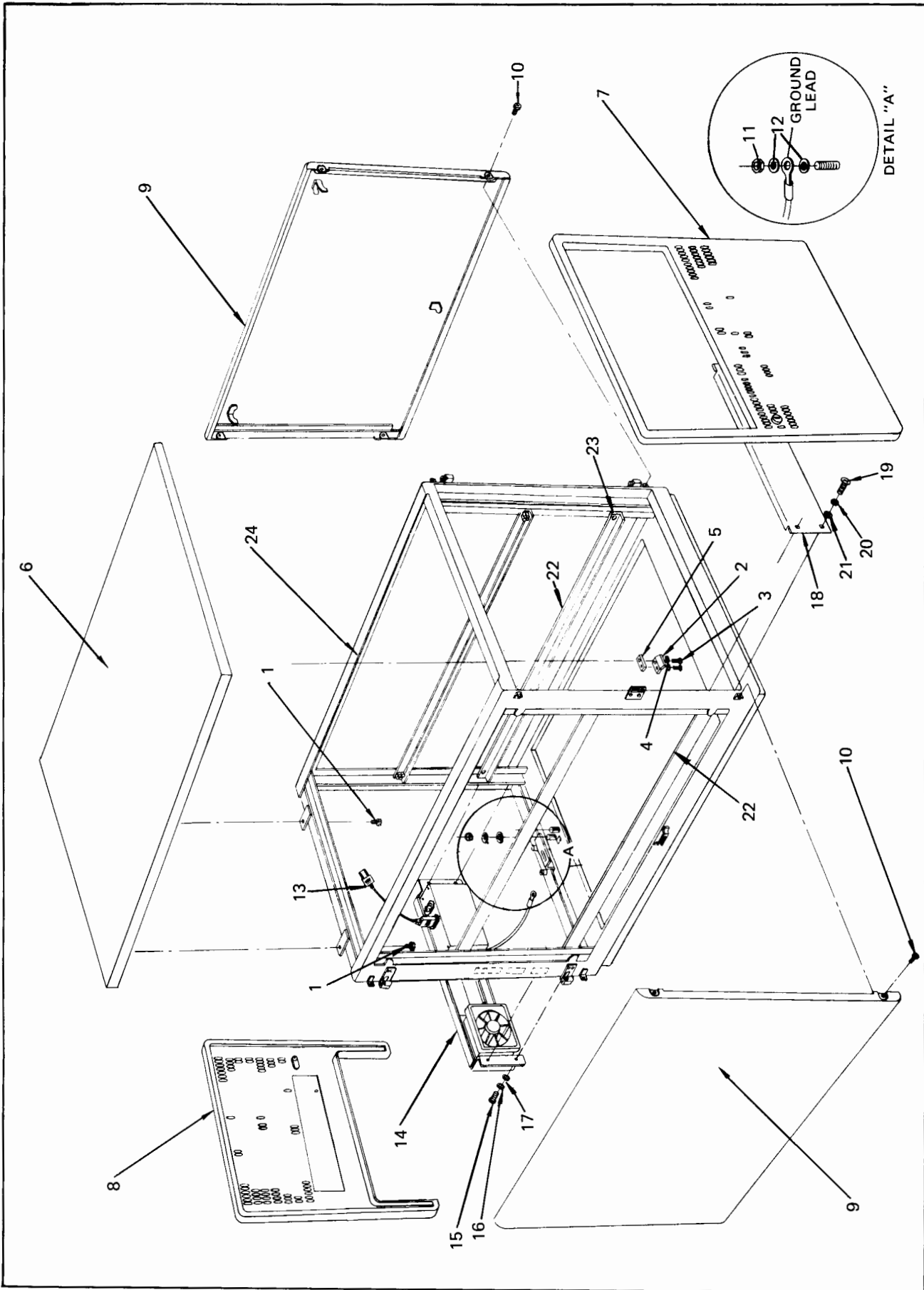


Figure 4-1. HP 29425 Cabinet, Exploded View

REF D-29425-90012-1E

Table 4-2. Frame Assembly, Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-2-1	No Number 1600-0541	FRAME ASSEMBLY (24, figure 4-1) *BRACKET, hinge (Attaching Parts)	28480 28480	NSR 1600-0541	1 4
2	2510-0254	*SCREW, machine, hex hd, 8-32, 0.375 in. long, w/indented flange lock — — — x — — —	00000	OBD	2
3	1600-0548	*BRACKET, angle, right (Attaching Parts)	28480	1600-0548	1
4	2680-0244	*SCREW, machine, hex hd, 10-32, 0.375 in. long, w/indented flange lock — — — x — — —	00000	OBD	4
5	1600-0550	*BRACKET, angle, left (Attaching Parts)	28480	1600-0550	1
6	2680-0244	*SCREW, machine, hex hd, 10-32, 0.375 in. long, — — — x — — —	00000	OBD	4
7	2740-0003	*NUT, hex, no. 10-32, w/lock washer	00000	OBD	12
8	3050-0002	*WASHER, flat, no. 10.	00000	OBD	8
9	1600-0547	*CLAMP, cable	28480	1600-0547	4
10	2680-0069	*SCREW, machine, ph, pozi, 10-32, 1.500 in. long	00000	OBD	4
11	1600-0546	*BRACKET, strain (Attaching Parts)	28480	1600-0546	1
12	2680-0244	*SCREW, machine, hex hd, 10-32, 0.375 in. long, w/indented flange lock — — — X — — —	00000	OBD	2
13	1492-0081	*CASTER (Attaching Parts)	28480	1492-0081	4
14	2950-0169	*NUT, hex, 5/16-18, w/flange lock washer	00000	OBD	4
15	2940-0214	*SCREW, machine, hex hd, 5/16-18, 0.625 in. long, w/indented flange lock — — — X — — —	00000	OBD	4
16	0403-0246	*LEVELLER	28480	0403-0246	4
17	0590-0804	*NUT, sheet metal, 10-32	28480	0590-0804	10

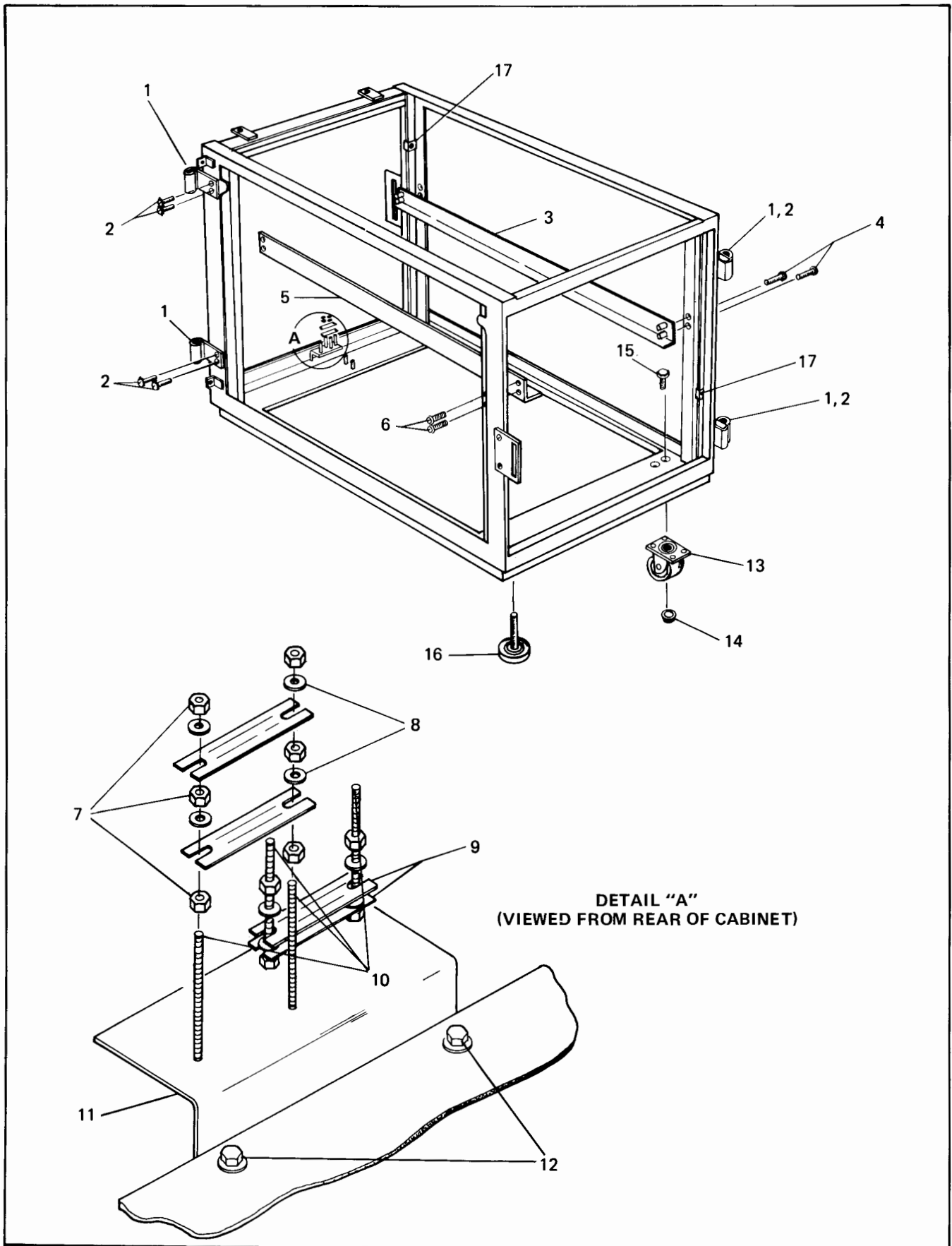


Figure 4-2. Frame Assembly, Exploded View

Table 4-3. Power Panel Assembly (Part no. 02940-60156 and 02940-60157), Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-3- 1	02940-60157●	POWER PANEL ASSEMBLY (14, figure 4-1)	28480	02940-60157	REF
	02940-60156●	POWER PANEL ASSEMBLY (Option 015) (14, figure 4-1)	28480	02940-60156	REF
	02940-60138	*CONNECTOR ASSY, four-receptacle, 120 Vac	28480	02940-60138	1
	02940-60139	*CONNECTOR ASSY, four-receptacle, 240 Vac, (Option 015) (Attaching Parts)	28480	02940-60139	REF
2	2360-0115	*SCREW, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	4
3	3050-0228	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
4	0100-0935	*CLAMP, cable (Standard only)	83833	266	1
5	0100-0168	*CLAMP, cable (Option 015)	83833	3302	1
6	02940-60145	*CABLE, AC power (Standard only)	28480	02940-60145	1
7	02940-60130	*POWER DISTRIBUTION UNIT (see figure 4-4) (Attaching Parts)	28480	02940-60130	1
8	2360-0192	*SCREW, machine, pozi, 100-deg fh, 6-32, 0.25 in. long — — — x — — —	00000	OBD	4
9	3160-0099	*FAN GUARD (Attaching Parts)	28480	3160-0099	1
10	2360-0125	*SCREW, machine, ph, pozi, 6-32, 0.75 in. long, w/ext-tooth	00000	OBD	4
11	3050-0100	*WASHER, flat, no. 6	00000	OBD	4
12	0590-0653	*NUT, sheetmetal-U, 6-32 — — — x — — —	28480	0590-0653	4
13	02940-60176	*CABLE, electrical, three-wire, fan	28480	02940-60176	1
14	0624-0217	*SCREW, self-tapping, ph, pozi, 8-20, 0.50 in. long	00000	OBD	4
15	3050-0228	*WASHER, flat, no. 6	00000	OBD	4
16	0380-0105	*SPACER, no. 8, 0.250 in. long	00000	OBD	4
17	3050-0860	*WASHER, fiber, no. 8	28480	3050-0860	4
18	3160-0341	*FAN, 120 Vac	28875	BS2107F-510H	1
19	3160-0342	*FAN, 240 Vac (Option 015)	28875	BS2107F-531H	REF
	1600-0555	*SHUTTER (Attaching Parts)	28480	1600-0555	1
20	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	2
21	3050-0066	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	2
22	1600-0554	*ACCESS PLATE (Attaching Parts)	28480	1600-0554	1
23	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	4
24	3050-0228	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
25	7101-0398	*PANEL	28480	7101-0398	1

●Used on 29425A Cabinets with serial numbers prefixed 1740 and earlier.

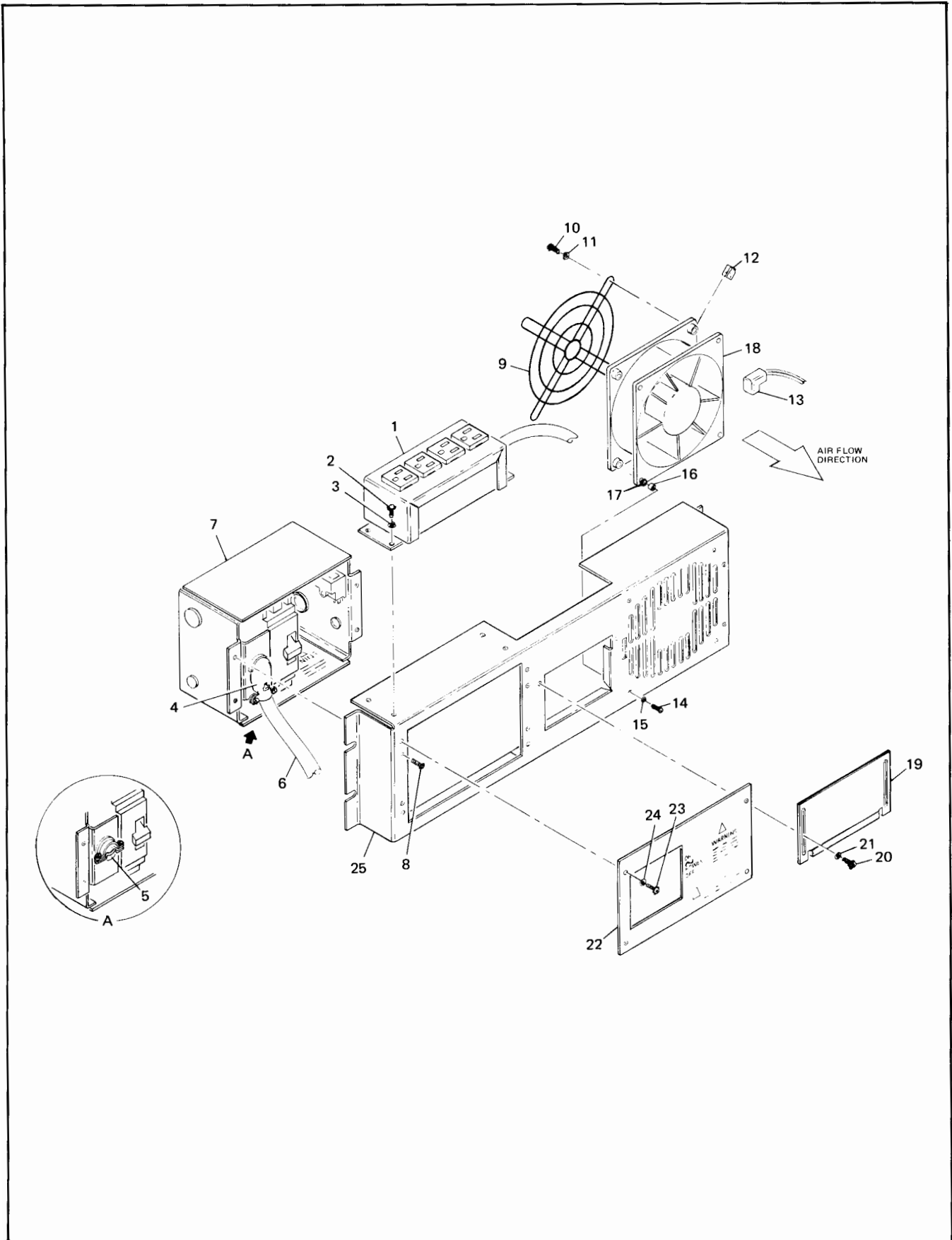


Figure 4-3. Power Panel Assembly (Part no. 02940-60156 and 02940-60157), Exploded View

Table 4-4. Power Distribution Unit (Part no. 02940-60130), Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-4-1	02940-60130 0360-1094	POWER DISTRIBUTION UNIT (7, figure 4-3) *BLOCK, barrier, end (Attaching Parts)	28480 28480	02940-60130 0360-1094	REF 1
2	2510-0045	*SCREW, machine, ph, pozi, 8-32, 0.375 in. long	00000	OBD	2
3	3050-0139	*WASHER, flat, no. 8 --- x ---	00000	OBD	2
4	2510-0049	*SCREW, machine, ph, pozi, 8-32, 0.50 in. long, w/ext-tooth	00000	OBD	2
5	2680-0224	*SCREW, machine, hex hd, 10-32, 0.375 in. long	00000	OBD	3
6	0362-0511	*LUG, box	28480	0362-0511	1
7	02940-21122	*BAR, terminal	28480	02940-21122	1
8	3105-0069	*CIRCUIT BREAKER (Attaching Parts)	56365	QOU215	1
9	2360-0113	*SCREW, machine, ph, pozi, 6-32, 0.25 in. long, w/ext-tooth	00000	OBD	4
10	3050-0100	*WASHER, flat, no. 6 --- x ---	00000	OBD	4
11	02940-01281	*BRACKET, mounting, circuit breaker (Attaching Parts)	28480	02940-01281	1
12	2360-0113	*SCREW, machine, ph, pozi, 6-32, 0.25 in. long, w/ext-tooth --- x ---	00000	OBD	2
13	02940-00307	*PLATE, inlet (Attaching Parts)	28480	02940-00307	1
14	2360-0113	*SCREW, machine, ph, pozi, 6-32, 0.25 in. long, w/ext-tooth --- x ---	00000	OBD	3
15	0360-0698	*BLOCK, terminal (Attaching Parts)	28480	0360-0698	1
16	2360-0127	*SCREW, machine, ph, pozi, 6-32, 0.875 in. long	00000	OBD	1
17	3050-0228	*WASHER, flat, no. 6 --- x ---	00000	OBD	1
18	02940-01288	*COVER, bottom (Attaching Parts)	28480	02940-01288	1
19	2360-0113	*SCREW, machine, ph, pozi, 6-32, 0.25 in. long, w/ext-tooth --- x ---	00000	OBD	4
20	02940-01279	*COVER, top (Attaching Parts)	28480	02940-01279	1
21	2360-0113	*SCREW, machine, ph, pozi, 6-32, 0.25 in. long, w/ext-tooth --- x ---	00000	OBD	4
22	6960-0027	*PLUG, 0.625 in. dia.	28480	6960-0027	1
23	6960-0085	*PLUG, 0.875 in. dia.	28480	6960-0085	2
24	0400-0096	*BUSHING, 0.5 in. dia. ID	28480	0400-0096	1
25	02940-01280	*CHASSIS, power distribution unit	28480	02940-01280	1

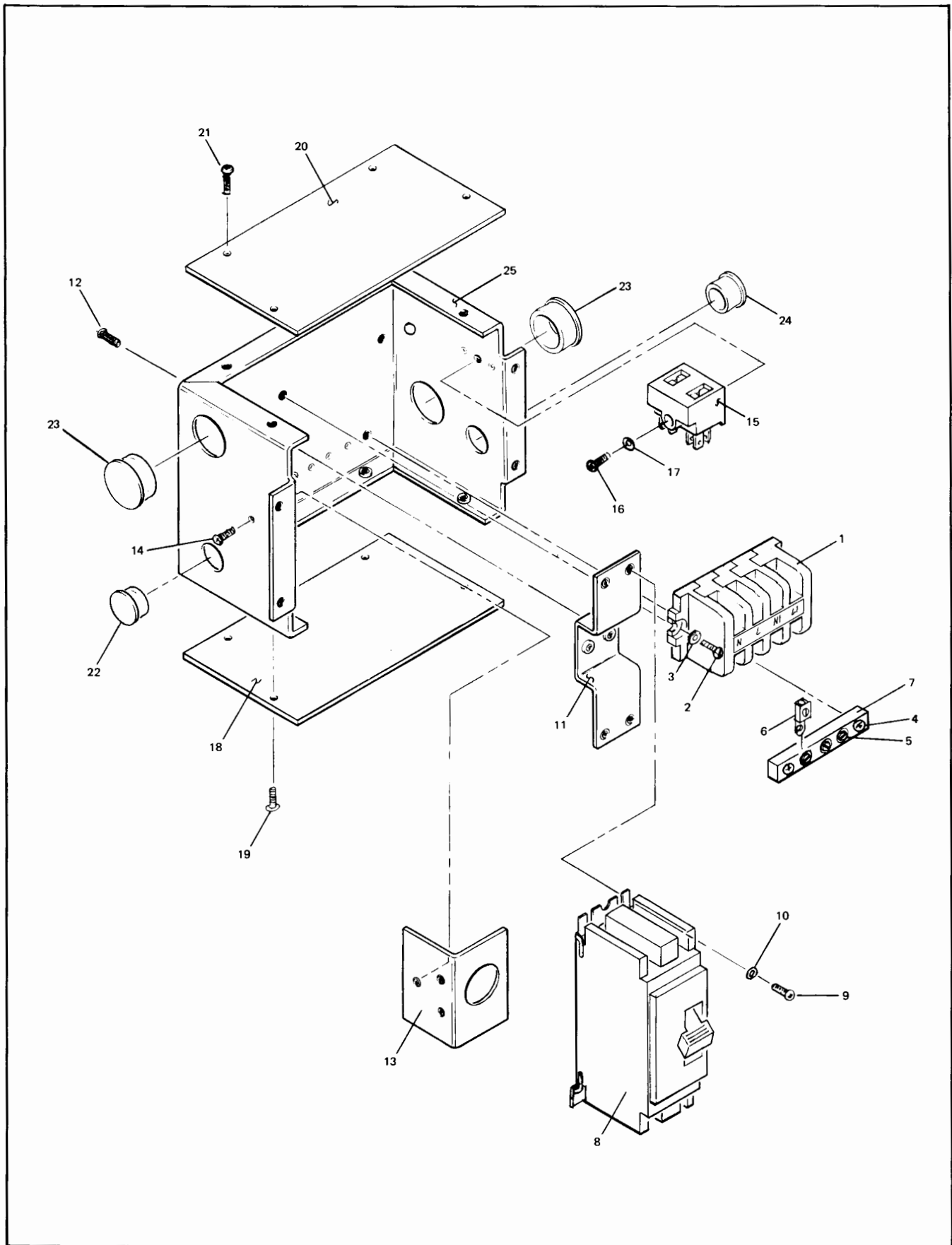


Figure 4-4. Power Distribution Unit (Part no. 02940-60130), Exploded View

Table 4-5. Power Panel Assembly (Part no. 29425-60003 and 29425-60004), Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-5-	29425-60003●	POWER PANEL ASSEMBLY (14, figure 4-1)	28480	29425-60003	REF
	29425-60004●	POWER PANEL ASSEMBLY (Option 015) (14, figure 4-1)	28480	29425-60004	REF
1	8120-2371	*POWER CORD, 120 Vac (only with 29425-60003)	28480	8120-2371	1
2	29425-00004	*ACCESS PLATE (Attaching Parts)	28480	29425-00004	1
3	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long	00000	OBD	4
4	3050-0228	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
5	2360-0192	*SCREW, machine, 100-deg fh, pozi, 6-32, 0.250 in. long	00000	OBD	4
6	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long	00000	OBD	4
7	2360-0117	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.375 in. long	00000	OBD	2
8	1251-4945	*OUTLET, 120 Vac	28480	1251-4945	1
9	29425-00005	*PLATE, top	28480	29425-00005	1
10	29425-00001	*PLATE, top (with outlets), (Option 015) (Attaching Parts)	28480	29425-00001	1
11	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long — — — x — — —	00000	OBD	4
12	29425-00006	*PLATE, bottom (Attaching Parts)	28480	29425-00006	1
13	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long — — — x — — —	00000	OBD	4
14	3105-0069	*CIRCUIT BREAKER (Attaching Parts)	28480	3105-0069	1
15	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long	00000	OBD	4
16	3050-0066	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
17	29425-00003	*INLET CONNECTOR PLATE (with connector) (Attaching Parts)	28480	29425-00003	1
18	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long — — — x — — —	00000	OBD	2
19	29425-00007	*CHASSIS, power panel	28480	29425-00007	1
20	1600-0555	*SHUTTER (Attaching Parts)	28480	1600-0555	1
21	2360-0115	*SCREW, machine, ph, pozi, w/ext-tooth, 6-32, 0.312 in. long	00000	OBD	2
22	3050-0066	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	2
23	3160-0099	*FAN GUARD (Attaching Parts)	28480	3160-0099	1
24	2360-0125	*SCREW, machine, ph, pozi, 6-32, 0.750 in. long	00000	OBD	4
25	3050-0066	*WASHER, flat, no.6	00000	OBD	4
26	0590-0653	*NUT, sheetmetal-U, 6-32 — — — x — — —	00000	OBD	4
27	3160-0341	*FAN, 120 Vac	28875	BS2107F-510H	1
	3160-0342	*FAN, 240 Vac (Option 015) (Attaching Parts)	28875	BS2107F-531H	REF
28	0624-0248	*SCREW, tapping, hex head, 8-32, 0.750 in. long	00000	OBD	4
29	3050-0139	*WASHER, flat, no. 8	00000	OBD	4
30	0380-0105	*SPACER, metallic, rnd, 0.250 in. long	00000	OBD	4
31	3050-0860	*WASHER, fiber, no. 8 — — — x — — —	00000	OBD	4
32	29421-00006	*PANEL	28480	29421-00006	1

●Used on HP 29425A Cabinets with serial numbers prefixed 1749 and later.

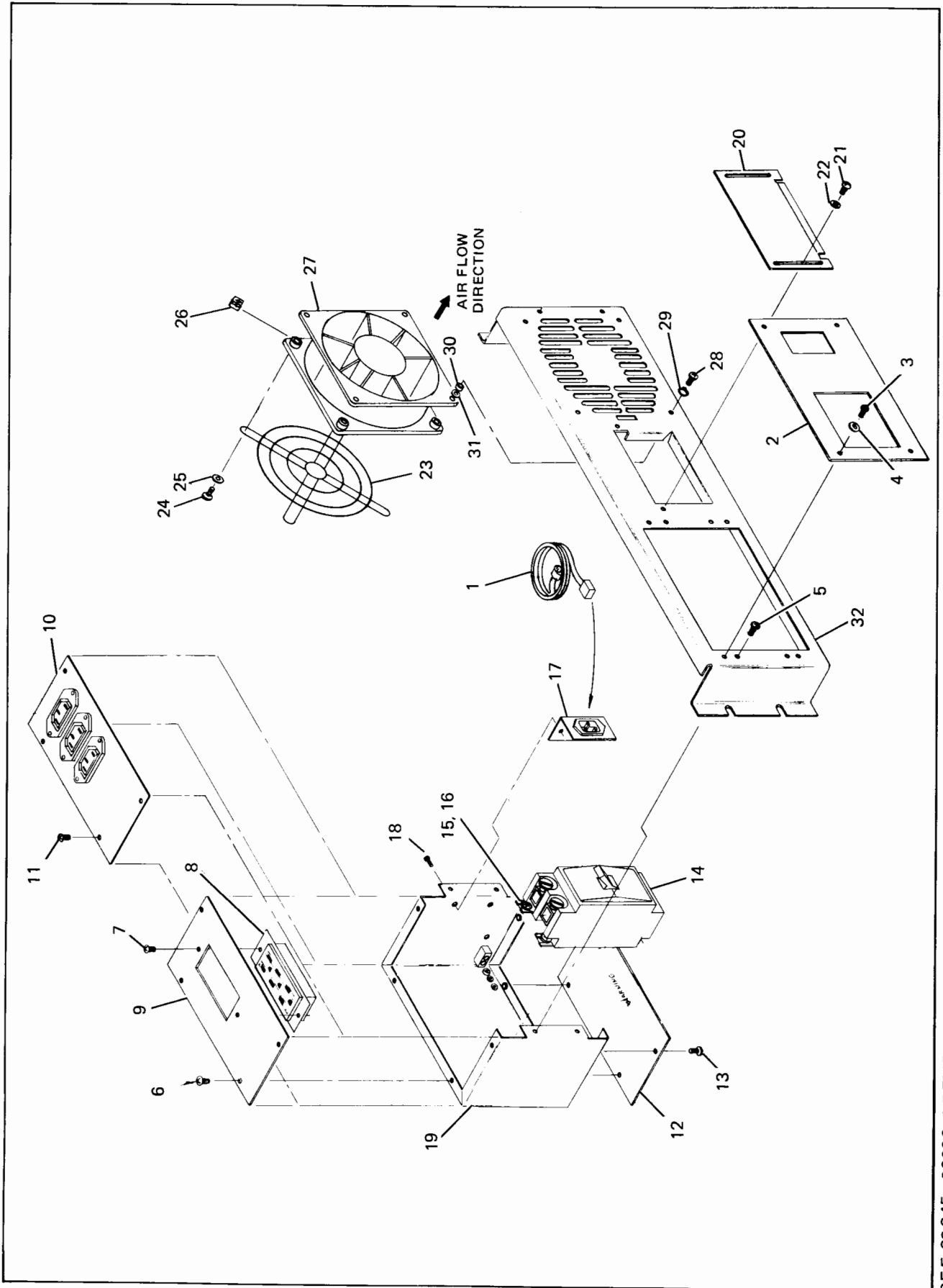


Figure 4-5. Power Panel Assembly (Part no. 29425-60003 and 29425-60004), Exploded View

REF 29 245 - 90006 1 REV D

Table 4-6. Power Panel Assembly (Part no. 29425-60009 and 29425-60010), Replaceable Parts

FIG. & INDEX NO.	HP PART NO.	DESCRIPTION	MFR CODE	MFR PART NO.	UNITS PER ASSY
4-6-	29425-60009●	POWER PANEL ASSEMBLY (14, figure 4-1)	28480	29425-60009	REF
	29425-60010●	POWER PANEL ASSEMBLY (Option 015) (14, figure 4-1)	28480	29425-60010	REF
1	29425-00012	*ACCESS PLATE	28480	29425-00012	1
	29425-00013	*ACCESS PLATE (Option 015) (Attaching Parts)	28480	29425-00013	REF
2	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	4
3	3050-0407	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
4	2360-0181	*SCREW, machine, 82-deg fh, pozi, 6-32, 0.250 in. long	00000	OBD	4
5	29425-00010	*PLATE, top (with outlets) (Attaching Parts)	28480	29425-00010	1
6	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	4
7	29425-00014	*PLATE, bottom (Attaching Parts)	28480	29425-00014	1
8	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	4
9	9135-0107	*LINE FILTER (Attaching Parts)	28480	9135-0107	1
10	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	2
11	63312-80109	*INDUCTOR (Option 015 only)	28480	63312-80109	1
12	3101-2377	*SWITCH, rocker, DPDT (Attaching Parts)	02392	9221J3Z4Q	1
13	2260-0001	*NUT, hex, 4-40	00000	OBD	2
14	0380-0174	*STANDOFF, rd, 4-40, 0.250 in. long	00000	OBD	2
15	3050-0229	*WASHER, flat, no. 4 — — — x — — —	00000	OBD	2
16	2110-0565	*CAP, fuseholder	28480	2110-0565	1
17	2110-0383	*FUSE, 8A, 250V, Slo-Blo	71400	MDA-8	1
18	2110-0365	*FUSE, 4A, 250V, Slo-Blo (Option 015)	71400	MDA-4AMP	REF
	2110-0566	*FUSEHOLDER (Attaching Parts)	28480	2110-0566	1
19	2110-0569	*NUT, fuseholder — — — x — — —	28480	2110-0569	1
20	29425-00011	*BRACKET, switch (Attaching Parts)	28480	29425-00011	1
21	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth — — — x — — —	00000	OBD	2
22	29425-00015	*CHASSIS, power panel	28480	29425-00015	1
23	1600-0555	*SHUTTER (Attaching Parts)	28480	1600-0555	1
24	2360-0115	*SCREW, machine, ph, pozi, 6-32, 0.312 in. long, w/ext-tooth	00000	OBD	2
25	3050-0464	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	2
26	3160-0099	*FAN GUARD (Attaching Parts)	28480	3160-0099	1
27	2360-0123	*SCREW, machine, ph, pozi, 6-32, 0.625 in. long	00000	OBD	4
28	3050-0464	*WASHER, flat, no. 6	00000	OBD	4
29	0590-0653	*NUT, sheetmetal-U, 6-32 — — — x — — —	00000	OBD	4
30	3160-0341	*FAN, 120 Vac	28875	BS2107F-510H	1
	3160-0342	*FAN, 240 Vac (Option 015) (Attaching Parts)	28875	BS2107F-531H	REF
31	2360-0123	*SCREW, machine, ph, pozi, 6-32, 0.625 in. long	00000	OBD	4
32	2190-0464	*WASHER, flat, no. 6 — — — x — — —	00000	OBD	4
33	29421-00006	*PANEL	28480	29421-00006	1

● Used on HP 29425B Cabinet.

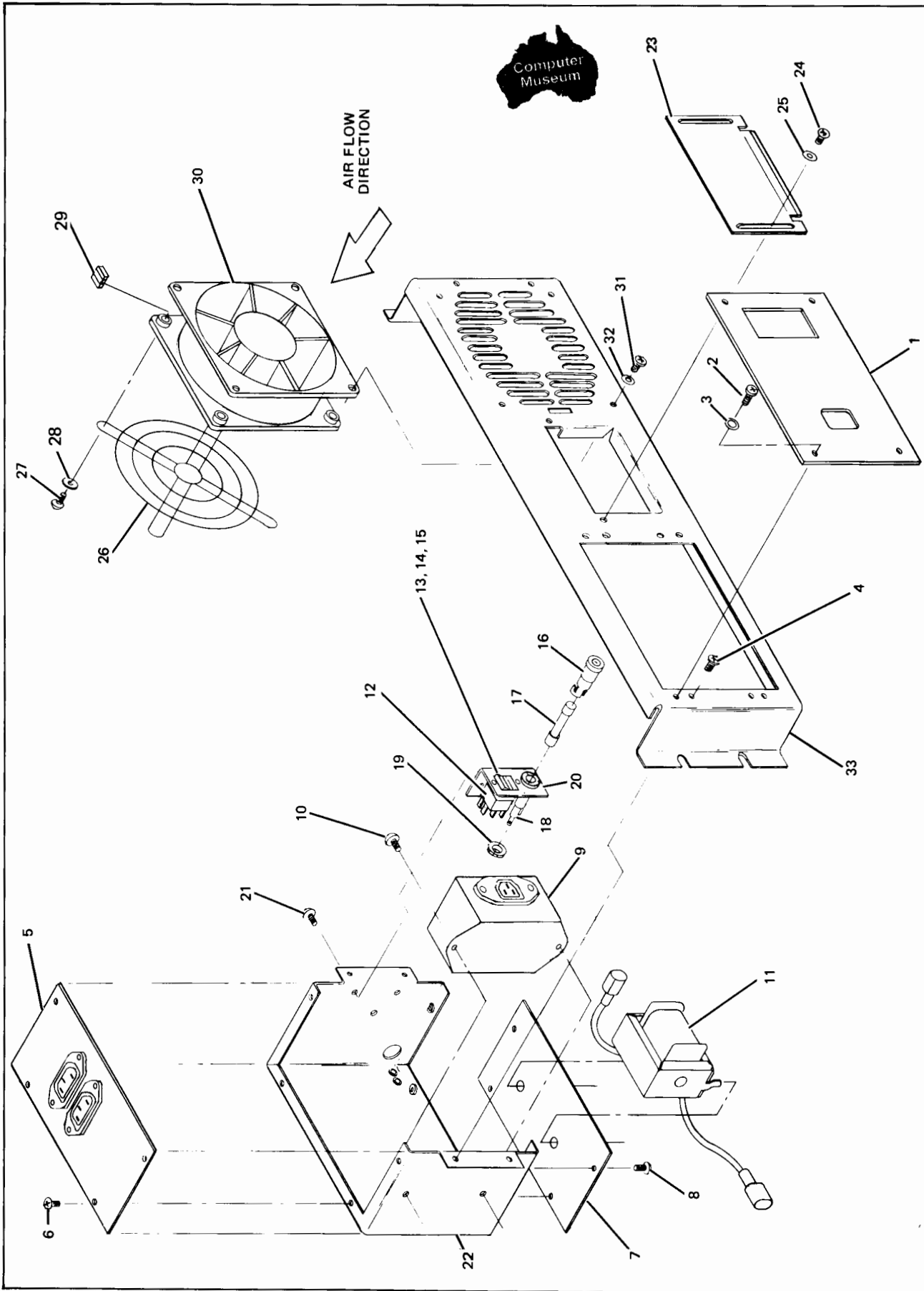


Figure 4-6. Power Panel Assembly (Part no. 29425-60009 and 29425-60010), Exploded View

REF D-29425-90010-1 REV D

Table 4-7. Reference Designations and Abbreviations

REFERENCE DESIGNATIONS		
A = assembly	H = hardware	T = transformer
B = blower, fan, motor, synchro	J = jack, receptacle connector	TB = terminal board
BT = battery	K = relay	TP = test point
C = capacitor	L = inductor	U = integrated circuit, non-repairable assembly
CB = circuit breaker	M = meter	V = electron tube
CR = diode	MP = mechanical part	VR = voltage regulator
DL = delay line	P = plug connector	W = cable assembly (with connectors), wire
DS = indicator lamp	Q = semiconductor device other than diode or integrated circuit	X = socket
E = contact, miscellaneous electrical part	R = resistor	Y = crystal unit
F = fuse	RT = thermistor	Z = network, tuned circuit
FL = filter	S = switch	
ABBREVIATIONS		
A = ampere(s)	Hg = mercury	PCA = printed-circuit assembly
ac = alternating current	Hz = Hertz	ph = pan head
Al = aluminum		phh = phillips head
AR = as required	ID = inside diameter	PNP = positive-negative-positive (transistor)
assy = assembly	impreg = impregnated	P/O = part of
	in. = inch, inches	porc = porcelain
Be Cu = beryllium copper	incand = incandescent	posn = position
brs = brass	incl = include(s)	pot = potentiometer
	insul = insulation, insulated	pozi = Pozidriv
c = centi (10 ⁻²)	int = internal	qty = quantity
C = Celsius, centigrade	I/O = input/output	rdh = round head
Cd pl = cadmium plate		rect = rectifier
cer = ceramic	k = kilo (10 ³), kilohm	ref = reference
CMOS = complementary metal-oxide transistors	kg = kilogram	rf = radio frequency
comp = composition	lb = pound	rh = right hand
conn = connector	LED = light-emitting diode	rms = root-mean-square
CRT = cathode-ray tube	lh = left hand	rpm = revolutions per minute
CTL = complementary transistor logic	lin = linear	RTL = resistor-transistor logic
		rwv = reverse working voltage
d = deci (10 ⁻¹)	M = mega (10 ⁶), megohm	sb = slow blow
dc = direct current	m = milli (10 ⁻³)	SCR = semiconductor-controlled rectifier
deg = degree(s)	met oxd = metal oxide	Se = selenium
depc = deposited carbon	mfr = manufacturer	Si = silicon
dia = diameter	mintr = miniature	spcl = special
dpdt = double-pole, double-throw	misc = miscellaneous	spdt = single-pole, double throw
dpst = double-pole, single-throw	mom. = momentary	spst = single-pole, single throw
DTL = diode transistor logic	mtg = mounting	sst = stainless steel
	My = Mylar	stl = steel
ECL = emitter-coupled logic		Ta = tantalum
elctt = electrolytic	n = nano (10 ⁻⁹)	Ti = titanium
encap = encapsulated	n.c. = normally closed	tgl = toggle
ext = external	Ne = neon	thd = thread
	no. = number	tol = tolerance
F = Fahrenheit, farad	n.o. = normally open	TTL = transistor-transistor logic
FET = field-effect transistor	np = nickel plated	U (μ) = micro (10 ⁻⁶)
FF = flip-flop	NPN = negative-positive-negative (transistor)	V = volt(s)
fig. = figure	NPO = negative-positive zero (zero temperature coefficient)	var = variable
filh = fillister head	NRRFR = not recommended for field replacement	Vdcw = direct current working volts
fh = flat head	NSR = not separately replaceable	W = watt(s)
flm = film		w/ = with
fxd = fixed		WIV = inverse working volts
		ww = wire-wound
G = giga (10 ⁹)	OBD = order by description	
GE = germanium	OD = outside diameter	
gl = glass	ovh = oval head	
	oxd = oxide	
H = henry, henries		
hd = head	p = pico (10 ⁻¹²)	
hdw = hardware	PC = printed-circuit	
hex = hexagon, hexagonal		

Table 4-8. Code List of Manufacturers

The following code numbers are extracted from the Federal Supply Code for Manufacturers Cataloging Handbooks H4-1, and H4-2, and their supplements.					
CODE NO.	MANUFACTURER	ADDRESS	CODE NO.	MANUFACTURER	ADDRESS
02392	C and K Components	Watertown, Ma	71400	McGraw Edison Co.,	
28480	Hewlett-Packard Co.....	Palo Alto, Ca		Bussman Mfg.Div.	St. Louis, Mo
28875	IMC Magnetcs Corp. NH Div.....	Rochester, NH	83833	Thomas & Betts Co.	Indianapolis, In
56365	Square D Co.	Park Ridge, Il			

