
Preventive Maintenance

Moisture on the Plotter/Printer

Users should use the plotter in an environment between 5% and 95% relative humidity. To recover from moisture condensation, turn the plotter off, and, using the main roller as a reference, wait until the plotter is completely dry before using it again. (Other environmental specifications ▶ chapter 2.)

Noisy Carriage Bushing

To prevent noisy movement of the carriage, remove aluminum or dust particles from the bushing at the back of the carriage, and from the slider path along which the bushing moves.

Belt Swelling

To prevent new belts from swelling incorrectly, keep them in their bags with dessicant until you need to install them.

Cleaning the Plotter

To maintain the plotter in good operating condition, keep it free of dust accumulation, ink, and other contamination. Cleaning intervals are determined by the plotter environment and by the types of plotter supplies used.

WARNING

Disconnect the plotter from the power source prior to performing any cleaning. DO NOT allow liquid to run on to electrical components or circuits, or through openings in the enclosure, as this can create a shock hazard leading to death or injury.

General Cleaning

Proper general cleaning should include the following:

- 1 Blow away dust accumulation with compressed air if available.
- 2 Clean the outer surface of the plotter with a damp sponge or cloth. Use a mild soap and water solution if necessary. Do not use abrasive cleaners.
- 3 Wipe the plotter dry with a soft lint-free cloth.

Scheduled Maintenance

In some segments of the plotter market, the customer tends to print more than the maximum number plots that the throughput allows, exceeding by far the limit of the design. When this happens the customer runs into print quality problems and continuous plotter failures.

The purpose of scheduled preventive maintenance is to avoid these failures - ensuring a good performance during all the product life.

Level of Plotter Usage

These are the usage limits of the plotter:

- The service station and spittoons: Limited by the number of spits, wipes and primes performed which are directly proportional to the number of plots.
- The Y-axis: The wear of the motor depends on the number of carriage cycles. The levels of friction can increase due to dust and ink accumulation on the slider rods.

Given these constraints, preventive maintenance is required when the plotter usage exceeds the following thresholds:

Number of plots:	20, 000
Number of carriage cycles:	4,500,000

Customers with a normal plotter usage will not require any maintenance.

During the plotter life (5 years, 220 working days per year) normal plotter use means less than (on average):

20 pages per day in CAD
or
12 pages per day in LFP

Implementation

Two of the EEROM counters are assigned to counting the number of plots and the number of carriage cycles respectively.

When the plotter exceeds the limits quoted above, the front panel displays the following message:

“Maintenance Advised”

The configuration plot also conveys the usage information, and it is accessible by the user.

Usage Information

Number of plots
Number of carriage cycles

Cleaning the Drive Roller

WARNING

The drive roller cleaning procedure should be performed only by HP trained personnel: otherwise personal injury may occur.

If ink is spilled on the drive roller, remove the ink. Due to the ink's reflectance, ink on the roller can disrupt the plotter's edge-sensing function. To remove any ink from the roller, perform the following procedure:

- 1 Connect the plotter to an ac power source.
- 2 Hold the **Enter** button down and switch the plotter ON.
- 3 Using the arrow buttons, scroll to the *utilities* menu display, then press the **Enter** button.
- 4 Using the arrow buttons, scroll to the *statistics* submenu display.
- 5 Simultaneously press the **Enter** and the **Up Arrow** buttons to access the *service tests* menu.
- 6 Using the **Up Arrow** button, scroll to reach the following display:

SERVICE TESTS
22 X Motion control

- 7 Press the **Enter** button, and the following display will appear:

REMOVE MEDIA
PRESS ENTER

- 8 Remove any media from the plotter.
- 9 Raise the window. Holding the window sensor down with a pen, pencil or small screwdriver, press the **Enter** button. The display will show that the arrow buttons can be used to control the roller speed for cleaning. Press the **Up Arrow** button several times until the drive roller reaches a convenient speed for cleaning.
The speed of the roller can be reduced or increased by pressing the appropriate arrow button.
- 10 Apply any common household cleaning solution (water based only) to a soft, lint-free rag and apply it to the drive roller surface while it is rotating. Thoroughly clean the roller surface.
- 11 Stop the roller by pressing the **Enter** button when you have finished cleaning.
- 12 Press the **Enter** button to return to the SERVICE TESTS menu display.
- 13 Using the *Previous* button, scroll to the "*STATUS Ready for Media*" display.
- 14 Allow the drive roller to dry before inserting media in the plotter.

After the maintenance is done the Customer Engineer resets the EEROM counters through the Service Menu, which clears the maintenance advised message.

■ Preventive Maintenance Kit C3195-60166

The preventive maintenance kit consists of:

■	Service station assembly	C3195-60162
	Spittoon assembly	C3195-600027
	Y-axis motor	C3195-60112
	(Includes anti-static cloth and Isopropyl alcohol)	
■	Encoder D/A1	C4713-60098
	Encoder E/A0	C4714-60098
	Lubricant	6040-0855

Y-axis Maintenance Kit

In addition to the wearing of the Y-axis motor, the friction in this area can increase due to the accumulation of ink particles and dust from the media or the atmosphere in the vicinity of the slider rods.

The Y-axis maintenance kit includes a cloth and alcohol to clean the slider rods properly, and a lubricant to apply onto the rods.

The most important parts to keep clean are the upper and internal sides of the rods.

Procedure

Service Station

- Replace the service station.
- Replace the right spittoon.

Y-axis:

- Clean the slider rods with isopropyl alcohol and antistatic cloth to remove the ink particles and dust.
- Replace the Y-axis motor.
- Replace the encoder strip.

EEROM Counters

Mandatory Zero Resets

After the repairs have been performed, follow the menu instructions to reset the plot cycle counter to zero.

Reset the counter of carriage cycles when:

- Y-motor is replaced.
- Slider rods are cleaned.
- Slider rods are lubricated.

Notes