VS
DRIVES

INSTRUCTION SHEET D-3966-1
Dancer Follower Kit
Model 14C230

The equipment described below should be installed only by qualified electrical maintenance personnel familiar with the construction and operation of the equipment and the hazards involved.

DESCRIPTION

The Dancer Follower Kit allows the MinPak Plus/FlexPak Plus to be controlled **automatically** in response to a speed reference generated by a line speed signal and trimmed by a dancer potentiometer. Applications include web process lines where a drive must closely follow or maintain the position of a dancer.

This modification kit was originally designed to be used with FlexPak/MinPak D-C drives and has been adapted to mount directly to the HR2000 Interface Kit (M/N 3HI2000). See D5-3039 Instruction Manual for instructions that are specific to the HR2000 Interface Kit.

The Kit contains the Dancer Follower Module and a mounting screw (Figure 1). Although the MinPak Plus/FlexPak Plus can use the Kit for exclusive automatic speed control, if manual override control is needed, an AUTO/MANUAL selector switch must be used on the Local or Remote Operator Control Station. In the MANUAL position, the drive responds to the SPEED Potentiometer setting. In AUTO, it follows **only** the external signals and does not respond to manually input speed change commands.

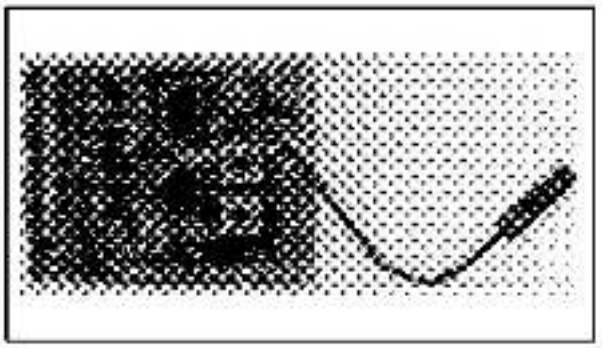

Figure 1 – Dancer Follower Kit Module

The Kit is designed to accept a line speed input signal of 4 to 10 VDC to obtain maximum speed. The input impedance between the line speed input terminals 57 and 726 is approximately 25,000 ohms. The dancer potentiometer will provide up to 20% trim to the line speed signal.

The user must supply the required lengths of the specified signal wire. A dancer potentiometer and an optional dancer position potentiometer are also to be supplied by the user.

INSTRUCTION INSTRUCTIONS

DANGER

DO NOT INSTALL THIS MODIFICATION KIT WITH POWER APPLIED TO THE CONTROLLER UNIT AND CABINET. DISCONNECT AND LOCK OUT INCOMING POWER BEFORE ATTEMPTING SUCH INSTALLATION. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SEVERE BODILY INJURY OR LOSS OF LIFE.

1. Open the face plate cover and let it hang down.
2. On the regulator module board locate the area of the board marked reference. This is where the Dancer Follower Module is to be mounted. Figure 2 shows this area. Place the Dancer Follower Module in the proper orientation so the pin guides on the module are aligned over the set of five pins on the Regulator Module. Lower the Dancer Follower Module so the pins pass through the pin guides and the mounting spacer seats in the mounting hole. (It may be necessary to remove a protective plastic cap from the pins.) Secure the module with the supplied screw. Refer to Figure 3.
3. Connect the black pig-tail jumper of the Dancer Follower Module to pin 319 on the regulator module (Pin 319 is the third pin down in it's group) refer to Figure 3.
4. Using a twisted pair, connect the external line speed input to the terminal strip of the Dancer Follower Module. The plus (+) wire is connected to terminal 726 and the minus (−) wire is connected to terminal 57.

   Note: Do not strip more than $^1/_8$ inch (3 mm) of insulation off the ends of the wires because a short circuit could occur at any point where the bare wire is exposed. Maintain the twisted configuration of the two wires as much as possible.
5. Using three twisted wires, connect the user supplied 5K ohm dancer potentiometer to the

RELIANCE ELECTRIC

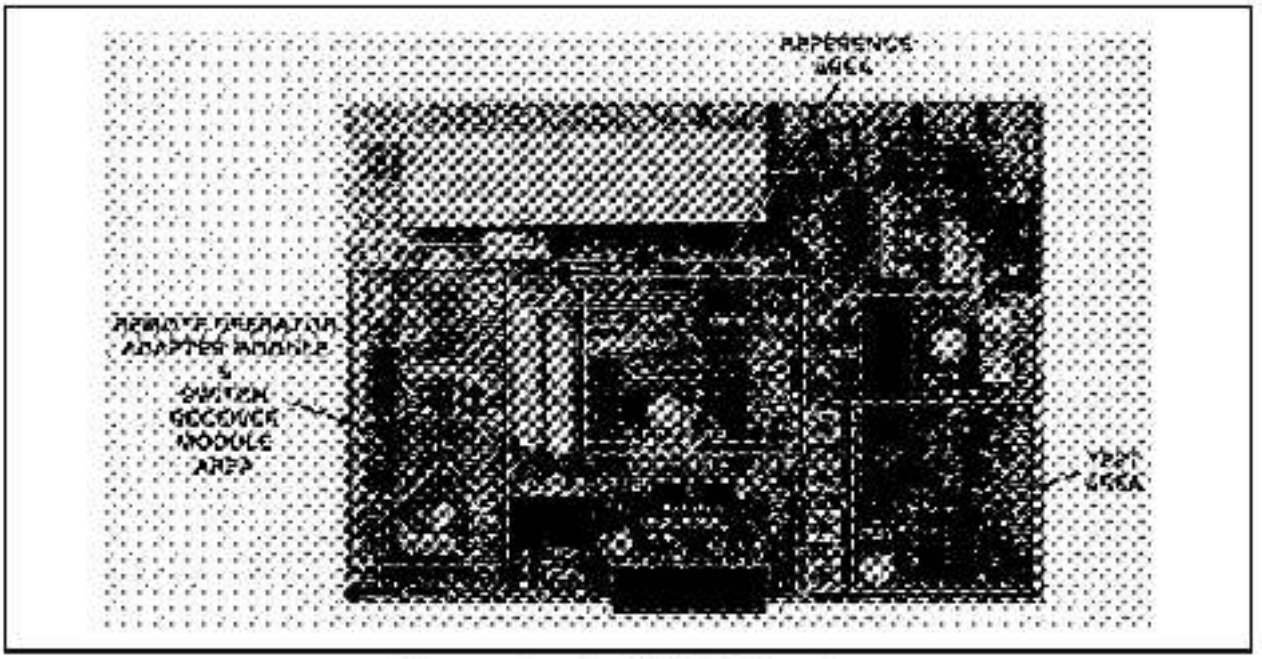

Figure 2 – Regulator Module Kit Locations

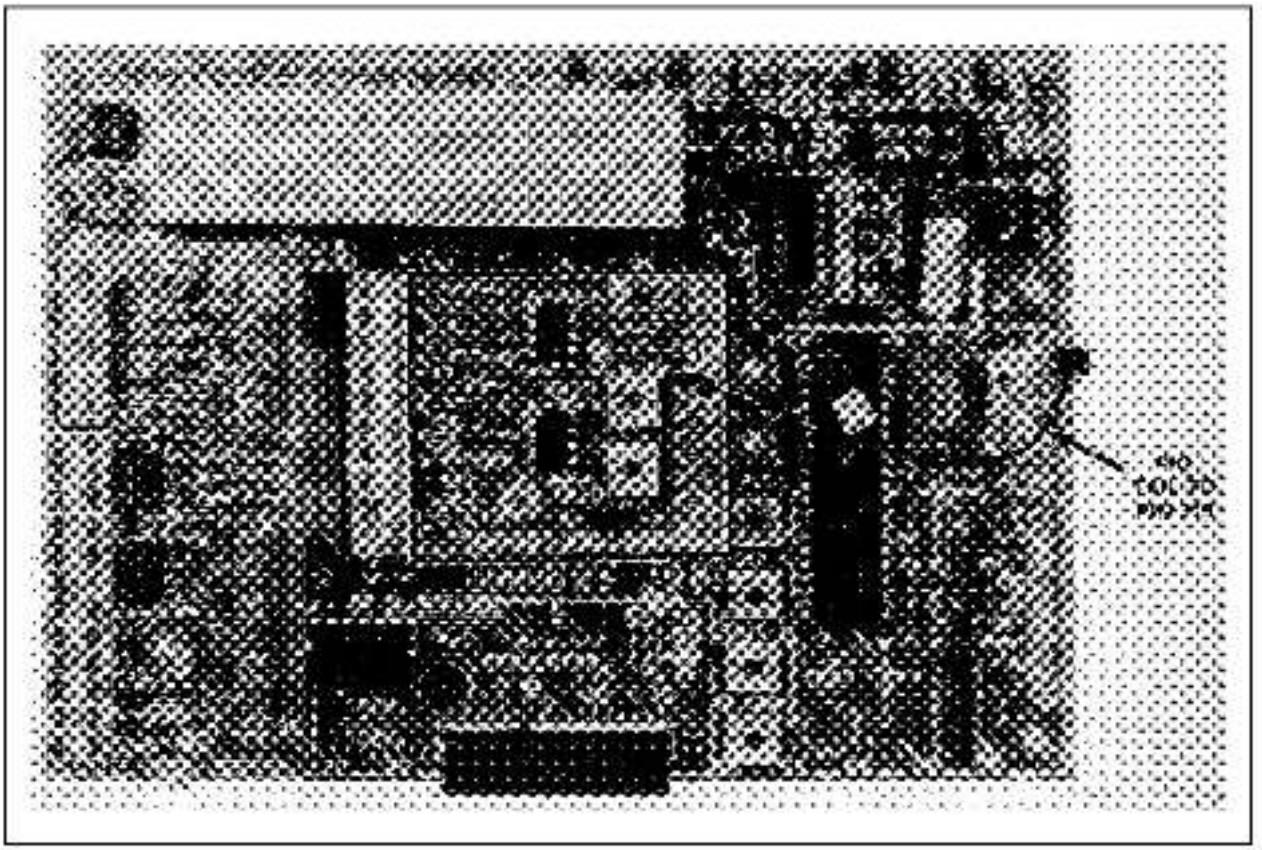

Figure 3 – Dancer Follower Kit Mounted to Regulator Module

terminal strip of the Dancer Follower Module. The speed increase side of the potentiometer connects to terminal 556 and the speed decrease side connects to terminal 571. The potentiometer wiper is connected to terminal 919.

6. If an optional dancer position potentiometer is used (supplied by user), connect the "up" side of the potentiometer to terminal 728 of the Dancer Follower Module and the "down" side to terminal 557. Connect the potentiometer

wiper to terminal 926. Also cut and remove jumper J2 and the 26.7K resistor (R6) on the Dancer Follower Module. Refer to Figure 4.

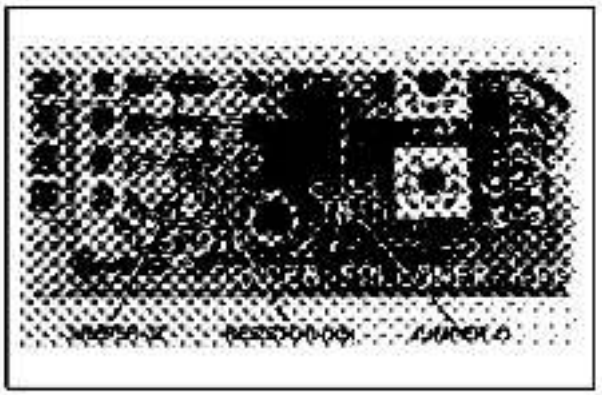

Figure 4 – Jumpers J1, J2 and Resistor (R6) on Dancer Follower Module

7. In an AUTO/MANUAL selector switch is used on the Operator Control Station, remove jumper J1 of the Dancer Follower Module. Refer to Figure 4. If the controller is to run automatically **without** manual speed control, leave J1 in place.
8. This Step assumes that the complete drive system, including the controller, has been successfully started and debugged. (Refer to your Controller Instruction manual start up section, if this has not be accomplished).

It is now necessary to conduct a power-on test. Start the drive and place it in the AUTO mode, if so equipped. With the line speed reference at maximum value, adjust the MAX SPEED TRIM Potentiometer on the Dancer Follower Module for maximum motor speed. If the optional dancer position potentiometer is installed, place it in the mid-range.

Turn the GAIN Potentiometer of the Dancer Follower Module fully counterclockwise for minimum dancer potentiometer response. Turn the GAIN Potentiometer clockwise in small increments to increase the dancer potentiometer response.

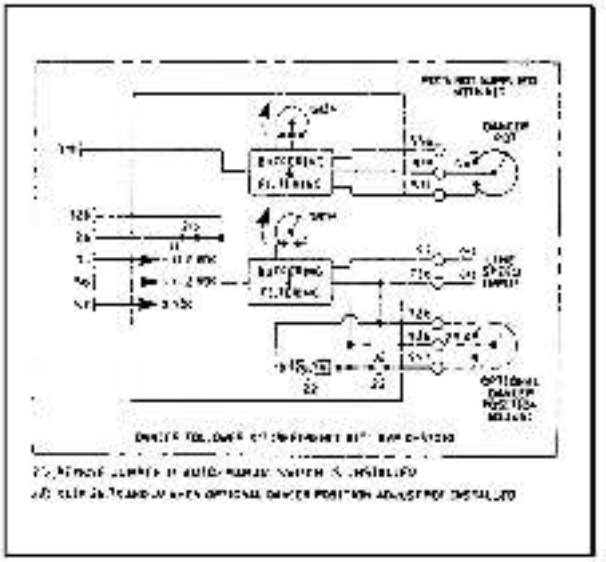

Figure 5 – Schematic Diagram

9. Stop drive and disconnect and lock out incoming power.
10. Tighten all connections that may have come loose during the kit installation.
11. Close face plate and tighten screws.

WARNING

THE KIT IS INTENDED TO OPERATE AT A PREDETERMINED MINIMUM SPEED UNLESS DISCONNECTED FROM THE POWER SOURCE. IF THE APPLICATION REQUIRES ZERO SPEED OPERATION WITHOUT SUCH DISCONNECTION, THE USER IS RESPONSIBLE FOR ASSURING SAFE CONDITIONS FOR OPERATING PERSONNEL BY PROVIDING SUITABLE GUARDS, AUDIBLE OR VISUAL ALARMS, OR OTHER DEVICES. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN BODILY INJURY.

Reliance Electric / 24701 Euclid Avenue / Cleveland, Ohio 44117 / (216) 266-7000

RELIANCE ELECTRIC

Printed in U.S.A. D-2966 *