

DISE/PDISE SYSTEMS USED WITH DEPMEDS

a. The M-400 - Power Distribution Panel (PDP), 100KW, Model PEU-155/E, LIN P60558, NSN 6110-01-248-6671. (Figure 15-4)

(1) The M-400 is a skid-mounted, self-contained, all-weather-power distribution system designed for battlefield environment.

(2) Circuit breakers

(a) Two 400-amp per phase, main input breaker, provides safety protection between PDP M-400 and generator power supply. The main circuit breakers enable the operator to select from two possible sources of input power when connected to separate power sources.

(b) Four 100-amp per phase, output breakers, provide dedicated circuit protection for each output connector. These circuit breakers prevent output power to that associated connector from exceeding a current of 100-amps per phase. These breakers also enable the operator to turn power to individual circuits on and off as required.

(c) Ten 60-amp per phase, output breakers, same as 100-amp, but limit power out put to 60-amp.

(3) Interlock bar, functions as a manual safety interlock by physically preventing both main circuit breakers from being closed simultaneously, preventing power from both circuit breakers being applied to the internal bus bars (wiring) at the same time. In addition, the interlock prevents input power from one set of load terminals from being applied to the remaining set of input terminals.

(4) Phase Indicator Lights: 3 lights will glow green when power is available at the output side on the main breaker. Each light is associated with a separate power phase (A, B, or C).

(5) Solenoid Interlock (Figure 15-3), two (2) located inside each terminal block access door panel. This is a safety device that prevents the access door panel from being opened when power is applied to the PDP M-400.

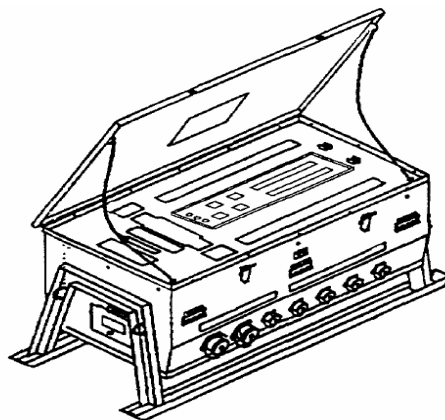


Figure 15-4. PDP M-400

b. The M-100 - Electrical Feeder System, Model M-100 or M100 A/P, LIN F55621, NSN 6150-01-208-9754 or 6150-01-308-5671. (Figure 15-5)

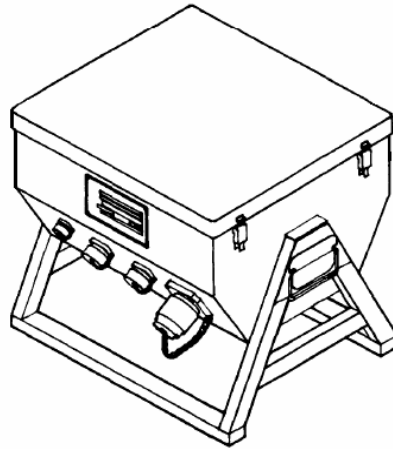


Figure 15-5. M-100

(1) The M-100 is a skid-mounted, self-contained, all weather electrical feeder system designed for battlefield environment.

(2) Circuit breakers:

(a) One 100-amp per phase, main input breaker, provides safety protection between M-100 and generator or power supply. The main circuit breaker enables the operator to turn power to individual circuits on and off as required.

(b) Two 60-amp per phase, output breakers, provide dedicated circuit protection for each output connector. These circuit breakers prevent output power to the associated connector from exceeding a current of 60 amps per phase. These breakers also allow the operator to tune power to individual circuits on and off as required.

(c) Two 40-amp per phase, output breakers, same as 60-amp but limit power out put to 40 amp.

(d) Two 20-amp single phase, output breakers, same as 60-amp but limit power out put to 20 amp. On the M-100 these breakers are Ground Fault (GF), designed to interrupt the circuit when a current flow occurs to the ground wire. The M-100 A/P do not utilize GF breakers.

(3) Phase Indicator Lights: Three (3) lights will glow green when power is supplied to the feeder center. Each light is associated with a separate power phase (A, B, or C).

(4) The 100-amp pass-thru connection: This connection allows a separate 100-amp cable to be connected for output to further end users. This is a direct connection so it does not have a circuit breaker to stop the power flow; it's like connecting two (2) cables together.

(5) Table 15-1. Components of End Item (COEI)

NSN	Description	Qty	Figure
6150-01-256-6300	Cable Pigtail, 4ft, 200amp	1	15-6
6150-01-256-6304	Cable Service/Feeder, 100amp 50ft	2	15-7
6150-01-256-6299	Strap, Cable Carrying	8	15-7

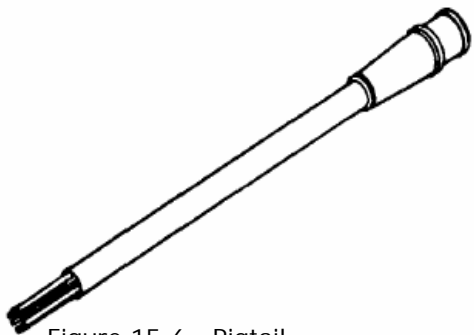


Figure 15-6. Pigtail

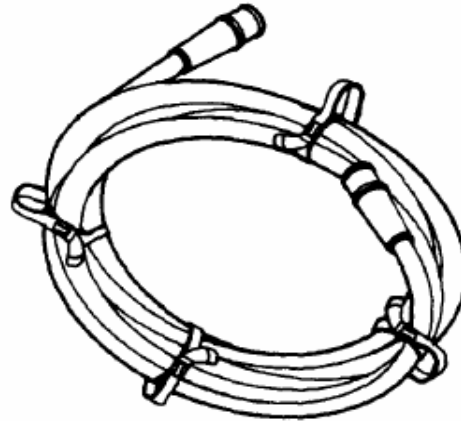


Figure 15-7. Cable 100-amp, 50 ft & Carry Strap

c. The M-40 - Electrical Distribution System, Model M-40 or M40 A/P, LIN F55485, NSN 6150-01-208-9753 or 6150-01-307-9446 (Figure 15-8).

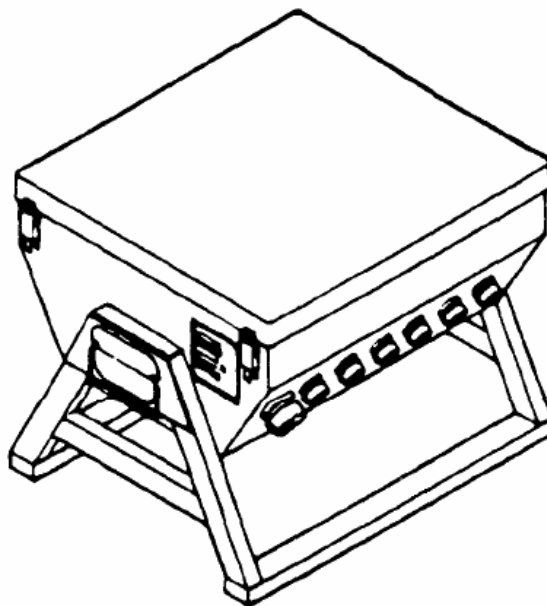


Figure 15-8. M-40

(1) The M-40 is a skid-mounted, self-contained, all-weather electrical distribution system designed for battlefield environment. It is mainly used with the M-46 Utility Assembly to provide power for lights and house hold type receptacles.

(2) Circuit breakers

(a) One, 40-amp per phase, main input breaker, provides safety protection between M-40 and generator or power supply. The main circuit breaker enables the operator to turn power to individual circuits on and off as required. This breaker also controls the 40 amp output connection.

(b) Twelve, 20-amp single-phase, output breakers, provide dedicated circuit protection for each output connector. These circuit breakers prevent output power to that associated connector from exceeding a current of 20 amps. These breakers also enable the operator to tune power to individual circuits on and off as required. On the M-40, six of these breakers are Ground Fault (GF), designed to interrupt the circuit when a current flow occurs to the ground wire. The M-40 A/P does not utilize GF breakers.

(3) Phase Indicator Lights: 3 lights will glow green when power is supplied to the distribution system. Each light is associated with a separate power phase, (A, B, or C).

(4) Table 15-2. COEI

NSN	Description	Qty	Figure
6150-01-256-6301	Cable Pigtail, 4ft, 40/60amp	1	15-9
6150-01-247-4781*	Cable Service/Feeder, 40/60 amp 100 ft	1	15-10
6150-01-250-3643*	Cable Service/Feeder, 40/60 amp 50 ft	2	15-10
6150-01-256-6299	Strap, Cable Carrying	16	15-10
6150-01-251-9125	Box, Receptacle 120 V, 20 amp	1	15-11
6150-01-256-6298	Container, Transit & Storage	1	15-12
6150-01-250-3643	Cable, Extension, 50 ft, 20 amp	3	15-13
6150-01-250-0044	Cable, Extension, 25 ft, 20 amp	32	15-13
6150-01-253-4290	Cable, Light Set, 25 outlet	2	15-13

*Older sets have two 50-ft cables; newer ones use one 100-ft cable

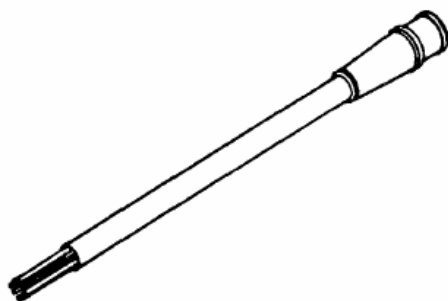


Figure 15-9. Pigtail

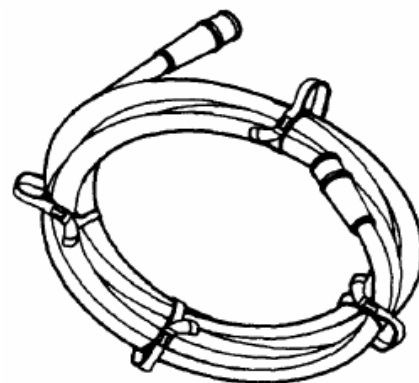


Figure 15-10. Cable & Carry Strap

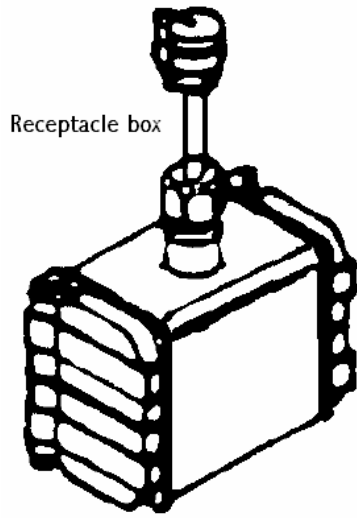


Figure 15-11. Receptacle box

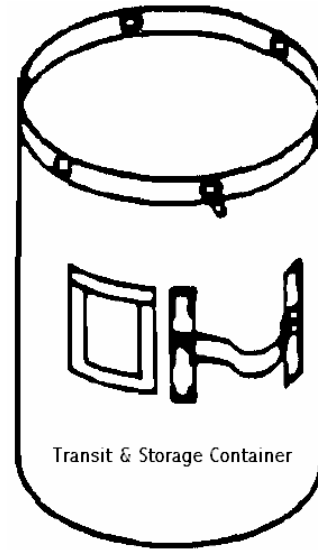


Figure 15-12. Transit & storage container

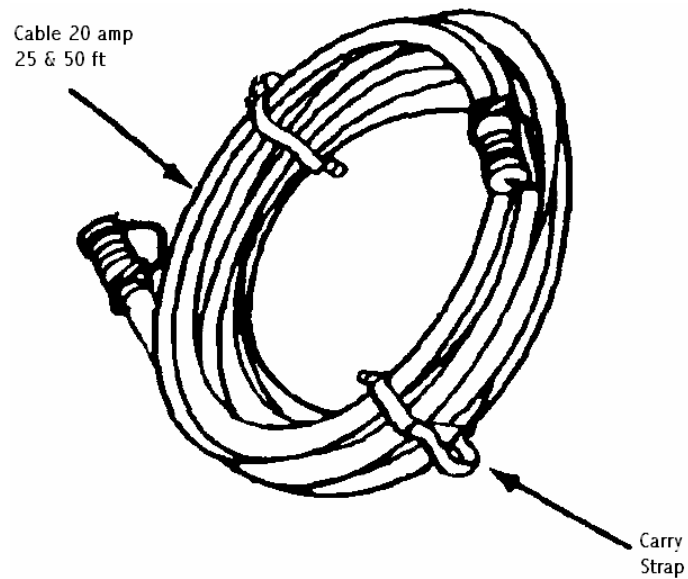


Figure 15-13. 20-amp Cables

d. The M-46 - Electrical Utility Assembly, Model M-46, NSN 6150-01-208-9751, LIN U89185. (Figure 15-14)



Figure 15-14. M-46 Utility Assembly

(1) The M-46 electrical utility assembly is designed to connect to the DISE/PDISE outputs. The M-46 system consists of various electrical cables, lights for illumination, and all weather electrical household type, 120-volt, duplex receptacles for plugging in electrical loads not to exceed the rating of the circuit breaker it is connected to (Figure 15-23). The M-46 is to be used with the DISE/PDISE feeder or a distribution system only, the M-46 does not have built in fuse or circuit breaker protection.

(2) Table 15-3. COEI

NSN	Description	Qty	Figure
Pt #13229E6362*	Container, Transit & Storage	1	15-14
6150-01-256-6298*	Container, Transit & Storage	2	15-15
6150-01-251-9124	Cable Assy, Branch Circuit, 20 amp 24 Ft	2	15-16
6150-01-250-0045	Strap, Cable securing	6	15-17
6150-01-251-9125	Box, Receptacle 120 V, 20 amp	6	15-18
6150-01-247-4766	Cable, Extension, 20 amp 15 ft	6	15-19
6230-01-247-4784	Light, Utility 120 V, Dual socket,	2	15-20
6150-01-256-6302	Rope Assembly, Support 53 ft	2	15-21
6150-01-264-2068	Kit, Light bulb	3	15-22
6240-00-689-8504	75 w White Light Bulb	3	15-22
6240-00-617-1744	40 w Blue Light Bulb	3	15-22

* Some sets have two Storage bags; others use one large plastic box

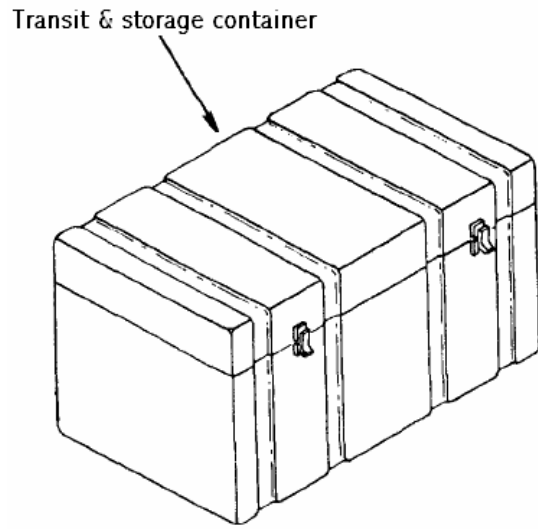


Figure 15-14. Transit & storage container

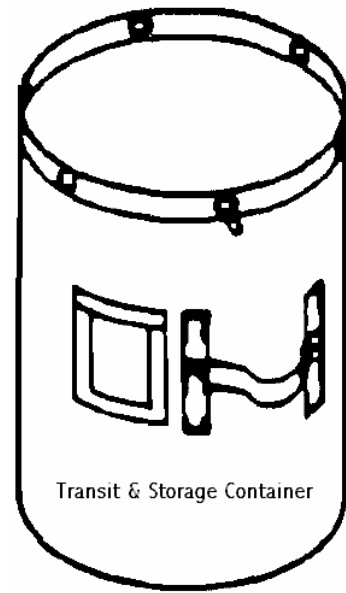


Figure 15-15. Transit & storage container

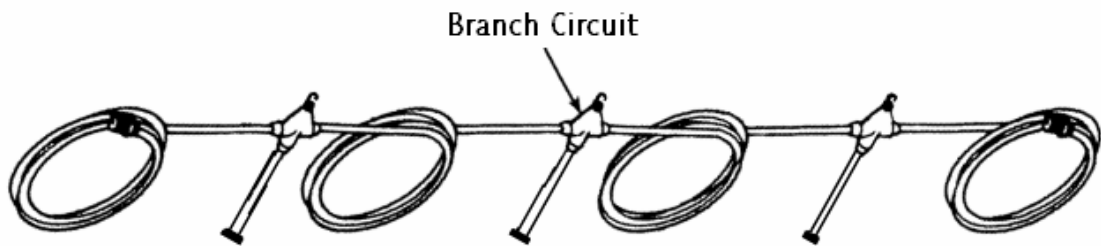


Figure 15-16. Cable Assembly Branch Circuit 24 ft

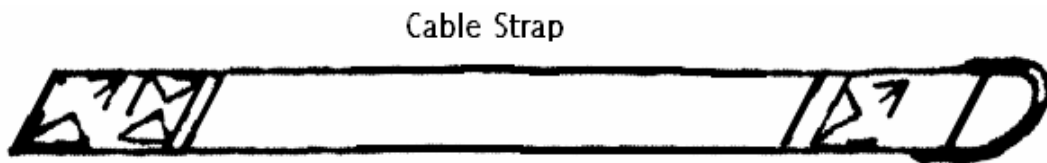


Figure 15-17. Cable Strap

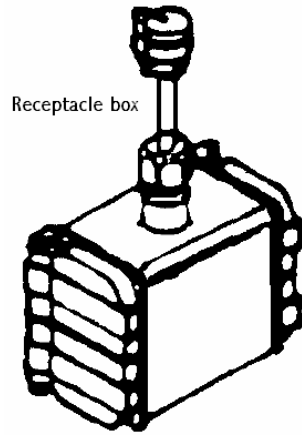


Figure 15-18. Receptacle Box

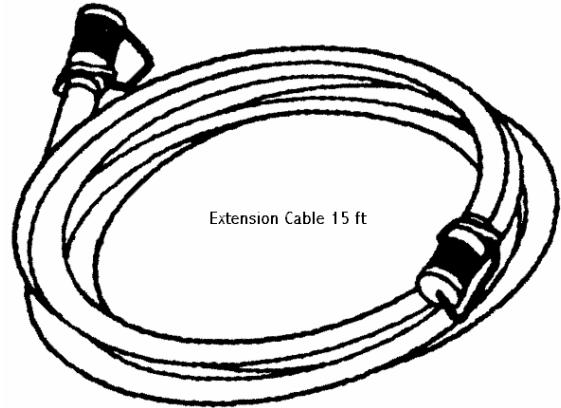


Figure 15-19. Extension Cable 15 ft

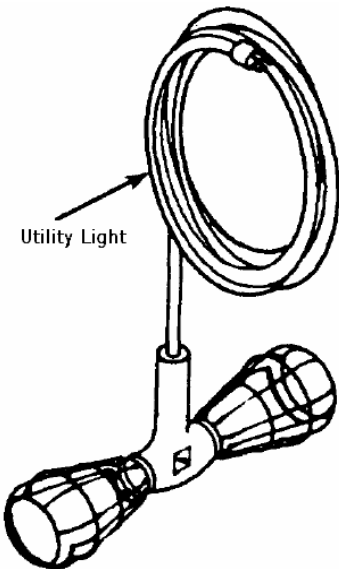


Figure 15-20. Utility Light

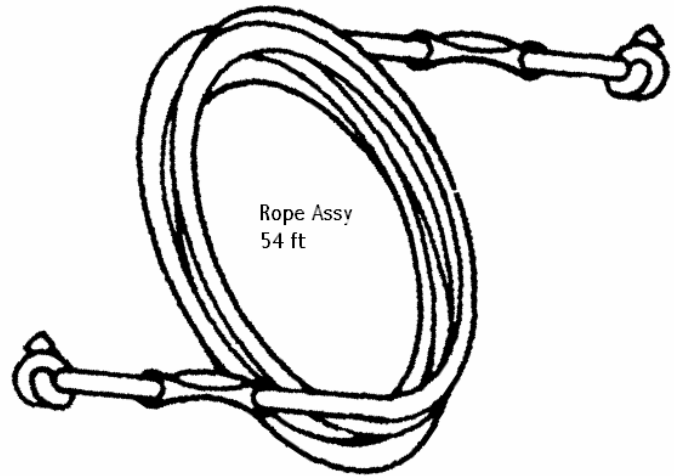


Figure 15-21. Rope Assembly 54ft

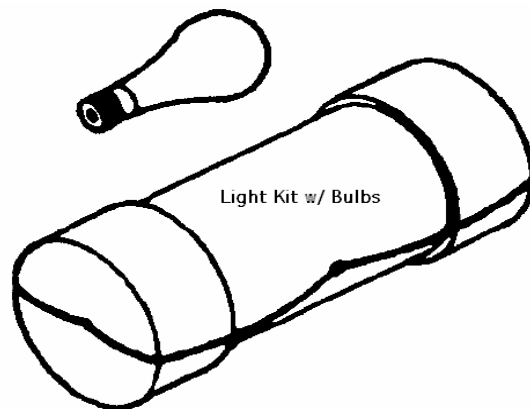


Figure 15-22. Light Kit and Light Bulbs

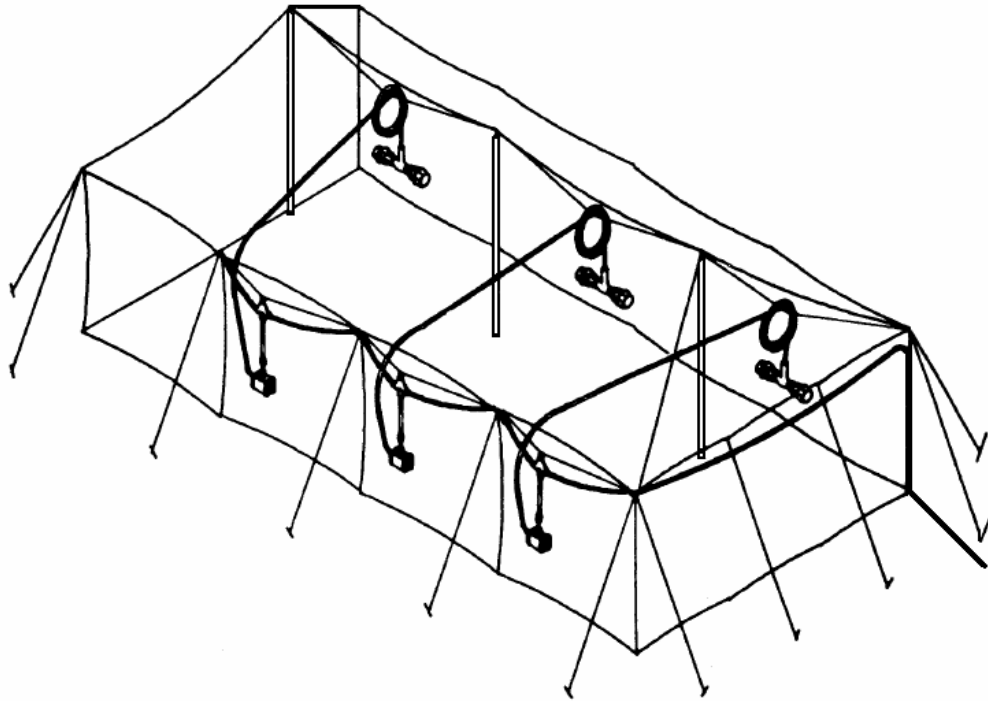


Figure 15-23. Typical M-46 tent set up

15-5. CABLE ASSEMBLIES

a. Your choice of DISE/PDISE cables should be based on the distance between the locations selected for the generator set, the distribution centers (M-400, M-100, M-40), and end users (shelters, TEMPER, tents). The total cable lengths between the generator set (power source) and the end user equipment can not exceed 300 feet. The greater the distance between the generator set (the power source) and the end user, the greater the decrease in voltage. If the user equipment is sensitive to voltage loss (i.e., the X-Ray) you may have to use shorter cables.

b. Cable routing is very important to troop and equipment safety. Cables should be routed to avoid vehicle roadway and troop walkways. If a cable must cross a roadway or walking traffic path, bury the cable as described in *FM 20-31 (Engine-Driven Electrical Generator Sets)*, or use industrial grade cable protectors (Figure 15-24). Do not lay cable connectors in depressions where water can collect.



Figure 15-24. Industrial type cable protectors

c. Phase-Cable Assembly, NSN 6150-01-258-1202.

Phase cables are used to connect (hard wire) the generator terminal lugs to the M-400 PDP terminal blocks. The assembly consists of four Phase cables; 600 amp per cable, 100 feet in length, and one System Ground; 350 amp cable, 100 feet in length.

d. 100-Amp Service Feeder Cable, NSN 6150-01-256-6304 (COEI M-100) if ordered/issued separately NSN 6150-01-220-5587.

One Hundred (100)-amp cables are used to connect M-400 PDP to the M-100 and some end users (shelters). They can also be used between the power source (generator) and M-100 or end user if a 100 amp pigtail is used at the power source (generator). These cables are 3 phase, 50 ft in length, with a 3 inch diameter class "L" connector on both ends.

e. 60-Amp Service Cables. 40/60 amp cables are used to connect M-400 PPD and/or M-100 to the M-40 and end users. They can also be used between the power source and M-40 or end user if a 60-amp pigtail is used at the power source (generator). These cables are 3 phase, with a 2 ½-inch diameter class "L" connector on both ends.

- (1) 50-ft length NSN 6150-01-250-3643 (COEI M-40)
- (2) 100-ft length NSN 6150-01-247-4781 (COEI M-40)
- (3) 100-ft length NSN 6150-01-220-5588 (ordered/issued separately)

f. Pigtail

Pigtails are 4 feet in length, with appropriate size class "L" connector on one end, bare cable/wires on the other either. They are used to adapt generators and local power sources to military DISE/PDISE type connections. The NSN 6150-01-256-6300 is for the 100/200-amp pigtail, NSN 6150-01-256-6301 for the 40/60-amp pigtail.

15-6. DISE/PDISE INVENTORIES

When inventories are conducted of the power equipment, you need to take into account the cables that are issued, and the cables that are COEI. Using the information provided in this chapter and in Table 15-4, below, you will be able to do a complete and accurate inventory of all your power equipment.

Table 15-4. Cable Distribution Per PDP & DISE/PDISE							
NSN	Nomenclature	M400		M100		M40	
		COEI	AAL	COEI	AAL	COEI	AAL
6150-01-258-1202	Cable Assy, phase (100 ft)	0	2	0	0	0	0
6150-01-256-6304	Cable Assy, 100 amp (50 ft)	0	Sub	2	0	0	0
6150-01-220-5587	Cable Assy, 100 amp (50 ft)	0	4	Sub	0	0	0
6150-01-247-4781	Cable Assy, 40/60 amp (100 ft)	0	Sub	0	0	1*	0
6150-01-220-5588	Cable Assy, 40/60 amp (100 ft)	0	10	0	0	Sub	0
6150-01-250-3643	Cable Assy, 40/60 amp (50 ft)	0	0	0	0	2*	0

* Either/Or, not both, (100-ft total of cable)

SEE NOTE: regarding this Table on the next page.

NOTE for Table 15-4:

- Phase cables were originally issued based on one set per M-400 PDP.
- 100-amp Cables were originally issued based on four per M-400 PDP.
- 60-amp Cables were originally issued based on ten per M-400 PDP.

15-7. DISE/PDISE AUXILIARY EQUIPMENT

The user requirements will vary according to the field situation; extra DISE/PDISE components may be required. The *TM 9-6150-226-13* provides the authorization to requisition these items on an "as required" basis. The paragraph 2-9 section "b" lists optional items that may be used to tailor the DISE/PDISE systems to your field situation and requirements.