International Journal of Advanced Research and Review

www.ijarr.in

TECHNOLOGY DRIVEN FOR THE ARTISANS OF LEATHER PRODUCTS- A CASE STUDY

Pushpendra Kumar

Sr. Technical Officer, RCED (CLRI), Ahmedabad, Central Leather Research Institute, Adyar, Chennai-20,India

ABSTRACT

The object of the study work is to analysis "The Technology Driven for the Leather and Leather Product" for reducing the number of operations and introducing the sequence between improper operations. The study aims to increase in productivity and reduction in wastage of materials.

INTRODUCTION

In India leather and leather product industry play a very important role in export as well as domestic market. It has a number of products, designs, and appearance. The Indian leather product industry has started implementing a new technology in each stage of production. The technologies such as work and method study will improve the productivity of leather product industry. Leather product manufactures the input resource comprising of raw materials (i.e. leather, thread, adhesive, grinderies, lining clothes, etc) and manpower. The output is in the form of finished article. An outline process chart clearly identities the major operations required and eliminate unwanted processes to make Leather Article.

About the case study

A case study conducted in Leather Goods Cluster, which caters to the demand of International as well as domestic market. The cluster is at Village - Nalasar, Dist- Palanpur, Gujarat (India). We implemented the technology through a Training of Leather Goods Manufacturing in March,2014. The funding was provided by GRIMCO (Gujarat Rural Industries Marketing Co-operation), Gandhinagar, Gujarat and the Training provided by Central Leather Research Institute, Chennai/Ahmedabad for Three months duration.

Product comprises of product design & Development. The overall production of the cluster is 200-600 Articles/Day (Depends upon the article as- Ladies Shoulder Bag or Violet). The production of the cluster in each section is as under-

Cutting of Leather – 300-700 Articles/Day
Cutting of Lining – 400-800 Articles/Day
Closing of Article- 220- 625 Articles/Day

We know very well that the women have more passion full to opting new sort of fashion and style with respect to men. Ladies Shoulder Bag is most popular article in leather goods product

that have all the women. If we are manufacture ladies articles so we have to care about all her requirement and needs that they have expect.

Manufacturing process of Ladies Shoulder bag

Existing Process Analysis

The following observation were took place during the course of regular production of ladies shoulder bag with full gusset.

- Sectional & Directional Cutting/ Clicking- Do not care
- Color variation- maximum
- Materials- poor
- Number of operations- many
- Co-operation between workers- poor
- Working environment during winter- chilly
- Skilled worker- less in number
- Inspection stations
- Inspection method- poor/improper
- Machine utilization - less/poor
- Confusing operation process
- Pasting & attaching operation- improper
- Production quality- poor

Proposed Process System

- Sectional & Directional Cutting- maximum
- Color variation- minimum
- Materials - better
- Reduce number of operations
- Develop multi skilled worker
- Develop good understanding between worker
- Introduce & develop inspection methods
- Implement proper sequence of operation(pasting & attaching)
- Implement quality circles
- Train people in customer-oriented quality standard

Flow Diagram

The flow diagram is used to supplement the process chart. It is a plan, which shows the location of M/c and sitting layout of workers at the work place. Fig-2 shows a flow chart of Ladies Shoulder Bag (Leather) manufacturing in cluster. It indicates the movement of the material in the assembling and stitching of upper part and lining. After applying the flow diagram and flow process chart of these activities, the total distance travelled by material reduced from 35 meter to 22 meter in the in the proposed system.

CONCLUSION

In the Proposed System

- Sectional & Directional cutting considering color variation is improve.
- Number of operations are reduced.
- Consumptions of materials are reduced.
- Waiting time is reduced by 20 %.
- Introduce more number or gauge of stitching operations through a single needle stitching machine.
- Work process is standardized.

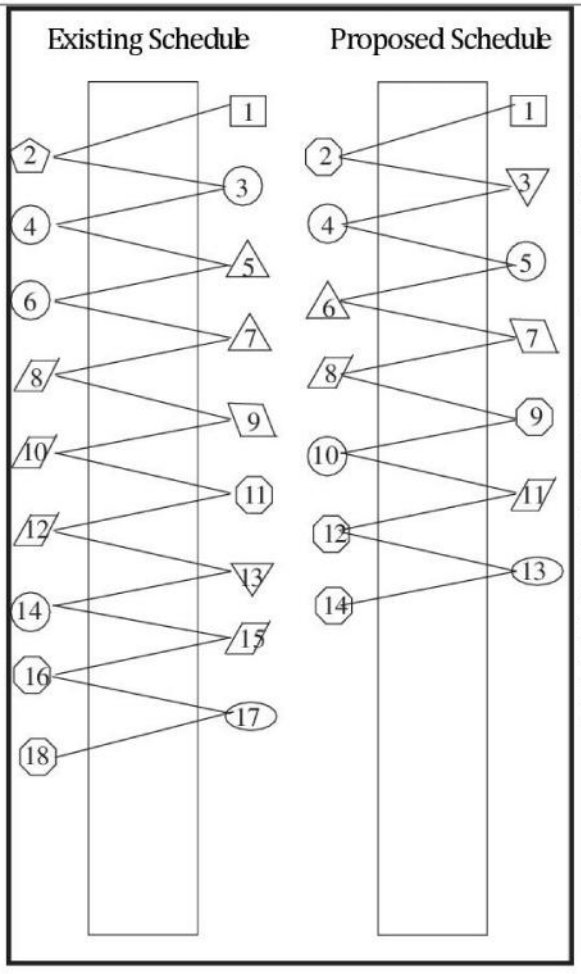
Flow Diagram for Existing and Proposed System

Location: Closing Section Conveyor: A	**FLOW DIAGRAM** Existing & Proposed method	Date: 09-06-2014

Project: **Assembly & Stitching of Upper & lining of Ladies Shoulder Bag**

Existing Schedule

1. Clicking
2. Skiving
3. Pasting-1(paper sheet at window in upper leather)
4. Pasting-2(paper sheet at window in clothe)
5. Folding-2
6. Pasting-3(Armor sheet in shoulder strap)
7. Folding-3
8. Stitching-1
9. Attaching Zipper
10. Stitching-2
11. Inspection-1
12. Stitching-3(lining)
13. Allowance marking
14. Pasting-4 (leather attaching)
15. Stitching-4
16. Inspection-2
17. Grinderies riveting
18. Final Inspection-3



Proposed Schedule

1. Clicking
2. Inspection-1
3. Allowance marking
4. Pasting-1(paper sheet at window in leather+c lothe)
5. Pasting-2(Armor sheet in shoulder strap)
6. Folding-2
7. Attaching Zipper+lining
8. Stitching-1
9. Inspection-2
10. Pasting-4(leather attaching)
11. Stitching-4
12. Inspection-3
13. Grinderies riveting
14. Final Inspection-4

Figure1. **OUTLINE PROCESS CHART**

(Cutting & closing section)

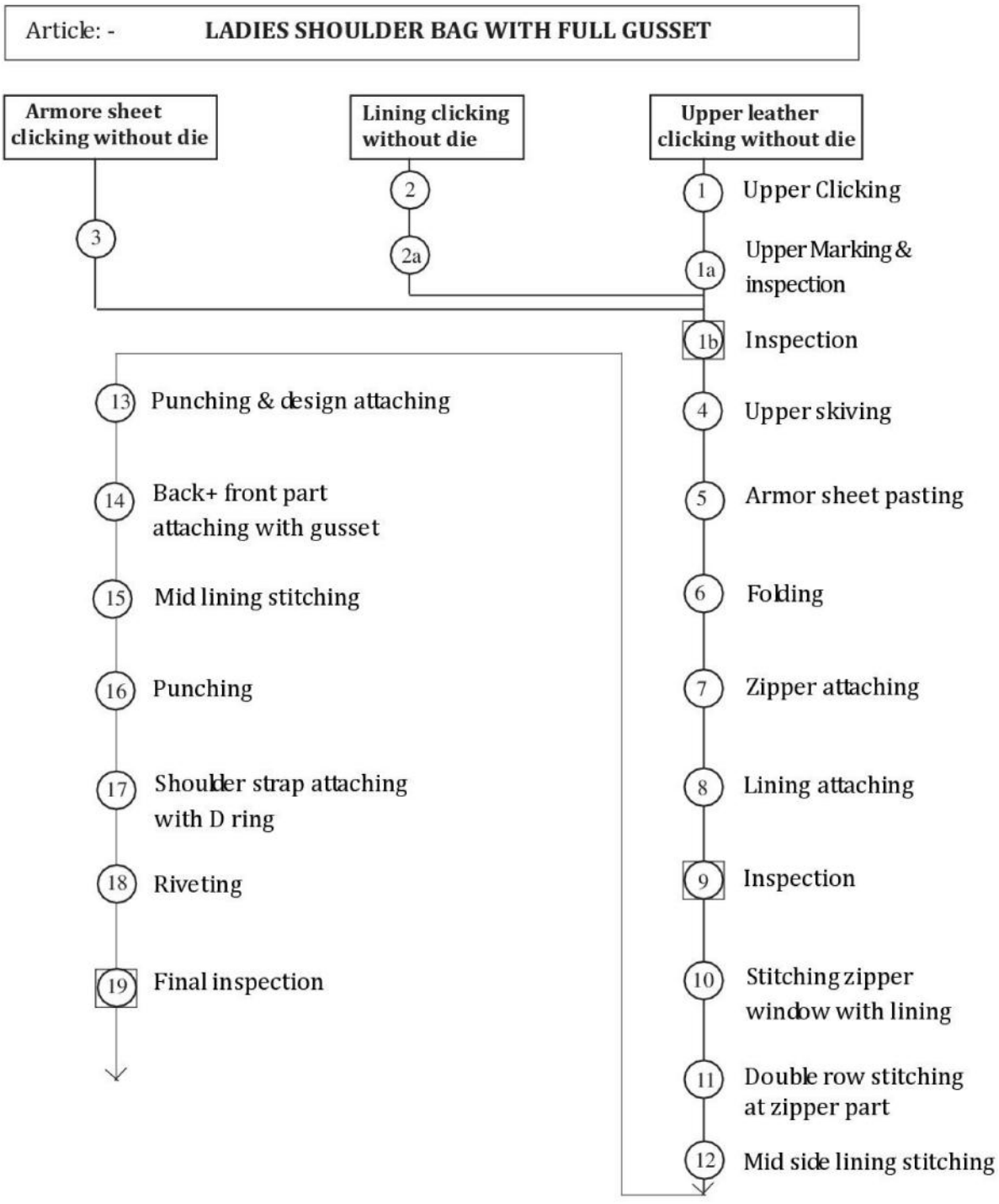


Table 1. Process Sequence of Cutting & closing Section

ID Number	Components	Process Name
1	8	Upper Clicking
1a	8	Upper Marking & inspection
2	4	Lining Clicking
2a	4	Lining marking & inspection
3	4	Paper sheet clicking
1b	12	Inspection
4	4	Upper skiving
5	4	Paper sheet pasting
6	5	Folding
7	**3**	Zipper attaching
8	4	Lining attaching
9	5	Inspection
10	4	Stitching zipper with lining
11	2	Double row stitching at zipper part
12	2	Mid side lining stitching
13	1	Punching & design attaching
14	2	Back+ front part attaching with gusset
15	1	Mid lining stitching
16	8	Punching
17	4	Shoulder strap attaching with D ring
18	8	Riveting
19	1	Final inspection

Table 2. Comparison chart of Proposed & Existing outline process chart

Elements	Proposed	Existing
Operation		
➢ Clicking	3	4
➢ Marking	1	3
➢ Pasting	4	6
➢ Stitching	4	6
➢ Folding	2	3
➢ Attaching	3	4
Inspection		
➢ Clicking section	1	1
➢ Closing section	3	2

REFERENCES

1. T.R. Banga & N.K.Agrawal, “Industrial Engineering and Management Science” Khanna Publishers,New Delhi 1998, pp.20-40.
2. S. Balasubramanian, “Process analysis on Footwear Manufacture- A case study”- Jilta, January-2002
3. Joseph S. Martinich, “ Production and Operations Management” John wiley & Sons (Asia) Pte. Ltd.(1997)