



# Parts Manual

**Our energy working for you.™**



## Generator Set

NT4 (Spec E)  
DFBD (Spec A, E)



**NT4**

**Spec E**

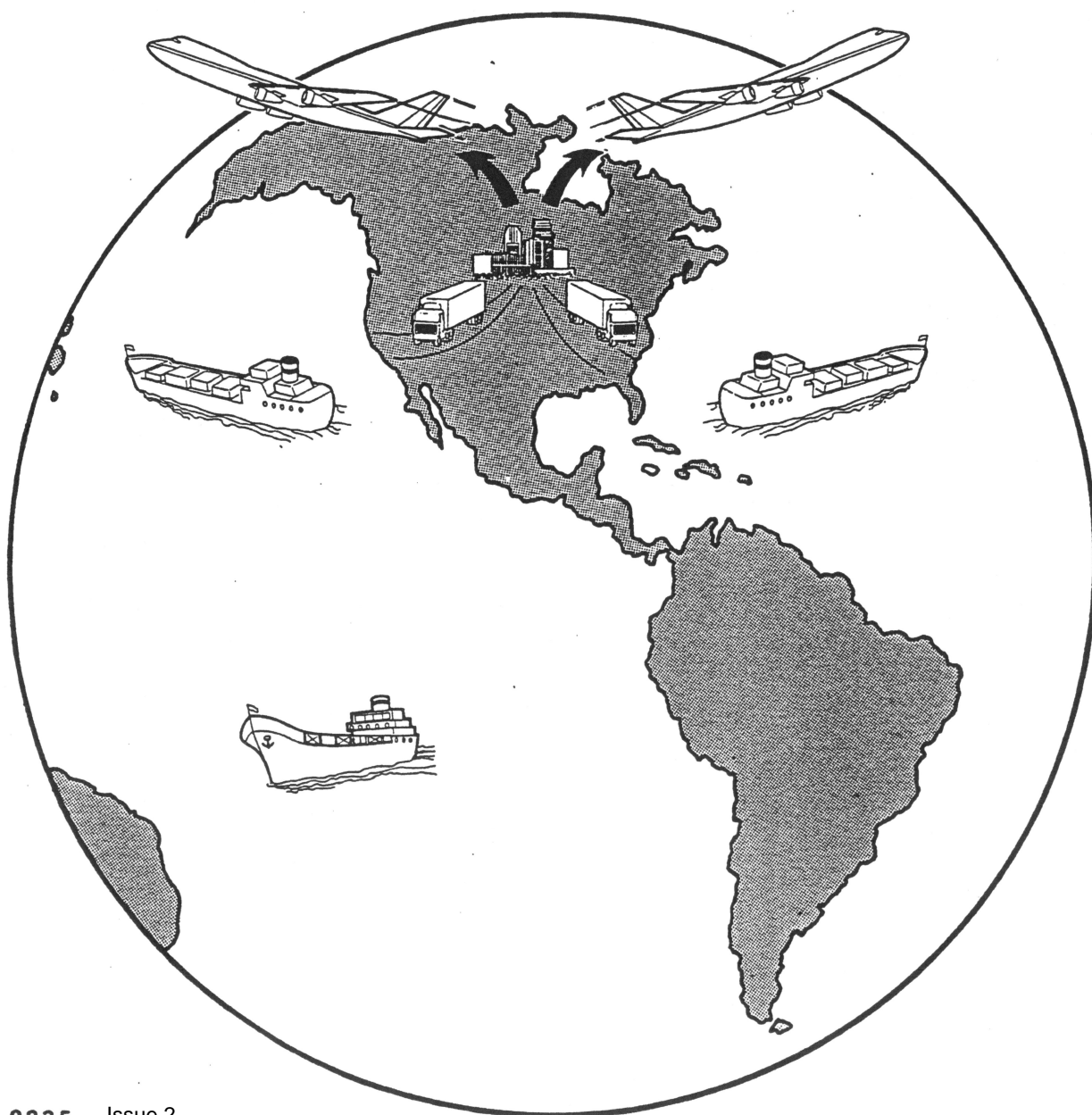
**DFBD**

**Spec A & E**

**Generator Set**

**Parts Catalog**

**World Wide Parts & Service**



# Important Safety Precautions

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Read and observe these safety precautions when using or working on electric generators, engines and related equipment. Also read and follow the literature provided with the equipment.

Proper operation and maintenance are critical to performance and safety. Electricity, fuel, exhaust, moving parts and batteries present hazards that can cause severe personal injury or death.

## **FUEL, ENGINE OIL, AND FUMES ARE FLAMMABLE AND TOXIC**

Fire, explosion, and personal injury can result from improper practices.

- Used engine oil, and benzene and lead, found in some gasoline, have been identified by government agencies as causing cancer or reproductive toxicity. When checking, draining or adding fuel or oil, do not ingest, breathe the fumes, or contact gasoline or used oil.
- Do not fill tanks with engine running. Do not smoke around the area. Wipe up oil or fuel spills. Do not leave rags in engine compartment or on equipment. Keep this and surrounding area clean.
- Inspect fuel system before each operation and periodically while running.
- Equip fuel supply with a positive fuel shutoff.
- Do not store or transport equipment with fuel in tank.
- Keep an ABC-rated fire extinguisher available near equipment and adjacent areas for use on all types of fires except alcohol.
- Unless provided with equipment or noted otherwise in installation manual, fuel lines must be copper or steel, secured, free of leaks and separated or shielded from electrical wiring.
- Use approved, non-conductive flexible fuel hose for fuel connections. Do not use copper tubing as a flexible connection. It will work-harden and break.

## **EXHAUST GAS IS DEADLY**

- Engine exhaust contains carbon monoxide (CO), an odorless, invisible, poisonous gas. Learn the symptoms of CO poisoning.
- Never sleep in a vessel, vehicle, or room with a genset or engine running unless the area is equipped with an operating CO detector with an audible alarm.
- Each time the engine or genset is started, or at least every day, thoroughly inspect the exhaust system. Shut down the unit and repair leaks immediately.

- Warning: Engine exhaust is known to the State of California to cause cancer, birth defects and other reproductive harm.

*Make sure exhaust is properly ventilated.*

- Vessel bilge must have an operating power exhaust.
- Vehicle exhaust system must extend beyond vehicle perimeter and not near windows, doors or vents.
- Do not use engine or genset cooling air to heat an area.
- Do not operate engine/genset in enclosed area without ample fresh air ventilation.
- Expel exhaust away from enclosed, sheltered, or occupied areas.
- Make sure exhaust system components are securely fastened and not warped.

## **MOVING PARTS CAN CAUSE SEVERE PERSONAL INJURY OR DEATH**

- Do not remove any guards or covers with the equipment running.
- Keep hands, clothing, hair, and jewelry away from moving parts.
- Before performing any maintenance, disconnect battery (negative [–] cable first) to prevent accidental starting.
- Make sure fasteners and joints are secure. Tighten supports and clamps, keep guards in position over fans, drive belts, etc.
- If adjustments must be made while equipment is running, use extreme caution around hot manifolds and moving parts, etc. Wear safety glasses and protective clothing.

## **BATTERY GAS IS EXPLOSIVE**

- Wear safety glasses and do not smoke while servicing batteries.
- Always disconnect battery negative (–) lead first and reconnect it last. Make sure you connect battery correctly. A direct short across battery terminals can cause an explosion. Do not smoke while servicing batteries. Hydrogen gas given off during charging is explosive.
- Do not disconnect or connect battery cables if fuel vapors are present. Ventilate the area thoroughly.

## **DO NOT OPERATE IN FLAMMABLE AND EXPLOSIVE ENVIRONMENTS**

Flammable vapor can be ignited by equipment operation or cause a diesel engine to overspeed and become difficult to stop, resulting in possible fire, explosion, severe personal injury and death. **Do not operate diesel equipment where a flammable vapor environment can be created by fuel spill, leak, etc., unless equipped with an automatic safety device to block the air intake and stop the engine.**

## **HOT COOLANT CAN CAUSE SEVERE PERSONAL INJURY**

- Hot coolant is under pressure. Do not loosen the coolant pressure cap while the engine is hot. Let the engine cool before opening the pressure cap.

## **ELECTRICAL SHOCK CAN CAUSE SEVERE PERSONAL INJURY OR DEATH**

- Do not service control panel or engine with unit running. High voltages are present. Work that must be done while unit is running should be done only by qualified service personnel.
- Do not connect the generator set to the public utility or to any other electrical power system. Electrocutation can occur at a remote site where line or equipment repairs are being made. An approved transfer switch must be used if more than one power source is connected.
- Disconnect starting battery (negative [-] cable first) before removing protective shields or touching electrical equipment. Use insulative mats placed on dry wood platforms. Do not wear jewelry, damp clothing or allow skin surface to be damp when handling electrical equipment.
- Use insulated tools. Do not tamper with interlocks.
- Follow all applicable state and local electrical codes. Have all electrical installations performed by a qualified licensed electrician. Tag open switches to avoid accidental closure.
- With transfer switches, keep cabinet closed and locked. Only authorized personnel should have cabinet or operational keys. Due to serious shock hazard from high voltages within cabinet, all service and adjustments must be performed by an electrician or authorized service representative.

If the cabinet must be opened for any reason:

1. Move genset operation switch or Stop/Auto/Handcrank switch (whichever applies) to Stop.
2. Disconnect genset batteries (negative [-] lead first).
3. Remove AC power to automatic transfer switch. If instructions require otherwise, use extreme caution due to shock hazard.

## **MEDIUM VOLTAGE GENERATOR SETS (601V TO 15kV)**

- Medium voltage acts differently than low voltage. Special equipment and training are required to work on or around medium voltage equipment. Operation and maintenance must be done only by persons trained and qualified to work on such devices. Improper use or procedures will result in severe personal injury or death.
- Do not work on energized equipment. Unauthorized personnel must not be permitted near energized equipment. Induced voltage remains even after equipment is disconnected from the power source. Plan maintenance with authorized personnel so equipment can be de-energized and safely grounded.

## **GENERAL SAFETY PRECAUTIONS**

- Do not work on equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Carefully follow all applicable local, state and federal codes.
- Never step on equipment (as when entering or leaving the engine compartment). It can stress and break unit components, possibly resulting in dangerous operating conditions from leaking fuel, leaking exhaust fumes, etc.
- Keep equipment and area clean. Oil, grease, dirt, or stowed gear can cause fire or damage equipment by restricting airflow.
- Equipment owners and operators are solely responsible for operating equipment safely. Contact your authorized Onan/Cummins dealer or distributor for more information.

**KEEP THIS DOCUMENT NEAR EQUIPMENT FOR EASY REFERENCE.**



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# MODEL IDENTIFICATION TABLE

ENGINE MODEL	GENERATOR SET IDENTIFICATION		NEWAGE GENERATOR	HERTZ	RPM	BATTERY VOLTAGE
	CUMMINS POWER SYSTEM	ONAN POWER SYSTEM				
NT855-G4	175 NT4 /xxxxx E	175DFBD/xxxxx A	HC434C, HC434D	50	1500	24 VDC
NT855-G4	200 NT4 /xxxxx E	200DFBD/xxxxx A	HC434C, HC434D	60	1800	24 VDC
NT855-G4	200 NT4 /xxxxx E	200DFBD/xxxxx A	HC434C, HC434D, HC434E	50	1500	24 VDC
NT855-G4	230 NT4 /xxxxx E	230DFBD/xxxxx A	HC434C, HC434D, HC434E	60	1800	24 VDC

## INTRODUCTION

### FORWARD

This Service Parts Catalog provides identification of the Maintenance, Service or Repair parts for the Product(s) identified in the Model Identification Table. The Catalog is divided into sections applicable to the Major Sections of the Product, and Section Table of Contents are provided for your convenience.

### ILLUSTRATIONS

The illustrations in the Parts Catalog are arranged in groups of related items, and each part or assembly is identified by a Reference Number shown in the illustration. All parts illustrated are typical, and unless otherwise mentioned in the description column, the parts are interchangeable between models. These typical illustrations are subject to change and reflect only the latest replacement parts arrangement. The RIGHT and LEFT sides of a Generator Set are determined by FACING the FRONT of the Set (Engine Radiator End).

### PART NUMBERS

Dual Part Number columns are used. The first column contains the CENTRAL PARTS DISTRIBUTION CENTER Part Number; the second (SOURCE) column provides for identification of an alternate source for the part. The alternate source may be a Manufacturer, Supplier or Subsidiary of this Corporation. The Manufacturer/Supplier is assigned Identifying Letter(s) which are found in the third (CODE) column. A List of Manufacturers and Suppliers with their address, phone numbers, etc. are located in a separate section of this Parts Catalog.

### REPLACEMENT ENGINE PARTS

The Models with engines supplied by a separate Engine Manufacturer will have only those external engine components added or modified during the Assembly of these Models. Most General Maintenance Parts and some engine optional features may be identified in this Parts Catalog. For internal engine parts and components not covered herein; refer to the applicable Manufacturer's engine Parts Catalog. The engine Manufacturer will be listed in the Manufacturer & Supplier (SOURCE CODE) Section.

## INTRODUCTION

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### MODEL IDENTIFICATION

The Model Table provides identification of the Product(s) which this Service Parts Catalog covers. Some Tables may include an Engine Identifier along with the Generator Set Identifier when the Manufacturer of the Engine is a Supplier of Engine Replacement Parts.

### SAMPLE ENGINE IDENTIFIERS

4A2.3GS/GC1	6CTA8.3GC/GS1	KTTA50GS/GC1
6AT3.4GS/GC1	KTTA19GS/GC1	NT855GS/GC4
4BT3.9GS/GC1	KTA38GS/GC1	NTTA855GS/GC2
6CT8.3GS/GC1	KTA50GS/GC3	VTA28GS/GC3

### SAMPLE MODEL IDENTIFIERS

When Engine Identifiers are used, the Model Identifier will also be located on the Nameplate. It is referred to as ID. NO. The sample Nameplate below has an arrow which points to the ID. NO. Location. Normally the MODEL Identifier follows the MODEL on the nameplate.

### GEN SET IDENTIFIER SAMPLES

60	DGBA	Z	/13756	A
175	CTA	62	/32476	C
200	NT	4	/29876	E
250	DMBC	/	1	B
1250	KTA	53	/32069	D

Kilowatt Size	Model Ident Letters	Voltage Code(s) or Model Ident Numbers	Specification Letter Designates Major Changes
			Specification Number: No. 1 is Standard; others designate Variations or Special Features

AC Generator Set Model _____	
kw	kva
class of insulation	amps
field amp max	voltage
generator model no.	field voltage max
voltage regulator model no.	
ID no.	
generator set serial no.	
BS5000	NEMA

## INTRODUCTION

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### PRODUCT SERIAL NUMBER IDENTIFICATION

A Serial number is assigned to all Models or Products and is located on the nameplate for that product. The current Serial Number System of identification is as follows:

Month of Manufacture: A = Jan, B = Feb, etc.	B	89	7	123456
Year of Manufacture: 1989				Assigned Six Digit Serial No.
				Assembly Plant Code Number

### SAFETY PRECAUTIONS

The following symbols are used in Parts Catalogs to alert users to the potentially dangerous conditions relating to maintenance of the equipment and replacement of parts. Please read and observe.



*This symbol warns of immediate hazards which will result in severe personal injury or death.*



*This symbol refers to a hazard or unsafe practice which can result in severe personal injury or death.*



*This symbol refers to a hazard or unsafe practice which can result in personal injury or product or property damage.*

#### PRODUCT SAFETY PRECAUTIONS:



CONTACT WITH USED ENGINE OILS HAS BEEN IDENTIFIED BY A UNITED STATES FEDERAL AGENCY AND SOME USA STATE AGENCIES AS CAUSING CANCER or REPRODUCTIVE TOXICITY. WHEN CHECKING OR CHANGING ENGINE OILS TAKE ALL NECESSARY PRECAUTIONS NOT TO INGEST, BREATHE THE FUMES OR CONTACT THE USED OIL!



CONTACT WITH ASBESTOS HAS BEEN IDENTIFIED BY A UNITED STATES FEDERAL AGENCY AND SOME USA STATE AGENCIES AS CAUSING CANCER or REPRODUCTIVE TOXICITY. WHEN HANDLING ENGINE GASKETS TAKE ALL NECESSARY PRECAUTIONS NOT TO INGEST, BREATHE OR CONTACT THE DUST FROM THE GASKETS! USE ADEQUATE VENTILATION AND WEAR PROTECTIVE GLOVES, MASKS AND CLOTHING!



CONTACT WITH BENZENE and LEAD, FOUND IN GASOLINES, FUEL ADDITIVES AND SOLVENTS HAS BEEN IDENTIFIED BY A UNITED STATES FEDERAL AGENCY AND SOME USA STATE AGENCIES AS CAUSING CANCER or REPRODUCTIVE TOXICITY. WHEN CHECKING, DRAINING OR ADDING GASOLINE AND FUEL ADDITIVES, OR USING SOLVENTS TAKE ALL NECESSARY PRECAUTIONS NOT TO INGEST, BREATHE THE FUMES, OR CONTACT THE LIQUIDS. USE ADEQUATE VENTILATION AND WEAR PROTECTIVE GLOVES, MASKS AND CLOTHING!

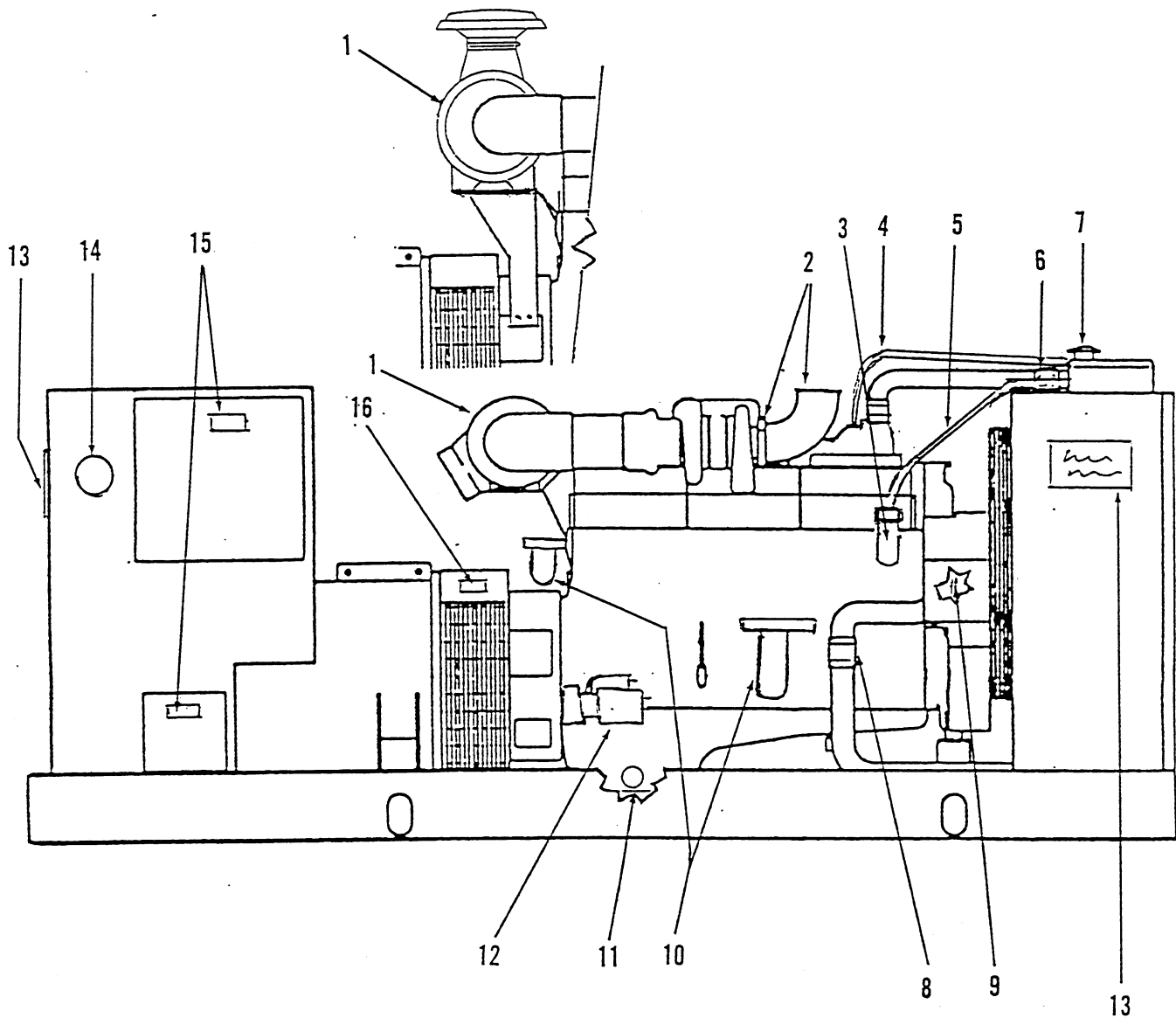


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EXTERNAL COMPONENTS  
LEFT SIDE

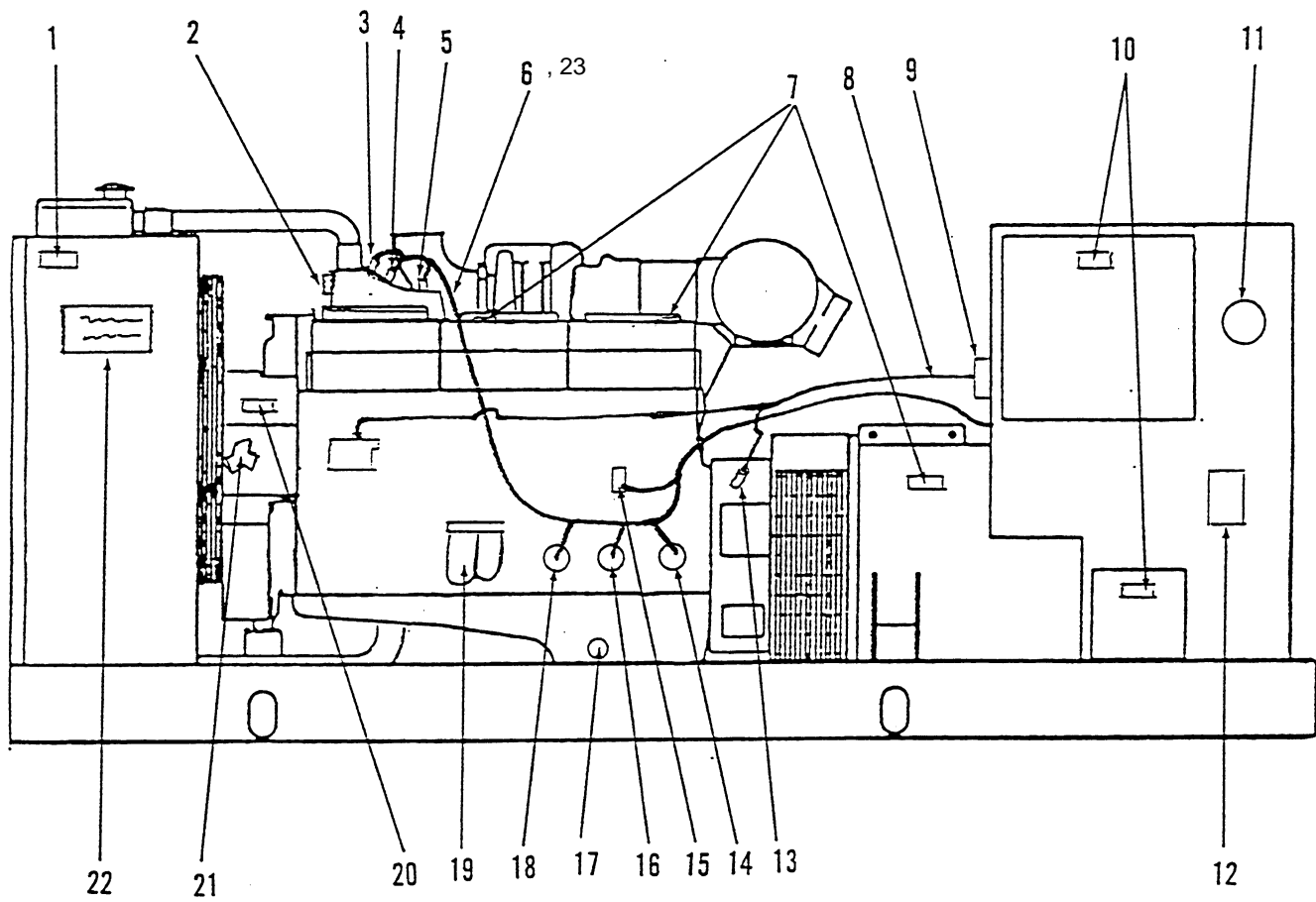




# EXTERNAL COMPONENTS LEFT SIDE

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	140-2389			1	Air Cleaner Group
	140-2391			1	Air Cleaner - Standard (Includes Element)
	140-2390			1	Element - Air Cleaner (Standard)
	140-2392			1	Air Cleaner - Heavy Duty (Includes Elements)
	140-2393			1	Element, Air Cleaner - Primary
	140-1548			1	Element, Air Cleaner - Safety
	140-1545			1	Indicator, Service
2				1	Hood, Air Inlet (Used on Heavy Duty Air Cleaner)
	503-1575	186917	CE	1	Exhaust Group
	155-1241	190351	CE	1	Clamp, V
	155-2409			1	Elbow, Exhaust - Plain Outlet
	155-2281	203432	CE	1	Elbow, Exhaust - Threaded Outlet (5 NPT)
	155-2287-02	3036377	CE	1	Elbow, Exhaust - Flanged Outlet
3				1	Gasket, Flange (used with 155-2281 Elbow)
	130-3537	3315116	CE	1	Filter, Water - W/Corrosion Inhibiting Chemical DCA4
	130-3541	3318318	CE	1	Service
4	501-0551			1	Pre-Charging
5	503-1467-07			1	Line, Fuel - Flexible (Bypass line)
				1	Hose, Rubber (3/4"ID x 33"LG) Radiator to Filter Housing.
	503-0189			2	Attaching Parts for Hose
	505-0022			1	Clamp, Hose
	502-0827			1	Bushing, Reducer (1 NPT x 1/2 NPT)
				1	Adapter, Pipe to Hose, Barbed (1/2 NPT)
6	503-1379-02			2	Hose, Rubber - Upper
	503-0999			4	Attaching Parts for Hose
				4	Clamp, Hose - T-Bolt Type
7	130-3721			1	Cap, Radiator - 7# PSI
8	503-1414-01			2	Hose, Rubber - Lower
	503-0998			4	Attaching Parts for Hose
				4	Clamp, Hose - T-Bolt Type
9					Alternator Group
	191-0781			1	Pulley, Alternator - Single Groove (Use with 35 AMP Alternator)
	191-0688	70D44854B13	MO	1	Alternator - 24 VDC, 35 AMP (Less Pulley, Includes Voltage Regulator)
	191-1635	8RF3080F	MO	1	Regulator, Voltage - 24 VDC (Used on 35 AMP Alternator)
	511-0084			1	Belt, Drive - 35 AMP Alternator
	130-3176-02			1	Pulley, Alternator - Multi Groove (Use with 75 AMP Alternator)
	191-1926-02	70D44970S02	MO	1	Alternator - 24 VDC, 75 AMP (Less Pulley, Includes Voltage Regulator)
		BRG3032	MO	1	Regulator, Voltage - 24 VDC (used on 75 AMP Alternator)
	511-0156			2	Belt, Drive - 75 AMP Alternator
10					Oil Filter Group
	122-0755	3318853	CE	1	Lube & Bypass Filter (Latest Style Used In Engine Manufacturing)
	122-0526	3313279	CE	2	Lube Filter (Former Style Used In Engine Manufacturing)
11		3304232	CE	1	Bypass Filter (Former Style Used In Engine Manufacturing)
	505-0185			2	Oil Drain Group
	503-0197			2	Nipple, Pipe - Half (1/2 NPT x 1-1/2")
	503-0098			2	Clamp, Hose
	504-0011		AR	1	Hose, Rubber - Bulk (sold by Foot)
	505-0100			1	Valve, Gate (1/2 NPT)
	505-0040			2	Nipple, Pipe - Close (1/2 NPT x 1-1/4")
12				1	Elbow, Pipe - 90 DEG (1/2 NPT)
	191-1858	3021036	CE	1	Starter Group
	191-1588			1	Starter - 24VDC, Standard
	416-0632			1	Starter - 24VDC, Heavy Duty
	416-0446			1	Cable, Starter - Ground (14 1/2" Lg)
	416-0619			1	Cable, Battery - Jumper (12 1/2" Lg)
	416-0444			1	Cable, Battery - Negative (18" Lg)
13				1	Cable, Battery - Positive (44" Lg)
	98-6108-03			2	Decal - Model Identification
	98-6111-03			2	ONAN GEN SET
	98-6139-03			2	CUMMINS GEN SET
14	98-4500			2	CUMMINS ONAN GEN SET
15	98-5347			1	Decal "PROTOTYPE TESTED"
16	98-5842			2	Decal - Danger "HIGH VOLTAGE"
				1	Decal - Warning "DO NOT LIFT BY FAN, ETC."

EXTERNAL COMPONENTS  
RIGHT SIDE



**EXTERNAL COMPONENTS  
RIGHT SIDE**

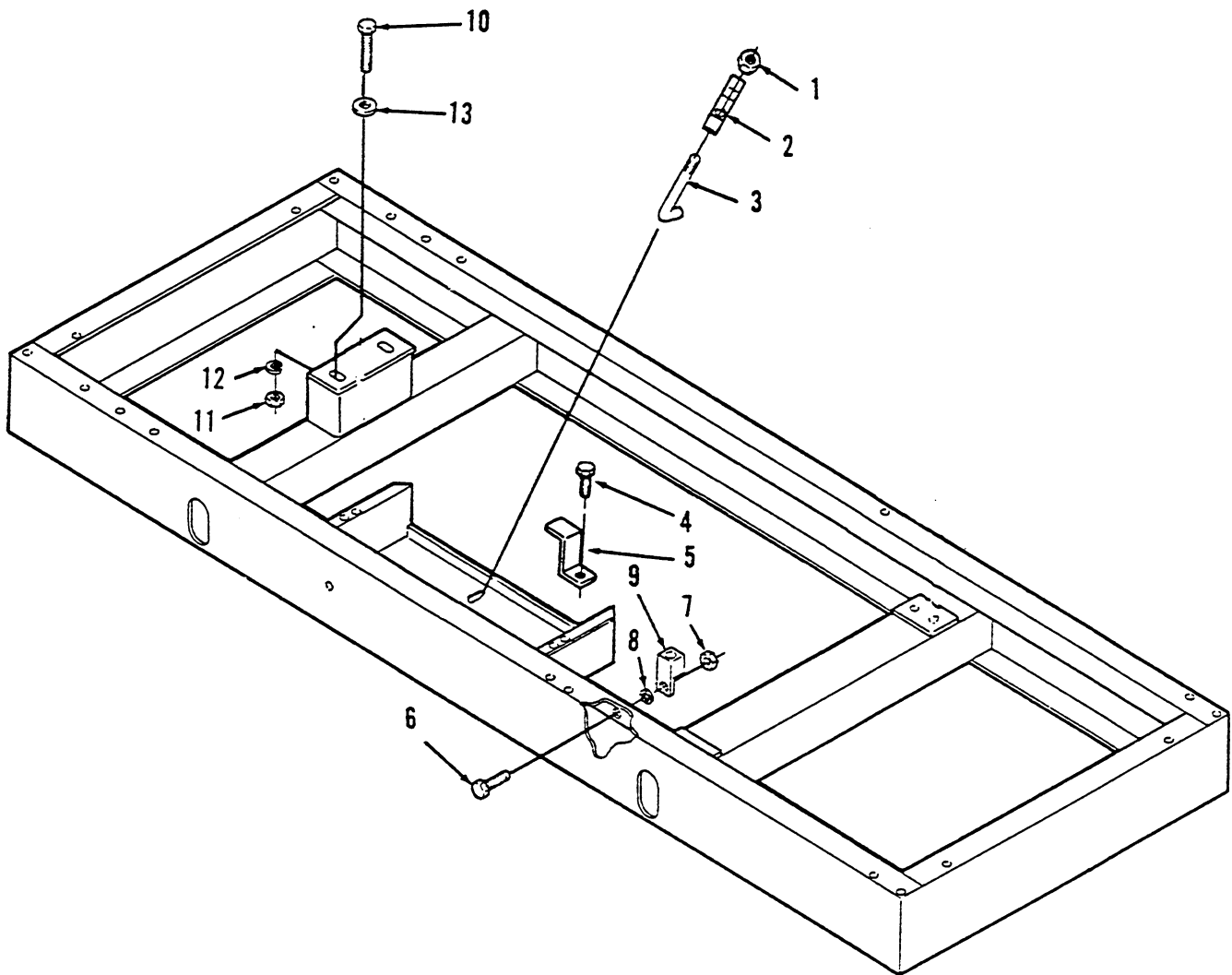
REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	98-4730			1	Decal - Caution "10 PSI HOT WATER SYSTEM"
2	309-0269			1	Switch, Thermostatic - Low Engine Temperature
					Attaching Parts for Switch
	800-0062			1	Screw, Cap - Hex Head (3/8-16 x 4")
	850-0050			1	Washer, Lock - Spring (3/8")
					-----*
3	309-0437			1	Switch, Thermostatic - High Water Temperature (SHUTDOWN)
					Attaching Parts for Switch
	505-0117			1	Bushing, Reducer - Flush (1/2 NPT x 3/8 NPT)
	505-0021			1	Bushing, Reducer - Hex (3/4 NPT x 1/2 NPT)
					-----*
4	193-0375			1	Sender, Water Temperature
					Attaching Part for Sender
	505-0021			1	Bushing, Reducer - Hex (3/4 NPT x 1/2 NPT)
					-----*
5	309-0179			1	Switch, Thermostatic - High Water Temperature (PRE-ALARM)
					Attaching Part for Switch
	505-0117			1	Bushing, Reducer - Flush (1/2 NPT x 3/8 NPT)
					-----*
6	338-2436			1	Alternator, Motorola
	323-1306			1	Housing, Connector - 8 Pin (Less Pins)
	323-1200			8	Pin, Contact
	323-1304			1	Housing, Connector - 6 Pin (Less Pins)
	323-1200			6	Pin, Contact
7	98-5822			3	Decal - Warning "DO NOT USE LIFTING POINT, ETC."
8	338-2444			1	Harness, Wiring - Electronic Governor
9	151-0637			1	Control, Governor
10	98-5347			2	Decal - Danger "HIGH VOLTAGE"
11	98-4500			1	Decal "PROTOTYPE TESTED"
12	98-5759			2	Decal - Warning "HAZARDOUS VOLTAGE"
13	151-0411			1	Pickup, Magnetic
14	193-0244			1	Sender, Pressure - Oil
15	332-1292			1	Terminal Assembly (Includes Replaceable Items a thru d)
					Attaching Parts for Terminal Board
	900-0270			1	Screw, Cap - Hex Head (3/8-24 x 5/8")
	856-0010			2	Washer, Lock - EIT (3/8")
					-----*
a	809-0035			1	Screw, Tapping - Round Head (#8 x 3/4")
b	508-0015			1	Washer, Insulating
c	870-0196			1	Nut, Insulated
d	332-1281			1	Board, Terminal
16	309-0561			1	Switch, Pressure - Oil, 14# PSI (SHUTDOWN) With Dual Terminals
17					Heater, Oil - 300 Watt
	333-0407-02	167619	CE	1	120 VAC
	333-0407-04	167621	CE	1	240 VAC
	333-0407-05	3000214	CE	1	480 VAC
18	309-0272			1	Switch, Pressure - Oil, 20# PSI (PRE-ALARM)
19					Fuel System Components
	149-2200	3308636	CE	2	Filter, Fuel/Water Separator (Optional to Standard Filter)
	149-2249	156172	CE	2	Filter, Fuel with Drain Plug
	501-0084			1	Line, Fuel - Flexible (Fuel In)
	501-0216			1	Line, Fuel - Flexible (Fuel Out)
20	98-4798			2	Decal - Warning "CAUTION MOVING PARTS, BELTS, ETC."
21	511-0160			2	Belt, Drive - V (Fan)
22					Decal - Model Identification
	98-6108-03			2	ONAN GEN SET
	98-6111-03			2	CUMMINS GEN SET
	98-6139-03			2	CUMMINS ONAN GEN SET
23	338-2321			1	Alternator, Bosh



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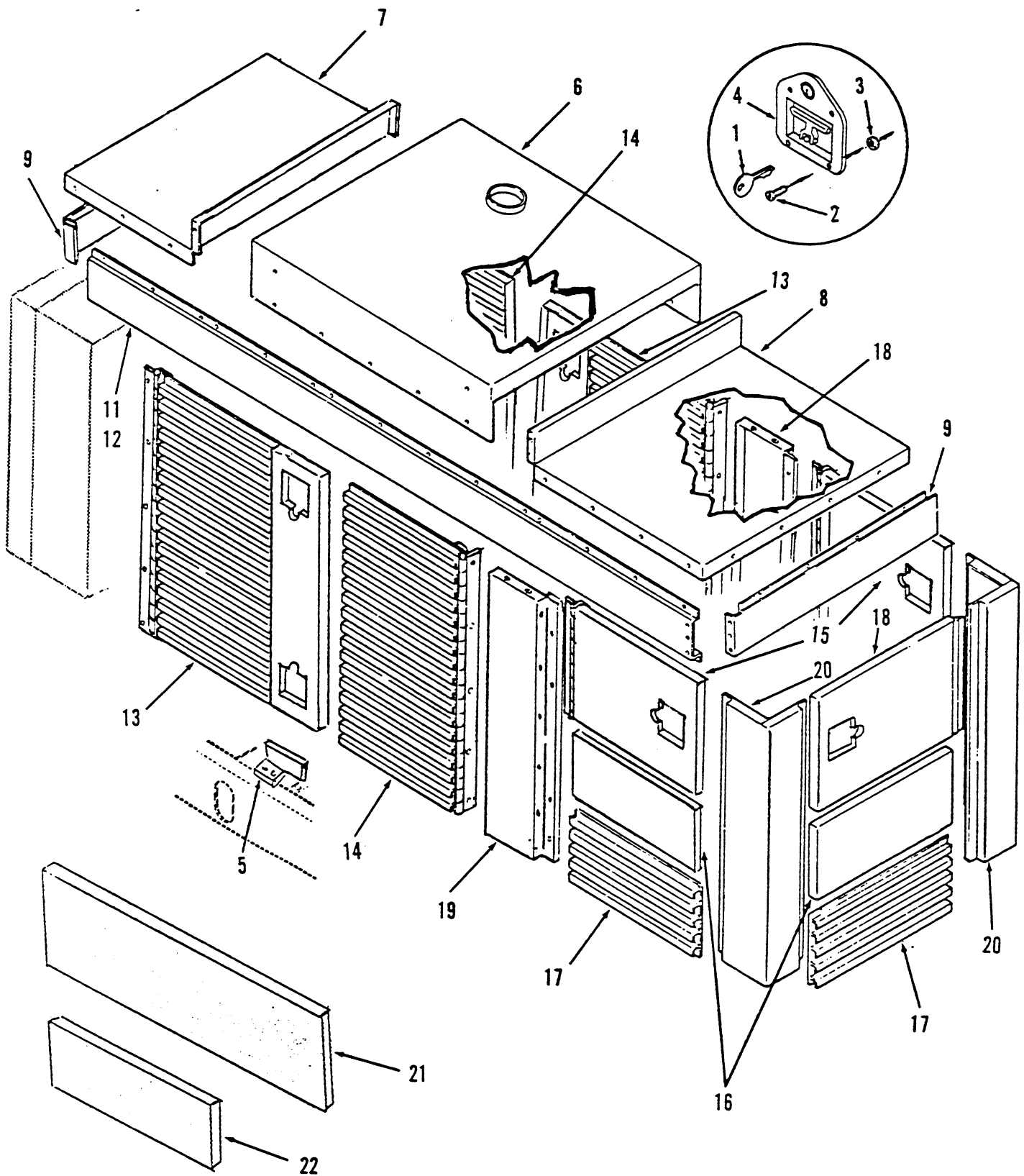
# CHASSIS COMPONENTS



# CHASSIS COMPONENTS

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	870-0212			1	Nut, Self-locking - Hex Washer Head (1/4-20)
2	416-0854			1	Bracket, Holddown - Battery
3	416-0853			1	J-Bolt - Battery Holddown
4	800-0048			2	Screw, Cap - Hex Head (3/8-16 x 3/4")
5	416-0850			2	Bracket, Angle - Battery Holddown
6	800-0026			1	Screw, Cap - Hex Head (5/16-18 x 3/4")
7	870-0257			1	Nut, Self-locking - Hex Washer Head (5/16-18)
8	856-0026			1	Washer, Lock - EIT (5/16")
9	332-1473			1	Lug, Terminal - Solderless
10	800-0138			2	Screw, Cap - Hex Head (5/8-11 x 3")
11	860-0007			2	Nut, Hex (5/8-11)
12	850-0070			2	Washer, Lock - Spring (5/8")
13	526-0198			2	Washer, Flat (5/8"ID)

# SET HOUSING COMPONENTS





# SET HOUSING COMPONENTS

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	406-0565		AR	Key	
2	815-0607		28	Screw, Machine - Oval Head (#8-32 x 3/8")	
3	870-0235		28	Nut, Self-locking - Hex Head (#8-32)	
4	406-0626		7	Handle, Door (Includes Key)	
5	405-3980		2	Stop	
	815-0236		4	Attaching Parts for Stop	
	821-0016		4	Screw, Thread Cutting - Hex Head (5/16-18 x 5/8") Note 1.	
6	405-4114		1	Screw, Self-locking - Hex Washer Head (5/16-18 x 3/4")	
	816-0098		16	Roof, Housing - Center Note 2.	
	870-0257		16	Attaching Parts for Center Roof	
7	405-4113		16	Bolt, Carriage (5/16-18 x 5/8")	
	816-0098		16	Nut, Self-locking - Hex Washer Head (5/16-18)	
	870-0257		1	Roof, Housing - Front	
8	405-4114		10	Attaching Parts for Front Roof	
	816-0098		10	Bolt, Carriage (5/16-18 x 5/8")	
	870-0257		10	Nut, Self-locking - Hex Washer Head (5/16-18)	
9	405-4117		1	Roof, Housing - Rear	
	816-0098		14	Attaching Parts for Rear Roof	
	870-0257		14	Bolt, Carriage (5/16-18 x 5/8")	
	405-4117		14	Nut, Self-locking - Hex Washer Head (5/16-18)	
	816-0098		1	End Cap, Housing - Rear	
	870-0257		6	Attaching Parts for Rear End Cap	
10	405-4116		6	Bolt, Carriage (5/16-18 x 5/8")	
	816-0098		6	Nut, Self-locking - Hex Washer Head (5/16-18)	
	870-0257		1	End Cap, Housing - Front	
11	405-4118-01		6	Attaching Parts for Front End Cap	
12	405-4118-02		6	Bolt, Carriage (5/16-18 x 5/8")	
	821-0029		6	Nut, Self-locking - Hex Washer Head (5/16-18)	
	870-0281		1	Rail, Housing - Side	
13	405-4119		1	Rail, Housing - Side(Not Illustrated) Note 2.	
	819-1102		14	Attaching Parts for Side Rails	
	405-4108		14	Screw, Self-locking - Hex Washer Head (3/8-16 x 3/4")	
	819-1102		14	Nut, Self-locking - Hex with Washer (3/8-16)	
	405-4108		2	Door, Housing - with Louvers & Lock Opening Note 2.	
	819-1102		10	Attaching Parts for Door	
	405-4107		10	Screw, Machine - Pan Head (5/16-18 x 1/2")	
	819-1102		2	Door, Housing - with Louvers	
	405-4112		10	Attaching Parts for Door	
	821-0014		2	Screw, Machine - Pan Head (5/16-18 x 1/2")	
	870-0257		6	Door, Housing - Side	
	405-4104		6	Attaching Parts for Side Doors	
	821-0014		3	Screw, Machine - Pan Head (5/16-18 x 1/2")	
	870-0257		3	Panel, Housing - Center	
	405-4106		12	Attaching Parts for Panels	
	819-1102		12	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")	
	405-4110		12	Nut, Self-locking - Hex Washer Head (5/16-18)	
	821-0029		3	Grille, Housing - Air Inlet	
	128-0117		12	Attaching Parts for Grilles	
	128-0118		12	Screw, Self-locking - Hex Washer Head (5/16-18 x 1/2")	
			1	Door, Housing - Control Access	
			3	Attaching Parts for Door	
			2	Screw, Machine - Pan Head (5/16-18 x 1/2")	
			2	Post, Housing - Center	
			4	Attaching Parts for Center Posts	
			2	Screw, Self-locking - Hex Washer Head (3/8-16 x 3/4")	
			2	Post, Housing - Corner	
			8	Attaching Parts for Corner Posts	
			8	Screw, Self-locking - Hex Washer Head (3/8-16 x 3/4")	
			4	Sheet, Insulation - Special (1/4" x 7 3/4" x 40") Note 2.	
			1	Sheet, Insulation - Special (1/4" x 5 3/4" x 24") Note 2.	

NOTES: 1. Thread Cutting Screw Not recommended as replacement, use 821-0016.

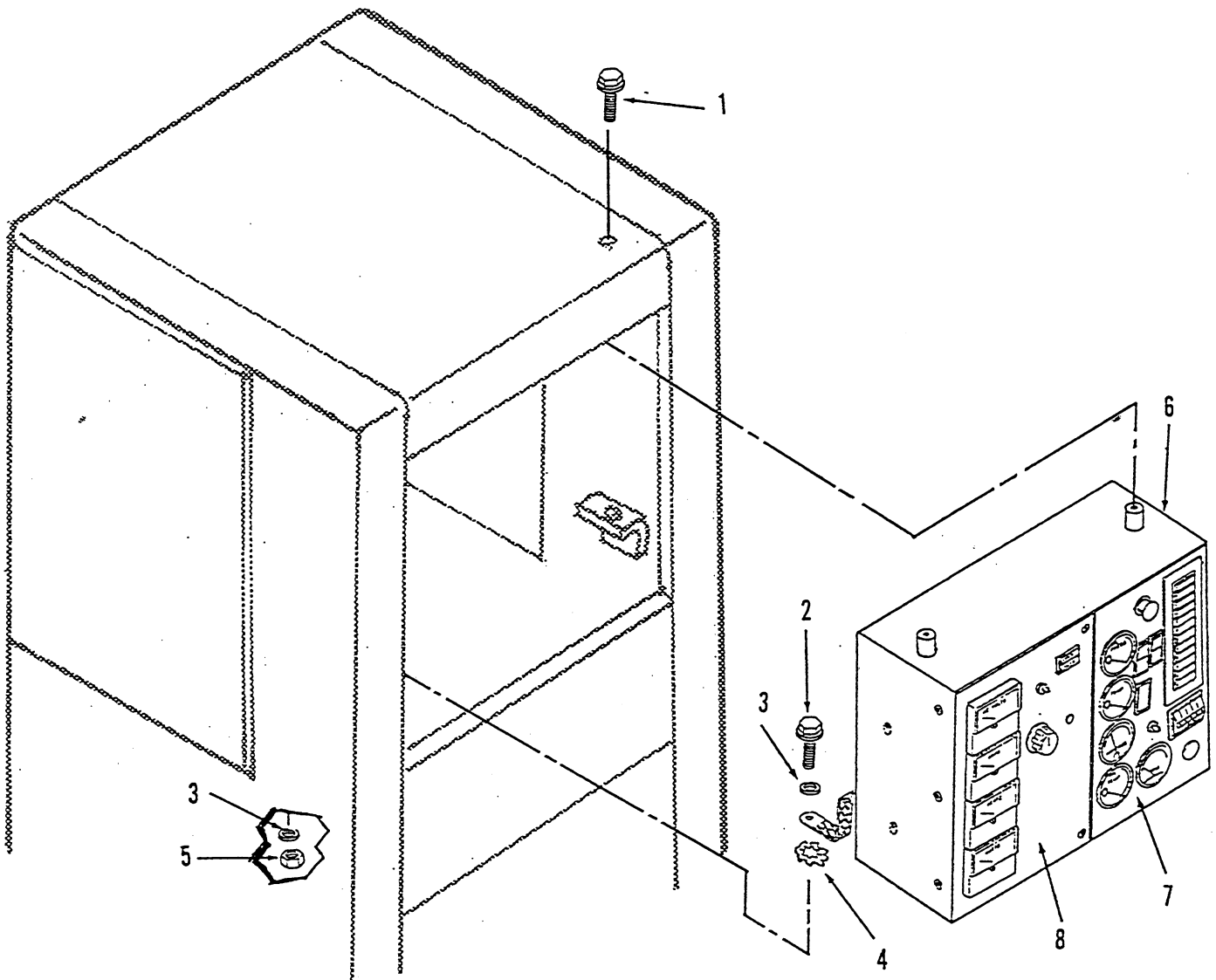
2. Special Insulation Foam Sheets used for Heat Shielding. They are NOT supplied as part of the Roof or Rails, etc.

## NOTES

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GENERATOR SET CONTROL  
Installation Of

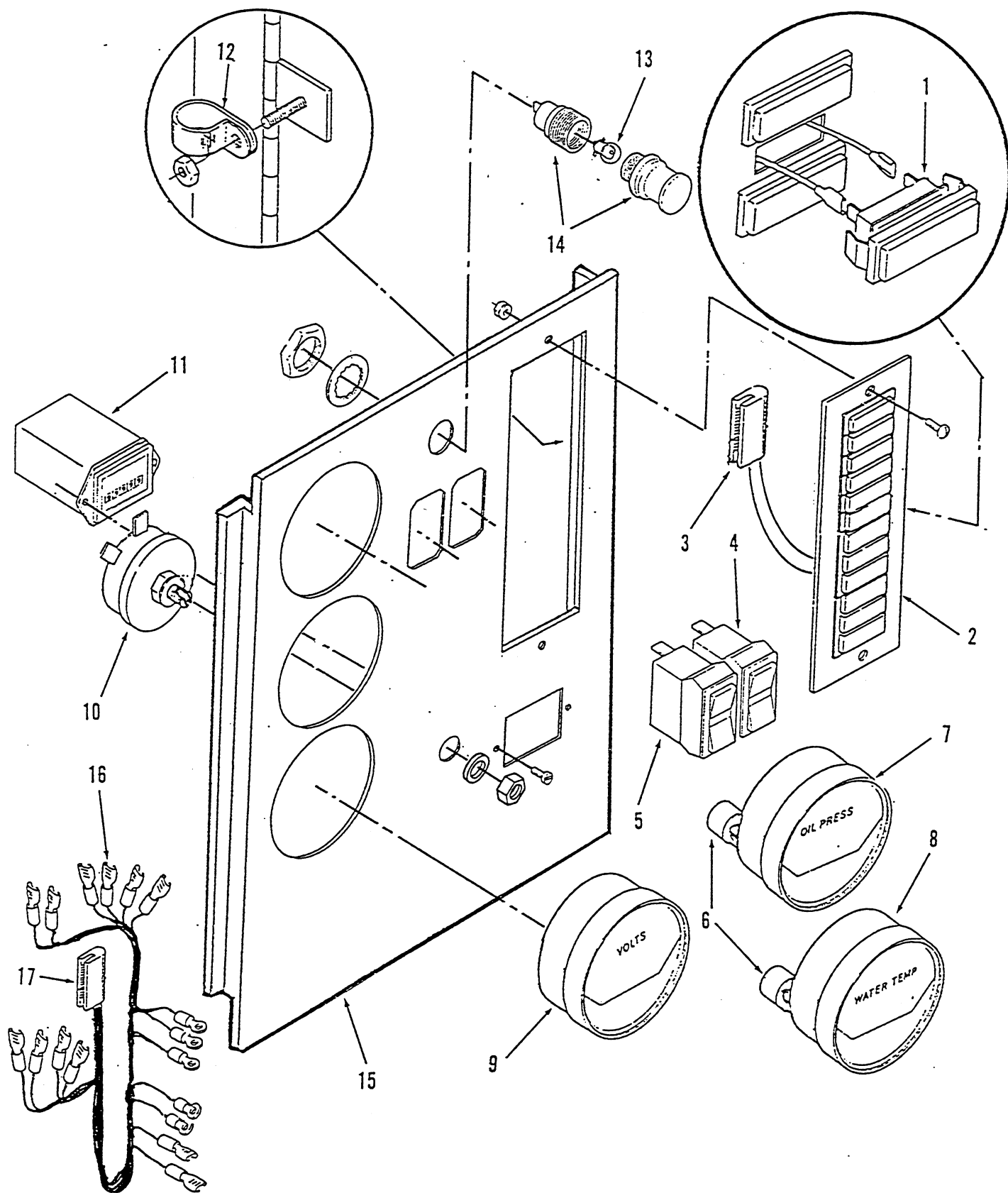


# GENERATOR SET CONTROL Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	821-0014			1	Screw, Self-Locking - Hex Washer Head (5/16-18 x 1/2")
2	821-0018			1	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")
3	526-0018			2	Washer, Flat (1/4")
4	856-0006			1	Washer, Lock - EIT (1/4")
5	870-0212			1	Nut, Self-Locking - Hex (1/4-20)
6	NOTE 1		REF		Control, Generator Set (See Control Section Illustrations and Parts Lists For Replaceable Components)
7	NOTE 1		REF		Engine Control Panel (See Separate Illustration for Components)
8	NOTE 1		REF		Generator Control Panel (See Separate Illustration for Components)

NOTE 1. Not Stocked For Sale at the Central Parts Distribution Center.

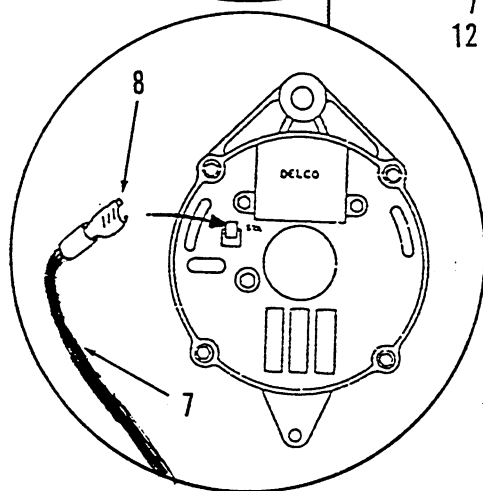
# ENGINE CONTROL PANEL COMPONENTS



# ENGINE CONTROL PANEL COMPONENTS

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	322-0369-03			1	Lamp, Incandescent - 1/3 Watt, 28 Volts DC
2					Module, Indicator - Fault (A12) (Includes Connector Housing)
	322-0359-02			1	7 Light Module
	322-0360-02			1	12 Light Module
					Attaching Parts for Fault Module
	815-0385			2	Screw, Machine - Round Head (#6 - 32 x 1/2")
	870-0183			2	Nut, Self-Locking - ET Hex Washer Head (#6 - 32)
3	323-1310			1	Housing, Conn - 13 Pin (J3) (Less Contact Pins)
	323-1302			13	Contact, Pin
4	308-0785			1	Switch, Push - Reset/Panel Lamp (S11)
5	308-0784			1	Switch, Push - Run/Stop/Remote (S12)
6	193-0250			2	Resistor, Gauge (R12)
7	193-0352			1	Gauge, Pressure - Oil, 12 VDC (M11)
8	193-0351			1	Gauge, Temp - Water, 12 VDC (M12)
9	302-1642			1	Voltmeter, DC (M13)
10	151-0402			1	Potentiometer - Speed Control (R11)
11	302-0885			1	Meter, Running Time (M14)
					Attaching Parts for Meter
	815-0385			2	Screw, Machine - Round Head (#6 - 32 x 1/2")
	870-0183			2	Nut, Self-Locking - ET Hex Washer Head (#6 - 32)
12	332-0052			1	Clamp, Loop
					Attaching Parts for Clamp
	870-0131			2	Nut, Self-Locking - with ET Lockwasher (#10 - 32)
13	322-0017			1	Lamp, Incandescent - 28 VDC (DS11)
14	322-0361			1	Holder, Lamp
15	301-9055-02			1	Panel, Control - 3 Gauge Holes
16	338-2277			1	Harness Assembly, Wiring - DC (Includes Connector Housing)
17	323-1308			1	Housing, Conn - 12 Pin (J4) (Less Contact Pins)
	323-1302			12	Contact, Pin
18	98-5219			1	Decal - Panel Front (Not Illustrated)
19	98-5220			1	Decal - Panel Rear (Not Illustrated)

11





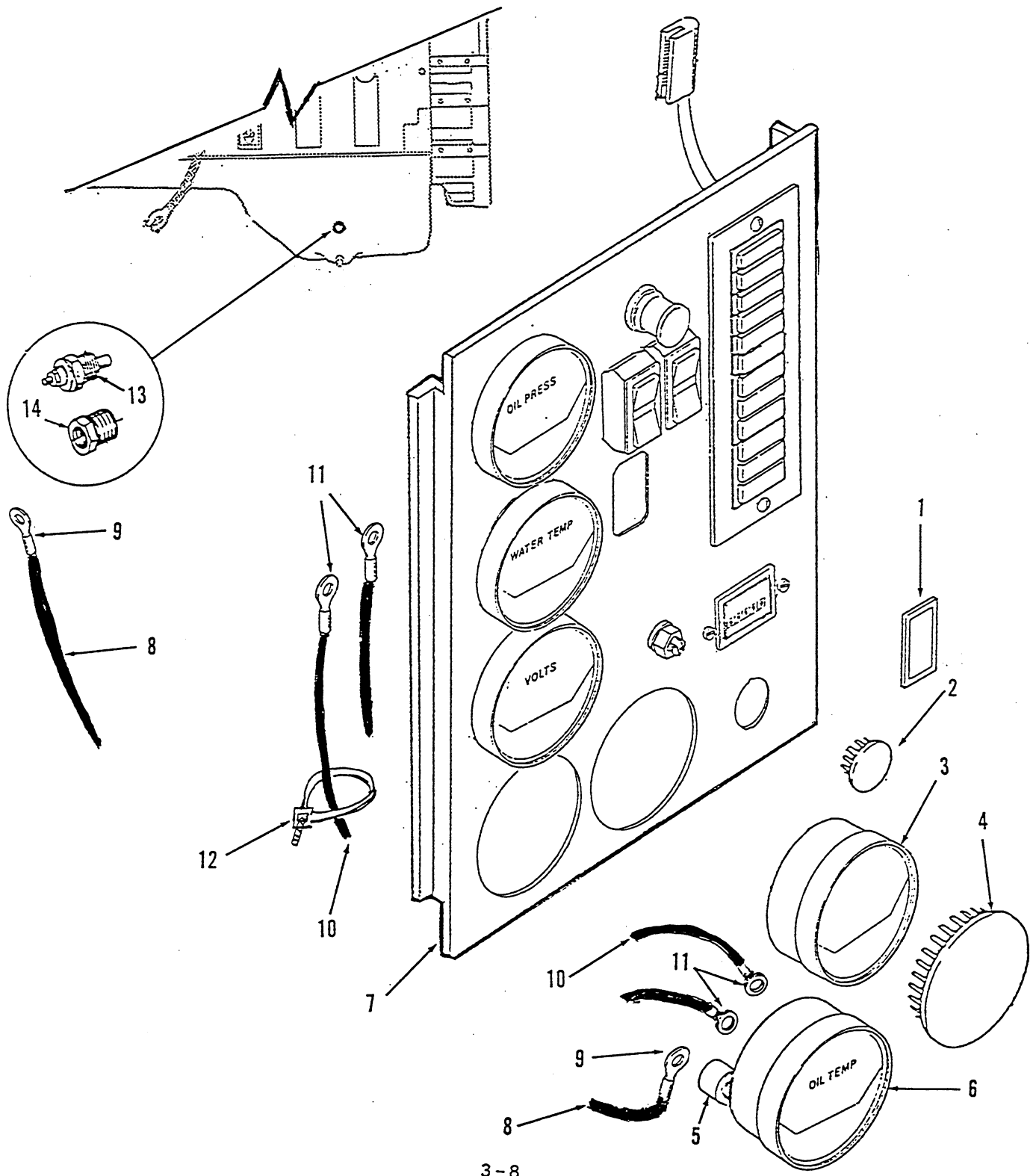
# TACHOMETER Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	301-6257		1	1	Cover - Blank Switch
2	517-0137		1	1	Plug, Dot Button
3	302-1873-01		1	1	Tachometer (M16) [NOTE 1]
4	517-0221		1	1	Plug, Dot Button (Option in lieu of Blank Meter)
5	302-1723		1	1	Meter, Blank (Option in lieu of Dot Button Plug)
6	301-9055-01		1	1	Panel, Control
7	NOTE 2		AR		Wire, Electrical - 16 AWG, Insulated
8	332-1993		2		Terminal, Faston, .25 - 14-16 AWG Gauge Wire
9	332-0807		1		Terminal, Wire - Ring #10, 16-18 AWG Gauge Wire
10	NOTE 2		AR		Wire, Electrical - 20 AWG, Insulated
11	332-0147		4		Terminal, Wire - Ring #10, 18-20 AWG Gauge Wire
12	332-1445		3		Tie, Cable
18	98-5219		1		Decal - Panel Front (Not Illustrated)
19	98-5220		1		Decal - Panel Rear (Not Illustrated)

## NOTES:

1. Tachometer comes with a 12 volt bulb and socket which must be discarded as meter illumination is provide by a front panel light. Caution, correct hookup per instruction sheet is necessary as the tachometer is used on both 12 VDC and 24 VDC electrical systems.
2. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

# OIL TEMPERATURE GAUGE Installation Of



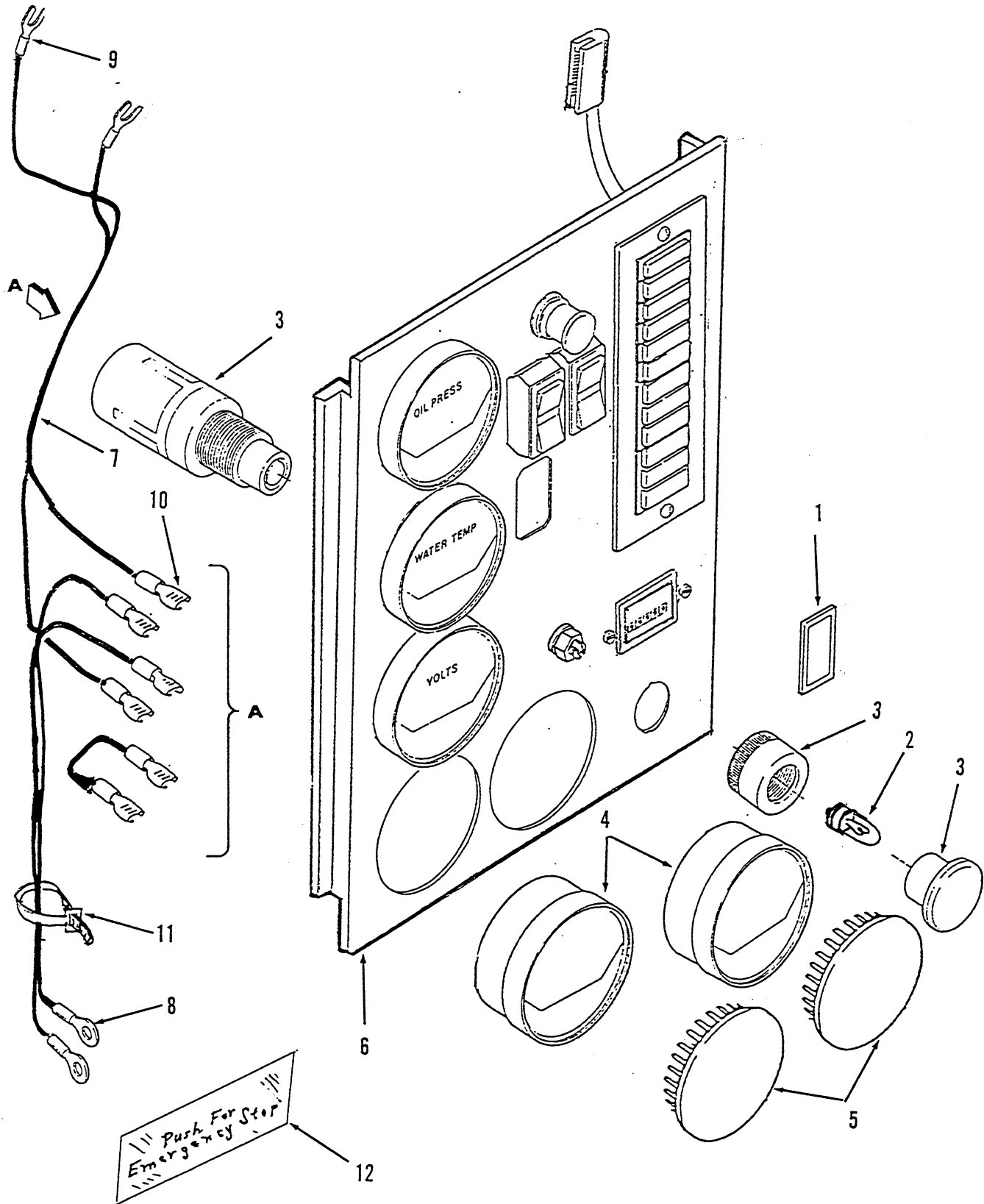
# OIL TEMPERATURE GAUGE Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	301-6257			1	Cover - Blank Switch
2	517-0137			1	Plug, Dot Button
3	302-1723			1	Meter, Blank (Option in lieu of Dot Button Plug)
4	517-0221			1	Plug, Dot Button (Option in lieu of Blank Meter)
5	193-0250			1	Resistor, Gauge
6	193-0330			1	Gauge - Oil Temperature
7	301-9055-01			1	Panel, Control
8	NOTE 1		AR		Wire, Electrical - 16 AWG, Insulated
9	332-0807			2	Terminal, Wire - Ring #10, 16-18 AWG Gauge Wire
10	NOTE 1		AR		Wire, Electrical - 20 AWG, Insulated
11	332-0147			4	Terminal, Wire - Ring #10, 18-20 AWG Gauge Wire
12	332-1445			2	Tie, Cable
13	193-0353			1	Sender, Temperature - Oil (E4)
14	505-0151			1	Bushing, Reducer (1/2 NPTF x 1/8 NPTF)
18	98-5219			1	Decal - Panel Front (Not Illustrated)
19	98-5220			1	Decal - Panel Rear (Not Illustrated)

## NOTES:

1. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

# EMERGENCY STOP SWITCH Installation Of



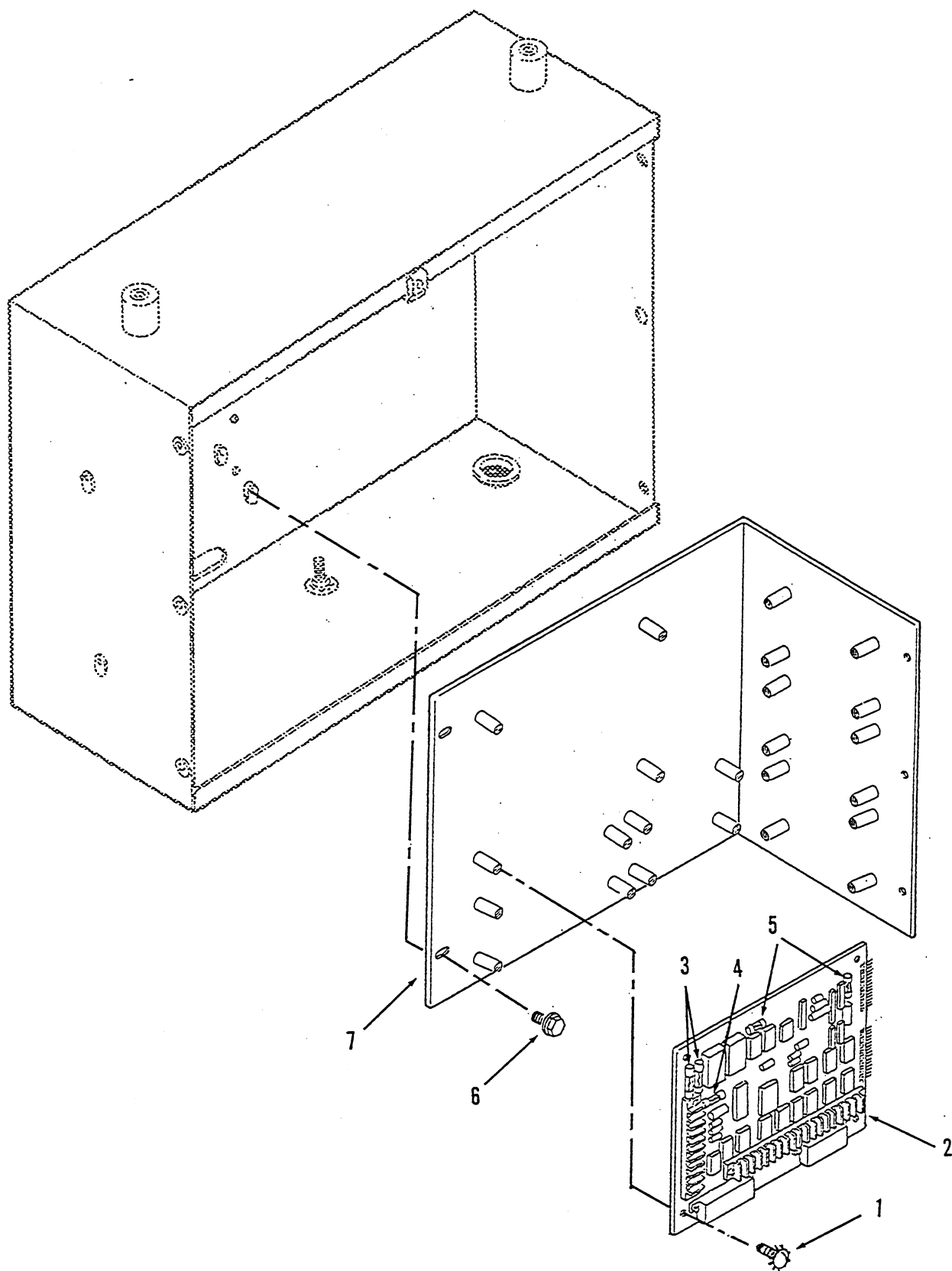
# EMERGENCY STOP SWITCH Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	301-6257			1	Cover - Blank Switch
2	322-0223			1	Lamp, Incandescent - 28 VDC, MSCP .34
3	308-0853			1	Switch, Push (Includes replaceable bulb)
4	302-1723			1	Meter, Blank (Option in lieu of Dot Button Plug)
5	517-0221			2	Plug, Dot Button (Option in lieu of Blank Meter)
6	301-9055-01			1	Panel, Control
7	NOTE 1			AR	Wire, Electrical - 20 AWG, Insulated
8	332-0804			2	Terminal, Wire - Ring .25, 18-20 AWG Gauge Wire
9	332-1673			2	Terminal, Wire - Spade, #6, 18-20 AWG Gauge Wire
10	332-1477			6	Terminal, Wire - Faston, .25, 18-20 AWG Gauge Wire
11	332-1445			4	Tie, Cable
12	98-5662			1	Decal "Push For Emergency Stop"
18	98-5219			1	Decal - Panel Front (Not Illustrated)
19	98-5220			1	Decal - Panel Rear (Not Illustrated)

## NOTES:

1. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

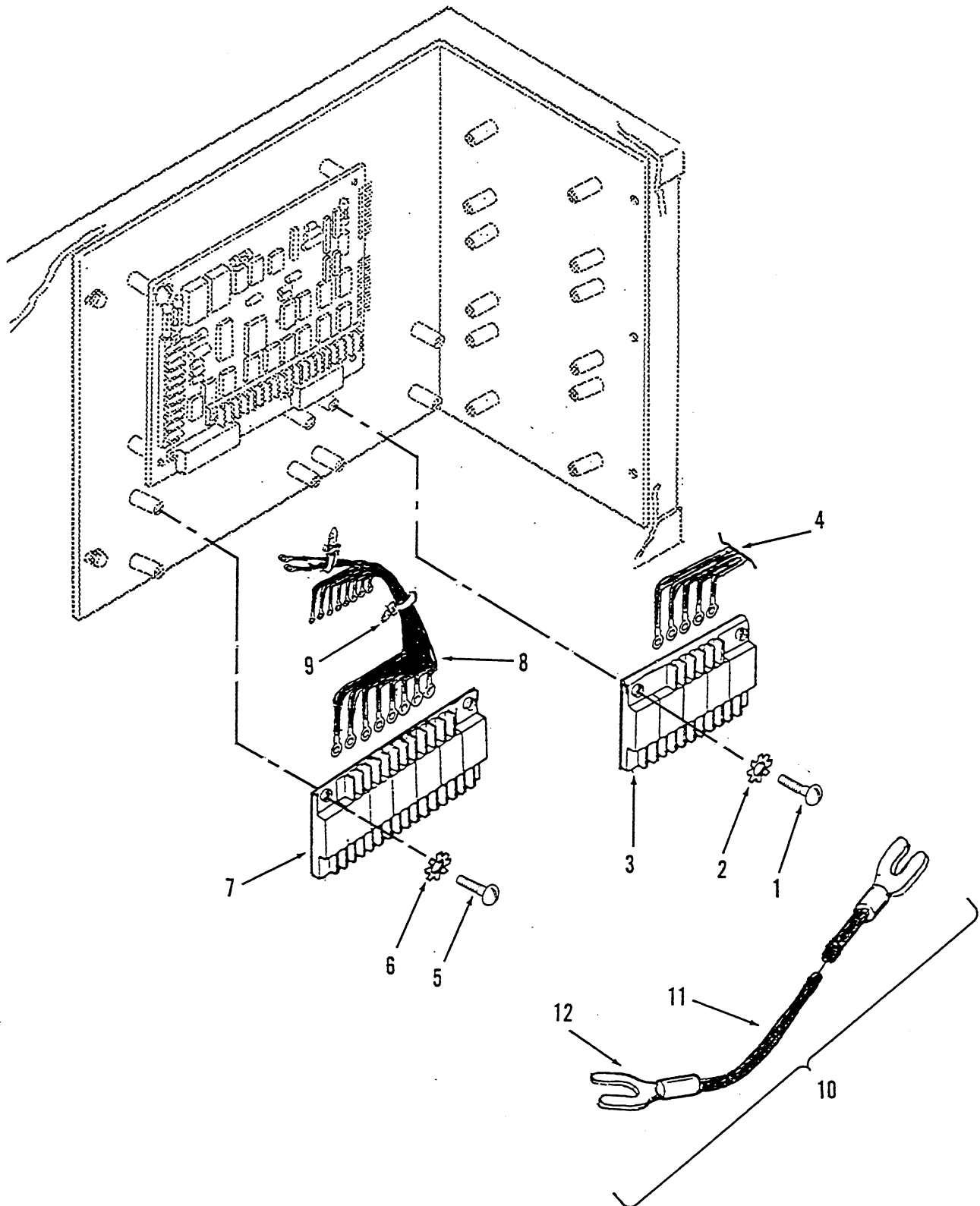
ENGINE MONITOR BOARD  
Installation Of



# ENGINE MONITOR BOARD Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	815-0544			4	Screw, Machine - Round Head With IT Lock Washer (#6-32 x 1/2")
2					Board - Engine Monitor (A11) (Includes Fuses)
	300-2810			1	24 VDC, 7 Light
	300-2812			1	24 VDC, 12 Light
3	321-0270			2	Fuse, Cartridge - 20 Amp (F1, F2)
4	321-0231			1	Fuse, Cartridge - 15 Amp (F3)
5	321-0094			2	Fuse, Cartridge - 5 Amp (F4, F5)
6	821-0004			4	Screw, Self-locking - Hex Washer Head (#10-32 x 5/16")
7	301-8851			1	Bracket, Mounting

ALARM RELAY MODULES  
Installation Of





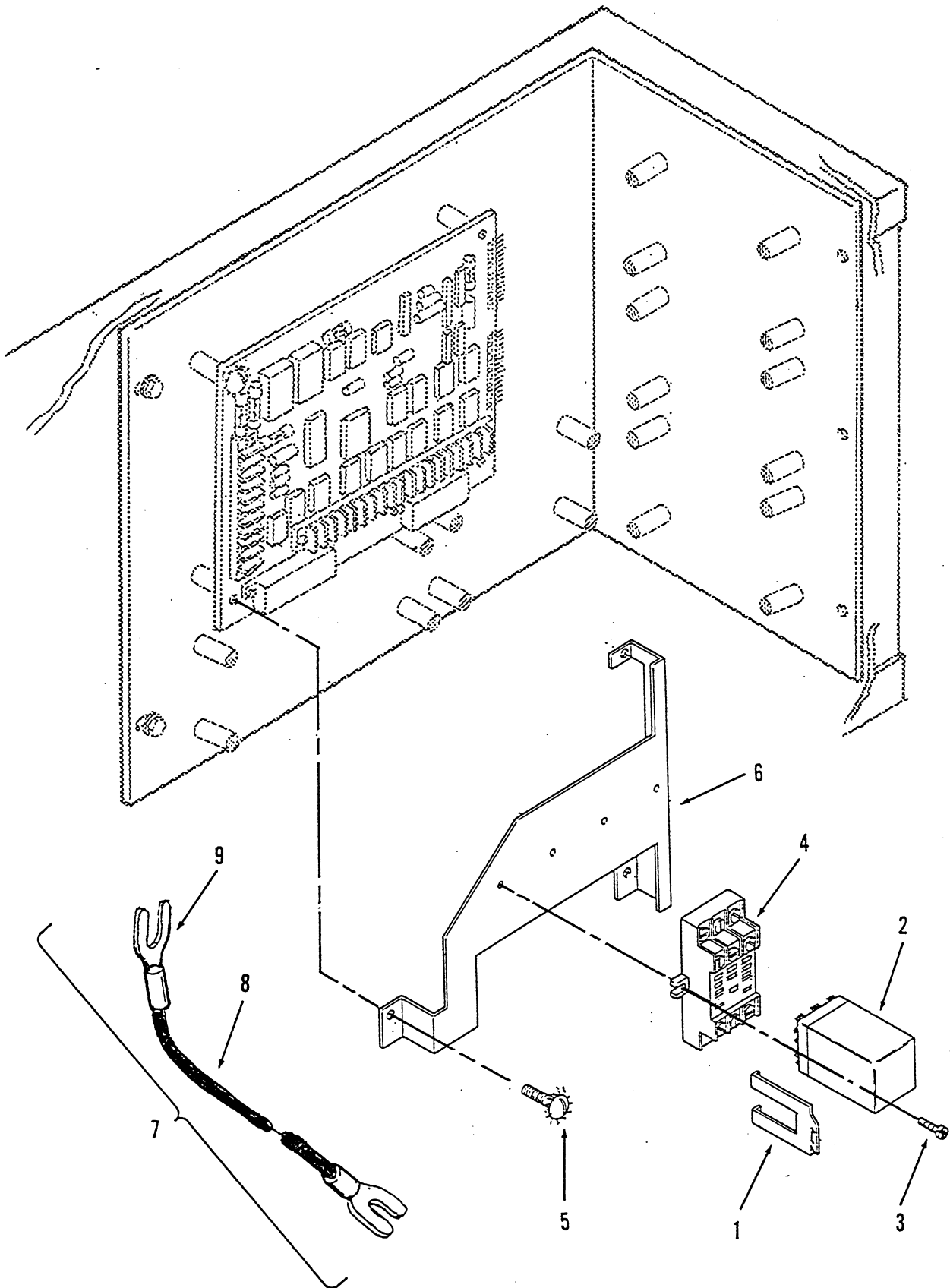
# ALARM RELAY MODULES Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	812-0063			4	Screw, Machine - Round Head (#6-32 x 1/2)
2	853-0003			4	Washer, Lock - External Tooth (#6)
3	300-2856			1	Module, Alarm Relay - 24 VDC, A14 (5 Relays)
4	338-1836			1	Harness, Wiring (A14 to A11)
5	812-0063			4	Screw, Machine - Round Head (#6-32 x 1/2)
6	853-0003			4	Washer, Lock - External Tooth (#6)
7	300-2863			1	Module, Alarm Relay - 24 VDC, A13 (7 Relays)
8	338-1835			1	Harness, Wiring (A13 to A11)
9	332-1445			4	Tie, Cable
10	NOTE 1			1	Lead, Electrical (A13 to A14)
11	NOTE 2			AR	Wire, Electrical - 20 AWG, Insulated
12	332-1673			2	Terminal, Wire - Forked, 18-20 Gauge

## NOTES:

1. Electrical Leads Not Stocked for Sale in Central Parts Distribution Center.
2. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

RUN RELAYS  
Installation Of



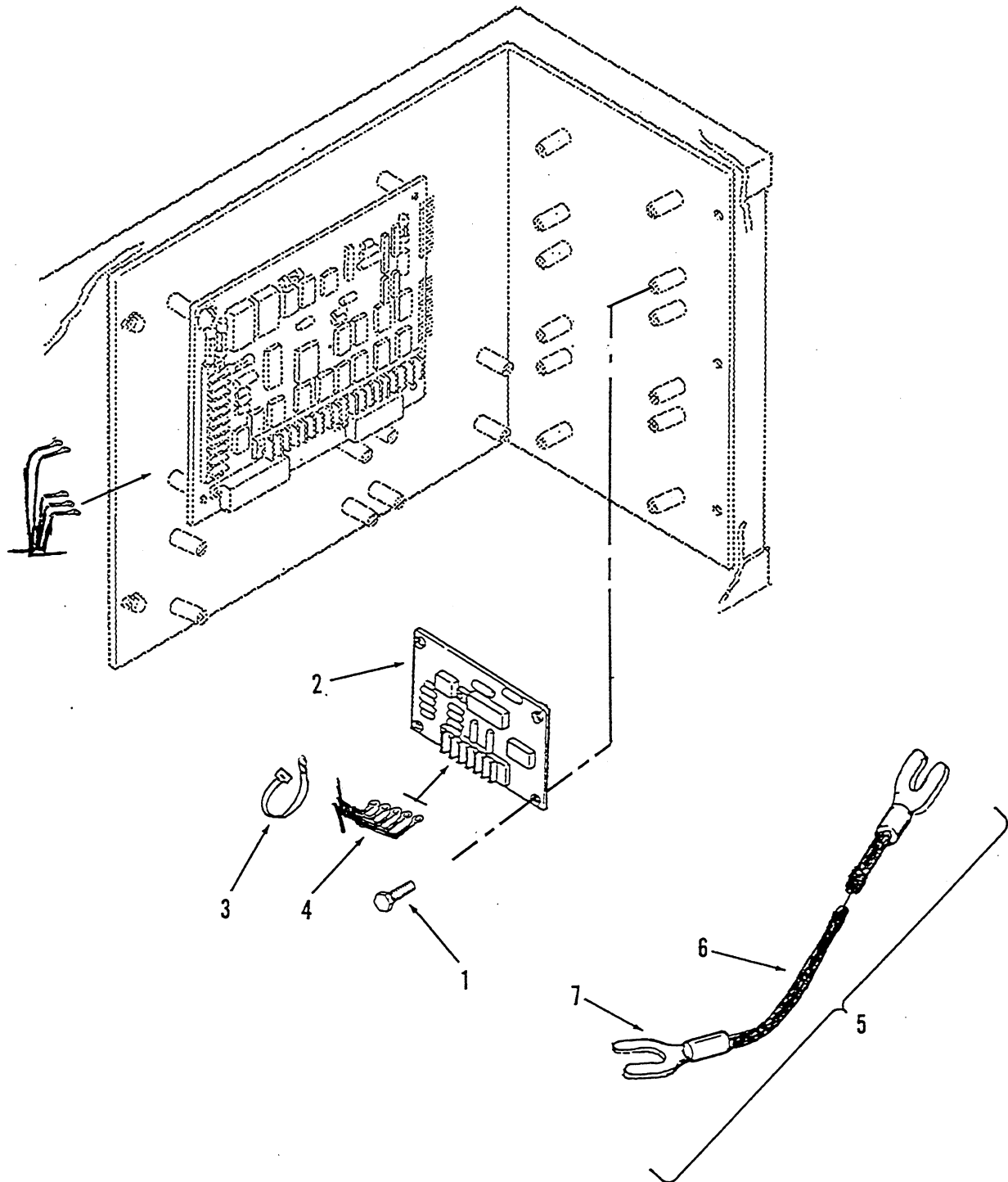
# RUN RELAYS Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	307-1987			6	Clip, Relay
2	307-1056			3	Relay, 24 VDC
3	815-0388			6	Screw, Machine - Pan Head, Cross-Recessed Drive (#6-32 x 1/2")
4	323-0804			3	Socket, Relay
5	815-0544			3	Screw, Machine - Round Head with IT Lock Washer (#6-32 x 1/2")
6	319-0447			1	Bracket, Mounting - Relay
7	NOTE 1		REF		Lead(s), Electrical
8	NOTE 2		AR		Wire, Electrical - 20 AWG, Insulated
9	332-1673		AR		Terminal, Wire - Forked, 18-20 Gauge

## NOTES:

1. Electrical Leads Not Stocked for Sale in Central Parts Distribution Center.
2. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

TIME DELAY START/STOP MODULE  
Installation Of



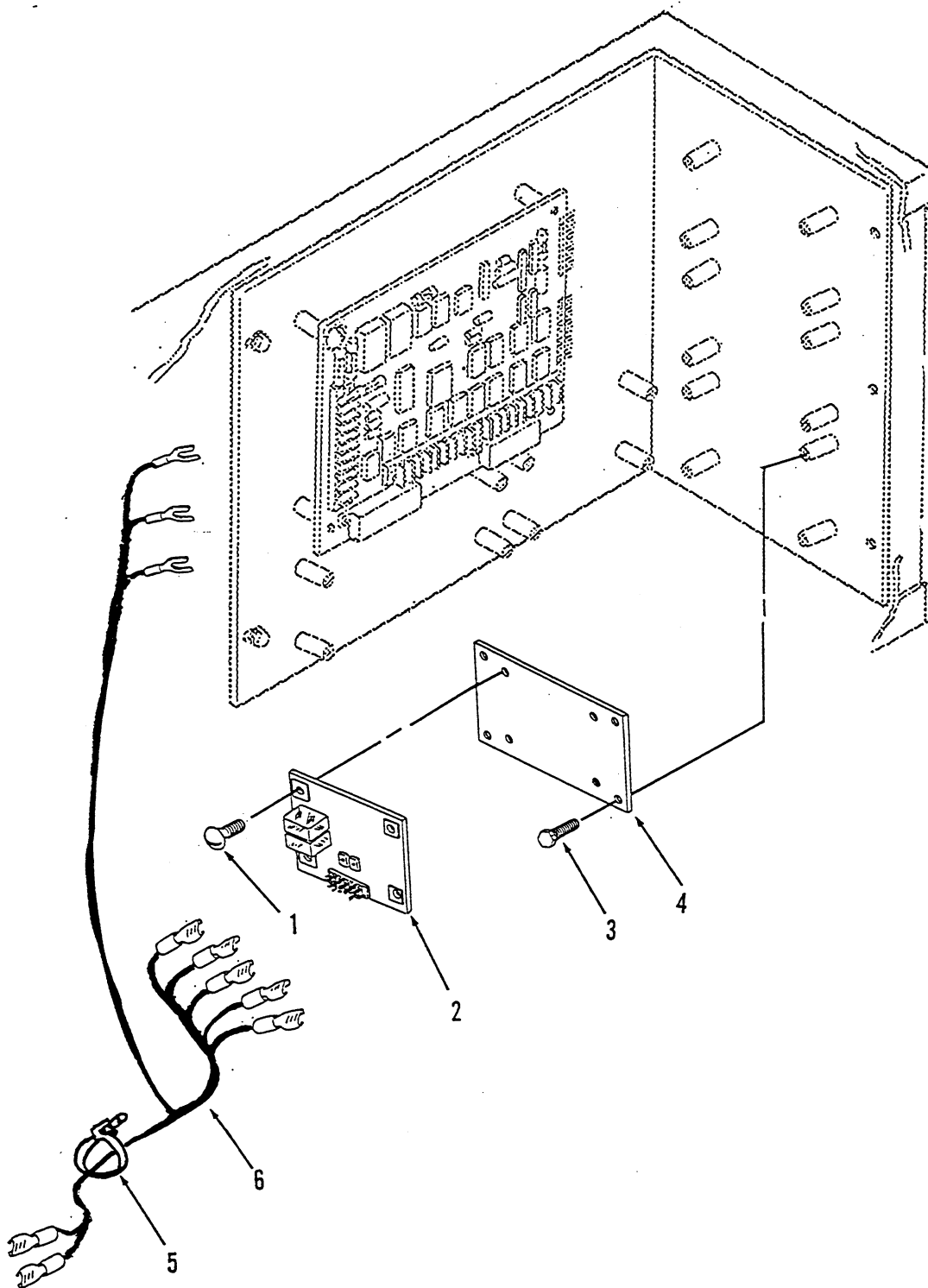
TIME DELAY START/STOP MODULE  
Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	815-0544			4	Screw, Cap - Hex Head with ET Lockwasher (#6-32 x 1/2)
2	300-2899			1	Module, Time Delay Start/Stop - 24 VDC, A15 (5 Relays)
3	332-1445			3	Tie, Cable
4	338-1904			1	Harness, Wiring (A15 to A11)
5	NOTE 1			1	Lead, Electrical (A15 to A11)
6	NOTE 2		AR		Wire, Electrical - 20 AWG, Insulated
7	332-1673			2	Terminal, Wire - Forked, 18-20 Gauge

NOTES:

1. Electrical Leads Not Stocked for Sale in Central Parts Distribution Center.
2. Electrical Wire Not Stocked for Sale in Central Distribution Parts Center; Obtain locally as needed.

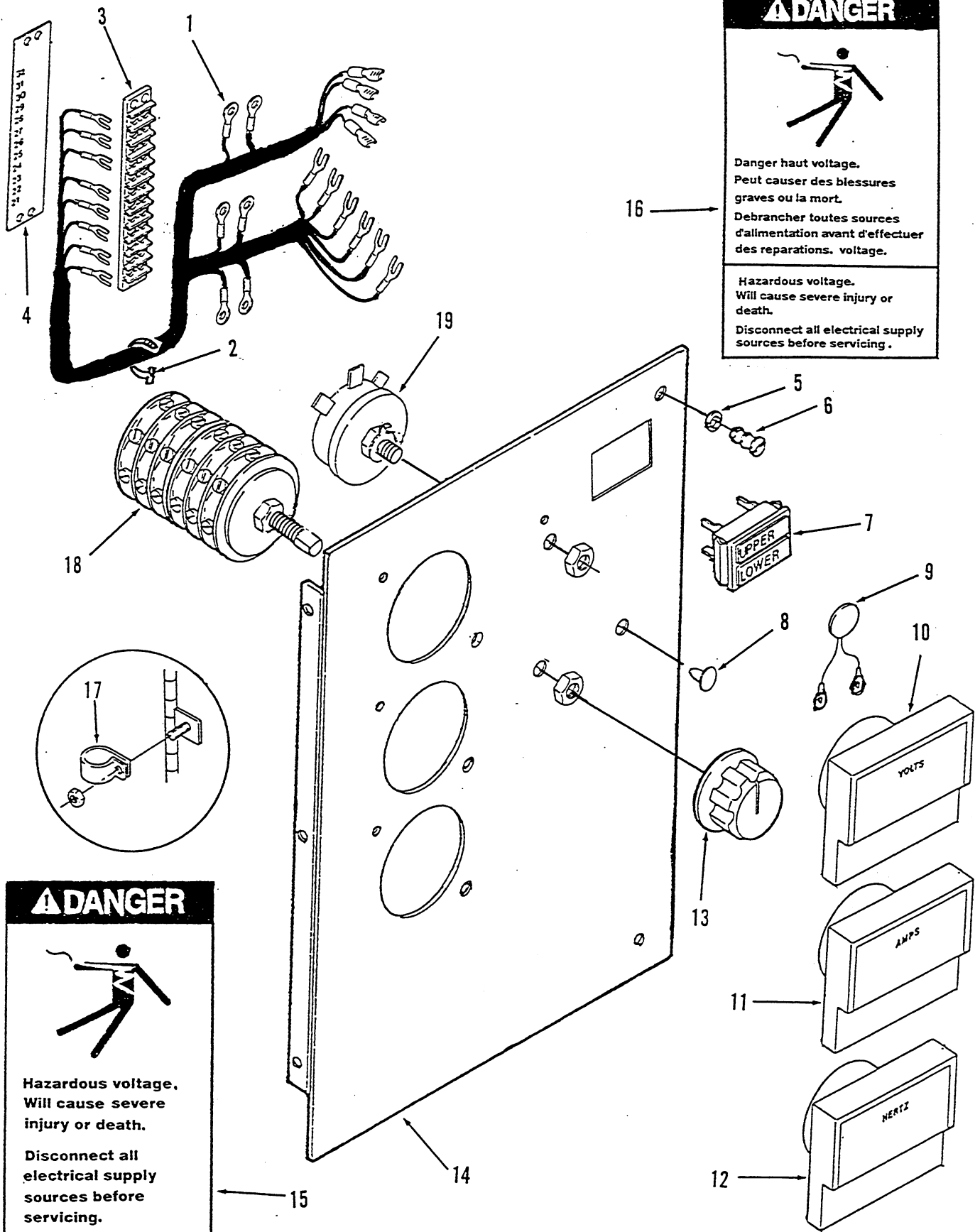
ELECTRONIC OVERSPEED MODULE  
Installation Of



**ELECTRONIC OVERSPEED MODULE**  
Installation Of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	812-0084			4	Screw, Machine - Round Head (#8-32 x 1/2")
2	305-0818-02	E000-21002	NE		Module, Overspeed - 24 VDC (Frequency Detection Module)
3	815-0544			4	Screw, Cap - Hex Head with ET Lockwasher (#6-32 x 1/2)
4	319-0754			1	Plate, Mounting - Module
5	332-1445			10	Tie, Cable
6	338-2493			1	Harness, Wiring (A16 to A11 and AUX-P2,P3)

# GENERATOR CONTROL PANEL COMPONENTS

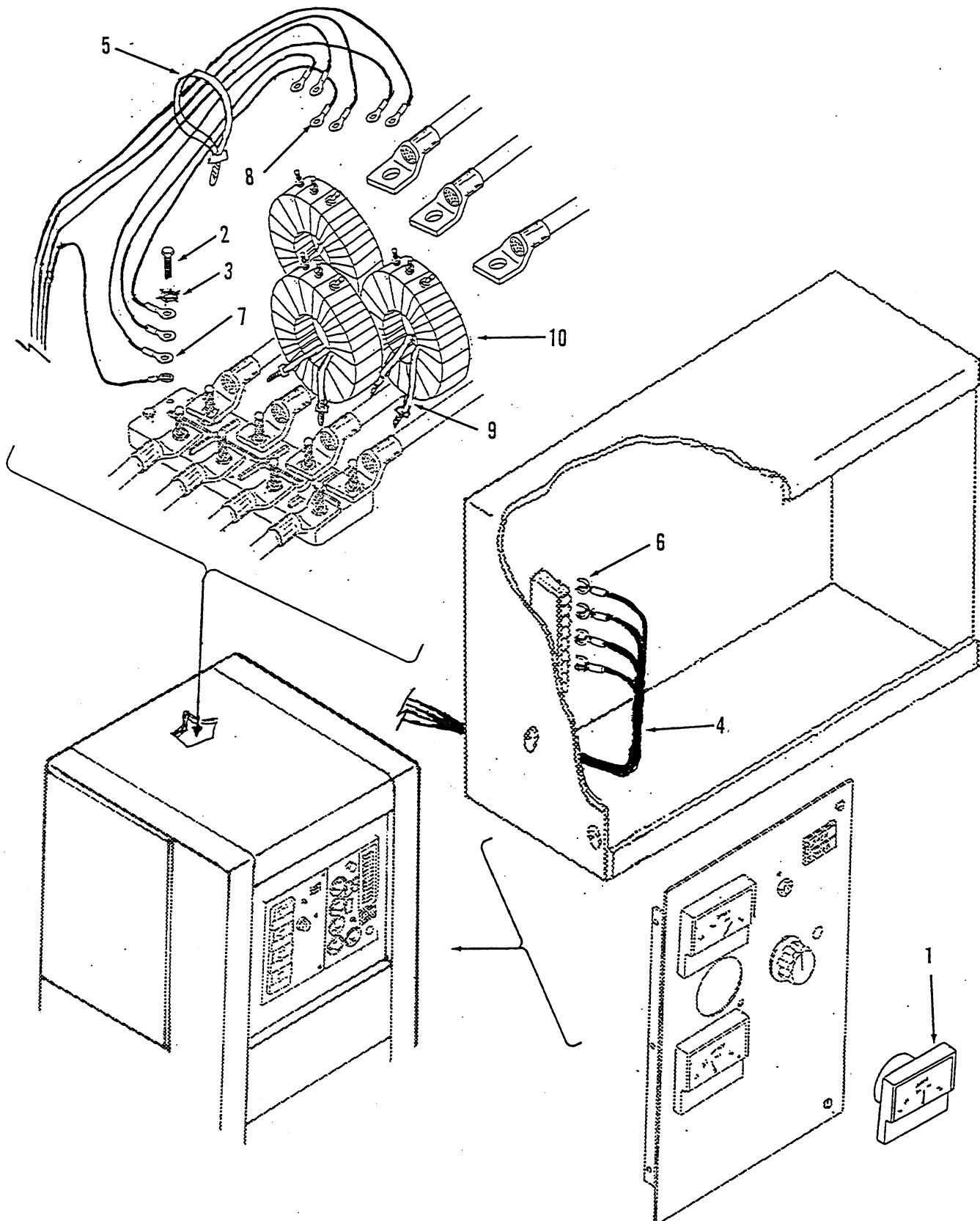




# GENERATOR CONTROL PANEL COMPONENTS

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	338-2278			1	Harness, Wiring - AC (Includes Terminal Block & Cable Ties) [Used only with meters] Attaching Parts for AC Wiring Harness
	812-0065			2	Screw, Machine - Round Head (#6-32 x 5/8")
2	332-1445			44	Tie, Cable (Part of Wiring Harness)
3	332-0607			1	Block, Terminal (TB1)
4	332-2723			1	Strip, Marker
5	406-0334			2	Clip, Retaining - Turnbutton Fastener
6	406-0333			2	Stud, Fastener - Turnbutton
7	322-0363			1	Light, Indicator - Dual (DS21, DS22)
8	517-0131			1	Plug, Dot Button
9	355-0093			1	Capacitor (Used across Voltmeter Terminals on some Sets)
10					Voltsmeter (M21)
	302-1148			1	Dual Scale 0-300/0-600V
	302-1753			1	Single Scale 0-750V
11			REF		Ammeter (M22) See Current Transformer & Ammeter Installation Figure for Parts)
12	302-1720			1	Meter, Frequency (M23)
13	303-0032			1	Knob
14					Panel, Control (Blank - No Decals)
	301-9054-02			1	3 Meter Holes
	301-9054-03			1	No Meter Holes
					Attaching Parts Panel to Control Box
	821-0004			3	Screw, Self-Locking-Hex Washer Head (#10-32 x 5/16")
15	98-5387			2	Decal - Warning (English) Located on Panel Front & Rear
16	98-5724			2	Decal - Warning (French/English)
17	332-0052			1	Clamp, Loop
					Attaching Parts for Loop Clamp
	870-0131			1	Nut, Self-Locking - with ET Lockwasher (#10-32)
18	308-0882			1	Switch, Rotary (S21)
19			REF		Potentiometer (R21) See Voltage Regulator Installation Figure for Parts)
20					Decals (Not Illustrated)
	98-5316			1	Decal - Panel Front Markings (Control Without Meters)
	98-5298			1	Decal - Panel Front Markings (Control With Meters)
	98-5299			1	Decal - Panel Rear Markings (All Control Panels)

# AMMETER & CURRENT TRANSFORMER INSTALLATION OF

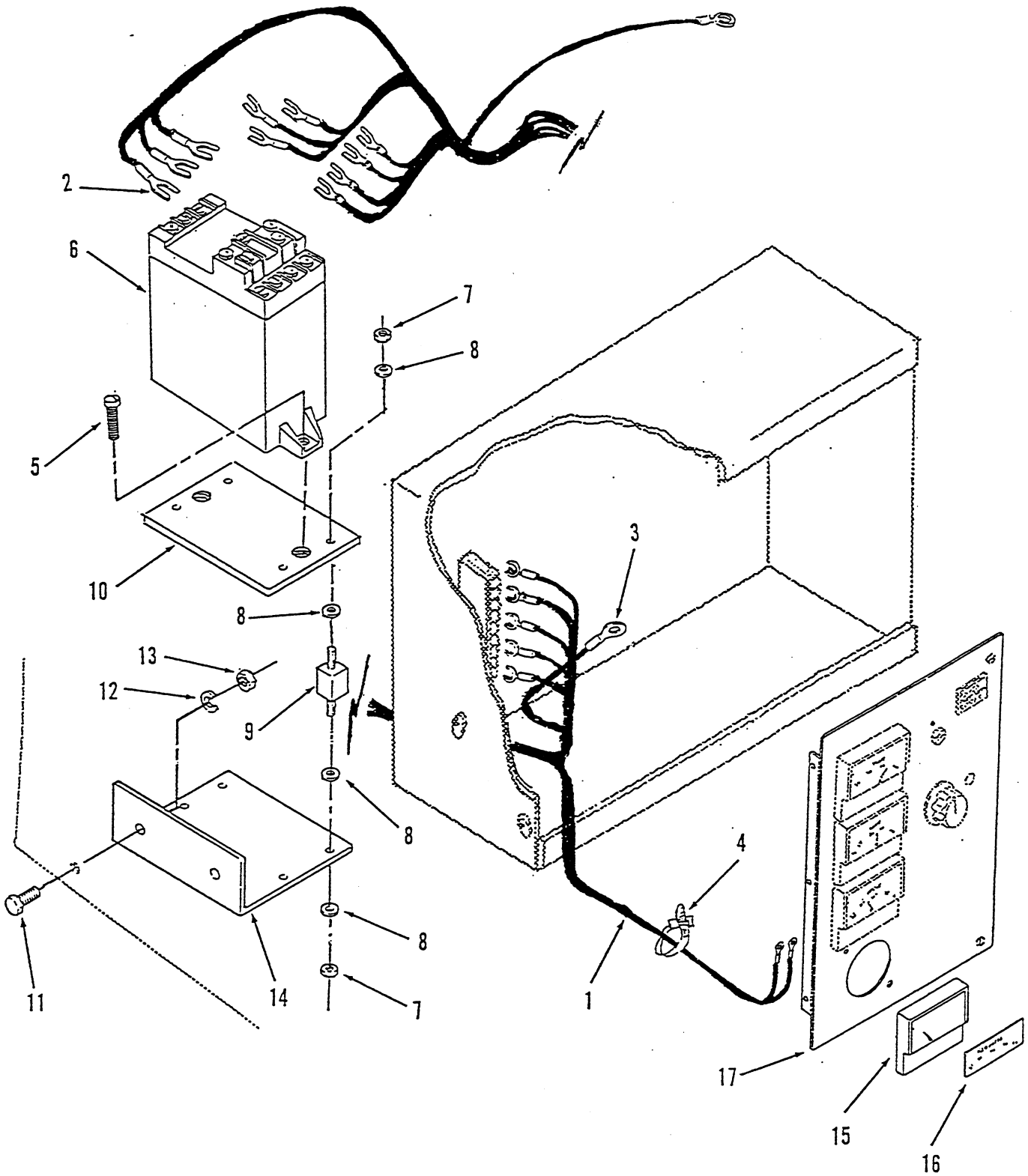


# AMMETER & CURRENT TRANSFORMER INSTALLATION OF

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1					Ammeter (M22) Scale in Amps as Indicated
	302-1725			1	0-375/0-750 (600 VAC Application)
	302-1726			1	0-400/0-800 (120-480 VAC Application) 200(175)kW Gen Sets
	302-1727			1	0-500/0-1000 (120-480 VAC Application) 230(200)kW Gen Sets
2	800-2060	016-40820	NE	1	Screw, Cap - Hex Head (M8-1.25 x 35MM)
3	856-0008			2	Washer, Lock - EIT (5/16")
4	332-0942			6	Tie, Cable
5	338-1980			1	Harness, Wiring
6	332-1279			4	Terminal, Lug - Forked (No. 6 Screw)
7	332-0151			4	Terminal, Lug - Ring (5/16" Screw)
8	332-0806			6	Terminal, Lug - Ring (No. 8 Screw)
9	332-1389			6	Tie, Cable
10					Transformer, Current (Turn Ratio Listed)
	302-1794-07			3	375/5,750/5 (600 VAC Application)
	302-1794-08			3	400/5,800/5 (120-480 VAC Application) 200(175)kW Gen Sets
	302-1794-09			3	500/5,1000/5 (120-480 VAC Application) 230(200)kW Gen Sets

NOTE: Phantom Items on Control Panel are Identified in Applicable Generator Control Panel Component Illustration and Phantom Item Associated with Current Transformer are Identified in the Applicable Terminal Block Installation Illustration.

# WATTMETER INSTALLATION OF

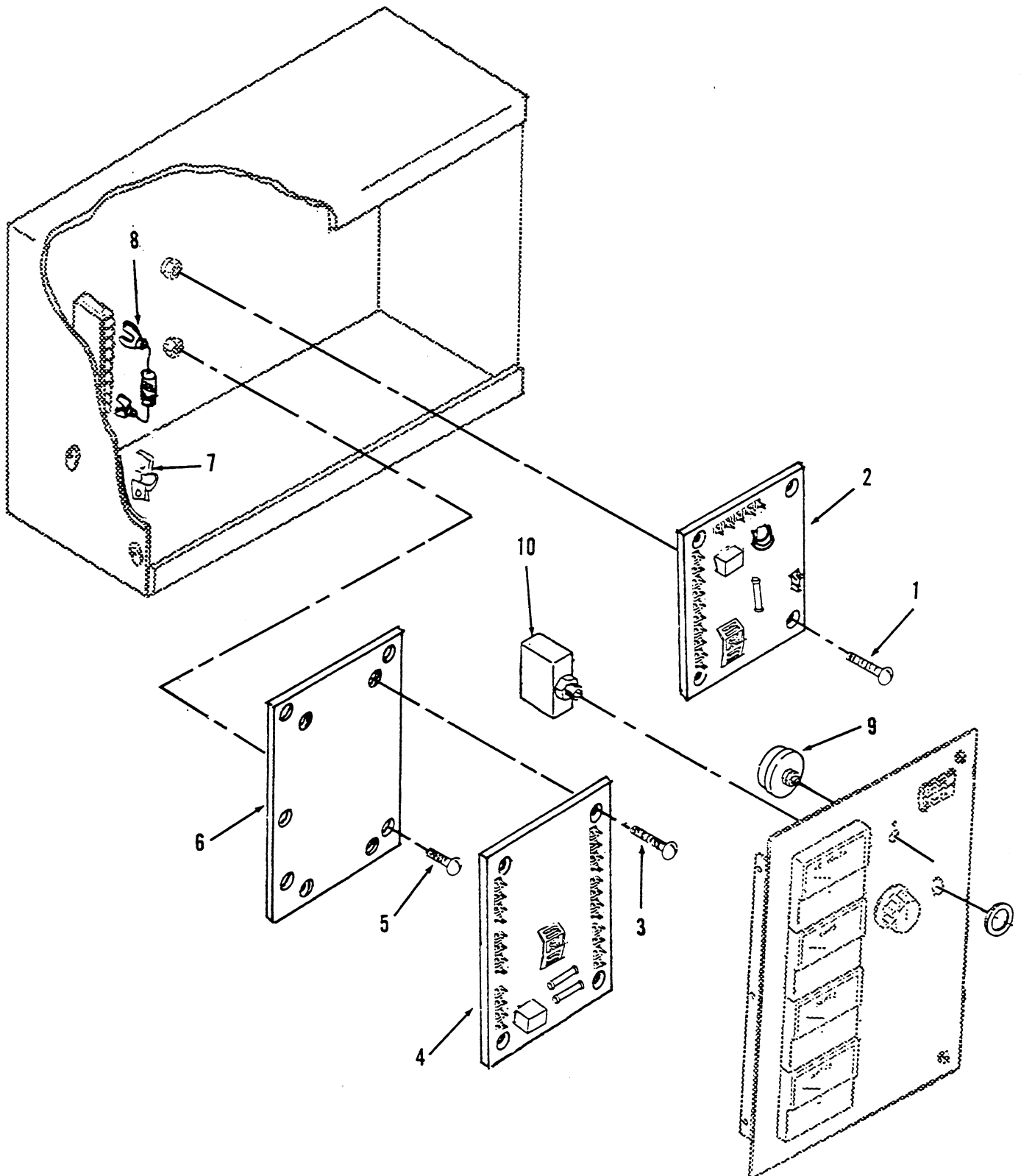


# WATTMETER INSTALLATION OF

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1					Harness, Wiring
	338-1936			1	Three Phase "WYE" Connected Generators
	338-2479			1	Three Phase "DELTA" Connected Generators
	338-2478			1	120/240 VAC "SINGLE PHASE" Connected Generators
2	332-1279			11	Terminal, Lug - Forked (For No. 6 Screw Mounting)
3	332-0897			4	Terminal, Lug - Ring (1/4" Screw Mounting)
4	332-0942			14	Tie, Cable
5	813-0102			2	Screw, Machine - Round Head (#10-32 x 5/8")
6					Transducer, Watt
	302-1833-01			1	Three Phase "WYE" Connected Generators
	302-1833-05			1	Three Phase "DELTA" Connected Generators
	302-1833-04			1	120/240 VAC "SINGLE Phase" Connected Generators
7	860-0008			8	Nut, Hex (#8-32)
8	856-0002			16	Washer, Lock - EIT (#8)
9	402-0354			4	Mount, Shock
10	319-0030			1	Plate, Support - Transducer
11	821-0017			2	Screw, Self-locking - HWH (5/16-18 x 1/2")
12	850-0045			2	Washer, Lock - Spring (5/16")
13	862-0014			2	Nut, Hex (5/16-18)
14	301-6987			1	Bracket, Mounting
15	302-1722			1	Meter, Watt (Less Dial)
16					Dial, Wattmeter
	302-1721-09			1	Scale 0-250 kW
	302-1721-10			1	Scale 0-300 kW
17	301-9054-01			1	Panel, Control

NOTE: Phantom Items on Control Panel are identified in applicable Generator  
Control Panel Component Illustration or applicable Meter Installation Illustration.

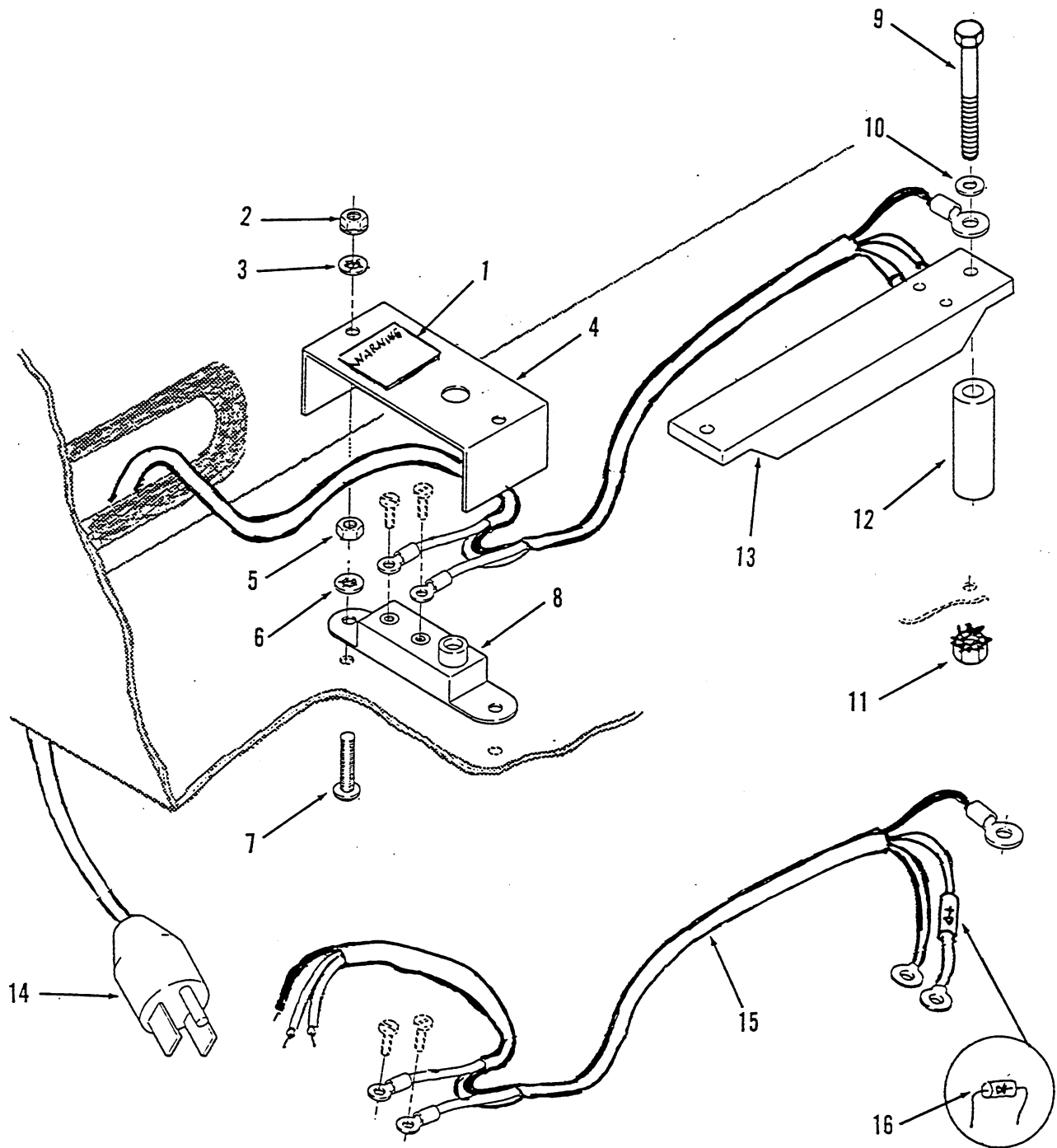
VOLTAGE REGULATOR  
Installation of



# VOLTAGE REGULATOR Installation of

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	812-0084			4	Screw, Machine - Round Head (#8-32 x 1")
2	305-0824	E000-24030	NE	1	Regulator, Voltage (Model SX440) [NOT USE WITH PMG GENERATORS]
3	815-0218			4	Screw, Machine - Round Head (#6-32 x 1")
4	305-0823	E000-23210	NE	1	Regulator, Voltage (Model MX321) [USED WITH PMG GENERATORS]
5	815-0544			6	Screw, Machine - Round Head (#6-3 x 1/2")
6	319-0652			1	Plate, Mounting - Voltage Regulator
7	331-1043			1	Jumper, Terminal
8	350-1222			1	Resistor and Terminal Assembly
	350-0991			1	Resistor, Fixed (1.5K Ohms +5%)
	332-1673			2	Terminal, Lug - Forked (No. 6 Spade)
9					Potentiometer (Not used on all Sets)
	303-0261			1	1.5K Ohms +10% (Used with SX440 Voltage Regulator)
	303-0285			1	5K Ohms +10% (Used with MX321 Voltage Regulator)
10					Circuit Breaker - Field Current (Select as Applicable)
	320-1688-01			1	5 AMP, 240VAC/50VDC
	320-1688-02			1	5 AMP, 240VAC/50VDC, with AUX Terminals

CONTROL SPACE HEATER  
Installation Of

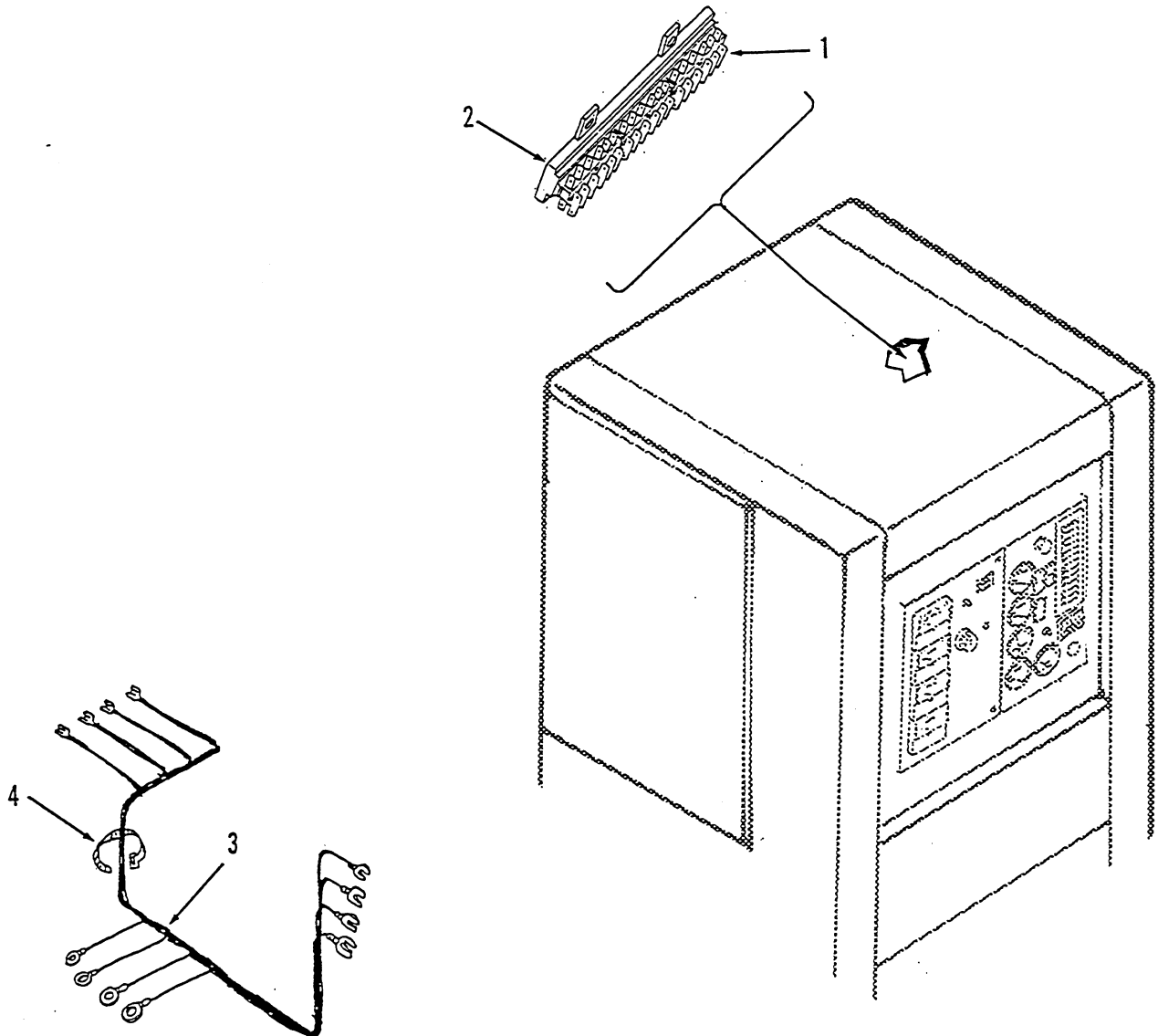




# CONTROL SPACE HEATER Installation Of

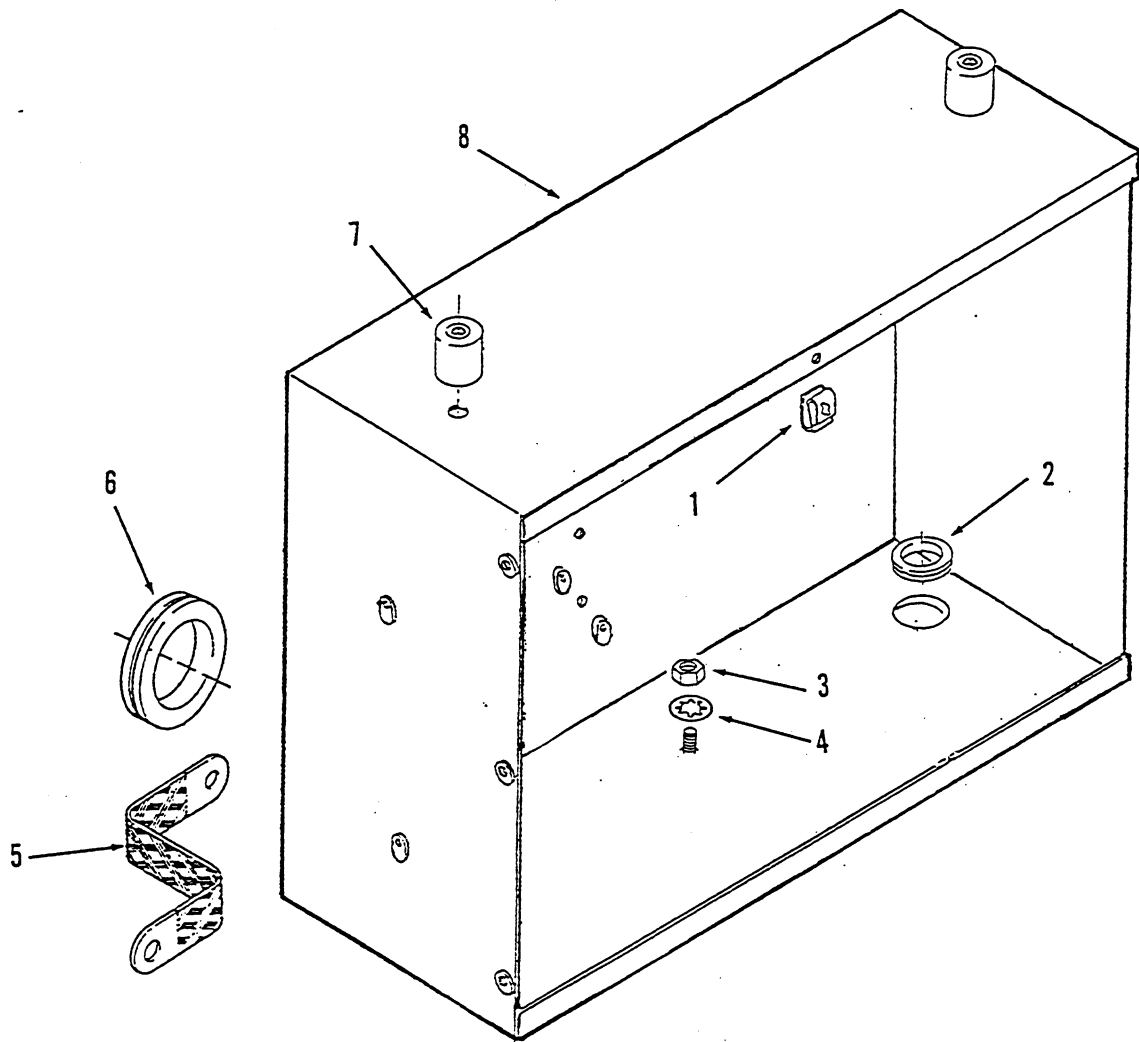
REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	98-3232			1	Decal - Warning (Shock Hazard)
2	870-0183			2	Nut, Self-locking - HEX (#6-32)
3	854-0006			2	Washer, Lock - IT (#6)
4	301-1886			1	Cover
5	860-0006			1	Nut, Hex (#6-32)
6	854-0006			2	Washer, Lock - IT (#6)
7	812-0070			2	Screw, Machine - Round Head (#6-32 x 1-1/4")
8	309-0128			1	Thermostat - Adjustable
9	800-0034			2	Screw, Cap - Hex Hd (5/16-18 x 2-1/4")
10	526-0113			2	Washer, Flat (5/16")
11	870-0257			2	Nut, Self-locking - Hex (5/16-18)
12	130-1107			2	Spacer
13					Heater, Electrical
	333-0151			1	75 Watt, 120 VAC
	333-0378			1	150 Watt, 240 VAC
14	335-0161			1	Cable, Electrical - 120 VAC Application
15	338-2121			1	Harness, Wiring with Diode, Less Plug (240 VAC Application)
16	357-0013			1	Diode

# AUX TERMINAL BLOCK Installation of



REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1		130-20102	NE	1	Base, Terminal
2		E00-10005	NE	3	Block, Terminal - AUX
	812-0085			3	Attaching Parts for AUX Base & Terminal Blocks
	850-0025			3	Screw, Machine - Round Head (#8-32 x 1-1/8")
	870-0221			3	Washer, Lock - Spring (1/8")
				3	Nut, Hex (#8-32))
3	338-2491			1	Harness, Wiring - AC AUX
4	332-1445			4	Tie, Cable

# CONTROL BOX & MOUNTING COMPONENTS



REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	406-0332			2	Receptacle, Turnbutton Fastener
2	508-0001			1	Grommet 3/4" DIA
3	871-0015			2	Nut, Hex (1/4-20) Ground Stud
4	853-0013			2	Washer, Lock - ET (1/4") Ground Stud
5	337-0049			1	Strap, Electrical (Ground)
	800-0024				Attaching Parts for Ground Strap
	856-0008			1	Screw, Cap - Hex Head (5/16-18 x 1/2")
6	508-0051			1	Washer, Lock - EIT (5/16")
7	402-0527			1	Grommet 2" DIA
	800-0045			4	Mount, Vibration
	850-0045				Attaching Parts for Vibration Mounts
	301-8065			4	Screw, Cap - Hex Head (5/16-18 x 3/8")
				4	Washer, Lock - Spring (5/16")
8				1	Box, Control



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**GENERATOR TABLE  
FOR  
200 kW 60 HERTZ SETS**

ONAN/CUMMINS IDENTIFICATION NUMBER	NEWAGE MODEL IDENTIFICATION NUMBER/LETTER	GEN ADPTR SAE	GEN DISK SAE	APPLICATION DATA VOLTAGES AT AMBIENT TEMPS	SPECIAL FEATURES		
					CSA CERT.	RTD EQUIPED	RAIN LOUVERS
249-0168-03	NOT AVAILABLE	1	14	190-480V			
249-0179-03	HC434D-311-D41-4070	1	14	80°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-480V			
249-0179-08	HC434D-311-D41-4070	1	14	80°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	190-480 V			
249-0179-02	HC434C-311-D41-4070	1	14	105°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	190-480 V			
249-0179-07	HC434C-311-D41-4070	1	14	105°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	190-480 V			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	190-480 V			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	480V Only			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	480V Only			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES
249-0171-02	NOT AVAILABLE	1	14	600V Only			
249-0180-02	HC434C-007-D41-4070	1	14	105°C	YES	NO	NO
249-0171-07	NOT AVAILABLE	1	14	600V Only			
249-0180-07	HC434C-007-D41-4070	1	14	105°C	YES	YES	YES

**GENERATOR TABLE  
FOR  
175 kW 50 HERTZ SETS**

ONAN/CUMMINS IDENTIFICATION NUMBER	NEWAGE MODEL IDENTIFICATION NUMBER/LETTER	GEN ADPTR SAE	GEN DISK SAE	APPLICATION DATA VOLTAGES AT AMBIENT TEMPS	SPECIAL FEATURES		
					CSA CERT.	RTD EQUIPED	RAIN LOUVERS
249-0168-03	NOT AVAILABLE	1	14	190-460V			
249-0179-03	HC434D-311-D41-4070	1	14	80°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-460V			
249-0179-08	HC434D-311-D41-4070	1	14	80°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	190-460 V			
249-0179-02	HC434C-311-D41-4070	1	14	105°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	190-460 V			
249-0179-07	HC434C-311-D41-4070	1	14	105°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	190-460 V			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	190-460 V			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	460V Only			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	460V Only			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES

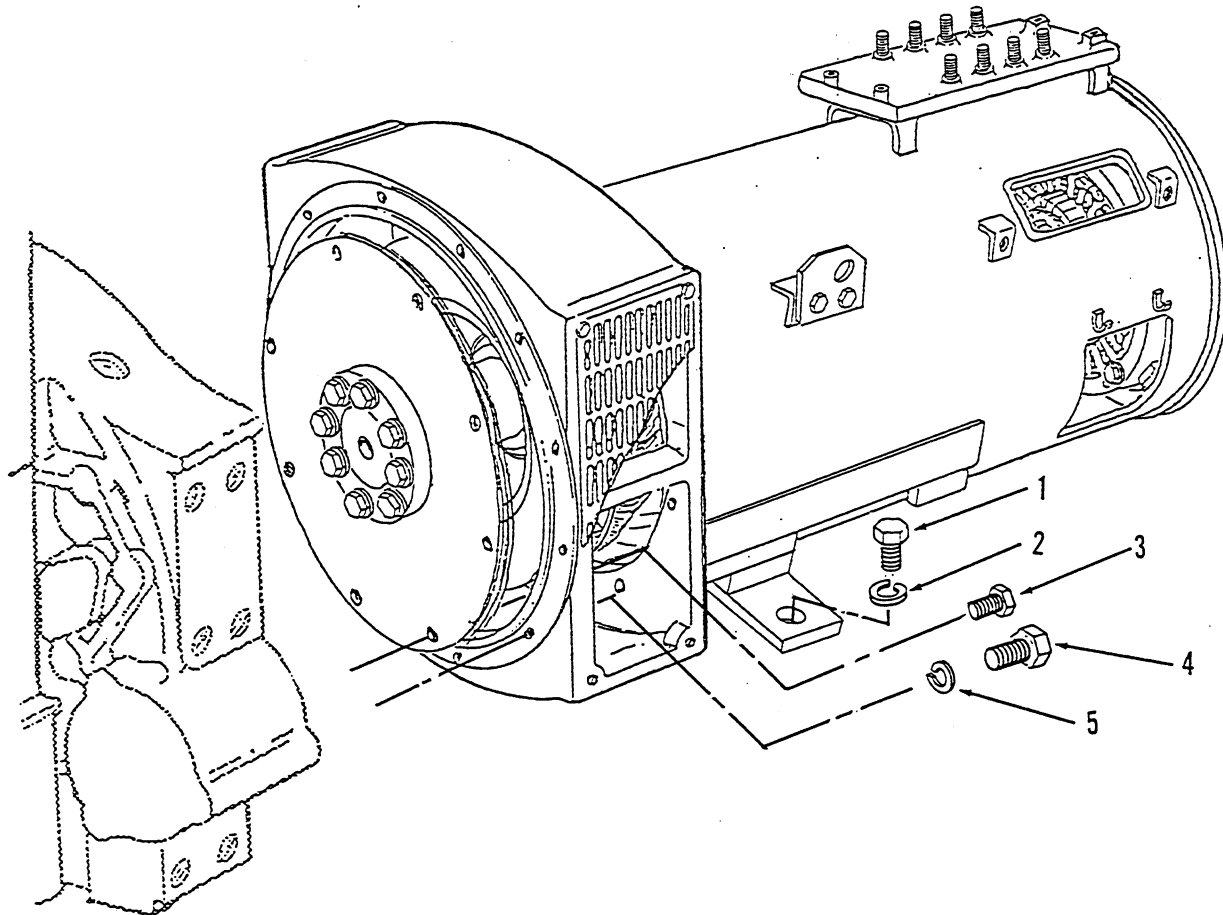
**GENERATOR TABLE  
FOR  
230 kW 60 HERTZ SETS**

ONAN/CUMMINS IDENTIFICATION NUMBER	NEWAGE MODEL IDENTIFICATION NUMBER/LETTER	GEN ADPTR SAE	GEN DISK SAE	APPLICATION DATA VOLTAGES AT AMBIENT TEMPS	SPECIAL FEATURES		
					CSA CERT.	RTD EQUIPED	RAIN LOUVERS
249-0168-04	NOT AVAILABLE	1	14	190-480V			
249-0179-04	HC434E-311-D41-4070	1	14	80°C	YES	NO	NO
249-0168-09	NOT AVAILABLE	1	14	190-480V			
249-0179-09	HC434E-311-D41-4070	1	14	80°C	YES	YES	YES
249-0168-03	NOT AVAILABLE	1	14	190-480 V			
249-0179-03	HC434D-311-D41-4070	1	14	105°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-480 V			
249-0179-08	HC434D-311-D41-4070	1	14	105°C	YES	YES	YES
249-0168-03	NOT AVAILABLE	1	14	190-480 V			
249-0179-03	HC434D-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-480 V			
249-0179-08	HC434D-311-D41-4070	1	14	125°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	480V Only			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	480V Only			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES
249-0171-02	NOT AVAILABLE	1	14	600V Only			
249-0180-02	HC434C-007-D41-4070	1	14	105°C	YES	NO	NO
249-0171-07	NOT AVAILABLE	1	14	600V Only			
249-0180-07	HC434C-007-D41-4070	1	14	105°C	YES	YES	YES

**GENERATOR TABLE  
FOR  
200 kW 50 HERTZ SETS**

ONAN/CUMMINS IDENTIFICATION NUMBER	NEWAGE MODEL IDENTIFICATION NUMBER/LETTER	GEN ADPTR SAE	GEN DISK SAE	APPLICATION DATA VOLTAGES AT AMBIENT TEMPS	SPECIAL FEATURES		
					CSA CERT.	RTD EQUIPED	RAIN LOUVERS
249-0168-04	NOT AVAILABLE	1	14	190-460V			
249-0179-04	HC434E-311-D41-4070	1	14	80°C	YES	NO	NO
249-0168-09	NOT AVAILABLE	1	14	190-460V			
249-0179-09	HC434D-311-D41-4070	1	14	80°C	YES	YES	YES
249-0168-03	NOT AVAILABLE	1	14	190-460 V			
249-0179-03	HC434D-311-D41-4070	1	14	105°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-460 V			
249-0179-08	HC434D-311-D41-4070	1	14	105°C	YES	YES	YES
249-0168-03	NOT AVAILABLE	1	14	190-460 V			
249-0179-03	HC434D-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-08	NOT AVAILABLE	1	14	190-460 V			
249-0179-08	HC434D-311-D41-4070	1	14	125°C	YES	YES	YES
249-0168-02	NOT AVAILABLE	1	14	460V Only			
249-0179-02	HC434C-311-D41-4070	1	14	125°C	YES	NO	NO
249-0168-07	NOT AVAILABLE	1	14	460V Only			
249-0179-07	HC434C-311-D41-4070	1	14	125°C	YES	YES	YES

**GENERATOR  
HC434 MODELS  
Installation Of**



REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
------------	------------------	--------------------	------------------	-------------	---------------------

Generators with SAE 1 Adapter/ SAE 14 Drive Disc (See Separate Page for Servicable Components)					
1	800-0134			2	Screw, Cap - Hex Head (1 - 8 x 2")
2	850-0086			2	Washer, Lock - Spring (1")
3	805-0032			8	Bolt, Place - Hex Head, Grade 8 (1/2-13 x 1-1/2")
4	800-0204			12	Screw, Cap - Hex Head (7/16-14 x 1-1/2")
5	850-0104			12	Washer, Lock - Spring 7/16")



**GENERATOR  
HC434 MODELS  
SERVICABLE COMPONENTS**

REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
<b>GENERATOR STATOR GROUP</b>					
Note 1	Note 3		NE	1	Stator, Generator (Main Stator; No Servicable Components)
<b>GENERATOR END BELL GROUP</b>					
Note 1	Note 3		NE	1	End Bell Assembly (Includes Exciter Stator, Bearing Caps and End Bell)
					Attaching Parts End Bell to Stator
800-2088	016-40920		NE	8	Screw, Cap - Hex Head (M10 x 35mm)
850-2010	028-31509		NE	8	Washer, Lock - Spring (M10)
					-----*
Note 1	Note 2		NE	1	End Bell, Generator
220-4248	462-12400		NE	1	Stator, Exciter
					Attaching Parts for Stator
800-2043	015-41613		NE	6	Screw, Cap - Hex Head (M6 x 65mm)
850-2006	028-31507		NE	6	Washer, Lock - Spring (M6)
					-----*
232-3519	458-12970		NE	1	Cap, Bearing - Outer
					Attaching Parts for Outer Cap
800-2528	016-40919		NE	4	Screw, Cap - Hex Head (M10 x 30mm)
850-2010	028-31509		NE	4	Washer, Lock - Spring (M10)
					-----*
232-3518	458-12960		NE	1	Cap, Bearing - Inner
					Attaching Parts for Inner Cap
800-2528	016-40919		NE	4	Screw, Cap - Hex Head (M10 x 30mm)
850-2010	028-31509		NE	4	Washer, Lock - Spring (M10)
					-----*
<b>GENERATOR ROTOR GROUP</b>					
Note 1	Note 3		NE	1	Rotor, Generator (Main Rotor, Exciter Rotor, Bearing, etc.)
Note 1	Note 3		NE	1	Rotor Assy, Exciter (Includes Rectifier Assembly and Wound Rotor)
201-3454	458-22800		NE	1	Rotor, Exciter - Wound
357-0093	362-12800		NE	1	Rectifier Assembly (Includes Diodes and Varistor)
					Attaching Parts for Rectifier Assembly
800-2043	016-41613		NE	4	Screw, Cap - Hex Head (M6 x 65mm)
850-2006	028-31507		NE	4	Washer, Lock - Spring (M6)
526-2080	029-62101		NE	4	Washer, Flat (M6)
					-----*
249-0240	450-11760		NE	1	Varistor
249-0238	364-10850		NE	3	Diode - Reverse
249-0239	364-10840		NE	3	Diode - Forward
					Attaching Parts for Diodes
860-2006	027-41206		NE	6	Nut, Hex (M5)
850-2005	028-31506		NE	6	Washer, Lock - Spring (M5)
					-----*
518-0018	050-11047		NE	1	Ring, Retaining (Circlip)
515-0300-01	054-10121		NE	1	Key, Machine
510-0168	051-01036		NE	1	Bearing, Ball

**PMG GROUP**

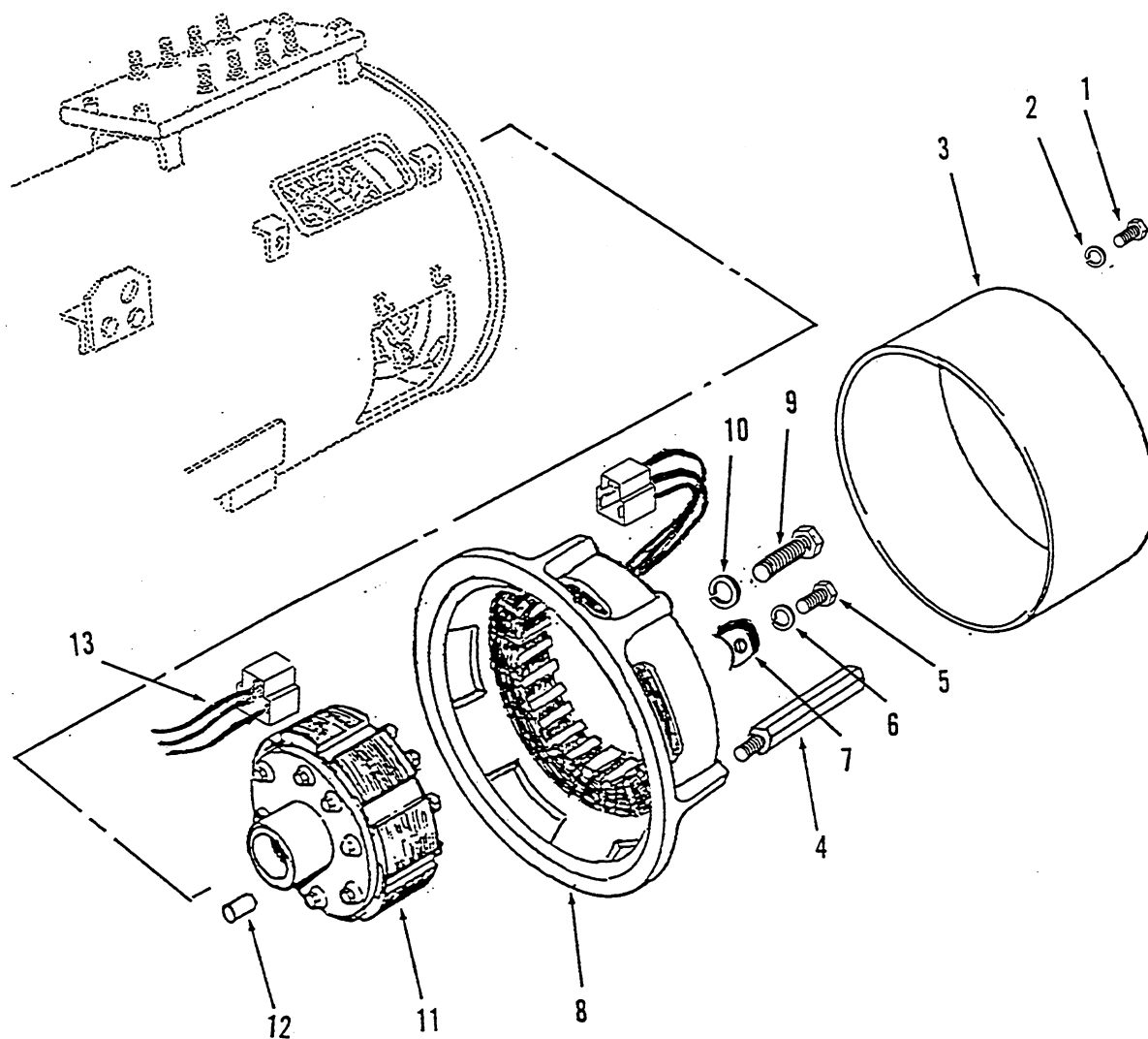
See Separate page for Servicable Components

NOTE 1. NOT STOCKED OR SOLD BY THE CENTRAL PARTS DISTRIBUTION CENTER!

NOTE 2. NOT STOCKED FOR SALE BY NEWAGE INTERNATIONAL. REPLACEMENT ORDER MAY HAVE A LONG LEAD TIME.

NOTE 3. NOT STOCKED OR SOLD BY NEWAGE INTERNATIONAL: FOR REPLACEMENT ORDER A COMPLETE GENERATOR BY CONTACTING NEAREST NEWAGE DISTRIBUTION CENTER AND SUPPLY THE COMPLETE GENERATOR MODEL AND SERIAL NUMBER FROM THE GENERATOR DATA PLATE OR THE CUMMINS/ONAN PART NUMBER FROM THE GENERATOR SET IDENTIFICATION PLATE.

GENERATOR  
HC434 MODELS  
PERMANENT MAGNET EXCITER  
Installation Of



REF NO.	CPDC PART NO.	SOURCE PART NO.	C O D E	QTY USED	PART DESCRIPTION
1	800-2004	016-40614	NE	3	Screw, Cap - Hex Head (M5 x 12mm)
2	850-2005	028-31506	NE	3	Washer, Lock - Spring (M5)
3	234-0890	450-11901	NE	1	Cover, PMG
4	232-3527	450-13340	NE	3	Pillar, Threaded
5	800-2056	016-40816	NE	4	Screw, Cap - Hex Head (M8 x 16mm)
6	850-2008	028-31508	NE	4	Washer, Lock - Spring (M8)
7	232-3526	150-10710	NE	4	Clamp, PMG Stator
8	220-4249	450-17400	NE	1	Stator and Frame, PMG
9	815-0761	350-14950	NE	1	Bolt, Hex Head (M10 x 110mm)
10	850-2010	028-31509	NE	1	Washer, Lock Spring (M10)
11	201-3455	450-21300	NE	1	Rotor, PMG
12	516-0228	054-20505	NE	1	Pin, Dowel (M5 x120mm)
13	249-0642	450-22000	NE	1	Harness, Wiring (Universal Replacement) PMG to AUX Terminal Strip

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## MANUFACTURERS

### LOCATION

### TELEPHONE

CUMMINS/ONAN POWER SYSTEMS  
1400 73rd Avenue N.E.  
Minneapolis, Minnesota, USA  
55432

Telephone: 612-574-5000  
Telex: 275477  
Fax: 612-574-5298

CUMMINS ENGINE COMPANY, INC.  
Columbus, Indiana, USA  
47202-3005

NEWAGE ENGINEERS LIMITED  
P.O. Box 17  
Barnack Road  
Stamford, Lincolnshire, England  
PE9 2NB

Telephone: 0780-62552  
Telex: 32268  
Cables: "Newage" Stamford

# SOURCES

C O D E	<u>LOCATION</u>	<u>TELEPHONE</u>
CE	CUMMINS ENGINE COMPANY, INC. Columbus, Indiana, USA 47202-3005	
MO	(FORMERLY MOTOROLA ALTERNATORS) DISTRIBUTION DIVISION OF PRESTOLITE ELECTRIC INC. 2101 South Arlington Heights Road Suite 180 Arlington Heights, Illinois, USA 60005	Telephone: 312-952-0445
NE	NEWAGE ENGINEERS LIMITED P.O. Box 17 Barnack Road Stamford, Lincolnshire, England PE9 2NB	Telephone: 0780-62552 Telex: 32268 Cables: " Newage" Stamford
	NEWAGE ENGINEERS PTY. LIMITED 2A Parkes Street, Thornleigh New South Wales 2120 , Australia	Telephone: Sydney 8751933 Telex: 26686
	NEWAGE EQUIPMENT LIMITED P.O.Box 427, Islington, Onatario, Canada M9A 4X4	Telephone: 416-259-3741 Telex: 06-967676
	NEWAGE ENGINEERS G.m.b.H. Archenholzstr 69,2000 Hamburg 74, West Germany	Telephone: 040-712-20-44/45 Telex: 2174397
	P.T. NEWAGE ENGINEERS INDONESIA P.O. Box 70/JAT Ji. Pulogadung 21 Kawasan Industri Pilogadung Jakarta 13001 Indonesia	Telephone: 486654 Telex: 49204 NEWIND IA
	NEWAGE ITALIA S.r.l. Viale Fulvio Testi 56 20125 Milan, Italy	Telephone: 6420-868/64-36-602 Telex: 330541
	NEWAGE NORGE A/S Staalffjera 12 Oslo 9, Norway	Telephone: 25-1635 Telex: 18835

## SOURCES

C  
O  
D  
E

### LOCATION

### TELEPHONE

NEWAGE (FAR EAST) PTE LIMITED  
Ghim Moh P.O. Box 1016  
Singapore 1027

Telephone: 7776203  
Telex: 33404

STAMFORD IBERICA S.A.  
Paseo de la Castellano 62  
Madrid 1, Spain

Telephone: 261-8558/8566  
Telex: 43551

NEWAGE LIMITED  
P.O. Box 103  
3 Independence Court  
Folcroft Industrial Park  
Folcroft, Pennsylvania, USA  
19032

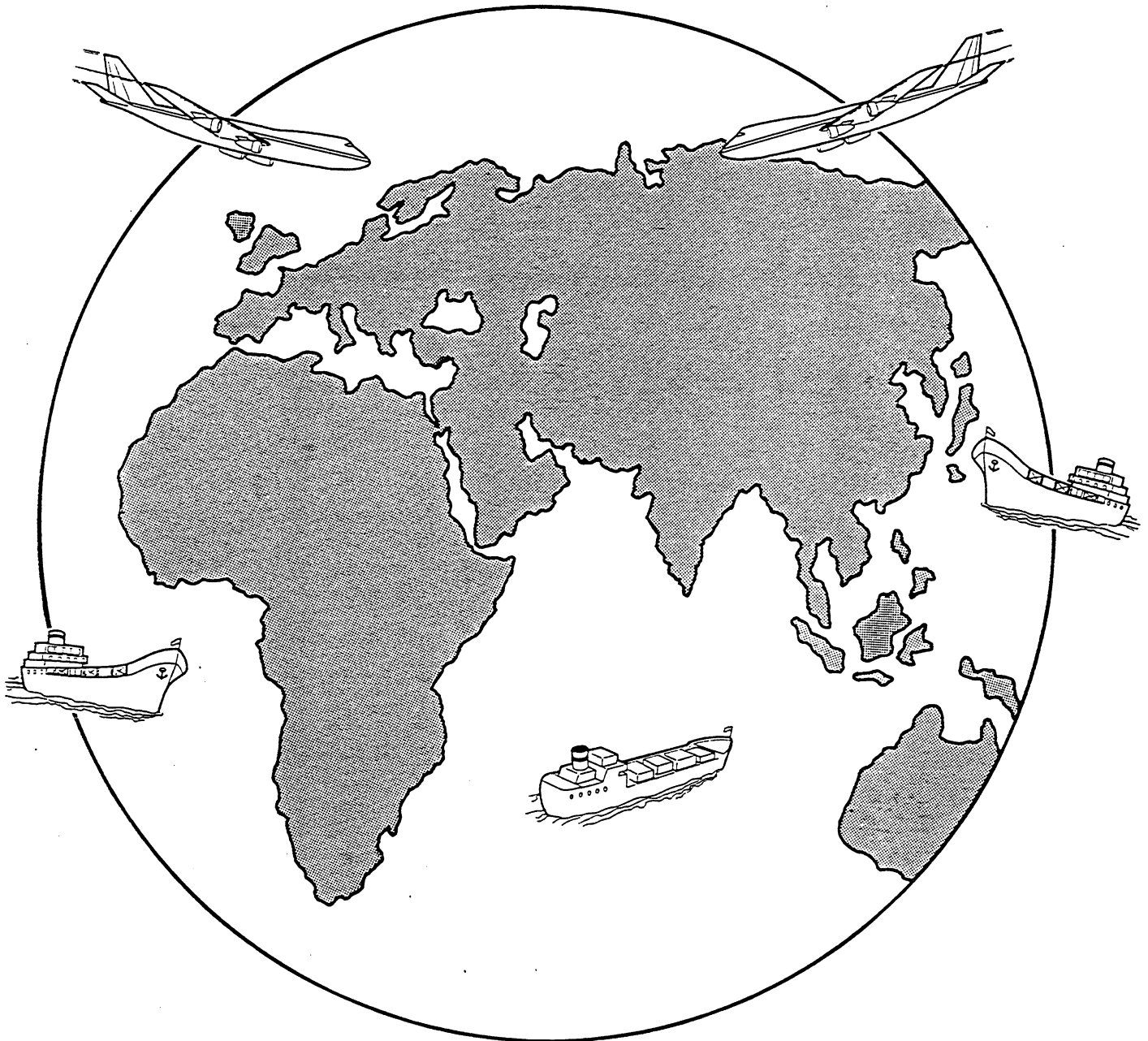
Telephone: 215-534-9500  
Telex: 845276

1400 73rd Avenue N.E.  
Minneapolis, Mn 55432

## Central Parts Distribution Center

6600 West Broadway  
Brooklyn Park, MN 55428  
Phone 612-574-8100  
Fax 612-574-8180  
Telex 282866

## World Wide Parts & Service



**Cummins Power Generation**

1400 73rd Ave. NE  
Minneapolis, MN 55432 USA

Phone 1 763 574 5000

Toll-free 1 800 888 6626

Fax 1 763 574 5298

Email [ask.powergen@cummins.com](mailto:ask.powergen@cummins.com)

[www.cumminspower.com](http://www.cumminspower.com)

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