

1) MACHINE SETUP

A) MOUNTING: A solid, non-vibrating base is required to secure the marking machine. Either the relative positioning or micro-adjusting bracket should be used. Should it be desired to directly mount the machine to the main frame a provision should be made to allow the marking head to be adjusted up and down to position the marking head with the surface to be marked.

Should either of the mounting brackets be selected the following procedures will outline the proper way to position the marking head:

- First insure that the mounting bracket is assembled with all adjustment ranges in their center position and each adjustment tightly secured.
- Mount the bracket securely onto the main frame of the machine and then secure the mounting bracket to the main mounting surface.
- Extend the marking head fully and check for side to side parallel alignment and adjust bracket accordingly. Next check for front to rear alignment and adjust bracket accordingly. Finally use a piece of paper under the marking head and cycle the marking head while adjusting the bracket from the up position to the down position to ultimately make a light surface contact.

NOTE: Do not adjust position of marking head with cylinder piston rod.

Should it be desired to mount the machine in the upside down position to mark in the "up" position an inverted ink reservoir should be used.

B) QUICK STARTING INK DISTRIBUTION: Fill the ink bottle and then twist on reservoir with ink pad installed. With pad up and tilted away from face, squeeze gently on bottle to force ink into the pad. Squeeze enough ink to flood the ink pad. Releasing the ink bottle will cause a vacuum action that will draw any excess ink back into the bottle. Place the ink bottle reservoir assembly into the frame with the marking head retracted. Lock into place with only a slight pressure forcing the ink pad to contact the rubber dies on the marking head.

C) ADHERING RUBBER CUSHION / GROOVED TYPE HOLDER: Some customers will prefer to operate with a rubber cushion between the marking head and the grooved type holder, while others will prefer to mount the grooved type holder to the marking head directly. Whichever preference, the adherence of the rubber should be done with care to insure the surfaces are clean and a good bond is made. Sprinter offers an adhesive designed to maximize bonding of either rubber to rubber or rubber to metal. Follow recommendations on adhesive bottle before using.

2) OPERATING CONSIDERATIONS

A) AIR PRESSURE: Air pressure should always be regulated to recommended levels necessary to operate the marking head thru the extended to retracted cycle. Normally this is about 20 psi line pressure.

A regulator and filter in the air supply line is recommended. It is necessary that the machine be operated with flow controls. Adjust flow controls to control the marking head speed for a "soft touch" mark and quick return.

B) CYCLING: The machine should be setup to cycle no more than the maximum speed specified. The actual cycle should be accomplished in the shortest possible time to minimize open time of the ink pad since quick drying inks are often used. The cycle of the marking head from the inking position to the marking position should be made using the full range of the piston stroke to insure the marking head can turn over and extend fully so as to lightly "touch mark" the surface. Signaling the marking head to complete the cycle can be accomplished by one of these general techniques:

- Timer switch
- Mechanical/electronic sensor

Retracting the marking head can be accomplished by one of the following general techniques:

- Reed/Hall Effect Switch (not available on Model 22/28)
- Pressure switch (a micro pilot actuator is available)
- Timer
- Electrical wiring diagrams for the Reed/Hall and micro pilot switch are supplied with equipment

C) INKS: Recommended general practices:

- Lids tightly sealed; stored away from light sources and at room temperature
- Shake well before transferring or installing
- Store any flammable inks away from heat sources
- Consult material safety data sheets for specific conditions in addition to those above

D) RUBBER TYPE: Do not mix worn type with new type as uneven character heights can cause poor print impressions

E) OPERATING SUPPLIES: For optimal results always use Sprinter ink, rubber type, rubber type holder, and ink pads.



MICRO SYSTEMS

3) MAINTENANCE CONSIDERATIONS

- A) CHANGING THE INK PAD:** The ink pad should give many cycles of use. Under normal operating conditions where the machine is run around the clock at moderate speeds the pad is normally changed once per day. To change a pad it is suggested that the ink bottle be refilled, then the pad replaced. Care should be taken when installing not to break any edges of the ink pad and insure it is positioned securely against the back surface of the reservoir.
- B) CHANGING THE INK BOTTLE:** The ink bottle should be changed when there is a slight amount of ink still visible in the bottle. After removing the reservoir refill the depleted bottle ink. If the ink pad has not been changed (with the ink pad in the up position) squeeze the bottle to force some air out to insure a vacuum before replacing. If the ink pad is also being replaced use the quick start procedures recommended above.
- C) CHANGING THE AIR CYLINDER:** Replacement cylinder order should specify cylinder number and Sprinter machine model number. Consult the factory for changing procedures to insure proper operation.

4) TROUBLE SHOOTING

A) MARKING IMPRESSIONS

PROBLEM	PROBABLE CAUSES	SOLUTIONS
<ul style="list-style-type: none"> • Not marking 	<ul style="list-style-type: none"> • No marking head contact • Not full piston stroke • Marking surface uneven • No ink supply • Marking head/surface not parallel • No contact ink pad/marketing head • Dry Pad 	<ul style="list-style-type: none"> • Adjust bracket to position marking head • Adjust timer or Hall/Reed switch • Check surface • Replace bottle and/or ink pad • Clear ink reservoir supply hole • Adjust machine orientation • Loosen ink reservoir and adjust contact • Replace Ink Pad
<ul style="list-style-type: none"> • Shadow mark 	<ul style="list-style-type: none"> • Hitting too hard 	<ul style="list-style-type: none"> • Adjust machine height
<ul style="list-style-type: none"> • Fading mark 	<ul style="list-style-type: none"> • Empty ink supply • Ink pad becomes loaded with pigments • Solvent in ink evaporated • Ink not mixed thoroughly 	<ul style="list-style-type: none"> • Replace ink supply • Replace ink pad • Replace ink • Shake ink before resupply
<ul style="list-style-type: none"> • Uneven mark 	<ul style="list-style-type: none"> • Marking head/surface not parallel • Rubber dies wearing unevenly • Rubber cushion uneven • Rubber dies loose 	<ul style="list-style-type: none"> • Adjust machine orientation • Replace rubber dies • Re-adhere rubber cushion • Re-seat dies / replace type holder
<ul style="list-style-type: none"> • Blurred mark 	<ul style="list-style-type: none"> • Machine vibration • Rubber dies distorted • Rubber dies worn out • Contacting too hard 	<ul style="list-style-type: none"> • Mount to solid frame • Replace rubber dies • Replace rubber dies • Readjust machine
<ul style="list-style-type: none"> • Ink pad flooding 	<ul style="list-style-type: none"> • Loose ink bottle • Hole in ink bottle/cap • Sudden temperature changes • Ink supply near depletion • Ink resupplied / pad same • Pad compressed beyond useful life • Pad not sealed and parallel to back of reservoir wall 	<ul style="list-style-type: none"> • Tighten bottle • Replace ink bottle/cap • Stabilize environment • Fill ink bottle • Wipe off excess ink until equilibrium • Replace pad • Seat pad properly
B) MACHINE OPERATION:		
<ul style="list-style-type: none"> • Marking head won't turn over 	<ul style="list-style-type: none"> • Spring broken 	<ul style="list-style-type: none"> • Replace and oil spring • Clean pivot shaft and spring
<ul style="list-style-type: none"> • Air cylinder not traveling full stroke 	<ul style="list-style-type: none"> • Seals worn 	<ul style="list-style-type: none"> • Replace cylinder • Check 4-way valve

**READ
FIRST**

- IMPORTANT -

**READ
FIRST**

1. The procedure and equipment used to mount the Sprinter marking machine must be given early planning consideration. There are three possible mounting options. Two of these options are provided in optional mounting brackets as shown in the machine selection guide. Either bracket provides a five-axis (two pivoting, three sliding) adjustability normally required to adjust and align the marking head. It is highly recommended that one of the two types of optional brackets be used to assure required machine adjustability. A third (less common) mounting option is to mount the machine directly to the frame body or a locally designed bracket. In this option a provision must be made in mounting the machine so that the marking head can be easily adjusted and aligned with the surface to be marked. In all these various mounting techniques considerations such as size of area to be marked, variations in the surface to be marked, clarity/repeatability of the mark, etc. need to be reviewed with a factory representative for appropriate recommendations.
2. All machines should be mounted on a solid frame to eliminate vibration which can cause distortions.
3. When setting up machine with marking head fully extended use the micro-adjustment feature (there is over 1/2" of travel adjustability in this axis) on the mounting bracket to make contact with product. Requirements for larger adjustments in marking head position should be provided in the frame used for mounting. A switch should be provided for single cycle operation to aide in this adjustment.
4. The ink pad and reservoir should be allowed to freely adjust with marking head before being locked into place. Only light pressure is needed for the ink pad to distribute ink. Heavy pressure can cause ink to flood the pad.
5. The ink supply bottle should always be in the inverted position except when the marking head must travel up to mark. If the machine is to be mounted so the marking head travels upward a special reservoir is available to feed the ink by capillary action to the pad.
6. The four-way valve should be mounted near the machine so the operator may easily disconnect air supply to manually move marking head for marking head changes. The flow controls should be the meter-out type.
7. A pressure switch or timer may be used to return the marking head to the retracted position. During times of non-operation, normal air pressure will maintain a seal to assure the ink pad does not become dry. If there are periods of no line air pressure the ink reservoir assembly should be removed and positioned on a flat surface to preserve sealed ink system.
8. Quick drying (seconds or less) inks necessitate use of quick machine cycle speeds to reduce "open time" in reservoir preventing premature ink drying in pad. Ideally the retracted-extended-retracted marking head cycle should be accomplished in 1 to 2 seconds. In some cases quick drying inks needs to be dried instantaneously for next step operation (e.g. packaging overwrap). This can be facilitated with heat and or air movement (i.e. commercial heat blowers) directly on the surface after it is marked.
10. Contact time of rubber die(s) to marking surface should be the minimum possible time. Ideally the transfer of ink from rubber dies to surface to be marked should be instantaneous.
11. Always shake ink bottle well before transferring ink to ink supply bottle. Store ink away from light and keep tightly sealed. Inks are flammable liquids and should be stored away from heat sources. Ink shelf life is one year, rotate stock regularly. Ink should be stored at room temperature. The ink supply bottle should be removed and shaken every 8 hours of operation to disperse pigments.
12. Rubber type continually compressing the pad with one message may leave outline of print in pad which upon change to new message may not immediately provide uniform ink distribution to all rubber type surfaces. Normally a few manual cycles of the rubber type to the pad will return pad to uniform ink distribution mode. Turning the pad over or replacing the pad can quicken this procedure in some cases.

REMEMBER BRIEFLY

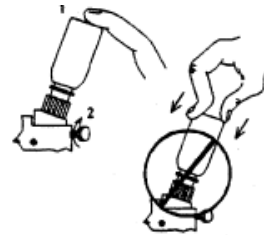
- Minimum air pressure
- Cycle quickly
- Adjust for "soft-touch" mark
- Change ink pad daily



1. 20 PSI operating pressure.
(40 PSI for Model 22).



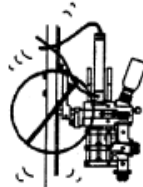
2. Marking head retracted
when not in use.



3. Minimum pressure on reservoir.



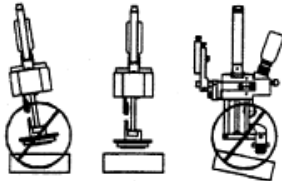
4. Minimize cycle time
(less than 1 second).



5. Mount on solid,
non-vibrating frame.



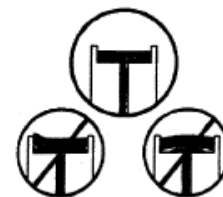
6. "Quick start" ink by squeezing
bottle until ink saturates pad and
release to remove excess ink.



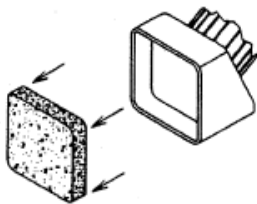
7. Rubber dies must be parallel
to marking surface.



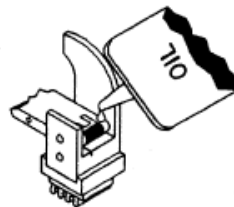
8. Upside down marking
requires wicking reservoir.



9. Ink pad must be flat.



10. Change ink pad as needed.



11. Oil spring routinely.



12. Always shake ink bottle(s)
before installing.



13. Store ink inside cabinet/room
temperature and secure with lid.



"A" loosen reservoir
locking thumb screws
remove reservoir assembly



"B" hold reservoir assembly, ink pad up
grip bottle cap / untwist bottle
fill and reverse procedure to re-install

14. Change/add ink: