QUESTIONNAIRE I.
UNIVERSITY OF MADRAS
DEPARTMENT OF COMMERCE
INSTITUTION OF CORRESPONDENCE EDUCATION

Part 1
Personal Data

Kindly go through all the items below. Please don't skip any item. Put a tick mark in the appropriate bracket, circle and/or furnish the details sought by filling in the space provided.

Name of the organization where you are employed.

Sex

| Male ☐ | Female ☐ |

Category of employees

| Direct ☐ | Indirect ☐ |

General characteristics: (Please tick)

<table>
<thead>
<tr>
<th>Age</th>
<th>Service</th>
<th>Salary</th>
<th>Qualification</th>
<th>Category Of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 25</td>
<td>Below 5</td>
<td>Below 2000</td>
<td>Below Plus Two</td>
<td>Direct employees</td>
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<tr>
<td>25 to 30</td>
<td>5 to 10</td>
<td>2000 to 4000</td>
<td>Plus Two</td>
<td>Indirect employees</td>
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<td>30 to 35</td>
<td>10 to 15</td>
<td>4000 to 6000</td>
<td>Technical</td>
<td>———</td>
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<td>35 to 40</td>
<td>15 to 20</td>
<td>6000 to 8000</td>
<td>Graduation</td>
<td>———</td>
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<td>40 to 45</td>
<td>20 to 25</td>
<td>8000 to 10000</td>
<td>Post graduation</td>
<td>———</td>
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<td>45 to 50</td>
<td>25 to 30</td>
<td>Above 10000</td>
<td>Any other specify</td>
<td>———</td>
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<tr>
<td>Above 50</td>
<td>Above 30</td>
<td>———</td>
<td>———</td>
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</tbody>
</table>
### Availability of Basic Welfare Measures in Your Organisation

(Enter tick)

1. What are all the welfare facilities related to safety & health (please tick)
   a) Safety education
   b) Cleanliness
   c) Ventilation & Temperature
   d) Provision of Rest room
   e) Notice board
   f) Supply of necessary Beverages, pills & tablets
   g) Control of effluents
   h) Factory health center
   i) Family Medical subsidy
   j) Health Insurance
   k) Compensation of injury
   l) Dispensary
   m) Medical examination
   n) Health Education

2. Are you in the grip of fear of losing your job? Y/N
   If yes, the reason being,
   a) Computerization
   b) Outsourcing
   c) Introduction of Benchmarking
   d) Any other reason

3. Do your unit introduced VRS Scheme? Y/N

4. Do your company provides updated training facilities? Y/N

5. Do you think that training would help in improving positive attitude among workers? Y/N
   If yes the reason (Please tick)
   a) Training would increase efficiency & productivity
   b) It would promote disciplined behaviour
   c) Promote sense of responsibility & sense of belongingness
   d) Promote healthy industrial relations
   e) Develop expression skills
   f) Eliminate wastages
   g) Develop leadership & decision making qualities

6. Do you feel disillusion at the work place? Y/N
   If yes, the reason being,
   a) Lack of recreation facilities
   b) Lack of Challenging job
   c) Lack of leisure
   d) Lack of recognition of your hard work

7. Do you think that better HRD will promote industrial relations? (a) Yes (b) No (c) Do not know

8. Do you have industrial disputes in the last 10 years? (1994-2004) Y/N
   If yes, the reason being
   a) Poor payment
   b) Poor work environment
   c) Heavy workload

9. The functioning of TPM & TQM will bring in World Class Manufacturing
   Do you agree (Please tick)
   (a) Yes (b) No (c) No idea

10. What distressed you more? (Please tick)
    a) Less promotional opportunities
    b) Absence of competitive pay and wages
    c) Threat to the security of job
    d) Any other?
### Part III

**Opinions Regarding Health, Safety and Work Environment**

(Protective type of Labour welfare)

Please indicate your level of satisfaction with each item by placing a tick mark in the relevant columns. It is your opinion that is important.

(Response value—Very Much Satisfied—5, Satisfied—4, Neutral—3, Dissatisfied—2, Very Much Dissatisfied—1)

<table>
<thead>
<tr>
<th>How will you rate the following</th>
<th>V.M. S</th>
<th>S.</th>
<th>N.</th>
<th>N.S.</th>
<th>V.M. D</th>
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</thead>
<tbody>
<tr>
<td>1. Health education provided in your company</td>
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<td>2. Medical reimbursement</td>
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<td>3. Health Insurance</td>
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<td>4. Ambulance service</td>
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<td>5. Medical examination</td>
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<td>6. Safety training provided</td>
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<td>7. Safety education</td>
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<td>8. Ventilation</td>
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<td>9. Control of effluents</td>
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<td>10. Workers are informed about the safety procedures to be followed before operating new machines</td>
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<td>11. Work environment is conducive to work</td>
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<td>12. Recreation facilities</td>
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<td>13. Having respect for each other's goal (Mutual regard)</td>
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<td>14. Works together to make the unit better (Cooperation)</td>
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<td>15. Team spirit</td>
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<td>16. Setting disputes through Negotiation (Fairness)</td>
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<td>17. Union-management showing respect and understanding for each other's views (Friendliness)</td>
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<td>18. Promotion policy is based on suitability of the promotee rather than favouritism</td>
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<td>19. Employees are very informal and do not hesitate to discuss their personal problem with their supervisors</td>
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<tr>
<td>20. Leave &amp; facilities of conveniences</td>
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</table>
Part IV (A) Opinions Regarding Nature of Training Needed
(Promotional type of Labour welfare)

Please indicate your opinion by placing a tick mark

21. Training — a continuous process
22. Training — need based
23. Training — for every one
24. Training — a dynamic phenomenon
25. Training — a planned affair
26. Training — a corollary to change
27. Training — for competence and competition
28. Training — practice oriented
29. Training — made in testing
30. Training — backed with interesting

Part IV (A) 1. Opinion Regarding H.R.-Training

Please indicate your level of satisfaction with each item by placing a tick mark in the relevant column

<table>
<thead>
<tr>
<th>How will you Rate the following</th>
<th>V.M.</th>
<th>S.</th>
<th>N.</th>
<th>D.S.</th>
<th>V.M.</th>
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<tbody>
<tr>
<td>31. Training given to the workers in your organisation</td>
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<td>32. Training methodology used</td>
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<td>33. Quantity of training materials available</td>
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<td>34. Quality of training</td>
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<td>35. Trainee involvement and participation</td>
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<td>36. Training of employees for ISO 9000 Certification</td>
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<td>37. Computer based training given in your organization</td>
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<td>38. On the job training</td>
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<td>39. New employees socialization programme through Orientation Training</td>
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<td>40. Your organization is willing to invest reasonable resources and time to ensure development of employees</td>
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</tbody>
</table>
PART IV (B) OPINION REGARDING BENCHMARKING

Please indicate your level of satisfaction with each item by placing a tick mark in the relevant columns

<table>
<thead>
<tr>
<th>How will you Rate the following</th>
<th>V.M S</th>
<th>S.</th>
<th>N.</th>
<th>D.S.</th>
<th>V.M D</th>
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</thead>
<tbody>
<tr>
<td>41. Module system</td>
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<td>42. Group &amp; Cellular Scheme</td>
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<td>43. Awareness of quality strategy</td>
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<td>44. Supervisors' supportive role in quality improvement</td>
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<td>45. Plant Performance Scheme</td>
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<td>46. Consistent Quality Scheme</td>
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<td>47. Functioning of TPM</td>
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<td>48. Functioning of TQM</td>
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<td>49. Quality Incentive Payment</td>
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<tr>
<td>50. Communication strategy for the successful functioning of Benchmarking in your organization</td>
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</tbody>
</table>

PART IV (B) 1. Prime Motivating factors for the Successful functioning of

Please indicate your opinion by placing a tick mark

51. Wage/salary                   ( )
52. Bonus & Gratuity              ( )
53. Better communication system   ( )
54. Security of job               ( )
55. Challenging job               ( )
56. Incentive payment             ( )
57. Human resource Training       ( )
58. Hygiene in the company        ( )
59. Conductive work environment   ( )
60. Safe working condition        ( )

Final opinion about the welfare measures in general
Final opinion about the HRD climate
Final opinion about benchmarking
Final opinion about your job satisfaction

Any other remark.
QUESTIONNAIRE II
UNIVERSITY OF MADRAS
DEPARTMENT OF COMMERCE - ICE

Opinion regarding Job-Satisfaction.

Kindly go through all the items given below. Please don’t skip any item. Put a tick mark in the appropriate box/column.

Name of the organization where you are employed

Category of employee

<table>
<thead>
<tr>
<th>Direct employee</th>
<th>Indirect employee</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Job related factors</th>
<th>V.M.S</th>
<th>S</th>
<th>N</th>
<th>D.S.</th>
<th>V.M.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work allocation</td>
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<tr>
<td>2. Leave rules</td>
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<td>3. Promotion prospects</td>
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<td>4. Labour-management relationship</td>
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<td>5.Bonuses and gratuity</td>
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<td>6. Retirement benefits</td>
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<td>7. Training and development</td>
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<td>8. Salary/wage</td>
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<td>9. Communication system</td>
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<tr>
<td>10. Job sharing &amp; job rotation</td>
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<td>11. Work condition</td>
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<td>12. Organisations’ care of your family members</td>
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<td>13. Job security</td>
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<td>14. Overtime wages</td>
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<td>15. Incentive payment</td>
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</tbody>
</table>

V.M.S - Very much satisfied; S - satisfied; N - neutral; D - Dissatisfied; V.M.D - Very much dissatisfied.

What dissatisfies more?

a) Dullness in the work spot
b) Job insecurity
c) Lack of adequate training facilities
d) Lack of adequate incentive payment
e) Lack of promotional opportunities
f) Any other (please specify)
DIRECT PERSONAL INTERVIEW (STRUCTURED)

After fixing up an appointment, the researcher visited the study units and interviewed the employees in order to supplement information collected through questionnaire. Through this method the researcher got qualitative data - data, which cannot be obtained from yes/no answers or the choice of alternatives given in the questionnaire. The following were the questions posed before the sample employees to supplement the questionnaire.

1. Do you have adequate safety provision?
2. Your unit is celebrating safety day, safety week, safety month etc. Are they meaningful?
3. Do you have strong communication base?
4. Do you want to say anything about the distribution of work?
5. How about your canteen food?
6. Are you satisfied with the leave rules?
7. Whether the management is considerate and interested in the welfare of the employees?
8. What do you feel about the wage/salary?
9. Are you satisfied with the bonus and D.A. payments?
10. To compete globally, your company has introduced benchmarking in the form of TPM & TQM, Consistent Quality Scheme etc., what is your opinion about these techniques?
11. Do you have adequate training facilities to update your knowledge and skill? What is your opinion regarding training given in your unit?
12. Do you have frequent meeting with the management?
13. Are you interested in giving suggestion to the management, if any, to increase the productivity?
14. Are you proud of being an employee in your company?
15. Are you satisfied with the job you are performing?
16. When employees are sponsored for training, do they take it seriously and try to learn from the program?
17. Is the working atmosphere conducive for any employee interested in developing himself by getting new skill?
18. Are the workers in your organisation encouraged to experiment with the new methods?
19. Do the personnel policies facilitate employee’s development?
20. Whether your organisation is willing to invest reasonable resources and time to ensure employees development?
21. What is in your opinion the motivational factor ‘monetary’ or non-monetary?
22. Are you satisfied with the provision of financial assistance for your children’s education?
23. Are you happy with the scheme of Consistent Quality Reward?
INTERVIEW SCHEDULE
UNIVERSITY OF MADRAS
DEPARTMENT OF COMMERCE
INSTITUTE OF CORRESPONDENCE EDUCATION

PART I (ABOUT HUMAN RESOURCE TRAINING)

1. Do you have Industrial Disputes in the last 10 years? Y/N

2. Do you think that HRD practice would promote IR? Y/N/
   If yes the reason being,
   a. It would promote the multi-skill of the employees
   b. It would bring better communication
   c. It would bring better work environment
   d. It would promote team work
   e. It would bring continuous improvement to meet
      Global competitions.
   f. All the above together

3. How many hours is allotted for job related training per month?
   (Please tick)
   a. 10-15
   b. 15-20
   c. 20-25
   d. 25-30

4. Do your company give reimbursement for job related courses? Y/N
   If yes, (a.) What is the percentage of the cost reimbursed?
   (b) What is the percentage of the employees benefited?

5. Fifteen types of skill have been listed in the table given below. What are
   the skill do you expect to be acquired through training for the various
   levels of employees in your unit. Please tick

<table>
<thead>
<tr>
<th>Officials/ Employees</th>
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<td>Senior Managers</td>
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Appendix D
(a 8 to a 11)
6. What are the challenges the management is facing in implementing the training programme? (Please tick)

   a. Massive training needs
   b. Rapid technological advances
   c. Mismatch by the training and actual work
   d. Higher cost of training
   e. Resource crunch
   f. Any other –please specify

7. Do your company impart value-based training to the following categories

   a. Shop level employees
   b. Supervisors
   c. Executives
   Please specify the nature of value-based training given to them

8. What are the impacts of training in your opinion? (Please tick)

   a. Improvement in worker’s behaviour with their co-workers
   b. Increased interest in suggestion scheme
   c. Workers became more competent and committed to their jobs.
   d. There was greater cooperation, coordination and collaboration;
   e. Employees found themselves better equipped with problem solving capabilities
   f. There was not much resentment for change and on the contrary there was greater readiness to accept change.
   g. There was better communication in the organisation
   h. Better Human Resources planning.
   i. Organisation had achieved new heights in terms of productivity and profit.
   j. TPM & TOM-(Total Productive Management, Total Quality Management) were the main “heroes” in the “stage” of “organisation”.

9. Workers Training programmes would remove performance deficiencies and would improve healthy industrial relation. Y/N

   If Yes the reason being (Please tick)
i. the deficiency is caused by lack of ability rather than lack of motivation to perform,

ii. the individuals involved have the aptitude and motivation needed to learn how to do the job better,

iii. supervisors are supportive of the desired behaviours,

iv. training contributes to employee stability. Employee becomes efficient after undergoing training. They seldom leave the company.

v. Training makes the employees versatile in operations.

vi. All rounder can be transferred to any new jobs. Flexibility is therefore ensured.

vii. Accidents, scraps and damage to machinery and equipment can be avoided or minimized through training.

viii. Even dissatisfaction, complaints and absenteeism can be reduced if employees are trained well.

ix. Future needs for employees will be met through training and development programmes.

x. Training is an investment in Human Resources with a promise of better returns in future.

PART II (ABOUT BENCHMARKING)

1. In India Benchmarking denotes the introduction of TPM & TQM tools and preparing the company to receive ISO Certification. Do you agree? Y/N

2. How about the functioning of Quality Circle in your unit? (Please tick)
   a. Highly satisfied
   b. Highly dissatisfied
   c. Neutral
3. Are the employees understood the 7 basic tools, ie. Cause and effect diagramme, Check sheet, Pareto analysis, Histogram, Scatter diagramme, Stratification and Control charts followed in your unit regarding benchmarking Y/N

4. Whether the employees involve themselves in the functioning of Benchmarking (functioning of TPM & TQM) Y/N

5. Training, benchmarking and work excellence are interlinked. Do you agree? Y/N If yes, please specify your reasons

6. The elements of difficulties faced by the management while implementing the benchmarking tools like TPM & TQM are given in the following table. How will you rate? Please tick the appropriate column

<table>
<thead>
<tr>
<th>How will you Rate the following</th>
<th>V.D.</th>
<th>D.</th>
<th>L.D</th>
<th>E.</th>
<th>V.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High quality</td>
<td></td>
<td></td>
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<tr>
<td>2. Zero defect</td>
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<tr>
<td>3. Effective communication</td>
<td></td>
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<tr>
<td>4. Preventive maintenance</td>
<td></td>
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<tr>
<td>5. JIT purchasing</td>
<td></td>
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<tr>
<td>6. Continuous improvement</td>
<td></td>
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<tr>
<td>7. Functioning of TQM</td>
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</tr>
<tr>
<td>8. Functioning of TPM</td>
<td></td>
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<tr>
<td>9. Quality Circle</td>
<td></td>
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<tr>
<td>10. Module/Cellular Manufacturing system</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

V.D.- Very Difficult; D - Difficult; L.D- Little Difficult; E. - Easy; V.E.- Very Easy
<table>
<thead>
<tr>
<th>No.</th>
<th>Title and No. of Convention</th>
<th>Date of registration of ratification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No. 1. Hours of work (Industry) Convention, 1919</td>
<td>14-7-1921</td>
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<tr>
<td>2</td>
<td>No. 2. Unemployment Convention, 1919</td>
<td>14-7-1921</td>
</tr>
<tr>
<td>3</td>
<td>No. 4. Night Work (Women) Convention, 1919</td>
<td>(Later denounced)</td>
</tr>
<tr>
<td>4</td>
<td>No. 5 Minimum Age (Industry) Convention, 1919</td>
<td>0-6-1955</td>
</tr>
<tr>
<td>5</td>
<td>No. 6 Night Work of Young Persons (Industry) Convention, 1919</td>
<td>14-7-1921</td>
</tr>
<tr>
<td>6</td>
<td>No. 11. Right of Association (Agriculture) Convention, 1921</td>
<td>11-2-1922</td>
</tr>
<tr>
<td>8</td>
<td>No. 15. Minimum Age (Trimmers ad Strokers) Convention, 1921</td>
<td>20-11-1922</td>
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<tr>
<td>9</td>
<td>No. 16. Medical Examination of Young Persons (Sea) Convention, 1921</td>
<td>20-1-1922</td>
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<tr>
<td>10</td>
<td>No. 18. Workmen’s Compensation (Occupational Diseases) Convention, 1921</td>
<td>30-9-1927</td>
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<td>11</td>
<td>No. 19. Equality of Treatment (Accident Compensation) Convention, 1923</td>
<td>3-10-1927</td>
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<td>12</td>
<td>No. 21. Inspection of Emigrants Convention, 1926</td>
<td>14-1-1928</td>
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<td>13</td>
<td>No. 22. Seamen’s Articles of Agreement Convention, 1926</td>
<td>31-10-1932</td>
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<tr>
<td>14</td>
<td>No. 26. Minimum Wage-Fixed Machinery Convention, 1926</td>
<td>10-1-1935</td>
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<td>15</td>
<td>No. 27. Marking of Weight (Packages Transported by Vessels) Convention, 1929</td>
<td>7-9-1931</td>
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<tr>
<td>16</td>
<td>No. 29. Forced Labour Convention, 1930</td>
<td>19-11-1954</td>
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<td>17</td>
<td>No. 32. Protection against Nuisances (Dockers) Convention (Revised), 1932</td>
<td>16-2-1947</td>
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<tr>
<td>18</td>
<td>No. 41. Night Work (Women) Convention (Revised), 1934</td>
<td>22-11-1944</td>
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<td>19</td>
<td>No. 42. Workmen’s Compensation (Occupational Diseases) Convention (Revised), 1934</td>
<td>13-1-1966</td>
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<tr>
<td>20</td>
<td>No. 43. Underground Work (Women) Convention, 1935</td>
<td>25-1-1938</td>
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<tr>
<td>21</td>
<td>No. 50. Final Articles Revision Convention, 1944</td>
<td>17-11-1947</td>
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<td>22</td>
<td>No. 61. Labour Inspection Convention, 1947</td>
<td>1-1-1949</td>
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<td>23</td>
<td>No. 88. Employment Service Convention, 1948</td>
<td>24-8-1959</td>
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<tr>
<td>24</td>
<td>No. 89. Night Work (Women) Convention (Revised), 1948</td>
<td>27-2-1950</td>
</tr>
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</table>

32. No. 123. Minimum Age (Underground Work) Convention, 1963 20-3-1975
33. No. 141 Rural Workers’ Organisations Convention, 1975 18-6-1977
35. No. 136 Protection Against Hazards of Poisoning Arising from Benzene Convention, 1971 11-4-1991


Appendix 21
(a) to suggest rationalisation of existing laws relating to labour in the organised sector, and

(b) to suggest an 'umbrella' legislation for ensuring a minimum level of protection to the workers in the unorganised sector.

While drafting the framework for the above, the Commission may take into account the following:

(i) the implications of the recommendations made by the Commission set up in May, 1989 for review of various administrative laws governing the industry.

(ii) the emerging economic environment involving rapid technological changes, requiring response in terms of change in methods, timings and conditions of work in industry, trade and services, globalisation of economy, liberalisation of trade and industry and emphasis on international competitiveness and the need for bringing the existing laws in tune with the future labour market needs and demands.

(iii) the minimum level of labour protection and welfare measures and the basic institutional framework for ensuring the same, in the manner which is conducive to a flexible labour market and adjustments necessary for forthcoming technological change and economic growth.

(iv) improving the effectiveness of measures relating to social security, occupational health and safety, minimum wages and linkages of wages with productivity and in particular the safeguards and facilities required for women and hand-tapped persons in employment.
The productivity linked Incentive Scheme is designed in order to enable the employees to earn incentive every month based on the overall performance of the plant in producing saleable goods. This is a group incentive scheme based on the performance levels already achieved and aimed at exploring the scope available for improving the same. Besides increase in the output, the reduction in scrap also will add to the incentive earnings as can be seen from the scheme described below.

The incentive earnings of all employees covered by the settlement will be uniform, keeping in view the spirit of team work.

This scheme is valid for the current level of technology. This will be suitably modified as and when improvements in methods/modernisation exercise is undertaken.

**DEFINITIONS**

Month means a calendar month.

Production means quantity transferred to Bonded Godown.

Direct Employee means an employee who actually performs operations on the product. Employees in QC, PPC, Maintenance etc. will be in the indirect category.

Net Direct Man Hours (NDMH) means the attendance hours of the Direct Employees.

**PROCEDURE FOR CALCULATION**

The production for the month will be converted into Equivalent Units (EU) based on the man-hour content. The equivalent unit is arrived at by considering the man hours taken for production of 1000 NOS. of Part No. 2076 as 1.

The customer returns converted into EU will be subtracted to arrive at the Net Production for the month.

The Net Production will be divided by the NDMH for the month to arrive at the Productivity Index.

The scrap percentage for the month calculated by the Quality Assurance Department will be used.

The productivity achieved during the last settlement period was 13.20 EU/NDMH. This has been equated to 100 and used as the base for constructing the incentive table.

1.8% scrap level prevailed during the last settlement period has been used as the base.
CAS - TVS LTD., PADI, CHENNAI - 600 050, INDIA

MRS PREMA SAMPATHKUMAR
Lecturer Selection Grade
Department of Commerce
SDNB Vaishnav College for Women
Chromepet
Chennai 600 044

9th March 2001

Madam

As requested by you, we are furnishing below the number of employees in the bargainable cadre in TVS Group of Companies at Padi:

Lucas-TVS Limited 1699
Sundaram Fasteners Limited 464
Wheels India Limited 971
Brakes India Limited 715
Sundaram Brake Linings Limited 216
Sundaram Clayton Limited 568

Thanking you

Yours faithfully

For LUCAS-TVS LIMITED

A ARAVAMUDHAN
SENIOR VICE PRESIDENT-HR
FORM - B
(See Rule 25 (1))

MEMORANDUM OF SETTLEMENT

Under Sec.2(p) and 18(1) of the Industrial Disputes Act 1947 and Rule 25(1) of the Tamilnadu Industrial Disputes Rules 1958

Ref. PD / 5-98 Dt. 12th January 1998

NAME OF PARTIES

THE MANAGEMENT OF RANE (MADRAS) LIMITED
Ganapathy Buildings 61, Velachery Road, Chennai - 600 042.
(hereinafter referred to as 'The Employer')

and

THE WORKMEN OF RANE (MADRAS) LIMITED
Velachery, represented by Rane (Madras) Limited employees’ Progressive Union, Chennai
(hereinafter referred to as "The Employees")

Representing the Employer
Mr. M.S. Kumar - Director & Chief Executive
Mr. P.R. Ravindran - Vice President : Finance
Mr. V.S. Kasbekar - C.M. Operations
Mr. T.K. Srinivasan - Dy. General Manager: Mfg.
Mr. George Mathew - Dy. Genl. Manager: HRD&ER
Mr. M. Radhakrishnan - Manager: Per. & Admin.
Mr. G. Ravi - Manager: MSD

Representing the Employees
Mr. C. Kuppuswamy - President
Mr. M. Shanmugam - Vice President
Mr. G. Srinivasan - Vice President
Mr. G. Jayachandran - General Secretary
Mr. R. Selvam - Joint Secretary
Mr. K.G. Kumaravelu - Assistant Secretary
Mr. K. Parthasarathy - Treasurer

Number and broad description of category of workmen covered by the settlement: All regular and permanent employees who are daily rated and all employees in Grade I up to and including Grade VIII in monthly rated category both numbering around 630 employed in the Factory at 61, Velachery Road, Chennai 600 042.

Period of operation: 1.10.97 to 30.9.2000
MEMORANDUM OF SETTLEMENT

Between

Rane Engine Valves Ltd.

and its

Workmen at Plant - I

<table>
<thead>
<tr>
<th>Brief Description of the Category and Number of Workmen covered by the settlement</th>
<th>1) Highly Skilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Operator Grade A</td>
<td></td>
</tr>
<tr>
<td>3) Operator Grade B</td>
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<tr>
<td>4) Operator Grade C</td>
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<tr>
<td>5) Operator Grade D</td>
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<tr>
<td>6) Operator Grade E</td>
<td></td>
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<tr>
<td>7) Operator Grade F</td>
<td></td>
</tr>
<tr>
<td>8) Jr. Clerk</td>
<td></td>
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<tr>
<td>9) Driver</td>
<td></td>
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<tr>
<td>10) Attender</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL 486 persons
trend of deteriorating demand for Company's products, entry of reputed
and strong competitors in the field, competitive advantages for the
competitors, difficulties in securing better prices, etc.,

WHEREAS the union said that they were aware of the said adverse
business conditions but were confident that the Company will be in a
position successfully to meet these challenges with the
operation of the workmen who were prepared to put in all their
efforts in improving productivity/quality and avoiding wasteful practices
if any and that incurring additional cost for the betterment of labour would
only strengthen the Company in its efforts for better performance;

WHEREAS the Management pointed out that the levels of wages and
other service conditions and benefits already extended by them
compared favourably with many undertakings in Tamilnadu and as such,
if at all, there could be only a marginal revision, that unless there
was a corresponding increase in productivity the additional
cost under the Settlement would affect the viability of the Company's
operations;

WHEREAS the Union said that they were willing to respond positively
for specific improvements in work practices and productivity as may
be taken up from time to time;

WHEREAS the parties agreed that since certain demands relating to
Basic Wages, Dearness Allowance and other issues covered by the
Charter of Demands were common to all the Companies in the Padi Units
of the Padi Group, viz. Lucas TVS Limited, Padi, Brakes India Limited,
Padi, Wheels India Limited, Padi, Sundaram Clayton Limited (Brakes
Division), Padi, and Sundram Fasteners Limited, Padi, it would be
advantageous to negotiate jointly and conclude a common Settlement for
all the aforesaid Companies and their workmen at Padi as in the past;

WHEREAS in pursuance of this understanding, joint negotiations on
various demands put forth in the Charter as well as those that were
taken up during the discussions between the Management of the
said companies at Padi viz. Lucas TVS Limited, Brakes India Limited,
Wheels India Limited, Sundaram Clayton Limited (Brakes Division) and
Sundram Fasteners Limited and their workmen represented by their
respective recognised Trade Unions viz. Lucas TVS Branch, Brakes
India Branch, Sundaram Clayton Branch of Tamilnadu National
Engineering Employees' Union (Regn No.135/MDS) Wheels India
Workers' Union (Regd No 3256) and Sundram Fasteners Employees
SHORT RECITAL OF THE CASE

REAS the Bipartite Settlement No.PD/972-94 dated 6-7-1994 arrived at between management of RANE (MADRAS) LIMITED, 61, Velachery Road, Chennai - 42
(hereinafter referred to as the "Management")

its workmen covered by the said settlement represented by the Rane (Madras) and Employees Progressive Union(Reg.No.:1834/MDS - recognized as the sole representative Union)
(hereinafter referred to as the "UNION")

the employees of the above Company, under Sec.18(1) of the Industrial Disputes Act and the Rule 25(1) of the Tamilnadu Industrial Disputes Rules 1958 made under expired on 31-3-97.

WHEREAS the said Union which continues to enjoy the status of recognized Union represent the workmen of the RML Velachery Plant terminating the aforesaid Settlement, issued a letter No.226/97 dated 31-3-97 containing a Charter of demands for revision existing wages/Dearness Allowance/Service Conditions etc., including therein certain demands.

WHEREAS the Management and Union expressed their desire to discuss the Charter of Demands for arriving at a Settlement as early as possible, under Section 18(1) of the Industrial Disputes Act, 1948, in line with the tradition being followed hitherto since the several years, as well as for its effective implementation.

WHEREAS as a prelude to the discussions in detail on the various issues raised in a Charter of Demands, the Management at the outset, indicating its intention and purpose to derive from, highlighted the present scenario of automobile trade/industry that the automotive industry in India is going through sea-change with ever increasing competition both from domestic and global market. To sustain its competitive edge, RML is to improve customer responsiveness, quality and delivery schedule and yet reduce costs. In this endeavour, the Management is committed to continuous improvement through product and process technology, tools & equipments, methods, layout etc. and at the same time expect every member of the Organisation to contribute by working smarter. In view of this, it becomes imperative to recognise that the measurement of performance could relate to man-machine output instead of physical output and the Union and the employees on their part agree to achieve the output per man-hour based on the actual work content.

WHEREAS the Union in their Charter of Demands indicated increase in wages dating to 5 day working, and after few rounds of discussions, and after understanding the prevailing competitive pressures of different market segments, to ensure equitable distribution earnings to all employees, it was mutually agreed to work on a six day week basis.
தேசிய பாதுகாப்பு நடவடி
இராணுவத்தின் பாதுகாப்புப் பணிகள்

இராணுவத்தின் பாதுகாப்பு நடவடிகளின் பாதுகாப்புப் பணிகளைக் கணிக்கும்போது தொடர்ந்து பெரும்பாலான நடவடிகள் ஒவ்வொரு நடவடி சமயத்திலும் பாதுகாப்பு பணிகளை எடுத்துச்செய்யினோர். மேலும் புதுமையான நடவடிகள் பாதுகாப்புப் பணிகளை எடுத்துச்செய்யினோர். பாதுகாப்பு நடவடிகள் பாதுகாப்பு பணிகளை எடுத்துச்செய்யினோர்.
Details of pay - all 3 settlements  Appendix 4.2
(a to b)

REVISED BASIC SCALE OF PAY - DAILY RATED (1990)

Unskilled helpers, helpers Gr. II
Rs. 6.27 - 0.12 - 7.35 - 0.15 - 8.10 - 0.18 - 9.00 - 0.20 - 10.00 - 0.22 - 11.10 - 0.25 - 12.35

Semi skilled helpers, sweepers, Jr. Assy. operators, Helpers Gr. I
Rs. 6.46 - 0.16 - 7.90 - 0.20 - 8.90 - 0.24 - 10.10 - 0.28 - 11.50 - 0.32 - 13.10 - 0.37 - 14.95

Machine operators Gr. V, Assembly Operators Gr. II, Viewers Gr. III, Sr. Helpers
Rs. 7.10 - 0.20 - 8.90 - 0.25 - 10.15 - 0.30 - 11.65 0.35 - 13.40 - 0.40 - 15.40 - 0.45 - 17.65

Machine operators Gr. IV, Assembly operators Gr. I, Viewer Gr. I, Lineman
Rs. 7.29 - 0.24 - 9.45 - 0.30 - 10.95 - 0.36 - 12.75 - 0.42 - 14.85 - 0.48 - 17.25 - 0.54 - 19.95

Rs. 7.48 - 0.28 - 10.00 - 0.35 - 11.75 - 0.42 - 13.85 - 0.50 - 16.35 - 0.58 - 19.25 - 0.64 - 22.45

Rs. 7.56 - 0.36 - 10.80 - 0.45 - 13.05 - 0.54 - 15.75 0.62 - 18.85 - 0.69 - 22.30 - 0.78 - 26.20

Rs. 7.99 - 0.44 - 11.95 - 0.55 - 14.70 - 0.66 - 18.00 - 0.77 - 21.85 - 0.88 - 26.25 - 0.99 - 31.20

Sr. Operators, Sr. setter operators
Rs. 9.01 - 0.56 - 14.05 - 0.70 - 17.55 - 0.84 - 21.75 0.98 - 26.65 - 1.12 - 32.25 - 1.26 - 38.55
<table>
<thead>
<tr>
<th>Group</th>
<th>Grade</th>
<th>Description</th>
<th>Pay Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>A</td>
<td>Gardeners, Packers, Attendants, Cleaners, Watchmen</td>
<td>Rs. 135 - 4 183 - 5 213 - 6 249 - 7 354</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Jr. Typists, Jr. Clerks, Jr. Telephone operators, Drivers, Sr. Packers, Sr. Attendants</td>
<td>Rs. 142 - 6 214 - 7.50 259 - 9 313 - 10.50 470.50</td>
</tr>
<tr>
<td>II</td>
<td>A</td>
<td>Typists, Clerks, Telephone Operators, Jr. Draughtsman</td>
<td>Rs. 154 - 8 250 - 10 310 - 12 382 - 14 592</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>Sr. Typists, Sr. Clerks, Sr. Draughtsman, Jr Stenos</td>
<td>Rs. 176 - 10 296 - 12.50 371 - 15 461 - 17.50 723.50</td>
</tr>
<tr>
<td>III</td>
<td>A</td>
<td>Jr. Tech Assistants, Jr Assts., Chargehands, Sr Stenos</td>
<td>Rs. 196 - 12.50 346 - 15 436 - 17.50 541 - EB 20 - 841</td>
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<tr>
<td></td>
<td>B</td>
<td>Technical Assistants, Assistants</td>
<td>Rs. 246 - 15 426 - 20 546 - 25 696 - EB30 - 1146</td>
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<tr>
<td>IV</td>
<td>A</td>
<td>Sr. Technical Assts., Sr. Assistants</td>
<td>Rs. 286 - 20 526 - 25 676 - 30 856 - EB 35 - 1381</td>
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<td>B</td>
<td>Assistant Foreman</td>
<td>Rs. 296 - 25 596 - 30 776 - 35 986 - EB 40 - 1586</td>
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REVISED BASIC SCALE OF PAY - DAILY RATED (1993)

<table>
<thead>
<tr>
<th>Group I (1)</th>
<th>Unskilled helpers, Helpers Grade II, Sweepers</th>
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<tbody>
<tr>
<td>Grade 51</td>
<td>Rs. 29.20 - 0.73 - 32.85 - 0.82 - 36.95 - 0.92 - 41.55 - 1.03 - 46.70 - 1.15 - 52.45 - 1.29 - 59.90</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Group I (2)</th>
<th>Semi skilled helpers, Sr. Sweepers, Jr. Assy. Operators, Helpers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 52</td>
<td>Rs. 29.52 - 0.81 - 33.57 - 0.91 - 38.12 - 1.02 - 43.22 - 1.14 - 48.92 - 1.28 - 56.32 - 1.43 - 62.47</td>
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<tbody>
<tr>
<td>Grade 53</td>
<td>Rs. 30.49 - 0.91 - 35.04 - 1.02 - 40.14 - 1.14 - 45.84 - 1.28 - 52.24 - 1.43 - 59.39 - 1.60 - 67.39</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Group II (2)</th>
<th>Machine Operators Gr. IV, Assy. Operators Gr I, Viewers Gr. I, Lineman</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 54</td>
<td>Rs. 31.50 - 1.02 - 36.60 - 1.14 - 42.30 - 1.28 - 48.70 - 1.43 - 55.85 - 1.60 - 63.85 - 1.79 - 72.80</td>
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<tbody>
<tr>
<td>Grade 55</td>
<td>Rs. 33.08 - 1.16 - 38.88 - 1.30 - 45.38 - 1.43 - 52.68 - 1.64 - 60.08 - 1.84 - 70.08 - 2.06 - 80.38</td>
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</thead>
<tbody>
<tr>
<td>Grade 56</td>
<td>Rs. 34.73 - 1.39 - 41.68 - 1.56 - 49.48 - 1.75 - 58.23 - 1.96 - 66.03 - 2.20 - 78.03 - 2.46 - 91.33</td>
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</thead>
<tbody>
<tr>
<td>Grade 57</td>
<td>Rs. 36.47 - 1.64 - 44.57 - 1.84 - 53.87 - 2.06 - 64.17 - 2.31 - 75.72 - 2.59 - 88.97 - 2.90 - 103.17</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group IV (2)</th>
<th>Sr. Operators, Sr. Setter Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade 58</td>
<td>Rs. 38.29 - 1.91 - 47.84 - 2.14 - 58.54 - 2.40 - 70.54 - 2.69 - 83.99 - 3.01 - 99.04 - 3.37 - 115.69</td>
</tr>
</tbody>
</table>


# REVISED BASIC SCALE OF PAY - MONTHLY RATED (1993)

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<th>Pay Scale</th>
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<td>IV (2)</td>
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<td>Sr. Operators, Sr. Setter Operators</td>
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<td></td>
<td>Rs. 38.29 - 1.91 - 47.84 - 2.14 - 58.54 - 2.40 - 70.54 - 2.69 - 83.99 - 3.01 - 99.04 - 3.37 - 115.89</td>
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### BASIC SCALE OF PAY - MONTHLY RATED (1997)

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<td>Group I A</td>
<td>Gardners, Packers, Attendants, Cleaners, Watchman</td>
<td>Rs. 617 - 17 - 702 - 20 - 802 - 23 - 917 - 26 - 1047 - 30 - 1197 - 35 - 1372</td>
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<tr>
<td>Grade 33</td>
<td>Nr Typists, Sr Clerks, Sr Draughtsman Jr Stenos</td>
<td>Rs. 654 - 26 - 784 - 30 - 934 - 35 - 1109 - 40 - 1309 - 46 - 1539 - 53 - 1804</td>
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<td>Group IV A</td>
<td>Assistant Foreman</td>
<td>Rs. 815 - 45 - 1040 - 52 - 1300 - 60 - 1600 - 69 - 1945 - 79 - 2340 - 91 - 2795</td>
</tr>
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</table>

The amount to be added - vide p.i.e. 27 for calculation of wage rates.
1.3 **CALCULATION OF WAGE RATES PER DAY**

Firstly, the basic rate of wages arrived at in Part A, shall be multiplied by 21 days and the sixth day working benefit of Rs.225/- shall be added with the above. This amount shall be divided by 25 days and appropriate fitment (as per Annexure-A.I) shall be made to arrive at the new basic wage rates per day for the Daily Rated employees.

2.0 **Monthly Rated Employees**

2.1 **Part A - Agreement Benefit for 5 day working**

In the case of Monthly Rated employees, Rs.21/- (out of the fitment benefit of Rs.22.50) shall be added to the existing basic salary. To this, Rs.75/- shall be added to arrive at the revised basic salary per month.

2.2 **Part B - Benefit for 6 Working Days a week**

After arriving at the revised basic salary as above Rs.225/- per month shall be added to the above and appropriate fitment (as per Annexure-A.II) shall be made to arrive at the new basic wage salary for the Monthly Rated employees.

The methodology of working has been mutually agreed upon after considering various aspects including the equitable distribution of the agreed amount.

3.0 **DEARNNESS ALLOWANCE**

It is agreed that the existing system of paying Dearness Allowance for Cost of Living Index for Madras City Industrial Workers (Base 1936 = 100) for points above 1400 shall continue. For any fall or rise in Consumer Price Index, the adjustments of variable Dearness Allowance shall be made at the rate of Rs.0.45 per point.

The Dearness Allowance payable for a month will be calculated on the basis of number of working days including paid holidays for Daily Rated employees and Calendar days in a month for Monthly Rated employees.

All other terms of payment of Dearness Allowance shall remain unchanged.

4.0 **Service Weightage Pay**

4.1 **Part A - Agreement Benefit for 5 day working**

It is agreed to grant an average increase of Rs.45/- per month as Special Skill / Service Weightage Pay (SWP) in such a manner that the cost to the company per head does not exceed the above amount.

Subsequent to this, the employees who are on rolls of the company as on 1.10.97 and completed 5 years of regular permanent service in the company shall be paid a Special Skill / Service weightage Pay of Rs.2.50 per month for every completed year of service.

4.2 **Part B - Benefit for 6 working days a week**

It is agreed to grant an average increase of Rs.90/- per month as Special Skill /
holidays in respect of all employees attending to usual shift working will continue to be Sundays as per the existing system. However, the present system in respect of those attached to Watch & Ward, H.T./Maintenance etc. and attending to duties in staggered shifts, the existing system of weekly holiday on any other substituted day instead of Sunday will remain unchanged.

0.0 Increase in Productivity/Production/Maintaining Minimum Guaranteed Level

It is also agreed that the individual productivity shall be increased at least by 12 and 1/2 percent to achieve the current output level of 9 hours per shift in 8 hours and the level of such production shall be quantified for the calculation of production related incentive in terms of SMH per man per day/Design output quantity in Cells/Modules as detailed under Incentive Payment Scheme.

0.0 In mutual agreement between the parties to the above and as a measure of consideration for the increase in wages and other allowances etc. the Management is pleased and agree to grant the following:

0.0 PAY & ALLOWANCES

It is agreed to revise the pay, allowances and Incentives under the following heads:-

0.1 Part A - Agreement Benefit for 5 day working

The Management agree to grant an average settlement benefit of Rs.675/- (Rupees Six hundred seventyfive only) per month as apportioned below:-

<table>
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<tr>
<th>Description</th>
<th>Amount</th>
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<td>3. Provision for S.W.P.</td>
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<td><strong>Total</strong></td>
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S.W.P. = Special Skill / Service Weightage Pay

Worked out based on the CPI for the month of Oct.97 at the increased rate of Rs.0.45 per point per month.

4.0.2 Part B - Benefits for 6 working days a week

The Management agree to grant Rs. 840/- (Rupees eight hundred and forty only) as apportioned below for six days working.

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**Settlement 1990**

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**Settlement 1990**

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**Total Pay**: 487.00
### WORKMEN SCALES OF PAY APPLICABLE TO PERMANENT EMPLOYEES
**EFFECTIVE FROM 11.2.1994**

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### STAFF SCALES OF PAY APPLICABLE TO PERMANENT EMPLOYEES
**EFFECTIVE FROM 11.2.1994**

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*a31*
## Workmen Scales of Pay Applicable to Permanent Employees Effective from 11-2-1998

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**Fixed Dearness Allowance (FDA)**

A sum of Rs.2940/- (Rupees two thousand nine hundred and forty only) is being paid as FDA per month. This sum is considered as equivalent to 7100 points of the Consumer Price Index for working class of Chennai City – Base year 1935 - 36 = 100. This sum will continue to be paid as FDA and reckoned for the purpose of calculating PF, Gratuity and Bonus.

**Variable Dearness Allowance (VDA)**

Effective from 01.04.2000, the per point rate of Variable Dearness Allowance payable will be revised from 42 paise to 45 paise (Forty five) over and above 7100 points of the consumer price index for the working class applicable to Chennai City – Base year 1935 - 36 = 100. This sum will be reckoned for the purpose of calculating PF, Gratuity and Bonus.

**House Rent Allowance**

Effective from 01.04.2000, the House Rent Allowance paid to the confirmed workmen will be revised from Rs.675/- (Rupees six hundred and seventy five only) per month to Rs.825/- (Rupees eight hundred and twenty five only) per month. This allowance will be paid based on attendance and not reckoned for the purpose of calculating PF, Gratuity and Bonus.

**Conveyance Allowance**

Effective from 01.04.2000, the Conveyance Allowance paid to confirmed workmen will be revised from Rs.190/- (Rupees one hundred and ninety only) per month to Rs.290/- (Rupees two hundred and ninety only) per month. This allowance is based on the attendance and not reckoned for the purpose of calculating PF, Gratuity and Bonus.

**Kaizen Allowance**

The management explained the necessity and the involvement of operators for continuous improvement to achieve global standards in all areas of manufacturing and supply of valves. The workmen have agreed to meet those requirements without fail. Therefore, the management has agreed to pay a sum of Rs. 200/- (Rupees two hundred only) per month as Kaizen allowance. This allowance is based on attendance and not reckoned for the purpose of calculating PF, Gratuity and Bonus.

**Education Assistance**

All confirmed workmen as on the rolls on 1st of May of the respective year will be paid an Education Assistance of Rs.2500/- (Rupees two thousand five hundred only) as against the present sum of Rs.1200/- (Rupees one thousand two hundred only). This sum will continue to be paid during the month of May alongwith salary/wages for the month of April.

In addition to the above, as hitherto, a sum of Rs. 100/- (Rupees one hundred only) per month as education allowance will continue to be paid. This Educational Allowance will not be reckoned for the purpose of calculating PF, Gratuity and Bonus.
calculation will be based on man-hour productivity arrived through: standard man-hours of output / takt time.

In a phased manner, number of modules both in SGP and SSLP will be implemented. To simplify the incentive scheme and to link the rewards with respect to human intervention, it has been mutually agreed to introduce the revised incentive scheme as detailed below:

T 1.1. Performance Incentive for Current level (9 hours) of outputs in 8 hours.
T 1.2. Incentive for achieving Design quantity/Group performance and High performance

T 2. General Incentive

T 3.1. Annual Productivity reward for Overall Company Performance
T 3.2. Consistent performance reward
T 3.3. Consistent quality reward

2.1.0.0 COVERAGE

The scheme covers all unionised employees who are parties to this settlement.

2.2.0.0 DEFINITION

Month: Month shall refer to the calendar month
Payment: Payment shall mean payment of incentives under the incentive scheme under this settlement. All the Incentive payment under the revised scheme shall come into effect from 1st January 1998.

Date of Payment: On 7th of every month along with payment of salary wages

Production: The product mix, schedule quantity etc., as decided by Sales, MMD and manufacturing taking into consideration customer requirements, material availability and shop capacity constraints.

Absenteeism: Absenteeism shall mean full or partial absence of the employees on any normal working day

Group: A group of machines assigned to manufacture a group of components which will have similarity of operation with a designated input and a designated output will be called a Group. Training of operatives on multi-machine operation with multi-skill will also form a part of Group. Ultimately Groups will be converted into Cells.

Cell: Components of similarity of operation are grouped together are machined with a set of machines. This focused manufacturing facility with a designated input and designated output is called a Cell. In this, a group of operatives will work on multi-machines with multi-skills. Machines will be laid out to facilitate single piece flow and multi-machine operation. Cells will be a part of Module during Module formation stage and once the modules are completed.

Sub Module: A group of sub assemblies will be manufactured in sub modules from raw material to sub assembly cell through number of cells. The cells will feed components to the sub assembly cell of the module in a balanced way and output of the sub module will be measured by output of sub assemblies or products made by the sub module.
Module: A group of end products/ assemblies will be manufactured in modules from raw material to assembly through number of cells. The cells will feed components to the assembly of the module in a balanced way and output of the module will be measured by output of assemblies or products made by the module.

The Module/cell is formed by providing all the facilities, men, machine with proper method based on the manual work content and the machine cycle time to meet the Design quantity.

Cell Member: Direct operator working on Multi machine working in a cell. They shall fulfill all the roles and responsibilities as defined in the cell manual.

Selection of Cell members is done by DGM (Mfg.)/GM(O) based on defined criteria.

Support Team Member: Identified member for QA/PLE/PPC/ MED/R&D attached to each module. They shall fulfill the roles and responsibilities as defined in the cell manual.

Cell Leader: Working Leader for a team of Cell Members of a Cell or Cells. They shall fulfill all the roles and responsibilities as defined in the cell manual.

Floaters: Direct operators selectively allocated to the modules from the central pool to work on multi machine operations to meet the design level of outputs in the cells when there is an absenteeism in the cell/module. Floaters shall be provided to cover up the absenteeism of cell members only, which is limited to an extent of maximum 5%.

SMH: Standard Man Hour (SMH) is defined as physical man hours required to complete one piece. In the case of a single machine operation, floor to floor time calculated at a rated level of output expressed in terms of hours per piece per operation is SMH for the process, for the materials, for the operation, etc. Whenever any of the parameters changes, SMH for the operation will change.

\[
\text{Available Time} = \frac{\text{TAKT TIME}}{\text{Customer requirement}}
\]

**DESIGN QUANTITY:**

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<tr>
<td>Manual work content per man per piece</td>
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If the floor to floor time of bottleneck operation is more than the manual work content per man per piece, then
Modula and cellular – TVS Group

இன்று வளம்புசெய்ய ஆளுக்கு நோக்குவது – TVS

இன்று அறிமுகப்படுத்தும் விளக்கத்தில்:

எந்திரங்கள் குறிப்பிட்டுதல்தொட்டு என்று வரும் மாற்று விளக்கத்தில் பார்க்கிறார்களே என்று சொல்லும் என்றால் பார்க்கிறதால் அடுத்து பரவலாக்கவேண்டியது. நேர்மாற்ற பார்க்கிறே என்று பார்க்கிறது மறை செயல்சட்டம் எடுப்பு என்று பார்க்கிற நிகழ்கோள்களிடம் தேர்வு இயக்கும் கோள்களிடம். இது பயன்படுவது (Manufacturing பார்க்கிலின் Nagare Cell - Cell 1 வாக்கு, Assembly பின்வடையில் Single piece flow - Cell - II) வாக்கு பயன்படுகிறது.

இந்தா அடையாளின் Cell 1 அடையாளி பரவலாக்கப்படுவது செயல்சட்டத்தையும் WG 8 உருவாக்கும், Cell - 1 அடையாளின் பரவலாக்கப்படுவது WG 6 உருவாக்கும் மற்றும் உருவாக்கும் வாக்கும் வாக்கும் வழங்கலாம்

இன்றைய அறிமுகப்படுத்த 1-1-1997 இற்றை உடன் Cell II அடையாளின் இற்றை வழங்கும் வீர்மானம் பரவலாக்கத்தையும் 1-1-1997 இற்றை GRADE மற்றும் குறிப்பிட்டு வீர்மானத்தையும் அடையாளின் ராக்கிய அறிமுகப்படுத்தம் செயல்சட்டம் அடையாளின் செயல்சட்டம் அடையாளின் செயல்சட்டம் உருவாக்கும் மற்றும் உருவாக்கும் செயல்சட்டங்களை அடையாளின் செயல்சட்டங்களை அடையாளின் செயல்சட்டங்களைத் தொடர்ந்து Cell Allowance வழங்க வீர்மானம் வழங்க வீர்மானம் வழங்க வீர்மானம் வழங்க வீர்மானம் வழங்க. Additional Cell Benefit என்று வணங்கும் Cell 6 மும்முதலும் வீர்மானம் வழங்க வீர்மானம் வழங்கத் (Additional Cell Benefit) என்று Cell 6 வழங்கத் வீர்மானம் வழங்கத்.
# Additional Cell Benefit உட்பட்டியல்

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<td>WG. VI. 2</td>
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வேறு போர்ட் பரிமாற்றமும் Special Basic எண்ணக்கோட்டை செயல்படுத்தும்.

VG III முதல் 10 வருடங்கள் முதல் Special Basic எண்ணக்கோட்டை முற்றிலும் முதல் வருடங்கள் 24 வருடங்கள்.

VG III முதல் 5 வருடங்கள் முதல் Special Basic எண்ணக்கோட்டை முற்றிலும் வருடங்கள் போர்ட் பரிமாற்றமும் Special Basic எண்ணக்கோட்டை 0 வருடங்கள்.

Cell allowance எண்ணக்கோட்டை 1.9/8 பைத்தூர் ரூ. 150.00- முதல் 225.00 ரூ. முதல் போர்ட் பரிமாற்றமும்.

Cell Performance Allowance எண்ணக்கோட்டை 1-1-1998 பைத்தூர் ரூ. 100/- முதல் 225/- ரூ. போர்ட் பரிமாற்றமும்.

 முதல் 2 முதல் Cell. I Cell. I போர்ட் பரிமாற்றமும் முற்றிலும்.

**UMP SUM PAYMENT**

எடுக்கப்பட்ட நிறுவனரின் முதலில் எடுக்கப்பட்ட எண்ணக்கோட்டை 5 1997 ஆண்டு முதல் முற்றிலும் Special Basic எண்ணக்கோட்டை முற்றிலும் முற்றிலும் முற்றிலும் போர்ட் பரிமாற்றமும் 1.1997 ஆண்டு முதல் முற்றிலும் Special Basic எண்ணக்கோட்டை Cell. II எண்ணக்கோட்டை முற்றிலும் Special Basic எண்ணக்கோட்டை 2002 ஆண்டு முதல் முற்றிலும் முற்றிலும் போர்ட் பரிமாற்றமும்.

முதலில் Cell. II போர்ட் பரிமாற்றமும் ஒரு வருடம் பின்னர் துல்லியமாக முற்றிலும்.

<table>
<thead>
<tr>
<th>Grade</th>
<th>No. of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>WG. V</td>
<td>9</td>
</tr>
<tr>
<td>WG. IV</td>
<td>134</td>
</tr>
<tr>
<td>WG. III Above 10 Yrs.</td>
<td>315</td>
</tr>
<tr>
<td>WG. III Below 5 Yrs.</td>
<td>181</td>
</tr>
</tbody>
</table>
L. L. Woody Williams, Executive Director, World Wide Gazing, General Motors, handing over the ‘Best Supplier’ to Mr. Suresh Krishna, Chairman and Managing Director. Mr. Peter Register, Director (Asia Pacific Operation) is also seen.

gets GM Supplier award
A HANDS-ON CEO

For a 51-year-old, T K Bajaj is springy, quick-footed, agile and active. He’s got to be, for he is the chief executive and managing director of one of India’s leading light automotive ancillary units—Lucas-TVS Ltd. What keeps him sharp and with it is his hands-on nature of leadership. And his humanness makes him pull his company together, before we set.

I asked him what his major achievements were since 1975, when he took over the company. He said: ‘We have increased our production by 500 per cent and proved our technical superiority. That has been a defining moment for us and helped us be where we are today.’

Bajaj, comes from a family of civil servants. He is an engineer from IIT, Madras and has an MBA from the University of Illinois. From 1970 to 1974, Bajaj worked with the Tata Administrative Services, during which time he joined Sundram Clayton Ltd, as deputy general manager. His appointment as chief engineer and managing director at Lucas-TVS came about in 1979.

Bajaj is married to the sister of Venkataramanan (managing director of TVS-Swallow Ltd). He has two children. Are they looking to join the TVS enterprise, considering that family members are involved in the business in some way or the other? ’My son has done his ME from ‘B’ college. He never spoke of joining TVS until he came back from his internship at Lucas-TVS. And my daughter is looking to join the company but I don’t think she’ll join until she has finished her studies.’

Most companies within the TVS group have a member of the family at the board or at senior decision making levels. This is not because of the fam’’y factor’, points out Bajaj. ‘Whatever is given charge of a company is a professional first, and only then a family member. The collective and maintained through effective quality control systems in which the SGA has played a major part.

Reaching Out

The Lucas Indian Service and other TVS Group companies such as TVS Sundaram Hyundai, SMC, Malvadi Auto Service, Sundaram Motors and India Motor Parts and Accessories are the outlets through which Lucas-TVS reaches out to its customers. Vehicle manufacturers and dealers buy from these sales and service outlets across the length and breadth of the country. Additionally, the extensive Lucas-TVS network worldwide is a great facility through which Lucas-TVS has access to its overseas customers.

Lucas-TVS’s Original Equipment list of components is built with a view to the needs of the automobile industry. The quality policy of Lucas-TVS says it all: ‘At Lucas-TVS, we will go out of our way to ensure customer satisfaction. We do not just sell products, we sell service and commitment to the customers.’
The company has always believed in affirmative actions for the continuous development of its people. In keeping with this avowed belief the company has participated in establishing Rane Institute for Employee Development (RIED). RIED is also dedicated to enabling your company become learning organisation. It will endeavour to build in its people the skills to acquire and apply knowledge and shape attitudes and behaviour to reflect the knowledge and insight gained.

For and on behalf of the Board

L. LAKSHMAN - Chairman
L. GANESH - Vice Chairman

Madras
27th June, 1995
CHAPTER III

WORK CULTURE IMPROVEMENTS

3.1 All employees to work in shifts

3.1.1 All employees will have to report for work only in shifts, on rotation basis. No employee will be called for work in general shift, unless exigencies of work so require, as determined by the Management.

3.1.2 However, due to health reasons request for general shift will be considered on a case to case basis, at the discretion of the Management. Even in such cases the facility of reporting in general shift will be considered only for a temporary period of time.

3.2 Staggered Off

3.2.1 The system of staggered off for all employees will be introduced with effect from 01.05.99. Under this, one section of employees will avail their weekly holidays on Saturday and Sunday and another section of employees will avail on Sunday and Monday. In effect, all employees will work for five days in a week with two days of consecutive weekly holidays between Saturday and Monday. The schedule of weekly holidays for the employees will be displayed on the notice board at the end of a month for the following month and the employees will report for work/avail weekly holidays accordingly.

3.2.2 However, in essential services like the Plant Engineering dept. the existing practice of working on general weekly holidays which is presently Saturday and Sunday and availing their weekly holiday on general working days, will continue without any change.

3.3 Transfer of employees

3.3.1 All employees will be transferred from one section/cell/module to another section/cell/module or from one shift to another shift,
பார்வன்

★ TQM பார்வன்
★ RML முதல் TQM வரை வளைப்பு
★ TQM - Definition - விளக்கம்
★ TQM என உலகப் புகழ்
★ TQM - 3 பாதி முறை அறிவிகள்
★ QC பயன்பாடு - விளக்கம்
★ TQM அயலை
★ QC Tools
★ TQM அயலை விளக்கம்
★ TQM Tools
★ DEMING பாதி புல் இமுனா கதைகள்
TQM புத்தாண்டு

* இரண்டாம் கதம் பொருளிய விளக்கங்கள்

* சுமாரோ விபரணம் கோரும்

* Dr. DEMING சுமாரோ விளக்கங்கள்

* TQM செய்யும் பருக்கிய

* இரண்டாம் சுமாரோ விபரணம் கோரும்

* இரண்டாம் சுமாரோ விளக்கங்கள் கோரும்

* DEMING பருக்கிய
RML முதல் TQM யும் சேரும்?

கிருட்டுக்கால் பிரார்த்திகத்தை சான்றிதை நேர்ந்துதரும்:

கோலியும் சமுதாய

சிக்கலாமல் சமுதாய

பார்வீடுகள் தன்று விளகல்

அதிக விளிம்பாகத்திற்குப் பதிவு செய்யும்

விளைவில் தன்னால் புள்ளியிடும் Waste அதிகம்

Waste தன்னால் புள்ளியிடும்

பார்வீட்டின் சான்றிதை புள்ளியிடும்

பிரார்த்திக மின்னைகள் மல்

புள்ளியிடும்
அதிர்விழா வான்கனக்கான்
அதிர்விழா வித்யாராஜானான்
அதிர்விழா பரிசானாகிவிடாது
அதிர்விழா சுருக்கப்பட்டாது

சுருக்க அகமத்தரத்து

பிரார்த்தனை கட்டுப்பாட்டிலிருந்து
* தற்கால உயிரியல், நினைவு மிக்கான்
* அகமம்புத்து, திருச்சிப்பு
* கிள்ளமிக.

* பந்தக்கு, முலையில் புனிதமான
* பந்தக்கரத்தை வித்யாராஜாக்காம்.
* Module மூலம் பல ஊடன்
* முன்னிலைகளா விளிளையாடுது.
TQM - Definition -மின்சல்

நூறு விதிஷையாம் / வியாபாரத்தை
செய்து அடையாது கூட்டு சொந்தம்
துறவைக் போராட்டக்கூட
மெல்லும், முக்கியமான அளவிலும்,
நிர்வாகத்தக்கண்டது அதுக்கு
முற்பக்கமாக்காது கிற்வாக
சம்பு சொந்தம் மற்றும் பொழுதுபடி,
பொதுகை செய்திப் பார்வையான TQM
சுண்டுப்பை.
TQM காலம் மிச்சாகலாம்

கால சார்ந்ததான்

கால நிகழ்வுகள்

அம்பாள் விசித்ரமுறு அறிவார்த்தியில்

அம்பாள் விசயம் செய்து

விளக்கம் அறிக்கைப்

அம்பாள் அறிக்கைப்

காலவள்ளுகள் விளக்கம் திசைந்து அடையும்

அம்பாள் பணிபுரவாக்கள் குறுகி விளக்கம்

‘Motivation’

அம்பாள் வர்மா விலாக்கத்து சங்கிலியை அறிக்கைத்து
TQM 3 பக்கம் அணுக்கள்

* QC வழங்கப்பட்ட வழிகோடுகள்
* TQM அறைப்பு
* QC வழிகோடு

QC வழங்கப்பட்ட வழிகோடுகள்
அதில் சமய கிளையும் கிளையும் செய்யப்பட்ட கானக
குப்பே
பன்னுரும் புனர் திறன் சர்க்கில் நீ,
தன் முடிவு - பண்பாடு பெரும் திளக்கம்,
PDCA முழுச்செய்தியூடன் உயர்ப்பாகி,
சுத்தமாக SOP உருவம்,
முன்னெச்சையாக ஆண்டி,
முழுச்செய்தியூடன் (Process) கூறி,
முழுக்கள் அண்மை.
TQM அமைப்பு

* திருத்தகலன (Policy) பிரித்து
மாற்றிக்கொள்ளும்

திருத்தகலன திணைமிக குறிப்பிட்டு

'சுயம் பெறுவது பிரிசையிட்டு
காட்டுக்கொள்ள நேரடை அதிகமாக

பறிந்து வருப்பேது

நன்னெய்விள் பெருமேற்பெறுவால்
QC சேம்பு

Histogram

Pareto diagram

Cause & Effect diagram

Check Sheet

Graph

Scatter Diagram

Stratification
TQM அடுக்கு இறக்கும்

பாருத்தவகைப் பிரிவு

பாருத்தவகைப் பிரிவை

பல்பொருள் நலத்துறை

பல்பொருள் நலத்துறை

சுருக்கக் குறிப்பிட்டு

சுருக்கக் குறிப்பிட்டு

சுருக்கக் குறிப்பிட்டு

புநர்நிலைமுறை நடைமுறை
5S
Quality Circles
תקצ ViewModel (Kaizen)
TQC டிப்பு
Design of Experiments
Failure Mode & Effect Analysis
Standard Operating Procedure
Quality Control Process Chart
Control Chart
QC Story
SPC
Deming பழுதுகையில்

குறுக்கண்டா

கிளிய நிறுவனத்துறை TQM

ணிக்குமோன திருமணம் TQM

டொடுக்குமோன

அதிக பாதி எகாதா சிற்றுறை (Advanced Statistics) தேவம்.

தித்தரா செயல்தம் பாதிக்கும்.

மிகுந்த செயல்பாதிக்கும்.

TQM என்றால் என்று தொடர்புடைய கிளிய்.

TQM அதிகரித்து வரும் பொழுது.
SUNDARAM FASTENERS

The TPM programme designed by the Japanese Institute of Plant Maintenance focuses on reducing costs in an absolute sense by changing the mindset, attitude and direction by looking at every aspect of production process. It equips the company to have zero breakdowns, no down time, zero quality defects, and zero accidents.

It may be the most obvious thing to say that industry should produce quality products. Unless it does so it cannot export. That customers deserve the best. In a controlled economy none of these things mattered. When self sufficiency ruled the day export was not a priority. When you could sell everything you produced quality was not important. All this changed overnight in 1991 with the then Union Finance Minister, Mr. Manmohan Singh, and the era of liberalisation made everybody look at the export market seriously. Competition from foreign companies was a reality. The new mantras became quality, price and delivery. How prepared was India to face the new challenges?

It would be quite safe to say that most businessmen did not know what hit them. There were really very few who had the vision to see the changes in the horizon. Those who did are today's leaders. The Chennai based Sundaram Fasteners was a relatively small TPS

The company has constantly been expanding its range of products within the Asian region. The previous Indian recipient was Mr. J. J. Irani, Managing Director. The company is now in the midst of a critical achievement - the ISO 9000 certification. This is indeed a step forward in making India a competitive manufacturer in the international market.

In the Seventies, the company started expanding its capacity and range. Mr. N. Krishna was determined that the company should become the market leader and became number one in the industry. In the early Eighties, this goal was fulfilled with high quality products, some major competitors such as IT (India) and GKW. Fastener division collapsed for various reasons. In 1983, Sundaram Fasteners reached the top and since then it has stayed there.

By mid-Eighties the company found that India was not growing fast enough to match its ambitions. It had to look outside for further growth. It was obvious to Mr. Krishna that India's future lay in exports. "There were many constraints," he recalls. "The rupee was overvalued. We were overburdened everywhere. It was quite traumatic," he says. Exports were not profitable in earlier stages. The general credibility of Indian was low in the international market. During one of the frustrating forays into exports, the company discovered the existence of ISO 9000. It was quite unheard of in India and for that matter in many parts of the world. However, Mr.
The Brahmastra of TPM

Total Productive Maintenance aims to create a system for achieving and maintaining zero breakdowns, zero defects and zero accidents. It also focuses on achieving marked improvement in the up-time of equipment and drastic reduction in costs.

EONOMIC LIBERALISATION has exposed Indian industry to the cold and cutting winds of competition. A significant number of companies have been stung by the bumblebee's sting. There are three main reasons why domestic manufacturers can do so.

One is to throw in the wet and ride on the strong wave of competition. Second, and the most important, the best time to toughen up the organization is to hold its own against, and fight back. This has been the strategy of companies such as Sundram Fasteners Ltd. (SFL) of the TVS group and many others. This effort has given the Japanese manufacturing philosophy called total productive maintenance (TPM).

Among the many weaknesses that afflicts the typical Indian factory are communication breakdowns, dirty machines, maintenance staffs that are too little and too late, unsafe working conditions and hazardous on factory environment. Even the most modern plants are troubled by these factors.

Communication - both horizontal and vertical - is crucial. Any changes or improvements made to a machine or an operation or a method or a system should be driven and not just across the shop floor but across the factory and even across all establishments in the group. As Mr. Naren Krishna, Chairman and Managing Director of SFL, puts it, "TPM is not just achieving improvement in the up-time of equipment and drastic reduction in costs, quality, productivity and total customer satisfaction."

SFL, most competitive in Asia

In a 1997 survey of 4,500 companies from 14 countries conducted by Asia Inc. and Arthur D. Little, SFL emerged as the most competitive in the whole of Asia. Thanks to the sincere competitiveness enabled by TPM, the company has been able to increase its exports by 23 per cent last year and expects to double that growth this year.

SFL has won the supplier of the year award for radiator caps from General Motors (worldwide purchasing) for three consecutive years (1996 to 1998). In 1998, the company received the prestigious TPM Excellence Award from the Japan Institute of Physical Management.
ulation will be based on man-hour productivity arrived through standard man-hours of output / takt time.

In a phased manner, number of modules both in SGP and SSLP will be implemented. To simplify the incentive scheme and to link the rewards with respect to human intervention, it has been mutually agreed to introduce the revised incentive scheme as detailed below:

T 1.1. Performance Incentive for Current level (9 hours) of outputs in 8 hours.
T 1.2. Incentive for achieving Design quantity/Group performance and High performance
T 2. General Incentive
T 3.1. Annual Productivity reward for Overall Company Performance
T 3.2. Consistent performance reward
T 3.3. Consistent quality reward

1.0.0 COVERAGE

The scheme covers all unionised employees who are parties to this settlement

2.0.0 DEFINITION

Month : Month shall refer to the calendar month
Payment : Payment shall mean payment of incentives under the Incentive scheme under this settlement. All the Incentive payment under the revised scheme shall come into effect from 1st January 1998.

Date of Payment : On 7th of every month along with payment of salary wages
Production : The product mix, schedule quantity etc., as decided by Sales, MMD and manufacturing taking into consideration customer requirements, material availability and shop capacity constraints.

Absenteism : Absenteeism shall mean full or partial absence of the employees on any normal working day

✓ Group : A group of machines assigned to manufacture a group of components which will have similarity of operation with a designated input and a designated output will be called a Group. Training of operatives on multi-machine operation with multi-skill will also form a part of Group. Ultimately Groups will be converted into Cells.

✓ Cell : Components of similarity of operation are grouped together are machined with a set of machines. This focused manufacturing facility with a designated input and designated output is called a Cell. In this, a group of operatives will work on multi-machines with multi-skills. Machines will be laid out to facilitate single piece flow and multi-machine operation. Cells will be a part of Module during Module formation stage and once the modules are completed.

✓ Sub Module : A group of sub assemblies will be manufactured in sub modules from raw material to sub assembly cell through number of cells. The cells will feed components to the sub assembly cell of the module in a balanced way and output of the sub module will be measured by output of sub assemblies or products made by the sub module.
HOW EXCITING!
To have won the 'Best of the Best Supplies' Award from General Motors for four successive years.

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SRK RAMESH
Sd VENKATASUBRAMANIAM
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TQM
QC STORY
7 QC TOOLS
SOP - QCPC
QC STORY

QC STORY தொடர்பில்
பிரிக்கானதற்கும் தீவே காணும்
நிகழ்பட்டை 7 நிலை வருமானம்
பொறிக்கிறது.

பித்தவம் - தூரம் : பிரிக்கானதற்கு
அடப்பட்ட கலைப்பணிக்கும்.

- மிகவும் உதவி பிரிக்கானதற்கு
தேவதை சார்ந்தது, அம்மின்றி
இிருக்கும் பெரும்பானை
பிரிக்கானது தொழிலிக்கொள்கிறது.

- அதுவரை முன்னொருத்திக்கும்
இணைக்கொள்ளும் Target-ம் தீர்மானம்
சீர்ப்பொருட்காய்.

- பிரிக்கானது சீர்ப்பொருடு, இடைநிலைக்கு
இணைக்கொள்கிறது.
நிலை - முன்னர்:
குருப்புரையம் கிளைலைச் சுடு
அச்சுறு
- குருப்புரையம் கிளைலைச் சுடு
தெரியவிட்டாலே முற்பொழித்தான
கிளைலைச் சுடர் பாதிக்கும் பதிக்கு
கிளைலைச் சுடு
- குருப்புரையம் புராட்டி கிளைலைச் சுடா
பதிக்கும்

புராட்டியதாய் இன்னும்
கூறுமின்றி குருப்புரையம்.
தினம் - புலம்: புல காரணத்தை குறுக்குறுக்கு கொண்டால், புலத்தை புலத்தின் குறுக்கு காரணத்தை புலத்தின் அடுக்கும், Root causes - புல காரணத்தை குறுக்கு கொண்டால், Root causes - புலத்தை புலத்தின் குறுக்கு காரணத்தை புலத்தின் அடுக்கும்.

திறவு - நுண்டு: திறவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நிதியா் விளப்பவு

திறவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு நுண்டுத் தொடர்பான நிதியா் விளப்பவு
தினம் - உயிர்: தொழில்

மேலும் காண்கலன செயற்கையும்,
இரும் விளையாட்டும் கவனிக்கவும்

தொழில் மேலும் காண்கலன செயற்கையும்,
இரும் விளையாட்டும் கவனிக்கவும்.

பின்னர் உருவ விளையாட்டும், தொழில்
மேலும் காண்கலன செயற்கையும்
முடிக்கும் பின்னரும் நான்கு
இரும் பல்கலைக்கழகத்தின் கல்லறை
சிட்சம்.

தினம் - அழை: தினம்பபரிக்கு

தொடர்பான வகையில் எள்ளத்தொடரே SOP,
பொிய்லாலும் நடைமுறைச்செய்கிறோம்.

பொிய்லால் தினம்பபரிக்கு எள்ளத்தொடரே
அனுப்ப விளையாடும்.
திண்ட - எப்போது அதிக நலம் ?

(வெளிச்சப்பம் பிரச்சனையிலிங்க
அழகுகளா அழதுக்கு அதிக
சாத்து பிரச்சனையை அருங்காளம் கை
நிகழ்வு விளக்கம்.}
1. குருப்பு / விளையாட்டு படம்

இன்று பிரிக்கிலிட்டது விளையாட்டுக்கு காந்து காண்டதில்லை. ஆனாலும் முடிகடை:

- மின்ன குழுமம் படம் கல்வி, ISHIKAWA படம் கல்வி போப்பிட்டு நடப்பார்.

- பிரிக்கிலிட்டப்பட்ட பிரிக்கிலிட்ட படம் பராட்டிய அறிக்கை தம்கு அனைத்தை வெளியேற்றியே.

- பிரிக்கிலிட்ட படம் பதிவு பிரிக்கிலிட்ட படம் நிறுவிக்கவும் விளையாடும் விளைவுக்கும்.

- பதிலவு எளியாக, பிரிக்கிலிட்ட பதிவு காரணமாகவே விளையாடும் விளையாடும்.
காரணங்களை / விளக்கங்களைப் பலருக்கு, முன்னே வெளிப்படுத்தி வைக்கும் காரணங்களைக் காட்டுகிறது, அதன் பின்னரும் பலருக்கு.

Fig : FISHBONE DIAGRAM
2. CHECK SHEET/அசைப்பு நிறு

- Check Sheet நடவடி, Data
tூண்டக்கலா குழு வெளிக்காட்டு.
வட்டாரம் வைத்து
வழிபாட்டின் நிலைமுறை (படற).

- எசை நிறு நேரமேற்கானால்,
வழிபாட்டுக்கான அறக்குறிய
எடுக்கப்படும்.

- முக்கியமான, நேரானது Data
தூண்டல் விசாரிக்கப்பட்டு
வழிபாட்டுப் பிக்குறிகள்
விபரிப்புக்காக
நிலைமுறை விளக்கம்.
நான் நான் நான் கேட்டின்கொள்ள வேண்டும் என்னும் கேட்டிக்கொள்ளேனும்? நூழு நூழு நூழு பற்றிக்கொள்ளேனும்? குறுக்கு குறுக்கு / குறுக்கு குறுக்கு குறுக்கு குறுக்கு குறுக்கு குறுக்கு / குறுக்கு குறுக்கு குறுக்கு குறுக்கு குறுக்கு குறுக்கு / குறுக்கு குறுக்கு குறுக்கு குறுக்கு குறுக்கு


தேவைக்கூட்டு உதவும் முன்னேற்றத்தை ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே ஒரே 

Pareto முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான முக்கியமான 

9
Location Check Sheet

R = Dirt
D = Dent
S = Scratch
B = Bubble

Location Check Sheet for evaluating paint finish on car hood

Fig. : DATA COLLECTION CHECK SHEET
3. PARETO ANALYSIS:

Pareto பாரெடோ அணியும் வடிவத்தனை தகவல்களை அறிக்கை நிக்கொண்டு அல்லது கண்டெடுப்பு என்பது கணிப்புக்கு முன்னையில் வரும் கூற்று வடிவமாயும் என்பது. பொதுவாக 20% காரணங்கள் தரும் 80% விளைவுக்கள் நிக்கொண்டுள்ளன.

Pareto பாரெடோ அணியும் 20% காரணங்கள் குறுக்கு அளிக்கும் வடிவம் ெ.

இது தேர்வு Bar Diagram அடையப்பெறும்.
Fig : PARETO ANALYSIS
4. HISTOGRAM

Histogram ஓராம்பு தொடர் விளக்கம்
Bar diagram.

Characterestic சமநிலைப்பாடு
Range இரண்டு ஆண்டுக்காக வரும்
பின்னர் சுருக்கிக்கு, Check Sheet
பரப்புக்கு நிர்ணயங்கள் எல்லைகளை
தொகுதியாகம்.

x Axis மின்கிளியுடன் செங்கு
தச்சம்பாய் 7/8 group கள்
பின்னர் அறுதிக்கு.

y Axis மட்டுடன் தொடர்பான
சன்னித்தின் kasam Bar
அறிக்கையாகம்
Fig : HISTOGRAM
5. SCATTER DIAGRAM

Scatter Diagram என்பது
விளக்கத்திற்கு விளக்கமில்லையான
செயல் Relationship
விளக்கானது சேர்க்கத்து அரிய இல்லை
பின்புள்ளபடிகையானது. அதாவது ஒரு
Variable குறும் மூன்றும் காணல்
/ அணியல் போன்ற சேர்க்கத்து
அரிய இல்லை உடையது.

சுறு Variable தவ் X axis வழம்
முற்போன்ற சுறு Y axis வே Plot
செய்யவும்.

பின்னரிலிருந்து வடிவநிலைநாள் நீர்த்து
சேர்க்கால் நீர்த்து variable தவ்
Relationship அல்லாது அரிய
சீர்சுருக்கவேண்டும்.
Fig : SCATTER DIAGRAM
6. STRATIFICATION

காரண / திருத்துக்கல் Analysis நிறம்பு பட்டு குழுக்கள் சேர்வாண Source என்ன தகவல்கள் குறிப்பிடச்செய் செய்கக்கூடியவள் அமைதியான பிரித்து Analyse நிறம்பு எளிம.

-auto-corrected-உண்மைக்குறித்து இது கணிப்பரிமானம Rejection / Data என விளக்கம் செய்த Section Rejection Trend காரணிப்பு தோற்றுக்கு நூற்றாண்டு காண்ப பிரித்து எளிம.
Fig : STRATIFICATION
7. CHART

- Chartக் பாதை மேல்நிலவியம். 
  மிகுநாம் நூற்றாண்டு Run chart 
  செய்யப்படும்.

- திட்டை நாட்கள் Variable 
  சேமது மேல்விளக்கானது சோழத்து 
  கோஷாக்கிருந்தது அழுத்தித்தான்.

- Y axis உட்கோலை, X axis 
  உட்கோல் Plot நிற்போற்றியம்.

- காலம், மாதம், நாள், தேதி, etc 
  இந்தியக் குரல்.

- Trends தேவதை, முக்கியமான 
  ஒருங்கிணைக்கப்பட்டு கோஷிக 
  நிற்போற்று இருப்பது.
Fig: CHART
SOP - STANDARD OPERATING PROCEDURE

SOP கொண்டாடுவது ஒப்பந்தம் செய்யவும் - How to நடவனது விளக்கத்தும் படையேற்றம்.

கும்பியது Operation க்கும் SOP
செய்யவும்.

SOP கொண்டாடுவதற்கும் வகையைத் தைத்தியும் அதும் - குழுக்கள்,
SOP கொண்டாடு படைமிய
வெளிப்படையாக்கக் கூறும் இருந்து அடையவும் அன்புக்கு பார்வை செய்யச்.

SOP கொண்டாடுவது ஒப்பிட்டு
படையும் - Living Document.
(Continuous Improvement)

SOP - செயல்செயல் விளக்கம் என்பது, SOP என்பதாகவும்.

SOP என்பதன் முதல், பின்னர் / வருட வரும் விளக்க வழிகாட்டுதல் காண்போரும்.

SOP - புதுமையான காண்போருக்கு விளக்கத் வெளியேற உதவும்.

PLAN - நம்பும் திசைகளைச் Process மற்றும் Setting விளக்க வேளாண்மை.

DO - நம்பும் சில்லையாகக் கூறுதல் வேளாண்மை.
CHECK - நம்ப சுமார் குறைந்துச்
பயிர்ந்து தந்த கற்பாக்கு
விரைந்தும் கி ப்ளெட்
செங்கன்.

ACT - நம்ப மூன்றுச்
முன்னேற்கின்றது
அல்லது ஆனால் சில
பின்னர்
செங்கன்

மூன்று

SOP ஓவ பாதுகாப்பு வழக்கு
துற்றுப்படுத்தும், மிகக்கமச்சு
பயிர்ந்து பெருக்குக்கூடும்
மதிக்களப்பு பாதுகாப்பு சில
நூற்றை திகழ்வு அமைப்பு.
SOP பதவி Manufacturing
அம்பாளி துறை மன்னியா இரா.Finance, Purchase வாக்கை
துடுநிக்கப்பட்டு அறிவினார்.

QCPC - Quality Control
Process Chart :

QCPC - சுதூ Product சு
சாப்பிட்டு.

QCPC - சுதூ Product சு விசாி
சிகழுப்பு. (கெல்லி)தொட்டுக்கள் திருப்பு
சு சுப்பு.

QC 9000 குறு சுதூச்சி Control Plan சுதூச்சி துறை
QCPC உறை.
HE LION ROARS...
Focus on Lucas-TVS

Enter the lone sentinel m议论 of Lucas-TVS Ltd at PalavaIrugur, a sprawling 150-hectare estate, and you are at the heart of a large-scale manufacturing facility. The company's roots go back to 1928, when Lucas Automotive Ltd, a British firm, set up a plant in India. The company changed its name to Lucas-TVS in 1974.

Lucas-TVS is a joint venture between Lucas Industries, a British company, and TVS Motors, a leading Indian automobile manufacturer. The company is one of the largest suppliers of electrical and electronic components to the automobile industry in India.

India Nippon Electricals Ltd (INEL) in Hosur is a JV between Lucas Indian Service, India and Kansai Denki Co Ltd, Japan, the largest manufacturer of magneto and electronic ignition systems for two-wheelers. INEL makes flywheel magneto, capacitor discharge ignition units, ignition coils and regulator rectifier units.

Lucas Indian Service (LIS) was established in 1980, when Lucas Industries, UK, began to manufacture fuel injection equipment and fuel injection equipment manufactured by the various units of Lucas-TVS. LIS has four regional offices located in the metros and 22 branches covering every major city in India. In addition, it has a 2000 strong network of outlets selling genuine parts.

LUCAS-TVS Milestones

1981: Lucas-TVS was incorporated into a public limited company in 1982.
1988: Lucas Indian Service became a subsidiary.
1973: Lucas-TVS's R&D was given recognition by the government's Department of Science & Technology.
1993: Fuel injection division inaugurated.
1991: LIS award established; Lucas-TVS awarded ISO 9001 certification by BVSI.
1997: Turnover crossed Rs 400 crore.
Exports during the year amounted to Rs 6,594.42 lakhs as against Rs 5,780.41 lakhs in 1998-99. The Company has been sharply focussing on new markets and customers for its growth in exports while initiating moves for stepping up supplies to existing customers. This has helped the Company to post an increase of 13% on export sales even in the wake of adverse market conditions. The Company has been maintaining its supplies of fasteners to Daimler Benz AG, Germany (through Kamaz) and Cummins Engine Company Inc., USA and radiator caps and powder metal parts to General Motors Corporation, USA. The volume growth and better price realisation in exports, have contributed in no small measure to the increase in profits.

The sustained growth in exports has enabled the Company to be a net foreign exchange earner for the third year in succession.

The demand for auto components in the domestic market has been quite volatile with sharp swings in customers' demands. Major auto vehicle manufacturers have been exerting continuous pressure on prices while also insisting on better service and just-in-time deliveries. With better focus on customers' requirements, sales to Original Equipment Manufacturers (OEM) were higher at 36% over last year.

Significant reduction in operating expenses was achieved through on-going implementation of Total Productive Maintenance (TPM) practices. This has resulted in better productivity even with the Company experiencing pressure on selling prices and hike in cost of inputs.

During the year the Company achieved reduction in interest costs through effective working capital management practices and funding from cost effective sources.

The Company added assets worth over Rs 2,600.34 lakhs during 1999-2000. A major portion of the investments was made in setting up a new unit in Puducherry for manufacture of high tensile fasteners for catering to the exports requirement.

AWARDS

The Company has won the coveted “GM Supplier of the Year” award for the fourth consecutive year, once again confirming its stature as a world-class company. The Company is one of the 181 award-winning suppliers from 22 countries recognised by General Motor, USA as “Supplier of the Year” from a base of 30,000 supplier companies. The award recognises supplier companies worldwide who exceed specific performance standards in the areas of quality, service, technology and price.

The Asian Productivity Organisation, Japan has conferred “APO National Award 2000” on Sri Suresh Krishna in recognition of his outstanding contributions to the cause of increasing productivity in India. This award is given once in five years.

The Company has won the first prize under the Good Industrial Relations Award Scheme, instituted by the Government of Tamil Nadu, for the year 1996. This award was received during the year.

PROGRESS THROUGH CONTINUOUS IMPROVEMENTS

The Company has been implementing the TPM practices in all its factories in consultation with Japan Institute of Plant Maintenance. The Company is committed to follow through with TPM implementation in future years.
This has helped the Company to improve its international competitiveness. With the stabilisation of LPG in its entire gamut of operations, the Company can look forward to achieving world standards in all its op

QS 9000

The quality management systems of all the manufacturing units of the Company continue to be certified to ISO 9002 and 15 9001.

AUTOLEC INDUSTRIES LIMITED

The Company has acquired 51.09% of the equity capital of Autolec Industries Limited, a manufacturer of water pumps and fuel pumps at an overall cost of Rs 30 crores.

Autolec is the market leader in its field of operations. The products of Autolec are of high quality and have a strong presence in the market as carried on by the Company and Autolec. Autolec will be in a position to i) 'Sundram Fasteners' export orientation, manufacturing systems and experience in implementation of a maintenance system, and ii) RPNI.

In the year under review, Autolec has achieved a turnover of Rs 9,750.56 lakhs as against Rs 7,378.76 the previous year and posted a profit after tax of Rs 247.17 lakhs as against Rs 101.35 lakhs in the previous year during the year the Company has received dividend income of Rs 36.09 lakhs from Autolec.

Y2K COMPLIANCE

The Company has successfully managed the Y2K transition. There was no disruption in any of the Company's information systems.

STATUTORY STATEMENTS:

The amount of deposits held by the Company, as at 31st March 2000 was Rs 462.91 lakhs. Deposits* matured during the year were either renewed or repaid on due dates with the exception of 96 deposits amounting to Rs 8.70 lakhs which remained unclaimed. 22 deposits amounting to Rs 1.55 lakhs have since been repaid.

*Statement relating to the subsidiary companies viz. Autolec Industries Limited, Sundram Fasteners Limited, Sundram Numeric Limited and Apolom Investments Limited, and copies of audited accounts of companies for the year ended 31st March 2000 are attached pursuant to Section 212 of the Companies Act.

The information required under the provisions of Section 217(2A) of the Companies Act, 1956, and the rules thereunder, is given in the annexures appended hereto and forms part of this report. A copy of the report as required by Section 217(1)(a) of the Act, the Report and Accounts are being sent to the Members excluding the Members of the Audit Committee. The Members may write to the Company Secretary, at the Registered Office of the Company, for obtain a copy of the said annexure.
Certificate of Approval
Awarded to
RANE (MADRAS) LIMITED,
CHENNAI AND MYSORE,
INDIA.

Bureau Veritas Quality International certify that the Quality Management System of the above supplier has been assessed and found to be in accordance with the requirements of the quality standards detailed below

QUALITY STANDARDS:
ISO 9001:1994

SCOPE OF SUPPLY:

DESIGN, MANUFACTURE AND SUPPLY OF MANUAL (RECIRCULATING BALL) STEERING GEARS, STEERING LINKAGES, SUSPENSION JOINTS, LOWER CONTROL ARMS AND BALL JOINTS FOR AUTOMOTIVE AND TRACTOR APPLICATIONS.

Original approval date: 22ND APRIL 1995

Subject to the continued satisfactory operation of the supplier’s Quality Management System, this Certificate is valid for a period of three years from:

17TH JULY 1998

Date: 19TH NOVEMBER 1998

For Bureau Veritas Quality International
All these factors taken together, the sales of your Company in the domestic market is expected to show only a marginal growth in the current financial year. There are pressures from OEMs to maintain if not reduce prices. Steel producers have seen revival in the export market and have been able to increase the domestic prices of steel. Increases in the cost of raw material, diesel and transport cost have put our operating margins under pressure. Your Company is in the process of reducing inventory and implementing value engineering projects, rationalising the production between the different plants to save cost.

Export of Commercial Vehicle wheels to trailer manufacturers in the Far East and UK was affected due to market conditions. Stiff competition from China and Korea affected the export of wire wheels to the US. New models in wire wheels where there is less competition are being introduced in the US, and this is expected to improve the sale of wire wheels in the current year. There is also a revival in the trailer market. Your Company expects growth in exports in the current financial year.

Your Company obtained QS 9000 certification in the year under review. Investments are being made to introduce value engineered design and manufacture new range of wheels for the export market.

Your Company commenced commercial supply of OEM Air Suspension kits. Our design of Air Suspension System and retrofitments have been well accepted by the private charter operators in the Southern States. Your Company plans to extend the retrofitment activity to other parts of the country.

Directors

Under Article 94(1) of the Company, Mr. T.T. Rangaswamy retires by rotation and, being eligible, offers himself for re-election.

Mr. Nicholas Simon Billig, appointed as a Director to fill the casual vacancy caused by the resignation of Mr. Robert J. Morgan, resigned from the Board during the year under review. Your Directors place on record their appreciation of the valuable advice and guidance given to the Company by Mr. Nicholas Simon Billig during his term of office.

Auditors

Messrs. Sundaram and Srinivasan, Chartered Accountants, Chennai, retire at the conclusion of the forty first Annual General Meeting and are eligible for re-appointment.

General

Liability for customs duty on imported materials in bonded warehouse and excise duty on finished goods have not been provided in the books of accounts, in line with the practice adopted so far. As mentioned in the notes to the accounts, there is no impact on the financial results of your Company. Your Company is following a policy of accounting for gratuity and leave encashment on cash basis.

The shares of your Company are listed on the National Stock Exchange from April, 2000.
நூற்றாண்டு மற்றும் உலகளவில்

பொது நூற்றாண்டுக்கு முன்னிலை

“இன்றைய மனிதர் மாறுமாறு பெறலாம்”. நடுவையும் கடினமான விளக்கத்துக்கு முறையிடுவதற்கு அம்மையும்
குறுகியதாய் இருக்கிறது (குறுகிய பாதுகாப்பு மற்றும் நூற்றாண்டுக் கூற்றின் இருப்பு மற்றும்
போக்கும் இடமும் தம்பொருள் தொடர்ச்சியாக வருகிறது). இது ஆனால் பாதுகாப்பு
போக்கும் இடமும் தம்பொருள்த்துறை, மாணே, மஞ்சள், மீலே, மோசும்பெள், போன்ற தலைமுறை, நூற்றாண்டு
மாற்றான போக்கும் இடமும் தம்பொருள் தொடர்ச்சியாக வருகிறது. இதனால் பாதுகாப்பு
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3.11.3 Employees in the different shifts who do not leave the factory within the time stipulated above, will have to carry with them a gate pass from the concerned supervisor which should be handed over to the security at the time of leaving.

3.12 Blood Donation

Employees wanting to donate blood will be given permission not exceeding three at a time during the working hours, provided the donee is an employee. If the donee is a relative (father/mother/wife/children or friend) of an employee, then the employees wanting to donate blood can do so only after their shift timings.

3.13 Treatment for natural sickness

The present practice of permitting employees to go out during working hours for treatment on account of natural sickness, will be continued. This facility will be restricted to just one occasion to an employee in a month. Employees wanting to go for treatment on more than one occasion in a month, will have to only proceed on their leave. However, employees reporting sick within the first two hours of commencement of shift will not be granted such permission.

3.14 Compensation in the event of bandh/hartal

3.14.1 It is agreed between the parties that whenever the Management is not able to keep the factory open due to reasons like bandh/agitation/civil commotion/epidemics/ natural calamities or any such reason beyond the control of the Management, the factory will be declared closed on such days in order to protect the property and lives of the employees. In the event of such a situation the working day/shift so lost will be compensated by working on the immediately preceding or succeeding weekly holiday as may be notified.

3.14.2 This system will also be followed in the unfortunate event of the death of a local/state/central leader.
The Automotive Component Manufacturers Association of India (ACMA), has been the Indian auto component industry's spokesman for the last 40 years. ACMA has a membership of over 358 companies, which constitute 85% of the total output in the organized sector. The Association's active involvement in trade promotion, technology upgrading, quality enhancement, and collection and dissemination of information has made it a vital catalyst for the progress of the industry. ACMA is represented on a number of panels, committees and councils of the Government of India through which it helps in the formulation of policies pertaining to the Indian automotive industry.

Industry Turnover

Quality
The Industry has been making rapid strides towards achievement of world-class Quality Systems by imbibing ISO 9000/9000 Quality Systems. Till now 230 companies in ACMA membership have been certified to ISO 9000 and 87 companies have been certified to QS 9000 and 4 companies awarded to ISO 14000.

Exports
The Industry has been exporting more than 10% of its output for the last few years. In the year 1999-2000, Industry has exported US$ million 388 versus US$ million 333 in year 1998-99. Principal export items include replacement parts, trainer parts, motorcycle parts, piston rings, gaskets, engine valves, fuel pump nozzles, fuel injection parts, filter & filter elements, radiators, gears, leaf springs, brake assemblies & bearings, clutch facings, head lamps, auto bulbs & halogen bulbs, spark plugs and body parts.
Bajaj Auto Limited (Bajaj) is a part of BFL, the largest automotive component group in India. Sales of the group exceed US$ 1.7 billion, making the Bajaj group one of India's largest industrial users.

BFL, a major manufacturer in the fasteners industry, is a multi-product market leader. Its business interests include fasteners, cold extruded parts, powder metal parts, rod, powder, radiator caps and gear reducers.

BFL: the all successful organizations in the world, recognize that motivated people make the difference - between growth and stagnation, between success and failure. This has ensured that not a single person-hour has been lost due to any kind of industrial action over since inception in 1956.

At BFL, quality, taken in its wider sense, is far more than mere conformity to product specifications. It is a discipline, a way of life. The company constantly strives to achieve excellence in all areas of performance.

This focus on quality has resulted in many rewards to BFL. It was the first Indian company to achieve ISO 9000 Certification. Today all divisions are certified for ISO 9000. BFL has also received the Total Productive Maintenance (TPM) Excellence Award given by Japan Institute of Plant Maintenance (JIPM) in 1999.

BFL has recently acquired Diverse Industries Limited, India's largest manufacturer of water pumps and oil pumps. In technical collaboration with Dura Automotive Systems, USA, BFL manufactures gear shifter assemblies and plans to introduce a wide range of new products.

BFL is today at the threshold of globalization. The major initiative of growth will be through strategic acquisitions and diversifications into new product areas. It's a vision that will position the company in various parts of the world in order to deliver value to its customers. BFL is ordering the new millennium as a vibrant, dynamic, customer-oriented and truly global company.

Copyright 2000 Bajaj Auto Limited
Customer

Bajaj Auto Ltd has been achieving rapid growth over the years, with its sales tripling every five years. Products from the divisions of the company have won the trust of both OEM and after-market customers in highly competitive and quality-conscious markets.

- Commercial Vehicles
- Two and Three Wheelers
- Passenger Cars & Utility Vehicles
- Construction Machinery
- Auto Components
- Farm Equipments
- Diesel Engines
- International Customers
- General
Brakes India Limited is the leading manufacturer of braking systems in India for the automotive industry with a sales turnover exceeding Rs. 5 billion. Established in 1982 as a joint venture between T V S group and Lucas Industries Plc, UK (which is now integrated with TRW), Brakes India has grown steadily to become a leading brake system supplier to global OEMs operating in India. With design, development and manufacturing capabilities that match global standards in quality and safety, Brakes India is capable of providing full braking system technology from concept to completion.

Brakes India's comprehensive product line encompasses:

- Calipers, Master Cylinders, Vacuum Booster, Valves, Drum Brakes for cars,
- U-Cross, Booster Air Com, Wedge and Hydraulic Brakes for trucks,
- Disc, Dry and Oil immersed Disc Brakes and Hydraulic Brakes for tractors and
- Calipers, Master Cylinders and Rotors for two wheelers,
- Brake Hoses and Brake Fluid, Rubber Suits for all types of vehicles,

Grey Iron and S.S. Iron Castings (Precision Division) to support its own brake products and supply to world market - all designed and manufactured to world standards.

Intensive in-house research & development, coupled with access to world class technology through collaboration with TRW and technical association with global majors such as Master, Tebois, Akamase, Freudenberg, Michelin etc., enables Brakes India to provide the best braking solutions to customers. An impressive list of customers including Ashok Leyland, Bajaj, Bajaj, Eicher Motors, Escorts, Fiat, Ford, TATA, Mahindra & Mahindra, Maruti, Mahindra & Mahindra, TAFE, Toyota, TRW, TAFE-Kamco and Volvo, to name a few, add testimony to the capabilities of Brakes India.

The strength of Brakes India lies in its ability to evaluate and enhance the capabilities of its human resource, develop and nurture a strong vendor base, be committed to quality, cost, delivery, safety and customer satisfaction.
Brakes India is a VALUE based organisation and it strongly believes and practices key values:

- Commitment
- Excellence
- Fairness
- Harmony and Co-operation
- Humility
- Innovation
- Integrity
- Orderliness/Cleanliness
- Respect and Concern for People
- Transparency and Openness
- Trust
- Vibrancy

Brakes India’s HR policy is enshrined in its VISION Statement:

"We shall improve the quality of life of our employees and fulfill their reasonable aspirations. By creating an atmosphere of trust and care, we shall work as a cohesive team always encouraging higher standards of performance."

Brakes India is a growing and learning organisation and the work atmosphere is designed to encourage and provide opportunities for "knowledge enhancement" to all the employees in their sphere of work. They learn, coach others, work as a team, provide leadership and meet business challenges in an open and professional atmosphere.

Brakes India offers career opportunities and compensation comparable to the best in the industry through:

- Continuous learning.
- Competency development.
- Challenging opportunities.
- Appraisal and merit based growth

Brakes India also offers opportunities for vocational training through its industrial training schools located at Chennai and Bhubaneshwar.
The economic scene in India presents a wide spectrum of potential for development. Transportation looms as a key area. Rural and metropolitan development and industrial and agricultural growth all need the development of road systems and better and better methods of transportation. This promises the right environment for the growth of the automobile industry.

The dynamics of change are unpredictable.

What is predictable is Rane’s diligent endeavour to provide “greater reliability through better technology.”

Companies

- Rane (Madras) Limited
- Engine Valves Limited
- Jonas Woodhead & Sons (India) Limited
- Rane Brake Linings Ltd
- India Filters Manufacturers (Private) Limited

Product Lines

- Tie Rod Ends
- Steering Linkages
- Clutch Plates
- Steering Gears
- L.C. Valves and Valve Guides
- Laminated Springs and Spring Leaves
- Friction Materials
- Clutch Systems
- Railway Brake Blocks
- Oil Bath Air Filter Assemblies and Inserts and Cartridges
(Madras) Limited today is the
dedicated leader in the manu-
facture of steering joints. Almost all
large cars, commercial vehicles,
tractors manufactured in India
use as original equipment. The
leading steering gears made by
company find wide original equip-
ceptance in the automobile
industry. Steering systems being safety critical
ments, the exacting standards
set in the end product are met
manufacturing experience which
Madras) has built up over the
decades for quality assurance and
test-equipment cover a wide and
omnibus range. Fatigue, life and
tests simulating various loads and
ing conditions are carried out
ously to ensure quality
ards. Rane (Madras) continually
into ways and means of
rocess technology, to bring
ster sophistication and cost-
eness.
ently the company has plans on
v to further up-date its technolo-
will soon manufacture
less nylon joints and power
eg systems.

employs the best in manufacturing tech-
(1) and (2) treating using threads to
statutory and checking them,
showing specially treated certain shafts
the induction heat treatment of built
all is very essential to the production of
critical items.
The Valves Limited

The Valves Limited was the first line house of Rane to manufacture mechanical components.

Company manufactures I.C. valves with a range of applications which today extends from generation equipment to truck engines and from special vehicle engines to high performance cars like the Ford Lotus. Valves are critical components of these engines and have a vital role to play in ensuring its performance. Engine Valves is a highly sophisticated heat treatment equipment and a series of processes which ensure production of needed to provide trouble-free performance even in the operating range of 800°C.

The technology acquired from M/s Brough Engineering Company Ltd. has been continuously refined in the production of the cost-effective bi-metallic and hard-faced valves. The diligent pursuit of quality assurance standards has enabled the Valves Limited to establish a reputation for reliability in the B.P. market. These valves are exported to all parts of the world. Some of the manufacturers use them as standard equipment in their products.

Company has also pioneered the advancement of technology by licensing valves Limited, Bangalore.

They use quality control checks such as the inspection of valves for radius and
\[ (2) \] automatic crack detection which results in a high degree of accuracy.

Sophisticated manufacturing methods contribute to the production of stem hard-faced valves, the valves, and contribute to the manufacture of the finest internal combustion engine parts.
Brake Linings

Brake Linings manufacture materials and clutch systems. In a decade, the company has positioned itself as a leader in the manufacture of friction materials. Through pursuit to achieve tomorrow's technology, it is continuously involved in the development of materials for performance and safety.

Rigorous road tests in the most rigorous and environment conditions are carried out to ensure performance. Driving conditions are rigorously than what ever obtained in the laboratory since it is too high for safety.

Products of the company are available to the best international markets and have found wide acceptance in original equipment manufacturers both in India and in international markets.

The company has recently entered transmission systems. Plans are drawn to widen the scope and size of this product line, for which manufacturing facility is located elsewhere.

Brake Linings are also working on introduction of organic friction material in railway brake systems.