

## Springmaker (Torsion) - 616.280.010 (4th Ed.)

The following schedule of work experience is intended as a guide. It need not be followed in any particular sequence, and it is understood that some adjustments may be necessary in the hours allotted for different work experience. In all cases, the apprentice is to receive sufficient experience to become fully competent and use good workmanship in all work processes which are a part of the trade. The apprentice will be fully instructed in safety and OSHA requirements.

### A. LEARNING TO OPERATE (1465 Hours)

1. Straightening Wire
2. Use of micrometer, scales and similar measuring devices
3. Use of gauges
4. The comparator and torsion springs
5. Load testing of springs
6. Heat treatment of springs
7. Types of wire
8. Care and routine maintenance of machinery
9. Methods of packaging

### B. SETUP OF TORSION MACHINES (2000 Hours)

1. Use of the setup card
2. Interpretation of blueprint requirements
3. Checking wire for size and required properties
4. Adjustments
  - a. Number of turns
  - b. Feed
  - c. Timing
  - d. Cams
  - e. Setting tooling sequence
5. Special kickers and attachments
6. Strippers

### C. USE OF AUXILIARY MACHINERY (600 Hours)

1. Bench Grinder
2. Surface Grinder
3. Milling Machine
4. Hardening furnaces and heat treat ovens
5. Lathes

### D. QUALITY CONTROL (100 Hours)

1. Use of comparator charts
2. Distribution charts (Lot Plot)
3. Sampling plans

### E. MAKING TOOLS (1200 Hours)

F. TROUBLE SHOOTING AND SPECIAL SET-UPS (200 Hours)

G. RELATED INSTRUCTION (435 Hours)

TOTAL - 6000 Hours

WAGE SCHEDULE

0 - 1000	Hours	_____
1001 - 2000	Hours	_____
2001 - 3000	Hours	_____
3001 - 4000	Hours	_____
4001 - 5000	Hours	_____
5001 - 6000	Hours	_____
Journeyman	Rate	_____