

PERTEC

PRODUCT IMPROVEMENT BULLETIN

PERIPHERAL EQUIPMENT DIVISION

TITLE D3000 VOLTAGE AND FREQUENCY CONVERSION			PIB NO. DK3061
PRODUCT LINE:	TAPE DISK FORMATTER <input checked="" type="checkbox"/>	EQUIPMENT CHANGED	MODEL SERIES AFFECTED D3000
			EFFECTIVE DATE August 15, 1976

CLASS OF BULLETIN:	ORDER PART KIT NO.	EFFECTIVITY
<input type="checkbox"/> IMPROVEMENT <input type="checkbox"/> RETROFIT ON FAILURE <input type="checkbox"/> RETROFIT RECOMMENDED <input checked="" type="checkbox"/> SERVICE INFORMATION ONLY	N/A	All units requiring input voltage and/or frequency change.

PURPOSE: This bulletin is published for those customers who wish to convert a D3000 Disk Drive from 95 through 125 VAC to a 190 through 250 VAC unit and also the reverse. Also from 50 to 60 HZ and reverse.

PARTS

REQUIRED: 1) Parts required to convert from a 60 HZ to a 50 HZ unit.

Qty	Part Number	Description
1	102634-02	Belt 50 HZ
1	102608-01	Cam (top load only)*
for 1500 RPM units		
1	102636-02	Drive Motor Pulley - for use on 1500 RPM, 50 HZ units.
for 2400 RPM units		
1	102636-03	Drive Motor Pulley - for use on 2400 RPM, 50 HZ units.

2) Parts required to convert from a 50 HZ to a 60 HZ unit.

1	102634-01	Belt
1	102608-01	Cam (top load only)*
for 1500 RPM units		
1	102636-01	Drive Motor Pulley - for use on 1500 RPM 60 HZ units.
for 2400 RPM units		
1	102636-02	Drive Motor Pulley - for use on 2400 RPM 60 HZ units.

* NOTE: When ordering brush cams, specify either 50 or 60 HZ (whichever is to be used).

3) Parts required to convert from 95 through 125 VAC to 190 through 250 VAC units

Should Additional Information Be Required — Contact

PERTEC

PERIPHERAL EQUIPMENT DIVISION
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 Phone (213) 882-0030 / TWX (910) 494-2093
 ATTENTION: PRODUCT SUPPORT MANAGER

Distribution Code - 6318

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<u>Qty</u>	<u>Part Number</u>	<u>Description</u>
1	663-3525	Fuse F1, 3AG, 2.5 AMP, Slow Blow
4) Parts required to convert from 190 through 250 VAC to 95 through 190 VAC units.		
1	663-3550	Fuse F1, 3AG, 5A Slow Blow

NOTE: WHENEVER CHANGING VOLTAGE AND/OR FREQUENCY ALWAYS CHANGE I.D. LABEL, VOLTAGE AND FREQUENCY REQUIREMENTS.

ACTION
REQUIRED

A. Action required to change frequency.

1. Parts that must be replaced.
 - a) Belt
 - b) Drive motor pulley
 - c) Brush motor cam on top load units
2. Belt removal - Location of pulleys and direction of rotation is indicated in Figure 1.
 - a) Remove three No. 10 machine screws securing the belt guard in place.
 - b) Slide the belt guard forward until it drops away from the base.
 - c) Insert a large shanked screwdriver between the tension idler plate and the base. Compress the tension idler spring until the belt is released from the motor pulley.
 - d) Remove the belt from area.
3. Remove and replace drive motor pulley.
 - a) Loosen the two set screws holding the drive motor pulley, remove the drive motor pulley.
 - b) Replace the drive motor pulley with the drive motor pulley called for in the parts required list.
 - c) Adjust the drive motor pulley even with the end of the shaft and tighten.

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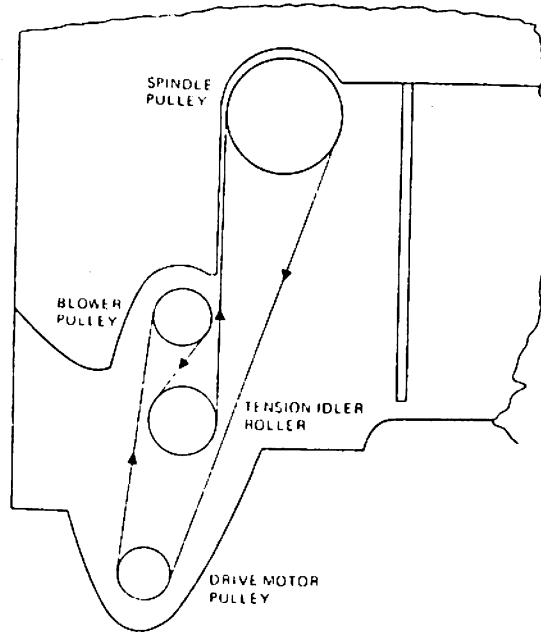


Figure 1. Belt Threading Pattern

4. Belt replacement

The following sequence is followed when replacing a drive belt. Refer to Figure 1 for threading pattern. Use belt called for in parts required list.

- a) Loop one end of drive belt around spindle pulley. Center the belt on crown of pulley and, by hand, hold the remainder of belt taut until Step b) is completed.
- b) Feed the remainder of the belt loop under the idler tension roller arm.

NOTE: AT THIS POINT THE OUTSIDE FACE OF THE BELT CONTACTS THE CROWN OF THE TENSION ROLLER.

- c) Feed the remainder of the belt loop again under the tension roller arm and up toward the blower pulley.
- d) Loop the belt around the blower pulley. Release the loop and extend the remainder of the belt loop to the drive motor pulley.

NOTE: AT THIS POINT THE INSIDE FACE OF THE BELT CONTACTS THE TRACTION AREA OF THE BLOWER PULLEY.

- e) Continue the remainder of the belt loop up to the drive motor pulley. Spread the belt apart to form a loop which can be slid down and around the traction

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- area of the drive motor pulley.
- f) With a large shank screwdriver (used as a crowbar) pry the tension arm forward by compressing the tension arm spring toward the front of the base. This action will establish enough slack in the belt to allow the belt loop mentioned in Step e) to be slipped down and around the drive motor pulley. Release pressure on the tension arm.
 - g) Inspect the belt for location on all driven surfaces and also determine that the belt does not contact any surface that will cause belt abrasion.
 - h) By hand, pull the belt through several revolutions of the drive system in order to allow the belt to seek its normal operating path. This action will also establish the correct tension of the belt between pulley spans.

NOTE: IF THE BELT COMES IN CONTACT WITH ANY STRUCTURAL MEMBER, EITHER RAISE OR LOWER THE DRIVE MOTOR PULLEY ON THE MOTOR SHAFT UNTIL THE BELT CLEARS THE OBSTRUCTION.

- i) Inspect the static discharge contact located on the end of the spindle shaft (see STATIC DISCHARGE CONTACT paragraph in manual).
 - j) Reinstall the belt guard.
 - k) Return the disk drive into the enclosure.
5. Top load only — brush motor cam replacement procedure.

NOTE: Refer to Figure 2 for brush cam installation.

- a) Carefully remove the Brush Cleaner Assembly as a unit.
- b) Remove the Rotating Brush Cam. Note the position of the captive linking pin.
- c) Install the new Rotating Brush Cam, being careful to ensure that the captive linking pin is in the same position as the old.

CAUTION

EXERT EVERY PRECAUTION WHEN HANDLING THE CLEANING BRUSHES. BENT OR DAMAGED BRUSHES WILL CAUSE EXCESSIVE FRICTION, RESULTING IN THE BRUSH BRISTLES MELTING ONTO THE DISK SURFACE; THIS WILL CAUSE HEAD CRASHES.

- d) Refer to the Operating and Service Manual for "Brushes Parked Switch Test and Adjustment".

NOTE: Ensure captive linking pin on actuating arm is engaged with hole in base of brush arm assembly.

- e) Reinstall the Brush Cleaner Assembly.

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TABLE I

TRANSFORMER PRIMARY CONNECTIONS						
NOMINAL LINE VOLTAGE	FROM E25	FROM E27	JUMPER		JUMPER	
	TO	TO	FROM	TO	FROM	TO
90	1	3	12	13	3	7
100	6	3	2	6	3	7
110	5	3	1	5	3	7
115	6	4	2	6	4	8
125	5	4	1	5	4	8
190	1	3	12	7		
200	6	3	2	7		
210	6	3	1	7		
215	6	4	2	7		
220	5	3	1	7		
225	5	4	2	7		
230	5	4	2	8		
235	5	4	1	7		
240	6	4	1	8		
250	5	4	1	7		

POWER CONNECTIONS

A fixed power cord is supplied for use in a polarized 115v outlet. For other power sockets, the supplied plug must be removed and the correct plug installed. Table 2 lists (in several languages) the color code scheme used to identify the supplied power cord.

Table 2
Power Cord Color Code

Black AC 'Hot' (Live)	Noir Phase	Nero Vivo	Schwarz Heiss
White AC Ret. (Neutral)	Blanc Neutre	Bianco Neutro	Weiss Neutral
Green Chassis GND (Earth)	Vert Chassis (Terre)	Verde Terra	Grün Grund

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Reference Power Supply Schematic Zone F/2

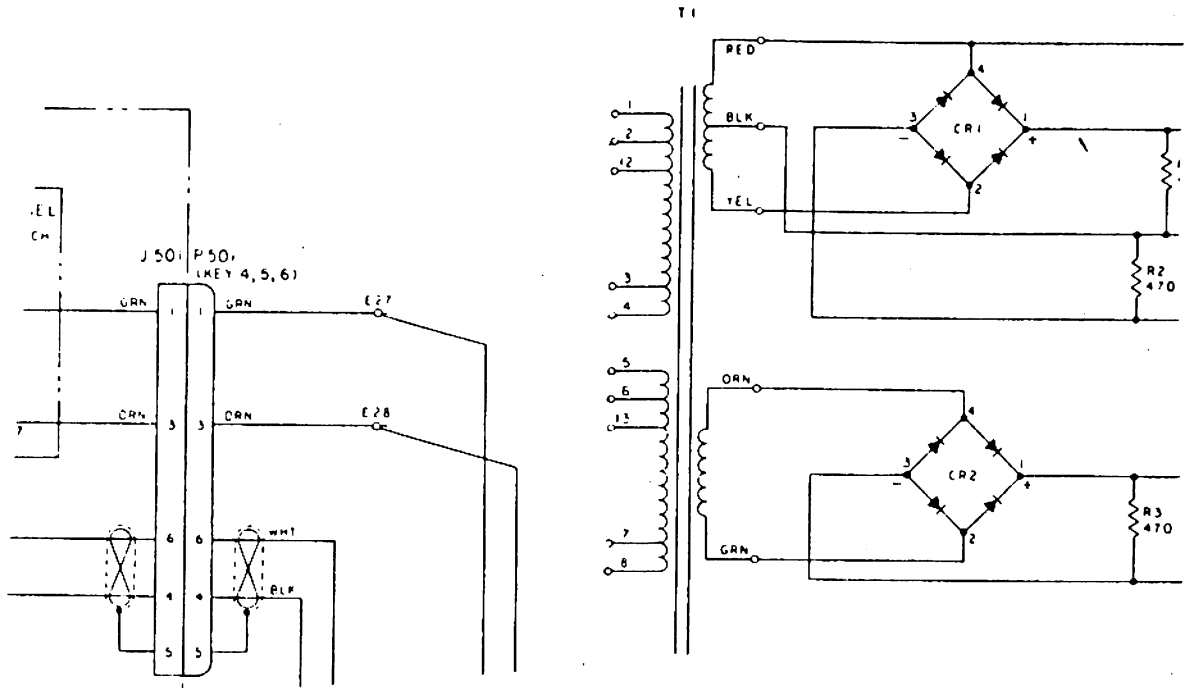


Figure 3

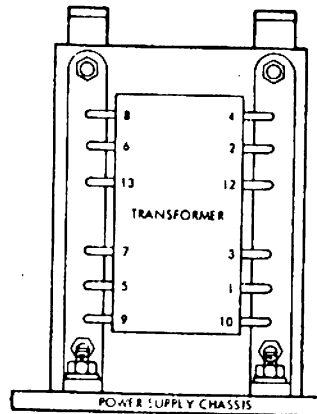


Figure 4

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B. Action required to change voltage.

1. Parts that must be replaced to change voltage:
Fuse
2. Modifications required for voltage change:
Transformer taps must be changed
 - a) Refer to Figures 3 and 4, and Tables 1 and 2.
 - b) Make appropriate connections per Tables 1 and 2.
 - c) Figures 3 and 4 connections have been left blank for the convenience of the technician actually performing the modification. (Draw in the connections required.)

Motor Control PCBA — There are two motor control PCBA's, procedure 1 identifies the modifications required for P/N 102826; procedure 2 identifies the modifications required for P/N 103571.

1. PCBA P/N 102826
 - a) Connectors J403 and J404 are for different voltages.
J403 is used for 90 through 125 V.
J404 is used for 190 through 250 V.
 - b) Connectors J405 and J406 are for different voltages.
J405 is used for 90 through 125 V.
J406 is used for 190 through 250 V.
2. PCBA P/N 103571
 - a) Connectors J403 and J404 are for different voltages.
J403 is used for 90 through 125 V.
J404 is used for 190 through 250 V.
 - b) Jumpers W1 through W6 are used to configure for different voltage ranges. Refer to table below for required jumpers.

Jumper	Assembly 103571	
	-01 90 to 125 VAC	-02 190 to 250 VAC
W1	use	omit
W2	omit	use
W3	use	omit
W4	use	omit
W5	use	omit
W6	omit	use

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RELATED

ADJUSTMENTS: Refer to P.I.B. DK3048 for AC motor speed control.

Refer to Operating and Service Manual for procedure on adjustments of 10V and 5V regulators, paragraph 6.6.2.

TIME REQUIRED TO CONVERT FREQUENCY:

15 minutes

TIME REQUIRED TO CONVERT VOLTAGE:

15 minutes