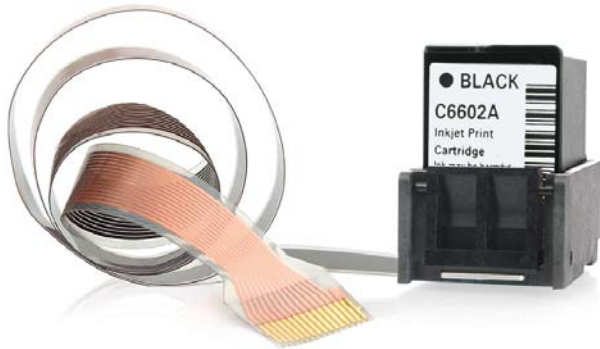# HP Extended TIJ 1.0 Carriage Assemblies

The HP Extended TIJ 1.0 carriage assemblies provide a high-quality electrical and mechanical interconnect for HP C6602x series print cartridges that minimizes OEM development effort, reduces risk, and speeds time-to-market.

Features

The HP Q2299A and Q2347A OEM carriage assemblies provide a compact, inexpensive mounting solution for C6602A (black), C6602R (red), C6602G (green) and C6602B (blue) print cartridges.

These carriage assemblies include electrical interconnect and mechanical clamping capabilities. Their modular design enables side-by-side mounting of carriages for use in compact multi-color printers.

These high-quality HP products enable you to design compact, portable, or narrow-width low-mass printing devices. The carriage assemblies:
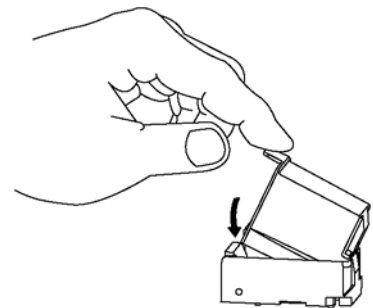
• Mechanically secure the cartridge for consistent, accurate printing and print quality.

• Provide a simple, reliable interconnect to the print driver board.

• Enable easy print cartridge replacement.

• Simplify the design of multiple-cartridge printers.

The Q2299A has a 10" flex cable and is designed for fixed-head printing applications. The Q2347A has an 18" flex cable and is designed for scanning head applications. The Q2347A also comes with HP's recommended wiper for print head servicing.

Integrating these proven HP devices into your design is straightforward, and you can reduce development time, risk, and costs without sacrificing quality and reliability.
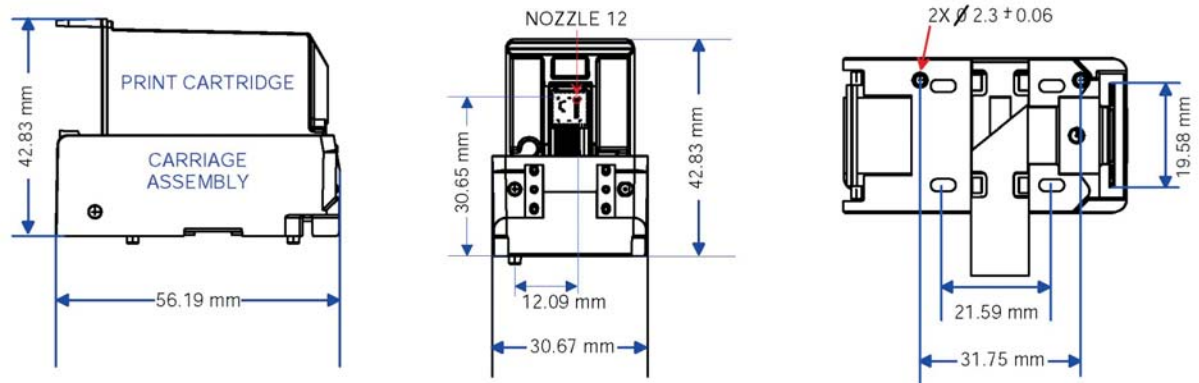
Inserting a print cartridge

Inserting and removing a print cartridge is quick and easy — simply slide it into the carriage assembly and snap it down. Insertion electrically interconnects the print cartridge with the flexible circuit automatically, and positions and clamps the print cartridge to maintain consistent nozzle-to-paper spacing.
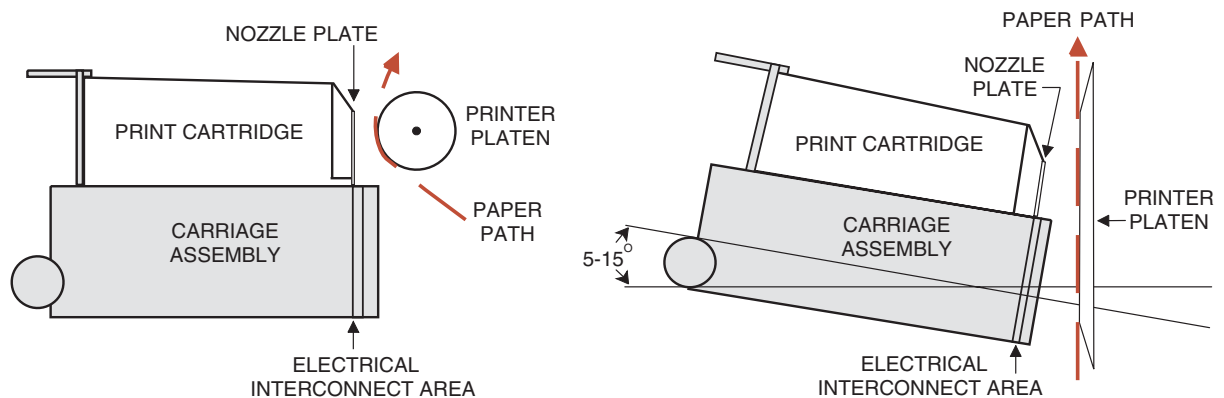
Carriage size

The dimensions of the carriage without an inserted print cartridge are 56.19 mm long x 30.65 mm wide x 19.58 mm high. With an inserted print cartridge, the dimensions are 56.19 mm x 30.66 mm x 42.83 mm. When allocating space for the carriage assembly, design with adequate space and placement to allow sufficient room for the user to easily insert the print cartridge.

Cartridge orientation and nozzle-to-paper spacing

Recommended firing orientation for the print cartridge is horizontal so that the nozzle plate is perpendicular to the horizon. Limited testing has been performed with the print cartridge firing down or up. Contact your SPS account manager or application engineer for more information about firing the print cartridge in alternate orientations.
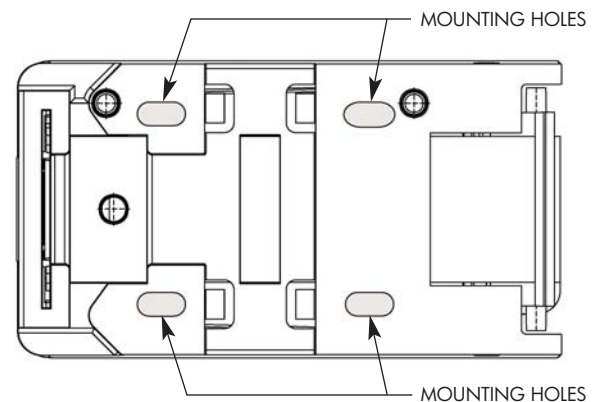
Print quality is dependent on small and consistent nozzle-to-paper spacing. Degradation of print quality occurs with increased nozzle-to-paper distance. For flat paper paths, keep nozzle-to-paper distance approximately 2.54 to 4.1 mm depending on the mechanical design of the printing device. To achieve this distance, tilt the carriage relative to the paper path. This orientation allows for the paper path to clear the carriage without seriously jeopardizing print quality.

Mounting the carriage assembly

To mount the carriage assembly to a carriage platform, use the four mounting holes on the bottom of the carriage. The carriage platform can contain bearings and drive belt attachment points.

Attach the carriage with a socket head cap screw (SHCS) size M2 or 2-56, or a button head cap screw with Torx™ drive of the same size so it cannot interfere with the insertion of the cartridge. The print cartridge should also be supported across its length.

Electrical connection

To make an electrical connection to the host printer, use a standard print circuit connector, Specialty Electronics #FPC HB 16 TT or equivalent. The flexible circuit has two connection points that can be used to communicate with a generic main circuit board. Refer to the cartridge Technical Data Sheet for additional information.

Other carriage system design considerations

With printers, noise generation is often a concern. The sources of noise in the carriage system usually stem from the motor and belt, and from carriage friction.

To substantially reduce belt noise, use high-quality pulleys and belts that have a curvilinear tooth profile. Proper lubrication usually controls carriage friction, and the selected lubricants must be compatible with the carriage material. Contact your SPS account manager for more details.

Maintenance

The carriage assembly requires no routine cleaning or lubrication.

Print cartridge wiper

Reliable wiping ensures consistent print quality over the life of the print cartridge. Wiping removes fibers, such as cotton or paper, and dried ink plugs that can obstruct ink droplets or cause ink to deflect from the correct trajectory.

To minimize ink nozzle obstructions and maintain print quality, a wiper is included with the Q2347A carriage assembly designed for scanning head applications. This wiper has been specifically engineered to be a robust, long-lived component that is compatible with C6602A, C6602B, C6602R, and C6602G print cartridges.

To ensure reliable performance, the wiper must be securely mounted. In addition, wiper speed, orientation, direction, and interference are critical parameters to consider when designing printing applications. Contact your SPS account manager for more details.

Wiper: 9.1 mm L x 4.2 mm W x 10.4 mm H

Why choose HP? HP is the worldwide leader in imaging and printing technologies. We bring our innovative, reliable, environmentally-friendly, and easy-to-use solutions to a variety of industrial markets. As pioneers of thermal inkjet printing, HP knows the technology inside and out.

HP Extended TIJ 1.0 Carriage Assemblies

Frequently asked questions

Who are the intended users of HP Extended TIJ 1.0 carriage assemblies?

Companies who design kiosks, ATMs, point-of-sale printers, validation printers, and portable printers. These carriage assemblies are designed for use with HP Extended TIJ 1.0 print cartridges, which are suitable for industrial and commercial marking applications where print economy is important.

What are the key advantages of these carriage assemblies?

- Reduce development effort and time-to-market because they are specifically designed to work with HP TIJ 1.0 print cartridges.
- Provide a simple, reliable interconnect to the print driver board.
- Help to ensure accurate nozzle alignment so that drops of ink land accurately on the media.

What are the advantages of HP Thermal Inkjet (TIJ) Technology?

- Cost-effective. Requires no warm-up cycle and no downtime. When it's time to replace a print cartridge, replace only the one that's needed.
- Easy to use. No special training is required to operate and maintain thermal inkjet printers. The print cartridge design allows it to be snapped in and out for easy replacement.
- Fast. Tiny nozzles firing at a high frequency allow quality printing at high speeds.
- Reliable. TIJ is less sensitive to air bubbles in the firing chamber than other printing technologies, avoiding print quality problems and delays caused by trapped air.
- Flexible. Supports a wide variety of media.
- Environmentally safe. With thermal inkjet, there is no need for service technicians qualified to handle volatile solvents, and no noxious fumes.
- Lower cost of ownership. A thermal inkjet printer can cost hundreds of dollars less than other printing equipment, reducing the market entry cost.

Product Information

Product Number	HP Product	Recommended Print Head Mounting
Q2299A	OEM Carriage Assy 10" Flex	Fixed
Q2333A	OEM Carriage Assy 10" w/C6602A Crtg	Fixed
Q2334A	OEM Carriage Assy 10" w/C6602B Crtg	Fixed
Q2335A	OEM Carriage Assy 10" w/C6602G Crtg	Fixed
Q2336A	OEM Carriage Assy 10" w/C6602R Crtg	Fixed
Q2347A	OEM Carriage Assy 18" Flex	Scanning
Q2348A	OEM Carriage Assy 18" w/C6602A Crtg	Scanning
Q2349A	OEM Carriage Assy 18" w/C6602B Crtg	Scanning
Q2350A	OEM Carriage Assy 18" w/C6602G Crtg	Scanning
Q2351A	OEM Carriage Assy 18" w/C6602R Crtg	Scanning

Wiper included

Contact information

To discuss inkjet technology OEM opportunities with HP:
- Go to **www.hp.com/oeminkjet** and send us an email message.
- Call 858-655-3524 and leave a voicemail message.
- Mail your inquiry to: Hewlett-Packard Company, Specialty Printing Systems, Mailstop 66-654, 16399 West Bernardo Drive, San Diego, CA 92127, USA.

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