641G-001A
PRINTER KIT INSTRUCTIONS
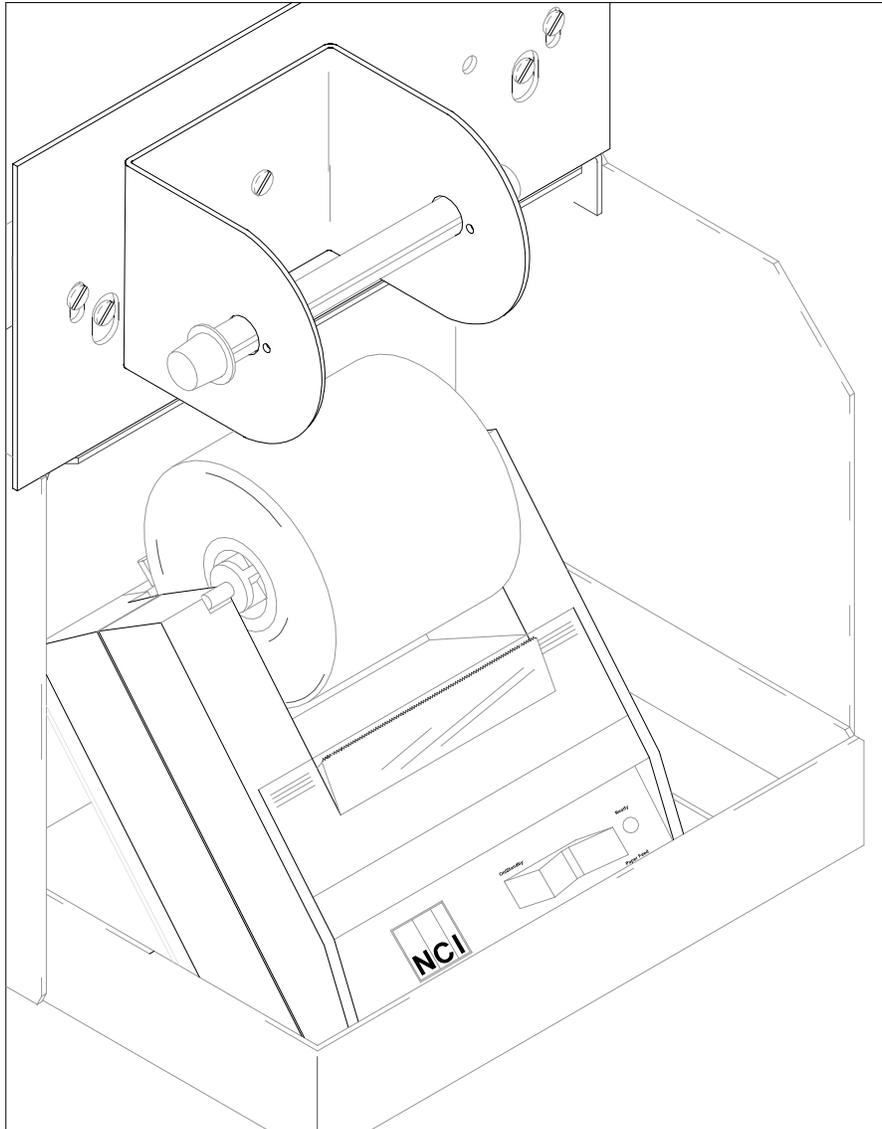
SHIVVERS

SAFETY

The installer of this equipment must assume the responsibility for his own safety, and that of those working around him. He must also make sure that the equipment is installed as shown in this manual.

If any items covered in this manual are not completely understood, or there is a concern with the safety of this product, contact Shivvers at the address shown on the front page.

TAKE NOTE ANYTIME THIS SYMBOL APPEARS. YOUR SAFETY, AND THAT OF PERSONS AROUND YOU IS AT STAKE.

ALL ELECTRICAL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH THE LATEST EDITION OF THE ANSI/NFPA STANDARD 70, NATIONAL ELECTRICAL CODE, AS A MINIMUM REQUIREMENT, AND IN COMPLIANCE WITH LOCAL WIRING CODES AS APPLICABLE.

WIRING MUST BE DONE BY A COMPETENT ELECTRICIAN. A LICENSED ELECTRICIAN IS RECOMMENDED, AND MUST BE USED WHEN REQUIRED BY LOCAL OR STATE STATUTES.

PRINTER KIT CONTENTS
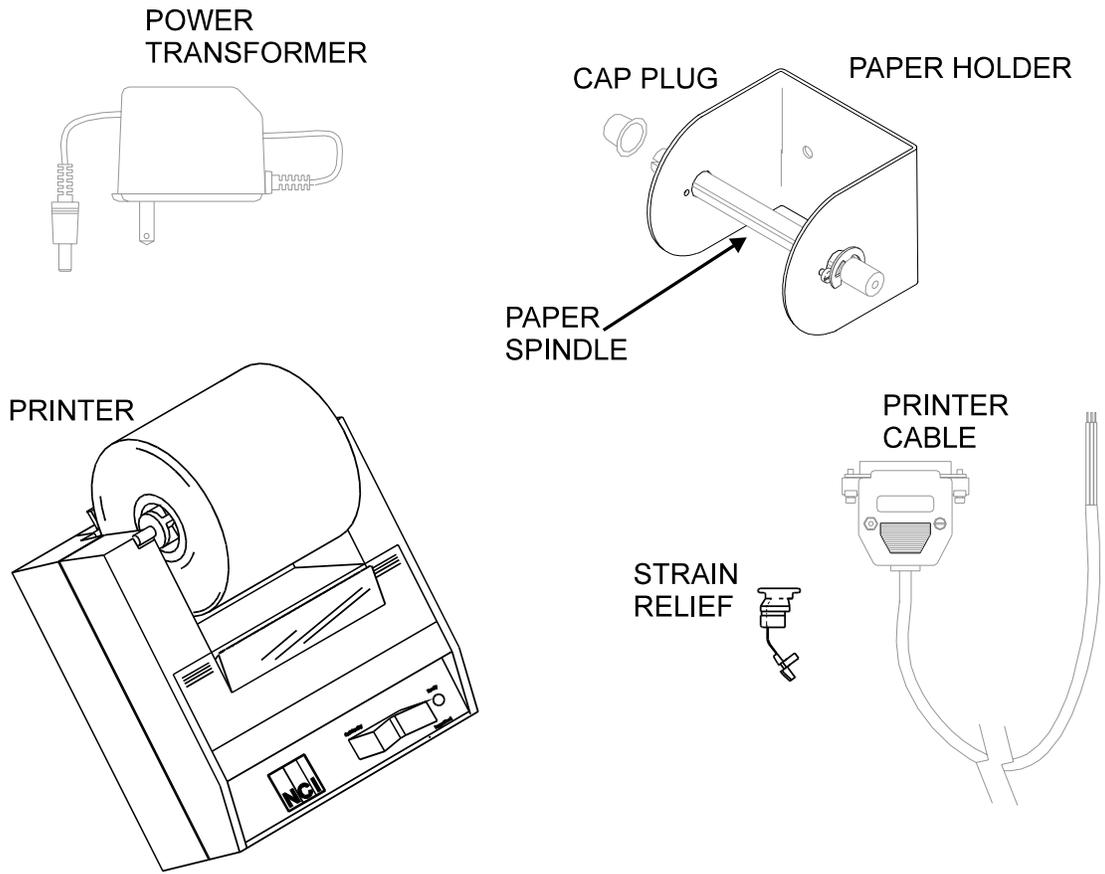
| DESCRIPTION	PART #
PRINTER	Comes in E-6056
POWER TRANSFORMER	
PRINTER CABLE	E-6272
STRAIN RELIEF	E-6111
PAPER HOLDER ASSY	
Includes PAPER HOLDER	641-035P
PAPER SPINDLE	597-391P
CAP PLUG	H-1900
SNAP RING	F-1080

The printer kit also contains mounting screws and the wiring harness for the power outlet in the printer mounting box.

INSTALLATION:

DISCONNECT AND LOCK OUT POWER TO THE ENTIRE DRYING SYSTEM BEFORE OPENING THE MAIN COVER ON THE CONTROL BOX.

Before opening the main cover on the Command Center disconnect and lockout all power. Test several points with a known good tester to verify power has been disconnected. Begin by locating the printer mounting box and the wiring access cover on the Plenum Control. Remove the wiring access cover by removing the 2 screws fastening it to the plenum control.
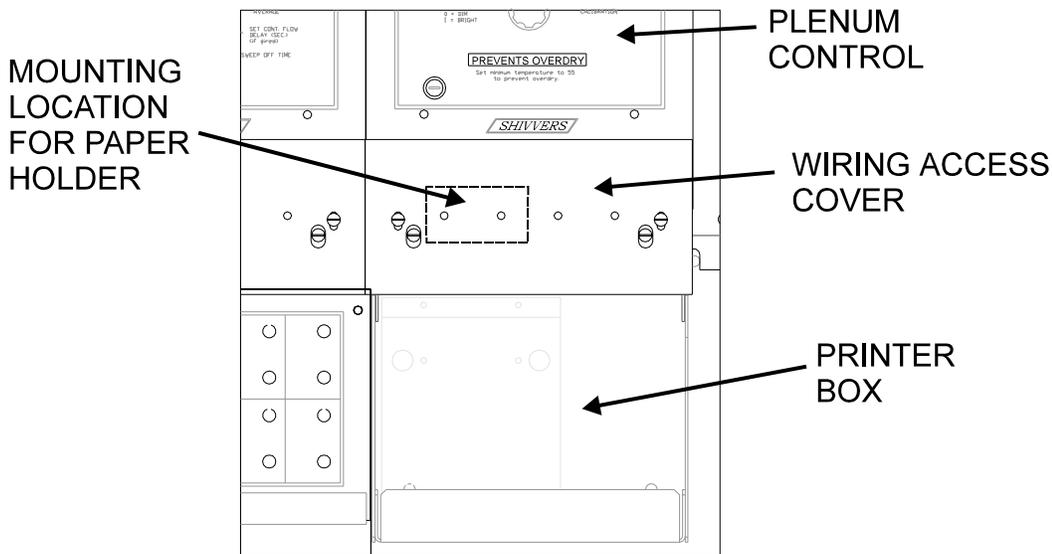
Install the paper holder on the wiring access cover in the location shown above using the 2 #8-32 x 3/8 screws and nyloc nuts provided with the installation kit. For right hand operation mount the paper holder with the screw and snap ring on the right side. The paper spindle can be temporarily removed for this procedure. Do not reinstall wiring access cover until printer wiring is completed.

Inside the printer box is an appliance outlet. Take the wiring harness supplied with the kit and install the black wire on the terminal for the narrow slot on the appliance outlet. The white wire from the wiring harness connects to the terminal for the longer slot.


White or neutral wire.
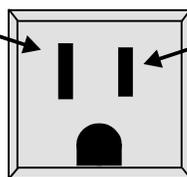
Black or 115VAC wire.

The other end of the wiring harness connects to the switch relay panel to connector J1. See wiring decal on inside of main cover for reference. Terminal J1 is located on the bottom right-hand corner of the switch relay panel. The white wire connects to terminal   J1 - 7. This is the neutral. The black wire connects to terminal J1 - 8. This is the 115VAC source.

Take the printer cable assembly and connect it to the back side of the printer. The printer cable connector is narrower at the bottom and will only go on one way. Using a small screwdriver tighten the 2 screws on the cable connector to secure it to the printer. Place the printer into the printer box on the sloped mounting plate. Place the wire end of the printer cable through the strain relief and slide it up the cable until its about 10 inches away from the connector, then place the printer cable through the hole located in the right-hand corner of the printer box. Close the strain relief and press it into the hole in the printer box. The strain relief will have to be held closed while it is being inserted.

Leave about 10"
of cable above
Strain Relief

TOP OF
STRAIN
RELIEF

SLOPED
MOUNTING
PLATE
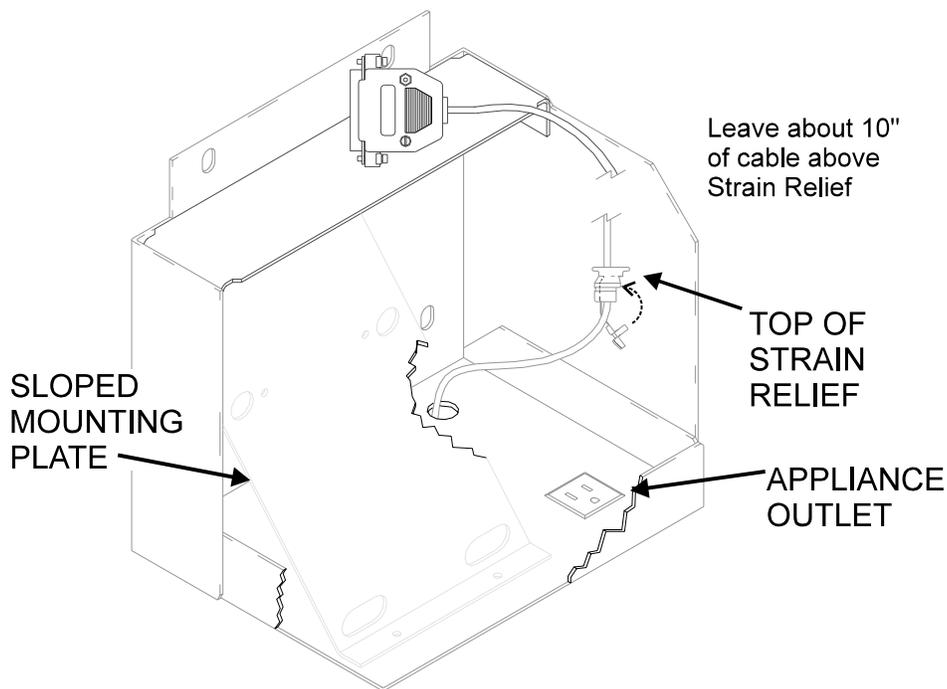
APPLIANCE
OUTLET

Plug the power transformer adapter into the printer. The connector is located on the back of the printer, then plug the transformer into the appliance outlet. Route the printer cable from the bottom of the printer box up through the cable clip located on right side of the control box, up the right side and behind the plenum control. Leave enough cable to connect to the 10 pole plug on the plenum control, and pull the excess down below the printer box. The illustration on the next page shows how to route the printer cable.

10 POLE
PLUG

RUN CABLE
BEHIND MOUNTING
BRACKET
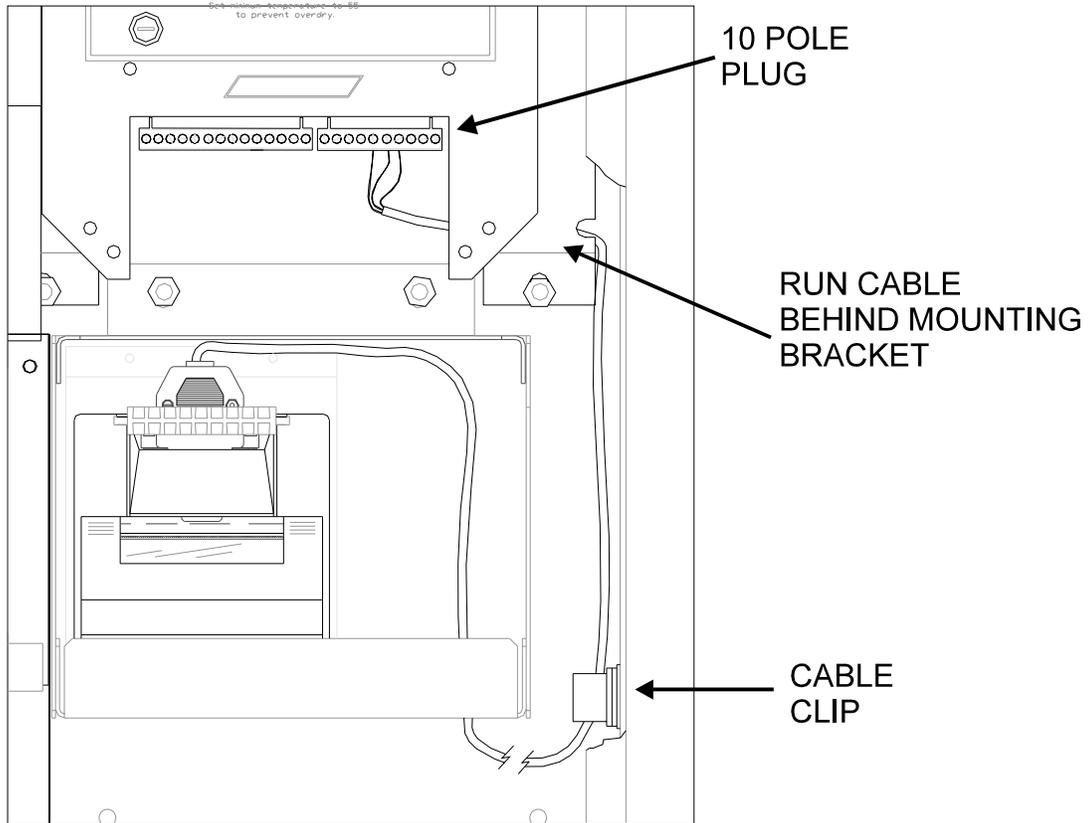
CABLE
CLIP

The printer cable connects to the plenum control on the 10 pole plug located to the right in the plenum control. The Red wire in the printer cable connects to terminal 5 of the 10 pole plug. The Black wire connects to terminal 6 of the 10 pole plug. The shield connects to terminal 7 of the 10 pole plug. See wiring decal inside main cover for further reference.

Double check all wiring then replace wiring access cover on plenum control, close and latch main cover. Turn power back on to Command Center. Open the access door and turn on the control power, the printer should print **Ready...** if it doesn't, disconnect and lock off power and check wiring.

SETTING UP THE PRINTER

When the printer is first installed the time/date format will need to be set. To do this you must first access the setup menu. With control power off press and hold down the left side of the rocker switch and turn control power on. The printer will advance the paper. After the paper advance has stopped, count 3 - 5 seconds and release the switch. The printer should print the following:

```
        *** SETUP MENU ***
CONFIGURE...        [NEXT/OK]
```

If you wait less than three or more than five seconds **Ready...** is printed and you will have to try again to access the setup menu.

After you access the setup menu, if you press **NEXT** (left side of rocker switch) you will see the following printed:

```
        *** SETUP MENU ***
CONFIGURE...        [NEXT/OK]
CUSTOM...           [NEXT/OK]
```

With **CUSTOM...** as last item printed, press **OK** (right side) the printer will print the following:

```
        *** SETUP MENU ***
CONFIGURE...        [NEXT/OK]
CUSTOM...           [NEXT/OK]
****** CUSTOM MENU ******
PRINT CUSTOM SETUP[NEXT/OK]
```

With **PRINT CUSTOM SETUP** as last item printed, press **NEXT** (left side) to display the time date format. Keep pressing **NEXT** until the time format printed looks like **MM/DD/YY hh:mm** then press **OK** (right side).

Now printer should show:

```
─────────────────────────────────────
      *** SETUP MENU ***
CONFIGURE...            [NEXT/OK]

CUSTOM...               [NEXT/OK]
****** CUSTOM MENU ******
PRINT CUSTOM SETUP    [NEXT/OK]
MM/DD/YY hh:mm ?M DOW[NEXT/OK]
MM/DD/YY hh:mm          [NEXT/OK]
AUTO T&D=YES            [NEXT/OK]
─────────────────────────────────────
```

With **AUTO T&D=YES** as last item printed press **NEXT** (left side) to change selection to **NO**.
The printout should now look like:

```
─────────────────────────────────────
      *** SETUP MENU ***
CONFIGURE...            [NEXT/OK]

CUSTOM...               [NEXT/OK]
****** CUSTOM MENU ******
PRINT CUSTOM SETUP    [NEXT/OK]
MM/DD/YY hh:mm ?M DOW[NEXT/OK]
MM/DD/YY hh:mm          [NEXT/OK]
AUTO T&D=YES            [NEXT/OK]
AUTO T&D=NO             [NEXT/OK]
─────────────────────────────────────
```

With **AUTO T&D=NO** as last item printed, keep pressing **OK** (right side) until **Ready...** is printed. The printer should now be configured to operate with the Command Center properly. For more information see the "Model 1220 Printer Series User's Manual".

OPERATING THE PRINTER

When control power is applied to the printer, Moisture Control, and Plenum Control, the red light on the printer should be on and the printer should print "Ready... ". The Moisture control will flash the program number. Press the adjust switch on the Moisture Control and the printer should start printing out SHIVVERS, program version, and the current drying parameters. If the printer prints out READY but not the other information, the printer is not properly connected to the Plenum Control. The printer can be turned off by pressing the left side of the rocker switch on the printer. This puts the printer in standby. The LED on the printer will go off while the printer is in standby. Below is a sample printout of the Moisture Control drying parameters and data.

DRYING PARAMETERS →

```
SHIVVERS PLENUM CONTROL P1.1

DATE = 05/27/98
FAN SHUT-DOWN TIME = 60
TARGET TEMP SETTING = 180
MAX TEMP SETTING = 180
MIN TEMP SETTING = 055
PLENUM TEMP CAL = +00
GRAIN TYPE = 0
TRANSFER MOISTURE = 15.5
GRAIN TEMP CAL = -02
MOISTURE CAL = +0.0
NUMBER OF SAMPLES IN AVE = 4
CONT. FLOW DELAY = 030
MACHINE TYPE = CENTER VERTICAL
SWEEP OF TIME = 4-1
# TRANSFERRED = 000 AVE = 00.0
TIME MOIST TEMP AVE MACH TGT ACT
15:24 15.0 078F 15.0 ON  180 178
15:30 14.9 078F 14.9 ON  180 181
15:35 15.0 078F 14.9 ON  180 180
15:41 29.8 078F 18.6 --  180 180
```

STATUS OF MACHINE

TIME OF SAMPLE →

ACTUAL TEMPERATURE

MOISTURE CONTENT OF SAMPLE

GRAIN SAMPLE TEMPERATURE

AVERAGE OF LAST 2-9 SAMPLES

TARGET TEMPERATURE

The drying parameters will also be printed out after 72 and 144 "on" samples, or when the " Set Transfer Moisture " is changed.

SETTING THE CLOCK

To set the clock you must first access the setup menu. To do this unplug the printer at the outlet or at the back of the printer or turn control power off. Press and hold the left side of the rocker switch and turn power on. The printer will advance the paper. After the paper advance has stopped, count 3 - 5 seconds and release the switch. The printer should print the following:

```
────────────────────────────────
      *** SETUP MENU ***
CONFIGURE...        [NEXT/OK]
────────────────────────────────
```

If you wait less than three or more than five seconds **Ready ...** is printed and you will have to try again to access the setup menu.

After you access the setup menu, if you press **NEXT** (left side of rocker switch) repeatedly you will see the following list printed. If you keep pressing **NEXT** (left side) the list will repeat itself.

```
────────────────────────────────
      *** SETUP MENU ***
CONFIGURE...        [NEXT/OK]
CUSTOM...           [NEXT/OK]
SET CLOCK...        [NEXT/OK]
RESET SEQ#...       [NEXT/OK]
CONFIGURE...        [NEXT/OK]
────────────────────────────────
```

To set the clock press **NEXT** until set clock is the last item printed. If you press **OK** (right side) the printer will print the following:

```
────────────────────────────────
SET CLOCK ...          [NEXT/OK]
*** SET DATE***
SET YEAR: 97........[NEXT/OK]
────────────────────────────────
```

The printout shows the year currently in memory. The 9 is reversed (white on black) to show the position of the cursor. This will be the number incremented if **NEXT** (left side) is pressed. If the number is correct press **OK** (right side) and the following is printed:

```
────────────────────────────────
SET CLOCK ...          [NEXT/OK]
*** SET DATE***
SET YEAR: 97........[NEXT/OK]
SET YEAR: 97........[NEXT/OK]
────────────────────────────────
```

The cursor now appears over the 2nd position. Press **NEXT** (left side) to increment this number if needed or **OK** when it is right. Continue this sequence of accepting or changing the year, month, day, and DOW (Day Of Week).

```
SET CLOCK ...            [NEXT/OK]
*** SET DATE***
SET YEAR: 97........[NEXT/OK]
SET YEAR: 97........[NEXT/OK]
SET MON : 05........[NEXT/OK]
SET MON : 05........[NEXT/OK]
SET DAY : 23........[NEXT/OK]
SET DAY : 23........[NEXT/OK]
SET DOW : 05........[NEXT/OK]
```

When you have completed the **SET DATE** menu the following is printed:

```
*** SET TIME ***
SET HOUR: 16........[NEXT/OK]
```

Choose **NEXT** (left side) to increment this number or **OK** (right side) to accept it. Repeat this same procedure for hours and minutes as shown below.

```
*** SET TIME ***
SET HOUR: 16........[NEXT/OK]
SET HOUR: 16........[NEXT/OK]
SET MIN : 36........[NEXT/OK]
SET MIN : 36........[NEXT/OK]
START CLOCK..............[OK]
Ready...
```

When everything is as you want it and you press **OK, START CLOCK** is printed. Press **OK** (right side) to start the clock. The printer then prints **Ready...** showing you that it is out of the setup menu and ready to print.

This procedure is also explained in the printer user's manual supplied by the printer manufacturer.

STORAGE AND MAINTENANCE

Although the printer is in a weather resistant enclosure, it is a good idea to remove the printer and the power transformer and store them inside during the off season. To do this simply remove the printer cable connector by loosening the 2 screws that hold it to the printer , and unplug the AC adapter from the AC outlet in the printer mounting plate, then remove printer and AC adapter.

If the printer hasn't been used in a while, the printout may be faint. This could be due to the exposed ink ribbon drying out. To advance the printer ribbon hold down the paper feed switch for a few seconds to expose new ribbon. If this does not fix the problem a new ribbon cartridge may need to be installed.

Replacement paper and ribbons can be ordered from Shivvers. The part # for the paper is (C-6180). The paper is standard paper 2-1/4" wide. The part # for the ribbon cartridge is (C-6179). The Epson number for the ribbon is (ERC-09) or (HX-20). See the printer user's manual for details on replacing the paper and the ribbon cartridge.