



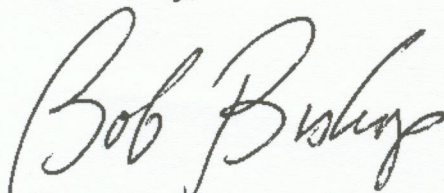
AUTOMATIC INK CODE-MARKING MACHINES

Dear Prospective Customer,

We appreciate your interest in our Sprinter® ink marking equipment. After you have reviewed the enclosed literature, we believe you will find that the compact / simple design and unique patented reciprocating motion are well suited to satisfying your ink code- marking needs. It is our belief that Sprinter ink code-marking machines will complete your ink code-marking requirements more effectively and at less overall operating cost than any comparable system. The machine tool standards of quality manufacture assures years of machine use with little maintenance.

We would be glad to work through an analysis of your marking requirements and provide a recommendation on the appropriate Sprinter equipment and accessories at your convenience. In the meantime, if there are any questions not answered in the enclosed literature please feel free to contact us.

Sincerely,

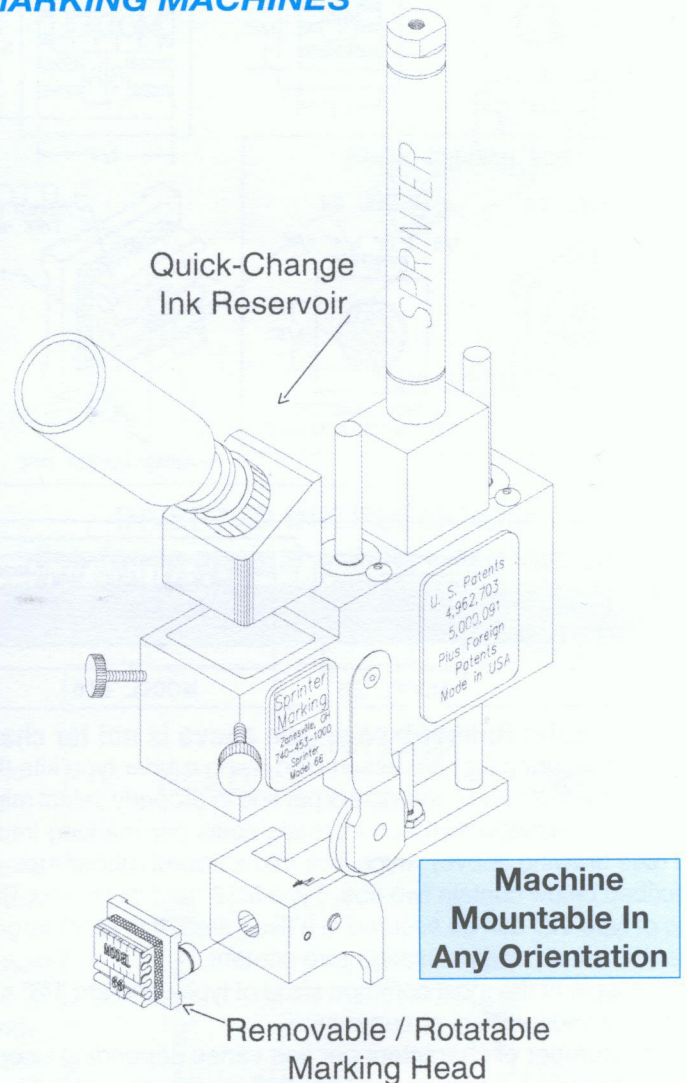
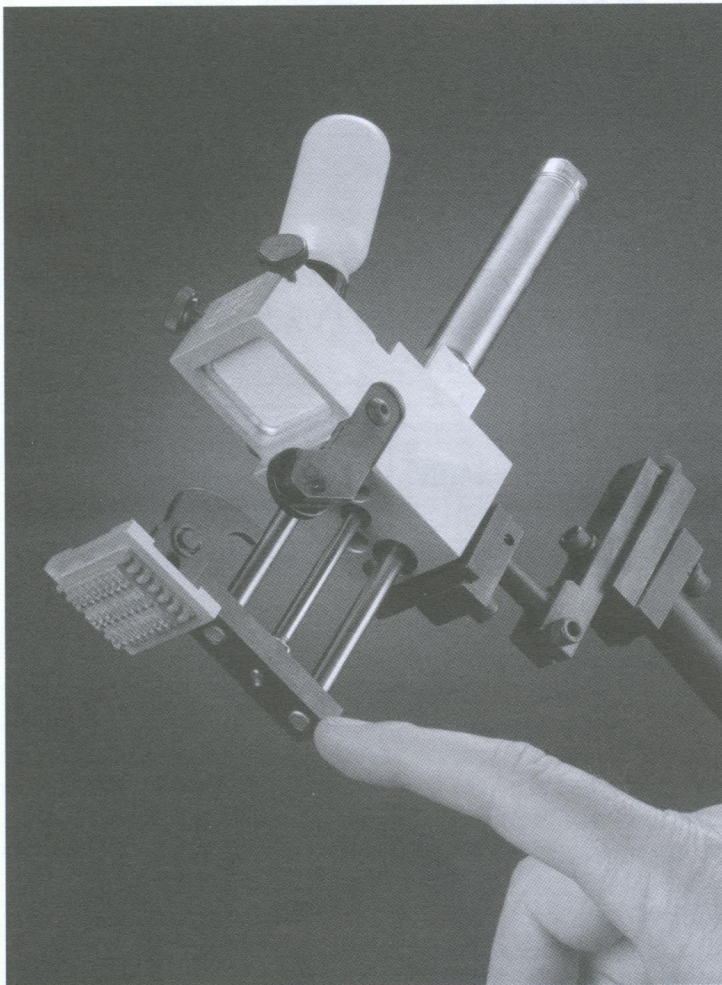

Bob Bishop

SPRINTER MARKING

SPRINTER[®]

MACHINE SELECTION GUIDE

AUTOMATIC INK CODE-MARKING MACHINES



Sprinter Model 88 Pictured

APPLICATIONS

TYPES OF MARKS:

- Date / Product coding
- Dot / Spot marking
- Logos / Symbols
- Lot Numbering
- Part Numbering
- Pass / Fail Marking

PRODUCTS MARKED:

- Plastic, metal, glass
- Rubber products
- Paper / Cardboard
- Form / Fill / Seal Containers
- Flexible / Rigid containers
- Films

SURFACES MARKED:

- Porous
- Non-porous
- Stationary
- Moving (inquire)
- Flat
- Curved / Round (inquire)

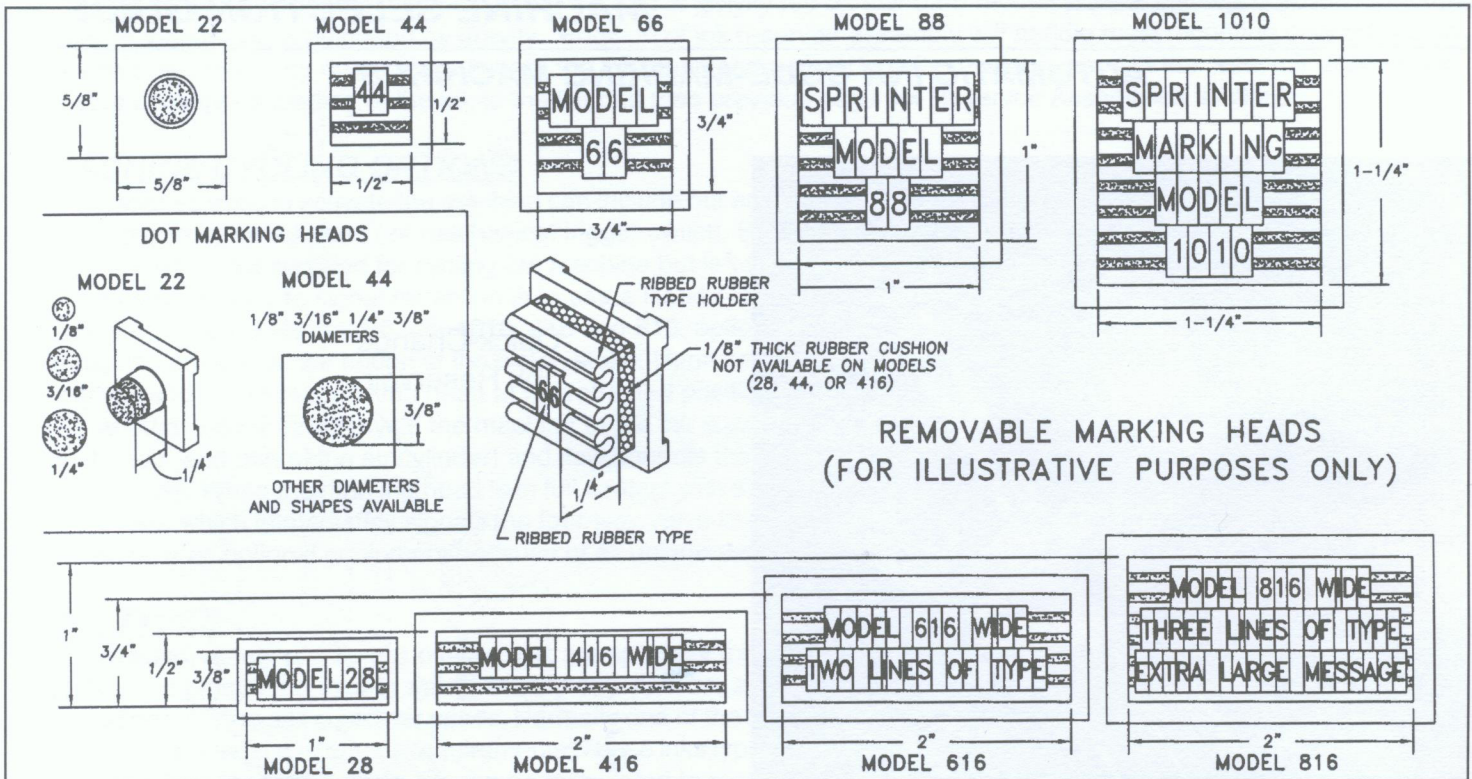
www.sprintermarking.com

RUN A SPRINTER IN YOUR CODE-MARKING APPLICATIONS

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SPRINTER MACHINE SELECTION CRITERIA

Sprinter machine model selection is based upon choosing the smallest marking head that will deliver the required message. Illustrated below are the nine standard machine model marking head formats based upon print size area:



Note: Rubber type shown above is not for character sizing purposes. Refer to the chart below.

For messages that are assembled using rubber type kits (letter / number kits), consideration has to be given to the number of lines and the number of characters per line to properly select minimum size marking head / machine. Greatly oversizing the machine for a small message size can increase costs per marking impression without corresponding benefit. Rubber type is secured by ribs (see drawing above) which lock into a ribbed rubber mat. All rubber type has a minimum of two ribs. The seven sizes of type described below contain two ribs. Type 5/16" and larger (not illustrated below) contains a minimum of three ribs thus reducing the lines of type that can be secured in a fixed area. If 5/16" or larger type is being considered consult factory for guidance on machine selection based upon message size content.

A couple of the most common sizes of type used are 1/8" and 9/64" which typically provide a very clear, easily read ink code-mark on a wide variety of surfaces.

The number of characters per line varies depending upon the size of the type selected (larger height type has wider width) and the specific type character (e.g. "W" is wider than "I"). The chart below shows approximate character height for the letter "S" for seven common type sizes. The chart also provides a guide to both typical ("8" was selected) and maximum ("W" is widest) characters that can be accommodated by a specific Sprinter Model. It is recommended to select the next larger machine model on tight fits.

NUMBER OF CHARACTERS PER LINE OF TYPE BY MACHINE MODEL NUMBER

MACHINE MODEL →	44		66		28 / 88		1010		416 / 616 / 816	
	W	8	W	8	W	8	W	8	W	8
S 1/16"	4	5	5	7	8	10	9	13	17	22
S 5/64"	4	5	5	7	8	10	9	13	17	22
S 7/64"	3	5	4	7	6	10	7	13	13	22
S 1/8"	3	4	4	5	6	8	7	9	13	17
S 9/64"	3	5	4	7	6	10	7	13	13	22
S 3/16"	2	4	3	5	5	8	6	9	11	17
S 1/4"	2	3	3	4	4	6	5	7	9	13

SPECIFICATIONS

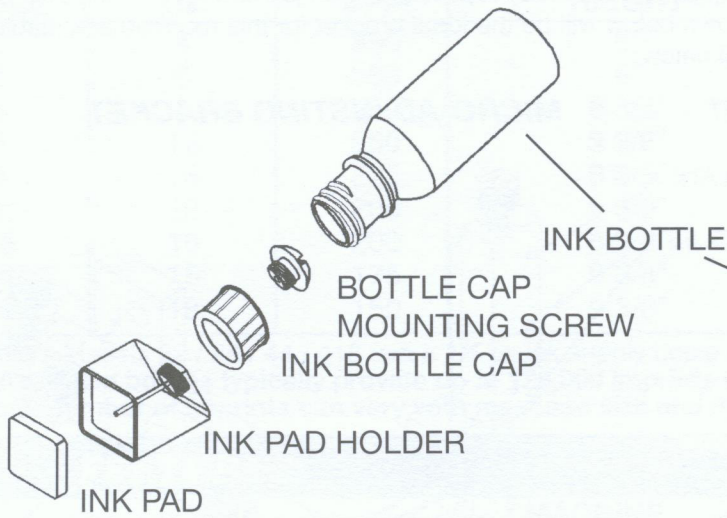
POWER: Compressed air - 20 PSI

SPRINTER MODEL	WEIGHT OZ	SPEED CPM	DIMENSIONAL ENVELOPE (Marking head extended)		
			HEIGHT	X WIDTH	X DEPTH
22	4	350	6"	5/8"	2"
28	6	350	6"	1 3/8"	2"
44	8	350	8 3/8"	3/4"	2 3/8"
66	13	250	9 3/8"	1"	3"
88	16	225	9 3/8"	1 3/8"	3 5/16"
1010	22	200	9 3/8"	1 5/8"	3 9/16"
416	10	200	8 3/8"	2 1/2"	2 3/8"
616	15	175	9 3/8"	2 1/2"	3"
816	18	150	9 3/8"	2 1/2"	3 3/8"

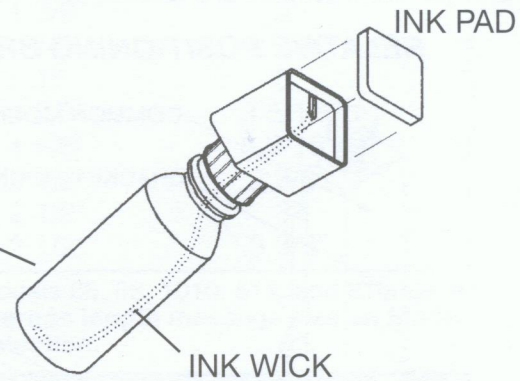
INK SUPPLY: Models 22 / 28 / 44 / 416 use a 1/4 oz ink supply bottle while models 66, 88, 1010, 616, and 816 use a 1/2 oz bottle. **Filled bottles typically provide up to 125,000 imprints of an average length message size on Model 66. Average number of imprints can vary with message size and model selection.**

FEATURES	BENEFITS
MACHINE	
<ul style="list-style-type: none"> • Simple design • Compact design • Lightweight marking head • Hardened wear surfaces • Hardened rods / bearing 	<ul style="list-style-type: none"> • Smooth / repeatable marking • Mounts in confined areas • Low pressure / better marks • Millions of cycles • Smooth action / minimum wear
MACHINE ACTION	
<ul style="list-style-type: none"> • Double acting air cylinder action • Small air cylinder • Unique / patented motion • Specially designed spring to rotate marking head • Magnet-on-piston air cylinder available (all except model 22) • Optional flow controls mount on the air cylinder 	<ul style="list-style-type: none"> • Controlled cycling action • Minimal compressed air • Smooth / high speed marks • Assures millions of cycles before replacing • Option of Hall / Reed effect switch to sense positions • Variable speed control in either direction
MARKING HEAD	
<ul style="list-style-type: none"> • Removable / rotatable marking head • Rubber marking type / dies 	<ul style="list-style-type: none"> • Quick message change • Excellent ink imprints
INK SUPPLY	
<ul style="list-style-type: none"> • Quick-change ink reservoir • Sealed ink system • Quick-change ink pad • Clear ink bottle • Screw-on ink bottle • Modified reservoir 	<ul style="list-style-type: none"> • Fast change of ink supply • Immediate start-up • Uniform prints / low cost • Supply level visible • Quick / easy changes • Upside down marking
MOUNTING ARRANGEMENT	
<ul style="list-style-type: none"> • Two standard brackets • Narrow profile brackets • One tool bracket adjustments 	<ul style="list-style-type: none"> • Complete range of alignment • Mounts in confined areas • Quick / easy adjustability
OPTIONAL EQUIPMENT / SUPPLIES	
<ul style="list-style-type: none"> • Standard list of stocked equipment / supplies 	<ul style="list-style-type: none"> • One source availability / quick delivery service

SPRINTER INK RESERVOIR ASSEMBLIES



STANDARD INK RESERVOIR
(Ink feeds with gravity assistance)



INVERTED INK RESERVOIR
(Ink feeds against gravity - see last page)

MODIFIED MACHINE MODELS

EXTENDED HEAD AND STROKE MODELS

Most models can be extended in the rod stroke length. Additionally the marking head itself can be extended for difficult to reach or recessed areas. Drawings of typical extended stroke and extended head marking machines are shown to the right.

Cylinder stroke extensions of 1", 2", and 4" are standard and are often used when the machine must set back further from the surface to be marked than standard machines.

A 1" extended head is available as a standard option on most models and is used primarily to mark in recessed areas.

Please note that extended machines may have correspondingly higher overall heights, somewhat slower cycle speeds, and precision of marking registration can become slightly more variable with longer extensions.

Dimensional drawings are available upon request.

MADE-TO-ORDER MODELS

Many models have been made to fit specific marking applications. Several common modifications to both the basic and extended models have been split reservoirs, metal heads, and special marking heads for marking on tubular surfaces.

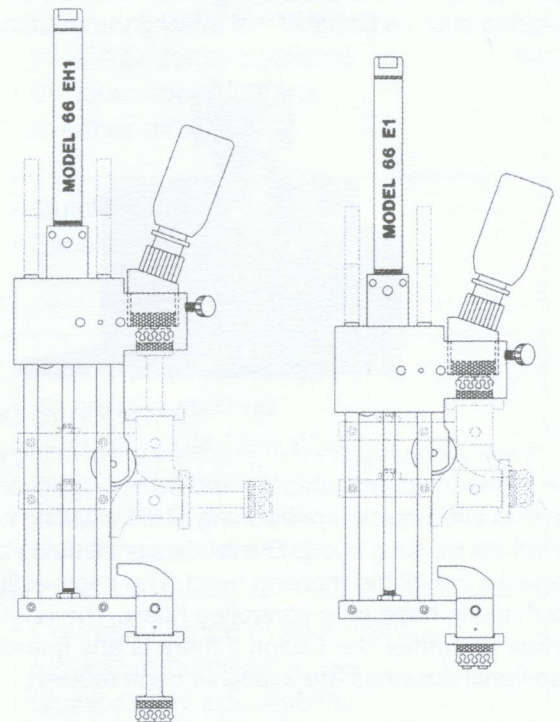
Split reservoirs are used to distribute different colors or types of ink with the same motion of the marking head.

Metal heads of various designs have been made for marking on typically rubber or conformable surfaces.

Additionally, modified heads to mark as much as one third the way around tubular surfaces have been designed.

Since each application tends to be different, it is best to consult your Sprinter representative on specifics of the application so a feasibility study / quotation may be prepared. Single machine trials are recommended for initial orders.

EXTENDED HEAD STROKE

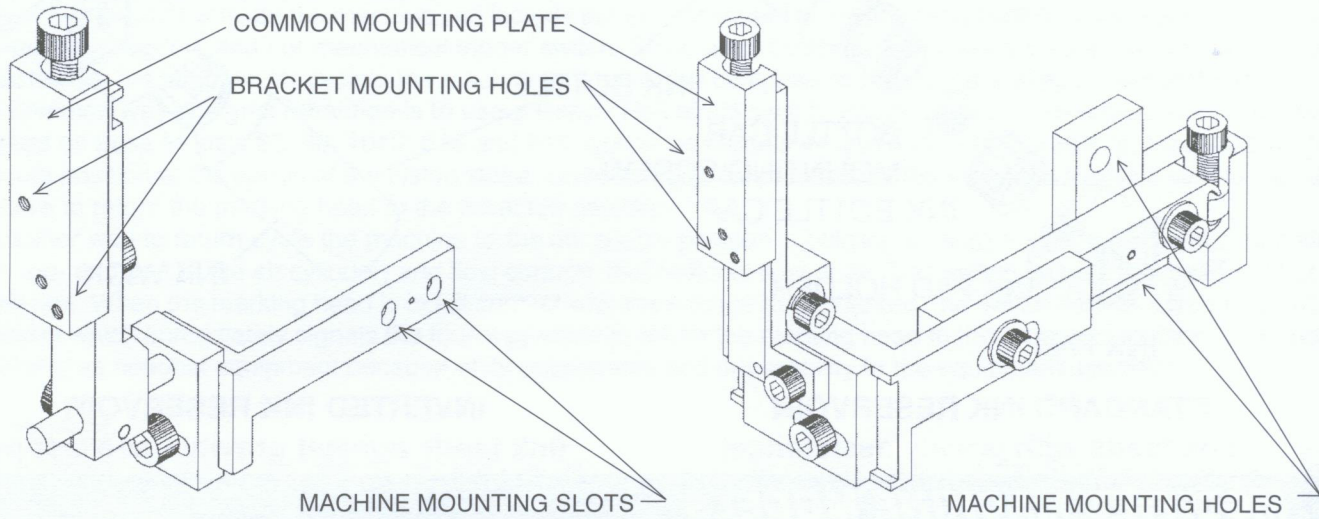


MACHINE MOUNTING OPTIONS

For optimal Sprinter machine performance, it is highly recommended that one of the brackets shown below be used. This will assure the marking head can be aligned and positioned accurately with the surface to be marked. These brackets will allow for changes in parameters of manufacturing conditions and easy repositioning on job changes. In the vast majority of arrangements the relative positioning bracket shown below will be the ideal bracket for this required adjustability. The brackets are illustrated and discussed in more detail below:

RELATIVE POSITIONING BRACKET

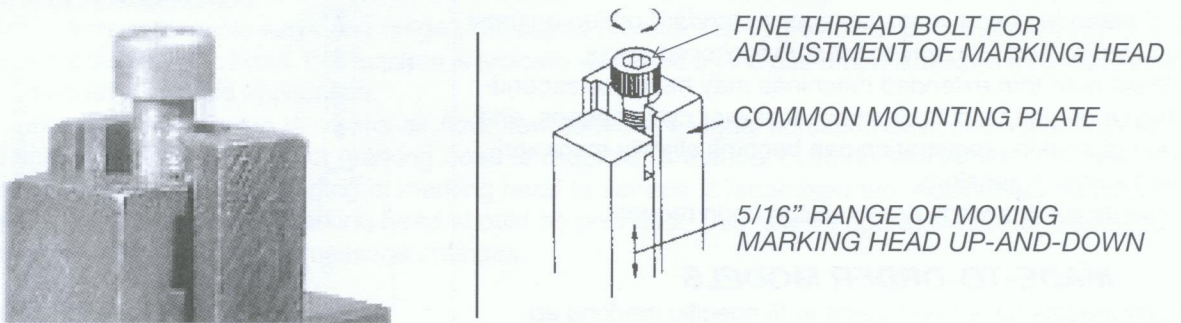
MICRO-ADJUSTING BRACKET



Review Sprinter Model Dimensional Drawings for more details on bracket adjustability as well as dimensional parameters.

Optimum clarity of marks are obtained with parallel and lightest possible contact of the marking head with the surface to be marked.

MOUNTING BRACKET DETAILS: Either bracket provides a five-axis (two pivoting, three sliding) adjustability. This adjustability is 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. Two similar types of brackets are offered. These are designated as the relative positioning bracket and the micro-adjusting bracket (refer to above illustration). Either bracket has the same micro-adjustability of moving the machine up-and-down to adjust for precise marking head contact as depicted below:



Common to both mounting bracket options.

Each mounting bracket provides a swiveling action of the marking head from front-to-back and left-to-right. In addition to the micro-adjustability and swiveling action, each bracket has a front-to-back and left-to-right 5/16 inch range of travel to allow quick repositioning of the marking head. The difference between the two brackets lies in the mechanism to swivel the marking head. The relative positioning bracket relies on manual adjustment to loosen the appropriate bolts and manually swivel the marking head. The micro-adjusting bracket provides a controlled "fine tuning" capability of swiveling the marking head on a controlled basis. The relative positioning bracket is ideal for the majority of applications. Consult factory for further discussion if there is any question on which bracket might be more suitable. Machine and bracket dimensional drawings are available upon request.

If either bracket would not fit into restricted space requirements, caution must be exercised in any alternate mounting technique to assure that all the adjustability and alignment of the marking head as outlined above is maintained. Optimum clarity of marks are obtained with parallel and lightest possible contact of the marking head with the surface to be marked.

ADDITIONAL CONSIDERATIONS

MACHINE MOUNTING ORIENTATION

The ink supply from the ink bottle to the ink pad is gravity fed on standard models. Any mounting orientation is possible as long as ink is being fed by gravity. Rotation of ink reservoir assembly will handle most mounting orientations. In upside down mounting orientations (where the ink must feed against gravity) a wick is used in the reservoir assembly to assure continuous feeding of the ink to the ink pad (see previous page Ink Reservoir Assemblies section).

MACHINE CYCLING OPTIONS

Switches used to activate the machine can include but are not limited to the following methods: mechanical / electrical timer, proximity switch, and / or mechanical trigger switch. Since each customer can have a different preference, a common system is not supplied for cycling the machine but left to the customer to determine the most ideal method.

A common way to signal retraction is to use a Reed / Hall effect switch, which senses when a magnet on the piston (standard on base Models 66, 88, 1010, 616 and 816; option on Models 44 and 416; not available on Model 22/28) has come into position at the bottom of the piston stroke. Upon sensing the proximity of the magnet a signal is sent to the four-way valve to return the marking head to the retracted position.

Another way to return cycle the machine to the ink supply position is utilizing a micro-pilot actuator switch (installed on the rod- end port of the air cylinder) and flow controls that restricts flow of air. This switch senses the movement of air thru the line. When the marking head is in full contact with the surface to be marked, the switch senses an absence of air movement which immediately signals the four-way valve to return the marking head to the retracted position. This switch is available as optional equipment because of its uniqueness and applicability to the equipment operation.

INK TYPES

A broad variety of inks are offered that are specially formulated for compatibility with the Sprinter. A complete stock of dye and pigmented inks to mark virtually any surface, absorbent or non-absorbent, is available in a range of colors (including white) to suit customer needs. Normally one of the standard Sprinter alcohol-based (dye and / or pigmented) ink grades meets most customer's requirements. These inks typically are dry-to-touch in 2 seconds or less on most nonporous surfaces. If necessary, custom ink can be formulated to meet your specific marking needs.

OPTIONAL EQUIPMENT / MARKING SUPPLIES

Marking Head ~ Ink Reservoir Assembly ~ Mounting Bracket ~ Micro-pilot Actuator Switch ~ Four-way Valve ~ Reed / Hall Switch ~ Ink (1/4 oz & 1/2 oz btl, pt, qt) ~ Ink Pad ~ Ink Bottle / Cap ~ Rubber Type ~ Rubber Type Holder ~ Rubber Cushion

MACHINE INSTALLATION

Due to the numerous possible ways and range of customer preferences to provide a control system that both extends and readily retracts the marking head, this function is typically assumed by the customer. If desired a control system package can be quoted for a specific application.

At a minimum a four-way valve to control air flow, flow controls, a signal actuation device to initiate marking action, and a signal actuation device to retract marking head is required. A manual override switch near the operator station to extend the marking head for positioning of marking head to surface is recommended. Additionally a shut-off valve to release air pressure from retracted marking head should be provided. This allows operator ease of extending marking head to remove the marking head for message changes.

WARRANTY

All units are warranted to operate free of defects for a period of one year from date of delivery. Within the warranty period no charge will be made for either parts or labor should any part of the assembly become defective through normal use. Request for return of any unit for warranty claims must first have factory authorization.

Sprinter Marking Machines are covered by US patents 4,962,703 and 5,000,091 and Canadian patents 1,321,102 and 2,019,999. Sprinter is a registered trademark of Sprinter Marking, Inc.

Sprinter Marking, Inc. reserves the right to alter design and / or specifications of all machines without notice as part of ongoing product improvement / development. All equipment is made in United States of America.

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