

INSTRUCTIONS FOR

**WERTHEIM'S**  
"PRECIOSA"  
*Knitting Machines*



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## INSTRUCTIONS

### **How to put up and use the Appliances.**

Our machines have been tested, and have worked with eminent satisfaction for many years, both at home and abroad, earning world-wide reputation for simplicity of construction, correctness, and quality of workmanship and material. It is therefore to your interest to take only those machines bearing our trade-mark —“Wertheim Preciosa.”

After the lid of the box is taken off, and all screws removed from outside the box, lift the machine out carefully. Take the large iron bar out of the box, and screw to a firm table. Then screw the machine to the bar. You must not force the thumb-screws with a hammer, as you are liable to break the clamps of the machine. Connect the crank bar with the machine slide, then fasten the screw with the washer and screw into the wooden handle.

### **To fix the Yarn-Guide on to Machine.**

On the large machine we take the yarn-guide off, and place it in the appliance box for safety. If left on the machine it might get broken.

How to Fix the Yarn-Guide.—Take it out of the box, and you will find on the top of the machine three screws; take these out. Before you fasten on the guide, make sure that the yarn-guide lever is fixed in the pin of the friction block. Then fasten the guide with the three screws. When you have it fixed, the yarn-guide lever must work in the direction of the machine.

### **To fix the Winder.**

Take the fly-wheel out of the box. The winder frame you will find in the appliance box with the small handle. Take the screw

out of the frame, then fasten to the fly-wheel, and fix your belt on. You can screw the winder to fit any table, by the thumb-screw.

#### To fix the Bobbin-Stand.

Take bottom part of stand, and screw on iron cross-bar until it is level with underneath part.

#### To Oil the Machine.

In beginning to work a new machine, care must be taken to oil it well once a day with the best sewing machine oil.

Parts to be Oiled.—Slides, Yarn-Guide Bar, Friction and Block, Needle and Feet, and all moveable parts.

It is advisable to clean the machine with a brush.

#### The Needle-Bed Plates.

The needle-bed plates have needles well-fitted, with moveable latches and feet. The last-mentioned are kept in their place by the needle slide, and when removing a bent or broken needle, the slide must be pulled in the direction of the Arrow mark (on the end of machine).

You will find underneath the needle-beds some springs which must be pushed right up when working machine, and right down when not in use. In no case push the needle half-way up, as you will damage the lock cans.

#### The Needles.

All the needles must be of the same thickness and same length, so that they will wear equally, and the work will keep regular. If you have a bent needle, the hook or latch might be damaged. You can bend them into position again. The latch must run easily, and cover the hook of the needle. If it is impossible to straighten the latch, replace it with a new one. In removing the needle, pull the needle slide in direction of the Arrow.

All the needles must not be removed at once when cleaning the machine, because the lock cams will have worn the individual

needles to fit them, and if they should be re-fitted out of their order, they are likely to cause trouble.

#### The Slide.

In removing the slide for cleaning the locks, take off the friction bar, which is fastened with two screws on the top of the needle bed. Before taking the bar off, take particular notice how it is fixed. Unscrew the racking lever, which is fastened with a large screw on the left of machine. Take out the screw which fastens the handle-bar lever, and the slide can then be removed.

#### How to Regulate the Stitch.

You regulate the stitch of the work by altering the four indicators marked 1, 2, 3, 4. The little screw which fastens the scale must not be touched. It will cause trouble. To make the work tighter, move the hand in the direction of "1." To loosen the work, move the hand in direction of "25."

Never alter the stitch when you have once made a start and the needles are high. Always push the handle to the end of machine you started from.

#### Latch-Opener.

The latch-opener is to open the latches, and must slide along without touching the needles. The right height to place the openers is within one-sixteenth of an inch from the needle hooks

#### To Adjust the Yarn Guide.

The Yarn-Guide must be adjusted so that the guide will not touch the needle latches. If it should do so, it will break or not take up the wool. Adjust it so that the needles will catch the wool easily. For thinner wool or silk, lower the guide by degrees.

#### Tension.

The tension acts specially on the ends of the work, to take up the loose wool and loops. If you find the machine looping the end of the work, give the little wire more tension, by turning the thumb-screw from you.

### The Counter.

The counter counts across and back as one row; therefore moving from right to left, or from left to right, is reckoned as half row.

### The Movement of the Needle-Beds (or Racking).

The front needle-bed can be moved by the racking lever. If you pull the lever on your left to and from you, that is for racking.

The bed-plate can be left down by the centre lever, which you will find underneath the needle-bed. This is used when you are picking on work, or in case of dropping stitches.

### Winding the Wool.

Place the skein of wool on the umbrella (or swift). Fasten the winders on the table, then place the bobbin on. You must take care how you wind the wool. Start at the bottom of the bobbin, and wind up and down to about five inches, then gradually to the point of the bobbin. Take great care of the wool. It might cut into the wool remaining on the bobbin; this causes breaking or heavy winding of the wool.

### The Weights.

The use of the weights is to pull down the loops from the needles. The more needles worked, and the heavier the wool, the more weight will be required. Fine wool or silk, the weight required would be less. The weights will affect the stitch; the looser the stitch, the less weight required, and the tighter the stitch, the more weight required.

### How to Begin Work.

After you have examined the mechanism of the machine, practice turning the machine regularly until you are sure of it. The needles must be down and out of work.

Pull all the stops down, push up the number of needles you wish to work with by the springs. Pull all hands to 15, turn the

handle once to open the latches. If you find that some of the latches do not open, open them with the work hook.

### How to Thread the Machine.

Place your bobbin on the stand. Thread through the eye of the stand, then through the eyes of the yarn-guide, then through the lever guide. Take a long end of wool down through the needle beds. Your handle must be to the right.

When starting work, hold the under end of the wool with your hand, and turn the handle to the left, so that all the needles will catch the loops. Take the large comb and pull the wire out, then place between the loops. Place the wire through the eyes of the comb, then attach weight to the comb underneath.

Put the end of your wool between the weights, then attach the top wool to the wire spring, and the machine will be ready for work. Usually when beginning to work you do one or two rounds of round knitting. The hands must be thus—1 and 2 at 15, and 3 and 4 at 15. Push the right hand front stop up, and the left hand back stop up.

### How to put Machine in Order.

Our machines are sent out well tested. We give hereunder a few hints how to manage in case of anything going out of order:—

1. If you find the machine dropping stitches, or making long loops, tighten the tension spring (which you will find at the top of the yarn-guide attached to the fine wire) by turning the thumb-screw from you.
2. If the machine runs heavily or stiffly, oil it well, and see that the wool runs freely from the bobbin.
3. If your work rises up from the needles and the stitches come up, put more weight on the comb underneath.
4. If your needles come up high, and the loops do not slip behind the latches, you are knitting too tightly, and must alter the hands to a looser stitch.

5. If you find one needle always dropping stitches, examine the latch of that needle. It may be working too heavily or perhaps it is bent. Replace the needle with a new one.
6. If the machine stops very suddenly, examine it. The needles which are not in use may be working up. They must be down in their place.
7. If the machine knits irregularly when all the hands are at the same number, one of the scales has shifted, and this can only be adjusted by an experienced mechanic.
8. The breaking of the wool may be caused either by poor wool, the tension may be too tight, or the gauge of the machine is too fine or too coarse.
9. If you find some holes in your knitting, and the wools breaks, perhaps you have too much weight on, or not enough.
10. You get irregular work if the lock cams are worn out, if the needles are bad, and the little rivets stick out on the latches, or you are using needles not of our make.

#### Man's Sock.

For Rib.—Set up 38 needles in centre of machine on both sides. Put all hands at 15. Slide all bolts down. Thread machine from right hand side. When threaded, drop end of wool between needle beds. Work half row. Take setting up comb, draw out wire, place comb underneath machine, and push through stitches. Then slide thin wire through comb, this will hold the stitches. Then put the weights on comb underneath. Place end of wool under weights. Thread tension slide up No. 1 and 2 bolts, work 1 row. Slide down 1 and 2 bolts. Set counter and work 20 rows. Break wool close to needles, hold work with left hand, and work 1 row to take out. Press rib top.

For Leg.—Set hands 3 and 4 at 1, 1 and 2 at 17. Slide up 1 and 2 bolts. Have crank on left hand side. Open the bed by pulling down bar under the machine. Take first stitch of rib and place on centre needle at back of machine. Draw wool between each stitch before placing on needle. When finished on back needles, turn work round, and pick on along front needles. When at end

turn work round, and place two stitches on back end needles. Draw work along to centre back needle, and pick on. Bring wool through stitches to finish on left-hand side. Close the bed, thread machine, tie wool, fix tension on. Attach buckle to rib. Put on weights and set counter. Work 75 rows. 130

For Heel.—Set hand 1 at 5, 3 at 17. Slide up front bolts, back bolts down. Hold work down at back, and work 2 rows. Put in triangle wire—straight piece place on top of sock, pull down underneath. Attach angle underneath to straight piece. Take weights off buckle, and attach to triangle. Hold work down with left hand, and work 9 rows. Push up 11 needles on right side of back as high as they will go, then place finger over top of needles, and push down to close latches. Lower the bed. Take right hand heel comb, pick 11 stitches on to heel comb, place comb on front bed of machine. Push down 11 empty needles to be out of use. Hold work down and work half row. Push up 11 needles on left hand side, push down again, pick 11 stitches on to left hand heel comb, place on front bed, push down empty needles. Place heel weight on needles in centre of machine to hold down work. Work half row. Then proceed by taking one stitch off each heel comb and place same on each end needle at back. Work 1 row between. Do same till finished. Do not work a row after last stitch. Take out triangle wire, attach weights to buckle. Set No. 1 hand at 17, 3 at 1. Slide down No. 4 bolt, slide up No. 2 bolt. Push up 11 needles on right side of machine at back. Pick on selvage, work half row. Push up 11 needles on left hand side of back, pick on selvage. Push up the bed. Set counter, and work 65 rows for foot.

For Toe.—Use two-decker, open latches on three end needles on 4 corners. Place decker on two end needles, draw up, push down again, pick over stitches to second and third needles. Then draw down empty needles. Do same on 4 corners, then work 2 rows between. Repeat this till 10 needles are left front and back. Then push up 10 needles on front. Push down to close latches, pick on 10 front stitches to 10 at back. Use 1 decker, hold wool in left hand, pull up end needle, put wool round needle between latch, pull down, put stitch on to next needle. Pull up. Put wool round, pull down, repeat till finished.

**Gent.'s Singlet (3-ply).—**

Set up 98 needles, hands 3 and 4 at 2, 1 and 2 at 18. All bolts down. Set up, put in comb, &c. Put 1 and 2 bolts up. Work 400 rows, run off. Neck and sleeve holes to be cut, bottom turned up and hemmed, and cut front open. Face both sides for buttons and button-holes.

Sleeves.—Make rib, pick on same as sock, only start picking on at end of machine instead of centre. Work 150 rows, widen 4 times, 15 rows between, then work 20 rows.

Collar.—98 needles, all hands at 14, work 25 rows. All bolts down.

**Men's Underpants (2 ply).**

Set up 70 needles in 2 and 2 rib. All hands at 15. All bolts down. Set up and work 15 rows, push all needles up, to work plain. Put all hands at 16, work 65 rows, widen three times, 6 rows between. Then work 100 rows. Run off. Make 4 pieces, seam up, and put on shaped linen band.

Gusset.—20 needles, hands the same, work 30 rows.

**Ribbed Underpants (2-ply).**

85 needles up. Set for 2 and 2 rib. All hands at 15. All bolts down. Set up and work 15 rows, push all needles up to work plain. Put hands 3 and 4 at 1, 2 at 20. Turn machine to right. Put hand 1 at 20. Work 190 rows, widen 6 times 10 rows between. Work 190 rows. Put all hands at 15, and work 6 rows. Run off, Make 2 pieces. Seam up, and put on shaped linen band.

Gusset.—20 needles, hand the same, work 30 rows.

**Gent.'s Bed Slipper (4 Skeins of 4-ply Wool).**

50 needles up. Cardigan stitch. Work 50 rows racked. Sew up, &c.

**Gent.'s Vest (1¼lb. 4-ply Wool).**

90 needles up. Set Cardigan stitch. Rack for ¾ yard plain.

Pockets.—26 needles up, work 30 rows. Cut up centre and neck, leaving 5 inches for shoulders.

**Gent.'s Sweater (2-ply).**

82 needles up. Hands 3 and 4 at 1, 1 and 2 at 20. All bolts down. Set up the work 50 rows, racked every second row. Then work 100 rows plain, 30 racked, 30 plain, 30 racked, 30 plain, 30 racked, then work 250 rows plain, 50 racked. Run off, halve material, and cut across for neck.

Sleeves.—53 needles up, all hands at 13, all bolts down. Set up and work 35 rows. Change hands 3 and 4 at 1, 1 and 2 to 20. Work 30 rows racked, 150 plain.

Collar (turn down).—83 needles, hands same as body. Work 50 rows racked. Set all hands at 13. Do 8 rows.

Collar (stand up).—94 needles, all hands at 14, all bolts down. Work 50 rows.

**Gent.'s Sweater (Buttoned Collar, Open Shoulder Fronts).**

84 needles up. Hands 3 and 4 at 1, 1 and 2 at 22. All bolts down. Set up and work 50 rows, racking every second row. Then work 100 rows plain, 30 racked, 30 plain, 30 racked, 30 plain, 30 racked, 30 plain. Have machine on left-hand side. Throw off 25 needles each end. Change hands all to 15, work 35 rows. Run off.

Backs.—84 needles up. Hands 3 and 4 to 1, 1 and 2 at 22. All bolts down. Set up and work 50 rows, racking every second row. Then work 280 plain change all to 15. Work 35 rows. Run off.

Sleeves.—52 needles up. Hands all to 13. Work 40 rows. Change hands, same as body. Work 30 racked. Work 160 rows plain.

Join up the shoulder and collar on the right, put satin lap on left shoulder, and buttons on collar.

**Cardigan Jacket (3-ply).**

Back.—Set up 78 needles, hands 3 and 4 at 1, 1 and 2 at 21. All bolts out. Set up and work 25 rows racked every second. Then work 250 rows, and run off.

Fronts.—45 needles, hands the same, work the same. Do two pieces.

**Band for Button Holes.**—15 needles, hands the same, work length required, racking every second row, about 300 rows.

**Pockets.**—30 needles, hands same. Work 10 rows racked, 40 rows plain, run off.

**Gent.'s Bathing Pants (3-ply).**

50 needles up. All hands at 14. All bolts down. Work 10 rows. Alter hands to 16 and work 15 rows. Widen 5 needles, work 3 rows between, work 30 rows, alter hands to 14. Work 10 rows, then run off. This forms one leg. Repeat and join up.

**Ribbed Cycling Stockings (4-ply).**

Set up 90 needles in 2 and 2 rib. Hands 3 and 4 at 1, 1 and 2 at 23. All bolts down. Set up and work 75 rows, racked every second row, then change all hands to 15, and work 150 rows. Run off. Pick on same as sock, hands and bolts the same, and work foot same as in sock. Pick on so that the fancy side turns over.

**Sciatica Belt (2-ply).**

60 needles up, all bolts out. All hands at 14. Work 15 rows. Change hands 3 and 4 to 1, 1 and 2 to 20. Work 120 rows. Change all hands to 14, and work 15 rows. Run off. Make two pieces and join up.

**Knee-Pads (3 skeins 4-ply Wool).**

Set up 80 needles, 2 and 2 rib. Work 20 rows. Widen by pushing up 2 needles in centre of machine back and front. Work 2 rows. Repeat same until all needles are up, then narrow 1 needle each end of machine back and front. Work 2 rows, repeat until 2 and 2 rib again. Work 20 rows.

**Tam O'Shanter.**

Set up 36 needles. All hands at 12. All bolts down. Thread machine, &c. Work 10 rows. Fix 1 and 2 hands at 23, 3 and 4 at 1. Widen 4 needles, do 20 rows, narrow down to a point, 2 rows between each narrowing. Work 5 pieces, then join all together. For children's repeat, only use less needles and rows, according to size.

**Fisher Cap.**

Set up 52 needles, all bolts down. Hands 3 and 4 at 1, 1 and 2 at 20. Thread machine, &c. Slide up 1 and 2 bolts, and work 150 rows. Then slide down 1 and 2 bolts, and work 2 rows. Break wool and run out work. Make a hem about one inch wide, sew around, and gather in at top, and fix tassel on.

**Boy's Sweater (2-ply, 6 years).**

60 needles up. All bolts down. Hands 3 and 4 at 1, 1 and 2 at 22. Set up and work 25 rows racked. Work 100 plain, 10 racked, 10 plain, 10 racked, 10 plain, 10 racked, 150 plain. Then work 25 rows racked. Run off, and cut neck.

**Collar.**—Same needles, hands the same. Work 50 rows racked.

**Sleeves.**—42 needles up. All hands at 13. All bolts down. Set up and work 15 rows. Change hands same as body. Work 10 rows racked, 100 rows plain. Run off.

**Jersey (4-ply, 12 years).**

82 needles. Hands 3 and 4 at 1, 1 and 2 at 22. All bolts down. Set up. Put in combs, &c. Move 1 and 2 bolts up. Work 250 rows, then run off. Cut sleeve holes and neck, turn up and hem.

**Sleeves.**—36 needles, pick on rib same as for sock, and work 80 rows.

**Boy's Stockings (4-ply, 12 years.)**

Make rib, and pick on same as for sock. Hands 3 and 4 at 1, 1 and 2 at 17. Bolts same as sock. 32 needles. Pick on and work 65 rows.

Narrow 3 times, 5 rows between. Work 65 rows, then do heel same as sock, 6 rows, 8 needles up, and for foot work 44 rows.

**Girl's Petticoat.**

Set up 70 needles each side of machine. All bolts down. Hands 3 and 4 at 1, and 1 and 2 at 23. Thread machine from right, work half row, attach comb and weights. Fix tension on, then

slide up 1 and 2 bolts, and work 1 row, slide down 1 and 2 bolts, work 10 rows, then work 10 rows racked every second row, then do 10 rows, then 10 rows racked every second row. Work 200 rows, run work out. Do three pieces the same.

Body.—Set up 60 needles each side of machine, all bolts down, all hands at 14. Work 55 rows, do top like neck of singlet, then set up and work 55 rows the other side. Join bottom portion to top.

#### Little Girl's Dress.

Set up 60 needles each side of machine, all bolts down. Hands 3 and 4 at 1, 1 and 2 at 23. Thread machine from right, work half row, attach comb and weights, and fix tension on. Then slide up 1 and 2 bolts, slide down 1 and 2 bolts, and work 10 rows, racking every half row. Then miss half row not racked. Then do 10 more rows, racking every half row, then miss. Repeat until you have width of skirt.

Body.—Set up 60 needles each side of machine, all bolts down. Thread up, &c. Work 60 rows, break wool, run off, work 2 pieces the same, and join up sides, leaving spaces for armholes.

Sleeves.—Set up 40 needles each side of machine. Thread machine, &c. All hands at 14, all bolts down. Work 10 rows, then change 3 and 4 to 1, 1 and 2 to 23. Work 50 rows, racked every row. Do 10 rows, widen 10 times, work 5 rows between each widening. Then do 20 rows, break wool, run work out, make two sleeves the same.

Collar (turn-down).—Set up 20 needles. Thread machine, &c. Work 10 rows racked every half row, then miss racking for half row, work 10 more rows racked half every row, then miss racking, repeat until you have length of collar.

#### Child's Petticoat (6 years).

80 needles, hands 3 and 4 at 1, 1 and 2 at 22. All bolts down. Thread machine from right, take machine to left, then put in comb and weights. Put wool under weights, thread tension, work

200 rows, then work 20 rows, racked every second row. Change all hands to 15 and work 60 rows. Shape neck same as singlet. Put in comb, &c. Work 60 rows. Change hands 3 and 4 at 1, 2 at 22. Turn machine to right, put hand No. 1 at 22. Work 20 rows, racked every second row. Work 200 rows plain. Break wood and run off to finish.

#### Child's Sock (4-ply, 4 years).

28 needles up. Make rib. Hands 3 and 4 at 1, 1 and 2 at 17. Pick on and work 40 rows. Narrow once. Work 40 rows, do heel the same as in sock, 7 rows, 8 needles up. Foot 30 rows.

#### Child's Sock (2 years).

24 needles up. Make rib and pick on. Hands and bolts same as above. Work 26 rows, narrow once. Work 25 rows. Heel 6 rows, 7 needles up. Foot 25 rows.

#### Child's Sock (first size).

20 needles up. Hands and bolts same as above. Work 20 rows, narrow once, work 15 rows, heel 5 rows, 6 needles up. Foot 18 rows. Work toe.

#### Child's Sweater (size 1, 2½ years).

Fronts.—56 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Bolts 1 and 2 up, work 15 rounds. Put down all bolts, and work 10 racked, 65 plain, 6 racked, 6 plain, 6 racked, 3 plain, 6 racked, 3 plain, 6 racked, 3 plain, 6 racked, 11 plain, 130 rows in all from the start of the the 65 rows plain.

Backs.—56 needles up. Hands same as fronts. Bolts 1 and 2 up, work 15 rounds. Put down bolts and work 10 racked, 130 plain. Drop all needles, except 15 to bring flap on left shoulder, then work 10 rows. Run off.

Collar (turn down).—80 needles up. Hands 1 and 2 at 20, 3 and



4 to 1. Work 30 rows, racking every 2 rows. Change hands to 13, do 10 rows.

Sleeves.—37 needles up. All hands to 13. Work 25 rows, Change hands, same as body. Work 10 racked and 82 plain..

Re Finish of Shoulder.—Small piece of satin to be sewn underneath buttons and button holes; collar to be edged along with small linked stitches; also along left front of sweater, as far as the sewn side of the collar.

### Child's Sweater (Size 2).

Fronts.—60 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Bolts 1 and 2 up. Work 15 rounds. Put bolts down. Work 10 rows racked, 65 rows plain, 65 rows racked, and plain or Vandyke stitch.

Backs.—60 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Bolts 1 and 2 up. Work 15 rounds. Put bolts down. Work 10 rows racked, 130 rows plain.

Sleeves.—37 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Bolts 1 and 2 up for 40 rounds. Put bolts down. Work 10 racked, 5 plain, 10 racked, 82 plain.

Collar (turn down).—84 needles. Hands 1 and 2 at 20, 3 and 4 to 1. Work 35 rows, racking every 2 rows. Change all to 13. Work 10 rows.

Re finish of Sweater, see Size 1 Sweater.

### Child's Tunic Knickers (2-ply Wool).

60 needles up. Hands 1 and 2 at 15, 3 and 4 to 1; 1 and 2 stops for 20 rounds. Stops down. Change 1 and 2 hands to 22. Work 20 rows, racked every 1 row, 100 plain. Change hands all to 13, work 20 rows.

Make two pieces same.

Gusset.—12 needles. Hands 1 and 2 at 22, 3 and 4 to 1. Work 30 rows. (Square all gussets.)

### Child's Tunic Knickers (Fancy).

62 needles up, 1 and 2 at 15, 3 and 4 to 1; 1 and 2 stops up for 20 rounds. Put stops down. Change 1 and 2 hands to 22, racking every 2 rows for 120 rows. Change hands to 14, work 20 rows.

Make two pieces same.

Gusset.—Same 12 needles as plain, only rack every 2 rows. Same as legs, 30 rows.

### Child's Tunic, Racked (2-ply Wool, 4 to 5 years).

Fronts.—60 needles up. Hands 1 and 2 at 22, 3 and 4 to 1. Rack every 2 rows for 80 rows. Then rack every 1 row for 200 rows.

Backs.—60 needles up. Hands same as fronts. Rack every 2 rows for 80 rows; then rack every 1 row for 200 rows. Throw off all needles, except 15 to bring flap on left should. Then work 10 rows. Run off.

Sleeves.—38 needles up. Hands all to 13. Work 35 rows. Change hands 1 and 2 at 22, 3 and 4 to 1. Rack every 1 row, for 100 rows.

Collar (turn down).—80 needles. Hands same as body. Rack every 1 row for 35 rows. Change all hands to 13. Work 10 rows.

Re finish of Tunic, see Child's Sweater, Size 1.

Belt.—20 needles. Hands same as body. Rack every 1 row. Work length required.

### Child's Tunic (Fancy, 2-ply Wool).

78 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Arrange needles 3 up 1 down, 3 up 1 down, 3 up 1 down, 9 up 1 down, 3 up 1 down, 3 up 1 down, 3 up 1 down, 10 up 1 down, 3 up 1 down, 3 up 1 down, 3 up 1 down, 9 up 1 down, 3 up 1 down, 3 up 1 down, 3 up 1 down. Rack every 1 row for 210 rows. Throw off

16 needles each end of machine for shoulder. Change hands all to 14. Work 35 rows.

For Turn-over Collar.—Make two pieces same, one for back and one for front.

Sleeves.—46 needles up. Hands all to 13 rib. Work 40 rows. Change hands 1 and 2 to 20, 3 and 4 to 1. Arrange needles, 3 up 1 down, 3 up 1 down, 3 up 1 down, 3 up 1 down, 10 up 1 down, 3 up 1 down. Repeat till finished. Work 90 rows, racking every 1 row.

Belt.—20 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Work length required. Racking every 1 row.

#### Child's Bonnet.

Set up 70 needles each side of machine, then put 5 up and 5 down, 5 up and 5 down. All bolts down. Hands 3 and 4 at 1, 1 and 2 at 23. Thread machine, &c. Work 12 rows racked every row, then miss 1 row, work 12 rows racked every row, miss racking 1 row. Repeat until you have the length required 130 rows. Then join up back, turn back piece in front, and thread ribbon through cross wool.

#### Tam O'Shanter (3-ply).

78 needles. All hands at 14. Set all bolts down, and work 25 rows. Change hands 3 and 4 to 1, 1 and 2 to 21. Work 60 rows. Put hands 1 and 2 at 19, work 20 rows. Narrow till you have 40 needles left, 1 row between. Join up. Press on card-board shape, then put on tassel.

#### Baby's Singlet.

50 needles up. All hands at 15. All stops down. Work 50 rows. Then push up all centre needles as high as possible, leaving 12 needles on each side for shoulder. Take off weights, and draw needles right down. Hold left shoulder, and do 12½ rows. Still hold shoulder strap, and draw down wool with hook. Hold right strap, and work 12½ rows for other shoulder. Push up centre

needles from the springs; hold straps and work across. Put in comb and weights again, and do 54 rows.

#### Baby's Bootie.

Rack at back. All hands 14. Set up 38 needles, arrange them 2 up and 1 down (making 13 twos). Work 12 rows 2 and 2 rib. Set 1 and 2 hands 20, 3 and 4 at 1. Do 40 rows racked every second row. Take off weights. Push up 5 twos on right side, draw needles right down again (letting stitches drop). Work across. Push up 5 twos on left side. Draw down again. Work 15 rows racked for instep. Take out and crochet feet in.

#### Baby's Gaiters.

Set up 18 twos, same as 2 and 2 rib. All hands at 14. Work 10 rows. Change hands 3 and 4 to 1, 1 and 2 to 19. Work 100 rows racked. Take off weights. Push up at each end, back and front 6 twos, then drop stitches off, pull needles right down. Work 20 rows racked. Change all hands to 12. Work 5 rows. Join up, and put elastic under instep.

#### Baby's Fisher Cap (3-ply).

64 needles up. Hands 3 and 4 at 1, 1 and 2 at 18. All bolts down. Set up, put in comb. Work 160 rows. Run off. Turn up hem, gather in top, and put on tassel.

#### Baby's Dress (2-ply).

Set up 94 needles in 3 up and 1 down stitch. Hands at Cardigan stitch, all bolts down. Set up and work 225 rows, racked every second row. Push all needles up to work plain, work 2 rows, push up, and pull right down, so as to drop stitches. Be sure it is the needles you push up to work plain. Put hands 1 and 2 at 18, and work 250 rows racked same as the other part. Change hand 1 and 2 at 20, push up needles, and work same as other side, then work 225 rows.

Sleeves.—60 needles, 3 up and 1 down. All hands at 14. Set up and work 20 rows. Change hands same as body, work 100 rows racked. Run off.

needles for lap (on side that is shaped). Do 66 rows then narrow every 2 rows for 70 rows. Form 2 and 2 rib again. Do 27 rows and run out. Make 2 pieces.

Border for Front.—20 needles, 1 and 2 hands at 22, 3 and 4 at 1. Do length required (about 24 inches) racked every row.

#### Lady's Slip.

Back.—70 needles, 2 and 2 rib. All hands at 13, do 20 rows. Push up needles. All hands at 15, do 80 rows. Widen each end every second row, till 100 rows are done.

Front.—45 needles, 2 and 2 rib. All hands at 13, do 20 rows. Push up needles. All hands at 15, do 40 rows. Drop 4 stitches at one end. Draw down empty needles. Do 40 rows more. Then narrow every second row till 110 rows are done. Do 2 pieces.

Sleeves.—60 needles, 2 and 2 rib, all hands at 13, do 25 rows. Push up needles. All hands at 15, do 90 rows.

#### Lady's Bloomers (2-ply, open sides).

Fronts.—54 needles up. Hands 1 and 2 at 15, 3 and 4 to 1. Work 15 rows with 1 and 2 stops up. Put stops down; change hands 1 and 2 to 22. Work 160 rows. Push up 10 needles back and front on one end of machine to form lap. Put in heel wire, and work 100 rows, making 260 rows in all from the band. Change hands all to 14. Work 25 rows. Make two pieces.

Backs.—54 needles. Hands same as fronts. Do not widen. Make straight through 260 rows, and then rib band. Make two pieces.

Gusset.—20 needles. Hands same as legs. Work 40 rows. Put on linen or satin plain band and buttons.

#### Lady's Petticoat (3-ply).

Have all needles up on machine. Make three pieces. Hands 1 and 2 at 23, 3 and 4 to 1. Plain 30 rows, rack 30 rows, plain

20 rows, rack 30 rows, 180 rows plain. Change hands all to 13. Arrange needles 2 up and 1 down. Work 40 rows. Join up and put satin band and buttons on.

#### Lady's Singlet (2-ply, with or without Sleeves).

78 needles. All hands at 16. All bolts out. Set up and work 140 rows. Take off weights. Push up needles back and front in centre, leaving 18 needles each end for shoulder straps. Pull centre needles right down. Hold left hand strap underneath with hand, and work 15 rows. Do not go too far to the right. Take the machine to the centre. Pull wool down in centre, and work right hand strap the same, 15 rows. Push up centre needles back and front. Take machine over, put in comb, &c., and work 140 rows, then run off.

Sleeves.—Same needles, hands the same. Bolts the same. Set needles for 2 and 2 rib. Set up and work 20 rows. Push needles up to work plain. Work 100 rows, then run off.

#### Lady's Golf Jacket (to Hips).

Backs.—70 needles. Hands 1 and 2 to 22, 3 and 4 to 1.

Basque.—80 rows. Change hands all to 13. Work 10 rows. Change hands 1 and 2 to 22, 3 and 4 to 1. Work 160 rows.

Fronts.—60 needles.—Hands same as backs.

Basque.—80 rows. Change hands all to 13. Work 10 rows. Change hands 1 and 2 to 22, 3 and 4 to 1. Work 165 to 170 rows. Make two pieces.

Sleeves.—75 needles. 230 rows. Hands same as body.

Cuff.—42 needles. Hands 1 and 2 to 20, 3 and 4 to 1. Rack every 1 row for 30 rows. Change hands all to 14. Work 20 rows. Attach sleeves to rib of cuff, turn up the fancy racked part, making turn-up cuff. Fill the sleeve accordingly.

Notice.—In making the above jacket, any design can be arranged, it being a good stock size. Finish with stockinette trimming or Vandyke pattern. Make belt same as trimming.

**Lady's Golf Coat,  $\frac{3}{4}$ -Length (2-ply Wool).**

**Backs.**—80 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Arrange any fancy design you please. The Melodia stitch is a lot used in this coat. Arrange needles starting from right. Front bed 5 up 1 down, 2 up 1 down, repeat. Back bed 7 up 2 down, repeat till end. Rack every 1 or 2 rows. Work 250 rows.

**Fronts.**—70 needles. Hands same, arrange design same; rack same. Work 260 rows. Make two pieces same.

**Sleeves.**—70 or 80 needles, depends on fancy design work. 160 rows. Arrange needles same, hands same, rack same as body.

**Cuff, Turn-up.**—40 needles. Hand 1 and 2 at 20, 3 and 4 to 1. Rack every 1 row for 30 rows. Change hands all to 13. Work 20 rows. Run off. Sew cuff up and attach to sleeve. Arrange the fullness accordingly.

**Lady's Golf Coat, Long (3-ply Wool).**

**Back.**—12 needles up, 4 pair two's; 6 needles up, 4 pair two's; 6 needles up, 4 pair two's; 12 needles up, 4 pair two's. Work 395 rows, racking every 1 or 2 rows.

**Fronts.**—Arrange needles same as back, adding 6 needles up each end of m/c, making the fronts in this design wider. Work 400 rows, racking every 1 or 2 rows.

**Sleeves.**—Arrange needles same as body (back amount). Work 185 rounds racking same.

**Cuff.**—40 needles, 28 racked, 14 rib, 28 rounds.

**Gusset.**—Arrange needles to match design. Work length required to waist (230) rows. Make two pieces. Shape or cut to size.

Have hands 1 and 2 at 22, 3 and 4 at 1, if 3-ply wool. If working 2-ply wool, Cardigan 20 when changing points to rib at cuff, all hands at 14.

**Lady's Canadian Bathing Suit (3-ply Wool).**

**Navy Blue and White Bands.**

**Knickers.**—60 needles up. Hands 1 and 2 at 19, 3 and 4 to 1, 1 and 2 stops up; 30 rows navy, 5 rows white, 10 navy, 10 white, 10 navy, 5 white. Increase 1 needle back and front on one side of machine only. Repeat 5 rows between up to 120 rows. Then plain to 300 rows. Do two pieces same. Put stops down for couple of rows before taking out of machine. Press with damp rag, and hot iron before cutting to finish. Turn hem up at legs, and hem for waist. Cut down to crutch, join gusset in. Overcast all sewing.

**Sweater.**—All needles up on machine, bring rack frnt. Hands 1 and 2 at 19, 3 and 4 to 1, 1 and 2 stops up. Work 280 rows; 5 rows white, 10 navy, 10 white, 10 navy, 5 white, 30 navy (350 rows in all). Put stops down for 2 rows. Before taking out of machine, press with damp rag and hot iron. Cut neck and arm holes. Bind laps for buttons and button holes. Place a rib collar on about 1 inch deep, and one button. Turn hem about 1 inch deep at bottom on sweater.

**Sleeves.**—46 needles up. Hands same, 1 and 2 stops up. 40 rows. Then widen every 3 rows between. Work till length required make short sleeve for preference. Put white bands in accordingly.

**Lady's Muffler (Brilliant or 2-ply Wool).**

30 needles up. Hands 1 and 2 at 20, 3 and 4 to 1. Rack every  $\frac{1}{2}$  row. Miss every tenth. If you want deeper Vandyke, do more rows before you miss. Do 16 Vandykes. Change hands all to 14. Do 60 rows. Change hands 1 and 2 to 20, 3 and 4 to 1. Rack every  $\frac{1}{2}$  row, missing every tenth. Do 16 Vandykes. Finish with clasp:

### Gent.'s Muffler.

Add more needles, width required, and make deeper Vandykes.

### Tucked Bonnet.

Set up 19 twos, 2 up and 1 down.

Front hands at 16.

Back hands at 17.

Do 3 rows with back stops up, 1 row with all stops down. Repeat till 35 tucks are done. Do 3 rows and run out.

Back (to be made with brilliant or silk).—40 needles up, 1 and 2 hands at 22, 3 and 4 at 1. Do 4 rows. Form 2 up and 1 down, by putting down every third needle. Do 4 rows racked.

Turn-back (for front).—1 and 2 hands at 22, 3 and 4 at 1. 70 needles. Do 28 rows racked.

### Child's Bloomers (4 years).

75 needles, 1 and 2 hands at 15, 3 and 4 at 1. Do 15 rows, with 1 and 2 stops up. Put all stops down. Change 1 and 2 hands to 22. Do 30 rows racked, 115 plain. Change all hands to 14. Form 6 twos at each end by putting down every third needle. Do 20 rows. Make 2 pieces like this.

Gusset.—14 needles, 1 and 2 hands at 22, 3 and 4 at 1. Do 43 rows.

### Mittens.

Rib 36 needles, work 25 rows. Pick on rib same as in sock, starting at right side of machine. Set bolts and hands for plain stitch, work from left side, not in centre of machine. Work 3 rows, widen by pushing 1 needle up back and front, pick on cross stitch, work one row, repeat ten times, work 3 rows.

Thumb.—Draw down 10 needles at right side, letting stitching drop. Work 28 rows and take out. Press work. Pick on 10

stitches for thumb, and work 15 rows, then take out. Hem down thumb and hand part.

### Gloves.

Same as mittens. First finger 9 needles up, work 25 rows. Second finger 10 needles up, work 28 rows. Third finger 9 needles up, work 25 rows. Fourth finger 8 needles up, work 20 rows.

### Lady's Stockings (3-ply).

44 needles up. Make rib and pick on same as in sock. Then put 1 and 2 bolts up. Hands 3 and 4 at 1, 1 and 2 at 16. Work 100 rows, narrow 4 times, 6 rows between. Work 100 rows for leg. Make heel same as for sock. Foot 55 rows.

### Motor Scarf (10 Balls Brilliant Cotton).

Rack at back. 60 needles up. All hands at 17. All bolts (or stops) down. Work length required (about 2 yards), racking every row.

### Men's Ties.

12 needles up. 1 and 2 hands at 17, 3 and 4 at 1. All stops down. After putting in comb and weight, &c., put up 1 and 2 stops, and work length required.

### Fancy Stitches.

Tricot Stitch.—3 needles up, 1 down, needles to come opposite the one that is down, whichever way the rack is moved. Rack every second or fourth row.

Open Work for Socks or Stockings.—Set up and pick on same sock. Put every third stitch on to next needle on front. pull down empty needles. Work 3 rows, and repeat. Start putting second stitch on to next needle, then every third. at.

For all Fancy Stitches, always have hands 3 and 4 at 1, 1 and 2 at 20 or 22. All bolts out.

Vandyke Stitch.—Rack at back, 1 and 2 hands at 22, 3 and 4 at 1. Move rack at each end 20 times, miss once, rack 20, miss once, and so on for length required.

To make peaks smaller, rack 10 or twelve times, miss once, &c.

Double Bable Stitch.—Set needles same as in 2 and 2 rib. Rack any way. 1 and 2 hands at 22, 3 and 4 at 1.

Basket Stitch.—Set up needles plain, work 4 rows. Then drop 2 needles on back only. Have 10 up, 2 down, 10 up, 2 down. Repeat, then rack every second row for 20 rows. Then work 20 plain, 20 racked, and repeat.

Tucking Stitch for Bonnets, &c.—All hands 16 or 17. Arrange needles any pattern. Do 2 rows, put up front bolts (or stops). Work 3 rows, put down front stops, work across, put up back stops, work 3 rows, put down back stops, work across, and so on reversing stops every 3 rows.

Three and Three Rib for Stockings.—Hands and bolts the same. Set all needles up plain. Set up and work 6 rows, then drop all back needles except 1 between each fourth needle on front, which is to be dropped also.

Mock Rib.—Set needles 3 and 1 down. Pick rib on as usual, and work same as for plain. For heel push up needles on back, so that all will be plain. Pick on cross stitches and do heel and foot, pushing needles in front before doing toe.

Fancy Stitch.—All bolts out. Hands 1 and 2 at 20, 3 and 4 at 1. Rack at back. Arrange needles any pattern. Thread machine, &c. Work whatever length is required, moving rack every second or third row.

#### Two and Two Rib.

Rack at back. All hands at 15. All bolts down. Arrange needles 2 up and 1 down. Thread up, &c. Draw rack to front after doing first row. Work length required.

res.

When the machine is knocking, or will not go across, see that the needles are right up or right down.

If the machine will not work on front, see that the bed is closed.

If the wool is looping at one end, tighten tension by screwing same from you.

If one needle is dropping at the end pull it right down, or push one up on the other side.

If the machine is only stitching one side, see that all the bolts are right.

If the work is tighter at one side than the other, see that the hands are right.

If the machine will not work the end needles, take screw out of handle bar, and move up slide so as to adjust handle. This attachment is only on the larger machines.

Cardigan means—Hands 3 and 4 at 1, 1 and 2 at 20. All bolts out.

Half-Cardigan means—Hands 1, 2, and 3 at 18, 4 at 1. Bolts all out.

To remove broken needles, remove the bar or slide by pulling out with hook at corner of machine.

In Racking be sure to have the machine off the needles before moving the rack.

Do not try to move the rack or bolts with the machine in the centre.

If the machine jumps and drops 5 or 6 needles at end both sides, see that the block is right in the yarn-carrier, so that it moves freely.

If stitches are dropping, without the wool breaking or knotting, undo the screw in the yarn-carrier and lower it a little.

If it is knocking the latches of the needles, raise it a little.

The picking on of any stitches is made easy by pressing the work with a hot iron and wet cloth.

All work when finished should be well pressed. The sale of babies' things depends upon the finish. All work must be finished with a crochet edge.

The fancy stitches may be used for any of the patterns given.

If the stitches appear to be cut, see that all the latches are working well, or change the needle.

If the machine bumps when you get to a certain part, you will find the block of the needle broken at the bottom.

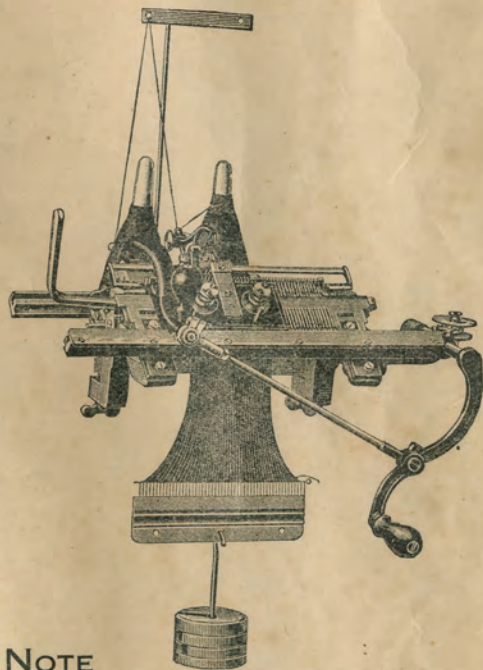
In changing hands from 15 to 3 and 4 at 1, and 1 and 2 at 20, change the hands always with the machine on the left hand side. Put hands 3 and 4 to 1, 2 to 20, turn machine to right, then put hand 1 at 20. In changing from this to all at 15, change hands 1, 2, and 4 to 15, turn machine to right, and put hand 3 to 15. Always finish with machine on left hand side.

For Football Stockings or Jerseys.—Tie on wools, work 30 rows for stripes. In setting up any rib, always move the rack. When you put in the comb, take the machine over, and put rack back.



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## INSTRUCTIONS FOR WERTHEIM'S "PRECIOSA" KNITTING MACHINES



### NOTE

Some knitters have sliding bolts or stops, which move in and out from the centre, instead of up and down. In using this book for such machines read "down" as move "out" and "up" as move "in." Some counters show to-and-fro movement at two rows, therefore, if this style of counter is used all the numbers of rows given in these instructions must be doubled.