

MACHINE *Knit* AMERICA

Vol 3, No 5 **Design & Fashion for Today's Knitter**

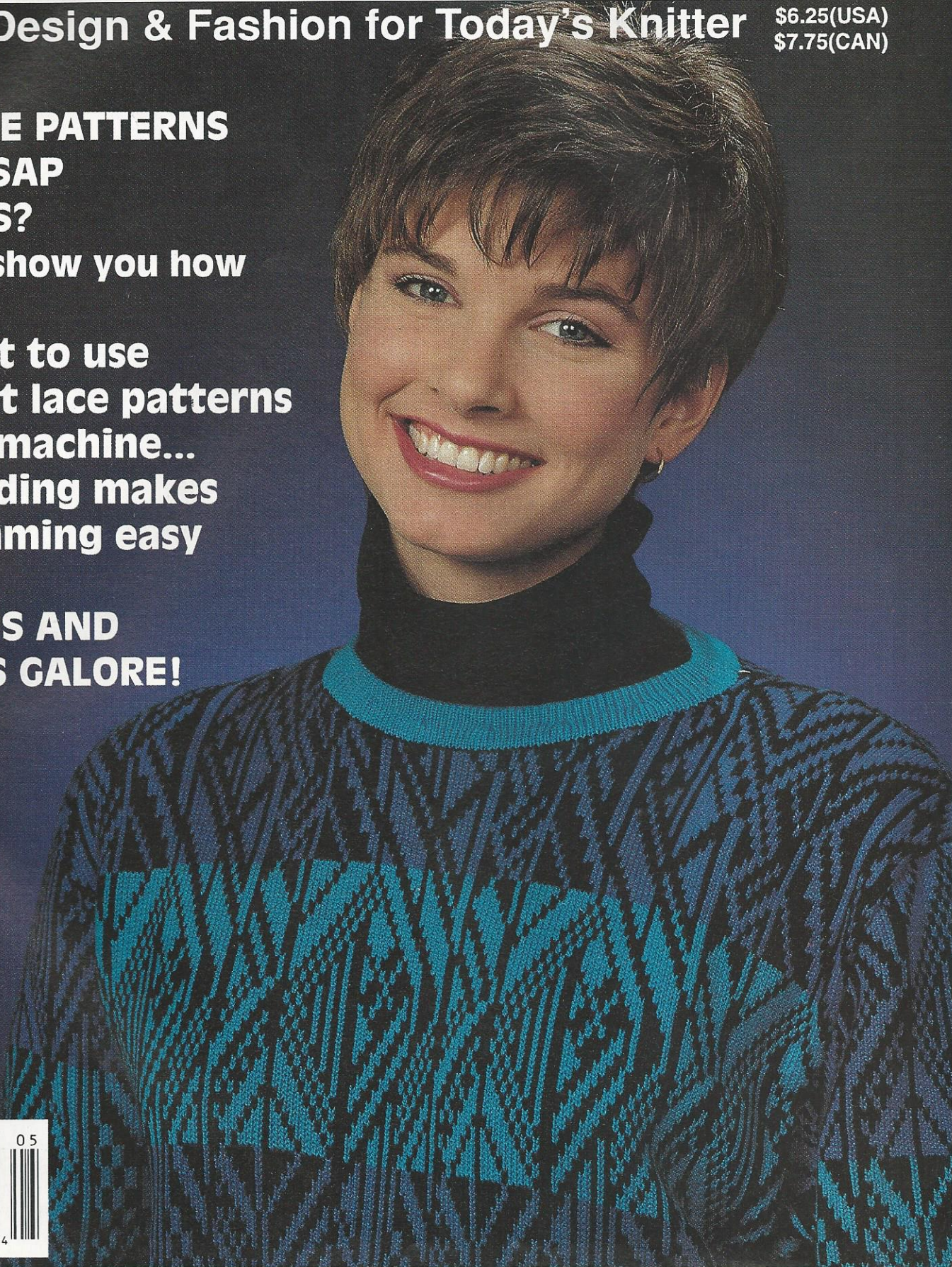
\$6.25(USA)
\$7.75(CAN)

JAPANESE PATTERNS FOR PASSAP KNITTERS?

Yes – We show you how

**You want to use
hand knit lace patterns
on your machine...
Color Coding makes
programming easy**

**PATTERNS AND
ARTICLES GALORE!**



HOW ACCURATE IS YOUR PRICING?

Part 1 of a 3 part article on pricing for profit, by Sharon Nani.

There are several methods of deciding the selling cost of your products. Years ago, the rule was simple: multiply the retail cost of the yarn by three. Another method was to assign an hourly wage to the time it took to make the item and add this to the cost of the materials. Neither of these methods considers the cost of your equipment, overheads, complexity of the pattern or profit. The technique that I am going to introduce to you is analytical. It is a technique used in the manufacture of knitwear. I use a modified version in my cottage industry.

This article will concentrate on the steps of gathering the necessary information to conduct an accurate time and motion study. The purpose of this study is to figure out the selling price of your product, and to recognize any inefficiencies in your knitting techniques. Quite often, when you can analyze your motions on paper, you can see where you might save time. The ultimate goal is to gather enough information so that you can begin to see the consistencies of how long certain techniques take. It also shows how much material it uses. This will allow you to estimate the cost of the product even before it leaves the design table. It will also allow you to offer the same product in different materials without having to do an actual cost study of each different material.

There are three pieces of equipment needed to conduct your study: a scale for weighing the material; a timer; and work sheets for recording the information.



A. SCALE FOR WEIGHING THE MATERIAL.

In manufacturing, there are very accurate scales for measuring very minute amounts of stabilizers. There are also heavy duty scales that will weigh the material and multiply it by its cost factor.

In simpler operations, you can use

postal or food scales. Several models are available with varying degrees of accuracy.

Time & Motion Studies?

Don't Panic!

It's simple to do.

There are several methods for finding out the weight of your product. The first method is to weigh the cone of yarn before knitting, then weigh the cone of yarn after knitting. The difference between the two weights is the weight of the product. This does not take waste into consideration. Waste is a factor that is calculated later. If there are waste pieces in your knitting, it is better to weigh the finished garment. When you knit with more than one color or more than one fabric, you must weigh the cones of yarn before and after knitting. This gives the amount used for each color or fabric. The only way to figure out the amount of material used in minute quantities is to keep track of how many pieces of knitting are produced from one cone. Divide the weight (or cost) of the cone by the number of pieces produced. Using thread as a stabilizer would be an example of this method.

For the example, I weighed the finished back and front piece and recorded the total weight for each garment on the back piece form under "Notes and Sketches." See sample work sheet.



B. TIMER.

For large volume industrial situations,

a special timer is used. It consists of a clip board with three stop watches at the top. One lever operates all three watches simultaneously. One watch timed the 'past'. In other words, it stops at the last motion that was timed. The second watch is timing the present motion. The third watch is at zero and ready to time the next or 'future' motions. Each time you hit the lever, the watches move to the next time phase. A cost study analyst uses this method in timing a knitter. The watches are accurate to the .00 of one second. Therefore, they can be used to time very fast motions. Since the watches are always showing the past, present and future, there is time to record the time before advancing to the next phase. This equipment is not available to the average person, nor is it needed to make an accurate time study. For legal reasons, always get permission from a knitter before you use her/him as the operator in your time study.

In most situations, at the cottage industry level, you must conduct your own time study and therefore time your own actions. I have found this to be a very accurate method. You can use an inexpensive timer - a West Bend cooking timer for example - that can be set to hours, minutes or seconds and will count backwards. Hit the start button when you begin the section that is being timed. Check the time when the action is complete and record the difference. Repeat for each section. You might be concerned that all this stopping and starting will affect the accuracy of the time study. It does not make an appreciable difference. I have tested this theory by timing complete pieces without stopping and then comparing this time with my cost study time of testing each section. I will write about this further under "elements."



C. FORMS/WORK SHEETS.

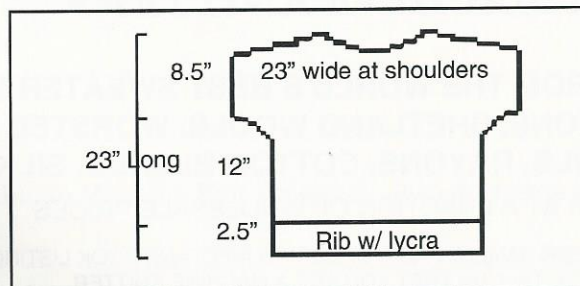
It is always efficient to have work sheets available to fill out as needed. For

TIME STUDY WORK SHEET

Sharon Nani The Knit Tree 21050 Scheer Dr. Redding, Ca 96002

Style # 1110	Size: Medium	Description: Cap Sleeve/V-Neck Sweater with cables on neck and armhole						Material: Rayon Boucle: SunRay Sweet Alice				
Operation: Back/Front	Machine: Passap w / motor	Operator/Rate Sharon - 100%			Rate/hr: - operation: "easy" \$5.33/hr	Pattern: Stockinette/ Purl side out/cable trims						
Elements: Sweater Back	Cycles: (time in min.) Colors: KG 1 Rust 2 Camel 3 Grey 4 Pine 5						# eye	Total:	Ave.	% Rating in decimal	Level Time	Misc Notes
set up, station, yarn	1	2	2	2	2	2	5	10.00	2.00	1.00	2.00	
set up ndls, cast on	2	4.3	2	2.3	2	2	5	12.60	2.52	1.00	2.52	
Knit Rib	3	2	1.9	2	1.6	1.8	5	9.30	1.86	1.00	1.86	
Transfer with U100	4	1	.9	1	.9	.9	5	4.70	0.94	1.00	0.94	
Knit to Underarm shape	5	3.2	3.5	3.3	3.2	3.3	5	16.50	3.30	1.00	3.30	
Underarm Shaping	6	1.3	1.1	1.1	1.1	1.1	5	5.70	1.14	1.00	1.14	
Knit armhole w/ cables	7	10	7.3	8.6	8.3	7	5	41.20	8.24	1.00	8.24	
shape neck, shoulders	8	4.5	4	3.6	4	3.6	5	19.70	3.94	1.00	3.94	
Latch Off (*trim time)	9	7	9	8.6	8.5	8.5	5	41.60	8.32	.95	7.90	
	10											
	11											
	12											
	13											
	14											
	15											
TOTAL LEVEL TIME FOR OPERATION: (Back)										23.94		

NOTES AND SKETCHES:



Total Weight: front and back
 Kelly: 7.5 ozs.
 Rust: 7.5 ozs.
 Camel: 7.5 ozs.
 Grey: 7.5 ozs.
 Pine: 7.5 ozs.

your convenience, I have included a sample copy of the work sheet I have modified for my needs. Feel free to modify this to meet your own needs. The 'work sheet' is in bold print. The 'gathered information' regarding the sample project is in normal print. I include the

work sheet for the back piece of a cap sleeve sweater as an example.

In part two, I will explain the different parts of the work sheet, how to fill it out, and how to apply the formulas

needed to determine the selling price. After you see how the system works, you can decide how to modify or simplify it to fit your needs.

Sharon Nani