



NIMS Registration Number: _____

CERTIFICATION ACHIEVEMENT RECORD (CAR)

MACHINE SERVICE AND REPAIR, LEVEL III

This CAR covers machine service, repair, rebuilding, relocation, and installation

This CAR focuses on mechanical, hydraulic, and pneumatic machine systems

CANDIDATE INFORMATION

Candidate: Name: (Please Print) _____
Mailing Address: _____
City _____ State _____ Zip _____
Beginning Date of Employment With the Company Identified Below: _____

Certificate Areas Being Sought:

- _____ Machine Servicing
- _____ Machine Repair/Rebuilding
- _____ Machine Servicing and Repair
- _____ Machine Relocation//Installation

Candidate's Employer: Company Name: (Please Print) _____
Mailing Address: _____
City _____ State _____ Zip _____
Contact Information: Voice # _____ Fax # _____

Company Sponsor: Name: (Please Print) _____ Title _____
E-mail Address: _____



CERTIFICATION ACHIEVEMENT RECORD (CAR)

MACHINE SERVICE AND REPAIR LEVEL III

[Covers machine service, repair, rebuilding, relocation, and installation]

This **C**ertification **A**chievement **R**ecord (**CAR**) is the official report for documenting successful performance in meeting requirements for Machine Service and Repair Level III and is offered by the National Institute for Metalworking Skills, Inc. [NIMS], on behalf of the metalworking industry nationwide. The requirements for the certificate have been validated to the standards specified in *Duties and Standards for Machine Maintenance, Repair, and Service Skills*. These standards are ANSI approved standards and are available on the NIMS website [www.NIMS-skills.org] or in hard copy form by contacting NIMS at 703.352.4971.

Three particular qualities are to be noted about this Certification Achievement Record:

1. The requirements for the certificate have been developed by a workgroup of industry personnel with service, repair, rebuilding, installation, and/or machine relocating responsibilities.
2. The design of the CAR is consistent with the guidelines of the National Occupational Competency Assurance [NOCA] program.
3. The contents of the CAR have been validated nationally by multiple companies across the nation.

Who or what is NIMS?

The National Institute for Metalworking Skills, Inc., is a not-for-profit national educational foundation created and sponsored by major metalworking trade associations. NIMS was created to develop and manage skill standards for metalworking occupations and industries, and is certified by the American National Standards Institute [ANSI] as a developer of skill standards. NIMS also administers an assessment program that enables individuals to certify their metalworking skills and knowledge to the skill standards, and be awarded certifications accordingly. Finally, NIMS administers a quality assurance-based initiative to accredit metalworking training programs in companies, schools, and inter-firm centers.

What is meant by service and what is repair?

This CAR primarily addresses mechanical, hydraulic, and pneumatic systems. Very general principles of electrical and electronic systems are included, but these systems are not covered in depth.

Service: Machine service is defined as the repair or replacement of worn or malfunctioning parts or components during the warranty period by service providers; the repair, replacement, retrofitting or upgrading of equipment after the warranty period by the OEM or a distributor or other contractor; or the complete rebuilding of a machine. *A distinguishing feature of service work is that it normally occurs on site in the customer's facility.*

Repair: Machine repair is defined as the user taking the necessary corrective action, with internal personnel, to restore a machine to full productive use after it has been taken out of production due to a malfunction or breakdown, or to comply with a scheduled repair plan.



What machinery or equipment is covered by this CAR?

This CAR is designed for applications involving metalforming equipment, metal cutting equipment, assembly machines, and material handling equipment.

Who is eligible to earn certification using this CAR?

Any individual working or about to work in machine repair, rebuilding, relocating, installation or servicing [see definitions in the preceding paragraph] who can meet these two requirements:

1. Be sponsored by a company that maintains, repairs, relocates, installs or services manufacturing machinery [see description above], and
2. Satisfy the work history and experience requirements specified in Part I of this CAR.

What certification can be earned by following this CAR?

A candidate can earn certification in:

- Machine repair/rebuilding, or
- Machine servicing, or
- Machine servicing and repair, or
- Machine relocation/installation.

This CAR is the first step to the earning of certification. The second step is successfully completing a knowledge skill test [see discussion below].

Who in the company is involved in completing this CAR?

Obviously, each CAR involves a candidate, who is the individual seeking to earn a certificate. At least two other individuals must be involved. NIMS requires that each candidate have a **sponsor** from the company in which he/she is employed. The sponsor is an individual authorized to represent the company, especially in personnel matters, and serves as the liaison between the company and NIMS. The sponsor has responsibilities for record keeping and reporting to NIMS, coordinates the certification process within the company, and is required to sign-off on certain documents in the CAR.

Two other *roles* need to be fulfilled in administering a CAR. The candidate's **supervisor** needs to be informed as to the certification process, know the specific requirements of the CAR, and must sign-off on the Work History and Experiences component of the CAR. The third role is that of the performance **evaluator**. This should be an in-plant expert in machine maintenance, repair, servicing, or installation procedures, be considered fair and reliable, and have effective communication skills. The evaluator uses direct observation of the on-the-job performance of the candidate to complete the skill checks of the CAR and to attest that the candidate [1] was able to satisfy the standards included in the skill checks, and [2] followed all applicable safety and plant procedural guidelines.

A company has options in filling these three roles. Three different individuals may be involved to meet the three roles. Alternatively, two individuals could serve the three roles: a supervisor could also be the evaluator while the company's director of training could serve as the sponsor. Or, the evaluator could also be the company's certification sponsor. *The rule is that the same individual **cannot** serve in all three capacities [evaluator, sponsor, and supervisor].* A company may even opt to contract with an outside party for the role of evaluator.

What is the role of the CAR?

The CAR provides the company and candidate with a record (or logbook) of observed on-the-job performance. A completed CAR also is the *vehicle* that will qualify candidates for taking the NIMS written examination for the certificate being sought. All parties involved in executing this CAR, including the candidate, should take care of this



record and be sure that it is accurate, kept up to date, filled out correctly, and properly stored. All information recorded in the CAR should be considered **CONFIDENTIAL**.

Candidates may attempt to earn several certifications as applicable to the company and facility in which they work, or as appropriate to the job, or in pursuit of career goals. Separate CAR booklets are available for each certificate at Level II and Level III.

How is the CAR structured?

There are three components to this CAR:

1. Report on Work History and Experience
2. Skill Checks
3. Affidavit of Successful Completion.

The CAR opens with a form to report the candidate's Work History and Experiences; *all elements of this report must be acknowledged and documented.*

The actual work performed by a candidate, and required for the certificate, is assessed by an evaluator who observes the skills of the candidate in real work settings. Skill Checks required for certification are found in Part 2 of this CAR and are marked with the title - **CAR SKILL CHECK**. Each Skill Check must be successfully completed.

The equipment that a candidate works on in completing this CAR is to be recorded on the Skill Check form and the Affidavit found in Part 3. Since the CAR is a process that occurs over time, these Skill Checks provide documentation of the attained skills of the candidate.

When should the skill checks be done?

Skill checks record what a candidate does on the job. Skill checks should not be done as a part of training; rather, they are designed to record the work the candidate does independently while completing assigned work.

How many skill checks must a candidate complete?

A company has three options depending on how long the candidate has been employed by the company in a repair or service technician [engineer] position. The options are as follows:

1. **Two** skill checks involving at least three different jobs are required to assure repeatability of demonstrated skill.
2. If the candidate has been in a service/repair position with the sponsoring employer for 2 years or more, then completed work orders by the candidate over the 6 months preceding the start of this CAR may be used to fulfill the 1st skill check. The second skill check must be completed in its entirety without the use of already completed work orders.
3. If the candidate has been in a service/repair position with the sponsoring employer for 5 years or more, then the candidate is required to complete only one of the two skill checks. This skill check must be completed in its entirety without the use of already completed work orders.

Once the CAR has been completed, then what?

The final component of the CAR is the Affidavit of Successful Completion. Each **successful** Skill Check attempt must be entered into this affidavit and signed/initialed by the evaluator. When all skill checks have been fulfilled and the Work History and Experiences report is completed, then the affidavit must be signed by all required parties – Sponsor, Supervisor, Evaluator, and the Candidate.



Once the Affidavit is completed and signed, then what?

The **entire** CAR is then sent to NIMS where it is reviewed to assure completeness. NIMS will retain a copy of the Affidavit of Successful Completion as its required documentation that performance requirements for the certificate have been met. The CAR, less the affidavit, is then returned to the company’s Sponsor.

At any time, if an employer or a training program needs to verify that an individual earned a NIMS certificate and/or wanted to know the equipment worked on in completion of the certificate, NIMS can be contacted as that information is contained on the Affidavit.

What topics are covered by the written exam?

A CAR, having been successfully completed, qualifies the candidate to take the related theory or knowledge exam associated with this certificate. A certificate cannot be awarded until both the CAR and the exam have been completed successfully. The sponsor should schedule with NIMS a time for the written exam for the certificate.

The written exam covers the following topics:

| | |
|---------------------------------------------------------------------|-----------|
| <input type="checkbox"/> Job planning and management | 15% |
| <input type="checkbox"/> Machine operating performance or condition | 10 |
| <input type="checkbox"/> Machine lubrication | 5 |
| <input type="checkbox"/> Machine instrumentation | 12 |
| <input type="checkbox"/> Bearings | 16 |
| <input type="checkbox"/> Gearing | 7 |
| <input type="checkbox"/> Hydraulics and pneumatics | 15 |
| <input type="checkbox"/> Electrical components | 2 |
| <input type="checkbox"/> Electronic components | 2 |
| <input type="checkbox"/> Repairs | <u>16</u> |
| Total, all topics | 100% |

Can this CAR be used with ISO or other quality assurances certifications of the company?

Yes. First of all, the CAR should be viewed as a control document and treated accordingly. Second, the CAR can provide a record of demonstrated performances and capabilities of a company’s workers. Third, the CAR and the written test provide a 3rd party assessment, using national industry standards, of the skills of the company’s workers and of the company’s ability to train workers to national standards or better.

Acronyms or abbreviations that may used in this CAR:

| | |
|------|---------------------------------------------|
| ANSI | American National Standards Institute |
| CAR | Certification Achievement Record |
| EPA | Environmental Protection Agency |
| ISO | International Standards Organization |
| NA | Not Applicable |
| NIMS | National Institute for Metalworking Skills |
| MSDS | Material Safety Data Sheet |
| OEM | Original Equipment Manufacturer |
| OJT | On-the-Job Training |
| OSHA | Occupational Safety & Health Administration |
| PPC | Personal Protective Clothing |
| PPE | Personal Protective Equipment |
| SPC | Statistical Process Control |



Part 1

WORK HISTORY AND EXPERIENCES REPORT

MACHINE SERVICE AND REPAIR, LEVEL III

[Covers machine service, repair, rebuilding, relocation, and installation]

| Duty Cluster and Critical Work Activities | Date Completed | Supervisor Initials | Candidate Initials |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------------------|
| Candidate has met the attendance policy of the facility for the last 12 consecutive months. | | | |
| Candidate has no company documented safety violations within the last 12 consecutive months. | | | |
| Candidate has knowledge of and follows the company's quality standards and/or ISO requirements and procedures. | | | |
| Candidate has demonstrated the ability to maintain a safe, clean and orderly work area in compliance with facility housekeeping policies and performs basic equipment preventative maintenance according to facility standards. | | | |
| Candidate has demonstrated knowledge and utilization of material/part conformance standards. | | | |
| Candidate has demonstrated the ability to use prints, charts, technical maintenance manuals, parts lists, assembly drawings, and/or schematics to troubleshoot machine mechanical, hydraulic, and pneumatic problems, and to conduct quality and functional inspections of machine components. | | | |
| Candidate understands basic principles of metallurgy, machining and metalforming, and has an in-depth knowledge of mechanical, hydraulic, and pneumatic principles. | | | |
| Candidate has demonstrated the ability to troubleshoot machine problems and regularly practices proper disassembly as well as re-assembly techniques. | | | |
| Candidate has demonstrated the ability to check for and adjust all the critical machine alignments. | | | |
| Candidate has demonstrated the ability and willingness to | | | |



| Duty Cluster and Critical Work Activities | Date Completed | Supervisor Initials | Candidate Initials |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------|---------------------------|
| learn new skills and techniques, and to keep current with the continuously changing technologies incorporated into machinery and assembly related tools and test equipment. | | | |
| Candidate has demonstrated self-reliance, a positive attitude and confidence in his/her ability, and deals with internal and external customers tactfully. | | | |
| Candidate has demonstrated leadership qualities and communication skills consistent with the position and level of responsibility, including the reading and documenting of machine maintenance histories and service reports according to company procedures. | | | |

Please Note: All of the above elements of work history and on-the-job experiences must be met.

THIS COMPLETES PART 1 OF THIS CERTIFICATION ACHIEVEMENT RECORD.

Part 2

PREPARING TO ADMINISTER THE SKILL CHECK

MACHINE SERVICE AND REPAIR, LEVEL III

[Covers machine service, repair, rebuilding, relocation,
and installation]

Performance Conditions

Setting: **OJT Observations.** OJT Observation: Shop/plant floor in the manufacturing area. The candidate must complete two skill checks *[Note: see exceptions in the Q and A section on page 4]*. The modules or sections of the skill checks are designed to provide flexibility such that they are completed when service or repair opportunities present themselves. A given section may be completed on one 'job' or multiple jobs. Once started, the skill checks must be completed within a 12-month [consecutive] time period. If more time is needed, a written request should be submitted to NIMS explaining the situation and requesting an extension.

The candidate will be responsible for the service and/or repair of the machine or machine component from the planning stage through satisfactory completion of the required assignment. The candidate will conduct all required repair or service procedures as called for on an approved checklist for the specific piece of equipment/machine while continuously monitoring the quality of work being performed. The candidate must be able to recognize adverse conditions, common equipment problems, and non-conformance situations and respond accordingly. Procedures and standards presented in this Skill Check are applicable to all required attempts. Given the nature of this work at various companies, any given Skill Check does not need to be all on one type of machinery. The key focus is on checking for demonstration of applied skill competence.

Tools and Other Needs: The candidate must have access to a variety of tools, materials, equipment, measuring and test instruments, and supplies in order to do and complete their work, and thereby demonstrate their skills. The lists below identify items commonly used by individuals doing machinery



troubleshooting, disassembly, re-locating or servicing. The lists are not meant to be exhaustive. There may well be items not listed or unique to your company's needs that should be added to the list.

Equipment And Measuring Instruments

Safety Equipment:

- PPE/PPC

Hand Tools:

- Screw Drivers
- Hammers [Hard, Soft]
- Bearing Pullers/Drivers
- Clamps
- Twist Drills
- Reamers
- Drills
- Honing Stones
- Magnetic Drill Bases
- Nut Drivers
- Punches
- Reamers
- Snap Ring Pliers
- Tap & Die Sets
- Tubing, Bending, Flaring Tools
- PC (Laptop)
- Digital camera
- Easy Outs
- Heli-Coils
- Torches
- Torque Multipliers
- Prybars
- Allen Wrenches
- Grease guns and oil transfer devices
- Oil Stones
- Hack Saw
- Pliers
- Side cutters
- Tin snips
- Chisels
- Drift Punches

Equipment:

- Air Hose & Nozzle
- Arbor Presses
- Cranes, Hoist
- Deburring Devices
- Slings
- Forklift
- Test Equipment
- Oil/Coolant siphoning/storage/pumping equipment
- Pallet Jack
- Pre-Filtering Devices for oil
- Mechanical & Hydraulic Jacks
- Dollies and machine moving devices
- Parts washers
- Air motors (drills, grinders, impact wrenches, etc.)

Documents:

- OEM Service Manual
- Machine Maintenance History
- MSDS
- Service Reports
- Work Orders
- Graphs & Flow Charts
- Prints
- Schematics
- Assembly Drawings
- Part Lists & Exploded Views
- Internet Access

Measuring Instruments (Inch/Metric)

- Calipers (Dial, Digital)
- Depth Micrometer
- Dial Indicators
- Feeler Gages
- Micrometers (OD, ID & Depth)
- Steel Rules
- Machine oil flow/level gages
- Level (Precision, Electronic)
- Bore Gages
- Telescoping Gage
- Test Bars
- Torque Wrenches
- Clamp Force/Draw Force Gage
- Vibration Analyzer
- Megger
- Volt/Amp Meter (including clamp on)
- Tachometer
- Temperature Probe
- Noise Level Meter
- Combination Square
- Adjustable parallels
- Tape Measures
- Precision Squares [granite, cylindrical, others]
- Ball Bar
- Laser [interferometer]
- Parallels
- Straight Edges
- Surface Plates



- Center Punches
- Files
- C-Clamps
- Open-end wrenches
- Box wrenches
- Socket Wrenches
- Deburring tools

- Dynamic Balancer

Materials:

- Fasteners, Other Hardware
- Lubricants
- Hydraulic oils
- Rust Inhibitor
- Shop Towels
- Oil spill clean-up materials
- Adhesives
- Way Bearing Material (Turcite, Tetralon, Teflon, etc.)
- Gaskets
- Solvents
- Thread Lockers
- Cleaning Solvents



Attainment Standards

1. 100% of all machine specific disassembly, repair and re-assembly, without assistance other than from contracted vendors, within company specific time requirements
2. 100% conformance with all plant safety procedures.
3. 100% conformance with all company procedures.
4. Work area must be left clean, free of any debris from the repair activities.
5. All spilled or materials that leaked from the machine must be cleaned-up and disposed of using safe and legal procedures.
6. Accurate and legible information/data was recorded on forms, machine histories, information sheets, service and other reports, work orders, labels, and/or in logbooks as required by the employer.
7. Demonstrated ability to deal with problems proactively and decisively, and to link cause and effect to solve problems.

Candidate Directions

The above referenced tools, equipment, materials and supplies will be used to install, relocate, repair, or rebuild a machine in accordance with NIMS specifications as they apply to each job. All plant safety procedures **must** be followed. All repair and installation documentation requirements will be met. The *final result* of the process will be evaluated.

Evaluator Instructions

This CAR is set up in modules and steps to allow a candidate to earn certification in service [includes machine installation and relocation and rebuilding] or repair, or both. The evaluator needs to know which area of certification the candidate is pursuing in order to know when it is appropriate to mark a particular step or process standard as Not Applicable [see discussion of scoring, below].

For successful completion of a skill check, the candidate must demonstrate the ability to complete the work activity under reasonably controlled assessment conditions. All work must be completed to NIMS standards, or better.

Please Note →

Before administering the skill check:

- Read and review the *Q and A Section* of this CAR and all of the instructions for using and administering the Skill Checks.
- Ensure that you have a copy of this Skill Check for the candidate to use while working. Ensure that all applicable equipment and supplies are available.
- Determine that the company has created a file on the candidate to hold records associated with this effort to earn certification.

Do **not** provide assistance to the candidate during the Skill Check. Monitor the candidate's work in-progress and evaluate for final result criteria [NIMS standards]. Mark **NA** if a process step is not appropriate for the machine being serviced or for the processes used by the company.

Note, however, that sometimes the NA column may be shaded out. This means that the indicated maintenance requirements **must** be



completed and an NA is not acceptable to NIMS.

Stop the Skill Check immediately if the candidate violates a safety regulation or procedure, or if there is any possibility of personal injury or damage to equipment!

Before starting, the Evaluator may ask the candidate to describe the appropriate safety requirements or loss-potential.

When the candidate indicates that he/she has completed the Skill Check, or when the maximum time allowed for the job by the company has expired, then assess the final product completed to that time.

Checklist

Scoring Procedures: Observe the candidate's performance for each element in the Skill Check and mark the Checklist if the standards were attained [Yes, No, or NA]. Note that the results must conform to NIMS minimum standards.

The evaluator is strongly encouraged to conduct his own visual inspection of a machine to be relocated or in need of repair to determine machine critical features the condition of which the candidate must document. If a candidate fails to observe these features, he or she should not be passed on this responsibility.

Critical: Please Note

Failure to attain a standard will result in ending the Skill Check. If the Skill Check must be stopped due to failure to attain a standard, the evaluator will ensure that the candidate is scheduled for further training.

CAR SKILL CHECK

MACHINE SERVICE AND REPAIR, LEVEL III

[Covers machine service, repair, rebuilding, relocation, and installation]

JOB INFORMATION

Candidate's Name: _____

Indicate the certificate being sought – Check only one of the following three boxes:

- Machine Servicing - complete Process Steps 3,4,5& 6 [to be done on site at customer facilities]
- Machine Repair/Rebuilding - complete Process Steps 3,4,5,& 6 [work to be done at employer's facility]
- Machine Servicing and Repair – complete Process Steps 3,4,5, & 6 [Step 6 must be completed in its entirety at the employer's facility **and** on-site at customer facilities]
- Machine Relocation/Installation - complete Process Steps 1, 2, 5, & 6



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------|-------------------------------------|----------------------------|-------------------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| 1. Preparation for Installation or Relocation of Machine | ⇒ Reviewed the safety regulations for the installation site | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Prepared for Relocation: | | | | | | |
| | • Performed a base-line inspection of the machine to be relocated [e.g., checked level, alignment, machine geometries, functionality tests] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified/documented findings | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Properly prepared or verified that the machine was ready for shipment [e.g., blocked moving components, established zero energy condition of the machine, fluids drained as required] | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Uncrated and conducted visual inspection of machine or machine components, looking for completeness and damage | | | | | | |
| | • Verified inventory of machine components and special installation tools with the shipping documents | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Documented findings | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Communicated to appropriate parties any missing or damaged components or tools | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Reviewed and verified installation schedule/plan with appropriate parties [including foundation specifications planning & other machine requirements] | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ⇒ Identified safety and environmental concerns of the machine and machine area to be addressed when installation is to be performed, including all relevant MSDS sheets | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| ⇒ Verified availability of installation supplies or tools to be supplied by the customer or vendors | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| ⇒ Communicated any discrepancies to appropriate parties | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----|------|----------------------------|----|------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| | Identify machines used in completing Process Step 1 [include manufacturer & model #]: 1. 2. 3. 4. 5. 6. 7. Use other side of page if additional entries are required. | Date Completed: | | | Date Completed: | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | |

| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| 2. Install and/or Coordinate the Installation or Relocation | ⇒ Inspected and/or verified that on-site foundation was ready for machine installation per OEM specifications <ul style="list-style-type: none"> • Documented foundation condition • Obtained customer sign-off on foundation condition/readiness per specifications, if required by employer ⇒ Cleaned machine and components of any rust preventative ⇒ Removed any packing materials and shipping brackets not requiring the machine to be powered ⇒ Installed the machine or machine bed on the foundation <ul style="list-style-type: none"> • Positioned the machine or machine bed on the foundation • Leveled the machine bed/base per specifications ⇒ Assembled all remaining major units/machine components <ul style="list-style-type: none"> • Used proper assembly techniques, following OEM procedures • Aligned and adjusted components to meet OEM specifications ⇒ Connected all power drops to the machine | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| | <ul style="list-style-type: none"> ⇒ Verified voltage and phase at the main breaker ⇒ Connected air drops to the machine ⇒ Filled all fluid reservoirs ⇒ Disposed of waste material according to company and EPA/OSHA requirements ⇒ Completed any documentation required by employer ⇒ Cleaned machine work area to be free of any debris or unnecessary materials prior to performance testing the machine | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Identify machines used in completing Process Step 2 [include manufacturer & model #]: 1. 2. 3. 4. 5. 6. 7. Use other side of page if additional entries are required. | Date Completed: | | | Date Completed: | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| 3. Service/Repair: Problem Identification and Job Planning | ⇒ Given a work order or a customer's request for assistance, gathered information about the machine problem in need of service or repair | | | | | | |
| | • Reviewed assembly drawings and/or exploded diagrams of the machine component or area for attention | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Reviewed the safety regulations for the work area | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Conducted a visual inspection of the machine and problem area or component | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Interviewed the machine's operator and/or set up person to determine operating conditions and production quality problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Interviewed maintenance personnel to determine any recurring problems with the machine | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Accessed the machine's maintenance history | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Accessed the machine's diagnostic or alarm history | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Interviewed quality control personnel to determine part conformance problems | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Isolated and identified machine problem area[s] | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Identified additional testing to verify or more completely determine machine problem | | | | | | |
| | • Conducted tests | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Documented results | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Analyzed all data and identified repair requirements: | | | | | | |
| | • Identified components in need of repair or replacement | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Identified repair options | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Identified needed materials, equipment, supplies, tooling. PPE and MSDS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Identified need for additional personnel or services [e.g., riggers, material handlers, electrician, others] | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Estimated time to completion of repair or rebuilding of components | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Estimated machine downtime | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | | | |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. | | |
| | <ul style="list-style-type: none"> ⇒ Communicated [fax, e-mail, voice] repair requirements to appropriate parties [this may include electronic transfer of data and digital photos of repair area] ⇒ Documented repair requirements according to employer procedures ⇒ Communicated options for repair with associated cost and downtime estimates to appropriate parties ⇒ Given authorization to proceed: <ul style="list-style-type: none"> • Developed a schedule to complete the repair[s] • Requisitioned materials, equipment, supplies, tooling, PPE, replacement parts • Identified and contacted vendors for needed services and scheduled the services, if required by employer ⇒ Documented time and activities according to employer requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | | |
| | <p>Identify machines used in completing Process Step 3 [include manufacturer & model #]:</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 7. <p>Use other side of page if additional entries are required.</p> | Date Completed: | | | Date Completed: | | | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | | | |
| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | 2nd Skill Check Completion | Yes | No | N.A. | Yes | No | N.A. |
| 4. Execute Plan for Service, Repair or Rebuilding per | ⇒ Determined correct position for repair, safety, or repair access of machine components | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| Schedule | ⇒ Positioned machine components for repair access, if necessary | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Turned off machine energy sources | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Released any stored energy in the machine | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Locked Out/Tagged Out machine energy sources | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Staged work area around machine for disassembly | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Disassembled machine unit to gain access to worn or damaged components | | | | | | |
| | • Used proper tools | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Used proper disassembly and storage techniques | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Inspected disassembled components for wear or damage to help determine root cause | | | | | | |
| | • Recorded measurements and observations | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Made a repair or replace decision for worn and damaged parts or components | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Revised original cost and time to repair estimates based on findings of worn and/or damaged components | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ▪ Communicated revisions to appropriate parties | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ▪ Secured authorization to proceed | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ▪ Requisitioned additional parts or components and services not specified in the original repair plan | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ⇒ Prepared components and parts for shipping or relocating to avoid movement and damage in transit, as required by employer | | | | | | | |
| • Verified, communicated, or installed any blocking necessary | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|---------------|------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|-------------------------------------|----------------------------|--------------------------|-------------------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| | to protect parts or components | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified, communicated, or installed any necessary shipping brackets or strapping | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified, communicated, or applied rust preventative to parts and components to be shipped | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Used proper lifting devices and loaded on proper truck beds [e.g., air ride] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Received repaired or replacement parts and verified inventory with shipping documents | | | | | | |
| | • Conducted visual inspection of shipped components for any damage | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | • Documented findings, if required by employer | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Communicated to appropriate parties any missing or damaged components | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Verified that repaired or replacement components are to OEM specifications | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Re-assembled components: | | | | | | |
| | • Cleaned components of any rust preventative | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Used proper assembly techniques | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Disposed of waste material according to company and EPA/OSHA requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Cleaned machine work area to be free of any debris or unnecessary materials prior to performance testing the machine | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | ⇒ Documented time and activities according to employer requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------|--------------------------|----------------------------|-------------------------------------|--------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| | Identify machines used in completing Process Step 4 [include manufacturer & model #]: 1. 2. 3. 4. 5. 6. 7. Use other side of page if additional entries are required. | Date Completed: | | | Date Completed: | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | |
| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
| | | Yes | No | N.A. | Yes | No | N.A. |
| 5. Conduct Machine Performance Test Under Power | ⇒ Checked and verified all machine voltages and made or arranged for corrections to meet specifications | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | ⇒ Conducted preliminary performance tests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified motor rotation | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified that all operational systems are working | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified all pressure settings | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified geometries, such as level, straightness, squareness, perpendicularity, and parallelism | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Checked for pitch and yaw | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Checked positioning accuracy and repeatability | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Adjusted cams | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | • Verified machine parameters and software according to specifications | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| ⇒ Installed/verified operation of guarding, signage, and other safety devices | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| • Ensured safety guards installed and tested per specifications | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| • Ensured coolant enclosures and splash guards installed and | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| | tested per specifications <ul style="list-style-type: none"> • Ensured safety switches installed per specifications and were operational • Ensured any additional guarding needs or discrepancies were addressed • Ensured all signage and placards were in place per specifications ⇒ Cleaned machine area to be free of any debris or unnecessary materials ⇒ Completed all documentation regarding machine performance tests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Identify machines used in completing Process Step 5 [include manufacturer & model #]: 1. 2. 3. 4. 5. 6. 7. Use other side of page if additional entries are required. | Date Completed: | | | Date Completed: | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | |
| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
| | | Yes | No | N.A. | Yes | No | N.A. |
| 6. Customer Acceptance | ⇒ Reviewed with maintenance personnel proper preventative maintenance steps, schedules, and documentation ⇒ Reviewed with machine operator[s] proper machine operational procedures ⇒ Reviewed safety documentation and signage associated with the | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Note: If seeking the Repair certificate, this step must be | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



| Process Steps | NIMS Process-Product Standards | 1st Skill Check Completion | | | 2nd Skill Check Completion | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| | | Yes | No | N.A. | Yes | No | N.A. |
| <p>completed in the employer's facility. If seeking a service certificate, this step must be completed in customer facilities. If seeking the Repair and Service certificate, this Step must be repeated to demonstrate skills in the employer and customer facilities.</p> | <p>machine with appropriate customer personnel</p> <ul style="list-style-type: none"> ⇒ Demonstrated to appropriate customer supervisory personnel that repaired/replaced components are now operational ⇒ Validated in cooperation with customer personnel that production parts or assemblies meet agreed upon specifications ⇒ Finalized OEM checklist and/or documentation [e.g., service report, work history] ⇒ Obtained sign-offs from appropriate customer personnel ⇒ Submitted and/or filed documentation per employer procedures and requirements | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | <p>Identify machines used in completing Process Step 6 [include manufacturer & model #]:</p> <ol style="list-style-type: none"> 1. 2. 3. 4. 5. 6. 7. <p>Use other side of page if additional entries are required.</p> | Date Completed: | | | Date Completed: | | |
| | | Evaluator Initialed: | | | Evaluator Initialed: | | |



FINAL PRODUCT STANDARDS

Work is Done As Expected When:

- a. Each job was performed accurately according to the company's installation or service/repair program and the OEM's recommendations.
- b. Waste materials were managed and disposed of according to applicable federal, state, and local safety and environmental requirements.
- c. Accurate and legible information/data was recorded on forms, machine histories, information sheets, service and other reports, work orders, labels, and /or in logbooks.
- d. Candidate demonstrated ability to deal with problems pro-actively and decisively.
- e. Candidate demonstrated ability to link cause and effect to solve problems.
- f. Candidate was able to complete repair and/or installation steps within company-approved timeframes.
- g. All safety and other company procedures have been followed.

Signatures: _____ **Date:** _____ **Date:** _____
(Evaluator) (Candidate)

BE SURE TO RECORD REQUIRED INFORMATION ONTO THE AFFIDAVIT OF SUCCESSFUL COMPLETION.

THIS ENDS THE SKILL CHECK SECTION AND PART II OF THIS CERTIFICATION ACHIEVEMENT RECORD.

PLEASE CONTINUE AND COMPLETE PART III.



Part 3

AFFIDAVIT OF SUCCESSFUL COMPLETION

MACHINE SERVICE AND REPAIR, LEVEL III

[Covers machine service, repair, rebuilding, relocation, and installation]

Candidate _____ Date: _____

Directions: This page is a compilation of all the performance requirements for the above certification. This affidavit documents that the candidate has successfully completed all performance requirements; that is,

- The Work History and Experiences report has been met,
- Two Skill Checks have been completed and standards attained, and
- All Final Product Standards have been attained.

All parties involved in assuring that the documentation contained in this CAR is accurate and complete must sign the affidavit. When this affidavit is completed, this CAR should be sent **in its entirety** to NIMS at the indicated address.

Please Indicate the Certification Being Sought:

| |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| _____ Machine Servicing - - Process Steps 3,4,5, and 6 should be completed. Step 6 must have been completed in customer facilities |
| _____ Machine Repair/Rebuilding - - Process Steps 3,4,5, and 6 should be completed. Step 6 must have been completed in the employer's facility. |
| _____ Machine Servicing and Repair - - Process Steps 3,4,5, & 6 should be completed. Step 6 must have been completed in its entirety at the employer's facility and on-site at customer facilities. |
| _____ Machine Relocation /Installation - - Steps 1,2,5, and 6 should be completed. |

Part 1.

| | | |
|-------------------------------------------------------------------|----------------------------|-------------------------------|
| All Work History and Experience requirements have been met | Date of Completion: | Supervisor's Initials: |
|-------------------------------------------------------------------|----------------------------|-------------------------------|

Part 2.

| Identify machines, models, and dates of manufacture from each CAR Skill Check | Date of Completion of each Skill Check | Evaluator's Initials |
|-------------------------------------------------------------------------------|----------------------------------------|----------------------|
| Skill Check # 1: 1. 2. | | |



| Identify machines, models, and dates of manufacture from each CAR Skill Check | Date of Completion of each Skill Check | Evaluator's Initials |
|-------------------------------------------------------------------------------|----------------------------------------|----------------------|
| 3. 4. 5. 6. 7. | | |
| Skill Check # 2: 1. 2. 3. 4. 5. 6. 7. | | |
| Skill Check #3: 1. 2. 3. 4. 5. 6. 7. | | |

Repair and Servicing Equipment and Measuring Instruments:

In the conduct of the skill checks of this CAR, the candidate demonstrated competence in the use of the following equipment and measuring instruments: **[check all that apply]**

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment: <input type="checkbox"/> Air Hose & Nozzle <input type="checkbox"/> Arbor Presses <input type="checkbox"/> Cranes, Hoist <input type="checkbox"/> Deburring Devices <input type="checkbox"/> Slings <input type="checkbox"/> Forklift | Measuring Instruments (Inch/Metric) <input type="checkbox"/> Calipers (Dial, Digital) <input type="checkbox"/> Depth Micrometer <input type="checkbox"/> Dial Indicators <input type="checkbox"/> Feeler Gages <input type="checkbox"/> Micrometers (OD, ID & Depth) <input type="checkbox"/> Steel Rules |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><input type="checkbox"/> Test Equipment<input type="checkbox"/> Oil/Coolant siphoning/storage/pumping equipment<input type="checkbox"/> Pallet Jack<input type="checkbox"/> Pre-Filtering Devices for oil<input type="checkbox"/> Mechanical & Hydraulic Jacks<input type="checkbox"/> Dollies and machine moving devices<input type="checkbox"/> Parts washers<input type="checkbox"/> Air motors (drills, grinders, impact wrenches, etc.) | <ul style="list-style-type: none"><input type="checkbox"/> Machine oil flow/level gages<input type="checkbox"/> Level (Precision, Electronic)<input type="checkbox"/> Bore Gages<input type="checkbox"/> Telescoping Gage<input type="checkbox"/> Test Bars<input type="checkbox"/> Torque Wrenches<input type="checkbox"/> Clamp Force/Draw Force Gage<input type="checkbox"/> Vibration Analyzer<input type="checkbox"/> Megger<input type="checkbox"/> Volt/Amp Meter (including clamp on)<input type="checkbox"/> Tachometer<input type="checkbox"/> Temperature Probe<input type="checkbox"/> Noise Level Meter<input type="checkbox"/> Combination Square<input type="checkbox"/> Adjustable parallels<input type="checkbox"/> Tape Measures<input type="checkbox"/> Precision Squares [granite, cylindrical, others]<input type="checkbox"/> Ball Bar<input type="checkbox"/> Laser [interferometer]<input type="checkbox"/> Parallels<input type="checkbox"/> Straight Edges<input type="checkbox"/> Surface Plates<input type="checkbox"/> Dynamic Balancer |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

If the certification being sought involves machine servicing, then please attest that the work in Process Step 6 was completed and interaction with the customer occurred on-site in customer facilities and not in the facilities of the candidate's employer.

We do hereby attest that the candidate met the location requirements of Step 6:

Signatures: Candidate _____ Date _____

Evaluator _____ Date _____

PLEASE CONTINUE TO THE NEXT PAGE



Part 3. FINAL PRODUCT STANDARDS

Directions: After reviewing all CAR SKILL CHECKS, check the boxes below ONLY if all service or repair activities of the candidate have met these performance standards.

“Work is Done As Expected When:”

- a. Repair and/or installation performed met or exceeded NIMS minimum criteria standards.
- b. Jobs were performed accurately according to the company’s installation, service or repair program and the OEM’s recommendations.
- c. Waste materials were managed and disposed of according to applicable federal, state, and local EPA requirements.
- d. Accurate and legible information/data was recorded on forms, machine histories, information sheets, service and other reports, work orders, labels, and /or in logbooks.
- e. Candidate demonstrated ability to deal with problems pro-actively and decisively.
- f. Candidate demonstrated ability to link cause and effect to solve problems.
- g. Candidate was able to complete repair and/or installation steps within company-approved timeframes.
- h. All safety and other company procedures were followed.

FINAL ATTESTATION:

We do hereby attest with our signatures that the candidate named above has completed all necessary CAR requirements for the NIMS Level III certification indicated on this Affidavit and is hereby eligible to take the written exam for this NIMS Level III certification:

Evaluators Signature

Date

Sponsor’s Signature

Date

Supervisor’s Signature

Date

Candidate’s Signature

Date

Make a copy of the completed *Affidavit of Successful Completion* for your records and **send this entire CAR to:**

The National Institute for Metalworking Skills
Machine Installation, Service and Repair III
10565 Fairfax Boulevard
Suite 203
Fairfax, Virginia 22030
Voice: 703.352.4971
Fax: 703.352.4991
www.nims-skills.org