Appendix R: Organization Templates

Contents

Appendix R - Shop Organization Templates

This appendix provides practical templates, checklists, and forms for implementing shop organization systems in CNC manufacturing environments.

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1. 5S Audit Checklists

1.1 Master 5S Audit Scorecard

```
5S AUDIT SCORECARD

Area: _____ Date: _____ Auditor: _____
Supervisor: _____ Shift: _____

SCORING: 5 = Excellent, 4 = Good, 3 = Average, 2 = Poor, 1 = Unacceptable

+-------------------------------------------------------------------+
| 1. SORT (SEIRI) - Eliminate Unnecessary Items                     |
|-------------------------------------------------------------------|
| 1.1 Only necessary items present in work area         Score: ___  |
| 1.2 No obsolete tools, fixtures, or materials         Score: ___  |
| 1.3 Red tag area properly managed                     Score: ___  |
| 1.4 Items not used in 30 days removed                 Score: ___  |
|                                        SORT TOTAL: ___ / 20       |
|-------------------------------------------------------------------|
| 2. SET IN ORDER (SEITON) - A Place for Everything                 |
|-------------------------------------------------------------------|
| 2.1 All items have designated locations               Score: ___  |
| 2.2 Locations clearly marked and labeled              Score: ___  |
| 2.3 Shadow boards used where appropriate              Score: ___  |
| 2.4 Frequently used items easily accessible           Score: ___  |
| 2.5 Tools returned to proper location after use       Score: ___  |
```

	SET IN ORDER TOTAL: ___ / 25
3. SHINE (SEISO) - Clean and Inspect	
3.1 Work area clean and free of debris	Score: ___
3.2 Equipment clean and well-maintained	Score: ___
3.3 Floors clean, no oil or coolant spills	Score: ___
3.4 Cleaning supplies available and organized	Score: ___
3.5 Daily cleaning checklist completed	Score: ___
	SHINE TOTAL: ___ / 25
4. STANDARDIZE (SEIKETSU) - Create Standards	
4.1 Visual standards displayed (photos, diagrams)	Score: ___
4.2 Standard locations consistent across similar areas	Score: ___
4.3 Color coding used appropriately	Score: ___
4.4 Procedures documented and accessible	Score: ___
	STANDARDIZE TOTAL: ___ / 20
5. SUSTAIN (SHITSUKE) - Maintain and Improve	
5.1 Personnel follow 5S standards consistently	Score: ___
5.2 Regular audits conducted and documented	Score: ___
5.3 Improvement suggestions generated	Score: ___
5.4 5S is part of daily routine	Score: ___
	SUSTAIN TOTAL: ___ / 20

OVERALL SCORE: ___ / 110 PERCENTAGE: ___%

RATING:
90-110 points (82-100%): GREEN - Excellent
70-89 points (64-81%): YELLOW - Satisfactory (improvement needed)
<70 points (<64%): RED - Unsatisfactory (immediate action required)

OBSERVATIONS / STRENGTHS:
_____
_____
_____

DEFICIENCIES / OPPORTUNITIES:

Item	Description	Action Required	Responsible	Due Date
1				
2				
3				

PREVIOUS SCORE: ___ CURRENT SCORE: ___ TREND: [ ] ↑ [ ] → [ ] ↓

```
Auditor Signature: _____ Date: _____
Supervisor Signature: _____ Date: _____
Follow-up Date: _____
```

1.2 Machine Tool 5S Checklist

```
MACHINE TOOL 5S CHECKLIST

Machine #: _____ Description: _____ Date: _____
Operator: _____ Auditor: _____

[ ] SORT
  [ ] Only current job tools and fixtures at machine
  [ ] No obsolete or broken tools present
  [ ] Excess materials removed
  [ ] Personal items in designated area only

[ ] SET IN ORDER
  [ ] Tool holder storage organized and labeled
  [ ] Measuring instruments in shadow board/designated location
  [ ] Work instructions at machine (current revision)
  [ ] Cleaning supplies accessible
  [ ] Safety equipment (glasses, gloves) in designated location
  [ ] Chip bins properly positioned

[ ] SHINE
  [ ] Machine wiped down (no oil, coolant, chips on exterior)
  [ ] Chuck/vise clean
  [ ] Way covers clean
  [ ] Windows/guards clean and transparent
  [ ] Control panel clean
  [ ] Floor around machine swept/clean
  [ ] Coolant tank clean (no chips floating)

[ ] STANDARDIZE
  [ ] Photo of proper setup displayed
  [ ] Daily checklist posted and current
  [ ] Color coding followed
  [ ] Labeling clear and consistent

[ ] SUSTAIN
  [ ] Operator performing daily 5S routine
  [ ] Issues identified and reported
  [ ] Previous audit items corrected

SCORE: ___ / ___ items checked = ___%
```

Comments: _____
_____

Corrective Actions Required:
_____
_____

1.3 Tool Crib 5S Checklist

TOOL CRIB 5S CHECKLIST

Date: _____ Auditor: _____ Tool Crib Attendant: _____

ITEM	Y / N / NA
SORT	
[ ] Only active tools in crib (obsolete items removed)	___
[ ] Damaged tools segregated for repair/disposal	___
[ ] Excess inventory identified and reduced	___
SET IN ORDER	
[ ] Tools organized by type/size	___
[ ] All locations labeled clearly	___
[ ] Frequently used tools easily accessible	___
[ ] Tool boards/racks properly utilized	___
[ ] Check-out system functional	___
[ ] Min/Max levels established and visible	___
SHINE	
[ ] Shelves/drawers clean and organized	___
[ ] Floor clean and clear	___
[ ] No dust accumulation on tools	___
[ ] Lighting adequate	___
STANDARDIZE	
[ ] Tool inventory system up to date	___
[ ] Standard storage locations documented	___
[ ] Tool checkout procedures posted	___
[ ] Reorder procedures documented	___
SUSTAIN	
[ ] Daily maintenance performed	___
[ ] Tool inventory accuracy >95%	___
[ ] Previous audit findings addressed	___

TOTAL SCORE: ___ / ___ PERCENTAGE: ___%

Action Items: _____

2. Red Tag Forms

2.1 Red Tag Template

```
+-----------------------------------------------------+
|                     RED TAG                         |
|               (UNNEEDED ITEM)                       |
|-----------------------------------------------------|
| Tag Number: _____________                           |
|                                                     |
| Date Tagged: _____________                          |
|                                                     |
| Tagged By: ___________________________              |
|                                                     |
| ITEM DESCRIPTION:                                   |
| _____________________________________________       |
| _____________________________________________       |
|                                                     |
| CATEGORY:                                           |
| [ ] Raw Material      [ ] Finished Goods              |
| [ ] Tool              [ ] Fixture                     |
| [ ] Equipment         [ ] Supplies                    |
| [ ] Scrap             [ ] Other: __________           |
|                                                     |
| REASON FOR RED TAG:                                 |
| [ ] Not used in past 30 days                         |
| [ ] Obsolete                                         |
| [ ] Broken/Damaged                                   |
| [ ] Excess quantity                                  |
| [ ] Unknown purpose                                  |
| [ ] Other: ___________________________               |
|                                                     |
| ORIGINAL LOCATION: ____________________             |
|                                                     |
| DISPOSITION:                                        |
| [ ] Keep (justify): ____________________             |
| [ ] Relocate to: ______________________              |
| [ ] Return to: _______________________               |
| [ ] Sell/Donate                                      |
| [ ] Scrap/Dispose                                    |
|                                                     |
| DISPOSITION DATE: _____________                     |
|                                                     |
| Approved By: ___________________________            |
```

```
+-------------------------------------------------+

Instructions:
1. Attach this tag to any item that is unneeded,
   obsolete, or questionable
2. Move tagged items to Red Tag Holding Area
3. Review weekly and dispose per policy
4. Items unclaimed after 30 days will be scrapped/donated
```

2.2 Red Tag Log

```
RED TAG TRACKING LOG

Department: _____ Month: _____

| Tag # | Date | Item Description | Category | Disposition | Date Closed | Value |
|-------|------|------------------|----------|-------------|-------------|-
------|
|       |      |                  |          |             |             | $     |
|       |      |                  |          |             |             | $     |
|       |      |                  |          |             |             | $     |

SUMMARY:
Total Items Tagged: _____
Items Kept: _____
Items Relocated: _____
Items Returned: _____
Items Sold/Donated: _____
Items Scrapped: _____

Total Value Recovered: $_____
Space Freed: _____ sq ft
```

---

3. Visual Management Templates

3.1 Shadow Board Layout Template

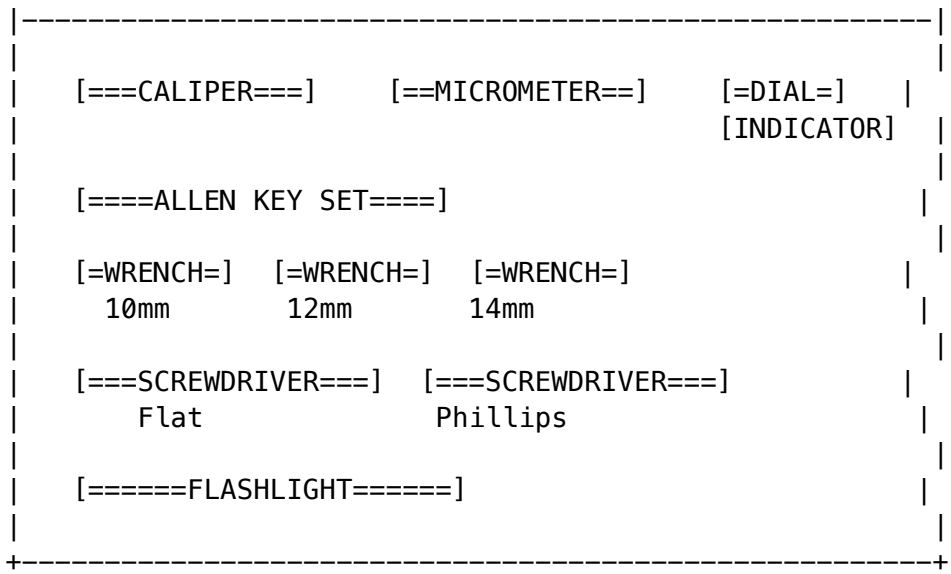
```
SHADOW BOARD DESIGN

Area: _____ Date: _____

[Draw outline of each tool with tool name labeled]

Example Layout:

+-------------------------------------------------+
|        MACHINE #5 TOOL SHADOW BOARD              |
```



NOTES:
- Paint tool outline on board (bright color against dark background)
- Label each location clearly
- Mount at ergonomic height
- Include photo of properly organized board
- Audit weekly for compliance

Tool List:
1. 6" Digital Caliper (ID: CAL-123)
2. 0-1" Micrometer (ID: MIC-045)
3. Dial Indicator w/ Magnetic Base (ID: DI-012)
4. Allen Key Set 1.5-10mm (ID: AK-008)
5. Adjustable Wrench 10mm (ID: WR-101)
6. Adjustable Wrench 12mm (ID: WR-102)
7. Adjustable Wrench 14mm (ID: WR-103)
8. Screwdriver Set (ID: SD-020)
9. LED Flashlight (ID: FL-005)

Shadow Board Location: Machine #5, right side of control panel
Responsible: Operator (1st shift: John, 2nd shift: Maria)

3.2 Floor Marking Guide

FLOOR MARKING STANDARDS

COLOR CODE:

COLOR	PURPOSE	LINE TYPE
YELLOW	Aisles, Traffic Lanes	Solid 3"
WHITE	Work Areas, Equipment	Solid 2"

RED	Defect/Scrap Area	Solid 3"
BLUE	Raw Material Storage	Solid 2"
GREEN	Finished Goods	Solid 2"
ORANGE	WIP / In-Process Inspection	Dashed 2"
BLACK/YELLOW	Safety Hazard Areas	Striped 3"

MARKING SPECIFICATIONS:

Aisles (Yellow):
- Main aisles: 3" solid yellow lines on both sides
- Minimum aisle width: 4 feet (forklifts), 3 feet (foot traffic)
- Intersections: Striped for visibility
- Arrows indicate direction (one-way aisles)

Work Areas (White):
- Define machine/workstation footprint
- Include operator work zone
- Label area (e.g., "MILL #3")

Storage Areas:
- Blue = Raw Material
- Green = Finished Goods
- Orange = WIP
- Label with part number range or customer

Safety Areas (Black/Yellow Stripe):
- Fire extinguisher zones (3' radius)
- Emergency exit paths
- Electrical panel clearance (3' × 3')
- No storage zones

MAINTENANCE:
- Inspect monthly
- Re-tape worn areas quarterly
- Use industrial floor tape (3M or equivalent)
- Clean floor before application

3.3 Visual Performance Board Template

```
+------------------------------------------------------------+
|              DAILY MANAGEMENT BOARD                        |
|                  Department: CNC Machining                 |
|                  Date: __________                          |
|------------------------------------------------------------|
|                                                            |
|  SAFETY                                                    |
|  Days Since Last Incident: [____]  Goal: 365              |
```

Near Misses This Week: [____]			
QUALITY	TARGET	ACTUAL	R/Y/G
First Pass Yield	98%	___%	□
Customer Rejects	0	___	□
Internal Scrap Rate	<1%	___%	□
DELIVERY	TARGET	ACTUAL	R/Y/G
On-Time Delivery	95%	___%	□
Jobs Completed Today	12	___	□
Schedule Adherence	90%	___%	□
PRODUCTIVITY	TARGET	ACTUAL	R/Y/G
Overall Equipment Effectiveness	75%	___%	□
Setup Time (average)	20 min	___ min	□
Parts per Hour	8.5	___	□

CONTINUOUS IMPROVEMENT

Open Issues: ___

Issues Closed This Week: ___

Kaizen Ideas Submitted: ___

TODAY'S PRIORITIES:

1. _____
2. _____
3. _____

ISSUES / BLOCKERS:

_____

_____

Color Code: □ Green = On Target, □ Yellow = Warning, □ Red = Action Required

Updated by: _____ Time: _____

_____

4. Tool Management Forms

4.1 Tool Checkout/Return Log

```
TOOL CHECKOUT LOG

Tool Crib: _____________________________

| Date | Time | Tool ID | Description | Employee | Employee | Purpose | Returned | Condition
|    | Out  |      |         | Name    | ID     |      | Date/Time| (R/D/M)  |       |
|------|------|---------|-------------|----------|----------|---------|----
------|-----------|----------|
|    |    |      |         |       |       |      |       |       |       |

Condition Codes:
R = Returned OK
D = Damaged (describe below)
M = Missing/Not Returned

Notes: _____________________________________________________________
_____________________________________________________________________
```

4.2 Tool Inventory Control Card

```
TOOL INVENTORY CONTROL CARD

Tool Description: _________________________________
Part Number: _____________ Manufacturer: _____________
Unit Cost: $________

INVENTORY LEVELS:
Minimum: _____  Maximum: _____  Reorder Point: _____

CURRENT INVENTORY:
Location        Quantity    Condition
-----------------------------------------
Tool Crib       _____       [ ] Good [ ] Fair [ ] Poor
Machine #1      _____       [ ] Good [ ] Fair [ ] Poor
Machine #2      _____       [ ] Good [ ] Fair [ ] Poor
Maintenance     _____       [ ] Good [ ] Fair [ ] Poor
-----------------------------------------
TOTAL           _____

TRANSACTION LOG:
| Date | Type (In/Out) | Qty | Balance | Initials |
|------|---------------|-----|---------|----------|
|      |               |     |         |          |
```

REORDER INFORMATION:
Supplier: _____
Lead Time: _____ days
Order Quantity: _____
Last Order Date: _____
Next Review Date: _____

4.3 Cutting Tool Life Tracking

CUTTING TOOL LIFE LOG

Tool Description: _____
Tool ID: _____ Purchase Date: _____
Cost: $_____ Expected Life: _____ parts

USAGE LOG:

Date	Part #	Qty	Running Total	Condition	Action	Operator
				G/F/P		

Condition: G=Good, F=Fair (watch), P=Poor (replace)
Action: C=Continue, R=Regrind, X=Replace

LIFECYCLE SUMMARY:
Total Parts Machined: _____
Cost per Part: $_____ (Tool Cost / Total Parts)
Actual vs. Expected Life: _____%

Replacement Notes: _____
_____

Disposal Date: _____ Disposed By: _____

_____

5. Production Planning Templates

5.1 Weekly Production Schedule Board

WEEKLY PRODUCTION SCHEDULE

Week of: _____ to _____

MACHINE: _____ Operator: _____

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
6-8					

```
|      | WO:      | WO:      | WO:      | WO:      | WO:      |
|      | Part:    | Part:    | Part:    | Part:    | Part:    |
|      | Qty:     | Qty:     | Qty:     | Qty:     | Qty:     |
|------+----------+----------+----------+----------+----------|
| 8–10 |          |          |          |          |          |
|      |          |          |          |          |          |
|------+----------+----------+----------+----------+----------|
|10–12 |          |          |          |          |          |
|      |          |          |          |          |          |
|------+----------+----------+----------+----------+----------|
|12–2  |          |          |          |          |          |
|      |          |          |          |          |          |
|------+----------+----------+----------+----------+----------|
| 2–4  |          |          |          |          |          |
|      |          |          |          |          |          |
+------+----------+----------+----------+----------+----------+

COLOR CODE:
□  Green = On Schedule
□  Yellow = Delayed (< 2 hours)
□  Red = Critical (> 2 hours behind)

Notes / Issues:
_____________________________________________________________________
_____________________________________________________________________
```

5.2 Job Traveler Template

```
+-------------------------------------------------------------+
|                      JOB TRAVELER                           |
|-------------------------------------------------------------|
| Work Order #: ___________  Rev: ___  Date Released: ______  |
| Part Number: _____________  Part Name: ___________________  |
| Customer: ____________________  PO #: __________            |
| Quantity Ordered: _____  Due Date: __________               |
| Material: _______________  Spec: __________                 |
| Heat/Lot #: __________  Certificate Req'd: [ ] Yes [ ] No   |
|-------------------------------------------------------------|
| OPERATION ROUTING:                                          |
|                                                             |
| Op 10: Raw Material Prep                                    |
|   Machine/Area: Saw        Setup: 10 min  Run: 5 min/pc     |
|   Start: ______ Complete: ______ Qty: ____ OK: ___ Scrap: ___|
|   Operator: _____________  Inspector: ____________          |
|                                                             |
| Op 20: CNC Milling – Op 1                                   |
|   Machine: Mill #3         Setup: 45 min  Run: 12 min/pc    |
|   Program: P-1234-01       Tools: Per setup sheet           |
```

```
|   Start: ______ Complete: ______ Qty: ____ OK: ___ Scrap: ___|
|   First-Off Inspection: [ ] Approved  Inspector: __________  |
|   Operator: ____________                                     |
|                                                              |
| Op 30: CNC Turning                                          |
|   Machine: Lathe #2        Setup: 30 min  Run: 8 min/pc     |
|   Program: P-1234-02       Tools: Per setup sheet           |
|   Start: ______ Complete: ______ Qty: ____ OK: ___ Scrap: ___|
|   Operator: ____________                                     |
|                                                              |
| Op 40: Deburr                                               |
|   Machine/Area: Bench      Run: 5 min/pc                    |
|   Start: ______ Complete: ______ Qty: ____ OK: ___ Scrap: ___|
|   Operator: ____________                                     |
|                                                              |
| Op 50: Final Inspection                                     |
|   Inspection Plan: IP-1234  Sample Size: 100%               |
|   Start: ______ Complete: ______ Qty: ____ OK: ___ Reject: ___|
|   Inspector: ____________                                    |
|   Disposition: [ ] Ship  [ ] Hold  [ ] Scrap  [ ] Rework         |
|                                                              |
|--------------------------------------------------------------|
| SPECIAL INSTRUCTIONS:                                        |
| ____________________________________________________________|
|                                                              |
| QUALITY RECORDS ATTACHED:                                    |
| [ ] First Article Inspection  [ ] Material Cert                |
| [ ] Inspection Report         [ ] Other: __________           |
|                                                              |
| FINAL DISPOSITION:                                           |
| Quantity Shipped: _____  Date: __________                   |
| Shipped By: ____________  Packing Slip #: __________        |
+--------------------------------------------------------------+
```

---

6. Inventory Management Forms

6.1 Cycle Count Sheet

CYCLE COUNT SHEET

Date: __________ Counter: __________ Verified By: __________

Location/Bin: __________

Item	Description	Part #	Unit	Expected	Actual	Variance	Reason Code

-------|
| | | | | | | | |

Reason Codes:
S = Shrinkage/Loss
M = Misplaced/Wrong Location
T = Transaction Error (not recorded)
D = Damaged/Scrapped (not recorded)
O = Other (explain in notes)

ACCURACY:
Items Counted: _____
Items Accurate: _____
Accuracy Rate: _____%

Variances:
Overage: _____ items Value: $_______
Shortage: _____ items Value: $_______

Action Required: [ ] Adjust Inventory [ ] Investigate [ ] Recount

Notes: _____
_____

Supervisor Approval: _____ Date: _____

6.2 Material Kanban Card

```
+-------------------------------------------------+
|              KANBAN CARD                        |
|            (Production)                         |
|-------------------------------------------------|
|                                                 |
| Part Number: _____                              |
|                                                 |
| Part Description: _____                         |
|                                                 |
| Container Quantity: _____                       |
|                                                 |
| Container Type: [ ] Bin [ ] Pallet [ ] Tote         |
|                                                 |
| Storage Location: _____                         |
|                                                 |
| Reorder Point: _____ containers                 |
|                                                 |
| Lead Time: _____ days/hours                     |
|                                                 |
| Supplier (if external): _____                   |
```

```
|                                                  |
| Production Area (if internal): _____________     |
|                                                  |
|--------------------------------------------------|
| INSTRUCTIONS:                                    |
| 1. When container is empty, return card to       |
|    Kanban board                                  |
| 2. Card triggers replenishment order              |
| 3. Do not produce/order without Kanban card      |
+--------------------------------------------------+

Card # ___ of ___ (Total cards in system)

                  _____________________________________
```

7. Preventive Maintenance Templates

7.1 Daily Machine Checklist

```
DAILY MACHINE INSPECTION CHECKLIST

Machine: _____________ Machine #: _____ Date: __________
Operator: _________________ Shift: [ ] 1st [ ] 2nd [ ] 3rd

START OF SHIFT (Complete before operating):
[ ] Machine is clean (chips removed, wiped down)
[ ] Chuck/vise clean and undamaged
[ ] Coolant level adequate
[ ] Oil levels checked (way lube, hydraulic)
[ ] No unusual noises during startup
[ ] Emergency stop functional
[ ] Guards and safety devices in place
[ ] Control panel operational
[ ] All axes move freely without binding
[ ] Spindle runs smoothly (no vibration)

DURING SHIFT (Monitor continuously):
[ ] Coolant flow adequate
[ ] Chips evacuating properly
[ ] No unusual vibration or noise
[ ] Temperatures normal
[ ] Accuracy maintained

END OF SHIFT (Complete before leaving):
[ ] Clean machine (remove chips and debris)
[ ] Check and top off coolant
[ ] Wipe down exterior surfaces
[ ] Return tools to proper location
```

```
[ ] Document any issues below
[ ] Complete machine log

ISSUES / CONCERNS:
[ ] None – Machine operating normally

Issue: _____________________________________________________________
Severity: [ ] Minor (note only)  [ ] Moderate (repair soon)  [ ] Critical (stop work)
Action Taken: _____________________________________________________
Maintenance Notified: [ ] Yes (Name: _____________) [ ] No

Operator Signature: _____________________ Time: _______
```

7.2 Preventive Maintenance Schedule

```
PREVENTIVE MAINTENANCE SCHEDULE

Equipment: ___________________ Equipment ID: _____

DAILY (Operator-Performed):
[ ] Visual inspection
[ ] Cleaning and chip removal
[ ] Fluid level checks
[ ] Lubrication (if required)
Last completed: _________ By: _________

WEEKLY:
[ ] Detailed cleaning
[ ] Check way cover condition
[ ] Inspect hoses and fittings for leaks
[ ] Test emergency stops
Last completed: _________ By: _________

MONTHLY:
[ ] Check and adjust coolant concentration
[ ] Inspect spindle for runout
[ ] Check/clean filters
[ ] Lubricate as per manufacturer schedule
[ ] Check tool holder retention
Last completed: _________ By: _________

QUARTERLY:
[ ] Change hydraulic oil filter
[ ] Inspect drive belts
[ ] Check backlash in axes
[ ] Inspect ball screws
[ ] Calibrate level (if critical)
Last completed: _________ By: _________
```

ANNUALLY:
[ ] Full machine calibration (laser)
[ ] Replace way lube oil
[ ] Replace coolant
[ ] Electrical inspection
[ ] Ball screw inspection/regrease
[ ] Spindle inspection
Last completed: _____ By: _____

NEXT SCHEDULED MAINTENANCE:
Type: _____ Due Date: _____ Assigned To: _____

_____

8. Standard Work Templates

8.1 Standardized Work Chart

STANDARDIZED WORK CHART

Process: _____ Part #: _____
Work Station: _____ Rev: ___ Date: _____

TAKT TIME: _____ seconds (Available time / Customer demand)
CYCLE TIME: _____ seconds (Total time for one complete cycle)

WORK SEQUENCE:

```
+-------------------------------------------------------------+
|         [Include simple floor plan/layout sketch]           |
|                                                             |
|    [Show workstation, machines, material locations,        |
|     movement paths with arrows and numbered steps]         |
+-------------------------------------------------------------+
```

WORK ELEMENT BREAKDOWN:

Step	Description	Time(sec)	Walking	Machine	Manual	Wait	Check
1				[check]			
2			[check]				
3					[check]		
4						[check]	
5							[check]
	TOTAL						

STANDARD WIP (Work in Progress): _____ pieces

QUALITY CHECKS:
Critical Dimension: _____ Frequency: Every ____ pieces
Visual Inspection: _____ Frequency: Every ____ pieces

SAFETY:
[ ] Safety glasses required
[ ] Hearing protection required
[ ] Gloves required (specify type): _____
[ ] Other PPE: _____

NOTES / SPECIAL INSTRUCTIONS:
_____
_____

Prepared by: _____ Approved by: _____ Date: ____

8.2 Job Instruction Sheet (Training)

JOB INSTRUCTION SHEET

Job: _____ Department: _____
Trainer: _____ Date Prepared: _____

TOOLS AND MATERIALS NEEDED:
- _____
- _____
- _____

SAFETY PRECAUTIONS:
- _____
- _____

IMPORTANT POINTS TO REMEMBER:
- _____
- _____

INSTRUCTION BREAKDOWN:

STEP	KEY POINT (What to do)	REASON (Why it matters)
1		
2		

```
|------+-----------------------+--------------------------|
|  3   |                       |                          |
|      |                       |                          |
|------+-----------------------+--------------------------|
|  4   |                       |                          |
|      |                       |                          |
+-------------------------------------------------------------+

TRAINING CHECKLIST:
[ ] Trainee observed complete job
[ ] Trainer explained each step
[ ] Trainee performed job under supervision
[ ] Trainee performed job independently
[ ] Trainer verified competency

Trainee: _________________ Trainer: _________________ Date: ____
Supervisor Approval: _____________________ Date: __________
```

---

9. Performance Metrics Dashboards

9.1 OEE (Overall Equipment Effectiveness) Tracking

```
OEE TRACKING SHEET

Machine: _____________ Week of: __________

DAILY OEE CALCULATION:

DAY: MONDAY      Date: __________
-----------------------------------------------------
Scheduled Production Time:           480 minutes
Planned Downtime (breaks, meetings): -30 minutes
-----------------------------------------------------
AVAILABLE TIME:                      450 minutes

Actual Downtime:
  - Setup/Changeover:     ___ min
  - Breakdowns:           ___ min
  - Material shortage:    ___ min
  - Other:                ___ min
  Total Downtime:         ___ minutes
-----------------------------------------------------
OPERATING TIME:                      ___ minutes
AVAILABILITY = Operating Time / Available Time = ___%

Ideal Cycle Time:              ___ seconds/piece
```

```
Total Pieces Produced:         ___ pieces
-------------------------------------------------
PERFORMANCE = (Total Pieces × Ideal Time) / Operating Time = ___%

Total Pieces Produced:         ___ pieces
Good Pieces:                   ___ pieces
Defective Pieces:              ___ pieces
-------------------------------------------------
QUALITY = Good Pieces / Total Pieces = ___%

OEE = AVAILABILITY × PERFORMANCE × QUALITY = ___%

WEEKLY SUMMARY:

| Day | Availability | Performance | Quality | OEE |
|-----|--------------|-------------|---------|-----|
| Mon |     %        |     %       |    %    |  %  |
| Tue |     %        |     %       |    %    |  %  |
| Wed |     %        |     %       |    %    |  %  |
| Thu |     %        |     %       |    %    |  %  |
| Fri |     %        |     %       |    %    |  %  |
|-----|--------------|-------------|---------|-----|
| AVG |     %        |     %       |    %    |  %  |

TARGET OEE: 75%     WORLD CLASS: 85%+

TOP LOSSES THIS WEEK:
1. _____________________  Impact: ___ minutes
2. _____________________  Impact: ___ minutes
3. _____________________  Impact: ___ minutes

IMPROVEMENT ACTIONS:
_____________________________________________________________________
_____________________________________________________________________
```

---

10. Facility Layout Planning

10.1 Spaghetti Diagram Template

```
SPAGHETTI DIAGRAM
(Material/Operator Movement Analysis)

Process: _____________________________ Date: ___________
Observer: ____________________________ Duration: ________ hours

INSTRUCTIONS:
```

1. Draw facility layout to scale (walls, machines, storage)
2. Track actual movement of operator or material
3. Draw lines following each movement
4. Record distance and time for each movement
5. Analyze for waste and improvement opportunities

[LAYOUT SKETCH AREA - Draw walls, machines, workstations]

MOVEMENT LOG:

#	From	To	Purpose	Distance(ft)	Time(min)	Value-Added?
1						Y / N
2						Y / N

SUMMARY:
Total Distance Traveled: _____ feet
Total Time Spent Moving: _____ minutes
Value-Added Movements: _____
Non-Value-Added Movements: _____

IMPROVEMENT OPPORTUNITIES:
1. _____
2. _____
3. _____

ESTIMATED SAVINGS:
Distance Reduction: _____ feet/day
Time Reduction: _____ minutes/day
Annual Savings: $_____ (Time × Labor Rate × 250 days)

_____

Document Control Information

Appendix R - Shop Organization Templates

```
Revision: A
Date: _____
Approved by: _____

These templates are provided as guidance and should be customized to meet
specific organizational needs and processes.

All forms should be reviewed annually and updated as needed to maintain
alignment with current practices.
```

Implementation Notes

1. **Customize templates** for your specific shop environment and needs
2. **Digitize forms** where possible (tablets, QMS software) for easier data collection
3. **Train personnel** on proper use of all forms and checklists
4. **Audit compliance** regularly to ensure templates are being used correctly
5. **Revise as needed** based on user feedback and process changes
6. **Maintain completed forms** per record retention requirements
7. **Use visual management** principles (color coding, graphics) to make forms intuitive