



Knitting Machine Terminology

Understanding the terminology for machine knitting is important for the understanding of written patterns made for machine knitters. Over the years, with the advancement of technology new knitting machines have influenced a change, modification, or the creation of new terms for the machine knitter. The understanding of these terms becomes important for not only the interpretation of the pattern, but for the recognition of which types of patterns are suitable for the knitting machine you are using.

Below you will find a list of terms suitable for most Japanese knitting machines referenced to quite frequently in most popular machine knitting publications, American and English. Please note that some symbols have more than one definition and is defined by its context.

A	symbol used to refer to the first contrast color used
A/H	Armhole
Alt	alternate
alt	alternate(ly)
B	symbol used to refer to the second contrast color used
B/H	buttonhole
BH	buttonhole
BB	back bed
Beg	beginning
BET	between
BK	back
BO	bind off
BOLT	Slip Stitch bind off with a latch tool
C off	cast off
C on	cast on
C	symbol used for the third contrast color used
CAL	carriage on left
CAR	carriage on right

Carr	carriage
CC	contrast color
cm	centimeters
CO	cast on
COBH	cast on by hand
col	color
con	contrast
CONT	continue
cont	continue
DB	double bed
DEC	(dec) decrease
DECR	Transfer on edge stitch to the next needle, or two stitches to the next two needles
DK	double knit
E/N	every needle
E/R	every row
EON	ever other needle
EOR	every other row
EOST	every other stitch
Ev	(ev) every
FA	feeder A
FB	feeder B
ff	(FF) fully fashioned
FNP	first needle position
FNR	full needle rib
Foll	(foll) following
g	(gm)grams
G.B.	(G-bar) garter bar
GC	garter carriage
G-carr	(G.C.) garter carriage
H	hold
HP	half pitch
HP	hold position
In(s)	inch(es)
Inc	increase
INC	increase
K	knit
KH	main bed (knitting carriage)

K carriage	knitting carriage
KWK	knit across, wrap, knit back
LHS	left hand side
LPC	lock punch card
M	main color
MB	main bed
MC	main color
mm	millimeters
MT	main tension
N	needle(s)
NB	needle bed
ND	neck
NDL	needle
ndl(s)	needles(s)
Ndls	needles
NWP	non-working position
OPP	(opp) opposite
OWP	out of work position
oz	ounces
P	(PI) Plain
P	purl
patt(s)	patterns
PC	punch card
PK	partial knit
PI	(P) plain
PM	place marker
PU	pick up
RB	ribber bed
RC	row counter
RC	row counter
RC	row counter
rem	remaining
rep	repeat
RH	rehang
RHS	right hand side
RP	rest position
RPc	release punch card
RS	right side

RT	rib tension
S/R	short rows
SR	short row
SB	single bed
SD	stitch dial
SH	shoulder
SHR	short row or Partial knitting
SI	slip
SR	(SHR) short row
SS	stitch tension
St st	stocking stitch
St(s)	stitch(es)
ST-RS-X'S	stitches-rows-times
st-st	stocking stitch
T	tension
TD	tension dial
TEN	tension
tog	together
TR	turning row
Trans	(trans) transfer
UWP	upper working position
W	work
WP	work position
Ws	wrong side
WY	waste yarn (sometimes referred to as scrap yarn)
X	times
YF	yarn feeder
YM	yarn marker
YO	yarn over

Getting to Know Your Knitting Machine

Understanding How Your Knitting Machine Works

Basic Functions:

Common to all knitting machines is needle position. At the end on each knitting bed you will notice the letters A, B, D, E. Needle position provides a way to divide your needles so that some stitches knit and others create a pattern or shape to your knitted fabric. The carriage controls the needle position through the use of a selection mechanism called levers. These levers are found on both knitting carriages. It is through the action of the levers that needle position is converted to a specific type of stitch such as stockinet, Fair Isle, slip and tuck.

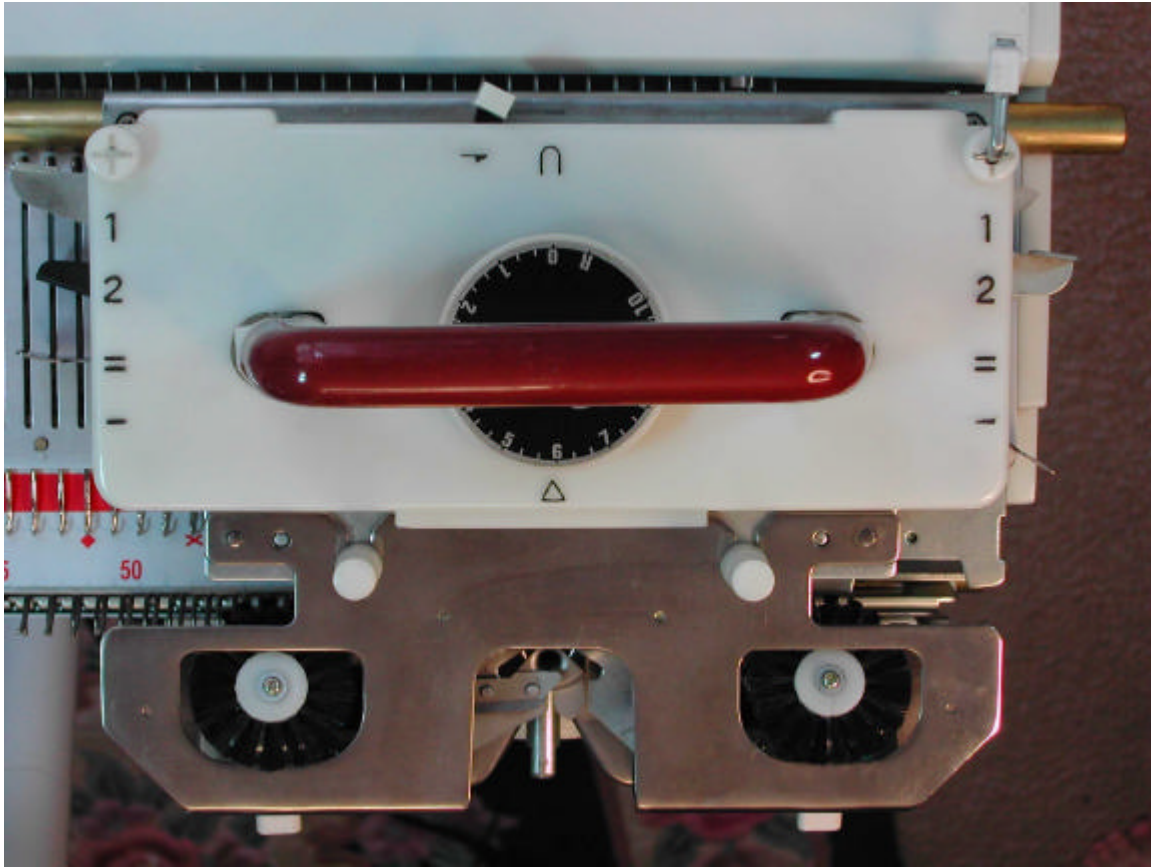
A Position- is often referred to as Out of Work Position or Rest Position. These needles stay in this position when they are not used in your knitting. This position is universal to both knitting beds.

B Position-is the position that is referred to as work position. This is a universal needle position to both knitting beds. While knitting with either carriage, it is in this position that the needles return to when the side levers and hold levers are not engaged or working.

D Position- or upper working position is a pattern position used when knitting with the 70D intarsia carriage. The needles are automatically returned to this position as the intarsia carriage moves across the needles in B or D position.

E Position-is referred to as hold position. It is in this position that stitches on both needle beds are not knitted while the Hold Levers on the knitting carriage are engaged or in = position. This position is often used while knitting in pattern and for shaping your knitting. This needle position is universal to both knitting beds.

The Main Bed



On each side of your carriage for the main bed you will notice two levers, the Side Lever, which controls the needles in B or "Work Position," and the Hold Lever that controls the needles in E position, or the "Hold Position."

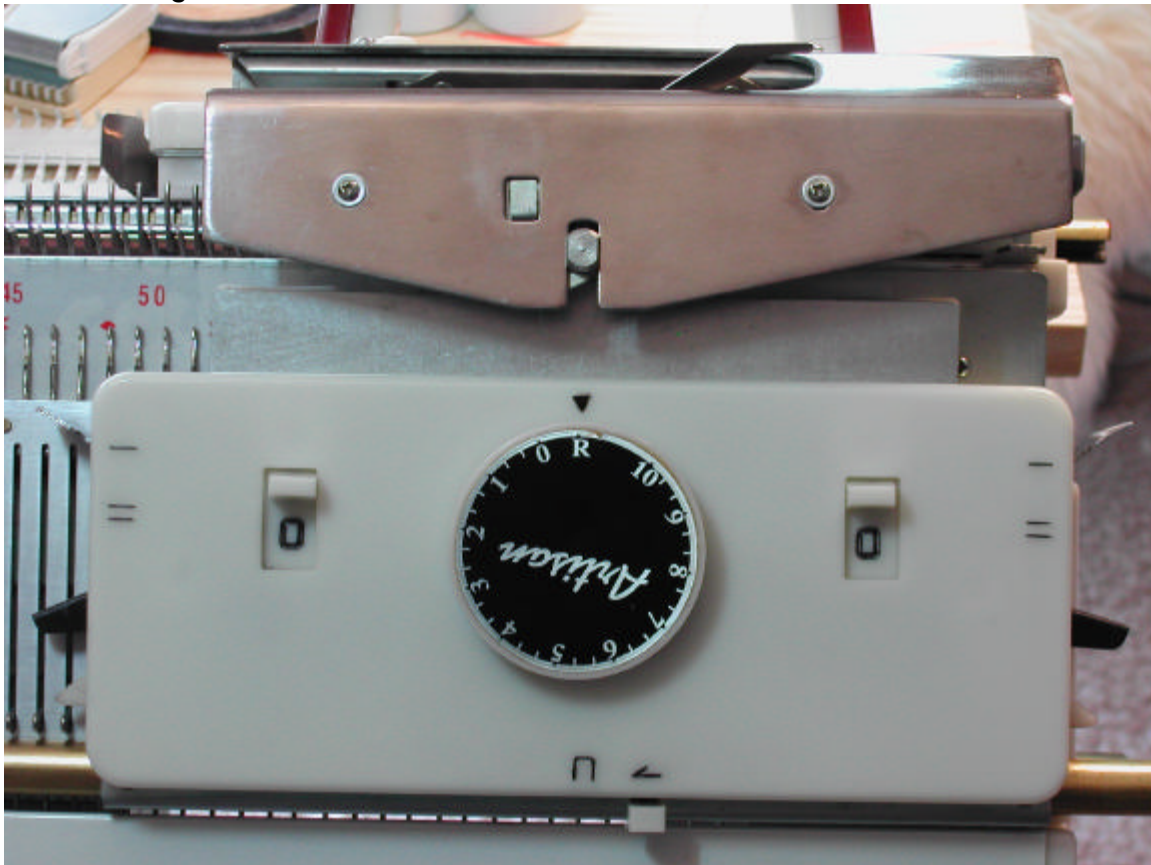
The Single Bed Sinker Plate contains the yarn feeders or channels that feed the yarn into the needles in the work positions. It attaches to your main bed carriage.

Side Lever: The Side Lever controls the needles in B position. When set on either side of the knitting carriage to number 2, the needles in B position do not knit on that side while knitting in that direction. This lever is used to "make a free pass" across needles in B or working position. It is placed in position 1 when knitting in plain stockinet. They are located on the upper front sides of your main bed carriage.

Hold Lever: The Hold Lever controls the needles in E position. While Hold Levers are set to = position on either side of the carriage, the needles in E position do not knit for that side, knitting in that direction. The Hold Lever is placed on - when knitting stitches in E position. As the carriage passes over these needles, they are returned to B position. They are located on the bottom front sides of your main carriage.

Tuck/Slip Lever: This lever when set on the arrow, will knit needles in B position in stockinet. When combined with Set Levers to 2, the needles in B position will not knit (slip). When the Tuck/Slip Lever is set on the inverted U or "horse shoe," combined with Set Levers to 2, the needles in B position will tuck. Set the Side levers to 1, and the needles in B position will knit stockinet. It is located in the upper edge of your main bed carriage above the tension dial.

The Ribbing Bed



Your Ribber Carriage controls the needles on the ribbing bed only.

Side Levers (0/1) control the needles in B position on your ribbing bed. Located on the carriage front, they are the 0/1 switches on either side of the tension dial. When placed on 0, needles in B position will not knit (slip). When the set lever is set to 1, needles in B position will knit stockinet.

Hold Levers control the needles in E position. The Hold Lever controls the needles in E position. While Hold Levers are set to = position on either side of the carriage, the needles in E position do not knit on that side knitting in that direction. If the Hold Lever is placed on - when knitting stitches in E position, as the carriage passes over these needles they are returned to B position. Hold Levers are located on either side of the upper front of your ribbing carriage

Tuck/Slip Lever controls needles in B and D position on the ribbing bed. The Tuck/Slip Lever is located on the bottom front of your ribbing carriage. Set to tuck position (the inverted U or horse shoe), the needles in D position always tuck. The needles in B position will tuck when the 0/1 Side Levers are set to 0. When the 0/1 Side Levers are set to 1, the needles in B position knit in stockinet. Set to the arrow or the slip position disengages the tuck action and the needles knit in plain stockinet.

Adjusting Your Tension and Stitch Size

Yarn Preparation: Stitch Size is affected by the yarn thickness, type, twist, color, and consistency. Yarn must be properly prepared before its use on a knitting machine. Yarn from a pre-wound skein or ball must be re-wound on a wool winder. This process eliminates knots and kinks that causes additional unwanted



bouts of irregular tension as the yarn feeds into your knitting machine. Irregular tension can cause carriage jamming

or faulty knitting. When re-wound correctly, the yarn flows smoothly from the center of the ball. While re-winding, it is recommended



that the yarn run lightly over paraffin wax. Yarns that are wound on cones usually do not need to be re-wound before use.

Your Tension Unit: The correct threading and the appropriate adjustment of the Upper Tension Unit and Yarn Guide is the next step in the regulation



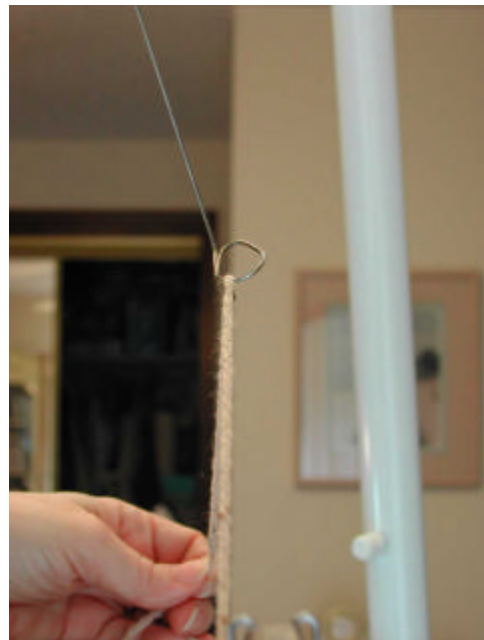
of stitch size. The tension Dial located on the Upper Tension Unit helps regulate the thread tension flowing through your upper unit. Turning the dial to a higher number creates a tighter the tension. It is often difficult to determine exactly what the correct tension should be in your upper tension unit. A guide to determine correct tension is to pull

the yarn end down towards the needle bed after the Upper Tension Unit is completely threaded. While pulling down on the yarn, notice the distance between the end loop of the Tension Spring and the needle bed. The end loop should rise slightly above an imaginary horizontal line between the needle bed and the loop on the Tension Spring end.



Tension Dial in the Upper Tension Unit

The end loop of the Tension Spring



The Stitch Dials



Located in the center of both carriages is the carriage Stitch Dial which regulates stitch size. Notice the numbers on the dial. These indicate the stitch size that is regulated by turning the dial. The smaller the number on the Stitch Dial indicates a smaller the stitch size. Similarly, turning your Stitch Dial to a higher

number produces a larger stitch size. Heavier yarns require larger tensions to produce a larger stitch. Lighter yarns require a smaller stitch size and a smaller number on the Stitch Dial.



Moving Your Ribbing Unit Up and Down, The Drop Levers:

There is one Drop Lever located on either side of the ribbing bed. A ratchet mechanism drops the ribbing bed from your upper needle bed in increments so there is no sudden drop. These

ratchets are controlled by two Drop Levers located on either side of your ribbing bed. Press the lever, it lowers to the first position, press the lever again and it drops to the second position. This position is used for picking up



stitches. The third position or the lowest position is used when knitting on the upper knitting bed. The Right Drop Lever controls the right side and the Left Drop lever controls the left side of your needle bed. Working this way back and forth on either side of the needle bed, your lower bed drops in increments to its lowest position.

Moving Sideways- The Racking Lever:

The racking lever is located on the left lower corner of the ribbing bed. It is properly inserted into the slot by holding the turning knob in your hand with the metal rod upwards. Gently push the metal rod upward into the slot located just under the left lower underside of the ribbing bed. Push the metal rod upward until a click is heard. To test its proper insertion, turn the Racking Indicator either right or left. Your ribbing bed should shift right or left accordingly. If the shifting does not occur, gently push upward again until a definite click is heard again.

Pitch and Half Pitch:

Notice the numbers on the lower left side above the Racking Lever. Beside these numbers to the left are the letters P and H. The numbers indicate the direction and the knitting position of the ribbing needle bed in relation



to the upper needle bed. The letters indicate P position for Full-Pitch and H position for Half Pitch. In P position the needles are positioned directly opposite one another. P position (P) is used for 1/1 ribbing. When the ribbing needles are positioned in H position the needles are situated

between one another. H position (H) is used for Full Needle Rib or Double Rib knitting. Needles are easily jammed and damaged if not positioned correctly while in D or E position. Both H and P positions are also used in pattern rib knitting.