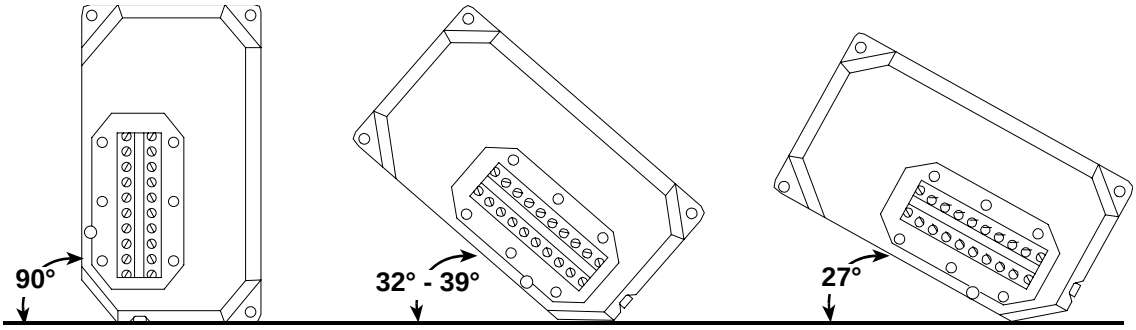
Pro/Classic Series Printhead Instructions

2464-172 Rev. J

Getting Started

Head Angle

The Pro/Classic Series Printhead angle can be set between 0° and 90°. Common settings are shown below.



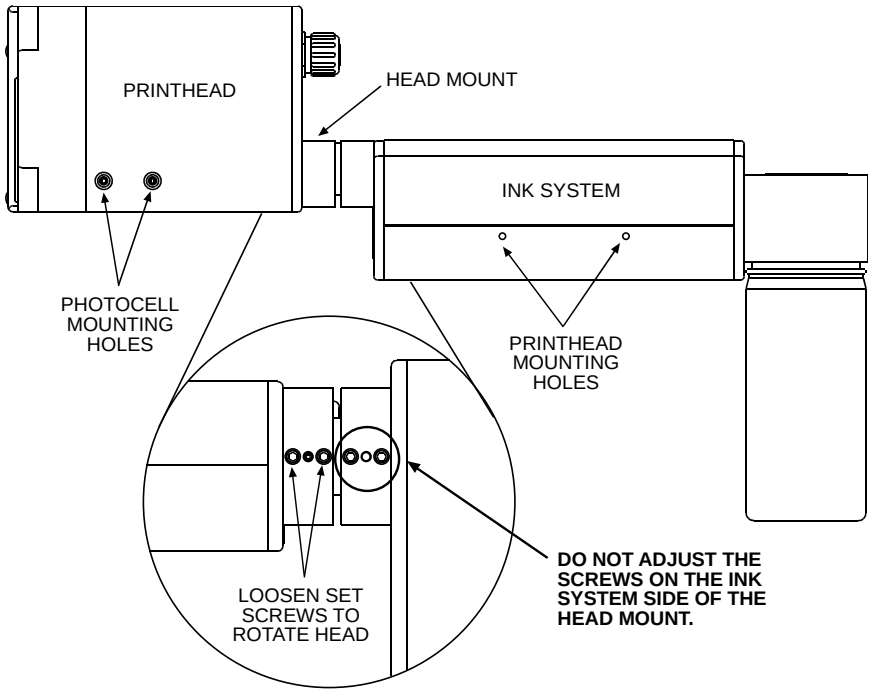
352/32 1.9”, 384 2” & 768 4” Print Head

192/32 1” Print Head

96/32 3/4” Print Head

To adjust the head to its correct angle:

1. Loosen the two set screws (1/8" hex head) on the printhead side of the head mount.
2. Rotate the head to the desired angle.
3. Secure the set screws.



Printhead Mounting

The Pro/Classic Series printheads are mounted using the 10-32 tapped holes on the right or left side of the Ink System bottom case.

Following is a partial list of available items. Please refer to the Price List for other options.

Part Number	Description
2464-330	Modular Printhead Kit
2464-550	Conveyor Mount Kit
2464-551	Retracting Kit for 352/32 Printheads and AlphaCoder heads at 90°
2464-552	Retracting Kit for 96 and 192 Printheads, and AlphaCoder heads at >90°
2464-562	Retracting Kit for 768/384 Printheads, Conveyor Mount
2465-212	Cable Kit, Controller to Printhead, 10’
2465-213	Cable Kit, Controller to Printhead, 25’
KS02202-001	Rotational Bracket (Used to adapt the head to 1-1/8" round brackets.)

NOTE: The physical measurements of the Pro/Classic Series Printheads are different than the previous printheads; therefore, some bracket adjustments will be required when installing an Pro/Classic Series Printhead on a line set up for previous generation printheads.

Photocell

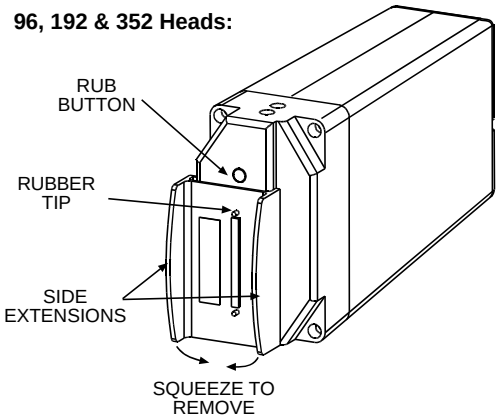
The product detect Photocell can be mounted on either side of the printhead, depending on the direction of print. Remove the plug(s) or set screw(s) (3/32" hex head) in the photocell mounting hole(s), then attach the Photocell Mounting Bracket with the 10-32 x 1/2" screw(s) provided with the bracket.

NOTE: When installing a new printhead in an existing installation, some adjustment to the Print Delay may be required.

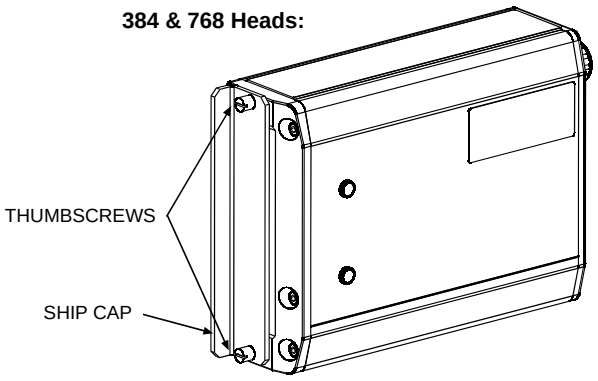
Ship Caps

CAUTION: Do not operate APS Printheads with the printhead Ship Cap installed! Operating a closed system can cause a siphoning effect which can drain the ink supply.

96, 192 & 352 Heads:



384 & 768 Heads:

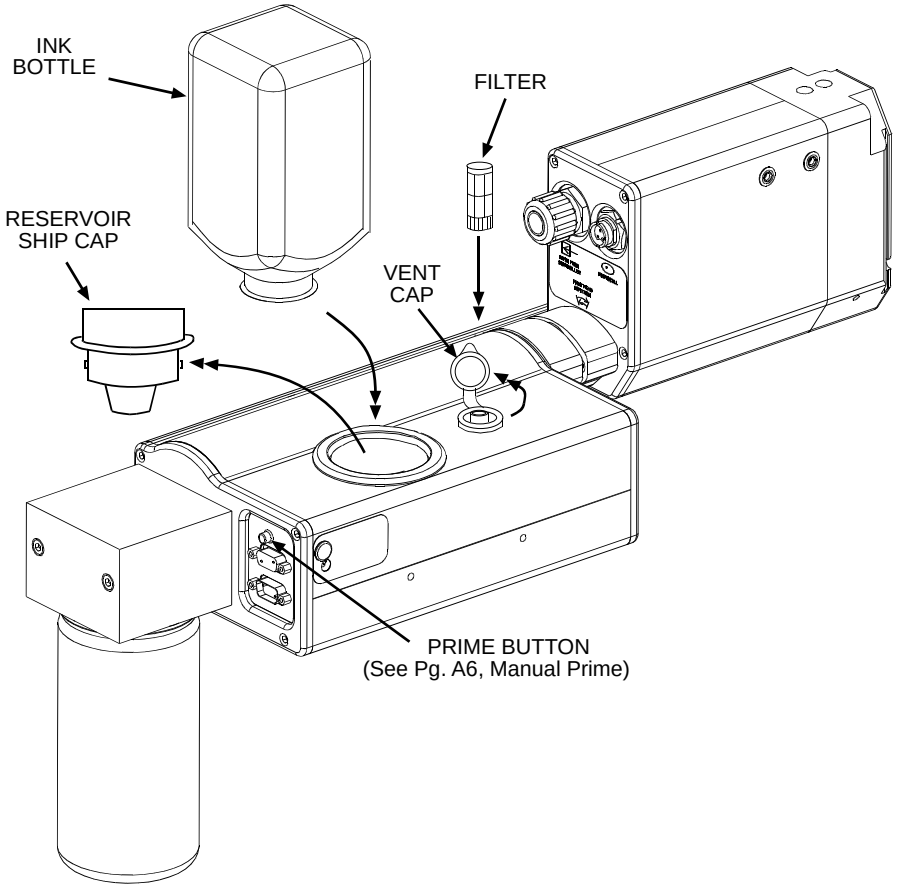


Remove the Printhead Ship Cap on a 96, 192, 352 or AlphaCoder Head by squeezing the front of the side extensions together until the back releases. Loosen the two thumbscrews on a 384 or 768 Head and remove the Ship Cap.

When replacing the Printhead Ship Cap, take care to align the **Rubber Tips** on the back of the cover with the **Rub Buttons** on the face of the printhead.

NOTE: If you place the Printhead Ship Cap on a hot printhead and do not fasten it securely, the printhead will weep ink until the head has cooled down.

Open the Reservoir Vent Cap and Install the Filter. Remove the Reservoir Ship Cap and Install the Ink Bottle. Save caps in a zip-lock bag for future use.



Consumables

Part Number	Description
001-0209-01F	Ink, V300 Black, 500mL
001-0598-01	Ink, ScanTrue II Black, 500mL
032-6001-01	Ink, AlphaMark, 500mL
2464-619	Kit, Ink Waste Bottle, V300 Ink (APS only)
2464-620	Kit, Ink Waste Bottle, ScanTrue II Ink (APS only)
2464-621	Kit, Vent Filter Replacement

Input Power

The APS requires +12VDC for operation of pumps and Photocell. For the Pro Series and MK Printheads, the power is supplied internally and no other cabling is required. For the Classic Series 7 Printheads, the +12VDC must be provided through a DB9 connector labeled "POWER" on the rear of the unit. This can be provided by the Controller connector labeled "POWER."

APS (Automatic Priming System)

The APS has been designed to automatically perform a priming sequence at a pre-programmed time interval. The priming sequence will restore channels that have dropped out and help maintain quality print while increasing the time between printhead cleaning.

The APS consists of the following components:

- Pro/Classic Series Printhead with integrated maintenance plate and vacuum port
- Ink collection bottle
- Purge pump
- Vacuum pump
- APS Controller PCB

The Maintenance Plate is coated with a non-stick material (Teflon) before it is bonded to the Chamber Plate/Orifice Plate (CP/OP). The Teflon prevents debris from sticking to the Maintenance Plate. The debris can be easily wiped away.

The procedure used previously for priming the printhead calls for use of a lint free cloth wiped across the printhead while performing a prime. This wiping action can force dust or other foreign material into the orifices.

NOTE: The following does **not** apply to the Pro Series printheads when the **APS Control Cable** is used. See your controller operations manual for instructions on using an **APS Control Cable** with a Pro Series printhead.

APS Cycle

The APS (Automatic Priming System) cycle is a means for re-priming channels in the head if some are missing. The APS system does this by using a priming pump to force ink out of the channels and a vacuum pump and collection bottle to collect the ink waste. The APS cycle can be manually started by momentarily pressing the prime button.

NOTE: The system may not print during an APS cycle or manual prime.

Print Head Control of APS

Print Head control of the APS (Automatic Priming System) cycle is accomplished by a programmed timing interval set by the user at the print head (each head, if more then one is used). It can be set to run as often as necessary, from once every 2 hours to once every 18 hours for the UJII heads; or from once every hour to once every 12 hours for the graphic heads. The default setting is once every 4 hours (Switch Setting 2 for a UJII head or Switch Setting C for a graphics head). The interval can be adjusted by means of a rotary switch (Programmable Timer) mounted on the APS Controller PCB. (See the illustration below.) See the following Table for the hour interval for each setting of programmable timer.

Timing Interval Settings:

0 = No APS	UJII Heads										Graphics Heads					
Switch Setting	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Interval (hours)	0	2	4	6	8	10	12	14	16	18	1	2	4	6	8	12

The priming sequence will perform three separate consecutive primes of approximately four milliseconds each. The required time for the priming sequence is less than five seconds, with an additional 20 seconds for the vacuum cycle. As with pervious Trident print heads, printing cannot occur during the priming sequence.

Auxiliary Photocell Input

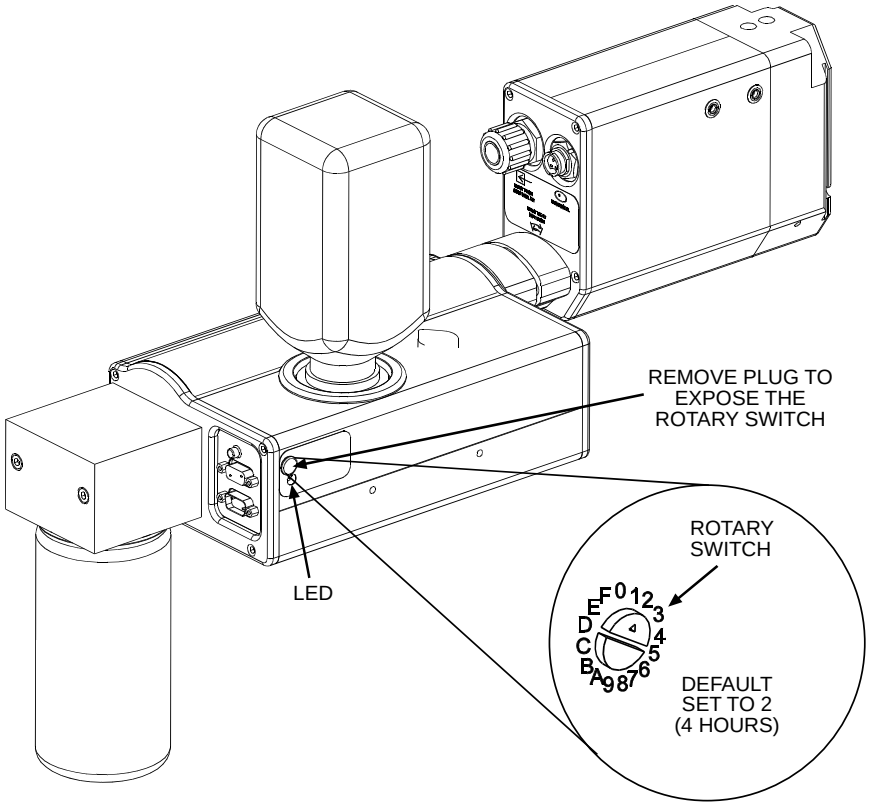
NOTE: The following does **not** apply to the Pro Series printheads when the **APS Control Cable** is used. See your controller operations manual for instructions on using an **APS Control Cable** with a Pro Series printhead.

The system can not print on the product while the printhead is performing a priming sequence. During the automatic prime, ink is fed out the orifices, preventing the head from firing drops. Connecting the Auxiliary Photocell will retard a prime sequence. The default delay setting is three seconds after the product passes the photocell. To change the default, perform the following steps:

1. Insure that the rotary switch is not in the "0" position.
2. Place a box in front of the photocell.
3. While the photocell is on, set the rotary switch to 0.
4. Once the LED stays illuminated continuously, set the rotary switch to a new number (1 through F) representing the number of seconds (1 through 15) you want to delay.

   NOTE: "0" is not an available user setting.
5. Press and hold the prime button until the LED starts flashing.
6. Release the Prime button.
7. Remove the box from in front of the photocell.
8. Set the rotary switch back to the desired hour setting.

NOTE: The Photocell is the same Type and Pin-Out as the S7 Product Detect.

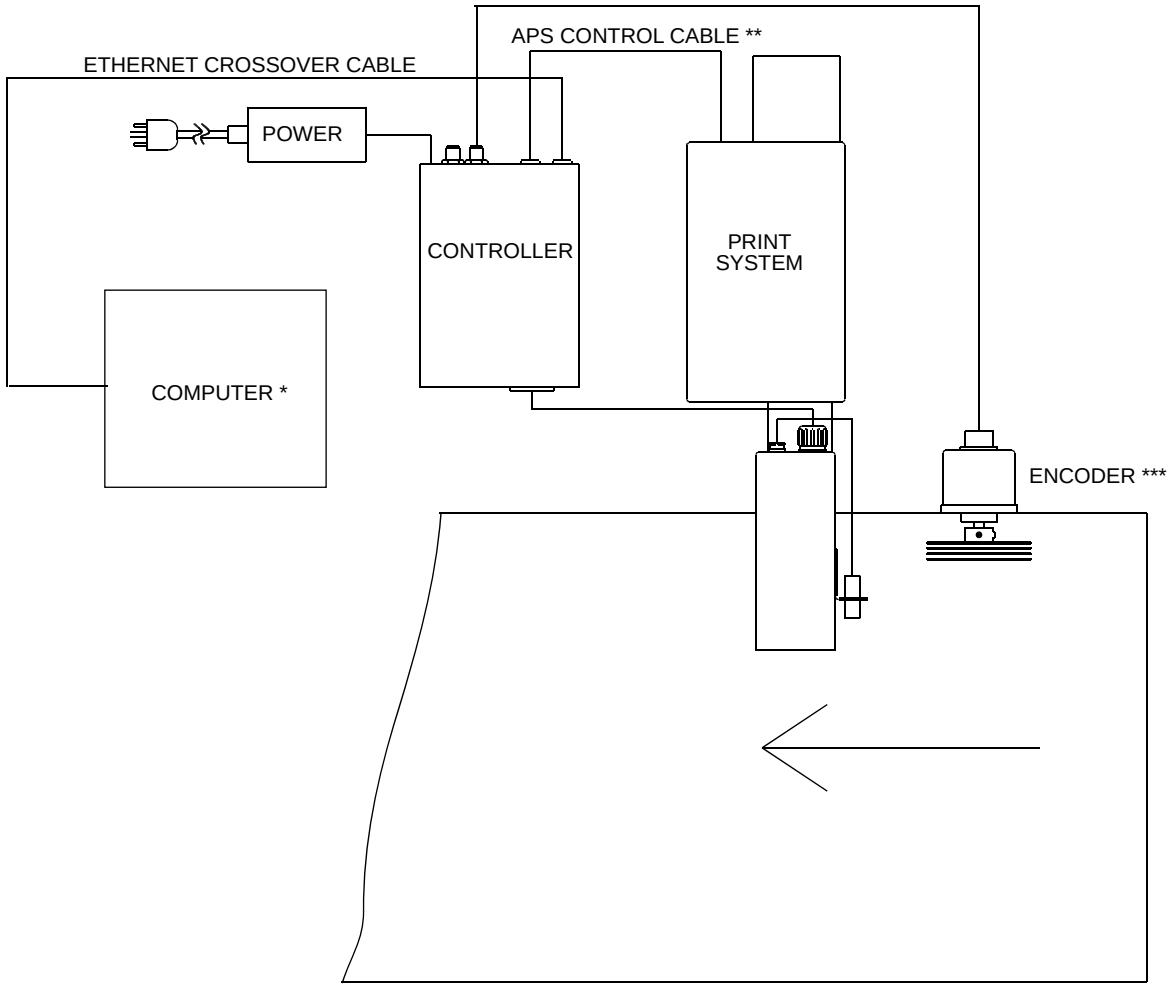


APS View for Pro/Classic Series Printheads

Electrical Cable Connections

NOTE: On the Pro Head, the APS Timing Interval is set by the Marksman Net or Marksman Pro Controller.

The following diagram represents typical electrical cable connections for ProSeries heads for Marksman Net.



NOTES:

* Customer supplied equipment

** APS Control Cable: From Controller "OUTPUT TO PRINTHEAD" (top DB-9M connector) to Print System "COM 1" (top DB-9F connector)

*** Encoder: To Controller "ENCODER INPUT"

Manual Prime

A manual prime can be accomplished by depressing the push-button switch on the rear of the print ink system housing. Pressing and holding the button for longer than one second will start the pump for a manual prime. It will continue to run as long as the push-button is depressed. The button should not be held for more than five seconds per prime.

NOTE: Place a wipe in front of the maintenance plate to catch excessive ink. Non-APS Heads (such as the AlphaCoder) do not have a built-in collection system. Priming without using a wipe cloth will result in ink running down the face of the head and onto the print-head case. This excess ink may also migrate back into the case, giving the appearance of an internal leak. To avoid this situation, follow the steps below.

1. Place a lint-free wipe over the printhead face (CP/OP) to absorb ink.
2. Press the Prime Button until ink is seen coming from the printhead face.
3. Gently wipe the printhead face to remove ink. Use a clean wipe for each cleaning pass.
4. If ink is visible on the printhead face, printhead will not print.
5. Perform a test print.

Pressing for less than 0.5 seconds will initiate a maintenance cycle. If the system has started a maintenance cycle (Priming Sequence + Vacuum Cycle = 25 sec.) and the button is pressed, the manual prime will not operate.

NOTE: The system will not prime either manually or automatically if there is a low ink indication. Low ink indication is caused by either low ink in the reservoir or full ink in the waste collection bottle.

Shutdown Procedures

Previous printhead ink systems have had a suggested shutdown procedure for periods of inactivity of longer than 48 hours. With the APS, it is no longer necessary to power down and install shipping caps on the printhead. The purpose of shutting down power was to keep the ink from exposure to heat for prolonged periods of time without movement. With this system, you can program a prime every 8, 12, 24, or 30 hours while the machine is idle. This will reduce startup times and eliminate the need for regular shut down procedures. It will also reduce the printhead return rate for cleaning.

Waste Bottle

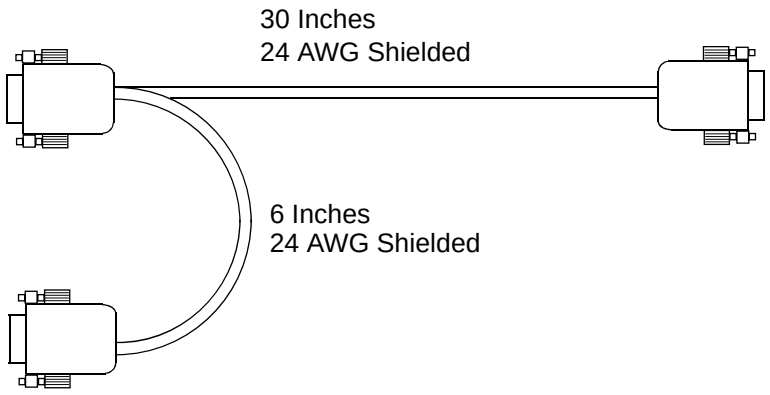
The APS includes a Waste Collection Bottle mounted on the rear of the Printhead/Ink System. This bottle must be changed when full to prevent improper operation of the system. Instructions for waste disposal are on the collection bottle.

Optional Accessories*

There are two optional accessories currently available for the APS Printhead/Ink Systems.

1. A photocell that is used with the Prime Sequence Interrupt feature.
2. A 30-inch long cable that can be used to connect two APS Printhead/Ink Systems to one photocell. This cable can also be used to daisy chain any number of Printhead/Ink Systems to one photocell, depending on your system capabilities.

Part Number	Description
S02038-002	Photocell
S01010-001	Photocell Cable



Photocell Cable

* Accessories not for use on Marksman Net or Marksman Pro Controllers.