



OWNER'S MANUAL

NON-POROUS LARGE CAPACITY HAND PRINTERS ALL MODELS

INSTALLATION - OPERATION - MAINTENANCE



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HPL-15204

IMPORTANT NOTE

UNIVERSAL products are manufactured to exacting standards and every available step has been taken to assure your complete satisfaction. It is most important, for best results, that you read and carefully follow the instructions contained in this manual. Failure to do so may result in unsatisfactory performance, damage to the equipment and personal injury.

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- LIMITED WARRANTY -

UNIVERSAL Non-Porous Large Capacity Hand Printers are guaranteed to be free from defects in materials and workmanship for a period of 90 days from the date of purchase. Components found to be defective during this time will be repaired free of charge if returned to the factory. Damage resulting from use of improper inks, improper installation, or operation is not covered under the scope of this warranty. For warranty service please contact our Customer Service Department.

PREFACE

The Universal HPL Non-Porous Hand Printers were designed to print lot numbers, date codes, and text information on metal, plastics & other non-porous surfaces. Universal Large Capacity Hand Printers are precision engineered to give years of reliable service under the most demanding conditions.

FEATURES

- 1- HPL-NP Printers are available in Indexing models (spot printing) and Non-Indexing models (continuous printing).**
- 2- Universal's die system allows text information to be set using individual characters or one piece logo dies.**
- 3 - Custom logo dies can also be produced from camera ready copy.**
- 4 - Precision machined from aircraft grade aluminum alloys and stainless steel for minimal maintenance and superior long term performance.**
- 5 - Component parts have a black anodized finish for corrosion resistance.**
- 6 - Permanently lubricated, sealed ball bearings which provide for extremely accurate, low friction drum rotation.**
- 7 - Stainless steel shafts for durability even in harsh environments.**
- 8 - Indexing mechanism with dual compression springs mounted over stainless steel guide rods minimizes spring breakage and provides unsurpassed indexing speed and accuracy.**

QUICK START ***SEE PAGE 9***

This manual was written with a full understanding that very few people like to read manuals or have the time to do so. To accommodate those who have little time to spare we have included a Quick Start section which will get your printer operating in just a few minutes.

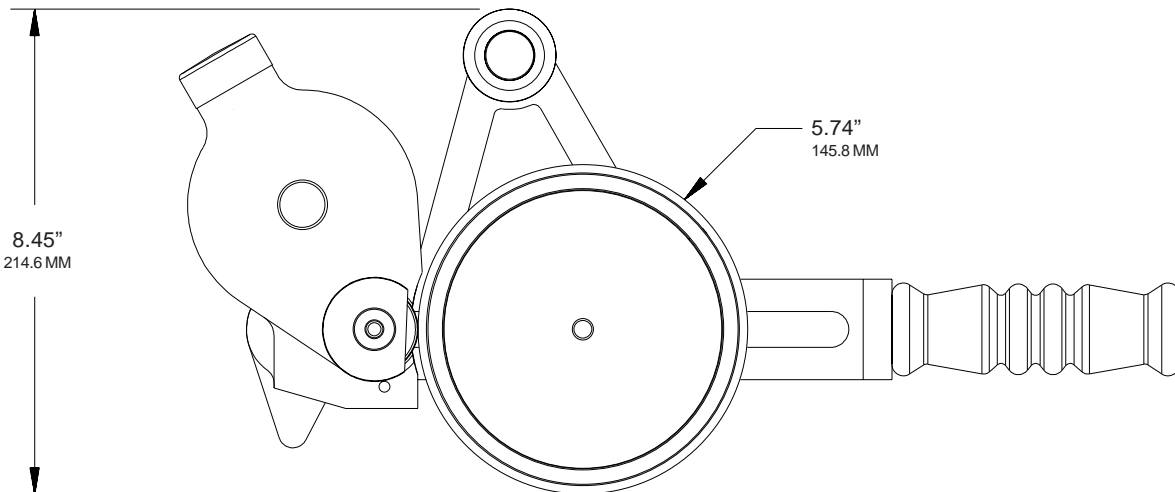
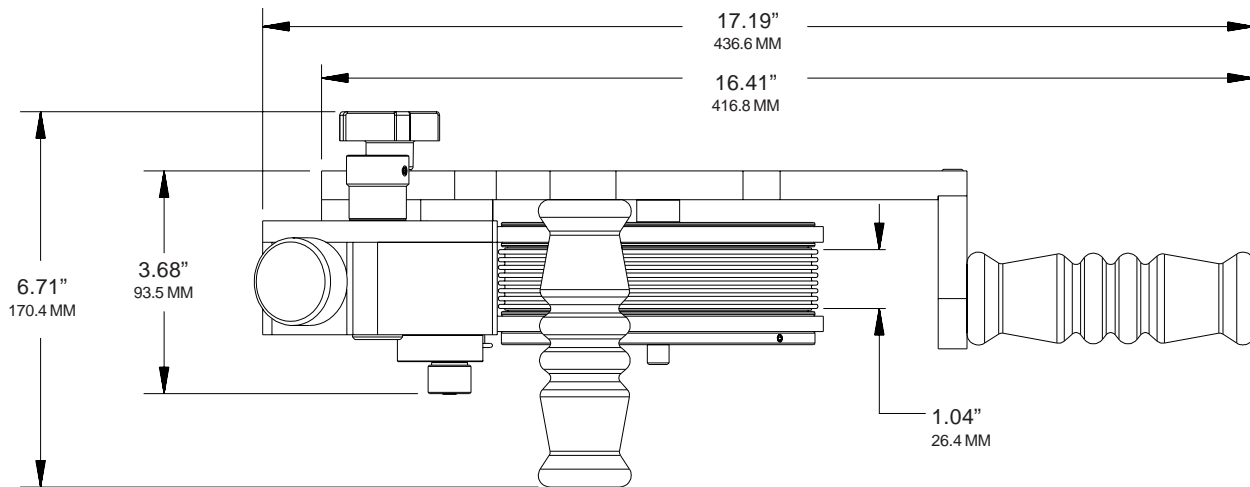
PRINTER SPECIFICATIONS

The specification section includes drawings with the basic dimensions of the printers, the net weights, maximum die capacities, maximum print width and print drum circumferences. This section also lists the specifications for the printing dies and an explanation of the indexing and non-indexing models.

SPECIFICATIONS

HPL-NP PRINTER SPECIFICATIONS HPL-100-NP SERIES

Model Shown: HPL-100NI-NP



NET WEIGHT:

MAXIMUM DIE SIZE - US STANDARD:

MAXIMUM DIE SIZE - METRIC CODERS ONLY:

PRINT DRUM CIRCUMFERENCE:

7.03 LBS. (3.19 KG)

1" (7 RIBS) X 16-15/16" LENGTH

25.4 MM (7 RIBS) X 430.2 MM LENGTH

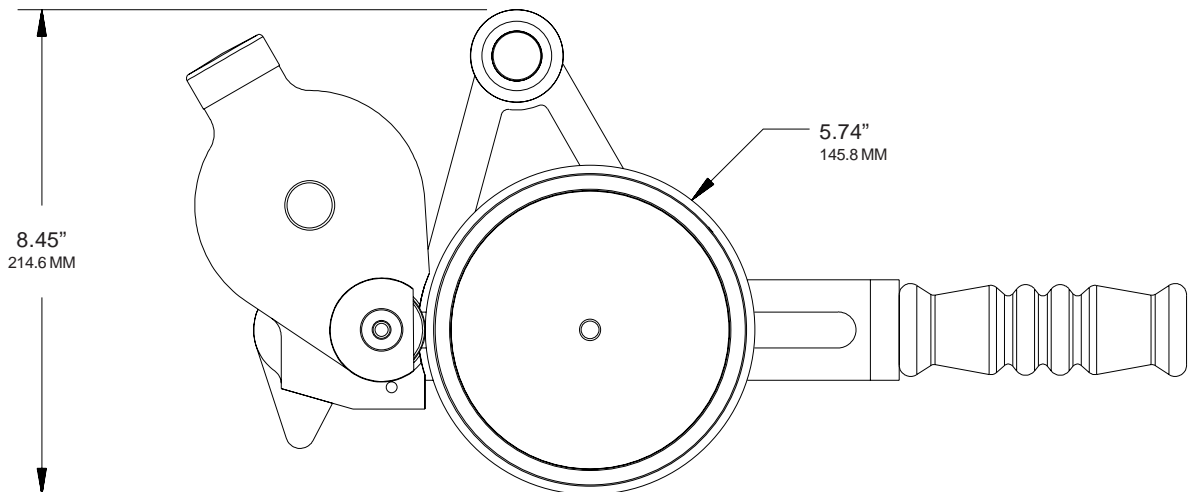
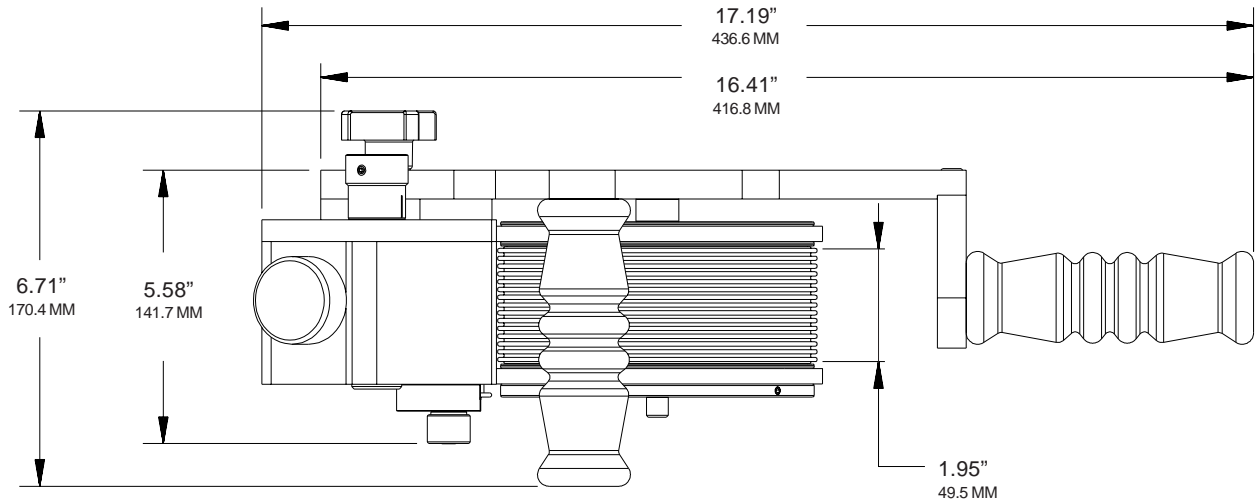
APPROXIMATELY 18" (457 MM) MEASURED AT DIE FACE

SPECIFICATIONS

HPL-NP PRINTER SPECIFICATIONS

HPL-200-NP SERIES

Model Shown: HPL-200NI-NP



NET WEIGHT:

MAXIMUM DIE SIZE - US STANDARD:

MAXIMUM DIE SIZE - METRIC CODERS ONLY:

PRINT DRUM CIRCUMFERENCE:

8.23 LBS. (3.73 KG.)

1-15/16" (14 RIBS) X 16-15/16" LENGTH

49.2 MM (13 RIBS) X 430.2 MM LENGTH

APPROXIMATELY 18" (457 MM) MEASURED AT DIE FACE

SPECIFICATIONS

INDEXING AND NON-INDEXING MODELS

Universal HPL Non-Porous Hand Printers are available in both indexing and non-indexing models.

Indexing printers feature a print drum indexing mechanism which provides print registration capabilities when printing on individual parts. When the printer is lifted off the surface, after the print operation, the print drum automatically rotates back to the same starting or “home” position. Printing with an indexing printer will allow the imprint on each part to be registered in the same position relative to the position where the print drum first contacts the part.

Non-indexing printers provide random print registration capabilities. These printers have print drums which simply rotate on bearings and repeat the print at an interval equal to the circumference of the print drum. If your application requires the print to be repeated at shorter intervals than the circumference print drum, duplicate sets of dies can be installed on the print drum. Non-indexing printers are generally used for web printing applications where the print drum stays in contact with the web over long distances.

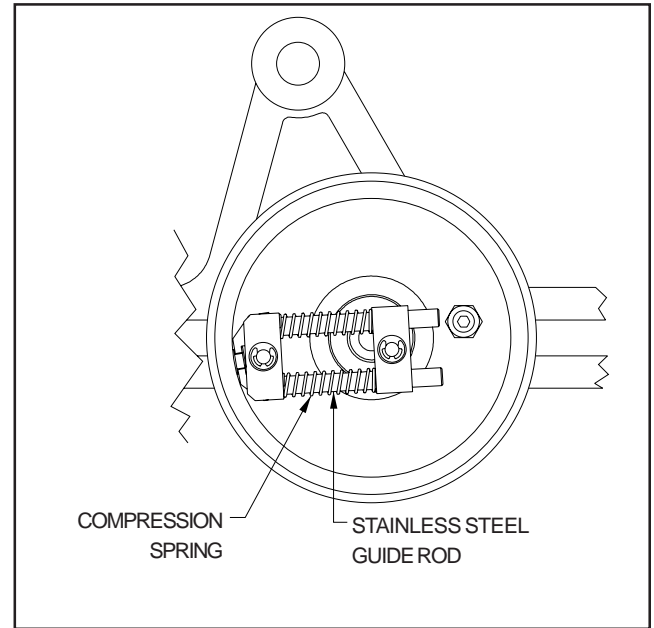


FIGURE 1

SELECTING AN APPROPRIATE INK

Universal's Non-Porous Inking System is compatible with a wide range of alcohol base marking inks. Although we offer a variety of inks for specific applications, you are not restricted to using only Universal brand inks. When selecting inks from other manufacturers however, it is your responsibility to make sure the inks are compatible with the coder.

Dye base inks contain liquid color which is translucent and will provide good color contrast only on light colored materials. These inks are generally faster drying than pigmented inks and normally produce less residue buildup on the transfer roll and printing dies, thus requiring less frequent cleaning of the coder. Although dye base inks are normally the easiest to use, they will fade more rapidly than pigmented inks when exposed to direct sunlight.

Pigmented inks contain finely ground solids which are opaque, providing much greater color contrast when marking on dark colored surfaces. These inks also resist fading when exposed to direct sunlight. Pigmented inks have a tendency to build up on the surface of the transfer roll and the die face more rapidly than dye base inks and will generally require more frequent cleaning of these parts.

Note: It is extremely important to test the affect of other manufacturer's ink on the XF Neoprene ink roll. Since the ink roll must fit into a precision machined cavity in the inking system housing with little clearance, swelling of the roll, in reaction to non-compatible solvents in the ink, could cause serious problems with the performance of your coder. Inks containing MEK or petroleum solvents such as Xylol or Toulene are not compatible.

The dry XF neoprene ink roll measures 3.425" (86.99 mm) OD. After thoroughly saturating the ink roll with ink, the roll should not exceed 3.500" (88.90 mm) OD.

SPECIFICATIONS

RIBtype® PRINTING DIES

Universal HPL Non-Porous Hand Printers are designed to use RIBtype® printing dies which have a molded rib backing. The ribs on the back of the die snap into mating ribs in the Drum Cover on the print drum as shown in Figure 2.

The standard printing dies are available in sets with many sizes and character styles. The sets are a combination of individual alphabetic and numeric characters or in sets containing numeric characters only. These character sets or “sorts” can be used to make up text messages and code numbers as necessary.



FIGURE 2

Printing dies are also available in “logo” form in which a complete text message, company logos or trademarks are produced on a single piece of rib backed rubber. These “logo” dies are photographically reproduced from black and white art work. Due to their unitized construction, these dies generally produce better print quality and are much faster to change in the field. For details on ordering custom logo dies, please contact our Customer Service Department.

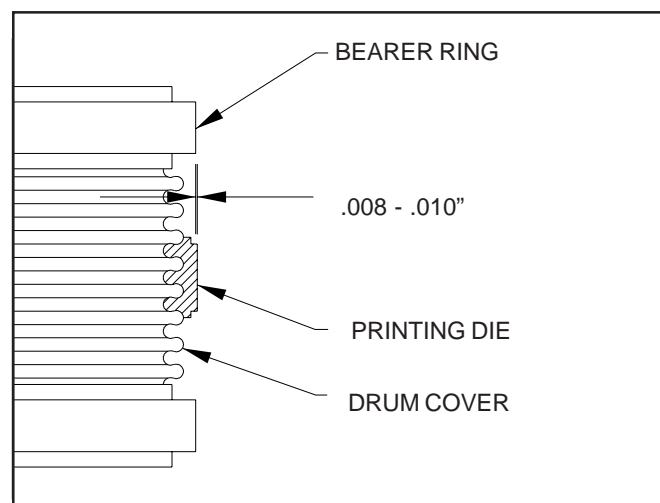


FIGURE 3

Printing dies are manufactured to precision thickness tolerances which are very critical to the performance of these coders. When installed, the face of the printing die should extend only .008” - .010” beyond the radius of the Bearer Rings as shown in Figure 3. Using dies that do not meet the design specifications will result in poor print quality and possible damage to the transfer roll.

Although there are several competitive rib backed die systems available, it is very important to note that they are not all made to the same rib spacing or thickness specifications and they are not interchangeable.

METRIC RIBtype® PRINTING DIES

Universal also offers Metric RIBtype® die systems for use in countries where metric character sizes are the standard. The Metric dies are thicker and the rib spacing differs slightly from the standard printing dies therefore the two versions are not compatible. To accommodate the differences, the print drums for Metric dies are machined to a slightly different diameter from the U.S. versions.

The coder model numbers on Metric coders will have a “-T” suffix and the Metric Drum Covers have a distinct pink color.

SPECIFICATIONS

INK ROLLS

Universal offers two ink roll options for the HPL Non-Porous Hand Printers. Each has a unique characteristic suitable for a specific printing application. The printers are designed to accommodate both types of ink rolls without modification. A detailed review of your printing requirements will determine the best choice of ink rolls for your particular application.

Unless otherwise specified, all new HPL Non-Porous Printers are supplied with XF Neoprene Ink Rolls

TYPE MT INK ROLLS

Type MT Ink Rolls are ***disposable*** pre-inked rolls which provide excellent color density and adhesion on most materials. These disposable rolls yield up to 500,000 impressions in average usage and will dry in 4 -7 seconds at 75 degrees F. ambient temperatures on most non-porous surfaces. The roll is simply installed on the coder and replaced when the ink capacity is depleted. The MT Ink Rolls contain a fast drying solvent based ink and are designed for use with all of our Non-Porous Coders.

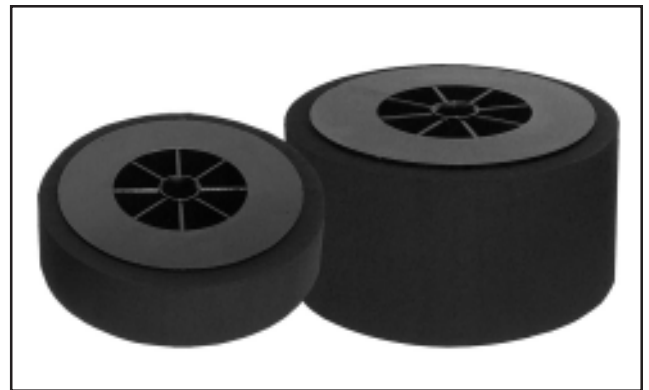


FIGURE 4

XF NEOPRENE INK ROLLS

Universal's XF Neoprene Ink Rolls are made from an extra firm density neoprene material. The extremely fine cell structure of these rolls provides exceptionally good print quality particularly when using small character printing dies.



FIGURE 5

QUICK START

PRE-INKING XF NEOPRENE INK ROLLS

Universal HPL Non-Porous Hand Printers are shipped from the factory fully assembled and, unless otherwise specified, includes a **dry XF Neoprene Ink Roll**. The initial inking of any dry roll is critical to the performance of the Printer. **The ink roll must be manually pre-inked prior to use.**

If you received a dry ink roll with your printer, follow the inking instructions below to insure that your ink roll is properly inked before installing it on your Printer.

If you received a pre-inked ink roll with your printer, skip this procedure and go to the next page for instructions on roll installation.

Note: Inks will stain clothing, furniture, carpeting and your hands. Rubber gloves should be worn during the following procedures.

- 1- Remove the dry roll from the plastic bag. Pour ink into a clean container large enough to accommodate the size of the ink roll.

For a 1-1/8" face roll pour approximately 4 ozs. of ink into the container, for a 2" face roll pour approximately 8 ozs.

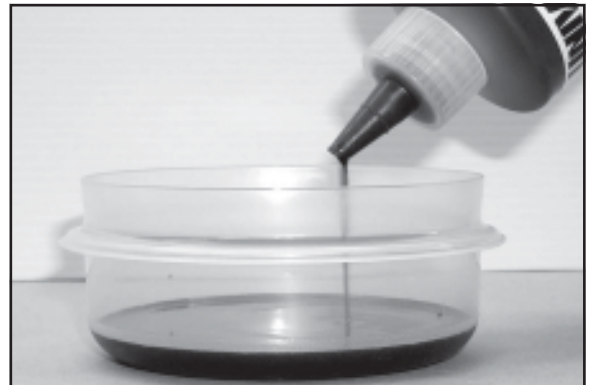


FIGURE 6

- 2- Place the roll on it's side into the container. Using your finger tips, press down firmly on the side of the roll. Continue to press down on the roll while rotating it in the container. Flip the roll over in the container and repeat the process until all of the ink is absorbed.

As you press down on the ink roll you are forcing the air out of the roll material which allows the ink to be absorbed.

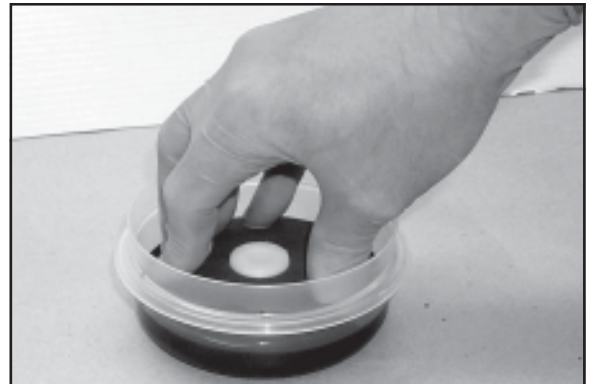


FIGURE 7

- 3- Using a round shaft or screwdriver, remove the roll from the container. Roll the ink roll across a clean piece of paper or cardboard to remove the excess ink.

It is important to the performance of the printer that the ink roll is fully saturated but not dripping wet.

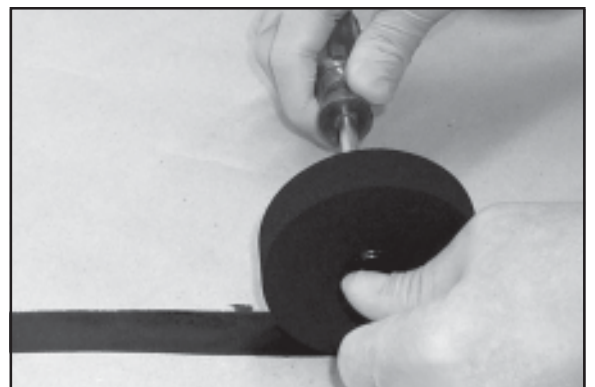


FIGURE 8

QUICK START

Warning: *Non-Porous inks contain flammable solvents. Do not smoke or handle these rolls in the presence of sparks or open flames. Inks will also stain clothing, furniture, carpeting and your hands. Rubber gloves should be worn during the following procedures.*

The ink roll you install on the coder must be properly pre-inked. If your coder was supplied with a dry XF Neoprene ink roll, refer to page 9 for inking instructions.

Rollers that have been pre-inked at the factory are normally slightly oversaturated with ink to compensate for potential solvent loss during shipping and storage. If you received a pre-inked ink roll with your coder, it is important to examine the roll prior to installation. **The ink roll should be thoroughly saturated with ink but not dripping wet.** Excess ink can be easily removed by lightly rolling the ink roll across a clean piece of absorbent paper.

INSTALLING THE PRE-INKED ROLL

- 1 - To install the pre-inked roll, first turn the Ink Roll Eccentric Adjusting Knob “A” to the “MIN” position.**

This moves the Ink roller axle away from the Transfer Roll and enables the ink roll to be installed without interference with the Transfer Roll during reassembly of the inking system.

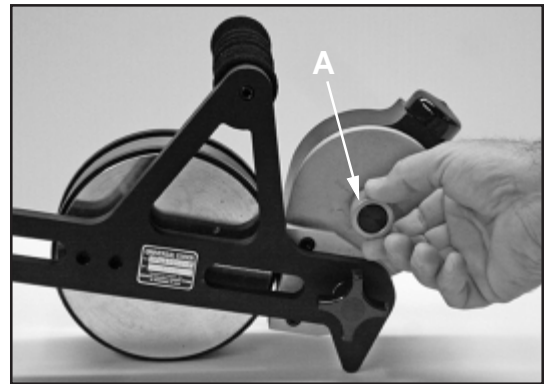


FIGURE 9

- 2 - While holding the Drive Wheel Cover “B” in place, remove the Knurled Cover Retaining Knob “C” by turning it counterclockwise.**

The Cover Retaining Knob holds the entire inking system together and other parts may fall free from the coder if not held securely when this knob is removed.

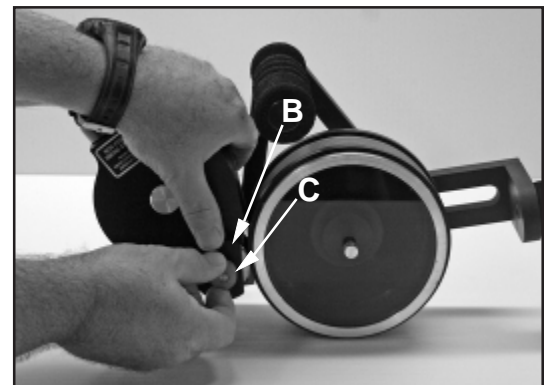


FIGURE 10

- 3 - Hold Inking System Cover “D” in place and remove Knurled Drive Wheel Cover “B”.**

The Knurled Drive Wheel Cover has a very loose fit. Note that one edge of the Drive Wheel Cover is flat and is aligned towards the print drum. During reassembly, this flat edge must be replaced in the same position.

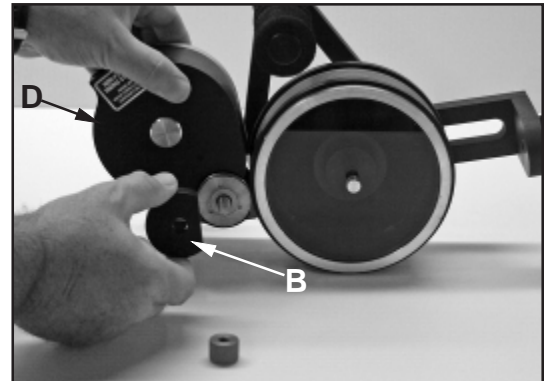


FIGURE 11

QUICK START

4 - Remove the Knurled Drive Wheel “E”.

The Knurled Drive Wheel rests on top of the Transfer Roll “G”. The Transfer Roll has 3 stainless, protruding drive pins which fit through 3 mating holes in the Knurled Drive Wheel “E”. This is a close tolerance fit and there will be some resistance from the engagement with the rubber Bearer Ring on the Print Drum when this is removed. A slight rotation or wiggling action will make removal easier.

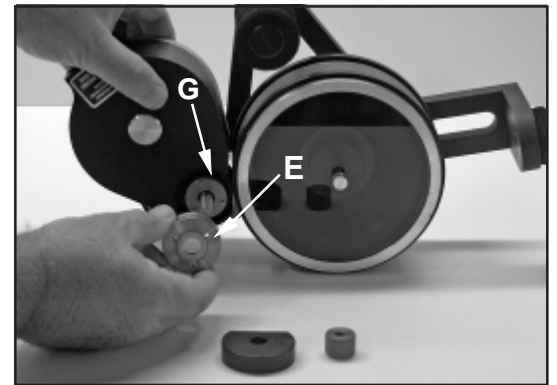


FIGURE 12

5 -Carefully pull the Inking System Cover “D” directly away from the Inking System Baseplate “F”. Do not let the cover drag across the surface of the Transfer Roll “G”.

The Transfer Roll Surface is a finely engraved Delrin plastic material which can be easily scratched. When assembled, the Transfer Roll resides in a very close fitting cavity in the Inking System Cover. Carefully pull the Inking System Cover directly away from the Baseplate until it clears the Transfer Roll to prevent damage to the Transfer Roll surface.

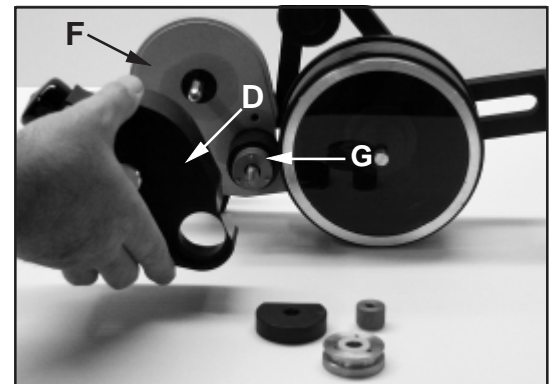


FIGURE 13

6 - Put on a pair of rubber gloves, open the storage container and remove the pre-inked ink roller by inserting a small rod (a pencil or a screwdriver works nicely) in the center of the core.

You want to keep ink off your gloves at this stage to prevent contamination of the external parts of the coder during roll installation.

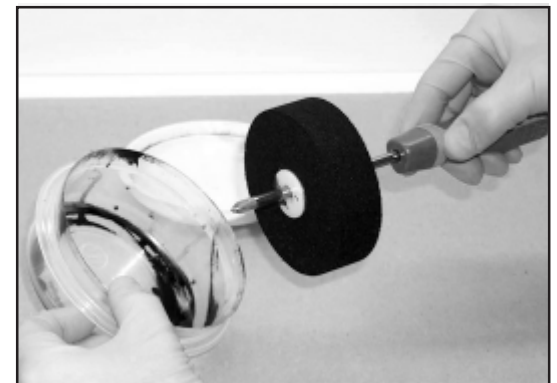


FIGURE 14

7 -Inspect the roller for excess surface wetness. Remove any excess ink by rolling the roll lightly over a piece of absorbent paper.

Rolls which have been pre-inked at the factory are typically over saturated with ink to compensate for potential solvent loss during shipping and storage. Installing an over saturated roll on the coder will result in ink leakage from the Inking System and in extreme cases may damage the ball bearings in the Transfer Roll. When the roller is installed, it must be thoroughly saturated with ink but you should not be able to see any liquid ink on the surface of the roll. If necessary, blot excess ink from the sides of the roll with a dry paper towel before installation.

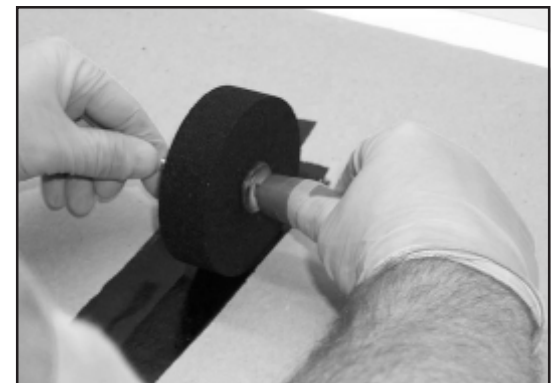


FIGURE 15

QUICK START

- 8 - Install the ink roll on the Ink Roll Axle by aligning the end of the rod or pencil with the end of the axle and pushing the roll onto the axle.**

When this step is complete, remove the rubber gloves to prevent ink contamination with the external parts of the coder.



FIGURE 16

- 9 -Immediately replace the Inking System Cover “D” by carefully guiding the cover over the Transfer Roll “G”. Try not to let the cover contact the surface of the Transfer Roll to prevent scratching. Make sure the Cover is seated properly against Baseplate “F”.**

While handling the ink rolls, solvents will evaporate from the rolls very rapidly at normal room temperatures. The Inking System Cover must be replaced quickly to prevent solvent loss.

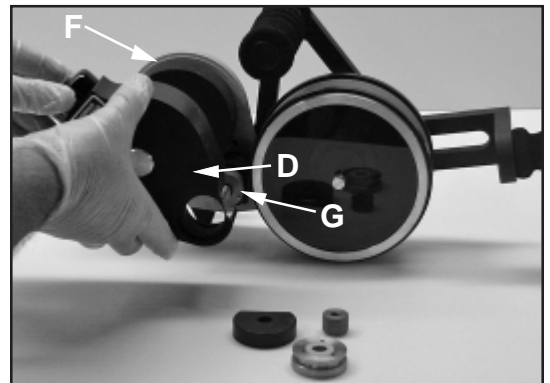


FIGURE 17

- 10 -Replace the Knurled Drive Wheel “E” by aligning the 3 small holes with the 3 stainless drive pins on the top of the Transfer Roll “G” and pressing the Drive Wheel onto the Transfer Roll.**

A slight wiggling action or rotation of the Drive Wheel will help overcome the resistance caused by contact with the rubber Bearer Ring on the Print Drum. The tops of the stainless pins will be flush with the top of the Drive Wheel when seated properly.

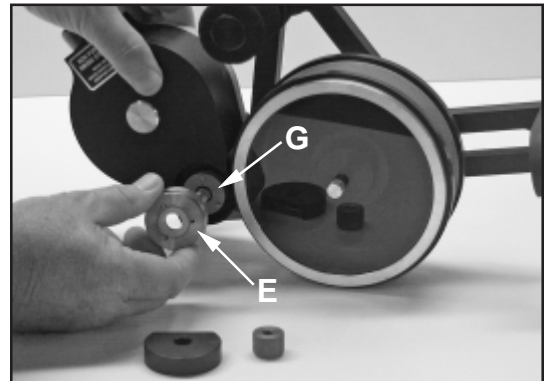


FIGURE 18

- 11- Replace the Drive Wheel Cover “B” and rotate it into position with the flat edge directly facing the Print Drum.**

Hold the Drive Wheel Cover and Inking System Cover in place.

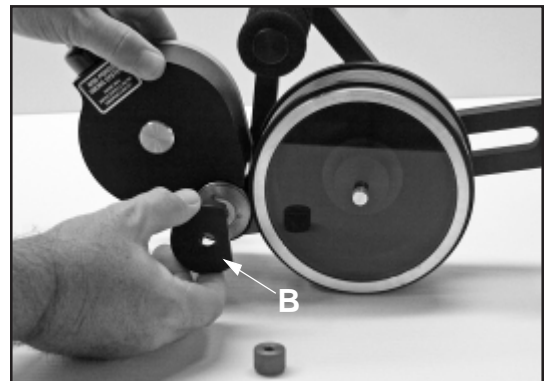


FIGURE 19

QUICK START

- 12 - Replace the Cover Retaining Knob “C” and lightly tighten. Do not over tighten this knob or you may bend the top of the Drive Wheel Cover “B” and cause it to bind against the Knurled Drive Wheel.

The Cover Retaining Knob should be just tight enough to keep the Inking System Assembly together and prevent the Drive Wheel Cover from rotating out of position.

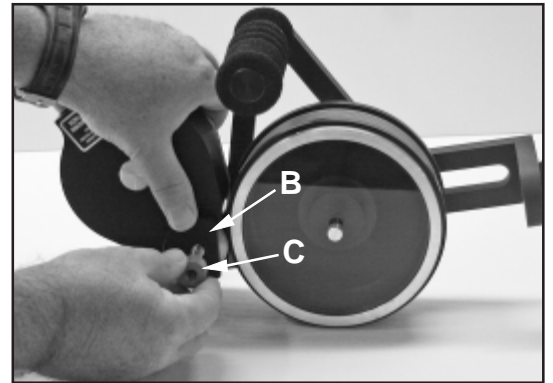


FIGURE 20

INSTALLING THE PRINTING DIES

- 1 - Install the Printing Dies “I” on the Print Drum “J” by aligning the ribbed backing on the dies with the mating covering on the Print Drum and pressing firmly until they are completely engaged. It is best to install the dies as close to the middle of the print drum as possible.

Individual character codes or text messages are installed in a mirror image of normal written text. In other words install in a right to left direction as shown. When printed, codes or text installed in this orientation will print in normal left to right order.

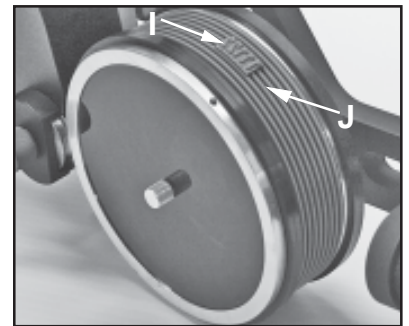


FIGURE 21

Tip: To make die installation easier, moisten a sponge with water containing a small amount of liquid detergent. Lightly moisten the back of the printing die and then immediately press the die into the drum cover. Do not apply too much liquid or the dies will slip during printing. Note: Do not apply silicone, oil or any other lubricating agent to the rib backing or the dies will not hold properly during printing.

- 2 - When using small individual characters to make up a code message, use the Type Blocking Kit “K” included with your coder to support the leading and trailing ends of the type as shown.

Characters which have only a 2 or 3 rib backing do not have the stability of the larger sizes when snapped into the drum cover. Adding the rib backed type blocks on either side of the code will provide added stability. The Type Blocks are not as thick as the Type and will not pick up ink from the Transfer Roll.

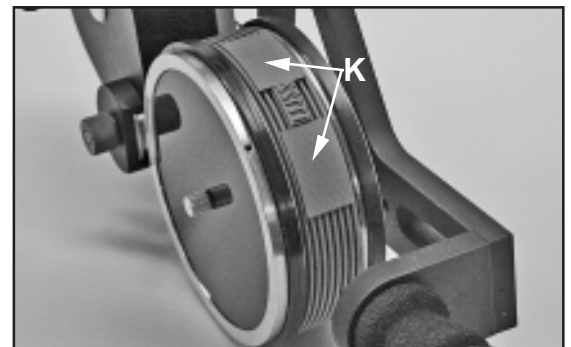


FIGURE 22

QUICK START

ADJUSTING THE TRANSFER ROLL / DIE FACE CONTACT PRESSURE

The pressure the transfer roll exerts on the face of the printing dies should be just enough to rotate the transfer roll and completely ink the face of the dies as they pass during printing. Excessive contact pressure will cause smudging of the impression, and restriction of the print drum rotation.

1- With the Printing Dies installed on the print drum, rotate the print drum to a position where the printing dies will contact the transfer roll. Then loosen the position adjusting knob and move the transfer roll into contact with the face of the printing dies. Tighten the position adjusting knob when the transfer roll contacts the face of the printing die with just enough pressure to fully ink the die face.

The transfer roll should never be positioned so close that it compresses the face of the printing dies.

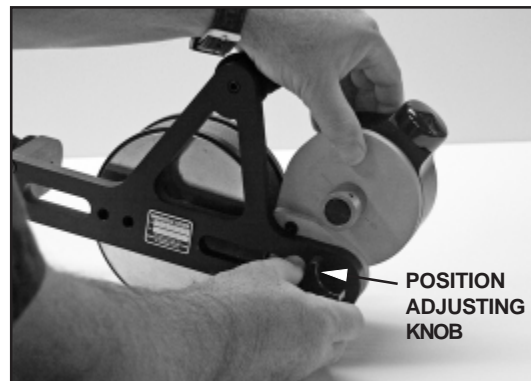


FIGURE 23

ADJUSTING THE INK ROLL ECCENTRIC

With the printing dies installed on the print drum, manually rotate the print drum continuously in one direction while slowly rotating the Ink Roll Eccentric Adjusting Knob "A" from the "MIN" towards the "MAX" position. Turn the Eccentric Knob in small increments and observe the face of the printing dies for signs of ink between each adjustment.



FIGURE 24

As soon as you can see complete ink coverage on the die faces, stop rotating the eccentric. Proper adjustment will normally be reached when the reference line on the Eccentric is somewhere between the 2 and 3 dial position.

This adjustment procedure brings the Ink Roller into contact with the surface of the Transfer Roller which in turn applies the ink to the face of the printing dies. Do not rotate the Ink Roll Eccentric Knob further than necessary towards the "MAX" position or the excess contact pressure will squeeze ink out of the ink roll and may cause dripping inside the cover.

QUICK START

PRINTING DIE POSITIONING FOR INDEXING APPLICATIONS

Non-indexing models of the HPL Non-Porous Hand Printers do not offer print registration capabilities, therefore mounting the printing dies at a specific location on the print drum is not important. On indexing machines, the position of the die on the print drum will determine the location of the print on the carton.

The drawing illustrates the best die position for individual part printing. Note: The leading edge of the printing die should be positioned, rotationally, upstream of the ink roll. When the print drum is placed against the surface of the part and pushed forward, the drum begins to rotate in a counter-clockwise direction. The printing die travels a short distance and then contacts the transfer roll where ink is applied to the die face. When the die contacts the part, the mark is applied.

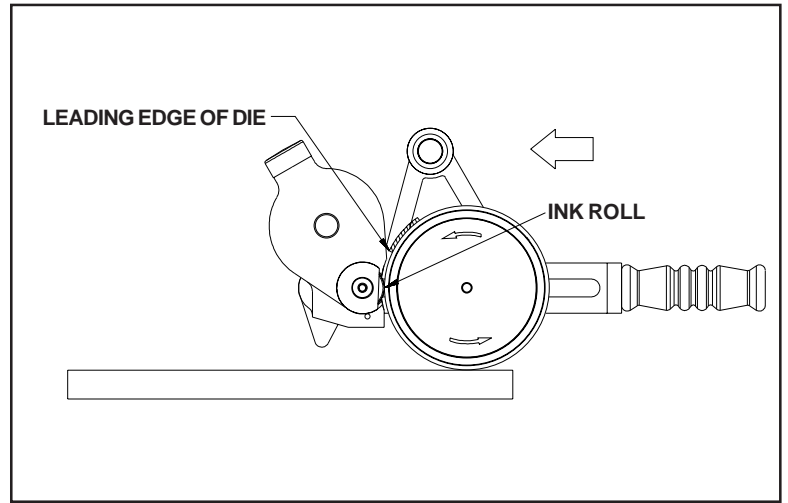


FIGURE 25

The printer should remain in contact with the surface of the product and be pushed forward through one complete revolution of the print drum. When it is lifted off the surface of the product, the print drum will automatically return to the same starting position.

MAINTENANCE

CLEANING THE TRANSFER ROLL

The surface of the transfer roll is made from DuPont Delrin material and the O.D. of the roll is finely engraved which enables it to hold a uniform film of ink. This surface material is very fragile and under no circumstances should you attempt to clean it with anything abrasive.

Warning: *Most of the ink solvents used for cleaning are flammable liquids. Follow all safety precautions recommended by the manufacturer during this process.*

- 1 - To clean dust and ink residue from the surface of the transfer roll, first remove it from the coder. Lightly saturate a soft cotton cloth with the appropriate ink solvent and gently rub the surface of the roll until it is clean.

DO NOT SUBMERGE THE TRANSFER ROLL IN SOLVENT!

If the transfer roll is submerged in solvent, the bearings will be permanently damaged.



FIGURE 26

CLEANING THE CODER

- 1 - Periodically, the inking system should be disassembled and inspected for ink residue and dust contamination. To remove ink contamination from the surface of the machine, moisten a soft cotton cloth with the appropriate ink solvent and rub it across the contaminated area.

The frequency of required cleaning can be greatly reduced if the inking system is kept in proper adjustment during normal operation and if the ink roll does not become over saturated with ink.



FIGURE 27

MAINTENANCE

CLEANING THE PRINTING DIES

All inks which are formulated for printing on non-porous surfaces contain a resin binder which bonds the dye or pigment in the ink to the surface of the material being printed. As the ink begins to dry, this binder becomes “tacky” or “sticky”. While in this stage of the drying process, the tack on the dies will tend to pick up both airborne dust and any dust or dirt on the surface of the material being printed. When this happens, the dies should be cleaned or replaced. The easiest method of cleaning the dies requires the appropriate solvent for the ink being used, a pair of rubber gloves, safety glasses, an apron to protect your clothing is recommended, a toothbrush, some clean paper towels and a plastic bag to protect your workbench from staining. (Naturally, the toothbrush will never be suitable for oral hygiene use after this process.)

After some period of use, the accumulation of contaminants on the dies will cause degradation of the print quality; cleaning the printing dies, excluding excessive wear to the die face, will restore the print quality of the coder.

- 1 - Place the contaminated Printing Die on top of several layers of paper towels to absorb the excess solvent. Pour just enough solvent on the face of the die to cover the die face.**



FIGURE 28

- 2 - Using the toothbrush, carefully scrub the face of the die to remove the contamination and old ink as shown. Add more solvent as necessary and repeat the process until the die is clean.**

Do not submerge or soak the dies in solvent as this may cause swelling of the rubber compound.



FIGURE 29

- 3 - Blot the surface of the die with a clean paper towel to dry the dies, as shown, and reinstall the clean dies on the coder.**



FIGURE 30

PRINT DRUM INDEX MECHANISM MAINTENANCE

PRINT DRUM INDEX MECHANISM DISASSEMBLY / ASSEMBLY

- 1- Using a 5/64" hex wrench, loosen the Nylon Tip Set Screw located in the top rim of the Print Drum and remove the dust cover.

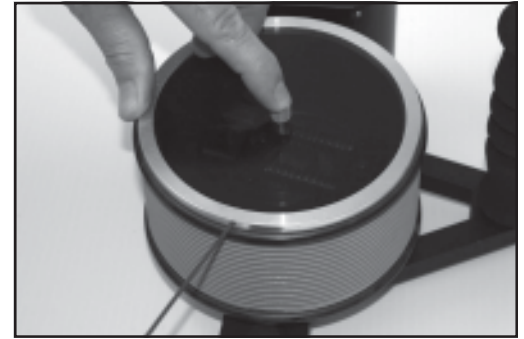


FIGURE 31

- 2- To relieve the spring tension on the index mechanism, rotate the Print Drum approximately 3/4 turn. The Index Compression Springs will now be in the fully extended (relaxed) position.

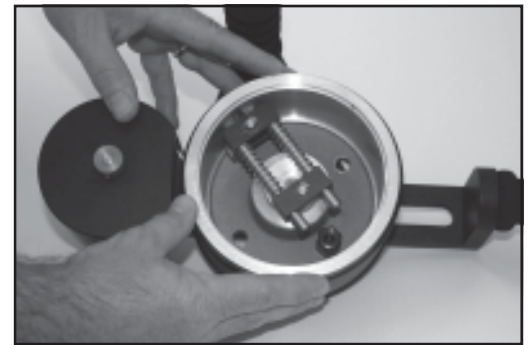


FIGURE 32

- 3- Using a small screwdriver, remove the two E-Rings from the stainless steel posts to enable removal of the spring block assembly.



FIGURE 33

- 4- Lift the spring block assembly straight up off the stainless steel posts.

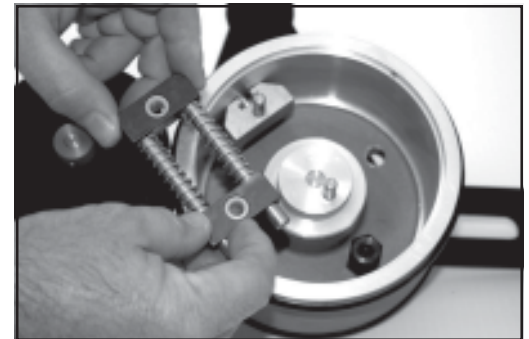


FIGURE 34

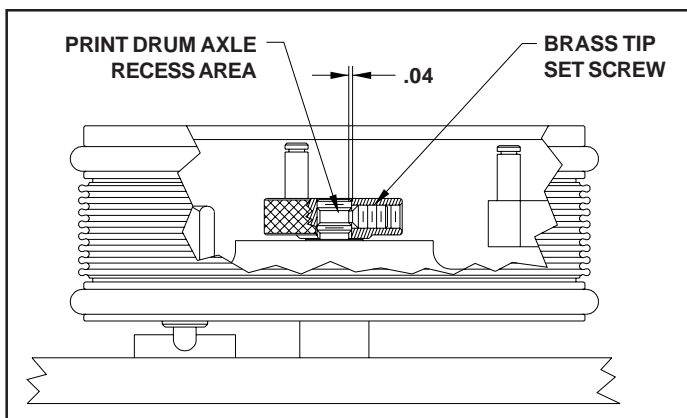


FIGURE 35

Important Note: The Print Drum Axle is machined with thread relief so the tip of the set screw will not damage the threads. To completely remove the Index Ring from the Axle, the Brass Tip Set Screw must be loosened at least 2 full turns to prevent damage to the threads.

PRINT DRUM INDEX MECHANISM MAINTENANCE

- 5- Using a 1/8" hex wrench, loosen the Brass Tipped Set Screw located in the side of the Index Ring. This screw must be turned counterclockwise at least two full revolutions.



FIGURE 39

- 6- Remove the Index Ring from the axle by turning it in a Counter-Clockwise direction. If the Index Ring does not turn freely, loosen the set screw an additional turn as indicated in Step 5 above.



FIGURE 40

- 7- The print drum can now be lifted off the axle.



FIGURE 41

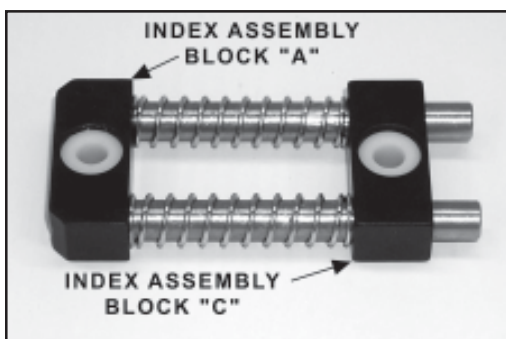


FIGURE 42



FIGURE 43

REPLACING PRINT DRUM INDEX SPRINGS

- 1- Holding onto the Index Assembly Block "A", pull the Index Assembly Block "C" off the guide shafts. Remove the Drum Index Springs
- 2- Install new Index Springs over the stainless steel guide shafts and replace Index Block "C".
- 3- Reinstall the Index Spring Assembly in the Print Drum with the large end of the white bushings facing up towards the open end of the Print Drum.
- 4- Reinstall the two Snap Rings.

PRINT DRUM INDEX MECHANISM MAINTENANCE

REMOVING AND REPLACING INDEX BLOCK “B”

If the Indexing Assembly Block “B” is removed during disassembly it must be realigned using the following procedure.

- 1- To remove Index Block “B” from the Print Drum, roll down the Drum Cover directly behind the Index Block to expose the Index Assembly Mounting Screw. Using a screw driver, turn the Mounting Screw in a clockwise direction until the Index Block becomes loose and can be removed.



FIGURE 44

- 2- Lift Index Block “B” straight up to remove.

The head of the Index Assembly Mounting Screw engages the T-Slot in Index Block “B”. This mounting design facilitates height adjustment of the Index Block during reassembly.



FIGURE 45

Note: Before replacing Index Block “B”, ensure that the Index Ring is properly adjusted.

- 3- Install the Index Ring by threading it onto the axle (turning it in a Clockwise direction) until it contacts the shoulder of the axle.

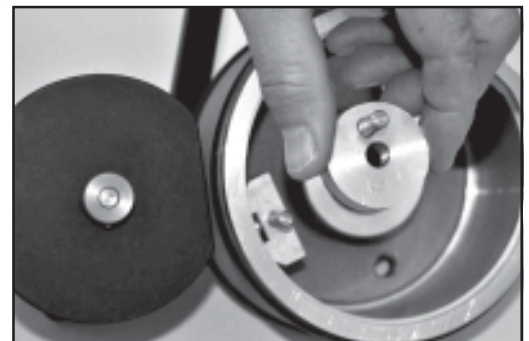


FIGURE 46

PRINT DRUM INDEX MECHANISM MAINTENANCE

- 4- If the Brass Tip Set Screw is not pointing in the direction shown in Figure 47, rotate the Index Ring in a Counter-Clockwise Direction until it points in the direction shown.

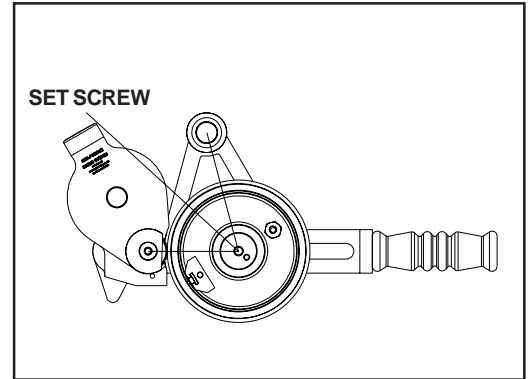


FIGURE 47

- 5- Tighten the Brass tip Set Screw securely to prevent the Index Ring from rotating when under spring tension.



FIGURE 48

- 6- When replacing Index Block “B” it is very important to align the top surface of the Index Block with the top surface of the Index Ring.

The easiest way to accomplish this is to hold a flat block of metal or wood across the top of the Index Ring. While holding the block in place, raise Index Block “B” up to contact the bottom of the alignment block.



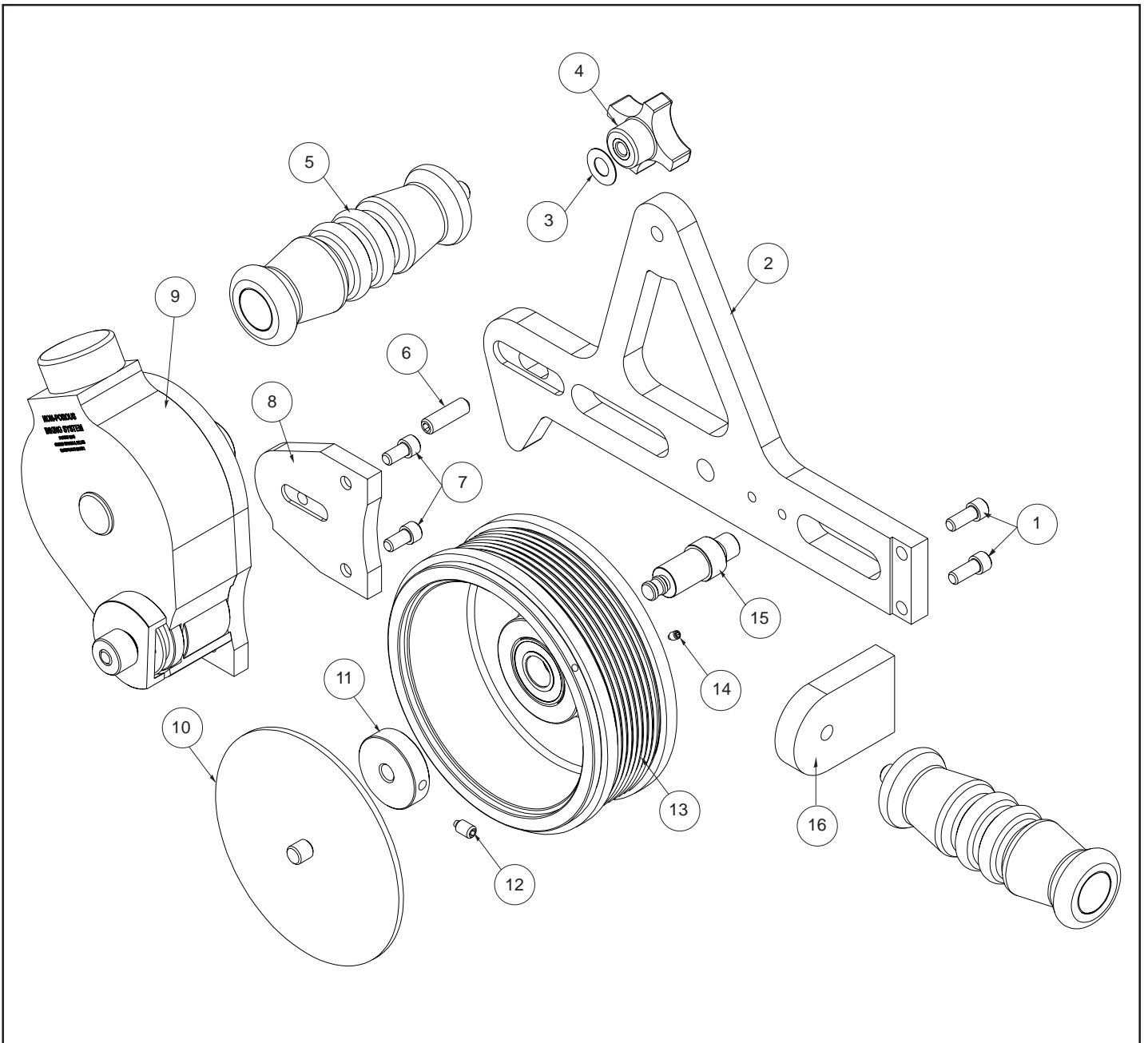
FIGURE 49

- 7- While holding Index Block “B” in this position, tighten the Index Assembly Mounting Screw by turning it counter-clockwise until tight.



FIGURE 50

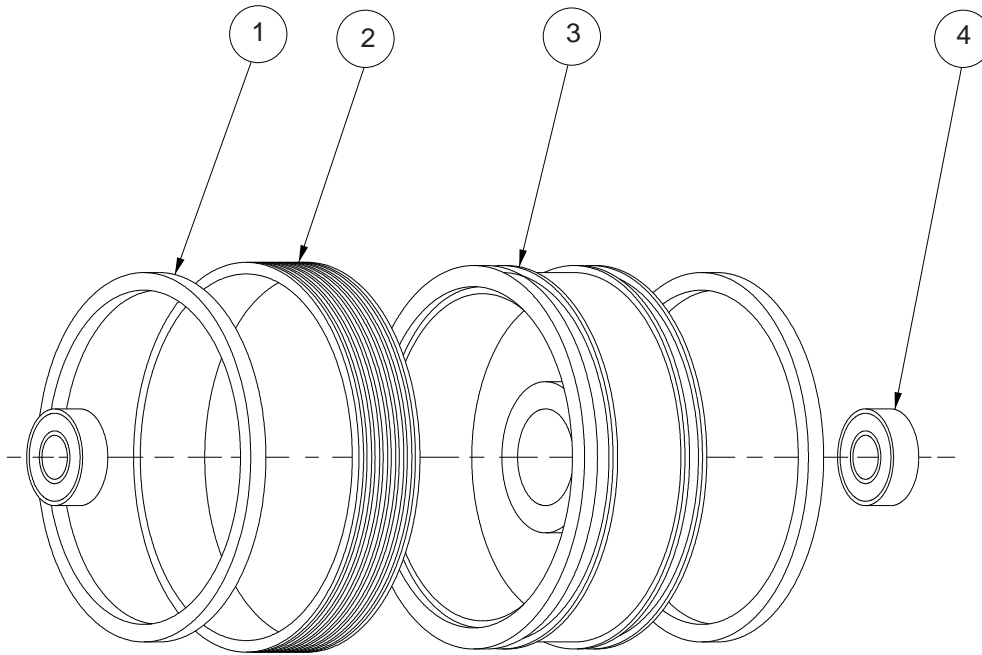
HPL-NP PRINTER ASSEMBLY



HPL-NP PRINTER

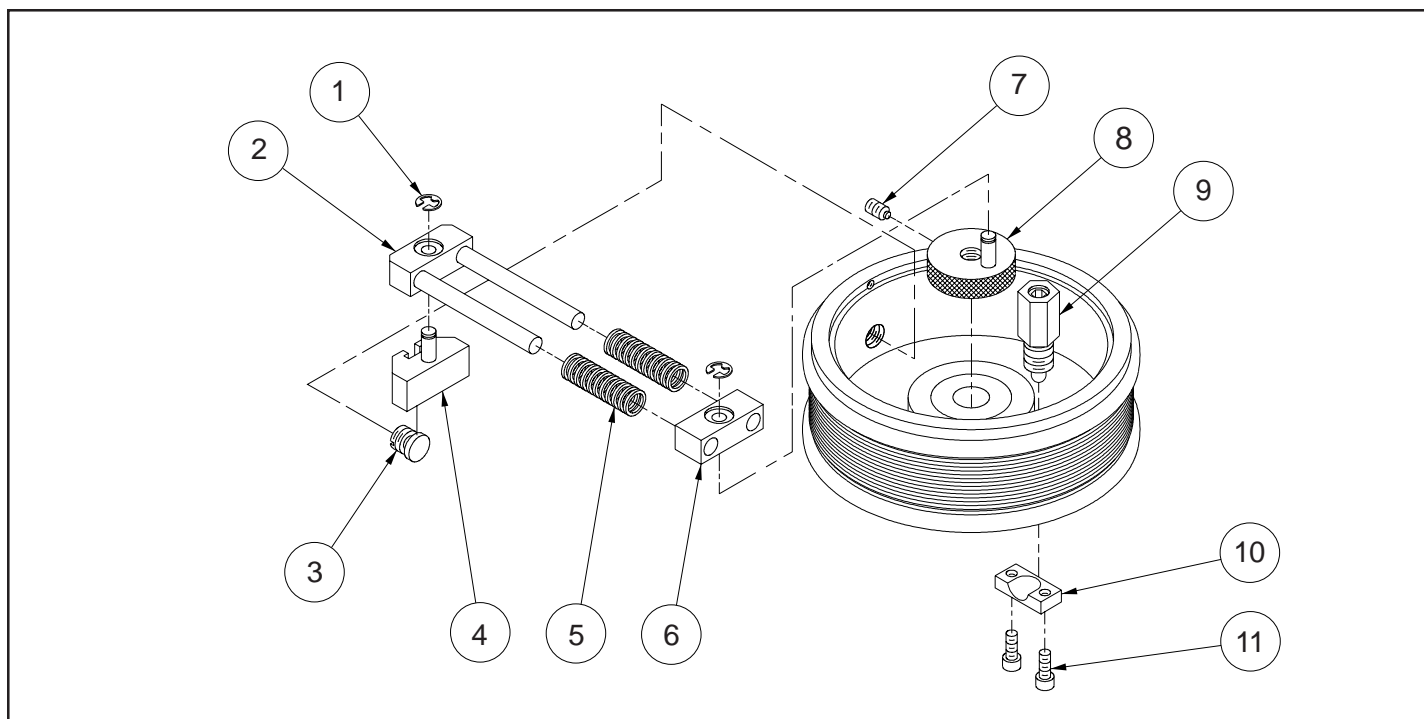
KEY NO.	PARTNUMBER	QTY. REQUIRED	DESCRIPTION
1	MC-02	2	SCREW, 1/4-20 X 5/8 LG SOC HD CAP
2	HPL-001	1	SIDE FRAME
3	HP-04	1	3/8" BRASS FLAT WASHER
4	MRM-CL20	1	KNOB
5	HPL-HA	2	HANDLE ASSEMBLY
6	USMR-032	1	SCREW, 5/16-18 X 1.250 CPSS
7	NP-23	2	SCREW, 1/4-20 X 0.5 SHCS
8	HPL-020	1	INKING SYSTEM MOUNTING PAD
9	HPL-100-NPIS	1	1" NON-POROUS INKING SYSTEM
	HPL-200-NPIS		2" NON-POROUS INKING SYSTEM
10	CM-13	1	DUST COVER W/ KNURLED KNOB
11	CM-04	1	KNURLED RETAINING KNOB
12	CF-04	1	SET SCREW, 1/4-20 X 3/8" LG B.T.S.
13	CLP-100NI-NP-PDA	1	1" NON-INDEXING PRINT DRUM ASSEMBLY
	CLP-100-NP-PDA		1" INDEXING PRINT DRUM ASSEMBLY
	CLP-200NI-NP-PDA		2" NON-INDEXING PRINT DRUM ASSEMBLY
	CLP-200-NP-PDA		2" INDEXING PRINT DRUM ASSEMBLY
	CLP-100NI-NP-PDA-T		1" NON-INDEXING PRINT DRUM ASSEMBLY - METRIC
	CLP-100-NP-PDA-T		1" INDEXING PRINT DRUM ASSEMBLY - METRIC
	CLP-200NI-NP-PDA-T		2" NON-INDEXING PRINT DRUM ASSEMBLY - METRIC
	CLP-200-NP-PDA-T		2" INDEXING PRINT DRUM ASSEMBLY - METRIC
14	CF-05	1	SET SCREW, 8-32 X 3/16" LG N.T.S.
15	HPL-005	1	1-1/8" PRINT DRUM AXLE
	HPL-006		2" PRINT DRUM AXLE
16	HPL-002	1	BACK FRAME

HPL-NP PRINT DRUM



KEY NO.	PARTNUMBER	QTY. REQD.	DESCRIPTION
1	CO-02S	2	BEARER RING
2	CLP-BL1	1	CLP/HPL-100-RIBtype® DRUM COVER
	CLP-BL2		CLP/HPL-200-RIBtype® DRUM COVER
	CLP-BL1T		CLP/HPL-100-RIBtype® DRUM COVER - METRIC
	CLP-BL2T		CLP/HPL-200-RIBtype® DRUM COVER - METRIC
3	CLP-PD1-NP	1	CLP/HPL-100 NON-INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS
	CLP-PD1I-NP		CLP/HPL-100 INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS
	CLP-PD2-NP		CLP/HPL-200 NON-INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS
	CLP-PD2I-NP		CLP/HPL-200 INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS
	CLP-PD1-NPT		CLP/HPL-100 NON-INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS - METRIC
	CLP-PD1I-NPT		CLP/HPL-100 INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS - METRIC
	CLP-PD2-NPT		CLP/HPL-200 NON-INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS - METRIC
	CLP-PD2I-NPT		CLP/HPL-200 INDEXING PRINT DRUM W/CB-04 PRINT DRUM BEARINGS - METRIC
4	CB-04	2	PRINT DRUM BEARING

HPL-NP INDEXING ASSEMBLY

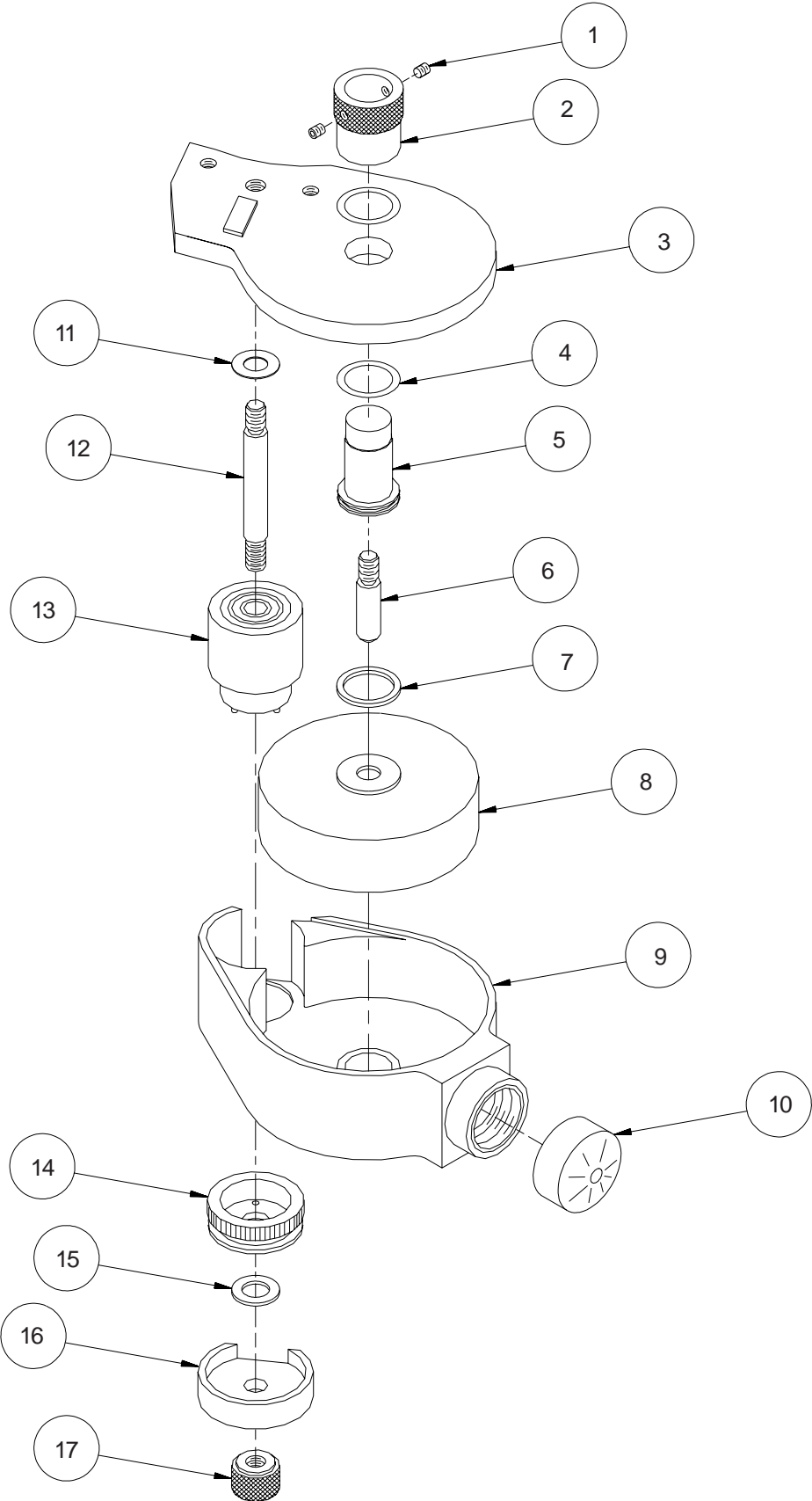


KEY NO.	PART NUMBER	QTY. REQUIRED	DESCRIPTION
1	CF-28	2	SNAP RING
2	CLP-IA	1	INDEX ASSEMBLY BLOCK "A"
3	CF-27	1	INDEX ASSEMBLY MOUNTING SCREW
4	CLP-IB	1	INDEX ASSEMBLY BLOCK "B"
5	CS-07	2	DRUM INDEX SPRING
6	CLP-IC	1	INDEX ASSEMBLY BLOCK "C"
7	CF-04	1	SET SCREW, 1/4-20, BTSS
8	CLP-IR2	1	INDEX RING ASSEMBLY
9	CLP-IP	1	INDEX PLUNGER ASSEMBLY
10	CM-34	1	INDEX RAMP
11	CF-29	2	SCREW, 10-32 X 1/2" SHC

HPL-NP SERIES REPLACEMENT INK ROLLS

CLP-SERIES	PART NUMBER	DESCRIPTION
HPL-100 SERIES	NP-XC1	1-1/8" XF NEOPRENE INK ROLL - DRY
	NP-MT1-P1	1" BLACK TYPE MT INK ROLL
HPL-200 SERIES	NP-XC2	2" XF NEOPRENE INK ROLL - DRY
	NP-MT2-P1	2" BLACK TYPE MT INK ROLL

HPL NON-POROUS INKING SYSTEM



HPL NON-POROUS INKING SYSTEM

KEY NO.	PART NUMBER	QTY. REQD.	DESCRIPTION
1	HP-06	2	SET SCREW, 8-32 X 3/16" CPS
2	NP-19	1	ECCENTRIC KNURLED KNOB
3	NP-04-RT	1	MC INKING SYSTEM BASEPLATE - RIGHT HAND TOP MOUNT ASSEMBLY
4	HP-42	2	DELTRIN WASHER
5	NP-20M	1	INK ROLL ECCENTRIC
6	NP-07	1	1" INK ROLL AXLE
	NP-08		2" INK ROLL AXLE
7	NP-21	1	ECCENTRIC O-RING
8	NP-XC1	1	1" XF NEOPRENE INK ROLL - DRY
	NP-MT1-P1		1" BLACK TYPE MT INK ROLL
	NP-XC2		2" XF NEOPRENE INK ROLL - DRY
	NP-MT2-P1		2" BLACK TYPE MT INK ROLL
9	NP-01-MRT	1	COVER ASSEMBLY, 1"
	MSC-CA2-NPLT		COVER ASSEMBLY, 2"
10	NP-29	1	BLACK VINYL CAP
11	HP-04	1	3/8" BRASS FLAT WASHER
12	NP-05	1	1" TRANSFER ROLL AXLE
	NP-06		2" TRANSFER ROLL AXLE
13	NP-TRA-1	1	1" TRANSFER ROLL ASSEMBLY
	NP-TRA-2		2" TRANSFER ROLL ASSEMBLY
14	NP-14	1	KNURLED DRIVE WHEEL - WITH DELTRIN WASHER
15	NP-15	1	DRIVE WHEEL DELTRIN WASHER
16	NP-16	1	DRIVE WHEEL COVER
17	NP-17	1	COVER RETAINING KNOB